CATÓLICA LISBON
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MASTER IN FINANCE

M&A: The Acquisition of GAMESA by ABB

Álvaro de Freitas

Advisor: Peter Tsvetkov

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ABSTRACT

This dissertation focus is the analysis of a possible takeover of a wind turbine manufacturer (Gamesa) by one of the biggest conglomerates in the world (ABB). The proposed deal will have has business background the diversification strategy of ABB, as well the attractiveness of the wind power industry, as well the down trend of both Gamesa's business and value.

For this proposal, it is combined a deep industry and company analysis with the state of the art valuation tools. Literature on Valuation and M&A is reviewed and applied to evaluate the standalone and merged businesses, proposing an optimal offer price and mode of acquisition.

The whole analysis relies on data until end of 2011, being performed estimated for both companies stand alone and the combined firm, for a growth and stable period. Data from comparables and market benchmarks where also collected for different tools usage.

Gamesa standalone is found to be slightly undervalued, with 9% upside potential, and synergies are estimated to be around 59% attributable to Gamesa in the combined firm value. Therefore, it is concluded that the deal will create a sustainable value for both companies, being the large stake attributable to ABB.

PREFACE

Concluding such challenging dissertation with success and being confident of the results is a very important step in my education, with a high enlargement of my Finance skills. M&A area, by the large scope of work involved, addresses a mix of two very close and related environments: Business and Finance.

I would like to express my acknowledgements to all teachers of the Master in Finance program, especially to Professor Peter Tsvetkov for important advisory support and dedication crucial for the dissertation finish accomplishment.

I am especially grateful for the confidence and enthusiasm transmitted by people close to me, keeping me focused and motivated until the very last moment, and to my family for the patience in the large periods of absence, being this dissertation for sure a high time consuming task.

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1 - Literature Review on Valuation

1.1 – Overview on Valuation

Valuation can be considered the heart of finance, being important, among other proposals, to mergers and acquisitions.

In the field of Valuation we find a wide spectrum of models, from the simple to the most sophisticated ones, making several assumptions about the path to determine value, sharing some common characteristics. According to Damodaran (2006), this classification provides several advantages, by making easier to understand where individual models fit in to the big picture, why they provide different results and when they have fundamental errors in logic. Therefore, is appropriate, despite of this thesis will focus its attention and application in one particular method, to describe and take into to account the most important ones.

Fernandez (2007) classifies the methods for valuing companies in six groups: Balance Sheet, Income Statement, Mixed (*Goodwill*), Cash Flow Discounting, Value Creation, Options.

The four main groups of company valuation methods most widely used are:

a) Discounted Cash Flow Valuation – relates the value of an asset to the present value of expected future cash flows on that asset;

b) Liquidation and Accounting Valuation – built around valuing the assets of a firm, with accounting estimates of a value or book value often used as a starting point;

c) Relative Valuation – estimates the value of an asset by looking at the pricing of "comparable" assets relative to a common variable like earnings, cash flows, book value or sales;

d) Contingent Claim Valuation – uses option pricing models to measure the value of assets that share option characteristics. This is what generally falls under the topic of real options.

Further, we will describe the asset as the company. Fernandez (2007) states that the most suitable method for valuing a company is to discount the expected future cash flows, as the value of a company arises from the company's capacity to generate cash flows. Therefore, we will concentrate our efforts, and further on in the work of the proposed transaction, on this valuation approach.

1.2 – Discounted Cash Flow Valuation (DCF)

1.2.1 - The Basics

In DCF valuation, the value of company is the present value of its expected cash flows, discounted back at a rate that reflects the riskness of these cash flows. This rate is determined for each type of cash flow:

[1] $$Value = \sum_{t=1}^{t=\infty} \frac{CF_t}{(1+r)^t}$$

Where,

n = Life of the asset
CF_t = Cash flow in period t
r = Discount rate reflecting the riskness of the estimated cash flows

Due to the importance of the Residual Value or Terminal Value to a company's valuation, this will be subject to discussion in a specific topic of this section.

Damodaran (2006) also states that, beside the above described risk-adjusted discount rate DCF approach we can find other ones like certainty equivalent cash flow, adjusted present value and excess return. Also states that the risk-adjusted discount rate is the most common one, which will be our focus.

The process of valuing a company with the DCF (Steiger, 2008), contains different stages. In the first stage scenarios are developed to predict future cash flows for a certain period. Since the DCF method is a valuation technique that is based on predictions, a scenario analysis is usually conducted to examine the effects of changes in the underlying assumptions. That's why Damodaran (2006) states that using cash flow models are in some sense an act of faith.

Deriving the NPV of these free cash flows that accrue in the scenario analysis is very complex, because all these cash flows are based on assumptions (Steiger, 2008). To provide a detailed view on how the company's value might be affected by a change in the underlying assumptions, a sensitivity analysis is usually conducted.

The most important scenario in valuation of a company is the base case. In this sense, the prediction regarding the future development of the company, its relevant markets and competitors are used to build the scenario that is most likely to happen. That's why the topic of Industry and Company Review is crucial in this sense.

However, is important to pay attention to the reliability of any figures coming from the management, being often a personal incentive to increase the take over price and therefore might provide biased estimates.

1.2.2 - Deciding and estimating the appropriate Cash Flow for Discounting

The different methods of calculating value by DCF, depends on the type of cash flow that we take into account. We can consider the following inputs:

- Free Cash Flow to the Firm (FCFF) – is the operating cash flow, that is the cash flow generated by operations, without taking into account borrowing (financial debt), after tax. It is the money that would be available in the company after covering fixed asset investment and working capital requirements, assuming that there is no debt and, therefore, there are no financial expenses.

  Damodaran (2006) expresses a formula that captures the above descriptions:

  FCFF = After-tax Operating Income – (Capital Expenditure – Depreciation) – Change in non-cash Working Capital

- Free Cash Flow to Equity (FCFE) – is the cash available to equity investors. Is calculated by subtracting from the free cash flow to the firm the interest and principal payments (after tax) made in each period to the debt holders and adding the new debt provided. In short, it is the cash flow remaining available in the company after covering fixed assets investments and working capital requirements and after paying the financial charges and repaying the corresponding part of the debt's principal.

  Damodaran (1994) expresses a way to measure FCFE that capture the above descriptions:

  FCFE = Net Income + Depreciation – Capital Expenditures – Change in non-cash Working Capital – (New Debt Issued – Debt repayments)

  In certain conditions, dividends can also be considered as a sort of equity cash flow. In this sense, the Dividend Discount Model (DDM) could be applied using this equity cash flow. At the end, dividend represents the only cash flow from the firm that it's tangible to investors. Estimates of FCFE and FCFF remain estimates and conservative investors can reasonably argue that they cannot lay claim on these cash flows.

  However, in the last years we observe firms choosing to hold back cash that they can pay out to shareholders, as well the increasing of stock buybacks usage as a way of returning cash to stockholders. In deed, the DDM as become decreasingly used although the method does have its proponents with recognized advantages.

- Capital Cash Flow (CCF) – is the term given to the sum of the debt cash flow plus the equity cash flow.

1.2.3 - The Types Cash flows and the Appropriate Discount Rate

According to Fernandez (2009), there are four basic cash flow valuation methods, relating the above described cash flows and their appropriate discount rate:

1) From the FCFF and the WACC (Weighted Average Cost of Capital)

The Value of the Debt (D) plus the Value of the Equity (E) is the present value of the expected free cash flows (FCF), discounted at the weighted average cost of capital (WACC):

[2] $E_0 + D_0 = PV_0[WACC_t; FCF_t]$

The definition of $WACC_t$ is:

[3] $WACC_t = [E_{t-1}Ke_t + D_{t-1}Kd_t(1-T)]/[E_{t-1} + D_{t-1}]$

Where,

Ke = required return on the equity flows;
Kd = required return on the debt flows (cost of debt);
T = corporate tax rate;

E_{t-1} and D_{t-1} are the values obtained in the valuation using formula **[2]**. Consequently, the valuation is an interactive process: the FCF are discounted at the WACC to calculate the firm's value (E+D), but the firm's value (E+D) is needed to obtain the WACC. We will return to the cost of capital subject in a specific topic of this section.

2) From the FCFE and the required return on the firm's equity flows (K_e)

The value of Equity (E) is the present value of the expected cash flows for equity holders (CFe) discounted at the required return on the firm's equity flows (Ke):

[4] $E_0 = PV_0[Ke_t; CFe_t]$

The value of Debt (D) is the present value of the expected cash flows for the debt (CFd) discounted at the required return on the debt (kd):

[5] $D_0 = PV_0[Kd_t; CFd_t]$

The expression that relates the FCF with the CFe is[1]:

[6] $CFe_t = FCF_t + \Delta D_t - I_t(1-T)$

[1] Free cash flow is the cash flow for equity holders in the hypothetical unlevered firm.

Where,
ΔD_t = increase in debt;
I_t = interest paid by the firm;
CFd = $I_t - \Delta D_t$

The sum of the values provided **[4]** and **[5]** is identical to the value provided by **[2]**. In fact, the WACC is the rate at which the FCF must be discounted to obtain the result given by **[4]** and **[5].**

[7] $E_0 + D_0 = PV_0[WACC_t; FCF_t] = PV_0[Ke_t; CFe_t] + PV_0[Kd_t; CFd_t]$

3) From the CCF and the $WACC_{BT}$ (Weighted Average Cost of Capital before Taxes)

The capital cash flows are the cash flows for all of the firm's stakeholders (Debt and Equity), and are equivalent to the cash flow for shareholders (CFe) plus the cash flow for the debt holders (CFd) (Fernandez, 2008).

The following formula indicates that the value of debt today (D) plus the value of equity (E) is equal to the capital cash flow (CCF) discounted at weighted cost of debt and equity before taxes ($WACC_{BT}$):

[8] $E_0 + D_0 = PV\left[WACC_{BT\,t}; CCF_t\right]$

The definition of $WACC_{BT}$ is:

[9] $WACC_{BT_t} = \left[E_{t-1}Ke_t + D_{t-1}Kd_{t-1}\right] / \left[E_{t-1} + D_{t-1}\right]$

The above expression is obtained by equaling **[2]** with **[8].**

$WACC_{BT}$ represents the discount rate that insures that the value of the firm obtained with both expressions is the same. In deed, one way of defining $WACC_{BT}$ is: rate at which the CCF must be discounted to obtain the result given by **[4]** and **[5]**:

[10] $E_0 + D_0 = PV\left[WACC_{BT\,t}; CCF_t\right] = PV[WACC_t; FCF_t]$

The expression that related the CCF with CFe and with the FCF is:

[11] $CCF_t = CFe_t + CFd_t = CFe_t - \Delta D_t + I_t = FCF_t + I_t T$

Where,
$\Delta D_t = D_t - D_{t-1}$
$I_t = D_{t-1}Kd_t$

4) The Adjusted Present Value (APV)

The formula below indicates that the value of debt (D) plus that of the equity (E) of the levered firm is equal to the value of unlevered firm's equity (Vu) plus the NPV of the tax savings due to payment of interest (VTS):

[12] $E_0 + D_0 = Vu_0 + VTS_o$

[13] $Vu_0 = PV_0[Ku_t; FCF_t]$

Where,
Ku = required return on the firms unlevered flows (or required return on the asset flows).
Combining the two above formulas:

[14] $VTS_0 = E_0 + D_0 - Vu_0 = PV_0[WACC_t; FCF_t] - PV_0[Ku_t; FCF_t]$

The four approaches described above always have the same output in terms of value for the firm, if they are used properly, for any type of forecast (Fernandez, 2008).

There is disagreement among various authors regarding the calculation of the Adjusted Present Value (APV): a number of theories exist about the size of Value of Tax Shields (VTS). The size of the VTS has implications for the valuation and affects:

- The value of equity (E) and debt of the firm (E+D);
- The relationship between the required return on asset flows (Ku) and the required return on equity flows in the levered firm (ke);
- The relationship between the WACC and the required return on the asset flows (Ku).

1.2.4 - The inputs to determine the Discount Rate

From the topic above we can summarize the relationship between DCF methods and discount rate as follows:

Table 1 – Relation between DCF methods and discount rate

DCF Methods	Appropriate Discount Rate	Inputs
FCFF	WACC	Cost of levered equity (Ke) and cost of Debt (Kd)
FCFE	Ke	Cost of levered equity
APV	Ku	Cost of unlevered equity

The most widely used asset pricing model is still the Capital Asset Pricing Model (CAPM)[2] (Goedhart et al. 2005a), with a large majority of the firms using it to estimate the cost of

[2] The model was introduced by Jack Treynor (1961, 1962), William Sharpe (1964), John Lintner (1965) and Jan Mossin (1966) independently, building on the earlier work of Harry Markowitz on diversification and modern portfolio theory. The model is used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-diversified portfolio, given that asset's non-diversifiable risk.

equity (Damodaran, 2002). The CAPM reveals the return that investors require for bearing the risk of holding a company's share. This required return is the return on equity that investors demand to bear risk of holding the company's share and is, therefore, equivalent to the company's cost of equity, which can be expressed by the following formula (Ross, Westerfield, Jordan, 2005):

[15] $Ke = Rf + \beta_L (Rm - Rf)$

Where, (Rm-Rf) is commonly referred as the MRP (Market Risk Premium)

In this sense, CAPM reaches the required return on equity by answering 2 main questions:

1. What return would this investment be required to yield, if it was risk-free?
2. In case it is actually not risk-free, how much additional return should be required?

Damodaran (2008) provides a good framework for deciding on which rate to use. In his own words, "risk in finance is viewed in terms of the variance in actual returns around the expected return".

Nevertheless, there are two conditions to be verified in a risk-free rate: no default risk and no reinvestment risk. Respecting both conditions leaves any zero-coupon government bond with maturity similar to our investment's duration as the best Rf estimate.

The risk-free investment realizes returns that are exactly equal to those expected, for a time horizon similar to that of our equity investment. Damodaran (2008) states that for mature companies (a study on S&P500), duration for an average firm's equity is around 8 years, approximately the same as a 10-year treasury bond.

The other parameter, the equity risk premium, should be the future excess return one expects from an investment in the market portfolio, above the risk-free rate.

The risk premium demanded by an investor depends on a variety of factors that are difficult to translate into a number. Yet, Lettau et al. (2008) prove that economic risk (uncertainty about future economic conditions, translated in volatility of real GDP) plays a major role. Thus, any analyst that can access reliable GDP growth expectations should try to incorporate those into his analysis. Surveying investors about the premium they apply has proved to have weak prediction power (Damodaran, 2010). Implied risk premiums in current dividend yields are conceptually appealing, but one cannot rely on it when there is no consensus about future cash flows.

Risk premium is still a controversial issue over which academics don't agree. However, tracing historical returns on an equity index is generally an acceptable approach. For global firms (global operations and investors), which is the case of the considered companies in the proposed transactions, picking a global equity index rather than a domestic one may make sense.

To analyze exposure to market risk, there is the Beta (β). The β parameter measures the volatility, or systematic risk, of a stock or portfolio in comparison to the market as a whole. To calculate the Beta of a stock, returns on the stock should be regressed against returns on an equity index representing the market portfolio. The time frame to be covered by the regression could range from 3 to 10 years - the longer the better, as long as the firm hasn't gone through any significant changes in its business mix and leverage over that period (Damodaran, 2002). The author also states that monthly returns minimize the bias on our data. The formula of calculating this parameter can be expresses as:

[16] $\beta_i = \frac{COVAR(R_i, R_m)}{VAR(R_m)}$

Both business risk and financial leverage affect a firm's equity Beta.

As mentioned previously, depending on the valuation model, we need the unlevered cost of equity (or cost of assets, Ku), or the levered cost of equity (Ke). When a Beta is estimated through a regression of a firm's stock against an index, we get Beta for the levered company, i.e. the Equity Beta of the firm given the observed leverage.
An accurate beta for a firm, if not directly regressed, could be obtained from adjusting industry betas or peer betas to the firm's capital structure. Betas can be unlevered and relevered to suit any capital structure, as long as the asset (unlevered) beta is appropriate.

[17] $\beta_L = \beta_U \left[1 + \frac{D}{E}(1-T)\right]$ and **[18]** $\beta_U = \frac{\beta_L}{\left[1 + \frac{D}{E}(1-T)\right]}$

In result we can compute the unlevered cost of equity (Ku) using the following expression:

[19] $Ku = Rf + \beta_U (Rm - Rf)$

The final input, to complete all the required ones to estimate the appropriate discount rate is the cost of debt. The cost of debt (Kd) is the required return on a firm's debt, as if it was refinanced today. Specifically, Kd could be estimated by observing the yields at which the firm's bonds are trading, or summing up a risk-free rate and a spread based on Rating Agencies' tables (like Moody's or S&P), which rely on interest coverage ratios and indicators alike.

1.2.5 - Misconceptions and errors in WACC

According to Fernandez (2011), the WACC is just the rate at which the FCFs must be discounted to obtain the same result as the valuation using ECFs. WACC is neither a cost not a required return: it is a weighted average of a cost and a required return. To refer to the WACC as the "cost of capital" may be misleading because it is not a cost.

Some errors can occur by not remembering the definition of WACC. Also must be taken into account the relationship between the WACC and the VTS. The WACC is a discount rate widely used in corporate finance. However the correct calculation of the WACC rests on a correct valuation of the tax shields. The VTS depends on the debt policy of the company. When the debt level is fixed, the tax shields should be discounted at the required return to debt. If the leverage ratio is fixed at the market value, the Miles and Ezzel (1985) formula must be considered:

[20] $$VTS = \frac{DKdT}{(Ku - g)} \frac{(1+Ku)}{(1+Kd)}$$

Where,
g = rate of growing perpetuity

Other debt policies should be explored. For example, Fernandez (2007) develops valuation formula for the situation in which the leverage ratio is fixed at book values and argues that it is more realistic to assume that a company maintains a fixed book leverage ratio than to assume, as Miles and Ezzel do.

Following the above, it's proper to stress the common error in the WACC determination that should be in any case avoided:

Table 2 – Common errors in estimating WACC

Common error	Correct Approach
Using a wrong tax rate (T) to calculate the WACC	The correct tax rate (T) is the marginal tax rate that should be used every year is the T that relates the ECF and the FCF.
Calculating the WACC using book values of debt and equity	The appropriate values of debt and equity are the ones resulting from the valuation
Calculating the WACC assuming a capital structure that is neither the correct one nor the forecasted. The D/E used to calculate the WACC is different than the D/E ratio resulting from the valuation.	The outstanding and the forecasted debt should be used to calculate WACC. The equity value of a firm is given by the difference between the firm value and the outstanding debt, where the firm value is calculated using the WACC, and the WAC is calculated using the outstanding (market value of) debt. Alternatively, if the firm starts with its current debt and moves towards another round of financing, than a variable WACC (different for each year) should be used, and the current debt should be deduced from the enterprise value.

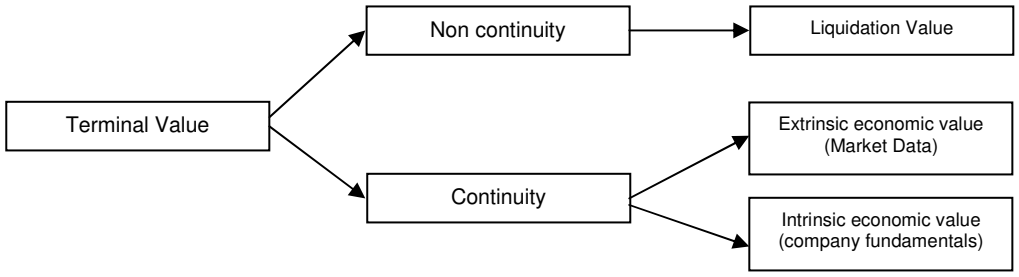
1.2.6 - Terminal Value

When evaluating a company using the DCF method, Terminal Value can be a key factor that might highly influence the final result. The reasonableness of this final economic valuation may be doubtful if Terminal Value is a back box whose contents are unclear.

The purpose of Terminal Value is to give a reasonable estimate of the economic value of the company in a given year, n, at which point annual forecasts cease to be given. This value will depend on the envisaged future scenario. For example, if it is considered reasonable that the business be wound up in a year n, the Terminal Value should be the liquidation value, net of tax. If the company is being valued as a going concern, the economic value may be estimated from market data (extrinsic value) or based on company fundamentals (intrinsic value). Table 1 maps out the various alternatives.

Figure 1

Terminal Value Concept



Source: Lubian, 2010

Estimating Terminal Value using an extensive value is simply a matter of using a multiple for which it is assumed the company can be sold in year n.

Terminal Value is frequently estimated in the form of an intrinsic value calculated by extrapolating from a baseline FCF.

How can a reasonable Terminal Value be estimate?

A publicly traded firm potentially has an infinite life. The value is therefore the present value of cash flows forever. Since we can not estimate cash flows forever, we estimate cash flows for a "growth period" and then estimate a Terminal Value, to capture the value at the end of the period.

[21] $$Value = \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t} + \frac{\text{Terminal Value}}{(1+r)^n}$$

When a firm's cash flows grow at a "constant" rate forever, the present value of those cash flows can be written as:

[22] *Value* = Expected Cash Flow Next Period / (r - g)

Where,

r = discount rate (cost of equity or cost of capital);
g = expected growth rate

In short, when using the DCF method to estimate Terminal Value it is necessary to give a reasonable estimate of three variables:

- the rate of growth of the FCF, g;
- the period considered;
- the baseline FCF from which the extrapolation is calculated.

Damodaran (2002) states that, when looking at the FCFF, the expected growth rate can be expressed as:

[23] Expected Growth Rate = Reinvestment Rate x Return on Capital

Where,
Reinvestment Rate =
(Capital Expenditure – Depreciation + Investment in Working Capital)/ (EBIT x (1-T))

[24] Return on Capital = (EBIT x (1-T)) / Capital invested

However, the reasonableness of the growth rate, g, is often associated with the period considered. An infinite period is often used, and a growth rate which does not exceed real GDP growth.

The baseline FCF for the extrapolation must be consistent with the value we want to estimate. It is not appropriate to use the last year's FCF as it may not be representative of the future to perpetuity that the residual value needs to reflect. How can we detect that? By analysing the three components of FCF: (i) FCF from operations; (ii) FCF from needs of operational working capital; (iii) FCF from investments and divestments in fixed assets.

In scenarios where the business is expected to continue indefinitely it is often to check that the forecast value of ROCE is not much higher than that of WACC. Mature businesses usually have levels of profitability which do not exceed the cost of their resources.

The FCF used as the baseline in order to extrapolate an estimate of the Terminal Value must also include an investment in working capital and in fixed assets, as it is not reasonable to assume that a company may continue indefinitely as a going concern without making investments.

To summarise:

a) The Terminal Value should reflect the value the company will have in the year in question. In other words, how much could the company be sold for in that year? (i.e. the value of its total net assets);
b) The Terminal Value must be consistent with the total economic value of the business. Therefore, if the method used to estimate the economic value of the business up until year n is DCF, it would be logical to estimate the Terminal Value using the same method, unless there are good reasons to do otherwise (Damodaran, 2006).
c) When using DCF method to estimate Terminal Value it is necessary to give a reasonable estimate of three variables: the growth rate, g, of the FCF; the period considered; and the FCF from which the extrapolation is made;
d) If we consider a Terminal Value for a scenario in which the company is due to continue, an infinite period is often taken and a growth rate, g, that does not exceed real GDP growth;
e) The baseline FCF from which the extrapolation is to be made must be consistent with the value we want to estimate. Frequently, it is not appropriate to use the final year's FCF as it may not be representative of the future to perpetuity that the Terminal Value needs to reflect.
f) It is often very useful to check that the forecast does not assume a value of ROCE much higher that that of WACC. Mature businesses usually have levels of profitability which do not exceed the cost of their resources.

In order to prevent Terminal Value from turning into a back box that could be used to justify any economic value, regardless of whether it is reasonable, it is necessary to understand what Terminal Value is supposed to show and how it is estimated.

In the case of a valuation based on DCF, to analyse the reasonableness of the Terminal Value used, it is necessary to make a reasonable estimate of the main economic value generators: the period of time, the growth rate, and the baseline FCF from which the extrapolation will be made.

1.3 – Multiples: Role in Valuation

Despite their widespread usage, only limited theory is available to guide the application of multiples. Of all the standard textbook authors, Damodaran (2001, 2002, and 2006) is the one who puts most weight on the explanation of the characteristics and determinants of various multiples.

Although most authors of textbooks affirm the importance of the multiples valuation method in practice, along with its usefulness in supporting more complex valuations, they do not provide a "functional manual". Therefore, some practitioners suggest that the selection of comparable firms and multiples is essentially an art form, which should be left for

professionals. Yet the degree of subjectivity involved in their application is awkward from a scientific point of view (Bhojraj and Lee, 2002).

From the valuation accuracy of the multiples valuation method, several studies compare this approach to fundamental equity valuation models. Kaplan & Kuback (1995 and 1996) while conclude that DCF valuations approximate transaction values reasonably well, they also find that simple enterprise value to earnings before interest, taxes, depreciation, and amortization (EV/EBIDTA) multiples result in similar valuation accuracy. Richter (2005) presents a theoretical approach on how to link multiples to the DCF model. His approach is based on the fact that multiples consolidate specific information of a firm's key value drovers (i.e., profitability, growth, and risk) which is also processed in the DCF valuation formula.

Which companies are truly comparable? Which guide line to choose the right Multiples? Based on Mckinsey, 2005, the principles for "well tempered multiples" are:

1. Peer with similar prospects for ROIC and growth

To choose the right companies, we have to match those with similar expectations for growth and ROIC.

Arzac (2005) and Koller, Goedhart & Wessels (2005) concentrate on the development of criteria for the identification of comparable firms. In an ideal world, comparable firms have the same operating and financial characteristics as the firm being valued. However, even in finely defined industries, "true" comparables are not always available. Koller, Goedhart & Wessels (2005), therefore, suggest collecting a list of firms based on the finest available industry first, and then further shortening this list by excluding firms with different prospecting of profitability and growth compared to the target firm.

In a similar context, the market for corporate transactions offers the opportunity to construct a peer group based on comparable transactions and therewith investigate the properties and valuation accuracy of transaction multiples. One of the major drawbacks of this approach is the difficulty of finding "comparable transactions", as well some industry are not so dynamic in terms of deals to catch relevant and useful data to apply this kind of multiples.

2. Forward-looking multiples

Empirical evidence shows that forward-looking multiples are more accurate predictors of value. Liu, Nissim, and Thomas (2000) compared the characteristics and performance of historical and forward industry multiples for a subset of companies trading on the NYSE, the American Stock Exchange, and Nasdaq. When they compared individual companies against their industry mean, the dispersion of historical earnings-to-price (E/P) ratios was nearly twice that of one-year forward E/P ratios. The three also found that forward-looking multiples promoted greater accuracy in pricing.

Both the principles of valuation and the empirical evidence lead us that multiples be based on forecast rather than historical profits[3]. If no reliable forecasts are available and we must rely on historical data, make sure to use the latest data possible – for the most recent four quarters, not the most recent fiscal year – and eliminate one-time events.

3. Enterprise-value multiples

Although widely used, P/E multiples have two major flaws. First, they are systematically affected by capital structure. For companies whose unlevered P/E (the ratio they would have if entirely financed by equity) is greater than one over the cost of debt, P/E ratios rise with leverage. Thus, a company with a relatively high all-equity P/E can artificially increase its P/E ratio by swapping debt for equity. Second, the P/E ratio is based on earnings, which include many non-operating items, such as restructuring charges and write-offs. Since these are often one-time events, multiples based on P/E can be misleading.

One alternative to the P/E ratio is the ratio of enterprise value to EBITA. In general, this ratio is less susceptible to manipulation by changes in capital structure. Since enterprise value includes both debt and equity, and EBITA is the profit available to investors, a change in capital structure will have no systematic effect. Only when such a change lowers the cost of capital will changes lead to a higher multiple. Even so, don't forget that enterprise-value-to-EBITA multiples still depend on ROIC and growth.

4. Adjust the enterprise-value-to-EBITA multiple for non-operating items

Although the one-time non-operating items in net income make EBITA superior to earnings for calculating multiples, even enterprise-value-to-EBITA multiples must be adjusted for non-operating items hidden within enterprise value and EBITA, both of which must be adjusted for these non-operating items, such as excess cash and operating leases. Failing to do so can generate misleading results.

A properly executed multiples analysis can make financial forecasts more accurate. Any analysis, however, is only as accurate as the forecasts it relies on.

Errors in estimating the key ingredients of corporate value – ingredients such as a company's return on invested capital (ROIC), its growth rate, and its weighted average cost of capital – can lead to mistakes in valuation and, ultimately, to strategic errors.

[3] A note of caution about forward multiples: some analysts forecast future earnings by assuming an industry multiple and using the current price to back out the required earnings. As a result, any multiple calculated from such data will reflect merely the analyst's assumptions about the appropriate forward multiple, and dispersion (even when warranted) will be nonexistent.

Of the available valuation tools, a discounted-cash-flow analysis delivers the best results. Yet a thoughtful analysis of multiples also merits a place in any valuation tool kit.

1.4 – Most Common Errors in Valuation

Some Valuation Methods are subject to several assumptions considered in their usage. Often, some assumptions bias and slight changes can lead to drastically alter the valuation results.

Fernandez (2007) highlight in its paper "120 errors in Valuation", based on more than 1000 companies, the most common errors in valuation, which we extracted the most important ones, to be considered in the valuation works of the proposed transaction where relays this thesis:

Table 3 – Most Common Errors in Valuation

Sources	Most Common Errors
Errors in the discount rate calculation and concerning the riskness of the company	- Using the historical industry Beta, or the average of the Beta's of similar companies, when the result goes against common sense; - Using the wrong formula for levering or unlevering the Beta; - When Valuing an acquisition using the Beta of the acquiring company; - The required market risk premium is equal to the historical equity premium; - The D/E ratio used to calculate WACC is different from to the D/E ratio resulting from the valuation; - Valuing all the different businesses of a diversified company, using the same WACC (same leverage and same k_e); - Using the wrong formula for the WACC when the value of debt is not equal to its book value; - Discount the tax shield using the cost of debt or the required return to unlevered equity; - Not considering the country risk arguing that it is diversifiable.
Errors when calculating and forecasting the expected cash-flows	- Considering the increase in the company's cash position or financial investments as an equity cash flow; - Errors in the calculation of the taxes that affect the FCF; - Expected ECF are not equal to expected dividends plus other payments to shareholders (share repurchases); - Wrong treatments of seasonal working capital requirements; - Wrong treatment of stocks that are cash equivalent; - Forgetting balance sheet accounts that affect the cash flows; - Exaggerated optimism when forecasting cash flows.
Errors in the calculations of the Residual Value	- Inconsistent cash flow used to calculated perpetuity; - Using arithmetic averages instead of geometric averages to access growth;

Inconsistencies and Conceptual Errors	- Considering the cash in the company as an ECF when the companies as no plans to distribute it; - Using real cash flows and nominal discount rate, or vice-versa; - Using the average of multiples extracted from transactions executed over a very long period of time; - Using the average of transactions multiples that have a wide scatter; - The equity value or the enterprise value does not satisfy the time consistency formula; - Considering that the value of debt is equal to its book value when they are different; - Including the value of real options that have no economic meaning; - Wrong concept of the optimal capital structure; - Assumptions about future sales, margins, etc. that are inconsistent with the economical environment, the industry outlook or competitive analysis; - Considered that the ROE is the return to the shareholders.
Errors when in interpreting Valuation	- Confusing Value with Price; - A company has the same value for all buyers; - Considering that the goodwill includes the brand value and the intellectual capital.
Organizational errors	- Commissioning a valuation from an Investment Bank without having any involvement in it.

1.5 – Stages in Valuation using DCF

In the figure below, which contain a summary of this topic, being somewhat of a guideline for the valuation of each stand alone company involved on the proposed transaction of this thesis, aiming to serve as guideline for further works in the appropriate section. In respect the assumptions and methodologies it must be looked in the sense of the above described topics of this section.

Figure 2

Basic Stages in the performance of a valuation using DCF

HISTORIC AND STRATEGIC ANALYSIS OF THE COMPANY AND THE INDUSTRY	
Financial Analysis	**Strategic and Competitive analysis**
Evolution of Income Statements and Balance Sheets	Evolution of the industry
Evolution of the Cash Flows generated by the company	Evolution of the company's competitive position
Evolution of the company's investments	Identification of the Value Chain
Evolution of the company's financing	Competitive position of the main competitors
Analysis of the financial health	Identification of the Value Drivers
Analysis of the business's risk	

PROJECTIONS OF FUTURE FLOWS	
Financial Forecasts	**Strategic and competitive forecasts**
Income Statements and Balance Sheets	Forecast of the industry's evolution
Cash Flows generated by the company	Forecast of the company's competitive position
Investments	Competitive position of the main competitors
Financing	Consitency of the cash flow forecasts
Terminal Value	Financial consistency between forecasts
Forecast of various scenarios	Comparison of forecasts with historical figures
	Consistency of cash flows with the strategic analysis

DETERMINATION OF THE COST (Required Return) OF CAPITAL
For each business unit and for the company as a whole
Cost of the debt, required return to equity and weighted cost of capital

NET PRESENT VALUE OF FUTURE FLOWS
Net present value as their corresponding rate
Present Value of the Terminal Value
Value of the Equity

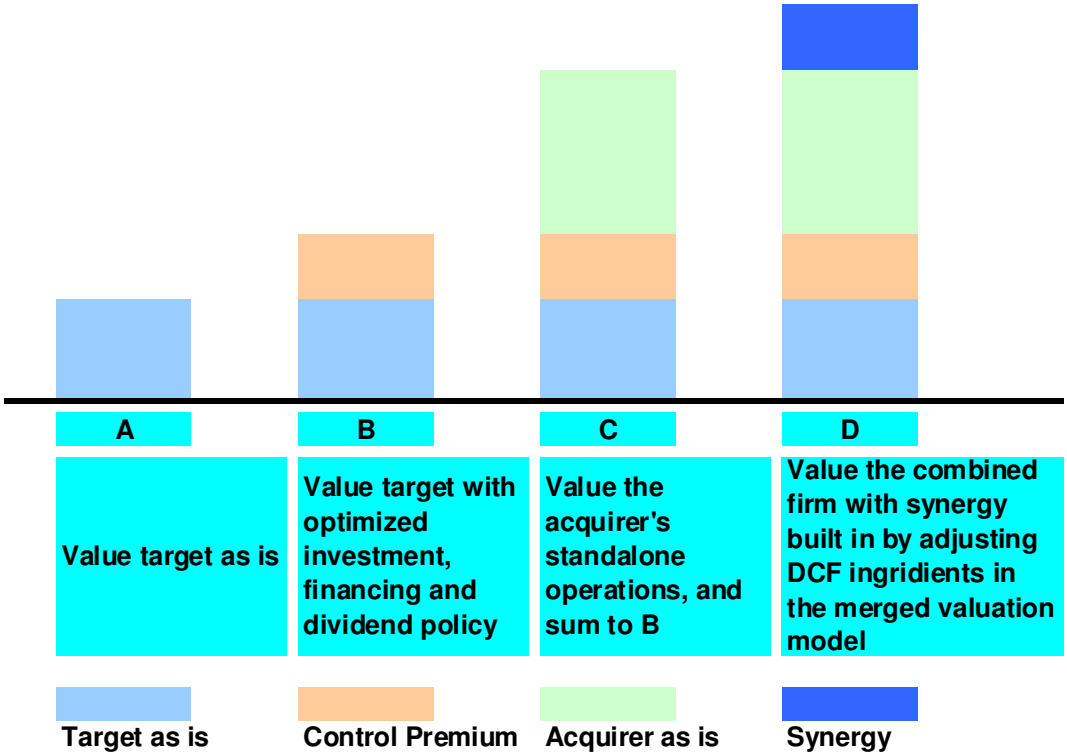
INTERPRETATION OF THE RESULTS
Benchmarking of the value obtained: comparison with similar companies
Indentification of the value creation. Sustainability of the value creation (time horizon)
Analysis of the value's sensitivity to changes in the fundamental parameters
Strategic and competitive justification of the value creation

Source: Fernandez, 2007

As stated in the appropriated topic, the focus in terms of methodology will be the DCF. Therefore, below we can find, according to Damodaran, the steps that will serve as guideline to decompose value in the proposed transaction, using among others, critical concepts that will be describe in the next section of the literature review.

Figure 3

4 Steps DCF to Decompose Value



2 - Literature Review on Mergers and Acquisitions (M&A)

We assist to an increasingly high production of literature of M&A, especially in the last two decades, in consequence of the rising M&A activities as well of the growing complexity of the transactions themselves. Therefore, this topic will cover the M&A definitions, types, motives, and shareholders' returns and value creation, in order to create a context of understanding of the proposed transaction of this thesis.

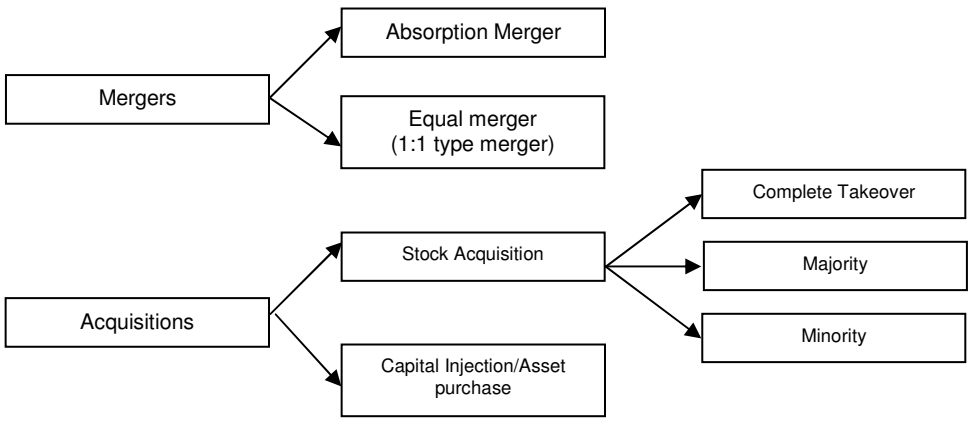
2.1 – Definitions and mains concepts

As stated by Nakamura (2005), M&A can be explained by a broad definition, which could lead to confusion and misunderstanding as it entails everything from pure mergers to strategic alliances. This thesis follows the concept of M&A in a narrow sense, which classifies M&A as stated below:

- **Mergers** as the combination of two or more companies in creation of a new entity or formation of a holding company (European Central Bank, 2000, Gaughan, 2002, Jagersma, 2005);
- **Acquisitions** as the purchase of shares or assets on another company to achieve a managerial influence/control (European Central Bank, 2000, Chunlai and Findlay, 2003), not necessarily by mutual agreement (Jagersma, 2005).

Figure 4

M&A Narrow Concept



Source: Nakamura, 2005

Being the purpose of the thesis the study of a merger operation, we will proceed by given more details about mergers. Mergers are commonly referred as either merger by absorption or establishment (Chen and Findlay, 2003). Merger by absorption is the situation in which one company buys all stocks of one or more companies, and the absorbed companies cease to exist whereas merger by establishment refers to the case

where two or more firms are merged into a newly created one and the combining firms in the merger are dissolved.

According to Nakamura (2005) merger by absorption could be considered as a *de facto* acquisition. Besides, Gaughan (2002) refers that the term "consolidation" could be used to imply a merger by establishment.

2.2 – Classification of M&A transactions

We can find in literature from M&A several types and classifications, depending of the rational, structure of the deals, but it is appropriate to state about this topic the following classification:

Table 4 – M&A Classification by Nature

Value Chain	Relationship	Economic Area
Horizontal Vertical Conglomerate	Friendly Hostile	Domestic Cross-border

Source: Hoang, 2007

Being the types by relationship and economic area more straightforward in terms of understanding, and this thesis is focused on a transaction valuation in which the main drivers are the value creation, the most common types on this classification are the following ones:

- **Horizontal M&A** – the acquiring and the target companies are competing firms in the same industry. According to Chen and Findlay, 2003, horizontal M&A has growing rapidly over recent years due to global restructuring of many industries in response to technological changes and increase competition;
- **Vertical M&A** – are combinations of firms in client-supplier or buyer-seller relationships. The firms involved seek to reduce uncertainty and transaction costs by upstream or downstream linkages in the supply chain and to benefit from economies of scope;
- **Conglomerate M&A** – attempt to diversify risks and attain economies of scope by engaging in transactions where involving companies that operate in unrelated businesses.

2.3 – Motives for M&A transactions

Mukherjee, Kiymaz, and Baker (2003) suggest that there are as many motives for M&A as there are bidders and targets. However, grouping the motives of M&A transactions into various categories is often useful.

Some common motives for M&A, pointed out the most of the literature, include:

- Means for firms to grow quickly;

- Hope to experience economies of scale and scope;
- A larger firm as a result of a M&A may have a better access to capital market, which better leads to a lower cost of capital, i.e., financial benefits; and
- Anticipated gains which a firm may experience when applying its superior management skills to the target's business.

Nevertheless, all authors, in a broad sense, concur that M&A is driven by many complex motives, which can vary from deal to deal and cannot be justified by any single theory or approach.

Although the rational can differ from one M&A deal from another, Brigham and Ehrhardt (2002) state that the primary motivation for most mergers and acquisitions is to increase the value of the combined enterprise.

Empirical evidence cannot say whether mergers, on average, create value (Mukherjee, Kiymaz, and Baker, 2003). Although, several empirical studies supports the importance of synergy as a merger motive.

2.4 – Valuing Synergies and the Value of Control

Many acquisitions and same large strategic investments are often justified with the argument that will create synergies.

What is synergy? Synergy is the additional value that is generate by combining two firms creating opportunities that would be available to these firms operating independently. It is the most widely used and misused rationale in M&A (Damodaran, 2005). Those synergies can be classified into tow categories:

Table 5 – Synergies and Valuation

Category of Synergy	Types	Issues to Valuation
Operating Synergies		
Allow firms to increase their operating income from existing assets, increase growth or both	1. Economies of scale; 2. Greater Pricing Power; 3. Combination of different functional strengths; 4. Higher growth in new or existing markets.	Can affect margins, returns and growth, and trough this the value of the firms involved in the Merger or Acquisition
Financial Synergies		
The payoff can take the form of either higher cash flows or a lower cost of capital (discount rate) or both	1. A combination of a firm with **excess cash**, or cash slack, and firm with high-return projects **can yield a payoff in terms of higher value for the combined firm**; 2. **Debt capacity can increase**, because when two firms combined, their earnings and cash flows may become more stable and predicable; **3.** **Tax benefits** can arise either from the acquisition taking advantage of tax laws to write up the target company's assets or from the use of net operating losses to shelter income; **4.** In most publicly traded firms, investors can **diversify** at far lower cost and with more ease than the firm itself.	There most important issues related to value are related to valuing this synergy and determining how much to pay for it.

In this sense, how to value synergy? The key question about synergy is not whether it can be valued but how it should be valued.

In a first instance, there are two major questions to be answered: 1) What form is the synergy expect to take? 2) When will the synergy start affecting cash flows?

Synergy is a stated motive in many mergers and acquisitions. Bhide (1993) examined the motives behind 77 acquisitions in 1985 and 1986, and reported that operating synergy was the primary motive in one-third of these takeovers. A number of studies examine whether synergy exists and, if it does, how much it is worth. If synergy is perceived to exist in a takeover, the value of the combined firm should be greater than the sum of the values of the bidding and target firms, operating independently.

V(AB) > V(A) + V(B)

Where,

V(AB) = Value of a firm created by combining A and B (Synergy)
V(A) = Value of firm A, operating independently
V(B) = Value of firm B, operating independently

Studies of stock returns around merger announcements generally conclude that the value of the combined firm does increase in most takeovers and that the increase is significant. Bradley, Desai, and Kim (1983) examined a sample of 236 inter-firms tender offers between 1963 and 1984 and reported that the combined value of the target and bidder firms increased 7.48% ($117 million in 1984 dollars), on average, on the announcement of the merger. This result has to be interpreted with caution, however, since the increase in the value of the combined firm after a merger is also consistent with a number of other hypotheses explaining acquisitions, including under valuation and a change in corporate control. It is thus a weak test of the synergy hypothesis.

The existence of synergy generally implies that the combined firm will become more profitable or grow at a faster rate after the merger than will the firms operating separately. A stronger test of synergy is to evaluate whether merged firms improve their performance (profitability and growth) *relative to their competitors*, after takeovers.

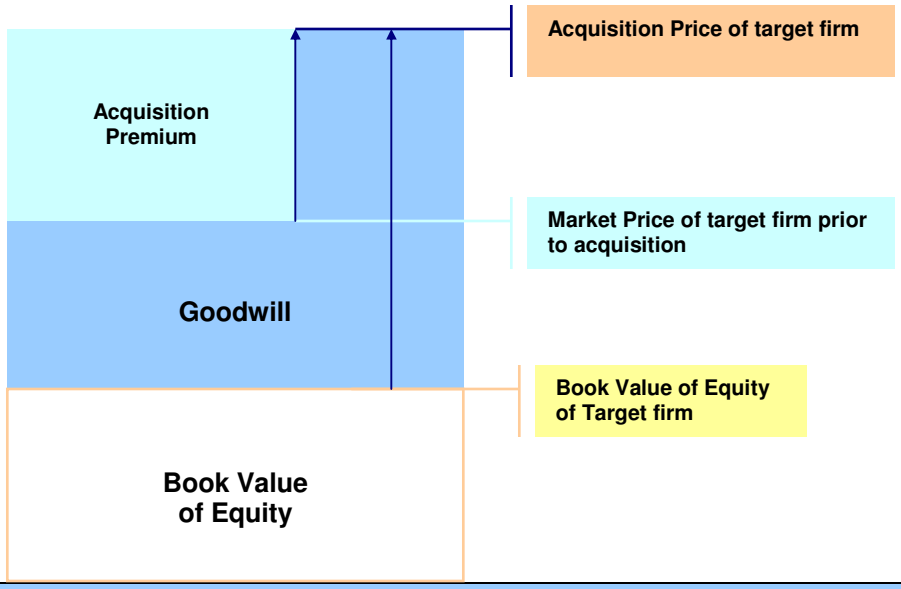
Another concept must be added to the process: the value of control, being this the incremental value that an acquirer believes can be created by running a target firm more efficiently. Therefore, it is important at this stage that we keep the value of synergy apart from the value of control, which is the other widely cited reason for acquisitions.

By separating out the value of control from the value of synergy, two objectives are accomplished: 1) we ensure that there is no double counting. For synergy to create value there has to be a further increase in return on capital to the combined firm; 2) we can devise strategies for acquisition bidding that can differentiate between control and synergy value.

The issue of valuing synergies also point out the subject of the right price for a target firm. In these sense, a fair value acquisition would require that the total price be equal to the consolidated value with the synergy and control benefits built in.

Figure 5

Breaking the Acquisition Price



Source: Damodaran, 2002

We can conclude that the acquisition price will determine whether an acquisition is value increasing or value destroying to acquiring company's stockholders.

2.5 – Do M&A create value to shareholders': and the winner is…?

Jensen and Ruback (1983) state that target shareholders gain from virtually every acquisition – a result that seems to be unanimously accepted by academics. In a sample of 151 mergers, Dodd (1980) finds that target shareholders do not vote against the merger proposal even once. Yet, Loughran and Vijh (1997) warn that target shareholders who soon sell the stock received as payment earn excess returns, while long-term hold strategies diminish the potential gains.

Sirower and Sahni (2006) analyze a sample of over 300 deals to conclude that the average premium paid for targets is nearly 36%.

To test whether value created is sustainable, Loughran and Vijh (1997) track long-term (5-year) returns on buy-and-hold strategies from the moment before the deal was announced. They conclude that, on average, acquirers earn negative excess returns, but refer also that value creation is idiosyncratic - the combination of mode of acquisition and form of payment

being important drivers, with results that range from value-creation for all intervenient to value destruction even for target shareholders.

Bruner (2004) makes a sturdy effort to show that M&A does pay. According to his view, empirical studies whose historical period of analysis and sample are not biased, and reach statistically significant results, conclude that acquirers usually earn the hurdle rate.
He sheds light on the heterogeneity of individual deals and how dangerous generalizations can be.

In the figure bellow we can find an extract of Bruner (2004) where he point out some probable critical points on M&A related to returns to buyers, that should be observed in any transaction:

Table 6 - Adjusted Returns to Buyers by "Neighborhood"	
Returns to buyers likely will be higher	**Returns to buyers likely will be lower**
Strategic Motivation	Opportunism Motivation
Value Acquiring	Momentum growth/glamour acquiring
Credible Synergies	Incredible Synergies
To use excess cash profitably	Just to use excess cash
Buy during cold M&A markets	Buy during hot M&A markets
Pay with cash	Pay with stock
Finance with debt judiciously	Over-lever
Shareholder-oriented management	Entrenched management
Big good deals	Big bad deals

The main conclusion is that M&A usually generates positive abnormal results for the combined shareholders, suggesting economic value is generated (Bruner, 2004).

The question then becomes how is value going to be shared – knowing the heterogeneity that marks these deals, any outcome is possible and depends on how the deal is structured/negotiated.

2.6 – Deal structure and form of payment vs. value creation

The main deal-structuring issues in M&A are the mode of acquisition and the form of payment.
Nevertheless, we must take into consideration that the type of M&A and the adequate sources of capital are important variables to assess.

At this stage is proper to recover that one of the steps in Acquisition Valuation is to decide on payment mechanism: Cash vs. Stock. Damoradoran (2002) stress the following conclusion in respect to this:

- Firms which believe that their stock is undervalued and some synergy can be achieved (Loughran and Vijh, 1997) will not use stock do to acquisitions;

- Firms which believe that their stock is over or correctly valued will use stock to do acquisitions;
- Not surprisingly, the premium paid is larger when an acquisition is financed with stock rather than cash;
- There might be an accounting rationale for using stock as opposed to cash. We are allowed to use pooling instead of purchase.

There might also be a tax rationale for using stock. Cash acquisitions create tax liabilities to the selling firm's stockholders.

When considering the stock for stock exchange, we can assume that:

- Correct Exchange Ratio to use in Valuation = Value per Share of Target Firm (with control premium and target-controlled synergies)/Value per Share of Bidding Firm;
- If the exchange ratio is set too high, there will be a transfer of wealth from the bidding firm's stockholders to the target firm's stockholders; and also in opposite

Despite of the above, we find in the available literature mixed perspectives of the proper form of payment.

For instance, Loughran and Vijh, 1997 states that whether it is a merger or a tender offer, cash always performs better than stock enhancing the long-term returns for the acquirer. When a deal is paid for with stock, only target shareholders earn abnormal returns, mostly because of the significant premium they're usually paid. Yet, Savor and Lu (2009) have recently added that results like these should be interpreted with care: it is universally accepted that stock issues, in general, suggest overvaluation and timing ability. Therefore, stock acquirers are likely to be overvalued and their stock expected to fall in the long run anyway.
The authors find meaningful and statistically significant evidence that stock mergers do create value, because the acquirer's stock is usually more overvalued than the target's assets. They earn negative returns, but not as negative as they would have been otherwise.

3 – Company and Industry Analysis

3.1 – Company profiles

3.1.1 – ABB

ABB is one of the largest engineering companies as well as one of the largest conglomerates in the world. ABB is traded on the SIX Swiss Exchange in Zurich and the Stockholm Stock Exchange in Sweden since 1999, and the New York Stock Exchange in the United States since 2001.

The history of ABB goes back to the late nineteenth century, with the foundation of its predecessors (Asea – 1883; Brown Boveri – 1891). In 1988, ASEA and Brown Boveri merged, one of the largest operations at the time, to form the new company with headquarters in Zurich. The new group had revenues of 17 billion USD and employed 160,000 people around the world.

The two merged companies shared broadly the same business areas around the electrical engineering and manufacturing (e.g. Products and Solutions for Energy Transmission and Distribution, Electrical Turbines, Trains Manufacturing). The business synergies which, among other reasons like being market competitors, laid in the merger motives, where different areas of focus in power generation. Namely, Asea being one of the major player in Nuclear Power Plants and Brown Boveri in Steam and Hydro Power Plants. In summary, we can conclude that the starting point of the current company was the merger of two companies with same core business, major competitors, with different market scope.

The post merger growth of the company was sustained in a strong an active M&A activity, being, not only the company's history, but its profile.

In the early 1990s, ABB purchased Combustion Engineering (C-E), headquartered in Stamford and Norwalk, Connecticut, a leading U.S. firm in the development of conventional fossil fuel power and nuclear power supply systems to break into the North American market. Continuing with its expansion plans, ABB purchased Elsag Bailey, a process automation group, in 1997 which included Bailey Controls, Hartmann & Braun, and Fischer & Porter. This was the largest acquisition to date in ABB's history.

ABB bought International Combustion Ltd from Rolls-Royce in 1997.

ABB's boiler and fossil fuel businesses were purchased by Alstom in 2000, and its nuclear business was purchased by Westinghouse Electric Company in 2000. In the same year, ABB formally divested from a joint venture named ABB-Alstom Power, and sold its interest in conventional power generation systems to Alstom Power.

In 2001 ABB was ranked as number one on the Dow Jones corporate sustainability index for the third year in a row.

ABB's Building Systems business unit was sold off in 2004 to Capvis, a Swiss private equity company, as part of ABB's strategy to focus on power and automation technologies.

Financial debt and lingering asbestos liability (indemnity to works as result of law suit) brought ABB to the brink of bankruptcy in the early 2000s. In 2006 ABB returned to financial health by settling its asbestos liability regarding claims that were filed against ABB's U.S. subsidiaries, Combustion Engineering and Lummus Global. In August 2007, Lummus Global was sold to CB&I.

In 2009, ABB realigned its automation divisions to enhance growth opportunities. As of January 1, 2010, the business units in the Automation Products and Robotics divisions were regrouped into two new divisions – Discrete Automation and Motion, and Low Voltage Products. The Process Automation division remained unchanged except for the addition of the instrumentation business from the Automation Products division.

In 2011, ABB acquired Baldor Electric USA for $4.2 billion in an all-cash transaction.

On January 30th, 2012, ABB Group acquired Thomas & Betts in a $3.9 billion cash transaction.

Currently the company has the following Business Structure as described as follows:

Business Divisions

Power Products

Power Products are the key components to transmit and distribute electricity. The division incorporates ABB's manufacturing network for transformers, switchgear, circuit breakers, cables, and associated equipment. It also offers all the services needed to ensure products' performance and extend their lifespan. The division is subdivided into three business units.

Power Systems

Power Systems offers turnkey systems and services for power transmission and distribution grids, and for power plants. Substations and substation automation systems are key areas. Additional highlights include flexible alternating current transmission systems (FACTS), high-voltage direct current (HVDC) systems and network management systems. In power generation, Power Systems offers the instrumentation, control and electrification of power plants. The division is subdivided into four business units.

Discrete Automation and Motion

This division provides products, solutions and related services that increase industrial productivity and energy efficiency. Its motors, generators, drives, programmable logic controllers (PLCs), power electronics and robotics provide power, motion and control for a wide range of automation applications. The leading position in wind generators and a

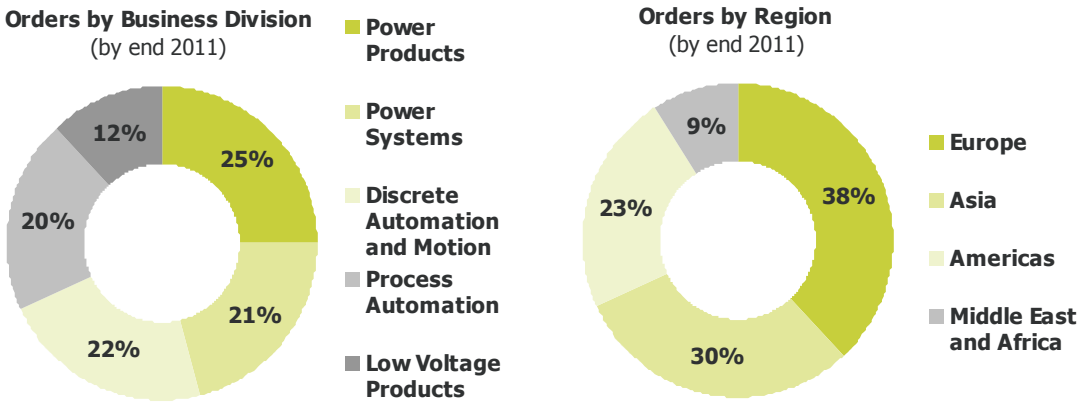
growing offering in solar complement the industrial focus, leveraging joint technology, channels and operations platforms. The division is subdivided into four business units.

Low Voltage Products

The Low Voltage Products division manufactures low-voltage circuit breakers, switches, control products, wiring accessories, enclosures and cable systems to protect people, installations and electronic equipment from electrical overload. The division further makes KNX systems that integrate and automate a building's electrical installations, ventilation systems, and security and data communication networks. The division is subdivided into five business units.

Process Automation

The main focus is to provide customers with products and solutions for instrumentation, automation and optimization of industrial processes. The industries served include oil and gas, power, chemicals and pharmaceuticals, pulp and paper, metals and minerals, marine and turbo charging. Key customer benefits include improved asset productivity and energy savings. The division is subdivided into ten business units.



The figures above shows how balanced the business is either by region or division.

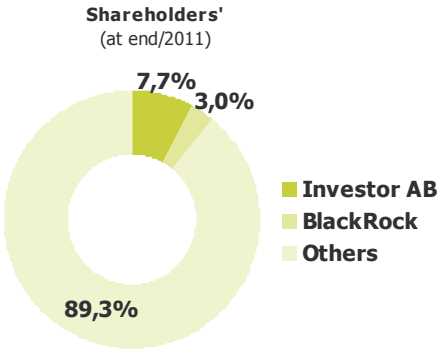
Results 2011 by Business Divisions

figures in million USD

	Power Products	Power Systems	Discrete Automation and Motion	Low Voltage Products	Process Automation
Revenues	10.869	8.101	8.806	5.304	8.300
% total revenues	26%	20%	21%	13%	20%
EBIT	1.476	548	1.294	904	963
% Revenues	13,6%	6,8%	14,7%	17,0%	11,6%
Employees	35.000	19.500	27.500	21.000	28.500

Source: Company's annual report

Note: Disclosed revenues by Business Divisions didn't take into account interdivisional revenues eliminations.



Currently, ABB maintain one referent shareholders that had control of the form company ASEA.

A huge stack of the company is in free float

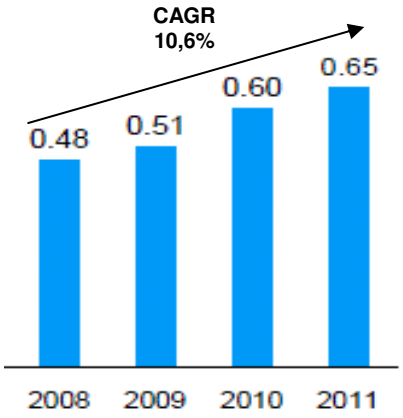
Total ABB Group Key Figures 2008-2011					
(figures in millions USD otherwise indicated)	2008	2009	2010	2011	CAGR (%)
Orders	38.282	30.969	32.681	40.210	1,65%
Revenues	**34.912**	**31.795**	**31.589**	**37.990**	**2,86%**
EBIT	**4.552**	**4.126**	**3.818**	**4.667**	**0,84%**
as % of revenues	12,1%	13,0%	13,0%	12,3%	0,51%
Net Income	**3.118**	**2.901**	**2.561**	**3.168**	**0,53%**
Basic EPS ($)	1,36	1,27	1,12	1,38	0,49%
proposed DPS (CHF)	0,48	0,51	0,60	0,65	10,63%
Cash Flow from Operations	3.958	4.027	4.197	3.612	-3,00%
Free Cash Flow	**2.888**	**3.089**	**3.397**	**2.593**	**-3,53%**
as % of net income	93%	106%	133%	82%	-4,17%
Return on capital employed	**31%**	**27%**	**21%**	**14%**	**-23,28%**
Number of Employees	120.000	116.000	116.500	133.600	3,64%

Source: Company's Annual Reports

- **Revenues** had a YoY variation from 2010 to 2011 of 20% achieving double-digit orders and revenue growth. 40 billion USD orders for first time ever, record revenues revealing a strong recovery after a slowing pace during 2009 and 2010;

- **Operating Income**
  EBIDTA margin growth on the period 2008-2011 was around 0.9%, being the EBIT margin in 2011 slightly penalized by an important increase in depreciations and amortizations.

- **Dividend (CHF per share)**



Source: company information

- The evolution of the dividend payout shows a steadily rising, sustainable annual dividend throughout the business cycle;
- 8% dividend increase vs. 2010, equivalent to 47% payout ratio, 3% yield.
- CHF 5.3 billion available for 2011 and future tax-free dividends.

- **Free Cash Flow**

The recent trend of increase was inverted between 2010 and 2011, due to a high capital spending, mainly in property, plant and equipment and intangible assets, and in net working capital. Capital expenditure in 2011 was around 1 billion USD (2.6% of total revenues). In this sense, the CAGR of the period 2008-2011 was -3,53%.

- **Return on Capital Employed**

The company has established 2015 target for this indicator by >20%. In 2011, this ratio shows an impact of Baldor acquisition.

- ABB's balance sheet retains its strong investment grade:
  - Average debt duration now >5 years;
  - Moody's and S&P reaffirmed A/A2 rating with stable outlook after Thomas & Betts acquisition announcement.

3.1.2 – GAMESA CORPORACIÓN TECNOLÓGICA

The company was founded in 1976 under the name of Grupo Auxiliar Metalúrgico, initially operating in the manufacturing and sale of industrial machinery and equipment, in the automotive sector and Defense and worked on the development of new technologies for emerging businesses such as robotics, microelectronics, the environment, and for the and composite materials.

Over the years, a process which intensified in the 1990s, the company began to focus its business model on two discrete fronts: renewable energies and aeronautics. In early 90's, two referent shareholder's entered in Gamesa, BBVA and Iberdrola, by the vehicle IBV detained by 50% each. For them, Gamesa represented a company with potential for being the business platform for their new aeronautic, wind and solar projects.

In 1994 Gamesa embarks on the engineering, design, manufacture and sale of wind turbines. The political interest to increase penetration of wind power in Spain, mainly to take advantage of its potential to boost the Spanish industry sector, with the consequence of reduction of the cronical structural unemployment, turned necessary to Gamesa incorporate a technological partner which could supply knowledge in this business in order to follow this market dynamics. Therefore, it was created the Business Unit Gamesa Eolica being its shareholder's Gamesa (51%), Vestas (40%) and the Regional Government of Navarra (9%)[4]. It is important to state that this partnership was limited to the boundaries of the Spanish market.

In 1993 Gamesa began working on its first aeronautic program for the EMBRAER.

The entry into the business of developing and construction of wind farms was performed in 1995, relaying into the 1st wind farm start up in 1996. The inclusion of the sale of wind farms in this business segment was performed in the early 2000s, being further one its core business, therefore excluding the model of Independent Power Producer (IPP). In this sense, this business segment is a strategic vehicle to pursue the main activity of selling wind turbines, increasing in importance on the revenue generation of the company.

The company's presence in the renewable energy sector was rounded out by the manufacture of thermo solar and photovoltaic components and the development and sale of photovoltaic solar parks, as well as facilities powered by other renewable energy sources such as biomass and mini hydro.

The other business line, aeronautics, entailed participation in programs for the manufacture of aircraft systems, the development of the engineering blueprints for the design, manufacture and production of parts using composite materials. Gamesa's niches were the regional jet segment (capacity for <100 passengers), projects for major

[4] Currently Gamesa still have located an important share of its manufacturing facilities in this Spanish Region.

aircraft makers and the helicopter segment. During this phase, the company developed projects alongside aircraft makers of the likes of Embraer, Bombardier and Airbus.

In order to finance its growth strategy, Gamesa performed its IPO on 31 October of 2000 being one of the best-performing in the history of the Spanish stock market, rallying 72.5% during its first trading session, being included in 2001 in the benchmark Spanish blue chip index, the Ibex 35. The IPO marked an inflection point in Gamesa's business trajectory, prompting it to begin to shift its growth strategy towards technology put to the service of renewable energy, particularly wind power.

Aiming its geographical expansion and growth, being the joint-venture agreement with Vestas not allowing this purpose, in 2002 this partnership was dissolved by purchase by Gamesa total capital of Gamesa Eolica. Further, Gamesa expands its international footprint, engaging in wind farm projects and selling of wind turbines in countries such as Portugal, Italy, France, Greece, Germany, Ireland, UK, US, China and Mexico.

In June of 2002, the company changed its name to Gamesa Corporación Tecnológica.

Due to consequences, in particular to the aeronautic sector, of the 09.11 attacks prompt Gamesa to abandon its aeronautic business unit in an MBO deal.

Currently, Gamesa's group is divided into 4 business units:

Wind Turbines

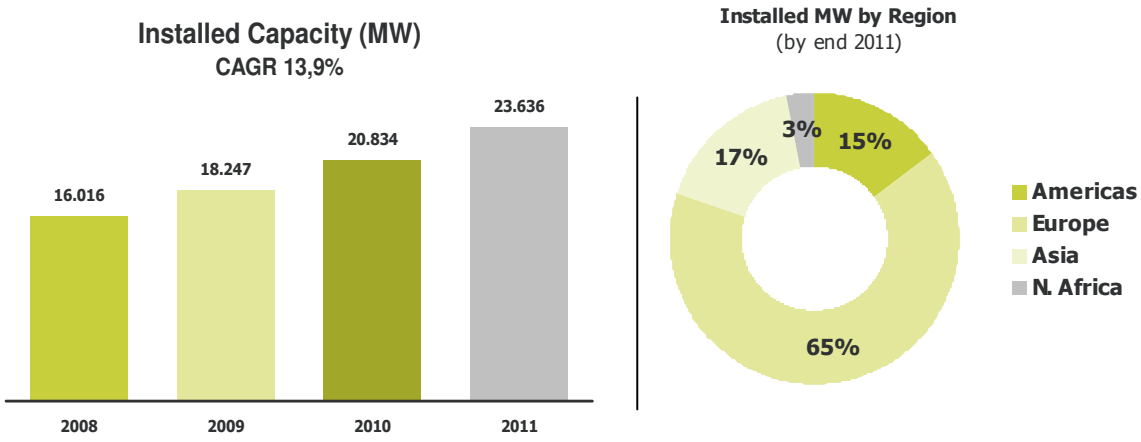
The company has its own wind turbine design and development capacity and it is vertically integrated; Gamesa covers the entire process from conception, manufacturing and installation of wind generators, including manufacturing of blades, moulds, blade roots, multipliers, generators, converters and towers, as well as assembly, logistics and installation.

Gamesa has more than thirty production facilities in Spain (supplying mainly the European market), the US, Asia (China and India) and Brazil (since mid-2011). Its sales network, distributed in 8 regions and 24 sales offices worldwide, covers many European countries (Bulgaria, Denmark, France, Germany, Greece, Italy, Poland, Portugal, Romania, Turkey and the United Kingdom), North America (USA and Mexico), Brazil, China, India, Japan, Singapore and several North African countries such as Morocco and Egypt.

In 2010, Gamesa undertook a review of its production capacity which resulted in the reduction of 500 MW of blade capacity in Spain and an increase in capacity in other countries by investing in growth markets such as China, India and Brazil.

The company has launched an ambitious plan to develop three new onshore Wind Turbine Generator product families and two new offshore platforms. Gamesa will also increase engineering hours (to 1.5 million hours/year), double R&D staff by 2013 and

open five new technology centers in Virginia (US) and Glasgow (UK), both focused on offshore, as well as India, Singapore (advanced materials research) and Brazil, to make a total of ten worldwide.



Source: Company information

Wind Farms

By the end of 2011, Gamesa had completed over 200 wind farms in 11 countries, with a total installed capacity of around 5,000 MW, and another 22,000 MW in various stages of development in Europe, America and Asia.

Gamesa's wind farm development division undertakes all the activities associated with wind generation projects, including site identification, wind measurement, obtaining the necessary permits and licenses for wind farm construction and commissioning, final sale of wind farms, and operation and maintenance of operational farms.

The company's strategy in this segment is strengthening its position in areas with high energy consumption, expanding in emerging markets and obtaining new customers, steadily building out its portfolio (alone or through alliances with local partners) and rotation of assets (through recurring farm sales) depending on projects' earnings visibility and profitability and on the basis of the needs of its customers: large utilities that need to expand in new markets; local developers or industrial groups that need know-how and wish to share risks and funding in the process of wind farm development, and financial institutions seeking returns and experience in the sector.

Nowadays, Gamesa in this segment has its activity through its company Gamesa Energy in the following countries: Spain, Portugal, Italy, Germany, Poland, Greece, France, Bulgaria, Romania, Sweden, UK, USA, Dominican Republic, Mexico, India and China.

O&M Services

Gamesa's end-to-end offering in the wind turbine manufacturing business is complemented by comprehensive range of operation and maintenance services of currently 14,000 MW under maintenance for over 130 clients.

Operation and maintenance are essential to value creation, availability and optimal returns on wind farms because they contribute to: 1) Optimizing wind farm output and returns by maximizing availability; 2) Guaranteeing a useful life, in optimal conditions, of at least 20 years (generator life cycle) and even extending its useful life through a program of improvements and adaptations implemented in the final years of the life cycle; 3) Compliance with changes in existing technical standards or new technical or economic regulations.

Currently there are more than 30 Regional Operating Centers in Europe (Spain, Portugal, France, Germany, Italy, Ireland, the UK, Greece, Poland, Hungary, Bulgaria and Romania), the US, Mexico, Asia (China, India and Japan) and Africa (Morocco, Tunisia and Egypt), which guarantee proximity and permanent availability of the wind farms under maintenance.

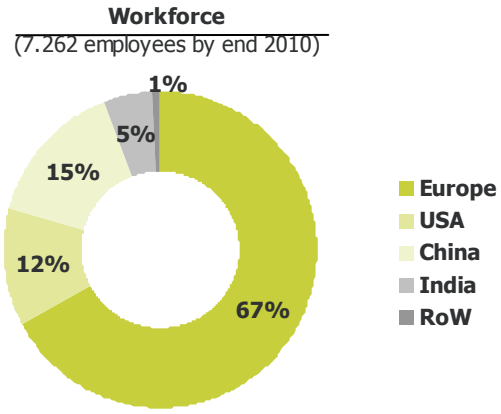
New Businesses

In the search for the new business opportunities and energy solutions that will contribute to sustainable growth in the medium and long term, Gamesa is developing and analyzing new technologies and markets as a diversification strategy with the goal of identifying and investing in innovative companies.

To channel this new strategy, Gamesa established a corporate venture capital fund -Gamesa Venture Capital-, through which it will invest up to 50 million euros in the next four years to buy stakes, initially minority holdings, in start-up or growth companies engaged in the development of technologies promising the highest potential for future growth. The productive and sales bases are concentrated in leading markets, more specifically in America, Europe and Asia, showing a installed capacity of 4,000 MW/year, distributed as follows:

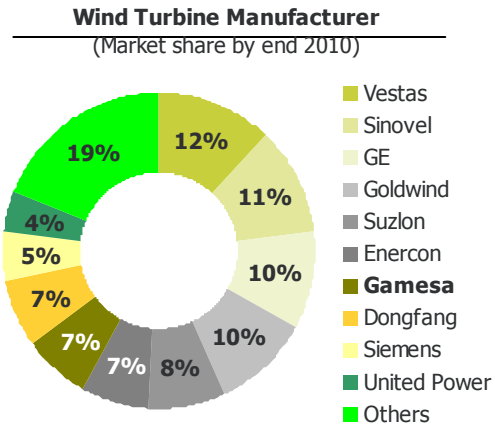
	America	Europe	Asia
Manufacturing Plants	2 – USA 1 – Brazil	21 – Spain	7 – China 2 – India + 2 planned for 2012
Components	Blades and Nacelles Assembly	Complete Design and Manufacture	Blades, Nacelle, Assembly, Gearbox and generators
Capacity	**1,300 MW**	**1,200 MW**	**1,500 MW**

A new offshore manufacturing plant is planned for the UK, where currently is installed a R&D center, for taking advantage of the growing opportunity of this segment for being this greatest market in the upcoming years.



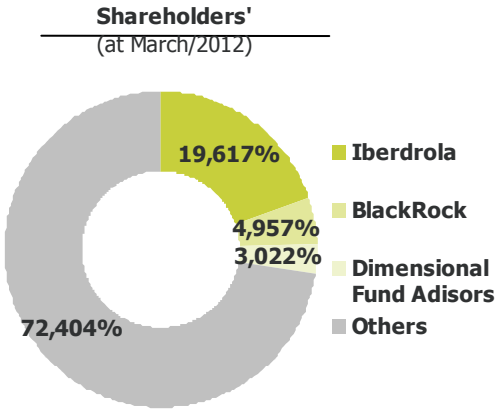
This production structure explain, in some sense, the workforce geographical distribution of the company, being most of it characterized by two criteria's: located in Spain (Headquarters) and allocated to manufacturing facilities.

The main clients of Gamesa have been, during the growth stage of the company, the main operators of Wind Power, more specifically, Utilities and Independent Power Producers (IPPs), with a major stake on the first one. Recently, we assist to a growing importance of the IPPs and increasing entering of a new type of player who are looking to this sector as a way to seek profitability and return on its investment strategy. For instance, during 2010, Gamesa performed several deals with companies such as investment funds, private equity, insurance companies, and IKEA!



The competitive position of Gamesa has been tightening in the recent years, as well as the referent companies (Vestas and General Electric) of the sector, mainly to the increase position of the Chinese Manufactures, which 4 main players representing 32% of the 2010 sales.

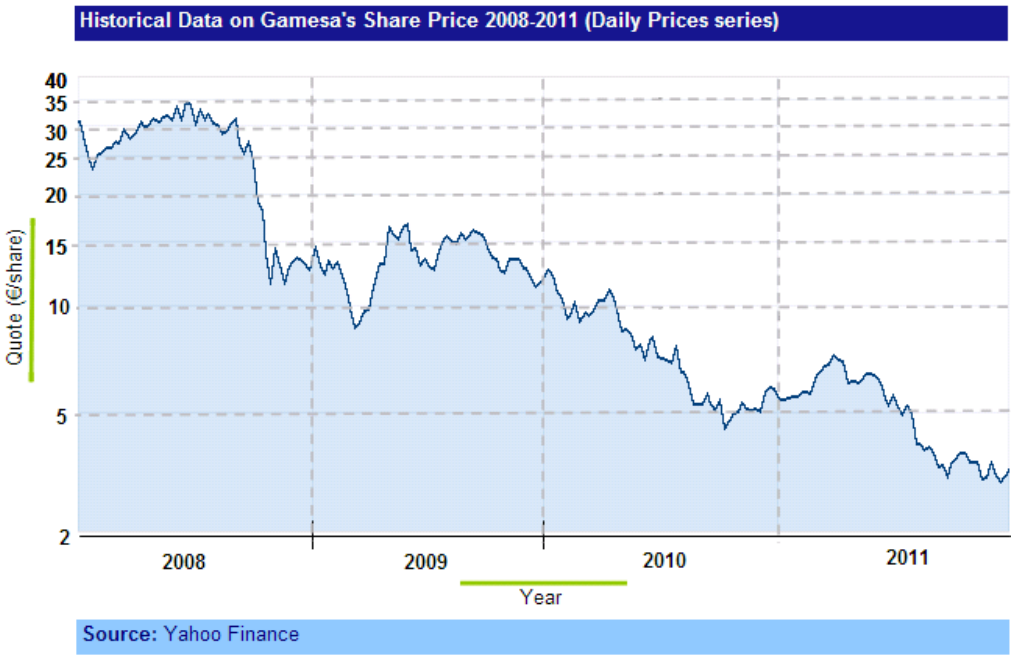
Taking the current available data, Gamesa stands at 7th in the world ranking.



Iberdrola is the referent shareholder of the company, and has been a key customer of the company.

An important stake of shares is in free float.

Market and Financial Data



Gamesa's share price has fallen by over 44% during 2011, and is hovering near all time lows and following a tendency verified in last years in a clear signal of underperformance. Looking at its fundamentals seems that despite of relative good positioning in the wind market as well as sustained execution the market is strongly penalizing the shares in terms of its market value. Even though, the company market performance is in line, for the same period, with the verified tendency of its market benchmark, the IBEX 35.

Figures in mnEUR

	2008	2009	2010	2011	CAGR (08-11)
Revenues	3.646	3.187	2.736	3.033	**-6,0%**
EBITDA	495	394	328	364	**-9,7%**
EBITDA Margin	13,6%	12,4%	12,0%	12,0%	
EBIT	208	177	119	131	**-14,3%**
EBIT Margin	5,7%	5,6%	4,3%	4,3%	
Net Income	157	115	50	51	**-31,3%**
Net Income Margin	4,3%	3,6%	1,8%	1,7%	
NFD	-140	259	-210	710	**n.m.**
NFD/EBITDA	-0,3x	0,7x	-0,6x	2,0x	
EPS (in euros)	1,32	0,47	0,21	0,21	**-45,8%**

Source: Company information and annual reports

- **Revenues** increased between 2010 and 2011 by 10.9% inverting the decreasing tendency verified since 2008, not enough to reach a period 2008-2011 of declining

growth. This increase is justified by growth in wind turbine sales of around 400 MW and wind farms (100 M€). After the big boom of wind power market in 2008 (when Gamesa took advantage of its great market power in Spain) the further decrease in revenues are explained, in a broad sense, by difficulties in penetrate in growing markets, revealing problems to put in practice its internationalization program;

- **EBIT –** despite of the increase in value from 2010 to 2011, we observe a downward trend (-14,3%) in margin due to the pricing pressure experience in markets like China and the rump-up of the new products platforms. There were a number of non-recurrent factors included in this margin like part of the impact of the cost-saving plan (~5 M€) and close to 30 M€ in stocks provisions for highly obsolete components in the balance sheet.

- **Net Financial Debt (NFD)** did not surpass in 2011 the x2.0 EBIDTA in line with the guidance established for the year, accounting 710 M€. The increase of NFD in respect to 2010, is due to the following factors:

    - **Wind Turbine Division**: 2010 => -405 M€; 2011 => 272 M€ (Δ +677 M€)

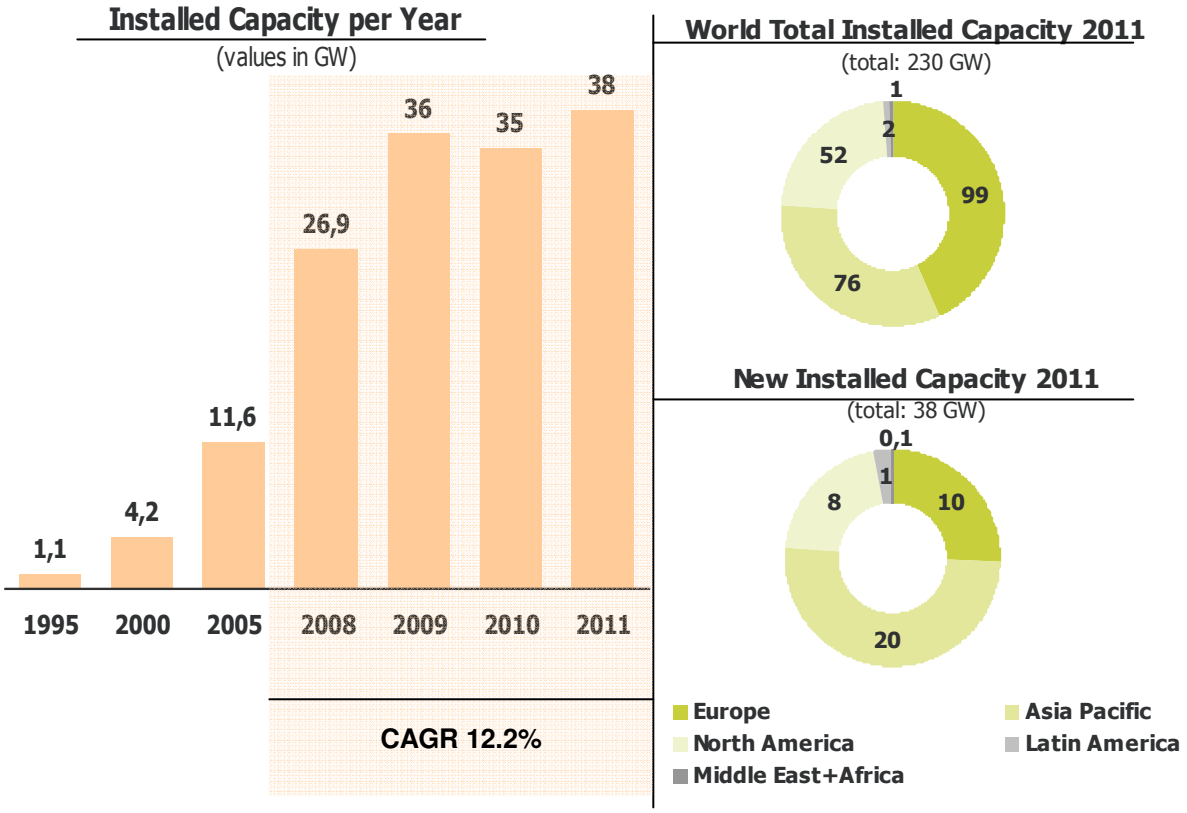
      Main justification are related to the investment needs to accommodate the new manufacturing international facilities and work in progress of turbines.

    - **Wind Farm Division:** 2010 => 196 M€; 2011 => 483 M€ (Δ +287 M€)

      The increase of the level of NFD is due to the strong increase in construction of wind farms with deliveries expected for 2012. Looking to the evolution of the level of net debt in the recent years we can conclude that this business implies a 2-year cash investment cycle.

3.2 – Industry Review

Over the last years we assist to a considerable growth of wind power installed capacity, especially in the last four years, where the installations represented around 60% of the total cumulative installed capacity. This implies, taking into account other factors, that this industry is moving towards a mature stage, economical sustainable and being closer in terms of competition with other sources of energy production.



Source: Wind Power Monthly Annual Market Review

Geographically, Europe supported the main share of global wind power growth, either in installed capacity and components industry, being this a strong argument for most of the European government to spread the message of wind power not only being sustainable as for environmental concerns, but as well by its economical an value added contribution.

A number of traditionally solid markets experienced a big slow down in growth notably Spain, Denmark and Germany. China's total capacity grew to 54 GW[5], after the country gained about the same and new capacity in 2010, around 16 GW. The US is reaching a good, installing 6.7 GW in 2011, up from 5 GW in 2010.
Two markets performed exceptionally well in 2011. Brazil grew by 476 MW to nearly 1.4 GW, a growth of 53% from 2010's installed capacity. Romania, which at the beginning of

[5] 1 GW =1.000 MW

2010 totaled only 14 MW, now stands at 982 MW. Such performance should see these markets described as “mainstream” rather than “emerging”.

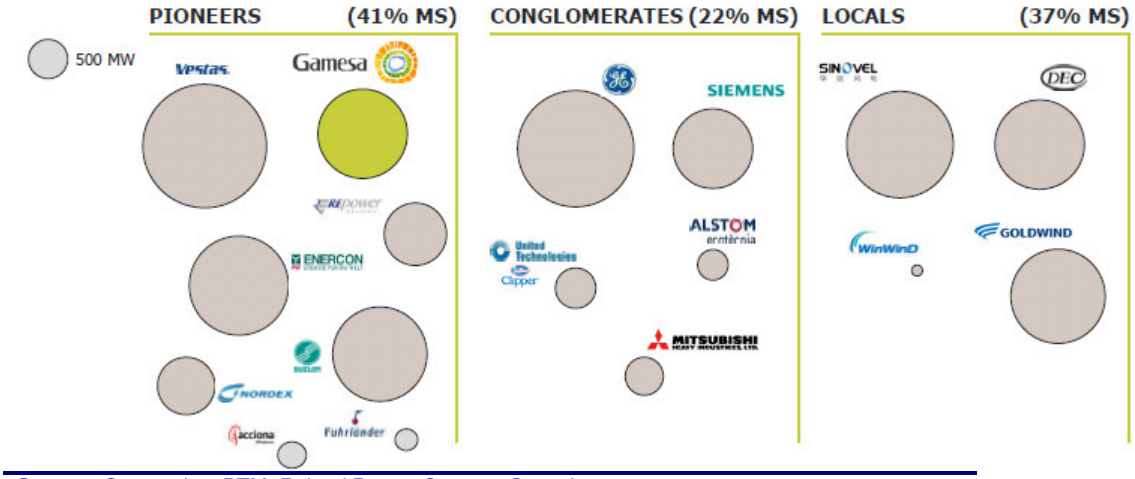
One of the main business drivers of the market, where the potential for growth is higher, relays on offshore. At the end 2011, represented around 1.5% of the total wind power installed capacity, being UK its biggest market with more than 50% of share.

The major constraint for the modest penetration of this segment was more than the double in terms of investment in face of onshore. The trend for lower growth in onshore, revenues support, and technological improvements focus by the main manufacturers, will lead offshore to the same level of potential that was assisted in onshore especially in the last decade.

In respect to the players profiles, and despite of the ranking presented on the Gamesa’s company profile, we can state that the current players described as the pioneers, still operating in the market, where the ones that developed the technology and the market, being their importance progressively reduced with the entrance on the market of big electrical divisions of big conglomerates. Those recognized the attractiveness of this market by its direct business potential as well as the high cross selling with their original core [6]products.

It is important to notice that the current so called “Local” manufacturers, mainly Chinese, relay their high market share on the boom assisted on their domestic markets, putting in place their internationalization program.

Main Players in the industry, 2009 (market share; size)



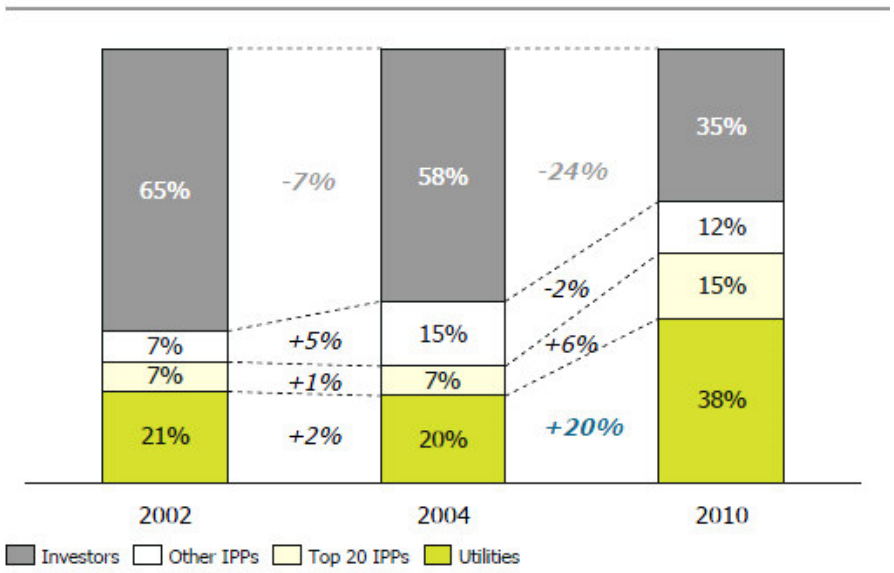
Source: Companies, BTM, Roland Berger Strategy Consultants

[6] The entrance on the market by the conglomerates where performed by acquisitions of the so called pioneers. This is illustrated by the acquisition in 2004 of the Danish manufacturer Bonus by Siemens, and the acquisition in 2007 of Spanish manufacturer Ecotécnia by Alstom.

The market, achieving a mature stage, will naturally moves to a higher degree of concentration in some big players, mainly through M&A, leading to a market structure of oligopoly.

As we can observe in the figure below, the market was moving in terms of increasing importance of Utilities and IPP's, decreasing the relevance of investors that where present in the big boom of the sector on the high growth period, seeking high returns on a short period of time.

Client mix in owned MW – Europe (% market share)

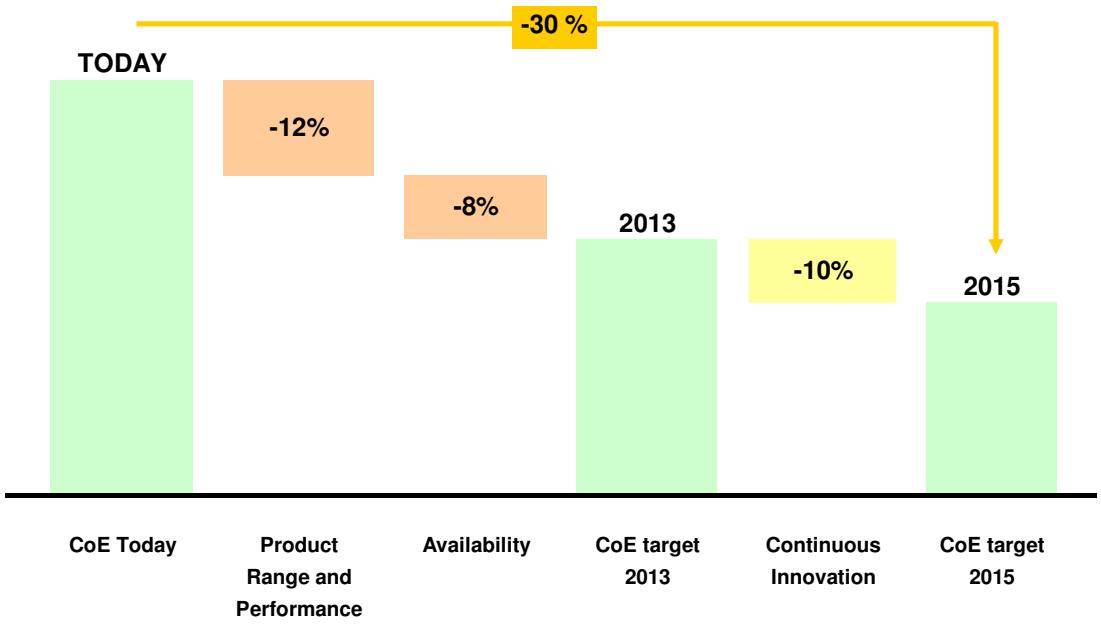


Source: Companies, BTM, Roland Berger Strategy Consultants

Currently the trend is shifting on this field. The entrance of pension and insurance funds as confirmed offshore wind's move from balance-sheet Utility financing to a new phase of consortium-based investment. The recent 1.3 billion USD investment by Danish insurance groups in offshore wind in Denmark confirms the trend towards a maturing market and the creation of secondary markets with assets sold for a second or third time. In conclusion, we can state that the market is moving for the next level that means that funding is constrained and is going to have to come from new equity sponsors.

Developers will have to accept a lower rate of return and look further a field for investors.

Economic Target – Impact of Levers on Cost of Energy (CoE) (illustrative)



Source: Companies, BTM, Roland Berger Strategy Consultants

The average cost of the onshore wind turbines fell in real terms from 2 MM €/MW in 1980s to 0.88 MM €/MW in 2011, being one of the most important factor affecting the Cost of Energy (CoE).

On the early stage and in most of the markets today, the wind power has a regulated framework, serving the purpose of being, among other things for being a renewable source of energy, an incentive to the technology progression. Moving to a even more mature stage, is most likely that the common frameworks will be abandoned being wind power moving to full competition with another sources of energy production. The most common framework of incentive schemes are the following:

Feed-in Tariff (FiT) – fixed and granted tariff for each MWh produced, during the wind farm useful life. Exist as a mechanism of supporting a new technology and/or the sector has an important role in the local industry.

Electricity Market prices + Green Certificates (GC) – selling the energy produced in the electricity market (spot) plus an incentive granted in the way of a certificated issued by being renewable energy.

Bilateral Agreements – agreements for the remuneration scheme established with the purchaser of the produced energy (usually Utilities). Usually these agreements constitute

one part of the scheme being added by others like loan guarantee program, manufacturing tax credits, treasury cash grants, etc.

Tenders – scheme to boost the share of renewable sources by establishment Power Purchase Agreement (PPA) with producers that bid for granting it, and therefore assuring a downward trend of prices.

It's important to notice that, especially in European Countries, with the current public debt issues, is in place a growing social and economic pressure to force the abandon of any kind of incentives to renewable energy, although most of them adopt the European Directive 2020[7] that establish ambitious renewable targets. Taking into account the installed capacity in 2010, 84 GW, these targets represents an increase of over 150% reaching an aggregate total of 213 GW. In conclusion, for the European market, is expected an annual installations between 12-13 GW until 2020.

The International Energy Agency (IEA) estimates that on the basis of the US's existing subsidies policies, the US could have accumulative total installed wind capacity by 2020 of 92 GW, which represents a 129% increase over 2010's figure of 40 GW. In conclusion, for the US market, is expected an annual installations around 5 GW until 2020.

China has a current informal target for wind capacity cumulative installations of 225 GW in 2020, which represents a 432% increase of 2010's figure of 42 GW. Therefore, for this market, is expected an annual installations around 18 GW up to 2020.

For the Rest of the World (ROW), is assumed a growth rate out to 2020 which is the same as the weighted average for the EU, US, and China. This takes cumulative installations from 28 GW in 2010 to 89 GW in 2020, an increase of 218%. This implies annual installations of 6 GW.

After a geographical assessment of expected growth is important to point out that, the onshore capacity installations trend to became stable in the upcoming years, being offshore the main driver of growth resulting in a average of 4% for total wind power installed capacity until 2020.

Therefore, we can conclude that the main forward drivers of the industry will probably lead to the following conclusions:

1) Short-term demand is being hampered by the weak global economy and doubts about the sustainability of US and European debt. In the short term, weaker demand in mature markets (Europe and US) is being offset by the growth in emerging markets in Asia (e.g. India), Latin America (Brazil, Mexico), Africa (South Africa, Egypt, Morocco) and Australia, which need to deal with structural energy deficits or excessive dependence on a single domestic energy source;

[7] The European Union has a target of deriving 20% of all its energy from renewable sources by 2020, as mandated by Directive 2009/28/EC.

2) However, commitments to renewable energy at the European (20-20-20 directive) and global level, along with the growing competitiveness of wind energy should guarantee growth rates of 10%-20% in new facilities between 2011 and 2015[8];

3) The sector in the midst of far-reaching restructuring (surplus capacity of 30%, technological innovation), which is pushing down, among other things, prices and squeezing margins. Moreover, the sector is at a crucial crossroads with the market becoming increasingly global and competitive.

4) We can expect a natural selection process in which only the best will survive (China has more than 80 local manufacturers which could be whittled down to between five and ten).

[8] According to BTM Consult, Global Wind Energy Council (GWEC), International Energy Agency (IEA).

4 – Standalone Valuation

In this topic it's performed the standalone valuation of each company included in the proposed transaction. The valuation is performed base on the following:

Gamesa: The method used, as described in the Literature Review section, will be the DCF approach. For this, was considered a scenario analysis from 2012 to 2016, being this period representative of the growth stage. Further, a stable growth is forecasted from 2017 to 2020. It was considered the Free Cash Flow to the Firm, as the cash flows applied to the DCF method, discounted at the WACC.

ABB: the main method, following the terms applied to Gamesa valuation, will be complemented with a relative valuation for comparison proposals.

All cash flows will be discounted to 2011 base year.

4.1 – Gamesa Corporación Tecnológica

In respect to the industry drivers, the challenges to Gamesa, and reflected in its Business Plan 2011-2013, published in October 2010, will be:

1) **Technology:** product platforms aimed at providing the right price-quality trade-off both onshore and offshore; the need to cut energy costs and reduce dependency on incentives (-15% in 2011, -20% in 2013, -30% in 2015)

2) **International expansion:** flexibility in getting in and out of markets swiftly (e.g. India and Brazil); expanded sales & marketing reach (Australasia, South Africa, Middle East);

3) **Increased productivity:** capacity cuts of 50% in Spain, +1,000 MW in core markets, completion of the process of setting a local supply chain in India and Brazil; cost streamlining (-15% overhead/MW by 2013 vs. -5% in 2011);

4) **Financial capacity** (2.5x debt/EBITDA, €1.2bn refinancing achieved in June-11 covers Capex requirements to 2013);

5) **Exploitation of other competitive advantages:** Gamesa Energy[9] as demand driver (25% of total WTG demand) in China, India and USA; O&M division (10%e of total WTG sales, €300mn 2012, margins higher than in the wind business).

Currently it's outstanding the below targets for the key financial data of the company:

[9] Group's company responsible for the Development and Sales of Wind Farms.

	Guidance 2012	Business Plan 2013
Turbines (MW) sold	2.800-3.200	4.000
EBIT Margin	2%-4%	6%-7%
Working Capital/Revenues	20-25%	20%
Total Capex (M €)	275	310
Net debt/EBITDA	2.5x	2.5x

Source: Company information

Assumptions to financial forecasts and Valuation[10]

a) Cash Flows

Volumes

Volumes are based on Gamesa's guidance and taking into account the forecasts of industry volume progression, in the most relevant markets to the company. Therefore, the turbines that will be delivered in the period 2012-2015 will be in the range of 3,000-3,600MW. It was also considered Gamesa's lower exposure to US market, in comparison to other key manufacturers (e.g. Gamesa 2011: 15% vs. Vestas 35%), reflecting a less fallout from the US slowdown in 2013, with overall volumes slightly ahead in 2012. Thereafter, I we expect low single-digit growth (around 6%) as developing-world volumes offset stagnation in more mature markets.

For Valuation purposes, 2 additional scenarios were forecasted (Bullish and Bearish) reflecting high and low expectation relative to the above assumptions to the Base case.

Average Selling Price (ASP)

Following a trend of continuing oversupply and pricing pressure in the turbine market in the next few years, the ASP assumption is a reduction between 2-3% in the considered period.

Margins

The company will struggle to raise EBIT margins above the 2011's level of 4.3% in the medium term, mainly due to:

1) Capex necessities for putting in practice its offshore program and new onshore platforms;
2) Market price pressures;

[10] Figures in Appendix

3) Operational restructuring in force will be visible only in terms of its benefits from 2014 afterwards;
4) Some difficulties in putting in place, in the short-term, a overseas production capacity, reducing the current weight of facilities in Spain;
5) 32% of the 2011 ending backlog coming from Latin America, where the margins are squeezed by prices observed mainly in the Brazilian last tenders.

In this sense, it was forecasted that the company reaches at the end of its growth stage a EBIT margin of 4.5%.

Also, in this item where constructed two additional scenarios that will be linked with the correspondent changes in volume assumptions.

CAPEX

In average, our expectations of CAPEX in period 2012-2015 will be lower than Gamesa targets of €250m a year between 2011 and 2013, including both PPE and intangibles, which we expect to be the out -turn. Gamesa is now bringing forward a range of new turbines (onshore 4,5–5 MW and offshore 5-7 MW) representing a good allocation of resources, given the company's lack of track record in offshore and the relative advantages of the market incumbents Siemens and Vestas.

Depreciation and Net Working Capital

The estimates of depreciation where linked to the volumes of forecasted CAPEX, assuming the past relation. To the level of Working Capital, and consequently its net change, was considered estimates from Redburn Research.

b) Discount Rate

WACC Calculation parameters		
Risk-free rate	4,0%	UBS Equity Research Feb/2012 estimates
Market risk premium	4,5%	UBS Equity Research Feb/2012 estimates
Beta Unlevered	1,2	Electrical Equipment Unlevered Beta (Damodaran, 2012)
Beta Levered	1,5	According to formula [17] $\beta_L = \beta_U\left[1+\frac{D}{E}(1-T)\right]$
Cost of Equity	10,7%	According to formula [15] $Ke = Rf + \beta_L(Rm - Rf)$
Debt ratio	25,0%	Target Debt Ratio
Target D/E	33,0%	Target D/E ratio, own estimates
Credit spread	3,0%	UBS Equity Research Feb/2012 estimates
Cost of debt	7,0%	Risk-free rate+Credit Spread
Tax	28,0%	Marginal tax rate, for Basque Region (Spain)
WACC	**9,3%**	According to formula [3] $WACC_t = [E_{t-1}Ke_t + D_{t-1}Kd_t(1-T)]/[E_{t-1}+D_{t-1}]$

c) Terminal Value

Terminal Value parameters		
Formula	According to formula [22]: Value = expected cash flow next period/(r-g)	
Long-term growth	2,0%	Average equity research estimates
Year of forecast	10	

Valuation Results

Values in mn€

DCF Valuation Results				
Scenarios	**Enterprise Value**	**Equity Value**	**Equity Value per share (€)**	
Bullish	1.738	1.007	4,08	
				17%
Base Case	**1.594**	**863**	**3,50**	
				-10%
Bearish	1.509	778	3,15	

4.2 - ABB

In November 2011, ABB announced an updated strategy for the period 2011-2015 along with financial targets to measure the success in achieving them:

ABB - Group Targets (2011-2015)	
Organic Revenue Growth (CAGR)	7-10%
Operational EBITDA (margin corridor)	13-19%
Organic EPS Growth (CAGR)	10-15%
Free Cash Flow Conversion	annual avg. >90%
Cash Flow Return on Invested Capital	>20% by 2015

ABB - Target Revenue Growth and Operational EBITDA Margin Corridor 2011-2015		
Division	Revenue Growth	EBIDTA Margin corridor
Power Products	5-7%	14-20%
Power Systems	10-14%	7-11%
Discrete Motion and Automation	12-15%	16-21%
Low Voltage Products	8-11%	16-22%
Process Automation	6-9%	11-15%

Source: Company information

CAGR: Compounded Annual Growth Rate, base year 2010

The long term outlook for ABB remains positive, with utilities continuing to invest in grid upgrades and industries investing more in automation solutions to increase energy efficiency and productivity.

Macroeconomic volatility makes short-term forecasts more challenging. There are signs of recovery in the North American Economy and China appears to be returning to a focus on growth, while uncertainty around government budget deficit in Europe remains high. From the perspective of ABB's short-term business development, management expects low single digit growth in most of its early-cycle business until confidence in the macroeconomic outlook improves. Price pressure is expected to continue in parts of the power business.

Strategic Focus on Future Growth			
Key Areas	% sales		Focus/Areas
	2010	2015	
Emerging Markets	~50%	~+60%	- China; India; Africa; - More Automation and base order in Power.
Americas	19%	~25% - 30%	- North America Low Voltage and Discrete Motion expansion; - Power, smart grids, energy efficiency.
Services	16%	~20% - 25%	- Leverage installed base.
Portfolio expansion	Base year	~10% - 15%	- Inverters, mechanical equipments; - Renewables, energy, automation and smart grids.

Source: Company information

Management stated that, they will continue to drive further improvements in costs and productivity going forward.

The company closed 2011 with the current status of order backlog, an important indicator of future revenues:

Orders Backlog (mnUSD)			
ABB			
	2009	**2010**	**2011**
Power Products	8.226	7.930	8.029
Power Systems	9.675	10.929	11.570
Discrete Automation and Motion	3.046	3.350	4.120
Low Voltage Products	734	838	887
Process Automation	5.523	5.530	5.771
Operating Divisions	**27.204**	**28.577**	**30.377**
Corporate and Others*	-2.433	-2.384	-2.869
Total	**24.771**	**26.193**	**27.508**

* includes interdivional eliminations

Source: Annual Report 2011

In 2011, orders grew at a higher rate than revenues leading to an increase in group order backlog by 5% compared to 2010.

In general terms, the assumptions for revenues targets, stated above, are as follows:

- World GDP to grow 3-4% p.a.[11];
- Emerging Markets (EM) growth >2x developed markets;
- Global industrial capex to grow 5-6% p.a.;
- ABB's markets assumed to grow 6% CAGR over 2010-2015.

We assumed three scenarios of revenues:

- Base case: the average of the group's corridor revenues target for the period 2011-2015 as benchmark for the CAGR (%) of 2010-2015;
- Bullish: +1% of the group's higher corridor limit of revenues target 2011-2015 as benchmark for the CAGR (%) of 2010-2015;
- Bearish: -1% of the group's lower corridor limit of revenues target 2011-2015 as benchmark for the CAGR (%) of CAGR 2010-2015.

Revenues by Scenario (mnUSD)

ABB

	2010	2011	2012e	2013e	2014e	2015e	Total (2012-15)	CAGR (2010-15)	CAGR (2012-15)
Bullish	-	-	41.413	44.947	48.442	52.719	**187.521**	**11%**	**8%**
YoY growth	-	-	9%	9%	8%	9%			
Base Case	31.589	37.990	39.738	42.139	44.018	46.248	**172.143**	**8%**	**5%**
YoY growth	-1%	20%	5%	6%	4%	5%			
Bearish	-	-	37.741	39.309	40.572	41.464	**159.086**	**6%**	**3%**
YoY growth	-	-	-1%	4%	3%	2%			

Source: Company information; own estimations.

For the long-term, we forecasted for the period 2016-2020 a revenue growth of 4%, and in perpetuity 3%, in line with the GDP long-term expectations. As stated in the Literature Review section, the long-term growth should not overpass the expectation for this macroeconomic aggregate. The overall ABB's business portfolio is strongly linked with the economic growth and their components, especially the investment, mainly in industry sector.

Mixing the business targets of the company and their past track record in the cost components of his income, we assume that the trend will be replied for the upcoming years. Therefore, the cost and margins where forecasted as the average of the historical year ended figures.

[11] Global Insight

Costs and Earnings Assumptions

	Historical Year Ended					Projected Year Ending		
	2007	2008	2009	2010	2011	2012-2015	2016-2018	2019-2020
Total Revenue (mn USD)	29.183	34.912	31.795	31.589	37.990			
- COGS (% of revenue)	69,3%	68,7%	70,7%	69,8%	69,9%		69,7%	
- Operating Exp. (% of revenue)	17,0%	16,7%	17,4%	18,0%	17,8%		17,4%	
- SG&A (% of revenue)	15,0%	14,8%	15,3%	15,8%	15,1%	14,7%	14,6%	14,5%
- EBIDTA (% of revenue)	15,7%	16,6%	14,0%	14,4%	15,0%	15,6%	15,7%	15,8%
- D&A (% of revenue)	2,1%	1,9%	2,1%	2,2%	2,6%	2,7%	2,8%	2,9%
- EBIT (% of revenue)	13,7%	14,7%	11,9%	12,1%	12,3%		12,9%	

Source: company information; own estimations

Historical Working Capital and Net Debt

ABB

Values in mn USD

	2007	2008	2009	2010	2011
Current Assets	23.145	24.347	25.229	25.348	23.787
Excess Cash (-)	8.110	7.806	9.552	8.610	5.767
Current Liabilities (-)	14.479	16.004	14.579	16.738	16.561
Short Term Debt (+)	536	354	161	1.043	765
Working capital	**1.092**	**891**	**1.259**	**1.043**	**2.224**
% of Revenue	3,7%	2,6%	4,0%	3,3%	5,9%
Interest Exp (net)	559	664	248	78	117
Total Debt	**3.266**	**2.975**	**3.016**	**2.755**	**4.555**
Execess Cash (-)	8.110	7.806	9.552	8.610	5.767
Net Debt	**-4.844**	**-4.831**	**-6.536**	**-5.855**	**-1.212**

The net debt in 2011 increased, in respect to the previous years, mainly due to the acquisition of Baldor in cash of around 3,800 million USD, implying also an increase in the levels of working capital. For the long-term, we assumed a level of working capital of the last year (5.9% of revenues), after group market consolidation by strong activity of M&A.

For the DCF valuation, the parameters used for the appropriate discount rate (WACC) are as follows:

WACC Calculation parameters

ABB DCF Valuation

Parameter	%	Remarks and Sources
Risk-free rate	1,87%	US T-Bond Rate. Source: Damodaran, 2012
Market risk premium	6,0%	US Equity Market Premium. Source: Damodaran, 2012
Beta Unlevered	1,35	Electrical Equipment Unlevered Beta. Source: Damodaran, 2012
Beta Levered	1,5	According to formula [17]: $\beta_L = \beta_U \left[1 + \frac{D}{E}(1 - T)\right]$
Cost of Equity	10,8%	According to formula [15]: $Ke = Rf + \beta_L (Rm - Rf)$
Equity Weight	88,7%	Implied target Equity Ratio from target D/E
Debt Weight	11,3%	Implied target Debt Ratio from target D/E
Target D/E	12,7%	Market D/E ratio. Electrical Equipment Industry Average. Source: Damodaran, 2012
Credit spread	3,13%	Spread Applied to Credit Rating A2 Moody's; A S&P
Cost of debt	5,0%	Risk-free rate+Credit Spread
Tax	21,17%	Marginal tax rate, for Zurich (Switzerland). Source: KPMG
WACC	**10%**	According to formula [3]: $WACC_t = [E_{t-1}Ke_t + D_{t-1}Kd_t(1-T)]/[E_{t-1} + D_{t-1}]$

Terminal Value parameters

Formula		According to formula [22]: Expected Cash Flow stable growth/(r-g)
Long-term growth	3%	Forecast of Global Economic Growth. Source: The Conference Board-Economic Global Economic Outlook, 2012.

Values in mnUSD

DCF Valuation Results

ABB - Scenarios Summary

Scenarios	Enterprise Value	Equity Value	Equity Value per share (USD)	Δ to scenarios	Share Price (30/12/2011) (USD)	Δ over valuation
Bullish	68.950	70.162	30,67			**63%**
				12%		
Base Case	**61.345**	**62.557**	**27,34**		**18,83**	**45%**
				-9%		
Bearish	55.670	56.882	24,86			**32%**

To compare the values of the above DCF results with a relative valuation, we started by composing a peer group earnings multiples:

Pan European Electricals - Peer Group Multiples

Company	Currency	Share Price*	Mkt cap (EURm)	Earnings Multiples								
				EV/sales			EV/EBITDA			EV/EBIT		
				2012e	2013e	2014e	2012e	2013e	2014e	2012e	2013e	2014e
Alstom	EUR	32,8	9.349	0,5	0,5	0,5	5,5	5,1	4,6	7,8	7,0	6,5
Invensys	GBP	2,0	1.936	0,5	0,5	0,4	4,3	3,9	3,0	5,5	5,0	4,0
LeGrand	EUR	28,0	7.249	1,9	1,8	1,7	8,4	8,0	7,6	10,0	9,3	8,3
Koninklijke Philips	EUR	15,7	15.538	0,7	0,7	0,6	6,1	5,3	4,8	10,1	8,2	7,0
Schneider Electric	EUR	51,5	27.722	1,4	1,3	1,2	8,2	7,7	7,2	10,0	9,3	8,4
Siemens	EUR	76,0	68.382	0,9	0,9	0,8	6,6	6,2	5,6	8,8	8,0	7,3
		Total	**130.176**									
Simple Average				**1,0**	**1,0**	**0,9**	**6,5**	**6,0**	**5,5**	**8,7**	**7,8**	**6,9**
Weighted Average				**1,0**	**1,0**	**0,9**	**6,9**	**6,4**	**5,8**	**9,2**	**8,3**	**7,4**

* prices as at close on 14.03.2012

Source: Danske Markets, Equity Research March/2012

Applying the weighted average earnings multiples to respective forecasted figures in each scenarios we reach the following Enterprise Values:

Relative Valuation - Enterprise Value

values in mn USD

	EV from (EV/EBIDTA)			EV from (EV/EBIT)		
	2012e	2013e	2014e	2012e	2013e	2014e
Bullish	44.371	44.868	44.179	49.297	47.874	46.540
Base Case	42.576	42.065	40.144	47.303	44.883	42.290
Bearish	40.436	39.240	37.002	44.926	41.868	38.979
Average	**42.461**	**42.058**	**40.442**	**47.175**	**44.875**	**42.603**
		41.654			**44.884**	

The results reached by applying peer multiples, highly differs from the ones from the DCF method. For instance, the difference for the EV calculated for the Base Case scenario (61.345 million USD) is between 37-47% from EV/EBIT and EV/EBIDTA, respectively.

Even when we extend the sample of comparables to the segment of industry (mechanical/electrical), we reach the following outcomes:

Pan-European Industry Multiples

Company	Earnings Multiples					
	EV/EBITDA			EV/EBIT		
	2012e	2013e	2014e	2012e	2013e	2014e
Pan-European electricals	7,2	6,7	6,2	9,4	8,5	7,7
Pan-European mechanicals	9,0	8,3	5,7	11,0	9,8	8,0
Pan-European industrials	**8,0**	**7,3**	**6,0**	**10,1**	**9,0**	**7,8**
ABB (Enterprise Value)	**49.593**	**47.988**	**41.201**	**52.176**	**48.923**	**44.291**
Average		**46.261**			**48.463**	

Source: Danske Markets; own estimations of EBIDTA and EBIT – Base Case scenario

The differences in respect to DCF still remain relatively high, from 27% to 33% using EV/EBIT and EV/EBIDTA, respectively.

The main source of explanation of this gap can be from the characteristics of ABB as a company, being a huge conglomerate with well diversified business divisions not identifying a reliable group of companies to perform a peer benchmark.

Therefore, we are convinced, and will be applied in the next section, the outcomes coming from the DCF method.

5 – Valuation of the Acquisition

5.1 – Assumptions and method used

The valuation of the acquisition will start by the Synergy Valuation, like saying, what will the value creation for ABB from Gamesa acquisition. Meanwhile, it will be also paramount to see what will be the increase in the Gamesa's forecasts, and therefore on its value, from benefiting of Operational and Financial synergies as being part of ABB's group.

In this sense, as stated in the Literature Review section, Damodaran (2005) exposed a road map aiming the above goals:

1) Value the firms involved in the merger independently, by discounting expected cash flows to each firm at the weighted average cost of capital for that firm.

Gamesa

Being the purpose of the current thesis, the incorporation by acquisition of Gamesa in ABB group, in order to apply the further methods stressed in the following points, all forecasts and valuation where exchanged from EUR to USD. The exchange rate used was the average of 2011[12] (1 EUR =1.3931 USD).

All remain assumptions where maintained and for acquisition valuation proposal the base case scenario was considered.

ABB

All remain assumptions where maintained and for acquisition valuation proposal the base case scenario was considered.

Following the above, the outcomes of the stand alone valuation can be summarized in the following table:

[12] **Source:** Board of Governors of the Federal Reserve System. Foreign Exchange Rates. Release Date: January 3, 2012. http://www.federalreserve.gov/releases/g5a/current/

Standalone Valuation Outcomes				values in mnUSD
	Base Case Scenario			
Firms	Enterprise Value	net debt (as for 31.12.2011)	Equity Value	Equity Value per share (USD)
ABB	61.345	-1.212	62.557	**27.34**
acquirer				
Gamesa	2.221	1.018	1.203	**4.87**
target				

2) Estimate the value of the combined firm, with no synergy, by adding the values obtained for each firm in the first step.

In this step, we considered the acquisition by incorporating Gamesa as ABB group Business Division (i.e, Wind Power Division), reaching the following valuation outcomes of the combined firm, discounting all cash flows using DCF valuation with ABB's WACC discount rate.

Valuation of combined firm (no synergy)				values in mnUSD
	Base Case Scenario			
	Enterprise Value	net debt (as for 31.12.2011)	Equity Value	Equity Value per share (USD)
ABB + Gamesa	63.693	-194	63.886	**27.92**

3) Build in the effects of synergy into expected growth rates and cash flows and revalue the combined firm with synergy. The difference between the value of the combined firm with synergy and the value of the combined firm without synergy provides a value for synergy.

Valuation Combined Firm (with synergies)				values in mnUSD
	Base Case Scenario			
Firms	Enterprise Value	net debt (as for 31.12.2011)	Equity Value	Equity Value per share (USD)
ABB + Gamesa	67.700	-194	67.894	**29.67**

5.2 – Value of Synergies

In a broad sense, the sources of synergy of incorporating Gamesa in ABB group as a Wind Power Division can be translated by the following (from ABB perspective):

Revenues

- Commercial Resources in place on a structural basis in more than 100 countries;
- Credibility of ABB's brand;
- Cross selling with other divisions, especially the advantage of selling the Wind Turbine as additional product to the existing capacity of Wind Farm Balance of Plant supply, being therefore a turnkey product;
- Existing network of clients with Wind Power assets in place and investing dynamics in the sector;
- Boost the Services of Operating and Maintenance business.

Gross Margin

- 60% of the Wind Turbine components, on average, with internal supply capacity. Benefiting of lower cost of supply;
- Standards and fabrication procedures, coming from more than 100 years experience, will outcome economies by efficiency and average cost reduction;

Operating Expenses

- Supply management and logistics (e.g. network of suppliers, benefiting from higher bargaining power, economies of scale)
- Decommissioning of the existing fabrication overcapacity in Spain (Gamesa's plants). In this sense, take advantage of the fabrication assets of ABB in the markets with more expect future growth (e.g. Germany, China, South America, India);
- Redundancy of ~90% of commercial team and management/corporate operating divisions. 50 % of manufacturing headcount. The Business Development team (mainly referring to the Wind Farm Division) will be increased to boost this business.

Investment needs

- Higher Capex on Wind turbine division to face more market penetration and technology advancements in launching new wind turbine models to face market trends (e.g. offshore, higher than 2 MW onshore turbine models).

Sources of Synergies to Gamesa												values in mnUSD
M&A - ABB/GAMESA												
Sources	1- w/ synergies 2- without synergies	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable	CAGR (2012-20)
Revenues	1	4.472	4.636	5.115	5.572	5.795	6.027	6.268	6.518	6.779	6.983	5.3%
	2	4.472	4.636	4.902	5.015	5.216	5.424	5.641	5.867	6.102	6.285	4.0%
	Δ%	0.0%	0.0%	4.3%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%	11.1%	
Gross Margin	1	36%	36%	37%	38%	38%	38%	38%	38%	38%	38%	
	2	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%	
	Δ%	0.0%	0.0%	2.8%	4.2%	5.6%	5.6%	5.6%	5.6%	5.6%	5.6%	
Operating Expenses	1	1.309	1.252	1.228	1.282	1.275	1.326	1.379	1.434	1.491	1.536	
	2	1.309	1.333	1.381	1.399	1.457	1.517	1.579	1.644	1.712	1.805	
	Δ%	0.0%	-6.1%	-11.1%	-8.4%	-12.5%	-12.6%	-12.7%	-12.8%	-12.9%	-14.9%	
EBIT	1	134	243	409	585	695	723	752	782	814	838	25.3%
	2	134	162	196	226	235	244	254	264	275	259	9.4%
	Δ%	0%	50%	109%	159%	196%	196%	196%	196%	196%	223%	
EBIT margin	1	3%	5%	8%	11%	12%	12%	12%	12%	12%	12%	
	2	3%	4%	4%	5%	5%	5%	5%	5%	5%	4%	
	Δ%	0%	50%	100%	133%	167%	167%	167%	167%	167%	191%	
CAPEX	1	348	383	256	223	232	241	251	261	271	279	
	2	348	383	237	195	167	172	177	183	188	178	
	Δ%	0.0%	0.0%	8.0%	14.3%	38.7%	40.0%	41.4%	42.7%	44.1%	57.1%	

As expressed above, all synergies will account mainly on Gamesa that will become the Wind Power business segment of ABB's group.

Recovering the outcomes of the valuation section we will find that:

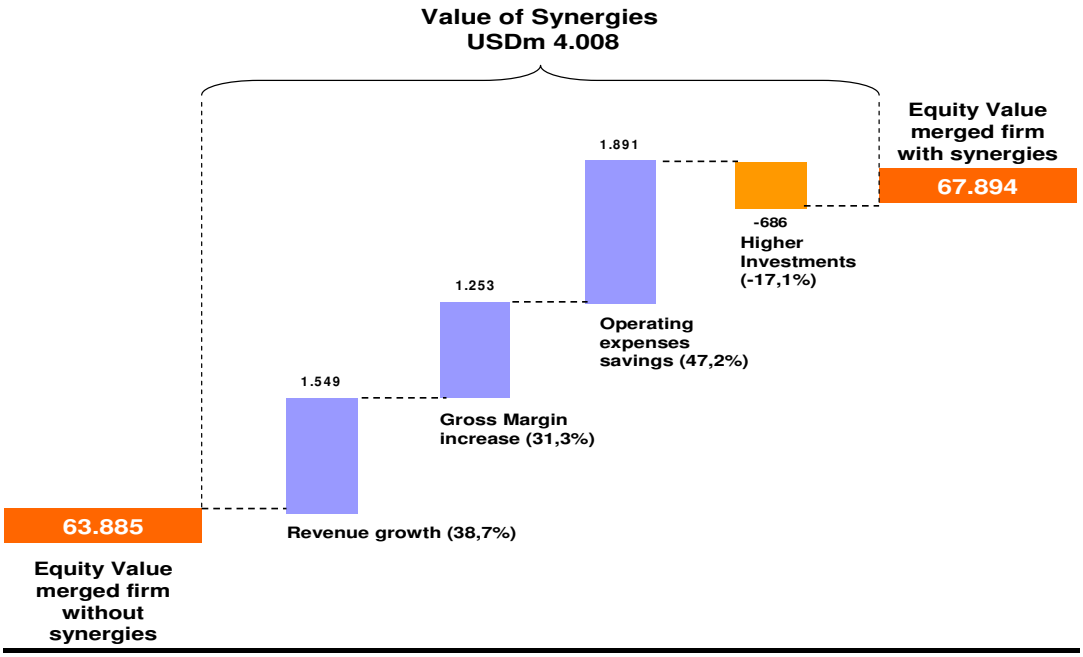
VALUATION of the COMBINED FIRM						values in mnUSD
Outcomes summary						
		Enterprise Value	**net debt** (as for 31.12.2011)	**Equity Value**	**Equity Value per share (USD)**	**Δ%**
1	**ABB + Gamesa (with synergy)**	67.700	-194	**67.894**	**29.67**	
2	**ABB + Gamesa (without synergy)**	63.693	-194	**63.886**	**27.92**	
			Δ (1-2)	**4.008**	**1.75**	**6.3%**
3	**ABB standalone**	61.345	-1.212	**62.557**	**27.34**	
			Δ (1-3)	**5.337**	**2.33**	**8.5%**

The Value of Synergy				values in USDm
Sources	**Equity of the merged firm without synergies**	**Equity of the merged firm with synergies**	**Difference**	**weight (%)**
Revenue Growth	63.885	65.435	1.549	38.7%
Gross Margin increase	63.885	65.139	1.253	31.3%
Operating Expenses savings	63.885	65.777	1.891	47.2%
Higher Investments effect	63.885	63.200	-686	-17.1%
Total Synergy	**63.885**	**67.894**	**4.008**	**100%**

Synergies have a huge impact on the value of the combined firm. The several sources of synergy, addressed by ABB to the Gamesa will boost in 6.28% the value of the combined firm.

The main responsible for this improvement is the cost synergies, accounting for ~78% of total synergies. Despite of this we assist that the wind power division, with the current status as expressed in the company profile section, will require some additional investments efforts to address some technological needs (impacting negatively on value creation) to allow a revenue growth, which accounts for around a "net" value increase of around 22%.

Breakdown of Synergies Value values in USDm



Sources of Synergies Allocation						Values in mnUSD
Sources of Synergy	Total		ABB		Gamesa	
	Weight	Value	Weight	Value	Weight	Value
Revenue Growth	**38.7%**	**1.549**	**78.0%**	**1.208**	**22.0%**	**341**
Commercial Structure	10%	155	90%	139	10%	15
ABB brand	15%	232	100%	232	0%	0
Divisions cross-selling	5%	77	100%	77	0%	0
Network of clients	20%	310	70%	217	30%	93
Boost of O&M services	50%	775	70%	542	30%	232
Gross Margin	**31.3%**	**1.253**	88.0%	**1.103**	12.0%	**150**
WTG components internal supply capacity	20%	251	100%	251	0%	0
Standards and fabrication procedures	60%	752	90%	677	10%	75
Economies of scale	20%	251	70%	175	30%	75
Operating Expenses	**47.2%**	**1.891**	**52.0%**	**984**	**48.0%**	**908**
Supply management and logistics	20%	378	100%	378	0%	0
Reducing overcapacity	40%	757	50%	378	50%	378
Team structure redundancies	40%	757	30%	227	70%	530
Higher Investment needs	**-17.1%**	**-686**	**0%**	**0**	**100%**	**-686**
Total	**100.0%**	**4.008**	**82.2%**	**3.295**	**17.8%**	**714**

5.3 – Transaction and Offer

As discussed before, in the industry review topic, there are some key motives for M&A in the wind manufacturing sector:

1) Technology access (e.g. offshore);
2) Consolidation to reduce the over-capacity and margin pressure;
3) Possible sector entry through the acquisition of incumbents.

In this transaction we are clearly in the point 3 above. For this motive, considering the current players profile, we see that the most reliable target aiming this goal, are the so called "pioneers". After the past transactions, and the current *status quo* remains Nordex, Vestas, and Gamesa (excluding the Chinese and other Asian players).

Additionally, the low valuation levels of larger players, coupled with medium-term growth potential (~10% per annum in the medium-term) could now prove more attractive to industrial players, like ABB. We think the recent sell-off in wind turbine manufacturers' shares has changed the list of potential targets.

In respect to Gamesa as a target, we see that the key issues are:

a) Receptiveness of the major shareholder (Iberdrola) to sell its stake (~20%);
b) Market cap and low valuation[13];
c) An acquisition could be based on a turnaround rationale.

On the possible acquires domain we can address the following categories:

a) Asian Manufacturers (e.g. Samsung, Hyundai, Sinovel or Goldwind) in order to acquire turbine platforms readily bankable in Western markets. Also is expected that Chinese turbine makers to accelerate overseas expansion as growth in China decelerates;
b) Large conglomerates / Capital Goods (e.g. ABB) seeking exposure to the still attractive growth of the wind sector.

The five largest acquisitions of wind turbine manufacturers in the past were achieved at an average of ~1.2x EV/Sales.

[13] At 31.12.2011, the book value per share is 9, 54 USD vs. 4, 47 USD market price.

Main Acquisitions of Wind Turbine Manufacturers						
Target	**Acquirer**	**Date**	**Value (mnEUR)**	**EV/Sales**	**EV/EBIT**	**Comment**
Repower	Suzlon	2007	1300	1.8x	32x	Consolidation
Multibrid	Areva	2007	77	1.1x	n.r.	Sector entry
Ecotecnia	Alstom	2007	350	1.1x	18x	Sector entry
Bonus	Siemens	2004	250	1.3x	14x	Sector entry
Enron Wind	GE	2002	409	0.5x	n.r.	Sector entry; Operating Loss

Source: Company Data; Bryan, Garnier & Co.

Above we have highlighted in bold, the most similar transactions to the object of this thesis, in terms of target, acquirer and market goal.

Recent press articles referred to Alstom eying to take-over REpower for a consideration of EUR1.5 bn, i.e. ~1.2xEV/sales, which is in line with past acquisitions in the segment. If this multiple was applied to the ABB/Gamesa transaction we would find that the price for acquisition is 4.05 bnUSD, which reaches nearly the maximum price (i.e. the all estimated synergy).

As previously referred, in order to reach the fair value for the transaction, it also must be taken into account that Gamesa is clearly undervalued in the market. At 31.12.2011, the market price is 113% below the equity book value.

In this case, is recommended to pay for the acquisition in cash, also for the reasons pointed out in the Literature Review section.

For the price issue, the literature review points out that in these cases, the share price could be estimated both in terms of liquidation value or applying a past transaction multiple. Considering that (as showed in the synergies forecast) Gamesa could be still attractive with operating and control synergies coming from the ABB incorporation, and the financial distress is not currently an issue, the most appropriate method could be a past reliable multiple.

As we can see in the table that stress the past transactions, we must point out that the aspect that puts more pressure on the players sector valuation rationales is the EBIT margin. Therefore, we will use EV/EBIT as a reference and 14x as benchmark. This will also result in EV/Sales of 0,6x which is near the lowest transaction multiple (Enron/GE), which occurred in the starting trend of highly growing dynamics of the market, but maintaining a significant upside to the current market cap of Gamesa (36%).

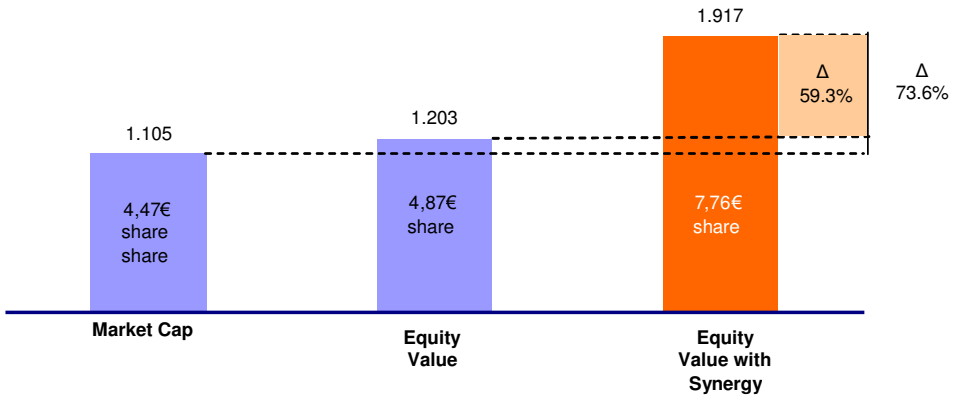
Applying these assumptions to the transaction, we will found the following outcomes:

Transaction Prices based on multiples				
100% shares of Gamesa (247mn)				
		Values in mnUSD	**Δ%**	**Comments**
Value	Equity Value	1.500	25%	Difference from standalone valuation of Gamesa
	Net Debt	1.018	-	-
	Enterprise Value	2.518	13%	Difference from standalone valuation of Gamesa
end of 2011	EBIT	182	-	Level at 31.12.2011
	Sales	4.225	-	Level at 31.12.2011
Multiples	EV/EBIT	14 x		
	EV/Sales	0.6 x		
		Values in USD	**Δ%**	**Comments**
per share offer	Share Price	6.07	-	
	Market price at announcement (31.12.2011)	4.47	-	
	Premium	1.60	36%	Premium upon the share price at offer announcement date

Sources: Company Data; Own estimations

Going to a DCF approach in term of transaction valuation, and taking into account the synergy sharing present into the above topic, we reach the following outcomes:

DCF Approach to transation price values in mnUSD



As expressed in the chart above, including the Gamesa's synergy share (714 EURm), the maximum value that ABB could pay would be 1.917 EURm, representing a 59% premium over the stand alone equity valuation of the target.

6 - Conclusions

Valuation can be somewhat a black box, resulting in an ambiguous topic. As stressed in the Literature Review section, researcher and practitioners have a set of tools and techniques available for this purpose. When analyzing investment decisions, especially mergers, this ambiguity issue can be higher, due to problems arising from different assumptions and available data.

From the valuation techniques point of view, the different available tools and a non consensual model is also a source of uncertainties in the outcomes.

Although not always conclusive, academic research is extensive, jointly with some practice experience, deep knowledge of the business sector(s) involved, I believe it is possible to gather a set of tools upon the available data to evaluate a deal and propose an offer. Yet, I am conscious of a process that is somewhat dependent on personal assumptions and techniques.

Investment Rationale

In the last years, especially up to 2010, Gamesa, one of the pioneers in the wind power industry, was a strong player with results and performance that laid the company in the top-10 ranking taking advantage of its privileged competitive position in the Spanish market (2nd market in Europe). Recently, facing huge problems in its internationalization program, original market freeze, and high delays in launching new turbines platforms in line with the market demand (e.g. higher onshore turbine capacity, and offshore), Gamesa start to loose it's competitive position and facing big problems on profitability[14].

Other players with the same characteristics of Gamesa by being pioneers (e.g. Nordex, Vestas), are suffering from the market pressure on prices and margins demanding higher production efficiency to mitigate the less incentives to wind energy that will be the mainstream especially in Europe and the US. Gamesa have also low commercial strength, being tight to framework agreements with large and few customer (e.g. utilities, especially its major shareholder Iberdrola), which lead to a high commercial dependency.

The consequence in terms of market cap, was a loss of around 80% only in 2011, leading to a situation of being an attractive target for a possible takeover.

As discussed in the industry review, the wind power sector remains attractive with growth perspectives, but with different competitive challenges especially demanding production efficiency, cross selling, and market bargaining power. In this sense, we assist the entrance of large conglomerates on the market through M&A, being the targets precisely the pioneers (e.g. Siemens, Alstom, Areva, General Electric).
Those companies have strong advantages to address the market requirements, and being diversified companies could have a turnkey offer in the value chain.

[14] The overcapacity of its production assets it's also a strong example of this symptom.

ABB, gather in its characteristics all the requirements to take a position in this market, being all well the movements of its close peers.

Transaction and Results

With the financial data and industry outlook in min, Gamesa standalone was valued with the DCF framework, with an outcome of 9% upside potential. As well in ABB side, the DCF framework was applied, in a group perspective, being the multiples based valuation differing highly, maintaining the outcomes of the first method for the deal valuation purpose.

Then, it was built a WACC-based valuation model that could sustain the combined firm, and assessed the effect of cost and revenue synergies in the value of the merged entity.

This resulted in a high net synergy, not meaningful in respect to Gamesa's market cap, as well only 18% attributed to Gamesa. This shows the high value creation to the business being part of the ABB.

In the transaction valuation was used also the last transaction multiples resulting in a premium of 36% (1.5 bnUSD total price) of the market cap. Applying the synergies attributable to Gamesa into the DCF model outcomes, the result in terms of possible upside relative to the stand alone valuation is 59% (1.9 bnUSD total price).

The goal of this deal, in order to reach the expect result for ABB, is to buy 100% Gamesa's shares. Despite of the synergies valuation, the fair value for this transaction is to present an offer of 1.5 bnUSD, representing the above stated 36% premium.

Any possibility of an M&A transaction involving Gamesa, should be considered in terms of Iberdrola's perspective for its feasibility. Iberdrola[15] is Gamesa's large customer and shareholder (19,6%), therefore a key element in any M&A equation.

In opposition to other pure-play listed peers (e.g. Vestas and Nordex), Gamesa has a largest single shareholder. However, among other issues, an outright acquisition of Gamesa by Iberdrola has a low probability to occur, given their unrelated cash-flows and investment cycles.

[15] is a Spanish private multinational electric utility company based in Bilbao, Basque Country. Iberdrola has a workforce of around 33,000 employees in over 40 countries on four continents serving around 30 million customers. Subsidiaries include Iberdrola Renovables, Iberdrola Portugal (Portugal), Scottish Power (Scotland), Iberdrola USA (United States), Elektro (Brazil), Electropaz (Bolivia), among others.

Since embarking on its growth and international expansion plan in 2001, Iberdrola has become Spain's largest energy group by market capitalization, the global leader in wind energy and one of the world's largest utilities by market capitalization.

But with the recent evolution of the sector (stressed in the industry review section), and the status of the industry favorable for M&A, Iberdrola could have a different investment rationale for their position in Gamesa.

Currently, can be stated that Gamesa is a non-core and loss-making business for Iberdrola, with Gamesa's share price decline trend already triggered and impairment charge in 2011.

It's important to notice again that in 2011 Gamesa lost almost 80% of its value on the market, although being excessive in terms of its fundamentals, reflects a lot of uncertainties and instability observed by investors.

We can state that Gamesa starts to become a painful investment for Iberdrola, and could accept that above stated price.

Nevertheless, this takeover operation could face some obstacle due to non-financial reasons that can change the investment rational, like:

- Political aspects: both companies (Gamesa and Iberdrola) with their headquarters in Basque Country in Spain with historical political support from authorities;
- Economical aspects: for the synergies take place, the most probable scenario is the production assets leave the Region with a large impact in terms of employment and GDP.

In this sense, ABB could offer a price of 1.9 bnUSD (74% premium over the market price at announcement) recognizing all the synergies attributable to Gamesa, being this a good argument to convince Iberdrola to sell if any hostility verified in the deal.

If we see the offer in terms of Shareholder's Value at Risk (SVAR), we reach the following:

$$\text{SVAR}=\frac{\text{Synergy Value attributable to Gamesa}}{\text{ABB Equity Value}}=\frac{714}{62.557}=1.14\%$$

Therefore, we can conclude that if the deal will not result in the expected synergies, the value at risk is quite low in terms of ABB's estimated Equity Value.

Payment and Financing

Putting all variables together, the deal must assume the form of 100% acquisition, with payment in cash. Being Gamesa undervalued and huge synergies can be achieved (as demonstrated), its not recommend stock to perform the payment. Additionally, it's not foreseen any interest from ABB side, even by the high difference in dimension, of doing in an opposite way.

The low level of debt and leverage of ABB, added by its investment policy, will suggest that ABB will not issue debt to perform the operation. As observed in the Company Profile, it's

not expected any consequences of credit rating this acquisition by cash without issue of debt.

One appropriated final remark is that Gamesa, with the success of the transaction based on the proposed framework, will not continue to be listed in the market, being part of ABB group not as an subsidiary, rather a business division by absorption.

7 - Appendix

Volumes of Sales (MW)

GAMESA - Base Case Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2011-15)	CAGR % (2010-15)
Spain	198	232	125	0	0	0	**555**	**125**	**-100%**	**-100%**
YoY growth	-77%	17%	-46%	-100%	-	-				
Europe	524	563	600	630	660	680	**3.657**	**2.570**	**5%**	**5%**
YoY growth	-48%	7%	7%	5%	5%	3%				
USA	678	382	550	300	450	500	**2.860**	**1.800**	**7%**	**-6%**
YoY growth	44%	-44%	44%	-45%	50%	11%				
China	664	650	450	500	550	620	**3.434**	**2.120**	**-1%**	**-1%**
YoY growth	41%	-2%	-31%	11%	10%	13%				
India	295	519	500	700	800	880	**3.694**	**2.880**	**14%**	**24%**
YoY growth	1744%	76%	-4%	40%	14%	10%				
Central and South America	152	428	628	550	550	600	**2.908**	**2.328**	**9%**	**32%**
YoY growth	63%	182%	47%	-12%	0%	9%				
Others	76	28	147	520	440	320	**1.531**	**1.427**	**84%**	**33%**
YoY growth	-68%	-63%	425%	254%	-15%	-27%				
Total	**2.587**	**2.802**	**3.000**	**3.200**	**3.450**	**3.600**	**18.639**	**13.250**	**6%**	**7%**

Volumes of Sales (MW)

GAMESA - Bearish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2011-15)	CAGR % (2010-15)
Spain	168	232	125	0	0	0	**525**	**125**	**-100%**	**-100%**
YoY growth	-80%	38%	-46%	-100%	-	-				
Europe	524	563	600	630	630	650	**3.597**	**2.510**	**4%**	**4%**
YoY growth	-48%	7%	7%	5%	0%	3%				
USA	678	382	400	300	350	400	**2.510**	**1.450**	**1%**	**-10%**
YoY growth	44%	-44%	5%	-25%	17%	14%				
China	664	650	450	450	500	550	**3.264**	**1.950**	**-4%**	**-4%**
YoY growth	41%	-2%	-31%	0%	11%	10%				
India	195	519	500	650	750	850	**3.464**	**2.750**	**13%**	**34%**
YoY growth	1119%	166%	-4%	30%	15%	13%				
Central and South America	100	428	600	550	550	600	**2.828**	**2.300**	**9%**	**43%**
YoY growth	8%	328%	40%	-8%	0%	9%				
Others	76	28	125	470	420	350	**1.469**	**1.365**	**88%**	**36%**
YoY growth	-68%	-63%	346%	276%	-11%	-17%				
Total	**2.405**	**2.802**	**2.800**	**3.050**	**3.200**	**3.400**	**17.657**	**12.450**	**5%**	**7%**

Volumes of Sales (MW)

GAMESA - Bullish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2011-15)	CAGR % (2010-15)
Spain	168	232	125	0	0	0	**525**	**125**	**-100%**	**-100%**
YoY growth	-80%	38%	-46%	-100%	-	-				
Europe	524	563	600	630	660	680	**3.657**	**2.570**	**5%**	**5%**
YoY growth	-48%	7%	7%	5%	5%	3%				
USA	678	382	550	300	450	500	**2.860**	**1.800**	**7%**	**-6%**
YoY growth	44%	-44%	44%	-45%	50%	11%				
China	664	650	450	500	550	650	**3.464**	**2.150**	**0%**	**0%**
YoY growth	41%	-2%	-31%	11%	10%	18%				
India	195	519	500	700	850	900	**3.664**	**2.950**	**15%**	**36%**
YoY growth	1119%	166%	-4%	40%	21%	6%				
Central and South America	100	428	628	650	650	750	**3.206**	**2.678**	**15%**	**50%**
YoY growth	8%	328%	47%	4%	0%	15%				
Others	76	28	147	520	440	520	**1.731**	**1.627**	**108%**	**47%**
YoY growth	-68%	-63%	425%	254%	-15%	18%				
Total	**2.405**	**2.802**	**3.000**	**3.300**	**3.600**	**4.000**	**19.107**	**13.900**	**9%**	**11%**

Volume of Sales (2012-2015) - Accummulated

GAMESA - Scenarios analysis

Scenarios	MW	Δ	
Bullish	**13.900**		
		5%	
Base Case	**13.250**		**12%**
		-6%	
Bearish	**12.450**		

Revenues by Scenario (mn€)

GAMESA

	2010	2011	2012e	2013e	2014e	2015e	Total (2012-15)
Bullish	-	-	3.210	3.432	3.672	4.000	**14.314**
YoY growth	-	-	6%	7%	7%	9%	
Base Case	2.736	3.033	3.210	3.328	3.519	3.600	**13.657**
YoY growth	-14%	11%	6%	4%	6%	2%	
Bearish	-	-	2.996	3.172	3.264	3.400	**12.832**
YoY growth	-	-	-1%	6%	3%	4%	

Average Selling Price

GAMESA

	2010	2011	2012	2013	2014	2015
ASP (mn€/MW)	1,07	1,08	1,07	1,04	1,02	1

EBIT Margin

GAMESA

Scenarios	2010	2011	2012	2013	2014	2015
Bullish	-	-	4,0%	4,5%	5,0%	6,0%
Base Case	**4,3%**	**4,3%**	**3,0%**	**3,5%**	**4,0%**	**4,5%**
Bearish	-	-	3,0%	3,0%	3,5%	4,0%

GAMESA Standalone Valuation

DCF Valuation Method - Base Case

		Growth Period					Stable Growth				Terminal Value CF
Values in mn€	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
EBIT	131	96	116	141	162	168	175	182	190	197	186
D&A	106	120	125	135	130	134	138	142	146	151	142
CAPEX	229	250	275	170	140	120	124	127	131	135	128
Change in Working Capital	700	-104	-65	-110	-184	-90	18	19	20	20	19
Tax	34	27	33	39	45	47	49	51	53	55	52
Free Cash Flow to the Firm (FCFF)	**-726**	**43**	**-1**	**176**	**291**	**225**	**122**	**127**	**132**	**138**	**130**
FCFF discounted		**40**	**-1**	**135**	**204**	**145**	**72**	**68**	**65**	**867**	

Enterprise Value	**1.594**
Net Debt	731
Equity Value	**863**
Shares outstanding (m)	247
Equity Value per share (€)	**3,50**

GAMESA Standalone Valuation

DCF Valuation Method - Bearish Scenario

		Growth Period					Stable Growth				Terminal Value CF
Values in mn€	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
EBIT	131	90	111	131	153	159	165	172	179	186	175
D&A	106	120	125	135	130	134	138	142	146	151	142
CAPEX	229	250	275	170	140	120	124	127	131	135	127
Change in Working Capital	700	-104	-65	-110	-184	-90	18	19	20	20	19
Tax	34	25	31	37	43	45	46	48	50	52	49
Free Cash Flow to the Firm (FCFF)	**-726**	**39**	**-5**	**169**	**284**	**218**	**115**	**120**	**124**	**130**	**122**
FCFF discounted		**35**	**-4**	**130**	**199**	**140**	**68**	**64**	**61**	**815**	

Enterprise Value	**1.509**
Net Debt	731
Equity Value	**778**
Shares outstanding (m)	247
Equity Value per share (€)	**3,15**

GAMESA Standalone Valuation

DCF Valuation Method - Bullish Scenario

		Growth Period					Stable Growth				Terminal Value CF
Values in mn€	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
EBIT	131	96	120	147	180	187	195	202	211	219	206
D&A	106	120	125	135	130	134	138	142	146	151	142
CAPEX	229	250	275	170	140	120	124	127	131	135	127
Change in Working Capital	700	-104	-65	-110	-184	-90	18	19	20	20	19
Tax	34	27	34	41	50	52	55	57	59	61	58
Free Cash Flow to the Firm (FCFF)	**-726**	**43**	**1**	**181**	**304**	**239**	**136**	**142**	**147**	**153**	**145**
FCFF discounted		**40**	**1**	**139**	**213**	**153**	**80**	**76**	**72**	**964**	

Enterprise Value	**1.738**
Net Debt	731
Equity Value	**1.007**
Shares outstanding (m)	247
Equity Value per share (€)	**4,08**

Orders Received (mnUSD)

ABB - Base Case Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	9.778	11.068	11.357	12.002	12.103	12.469	**68.777**	**47.931**	**5%**	**3%**
YoY growth	-11%	13%	3%	6%	1%	3%				
Power Systems	7.896	9.278	9.495	10.050	10.568	11.037	**58.324**	**41.150**	**7%**	**5%**
YoY growth	1%	18%	2%	6%	5%	4%				
Discrete Automation and Motion	5.862	9.566	9.628	10.130	10.320	10.584	**56.090**	**40.662**	**13%**	**3%**
YoY growth	25%	63%	1%	5%	2%	3%				
Low Voltage Products	4.686	5.364	5.721	6.251	6.499	6.928	**35.449**	**25.399**	**8%**	**7%**
YoY growth	15%	14%	7%	9%	4%	7%				
Process Automation	7.383	8.726	9.017	9.536	9.613	9.928	**54.203**	**38.094**	**6%**	**3%**
YoY growth	10%	18%	3%	6%	1%	3%				
Operating Divisions	**35.605**	**44.002**	**45.218**	**47.969**	**49.103**	**50.947**	**272.844**	**193.237**	**7%**	**4%**
Corporate and Others*	-2.924	-3.792	-3.832	-3.943	-3.830	-3.843				
Total	**32.681**	**40.210**	**41.386**	**44.026**	**45.273**	**47.104**	**250.680**	**177.789**	**8%**	**4%**

* includes interdivional eliminations

Orders Received (mnUSD)

ABB - Bullish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	9.778	11.068	12.584	13.465	12.809	13.448	**73.152**	**52.306**	**7%**	**2%**
YoY growth	-11%	13%	14%	7%	-5%	5%				
Power Systems	7.896	9.278	11.031	11.913	12.866	14.347	**67.331**	**50.157**	**13%**	**9%**
YoY growth	1%	18%	19%	8%	8%	12%				
Discrete Automation and Motion	5.862	9.566	11.079	11.633	11.933	12.846	**62.919**	**47.491**	**17%**	**5%**
YoY growth	25%	63%	16%	5%	3%	8%				
Low Voltage Products	4.686	5.364	7.997	8.477	8.986	10.672	**46.182**	**36.132**	**18%**	**10%**
YoY growth	15%	14%	49%	6%	6%	19%				
Process Automation	7.383	8.726	10.639	11.384	10.197	10.741	**59.070**	**42.961**	**8%**	**0%**
YoY growth	10%	18%	22%	7%	-10%	5%				
Operating Divisions	**35.605**	**44.002**	**53.330**	**56.872**	**56.791**	**62.054**	**308.654**	**229.047**	**12%**	**5%**
Corporate and Others*	-2.924	-3.792	-7.522	-8.134	-5.506	-6.235				
Total	**32.681**	**40.210**	**45.808**	**48.738**	**51.285**	**55.819**	**274.541**	**201.650**	**11%**	**7%**

* includes interdivional eliminations

Orders Received (mnUSD)

ABB - Bearish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	9.778	11.068	10.969	11.298	11.450	11.580	**66.143**	**45.297**	**3%**	**2%**
YoY growth	-11%	13%	-1%	3%	1%	1%				
Power Systems	7.896	9.278	8.700	9.134	9.317	9.330	**53.655**	**36.481**	**3%**	**2%**
YoY growth	1%	18%	-6%	5%	2%	0%				
Discrete Automation and Motion	5.862	9.566	8.891	9.300	9.850	9.947	**53.416**	**37.988**	**11%**	**4%**
YoY growth	25%	63%	-7%	5%	6%	1%				
Low Voltage Products	4.686	5.364	5.065	5.216	5.373	5.376	**31.080**	**21.030**	**3%**	**2%**
YoY growth	15%	14%	-6%	3%	3%	0%				
Process Automation	7.383	8.726	8.378	8.797	9.000	9.093	**51.377**	**35.268**	**4%**	**3%**
YoY growth	10%	18%	-4%	5%	2%	1%				
Operating Divisions	**35.605**	**44.002**	**42.003**	**43.745**	**44.990**	**45.326**	**255.671**	**176.064**	**5%**	**3%**
Corporate and Others*	-2.924	-3.792	-4.262	-4.436	-4.418	-4.649				
Total	**32.681**	**40.210**	**37.741**	**39.309**	**40.572**	**40.677**	**231.190**	**158.299**	**4%**	**3%**

* includes interdivional eliminations

Volume of Orders (2012-2015) - Accummulated

ABB - Scenarios analysis

Scenarios	mnUSD	Δ
Bullish	**201.650**	
		13%
Base Case	**177.789**	
		-11%
Bearish	**158.299**	

27%

Revenues (mnUSD)

ABB - Base Case

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	10.199	10.869	11.166	11.797	12.250	12.748	**69.029**	**47.961**	**5%**	**5%**
YoY growth	-9%	7%	3%	6%	4%	4%				
Power Systems	6.786	8.101	8.507	9.081	9.571	10.118	**52.164**	**37.277**	**8%**	**6%**
YoY growth	4%	19%	5%	7%	5%	6%				
Discrete Automation and Motion	5.617	8.806	9.180	9.655	10.092	10.561	**53.911**	**39.488**	**13%**	**5%**
YoY growth	4%	57%	4%	5%	5%	5%				
Low Voltage Products	4.554	5.304	5.534	6.264	6.703	7.247	**35.606**	**25.748**	**10%**	**9%**
YoY growth	12%	16%	4%	13%	7%	8%				
Process Automation	7.432	8.300	8.667	9.115	9.435	9.847	**52.796**	**37.064**	**6%**	**4%**
YoY growth	-5%	12%	4%	5%	4%	4%				
Operating Divisions	**34.588**	**41.380**	**43.054**	**45.912**	**48.051**	**50.521**	**263.506**	**187.538**	**8%**	**5%**
Corporate and Others*	-2.999	-3.390	-3.316	-3.773	-4.033	-4.273				
Total	**31.589**	**37.990**	**39.738**	**42.139**	**44.018**	**46.248**	**241.722**	**172.143**	**8%**	**5%**

* includes interdivional eliminations

Revenues (mnUSD)

ABB - Bullish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	10.199	10.869	11.636	12.469	12.829	13.558	**71.560**	**50.492**	**6%**	**5%**
YoY growth	-9%	7%	7%	7%	3%	6%				
Power Systems	6.786	8.101	8.949	9.808	10.887	12.014	**56.545**	**41.658**	**12%**	**10%**
YoY growth	4%	19%	10%	10%	11%	10%				
Discrete Automation and Motion	5.617	8.806	9.677	10.208	10.735	11.468	**56.511**	**42.088**	**15%**	**6%**
YoY growth	4%	57%	10%	5%	5%	7%				
Low Voltage Products	4.554	5.304	7.814	8.662	9.008	10.747	**46.089**	**36.231**	**19%**	**11%**
YoY growth	12%	16%	47%	11%	4%	19%				
Process Automation	7.432	8.300	9.078	9.651	9.915	10.520	**54.896**	**39.164**	**7%**	**5%**
YoY growth	-5%	12%	9%	6%	3%	6%				
Operating Divisions	**34.588**	**41.380**	**47.154**	**50.798**	**53.374**	**58.308**	**285.602**	**209.634**	**11%**	**7%**
Corporate and Others*	-2.999	-3.390	-5.741	-5.851	-4.932	-5.589				
Total	**31.589**	**37.990**	**41.413**	**44.947**	**48.442**	**52.719**	**257.100**	**187.521**	**11%**	**8%**

* includes interdivional eliminations

Revenues (mnUSD)

ABB - Bearish Scenario

	2010	2011	2012e	2013e	2014e	2015e	Total (2010-15)	Total (2012-15)	CAGR % (2010-15)	CAGR % (2012-15)
Power Products	10.199	10.869	10.717	11.102	11.703	11.995	**66.585**	**45.517**	**3%**	**4%**
YoY growth	-9%	7%	-1%	4%	5%	2%				
Power Systems	6.786	8.101	7.994	8.353	8.808	9.057	**49.099**	**34.212**	**6%**	**4%**
YoY growth	4%	19%	-1%	4%	5%	3%				
Discrete Automation and Motion	5.617	8.806	8.825	9.156	9.247	9.399	**51.050**	**36.627**	**11%**	**2%**
YoY growth	4%	57%	0%	4%	1%	2%				
Low Voltage Products	4.554	5.304	5.036	5.061	5.086	5.015	**30.056**	**20.198**	**2%**	**0%**
YoY growth	12%	16%	-5%	0%	0%	-1%				
Process Automation	7.432	8.300	8.300	8.595	8.762	8.922	**50.311**	**34.579**	**4%**	**2%**
YoY growth	-5%	12%	0%	4%	2%	2%				
Operating Divisions	**34.588**	**41.380**	**40.872**	**42.267**	**43.606**	**44.388**	**247.101**	**171.133**	**5%**	**3%**
Corporate and Others*	-2.999	-3.390	-3.131	-2.958	-3.034	-2.924				
Total	**31.589**	**37.990**	**37.741**	**39.309**	**40.572**	**41.464**	**228.665**	**159.086**	**6%**	**3%**

* includes interdivional eliminations

Revenues (2012-2015) - Accummulated

ABB - Scenarios analysis

Scenarios	mnUSD	Δ	
Bullish	**187.521**		
		9%	
Base Case	**172.143**		**18%**
		-8%	
Bearish	**159.086**		

DCF Standalone Valution

ABB - Base Case

Values in millions USD

	Historical Year Ended					Projected Year Ending									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable >
Total Revenue	29.183	34.912	31.795	31.589	37.990	39.738	42.139	44.018	46.248	48.098	50.022	52.023	54.104	56.268	**57.956**
% growth rate	n/a	19,6%	-8,9%	-0,6%	20,3%	4,6%	6,0%	4,5%	5,1%	4,0%	4,0%	4,0%	4,0%	4,0%	**3,0%**
- COGS	20.215	23.972	22.470	22.060	26.556	27.697	29.371	30.681	32.235	33.524	34.865	36.260	37.710	39.219	**40.395**
% of revenue	69,3%	68,7%	70,7%	69,8%	69,9%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	**69,7%**
Gross Profit	8.968	10.940	9.325	9.529	11.434	12.041	12.768	13.337	14.013	14.574	15.157	15.763	16.393	17.049	**17.561**
% of revenue	30,7%	31,3%	29,3%	30,2%	30,1%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	**30,3%**
- Operating Exp	4.975	5.822	5.528	5.697	6.744	6.914	7.332	7.659	8.047	8.369	8.704	9.052	9.414	9.791	**10.084**
% of revenue	17,0%	16,7%	17,4%	18,0%	17,8%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	**17,4%**
- SG&A (Op. Ex.)	4.373	5.161	4.873	4.995	5.749	5.841	6.194	6.471	6.798	7.022	7.303	7.595	7.845	8.159	**8.404**
% of revenue	15,0%	14,8%	15,3%	15,8%	15,1%	14,7%	14,7%	14,7%	14,7%	14,6%	14,6%	14,6%	14,5%	14,5%	**14,5%**
EBITDA	4.595	5.779	4.452	4.534	5.685	6.199	6.574	6.867	7.215	7.551	7.853	8.168	8.548	8.890	**9.157**
% of revenue	15,7%	16,6%	14,0%	14,4%	15,0%	15,6%	15,6%	15,6%	15,6%	15,7%	15,7%	15,7%	15,8%	15,8%	**15,8%**
- D & A (Op. Ex)	602	661	655	702	995	1.033	1.138	1.188	1.249	1.347	1.401	1.457	1.515	1.632	**1.681**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
EBIT (Op. Profit)	3.993	5.118	3.797	3.832	4.690	5.166	5.436	5.678	5.966	6.205	6.453	6.711	7.033	7.259	**7.476**
% of revenue	13,7%	14,7%	11,9%	12,1%	12,3%	13,0%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	13,0%	12,9%	**12,9%**
- Taxes	595	1.119	1.001	1.018	1.244	1.094	1.151	1.202	1.263	1.314	1.366	1.421	1.489	1.537	**1.583**
% of EBIT	14,9%	21,9%	26,4%	26,6%	26,5%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	**21,17%**
Free Cash Flow to the Firm Analysis															
NOPLAT	3.398	3.999	2.796	2.814	3.446	4.072	4.285	4.476	4.703	4.891	5.087	5.290	5.544	5.722	**5.894**
% of revenue	11,6%	11,5%	8,8%	8,9%	9,1%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	**10,2%**
+ D & A	602	661	655	702	995	1.033	1.138	1.188	1.249	1.347	1.401	1.457	1.515	1.632	**1.681**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
- CAPEX	756	1.171	967	840	1.021	1.152	1.222	1.277	1.341	1.395	1.451	1.509	1.569	1.632	**1.681**
% of revenue	2,6%	3,4%	3,0%	2,7%	2,7%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	**2,9%**
Working Capital	1.092	891	1.259	1.043	2.224	2.345	2.486	2.597	2.729	2.838	2.951	3.069	3.192	3.320	**3.419**
% of revenue	3,7%	2,6%	4,0%	3,3%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	**5,9%**
- WC Investment	n/a	-201	368	-216	1.181	121	142	111	132	109	114	118	123	128	**100**
% of revenue	n/a	-0,6%	1,2%	-0,7%	3,1%	0,3%	0,3%	0,3%	0,3%	0,2%	0,2%	0,2%	0,2%	0,2%	**0,2%**
Free Cash Flow	n/a	3.690	2.116	2.892	2.239	3.833	4.059	4.277	4.479	4.734	4.923	5.120	5.368	5.594	**5.794**
% of revenue	n/a	10,6%	6,7%	9,2%	5,9%	9,6%	9,6%	9,7%	9,7%	9,8%	9,8%	9,8%	9,9%	9,9%	**10,0%**
Free Cash Flow Discounted						**3.484**	**3.354**	**3.213**	**3.058**	**2.938**	**2.777**	**2.626**	**2.502**	**37.393**	

Enterprise Value	**61.345**
Net Debt	-1.212
Equity Value	**62.557**
Nr. of Shares (millions)	2.288
Value per share (USD)	**27,34**

DCF Standalone Valution

ABB - Bullish Scenario

Values in millions USD

	Historical Year Ended					Projected Year Ending									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable >
Total Revenue	29.183	34.912	31.795	31.589	37.990	41.413	44.947	48.442	52.719	54.828	57.021	59.302	61.674	64.141	**66.065**
% growth rate	n/a	19,6%	-8,9%	-0,6%	20,3%	9,0%	8,5%	7,8%	8,8%	4,0%	4,0%	4,0%	4,0%	4,0%	**3,0%**
- COGS	20.215	23.972	22.470	22.060	26.556	28.865	31.328	33.764	36.745	38.215	39.744	41.333	42.987	44.706	**46.047**
% of revenue	69,3%	68,7%	70,7%	69,8%	69,9%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	**69,7%**
Gross Profit	8.968	10.940	9.325	9.529	11.434	12.548	13.619	14.678	15.974	16.613	17.277	17.968	18.687	19.435	**20.018**
% of revenue	30,7%	31,3%	29,3%	30,2%	30,1%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	**30,3%**
- Operating Exp	4.975	5.822	5.528	5.697	6.744	7.206	7.821	8.429	9.173	9.540	9.922	10.319	10.731	11.161	**11.495**
% of revenue	17,0%	16,7%	17,4%	18,0%	17,8%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	**17,4%**
- SG&A (Op. Ex.)	4.373	5.161	4.873	4.995	5.749	6.088	6.607	7.121	7.750	8.005	8.325	8.658	8.943	9.300	**9.579**
% of revenue	15,0%	14,8%	15,3%	15,8%	15,1%	14,7%	14,7%	14,7%	14,7%	14,6%	14,6%	14,6%	14,5%	14,5%	**14,5%**
EBITDA	4.595	5.779	4.452	4.534	5.685	6.460	7.012	7.557	8.224	8.608	8.952	9.310	9.744	10.134	**10.438**
% of revenue	15,7%	16,6%	14,0%	14,4%	15,0%	15,6%	15,6%	15,6%	15,6%	15,7%	15,7%	15,7%	15,8%	15,8%	**15,8%**
- D & A (Op. Ex)	602	661	655	702	995	1.077	1.214	1.308	1.423	1.535	1.597	1.660	1.727	1.860	**1.916**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
EBIT (Op. Profit)	3.993	5.118	3.797	3.832	4.690	5.384	5.798	6.249	6.801	7.073	7.356	7.650	8.018	8.274	**8.522**
% of revenue	13,7%	14,7%	11,9%	12,1%	12,3%	13,0%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	13,0%	12,9%	**12,9%**
- Taxes	595	1.119	1.001	1.018	1.244	1.140	1.227	1.323	1.440	1.497	1.557	1.619	1.697	1.752	**1.804**
% of EBIT	14,9%	21,9%	26,4%	26,6%	26,5%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	**21,17%**
Free Cash Flow to the Firm Analysis															
NOPLAT	3.398	3.999	2.796	2.814	3.446	4.244	4.571	4.926	5.361	5.575	5.799	6.030	6.320	6.523	**6.718**
% of revenue	11,6%	11,5%	8,8%	8,9%	9,1%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	**10,2%**
+ D & A	602	661	655	702	995	1.077	1.214	1.308	1.423	1.535	1.597	1.660	1.727	1.860	**1.916**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
- CAPEX	756	1.171	967	840	1.021	1.201	1.303	1.405	1.529	1.590	1.654	1.720	1.789	1.860	**1.916**
% of revenue	2,6%	3,4%	3,0%	2,7%	2,7%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	**2,9%**
Working Capital	1.092	891	1.259	1.043	2.224	2.443	2.652	2.858	3.110	3.235	3.364	3.499	3.639	3.784	**3.898**
% of revenue	3,7%	2,6%	4,0%	3,3%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	**5,9%**
- WC Investment	n/a	-201	368	-216	1.181	219	209	206	252	124	129	135	140	146	**114**
% of revenue	n/a	-0,6%	1,2%	-0,7%	3,1%	0,5%	0,5%	0,4%	0,5%	0,2%	0,2%	0,2%	0,2%	0,2%	**0,2%**
Free Cash Flow	n/a	3.690	2.116	2.892	2.239	3.900	4.272	4.623	5.003	5.396	5.612	5.837	6.119	6.377	**6.605**
% of revenue	n/a	10,6%	6,7%	9,2%	5,9%	9,4%	9,5%	9,5%	9,5%	9,8%	9,8%	9,8%	9,9%	9,9%	**10,0%**
Free Cash Flow Discounted						3.545	3.530	3.472	3.416	3.349	3.166	2.993	2.852	42.625	

Enterprise Value	**68.950**
Net Debt	-1.212
Equity Value	**70.162**
Nr. of Shares (millions)	2.288
Value per share (USD)	**30,67**

DCF Standalone Valution

ABB - Bearish Scenario

Values in mn USD

	Historical Year Ended					Projected Year Ending									
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable >
Total Revenue	29.183	34.912	31.795	31.589	37.990	37.741	39.309	40.572	41.464	43.123	44.848	46.641	48.507	50.447	**51.961**
% growth rate	n/a	19,6%	-8,9%	-0,6%	20,3%	-0,7%	4,2%	3,2%	2,2%	4,0%	4,0%	4,0%	4,0%	4,0%	**3,0%**
- COGS	20.215	23.972	22.470	22.060	26.556	26.305	27.398	28.279	28.900	30.057	31.259	32.509	33.809	35.162	**36.217**
% of revenue	69,3%	68,7%	70,7%	69,8%	69,9%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	69,7%	**69,7%**
Gross Profit	8.968	10.940	9.325	9.529	11.434	11.436	11.911	12.293	12.564	13.066	13.589	14.132	14.698	15.286	**15.744**
% of revenue	30,7%	31,3%	29,3%	30,2%	30,1%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	30,3%	**30,3%**
- Operating Exp	4.975	5.822	5.528	5.697	6.744	6.567	6.840	7.060	7.215	7.503	7.803	8.116	8.440	8.778	**9.041**
% of revenue	17,0%	16,7%	17,4%	18,0%	17,8%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	17,4%	**17,4%**
- SG&A (Op. Ex.)	4.373	5.161	4.873	4.995	5.749	5.548	5.778	5.964	6.095	6.296	6.548	6.810	7.034	7.315	**7.534**
% of revenue	15,0%	14,8%	15,3%	15,8%	15,1%	14,7%	14,7%	14,7%	14,7%	14,6%	14,6%	14,6%	14,5%	14,5%	**14,5%**
EBITDA	4.595	5.779	4.452	4.534	5.685	5.888	6.132	6.329	6.468	6.770	7.041	7.323	7.664	7.971	**8.210**
% of revenue	15,7%	16,6%	14,0%	14,4%	15,0%	15,6%	15,6%	15,6%	15,6%	15,7%	15,7%	15,7%	15,8%	15,8%	**15,8%**
- D & A (Op. Ex)	602	661	655	702	995	981	1.061	1.095	1.120	1.207	1.256	1.306	1.358	1.463	**1.507**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
EBIT (Op. Profit)	3.993	5.118	3.797	3.832	4.690	4.906	5.071	5.234	5.349	5.563	5.785	6.017	6.306	6.508	**6.703**
% of revenue	13,7%	14,7%	11,9%	12,1%	12,3%	13,0%	12,9%	12,9%	12,9%	12,9%	12,9%	12,9%	13,0%	12,9%	**12,9%**
- Taxes	595	1.119	1.001	1.018	1.244	1.039	1.074	1.108	1.132	1.178	1.225	1.274	1.335	1.378	**1.419**
% of EBIT	14,9%	21,9%	26,4%	26,6%	26,5%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	**21,17%**
Free Cash Flow to the Firm															
NOPLAT	3.398	3.999	2.796	2.814	3.446	3.868	3.997	4.126	4.217	4.385	4.561	4.743	4.971	5.130	**5.284**
% of revenue	11,6%	11,5%	8,8%	8,9%	9,1%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	**10,2%**
+ D & A	602	661	655	702	995	981	1.061	1.095	1.120	1.207	1.256	1.306	1.358	1.463	**1.507**
% of revenue	2,1%	1,9%	2,1%	2,2%	2,6%	2,6%	2,7%	2,7%	2,7%	2,8%	2,8%	2,8%	2,8%	2,9%	**2,9%**
- CAPEX	756	1.171	967	840	1.021	1.094	1.140	1.177	1.202	1.251	1.301	1.353	1.407	1.463	**1.507**
% of revenue	2,6%	3,4%	3,0%	2,7%	2,7%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	**2,9%**
Working Capital	1.092	891	1.259	1.043	2.224	2.227	2.319	2.394	2.446	2.544	2.646	2.752	2.862	2.976	**3.066**
% of revenue	3,7%	2,6%	4,0%	3,3%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	5,9%	**5,9%**
- WC Investment	n/a	-201	368	-216	1.181	3	93	75	53	98	102	106	110	114	**89**
% of revenue	n/a	-0,6%	1,2%	-0,7%	3,1%	0,0%	0,2%	0,2%	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	**0,2%**
Free Cash Flow	n/a	3.690	2.116	2.892	2.239	3.752	3.826	3.970	4.081	4.244	4.414	4.591	4.812	5.016	**5.195**
% of revenue	n/a	10,6%	6,7%	9,2%	5,9%	9,9%	9,7%	9,8%	9,8%	9,8%	9,8%	9,8%	9,9%	9,9%	**10,0%**

Terminal Value
74.209

Free Cash Flow Discounted	**3.411**	**3.162**	**2.983**	**2.787**	**2.635**	**2.492**	**2.356**	**2.245**	**33.599**

Enterprise Value	**55.670**
Net Debt	-1.212
Equity Value	**56.882**
Nr. of Shares (millions)	2.288
Value per share (USD)	**24,86**

DCF Valuation

ABB + Gamesa (without synergies)

Values in mnUSD

	Projected Year Ending									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable >
EBIT (Op. Profit)	5.300	5.598	5.874	6.192	6.439	6.697	6.965	7.297	7.533	**7.736**
- Taxes	1.122	1.185	1.244	1.311	1.363	1.418	1.474	1.545	1.595	**1.638**
% of EBIT	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	**21,17%**
Free Cash Flow to the Firm Analysis										
NOPLAT	4.178	4.413	4.631	4.881	5.076	5.279	5.490	5.753	5.938	**6.098**
+ D & A	1.200	1.312	1.377	1.430	1.533	1.593	1.655	1.719	1.842	**1.879**
- CAPEX	1.501	1.605	1.513	1.536	1.562	1.623	1.686	1.752	1.820	**1.859**
Working Capital	2.345	2.486	2.597	2.729	2.838	2.951	3.069	3.192	3.320	**3.419**
- WC Investment	-24	51	-42	-125	-16	139	145	151	156	**126**
Free Cash Flow	3.902	4.069	4.536	4.899	5.064	5.111	5.314	5.569	5.805	**5.993**
Free Cash Flow Discounted	**3.547**	**3.362**	**3.407**	**3.345**	**3.143**	**2.883**	**2.725**	**2.596**	**38.684**	

Terminal Value **85.487**

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Enterprise Value	**63.693**
Net Debt	-194
Equity Value	**63.886**
Nr. of Shares (millions)	2.288
Value per share (USD)	**27,92**

DCF Valuation

ABB + Gamesa (with synergies)

Values in mnUSD

	Projected Year Ending									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	Stable >
EBIT (Op. Profit)	5.300	5.679	6.088	6.551	6.900	7.176	7.463	7.816	8.072	**8.314**
% of revenue	13,3%	13,5%	13,8%	14,2%	14,3%	14,3%	14,3%	14,4%	14,3%	**14,3%**
- Taxes	1.122	1.202	1.289	1.387	1.461	1.519	1.580	1.655	1.709	**1.760**
% of EBIT	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	21,17%	**21,17%**
Free Cash Flow to the Firm Analysis										
NOPLAT	4.178	4.477	4.799	5.164	5.439	5.657	5.883	6.161	6.363	**6.554**
+ D & A	1.200	1.312	1.444	1.472	1.579	1.642	1.707	1.776	1.903	**1.960**
- CAPEX	1.500	1.605	1.532	1.564	1.627	1.692	1.759	1.830	1.903	**1.960**
Working Capital	2.345	2.486	2.597	2.729	2.838	2.951	3.069	3.192	3.320	**3.419**
- WC Investment	-24	51	-42	-125	-16	139	145	151	156	**126**
Free Cash Flow	3.902	4.133	4.753	5.196	5.407	5.468	5.687	5.956	6.208	**6.428**
Free Cash Flow Discounted	**3.547**	**3.415**	**3.570**	**3.548**	**3.356**	**3.085**	**2.916**	**2.777**	**41.487**	

Terminal Value

91.697

Enterprise Value	**67.700**
Net Debt	-194
Equity Value	**67.894**
Nr. of Shares (millions)	2.288
Value per share (USD)	**29,67**

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