



Mergers and Acquisitions:

The Case of Vodafone and Cable & Wireless Worldwide

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Abstract

The larger a firm becomes, the harder it is for the firm to meet shareholders' growth demands through organic growth. In order to meet these increasing growth demands, larger firms tend to look for opportunities to grow through mergers and acquisitions. However, growth can only be produced through mergers and acquisitions when the value of the two firms combined is higher than the individual values of the two firms.

On April 23, 2012, Vodafone Group PLC, the world's leading mobile operator, completed the acquisition of Cable & Wireless Worldwide through a tender offer. This dissertation analyses the potential value creation made possible by Vodafone Group PLC's acquisition of Cable & Wireless Worldwide. The paper starts by reviewing literature on valuation methods and mergers and acquisitions, and discusses which approach that might yield the best results. Historical data on both firms is then assessed and provides a basis for the next step, which is valuing both firms individually and combined. The final part of the paper analyses the acquisition process itself with a basis in the actual execution.

The individual valuations of the firms indicate an undervaluation of Vodafone Group PLC and a strong overvaluation of Cable & Wireless Worldwide compared to the share prices over the last twelve months. The combined firm valuation shows significant potential of value creation resulting from the acquisition. Finally, the analysis of the acquisition process concludes that the acquisition price provides a fair distribution of value between the firms and that the acquirers' choice of payment is a good one considering the circumstances.

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List of Abbreviations

AMAP	Africa, Middle East and Asia Pacific
APV	Adjusted Present Value
ARPU	Average Revenue Per User
β	Beta
β_L	Levered Beta
β_u	Unlevered Beta
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditure
CAPM	Capital Asset Pricing Model
D	Debt
DCF	Discounted Cash Flow
E	Equity
EBIT	Earnings Before Interest and Tax
EBITA	Earnings Before Interest Tax and Amortization
EV	Enterprise Value
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to Firm
g	Long-Term Growth Rate
M&A	Mergers & Acquisitions
NWC	Net Working Capital
PPE	Property Plant and Equipment
Rd	Cost of Debt
Re	Cost of Equity
Rf	Risk Free Rate
Rm-Rf	Market Risk Premium
ROC	Return on Capital
ROE	Return on Equity
t	Tax Rate
TV	Terminal Value
WACC	Weighted Average Cost of Capital
WC	Working Capital

1. Introduction

Mergers & acquisitions is a way for firms to expand and grow their business when internal growth opportunities are limited. This expansion can take place within the firms sector and geographical area, or reach into new areas and sectors.

In this paper the case of Vodafone Group PLC acquiring Cable & Wireless Worldwide will be presented. Vodafone Group PLC is one of the leading telecommunications companies in the world while Cable & Wireless Worldwide is a British fixed line telecommunications operator. The paper will analyse the value that can be created as a result of the acquisition as well as certain aspects concerning the acquisition process.

The literature review will present relevant theory regarding valuation methods and M&A issues. This theory will later be applied in the valuation process, analysis of synergies and analysis of the acquisition process. In the industry report historical information of both firms will be reviewed. This will create a basis for the valuation of the individual firms. In the following section, valuations for each standalone firm will be performed. These values will then be compared with a value for the combined firm to state a value of potential synergies. In the end of the paper certain aspects regarding the acquisition will be analysed, such as acquisition method and strategy, acquisition price and payment method.

2. Literature Review

The purpose of M&A should be to create value. This can happen through synergies, which are the additional value created by merging two firms that would not be available if these two firms were operated independently (Damodaran, 2005). When making a valuation of a M&A case it should therefore

be taken into consideration the stand alone value of the acquiring company, the target company and compare these values with the value of the combined firm including eventual synergies. If the value of the combined firm is higher than the value of the two individual firms, the merger creates value for the shareholders. How this value is divided between the shareholders of the acquiring firm and the shareholders of the target firm however, depends on the acquisition price, which is also affected by the method of payment used by the acquirer.

In this literature review we will look at the most common and relevant valuation methods to value the two individual firms in this specific case. We will then look at certain M&A issues such as acquisition methods and strategies, synergies and finally payment methods used in M&A transactions.

2.1. Valuation Methods

New valuation models are launched nearly every year with each new model being appointed their own acronyms, the list of valuation models is thus becoming longer and longer (Young et al, 1999). The valuation models differ by clarifying various aspects of the valuation problem at the cost of other aspects. Young et al (1999) is further arguing that every valuation approach expresses the same model only in a different way. Due to this fact, all the models should lead to the same fair value given similar assumptions. However, according to Luehrman (1997) some valuation methods are better suited for major decisions than others.

According to Hitchner (2003) we only have three valuation approaches; the income approach, the market approach and the asset approach. Every one of these approaches includes several valuation methods. The most common income approach is the discounted cash flow method, while comparing guideline public company multiples or transaction multiples are examples of market approaches. All three valuation approaches should be applied in all valuations however, very few apply the asset approach as the valuation of intangible assets demands a lot of time, high costs and do seldom justify the increase in valuation accuracy. We will thus not go further in on the asset approach in this study.

While bankers and dealmakers are known to use multiples of current earnings or cash flows for comparable companies or transactions in their valuations, financial economists at most business schools teach their students the use of discounted cash flow methods to value firms (Kaplan & Ruback, 1996). Although there is little empirical evidence on which of these approaches that provide the better estimates, Kaplan and Ruback (1996) found evidence that discounted cash flow valuation methods provide reliable estimates. The median estimates of the discounted cash flow valuation were found within 10% of market value. Arguments are also made that comparable methods add explanatory power to discounted cash flow estimates. It is thus recommend using information from both types of approaches in practical valuation settings where comparable values are available. Goedhart, et al. (2005) also argue that a discounted cash flow approach delivers the most accurate valuation results and that a multiples analysis can be useful in making these discounted cash flow approaches more precise.

The valuation part in this study will be focused on discounted cash flow methods, and comparable methods.

2.1.1. Discounted Cash Flow Methods

Discounted cash flow methods are *“designed to value operations, or assets-in-place, that is, any existing asset that will generate future cash flows”* (Luehrman, 1997). According to Damodaran (2002) the foundation of the discounted cash flow approach is to find the present value of all expected future cash flows generated by the assets of the firm and can be done through three different paths. The three paths for discounting cash flows are equity valuation, firm (WACC) valuation and Adjusted Present Value (APV) valuation, with the latter two being focused on in this literature review. These methods differ in the cash flows they discount, the discount rates they use and in the way they value tax shields (Oded & Michel, 2007). In the WACC valuation the effects resulting from changes in capital structure appear in the discount rate while in the APV method these effects are calculated as separate cash flows with their own appropriate

discount rates. Damodaran (1994) mention three inputs that are required in any discounted cash flow valuation; the expected cash flows, the time the cash flows are expected to occur and the riskiness of these cash flows.

2.1.1.1. Estimation of Discount Rates

According to Hitchner (2003) the discount rates are used to comprehend investor's expectations about the risk they are acquiring of receiving the cash flows in the amount and time assumed in the models. This is an important part in providing accurate and supportable valuations.

2.1.1.1.1. Cost of Equity (Re)

According to Sharpe (1964) and Lintner (1965) a rational investor can only obtain higher expected returns on his investments by taking on higher risk, assuming the market is in equilibrium. The cost of equity can therefor be found by adding the price of time and the price of risk together. The price of time will be represented by the risk free interest rate (R_f) while the price of risk is dependent on a risk premium for the market ($R_m - R_f$) and how the asset correlates with the market (β). This is further known as the Capital Asset Pricing Model (CAPM).

$$(2.1) \quad Re = R_f + (R_m - R_f) * \beta$$

One complication with this approach is that different investors might see different degrees of risk in the same investment. Fama and French (1992) have been sceptical to the use of CAPM arguing that stock returns are more correlated with firm size and book-to-market ratios than systematic risk that CAPM implies. However, Kaplan and Ruback (1996) found evidence supporting CAPM-based approaches over book-to-market ratios.

According to Luehrman (1997) the cost of equity is the return we can expect to receive by investing in another asset with similar risk as the target firm, if the target firm was solely financed with equity. Using this reasoning we can find the

target firm's cost of equity by using the cost of equity of a comparable firm, with similar risk, consisting only of equity.

2.1.1.1.2. Risk Free Rate (R_f)

The risk free rate in theory is the return on a security or portfolio with no default risk and no correlation to returns or any economic factors (Copeland et al., 2000). The return on a zero beta, minimum variance, portfolio would thus be the best estimate of the risk free rate. However the creation of such a portfolio would be a rather costly and complex process.

According to Hitchner (2003) the 20-year U.S. Treasury Bond is the most widely used benchmark for the risk free rate. However Copeland et al. (2000) recommend using a 10-year Treasury-bond rate as the risk free rate in the U.S. market. They argue that it is a long-term rate, usually with similar duration as the cash flows of the firm being valued and the duration of stock market index portfolios. The 10-year Treasury bonds are also less sensitive to inflation changes than longer-term bonds, providing a lower beta, and include a lower liquidity premium. The equivalent of the 10-year Treasury bond on the U.K. market is the 10-year U.K. Government Bond.

Damodaran (1994) argues for the use of a duration matching strategy, saying the duration of the risk free security should match the duration of the cash flows being analysed. He concludes in the same way as Copeland et al. (2000) that 10-year government bonds usually provide a reasonable estimate for the risk free rate when the duration of the cash flows are longer or infinite.

2.1.1.1.3. Market risk premium ($R_m - R_f$)

The market risk premium can be viewed as the spread between the expected return on the market portfolio and the risk free rate (Copeland et al., 2000). This premium can be found by analysing historical data or through an ex ante approach attempting to project the future.

Projections of the future can be done by surveying investor's expectations of the future (Damodaran, 1994). These investor surveys are, however, rarely used as estimates due to lack of constraints, high volatility and short-term focus.

The more common approach to estimate the market risk premium is to use historical premiums (Damodaran, 1994). We can find this premium by calculating the average returns on stocks and subtract the risk free rate. Although it is developed a consensus that this is the best approach to estimate the risk premium, there appears to be large differences in the premiums being used in practice. Reasons for these differences can be explained by differences in time periods used to calculate the average, the choice of risk free securities and that some averages are calculated by the arithmetic method and others by the geometric method.

Copeland et al. (2000) recommends using an arithmetic average, as CAPM is based on forward-looking expected returns, over as long a period as possible. They also suggest adjusting the arithmetic average down by 1 ½ per cent to 2 per cent due to a survivorship bias. The survivorship bias is an issue first raised by Brown et al. (1995). They suggest that markets surviving over a century without going under would grant a significant upward bias in the market risk premium. The choice of risk free assets is already discussed previously in this literature review.

2.1.1.1.4. Beta (β)

According to Hitchner (2003) the beta represents systematic risk for publicly held companies, which derives from external macroeconomic factors affecting all economic assets in the economy as a whole. The beta of the total aggregated market will equal 1. The beta will be greater than 1 as the volatility of a stock is greater than that of the market and the opposite true if the stock proves less volatile than the market.

We can find published estimates of betas for listed companies, however several reliable sources should be checked and should be compared with the industry

average beta (Copeland et al., 2000). If the variation is great among the different sources of betas the industry average should be used, as it is typically more stable and reliable. The beta of each firm should be unlevered (β_u) before calculating the industry average. The industry average should then be re-levered according to the capital structure of the firm we are valuing.

The beta varies with the leverage of the firm, as an increase in leverage will increase the risk of the firm and thus increase the equity beta (Damodaran, 1994). The leveraging of a firm's beta (β_L) is dependent on a firm's capital structure (D/E) and corporate tax rates (t).

$$(2.2) \beta_L = \beta_u (1 + (1-t) (D/E))$$

2.1.1.1.5. Weighted Average Cost of Capital (WACC)

The cost of capital is the time value of money investors use to discount free cash flows to the firm into present value (Copeland et al., 2000). This rate can be reached by calculating a weighted average, using market values, of the cost of equity (R_e) and the after tax cost of borrowing ($R_d * (1-t)$), based upon default risk (Damodaran, 2006). We will come back to this discount approach later in this chapter.

$$(2.3) WACC = R_e * E/(D+E) + R_d * D/(D+E) * (1-t)$$

2.1.1.1.6. Cost of Borrowing (R_d)

The cost of borrowing can be viewed as a function of a default spread added on top of the risk free rate (Damodaran, 1994). According to Copeland et al. (2000) the default spread varies within the different debt-type financing instruments applied by the firm. The most common way to determine a firm's default risk is the bond rating its given by independent rating agencies.

2.1.1.2. Estimation of Cash Flows

During short periods of time some companies can experience very high growth, however this high growth can usually not be sustained in the long-term (Hitchner, 2003). It is thus normal that analysts project short-term cash flows to value a limited future period. According to Damodaran (1994) the length of these short-term growth periods are determined by firm size, existing growth rates, and the magnitude and sustainability of the firm's competitive advantage.

The projection of the short-term cash flows can be done through an analysis of historical growth. However historical growth does not always provide a good projection of the future. Little (1962) found little evidence that fast growing firms in one period would continue to grow fast in the coming years. Another tool in projecting short-term cash flows is to use growth estimates provided by firm management or other analysts tracking the firm (Damodaran, 1994).

One should although be careful in following analyst forecasts blindly as they might be prone to errors (Damodaran, 1994). To avoid this trap, analyst forecasts should thus be checked for inconsistencies with the firm's fundamentals. A fundamental growth function including the firm's reinvestment amount for future growth and the reinvestment quality can be applied to compare with the obtained analyst estimates.

(2.4) Growth EBIT = Reinvestment Rate * Return Capital (ROC)

$$\text{Reinvestment Rate} = \frac{\text{Capital Expenditure} - \text{Depreciation} + \Delta \text{ Non-Cash WC}}{\text{EBIT}(1-t)}$$

$$\text{ROC} = \frac{\text{EBIT}(1-t)}{\text{Total Capital}}$$

The formula above is applicable when estimating growth in free cash flows to the firm (FCFF). If we are to estimate growth in free cash flows to equity (FCFE) we should change the reinvestment rate and return on capital with the following.

$$(2.5) \text{ Equity Reinvestment Rate} = \frac{\text{Capital Expenditure} - \text{Depreciation} + \Delta \text{ in WC} - \Delta \text{ Debt}}{\text{Net Income}}$$

Return on Equity (ROE) = ROC + D/E (ROC-interest rate (1-t))

2.1.1.2.1. Long-Term Growth rates (g) and Terminal Value (TV)

The valuation of a firm is usually valued on the assumption of a perpetual cash flow stream (Hitchner, 2003). Due to this assumption there will therefore be a need for the estimation of a sustainable long-term growth rate as well as a short-term growth rate. This long-term growth rate is then used to calculate the perpetual cash flows back to what we call a terminal value, which appears in the end of the limited short-term cash flow stream. This terminal value represents the firm value at the end of the limited cash flow stream (Damodaran, 1994).

According to Hitchner (2003) the long-term stable growth rate can be determined through a thorough evaluation of the firm's historical growth rate and by analysing published estimates of industry growth rates. Damodaran (1994) argues that a stable long-term growth rate should not be higher than the growth rate of the economy and that there should be consistency between the reinvestment rate and the growth rate. When reaching stable growth, firms tend to reinvest less than high growth firms and if the firm is to sustain its stable growth rate we need to make sure that the reinvestment rate is high enough to support this growth level. The stable growth rate will thus be limited by the following functions depending if we are using free cash flows to equity or free cash flows to the firm as well as the overall growth of the economy.

(2.6) Expected Growth Rate FCFE = Retention Ratio * Return on Equity

(2.7) Expected Growth Rate FCFF = Retention Ratio * Return on Capital

2.1.1.3. Weighted-Average Cost of Capital (WACC) Method

In a WACC method valuation we discount the free cash flow to the firm at the weighted average cost of capital (Damodaran, 1994). This method starts with valuing the firm as a total for so to subtract the non-equity claims to reach the equity stake of the firm. The cash flows discounted in this method are the expected future free cash flows available to all providers of capital in the firm after tax (Copeland et al., 2000). The cost of capital we use is the weighted

average cost of capital, which includes both the interest tax shields and expected bankruptcy costs of the firm (Damodaran, 1994)

The WACC method has been recognized as the standard discounted cash flow method for decades (Luehrman, 1997). The main advantage of the WACC method is that it only requires one discounting operation, however the advance in high speed spread sheets has made this advantage irrelevant and there are other methods today better tailored to major decisions and giving better theoretical insight.

2.1.1.4. Adjusted Present Value (APV) Method

The APV model first values the operations of the firm as if it was all equity financed, discounted on an unlevered cost of capital, for so to add the value of tax shields (Copeland et al., 2000). In the end the probability and expected cost of bankruptcy should be added to the equation (Damodaran, 1994). This approach is based on the Modigliani and Miller (1958) assumption that the capital structure does not change the value of a firm in a world without taxes.

The main problem with the APV model is in the complications of estimating the expected bankruptcy costs (Damodaran, 1994). Unless this bankruptcy cost can be estimated, the APV model will be significantly weakened. However if the APV method is done properly it should yield a more conservative valuation estimate than the WACC method due to different considerations of bankruptcy costs and debt structure.

The probability of bankruptcy cost can be estimated by looking at the bond rating in a similar way as we estimate the default risk spread in the WACC method (Damodaran, 1994). Another way is to use a probit, a statistical approach based on studying firm characteristics at every debt level. The bankruptcy cost it self can be estimated, although with little accuracy, by looking at the bankruptcy cost in actual bankruptcies.

The discount rate of interest tax shields is also a topic, which is not agreed upon in the APV method. The most common approach is to use the cost of debt, however some argue that the tax shields should have a small premium to the cost of debt while others again argue that the cost of capital should be applied in discounting tax shields (Luehrman, 1997).

Luehrman (1997) argues that the APV model should be used instead of the WACC method as it *“always works when WACC does, and sometimes when WACC doesn’t”* due to fewer restrictive assumptions required. He further argues that the APV method ads managerially relevant information which can assist managers in analysing not only how much the firm is worth, but where the firm value arrives from.

2.1.2. Comparable Methods

The aim of comparable valuation is to value the firm based on the market pricing of similar firms (Damodaran, 1994). The first step of comparable valuation is to find a group of similar firms to compare with. The second step will then be to convert prices or earning into standardized multiples for the purpose of comparing them with other firms. These multiples can be based on earnings, book value, revenue or sector-specific variables.

In finding a group of comparable firms it is common to use an industry average, however Goedhart et al. (2005) argue that this does not provide a sufficient comparison. To choose the right firms to compare with one has to find companies with similar capital structures and expectations for growth and ROC. Kaplan and Ruback (1996) also mention similar expected future cash flows and risk levels as important variables to consider when choosing comparable firms. According to Hitchner (2003) it is useful to look at what management considers as competitors to find potential comparable firms.

The next step is to decide which multiple to use. The price to earnings ratio is known to be a widely used multiple, but have two major flaws in systematically affecting capital structure and including several non-operating items due to the

use of earnings (Goedhart et al., 2005). A superior multiple to use is therefore enterprise-value-to-EBITA as it includes both debt and equity and EBITA represents the profit to investors. Damodaran (1994) says the advantage of the enterprise value multiples is even greater in heavy infrastructure sectors such as telecom, cable and cellular firms.

Through empirical evidence it is found that forward-looking multiples provide more accurate estimates than historical based multiples (Goedhart et al., 2005).

2.2. M&A Issues

2.2.1. Acquisition Methods and Strategies

Acquisitions can take place in the form of a merger, a consolidation, a tender offer, an acquisition of assets or a management buyout (Damodaran, 2002). In a merger the target firm is merged into the acquiring firm. A consolidation results in a new firm consisting of both the acquirer and the target firm. In these cases shareholder approval is needed from both firms. In a tender offer the target firm stays as an individual unit as long as some stockholders refuse to accept the offer. When the offer is successful the tender offer becomes a merger. An acquisition of assets involves liquidating the assets of the target firm and transferring them to the acquirer. In a management buyout the company is taken over by the management and turned into a private business, normally done through a tender offer.

According to Damodaran (2002) all acquisitions should have a strategy that is based on undervaluation, risk diversification, synergies and or improving management quality of the target firm. However, Roll (1986) implies that the effect of managerial pride and ego on the acquisition process and price might be underestimated. Sirower and Sahni (2006) emphasize that the time to “stress test” the merger is before and not after the merger, and that the firm should thus have a clear strategy and rationale for why they are doing an acquisition.

2.2.2. Synergy

As already mentioned in the introduction of the literature review, synergy is the additional value created by merging two firms that would not be available if these two firms were operated independently (Damodaran, 2005). Hitchner (2003) describes synergy as the increase in value, by merging the two firms, created on top of what the two firms can generate independently. Although some argue that synergy is pointless to value due to the numerous assumptions that has to be made in the valuation, Damodaran (2005) suggests that we should make a best estimate despite the lack of precision in the estimates.

According to both Hitchner (2003) and Damodaran (2005) synergy can take form as either operational or financial. Operational synergies are synergies improving the operations of the firm in the form of economies of scale, increasing pricing power or higher expected cash flows (Damodaran, 2005).

Hitchner (2003) says operational synergy can be achieved by revenue increases, cost cuts, increased operating cash flow, sale of redundant assets and improved quality of managerial decision-making. When it comes to financial synergies Damodaran (2005) says they are more focused and can take form as either higher cash flows or lower discount rates. Possible sources of financial synergies include tax benefits, diversification, higher debt capacity and cash slack.

To value synergy properly we should know which form the synergy is expected to take and when the synergy will start affecting cash flows (Damodaran, 2005). Synergy has to provide higher cash flows from existing assets, higher expected growth rates, a longer growth period or a lower cost of capital to have an impact on value. The timing of the synergy is important as the longer it takes for the synergy to take place the less it will affect the value of the firm. If the sources of synergy are not identified correctly, acquiring firms tend to subsidize target firms by overpaying premiums. According to Copeland et al. (2000) this overpayment of premiums is the biggest source of failure in acquisitions together with poor post-acquisition management. Copeland et al. (2000) also

recommend finding synergies that are unique and that cannot be copied by competitors.

After answering the questions above we can estimate the value of synergy, as mentioned in the introduction of this literature review, in a three-step model. First by valuing both acquirer and target firm individually, second to find the combined value of the two firms without synergy and finally compare this value with the value of the combined firm including synergy (Damodaran, 2005).

When valuing synergy it is important to separate the value of control from the value of synergy. The value of control is the possible increase in value that can be obtained by running the firm more efficiently (Damodaran, 2005). To value control premiums it is common to use public market empirical data as proxies (Hitchner, 2003). However these data might include value of other transaction factors than control and are thus not good indicators for control premiums. Damodaran (2005) suggest that we find the control premium by valuing the target firm with improved management in place and compare this of the value with the existing management in place.

In the process of evaluating synergy the acquirer should be aware that some synergies have hidden costs such as post merger integration issues and counter moves from competitors (Hitchner, 2003).

2.2.3. Payment Methods

After valuing the target firm including eventual synergies, and the acquiring firm has decided on the price to pay, the decision of which payment method to use in the acquisition has to be made (Damodaran, 2002). The options a firm has to complete a payment are debt vs. equity and cash vs. stock.

The decision of using equity or debt in an acquisition should depend on the debt capacity of both the acquirer and the target firm (Damodaran, 2002). If the target firm is significantly under levered the acquirer should consider using more debt

to reach the optimal debt ratio, and if the target firm is already at its optimal debt ratio the acquirer should use mostly equity in the acquisition.

When it comes to cash vs. stock the acquirer has three options (Damodaran, 2002). The acquiring firm can pay with cash reserves the firm has built up over time. The acquiring firm can issue stocks to the public to raise cash it can use in the transaction of the target firm. The last option is to pay the target firm by offering stocks of the acquiring firm in return for stocks of the target firm. Which option to use depends on the acquiring firm's access to cash, the perceived value of the acquiring firm's stocks and some tax factors. Bruner (2004) says that the payment method used can provide a signal to the investors. This signalling effect might also be relevant when choosing which payment method to use. While cash deals are often associated with neutral or slightly positive deals for the buyers, stock-based deals can send signals that the acquirer is overvalued and are thus associated with negative returns.

The acquirer obviously needs access to cash if the firm wants to use cash reserves as a payment method (Damodaran, 2002). The decision on whether to use stock or cash as a payment method depends on whether the acquiring firm is perceived as undervalued or overvalued. If the acquiring firm is perceived as overvalued, the firm should consider using stock as a payment method and the opposite true if the acquiring firm is perceived as undervalued. However, we should not forget the potential signalling effect of this choice, which is mentioned above. Sirower and Sahni (2006) found evidence that cash deals markedly outperform stock deals and that stock deals usually underperform compared to their peers. Tax factors are relevant when stockholder of the target firm are able to defer taxes on capital gains and if these gains can make up for any observed disadvantages (Damodaran, 2002).

2.3 Conclusions

The aim of M&A should be to create value, and all M&A transactions should thus be based on a strategy focusing on undervaluation, risk diversification, synergies and or improving management quality of the target firm (Damodaran, 2003). To

acknowledge potential value creation in M&A it is necessary to complete a thorough valuation process.

The valuation process should begin with valuing both the acquiring firm and the target firm individually for so to compare this value with the value of the combined firm including synergies (Damodaran, 2005). The number of valuation models to be used for this purpose is increasing every year, however all the models should lead to the same result given the same assumptions (Young et al., 1999). Some models are although better suited for major decisions than others (Luehrman, 1997). Both Kaplan and Ruback (1996) and Goedhart et al. (2005) recommend using a discounted cash flow approach together with information from comparable methods in the valuation process.

Synergies might be difficult to value due to the many assumptions that has to be made, however Damodaran (2005) suggests we make a best estimate. To value synergies in the best way it is necessary to understand which way the synergies take form and where they arrive from.

The final decision in an acquisition process is which payment method to use. This decision should be based on the firm`s debt capacity, cash reserves, perceived value, tax factors (Damodaran, 2002) and the signalling effect provided by the choice of payment method (Bruner, 2004).

A thorough valuation process will help us get an objective view of the acquisition and reduce the effect of managerial pride and ego, mentioned by Roll (1986), on the acquisition process.

3. Industry report

The telecom industry can be divided into mobile telecom and fixed line telecom. The mobile telecom industry generates around US\$ 900 billion of annual revenue (60% of total telecom revenue) while fixed line telecom generates around US\$600 billion of annual revenue. In the world there are 5,6 billion

mobile customers (80% of the world population) and 75% of these customers are located in emerging markets such as India and China. Fixed line customers only account for 1,3 billion people worldwide.

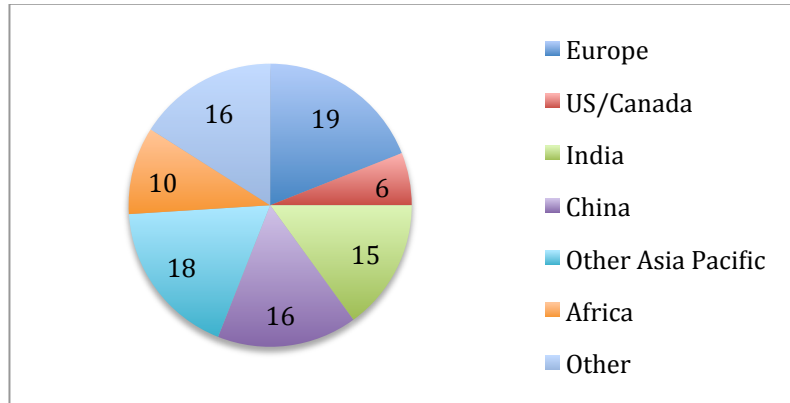


Figure 1: Mobile customers by region (%)

In the mobile industry voice calls, in mature markets such as Europe, is the greatest provider of revenue. The fastest growing service revenue comes from data services providing internet access to laptops, tablets and smartphones.

The telecommunications industry is a competitive industry due to the large choice of both mobile and fixed line operators customers have to choose services from. The competition is increasing further because of new competitors such as handset manufacturers, internet companies and software providers entering the market, providing integrated communication services. Industry regulators also contribute to lower prices in the market by imposing lower mobile termination rates (the fees mobile companies charge for calls received from other companies' networks) and lower roaming prices.

Although the competitive market has led to a 10% decline in the global average price per minute in 2010, the increased mobile penetration (number of active mobile phone numbers) has provided a 6 % increase in mobile service revenue in the same period.

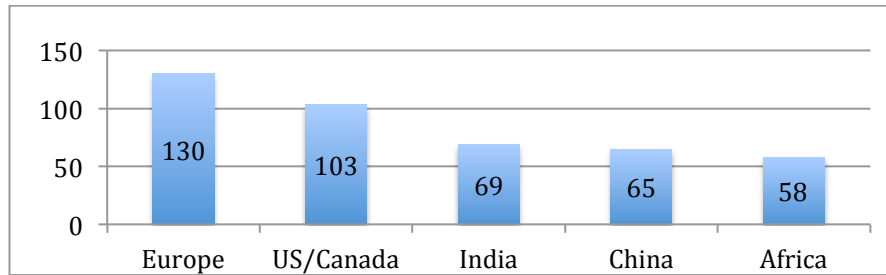


Figure 2: Mobile penetration in % of population by region

While mobile penetration in Europe is as high as 130 % of the population, the emerging markets such as India and Africa have had the most rapid growth over the last ten years, increasing over 17 times. The growth in these emerging markets has been driven by a fundamental need for communication services, coming from a background with low quality fixed line infrastructure and strong economic growth.

3.1 Vodafone Group PLC

Vodafone Group PLC is a British telecommunications company, one of the leading mobile telecommunication companies in the world measured by revenue, headquartered in London, UK. The Vodafone Group was founded on the 16th of September 1991 after a demerger from Racal Electronics. The primary listing of Vodafone Group PLC is on the London Stock Exchange and it is part of the FTSE 100 Index. Vodafone Group PLC also has a secondary listing on NASDAQ.

Vodafone Group PLC provides Voice, Messaging, Data, Fixed Line and other services to more than 370 million customers around the world in more than 30 countries, divided into three customer segments: consumer contract, consumer prepaid and enterprise.

M&A: The Case of Vodafone and Cable & Wireless Worldwide

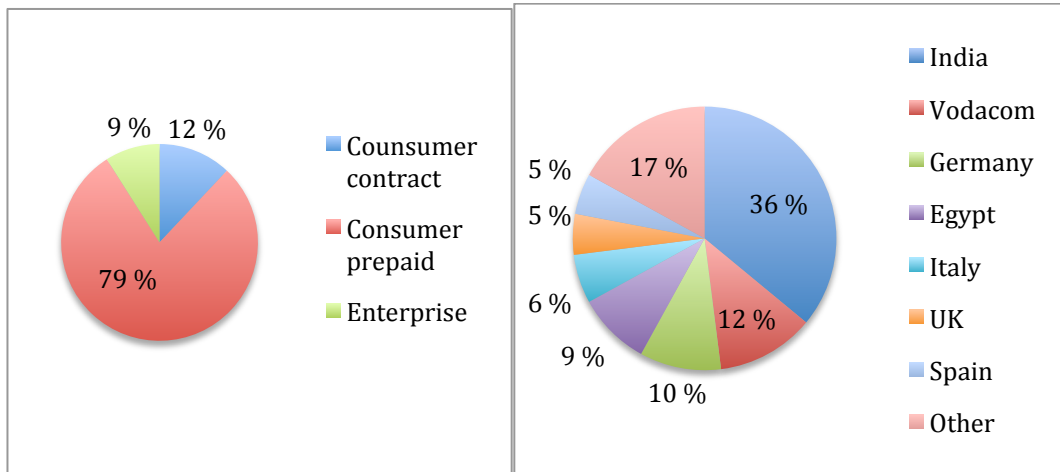


Figure 3: Customers by segments

Figure 4: Customers by market

Consumer prepaid is Vodafone Group PLC's largest customer segment with 79 % of total customers and India is the market with the most customers (36%).

The capital structure of Vodafone Group PLC is relatively strong, with 60,1% (£b 90,8) of total assets consisting of equity. The share price of Vodafone Group PLC has increased 17,8% over the last year from 152 pence to 179 pence. The share also paid a dividend of 8,9 pence in 2011 making the total shareholder return 23% this year.

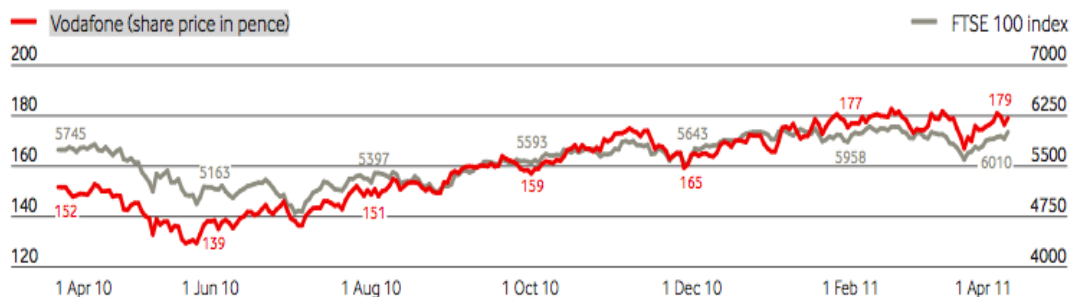


Figure 5: Vodafone Group PLC share price vs FTSE 100

2.1.2 Revenues

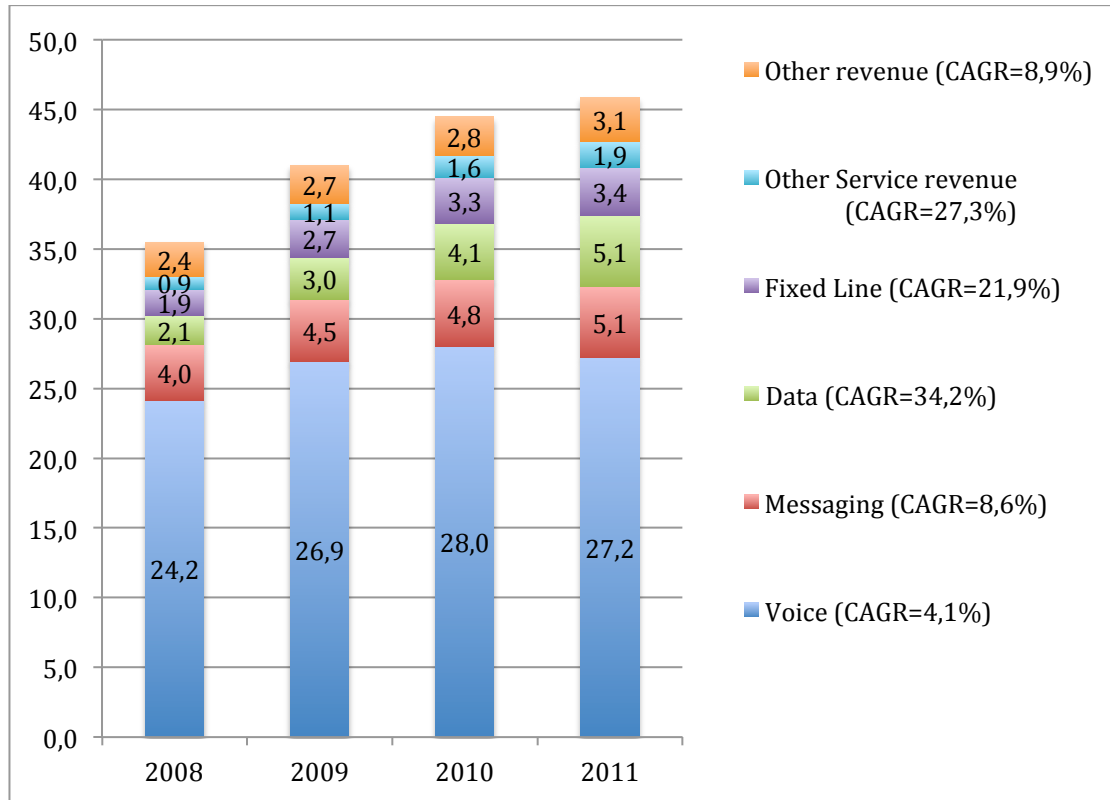


Figure 6: Breakdown of revenues by service in £b

Vodafone Group PLC's total revenues for the financial year 2011 were £b 45,9, a 3,2% growth from the previous year. The compound annual growth rate (CAGR) of total revenue from 2008 to 2011 was 9%. Revenue growth in Data services has had the highest CAGR, with 34,2% over the last four years, due to an increase in use of smartphones and tablets. Voice service revenue has experienced the lowest growth over the last years and a decrease in revenue in 2011 due to cuts in mobile termination rates. The Fixed Line revenues of Vodafone Group PLC come from broadband services and are thus not affected by the general decline in fixed line voice services.

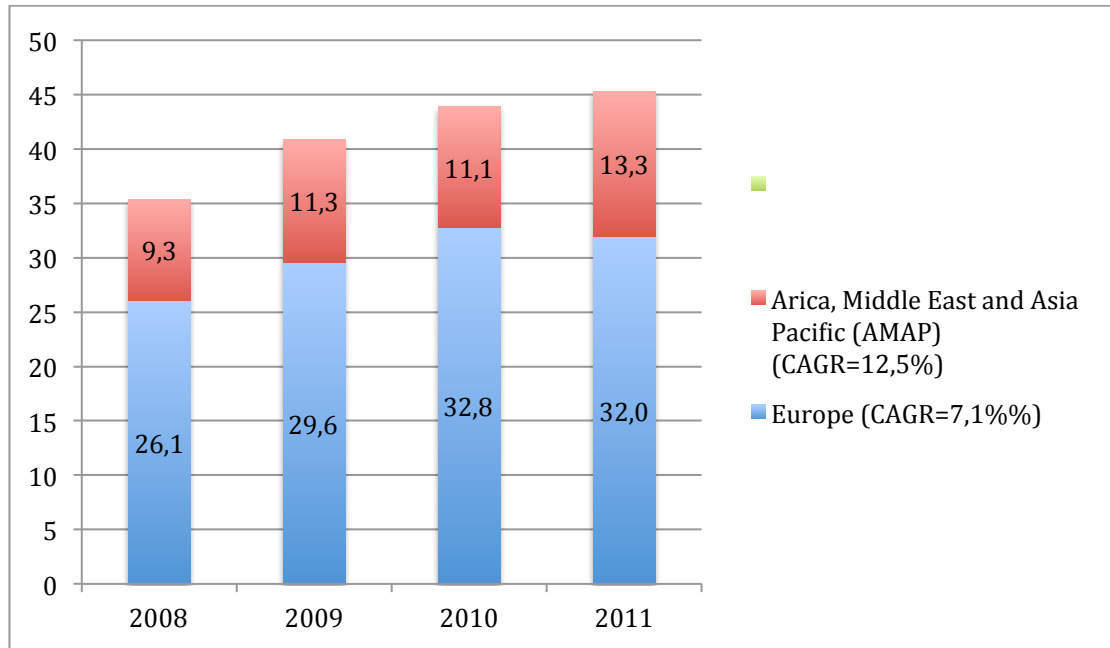


Figure 7: Breakdown of revenues by region in £b

Europe continues to be the region providing the highest revenue for Vodafone Group PLC, however the continuing weakness across Southern Europe has led to a slower growth over the last years. The positive growth in the AMAP region can to an extent be explained by a strong performance in the Indian market, driven by increasing voice penetration and a more stable pricing environment.

Some factors that might affect Vodafone Group PLC's revenue in the future are competition, regulatory decisions and legislation on mobile termination rates, international roaming charges and the availability and cost of spectrum, and changes in macroeconomic conditions. Vodafone Group PLC recognise mobile data, emerging markets, enterprise customers, total communication (develop the adoption of converged fixed and mobile services) and new services as their key areas of growth potential.

3.1.3 Costs

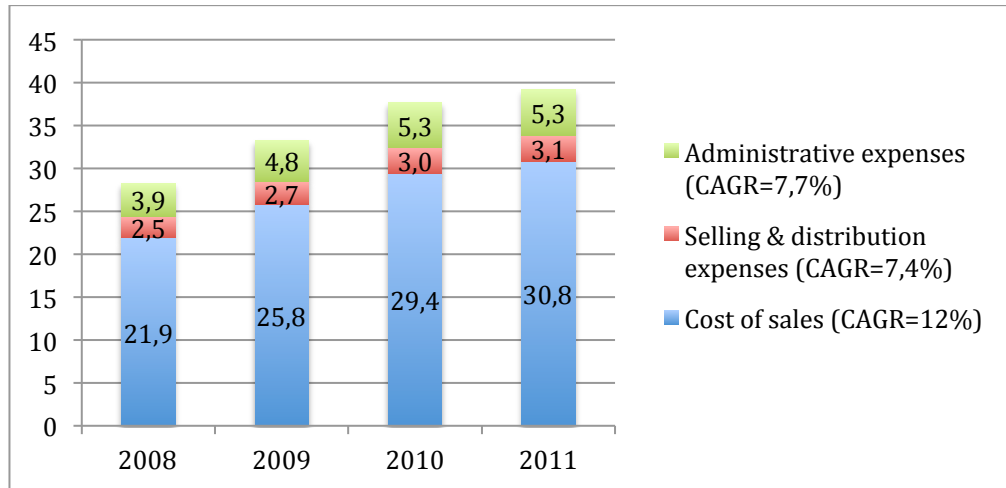


Figure 8: Breakdown of costs in £b

Total costs of Vodafone Group PLC in 2011 was £b 39,2, a 4% increase from 2010. The CAGR over the last four years has been 11,5%. The growth in costs has been significantly higher than that of revenues both for the last year and over the last four years. The highest cost element is cost of sales, which also had the highest CAGR since 2008.

Some drivers of Vodafone Group PLC's costs are inflationary pressures and volume of traffic on the networks which affects operating expenses.

3.1.4 Net Income

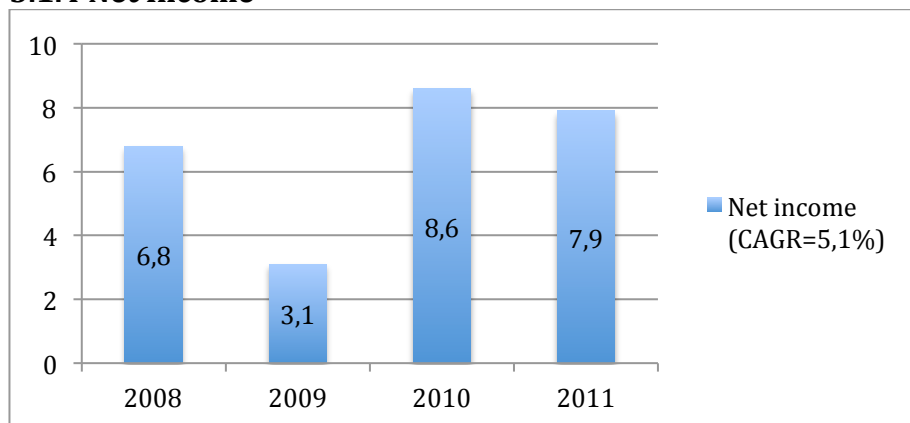


Figure 9: Net Income in £b

The net income of Vodafone Group PLC has had a CAGR over the last four years of 5,1%, however decreasing with 8,1% the last year. The low net income of 2009 is partly explained by high impairment losses.

3.1.5 Capital Expenditure

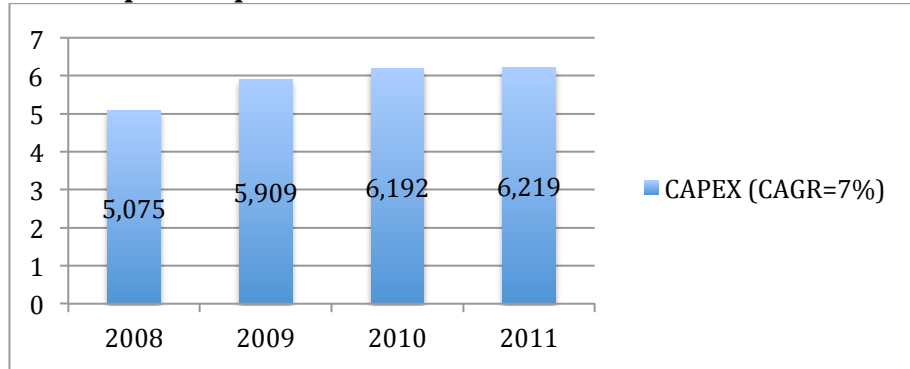


Figure 10: Capital Expenditure in £b

The levels of capital expenditure have been stable over the last years. The investments that have been made have been placed in infrastructure, in order to maintain the advantage over competitors.

3.1.6 Free Cash Flow

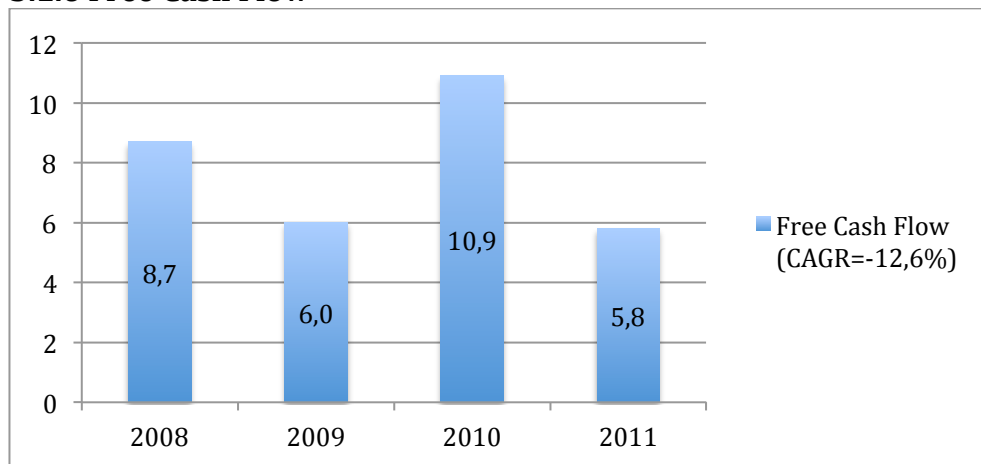


Figure 11: Free Cash Flows in £b

Vodafone Group PLC have delivered consistent positive free cash flows over the last years, although experiencing a 46,8% decrease from the 2010 financial year. As well as the stable levels of capital expenditure, a strong working capital performance have contributed to the positive free cash flows. The lower cash flows in 2009 and 2011 come due to lower EBIT's in these years which again were affected by high impairment losses.

3.1.7 Recent Transactions

During the financial year 2010, Vodafone Group PLC has sold out of a minority stake in China Mobile Limited for £b 4,3. As an effect, future cash flows will be reduced by the loss of dividends from this stake.

A stake in SoftBank Corp. of Japan was sold for a total fee of £b 3,1, where £b 1,5 is expected to be received in April 2012.

On 31st of March 2011 the Vodafone Group PLC acquired the remaining shares of Vodafone Essar Limited from the Essar Group. The fee that is due for this acquisition is £b 3,1.

On the 3rd of April 2011 an agreement was made to sell a 44% stake of SFR to Vivendi for £b 6,8 cash. The transaction is expected to go through in the second calendar quarter of 2011.

3.2 Cable & Wireless Worldwide PLC

Cable & Wireless Worldwide PLC is a British telecommunications company operating globally, with their headquarters located in Bracknell, UK. The board of Cable & Wireless PLC announced, in November 2009, its intention to separate Cable and Wireless PLC into Communications and Worldwide, two largely distinct operating units, with clear strategies established for both companies. Cable & Wireless Communications was demerged from Cable & Wireless PLC, and Cable & Wireless PLC became Cable & Wireless Worldwide. The company is today listed on the London Stock Exchange and is part of the FTSE 250 Index.

Cable & Wireless Worldwide PLC provide services in IP & Data, Hosting & Apps and Traditional Voice and Legacy. Their customer focus is on large users of telecommunications such as multinational companies, governments, carrier customers and resellers across the UK, Asia Pacific, India, Middle East, Continental Europe and North America. The customers are presented through

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the following market channels in the annual report; UK Enterprise, UK Public Sector, UK Carrier, UK Mid-market, Global Enterprise and Global Carrier.

Cable & Wireless Worldwide PLC has a capital structure of which 44,8% (£b 1,371) of total assets consist of Equity. The share price of Cable & Wireless Worldwide PLC has performed very poorly over the last year, down 43% from 92 pence to 52,45 pence. The company paid there first dividends this year of 4,5 pence per share. Total shareholder return for the last year thus totals -38,1%.



Figure 12: Cable & Wireless Worldwide PLC share price in pence

3.2.2 Revenues

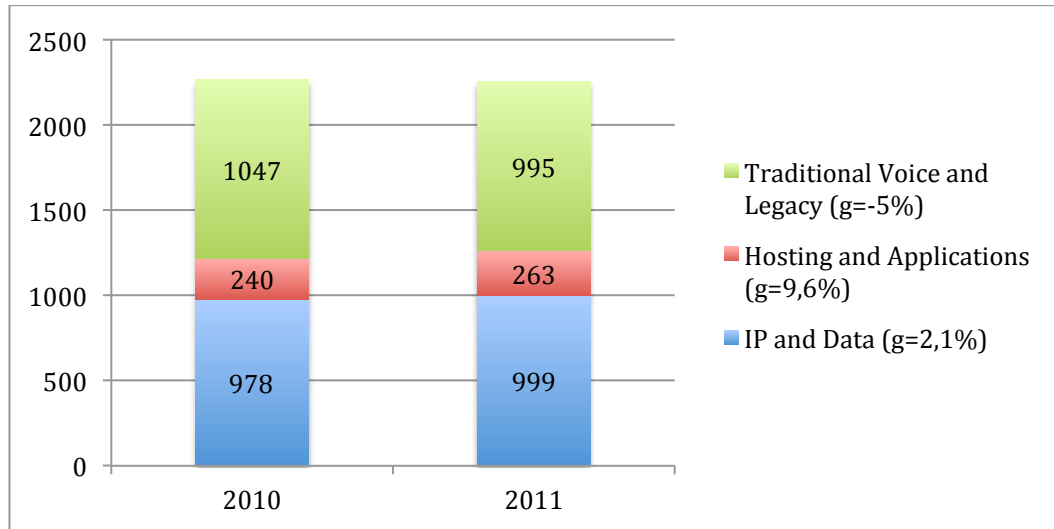


Figure 13: Breakdown of revenues by product in £m

Cable & Wireless Worldwide PLC had total revenues of £m 2257 in 2011. The growth in Hosting and Applications, and IP and Data increased their share of total revenue to 56%. However the decline in Traditional Voice and Legacy revenue was larger than the revenue growth in the other products and led to a total revenue decline of 0,4% from the previous year. The decline in Traditional Voice and Legacy revenue came as a result of regulatory changes, reduced traffic volumes and increased pricing pressures.

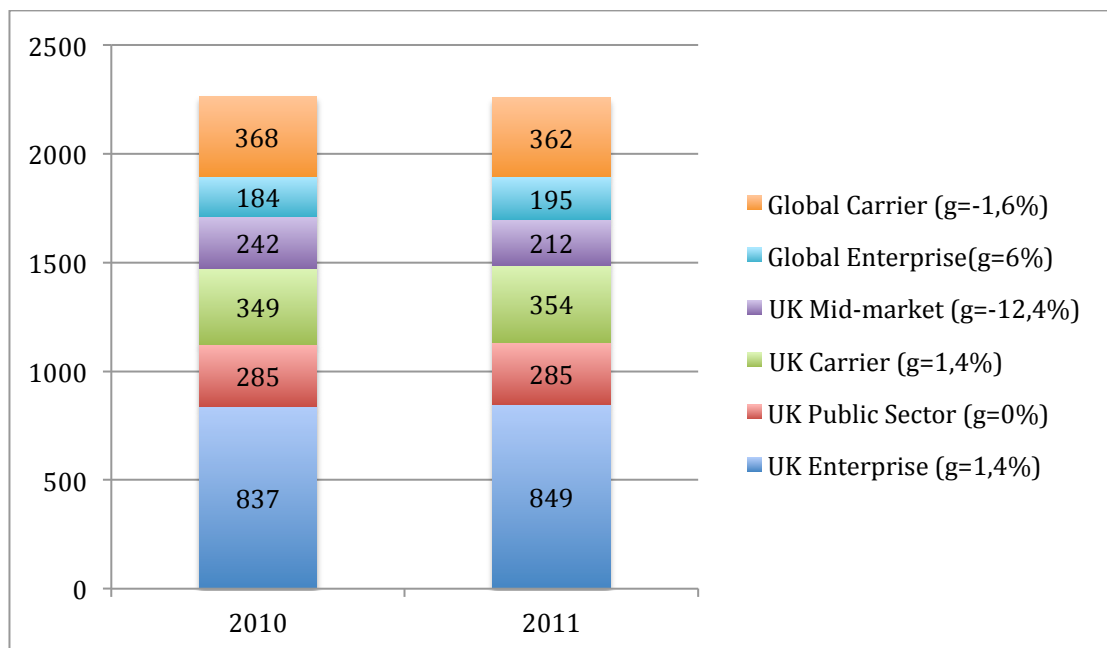


Figure 14: Breakdown of revenues by channel in £m

The largest market channel of Cable & Wireless Worldwide PLC is UK Enterprise, which serves large users of mission critical communications. The strong growth in Global Enterprise came as a result of the clients in this market taking incremental IP and data products. The large decline in the UK Mid-market was caused by increased pricing pressure and reduced margins.

Some factors that might affect future performance are the level of UK government spending, eventual natural disasters causing failure on the large network infrastructure, which is a critical asset for Cable & Wireless Worldwide PLC, and regulatory compliance. Traditional Voice and Legacy is expected to continue its decline, while IP and Data as well as Hosting and Applications are expected to continue their growth driven by migration from legacy voice to voice over IP, increased use of cloud computing and managed video conferencing.

3.2.3 Costs

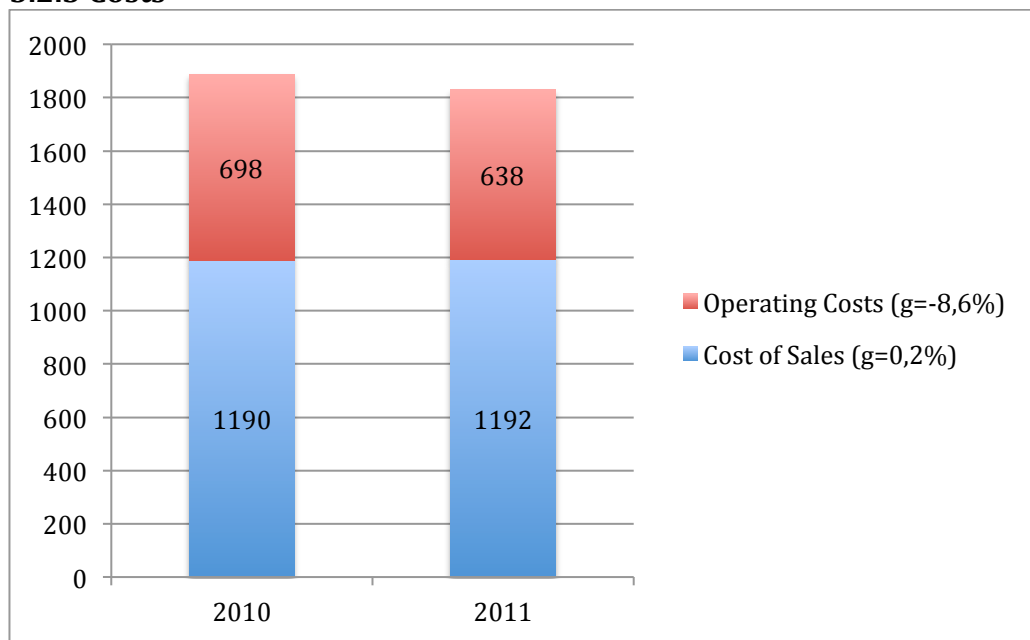


Figure 15: Breakdown of costs in £m

Total costs in the financial year of 2011 equalled £m 1830, down 3,1 % from the previous year. While cost of sales remained stable, the operating costs were reduced by rebates in business network rates, fewer customer failures and savings on communication costs.

3.2.4 Net Income

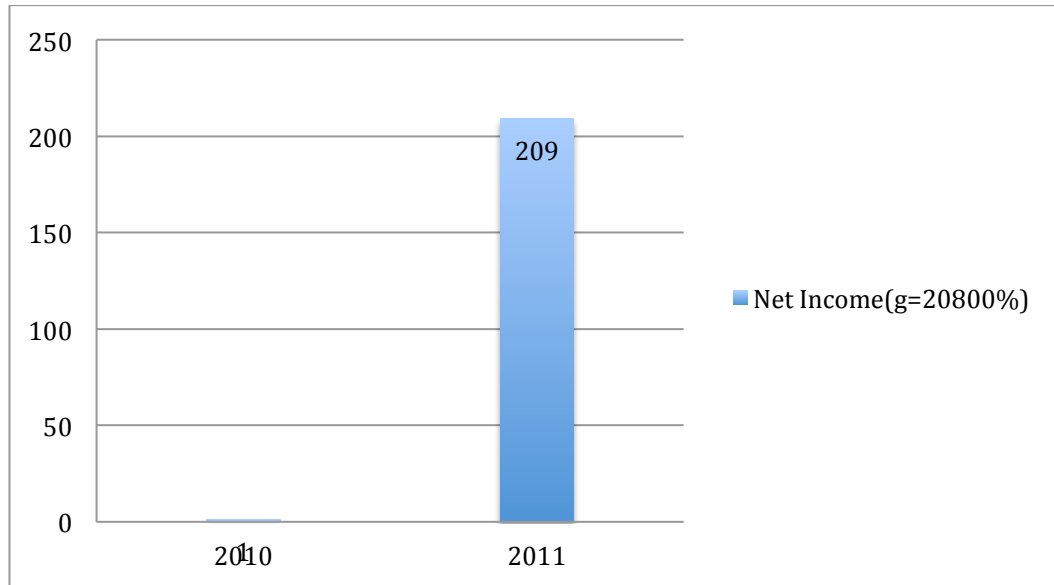


Figure 16: Net Income in £m

The net income was £m 209 in 2011, a large increase from the £m 1 in the previous year. The reasons for this large increase were one-off demerger item expenses and high exceptionals realized in 2010.

3.2.5 Capital Expenditure

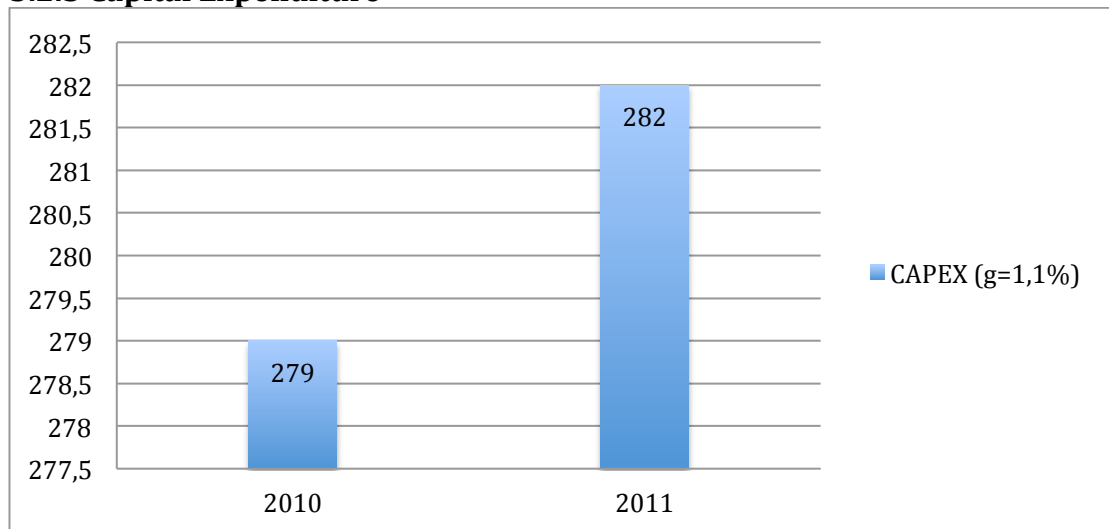


Figure 17: Capital Expenditure in £m

The capital expenditure had a slight increase of 1,1% to £m 282. Spend on customer contracts accounted for 57% of capital expenditures, while the remaining expenditures were spent on new capability assets, maintaining

property and network assets and assets required to deliver cost reduction programmes.

3.2.6 Free Cash Flow

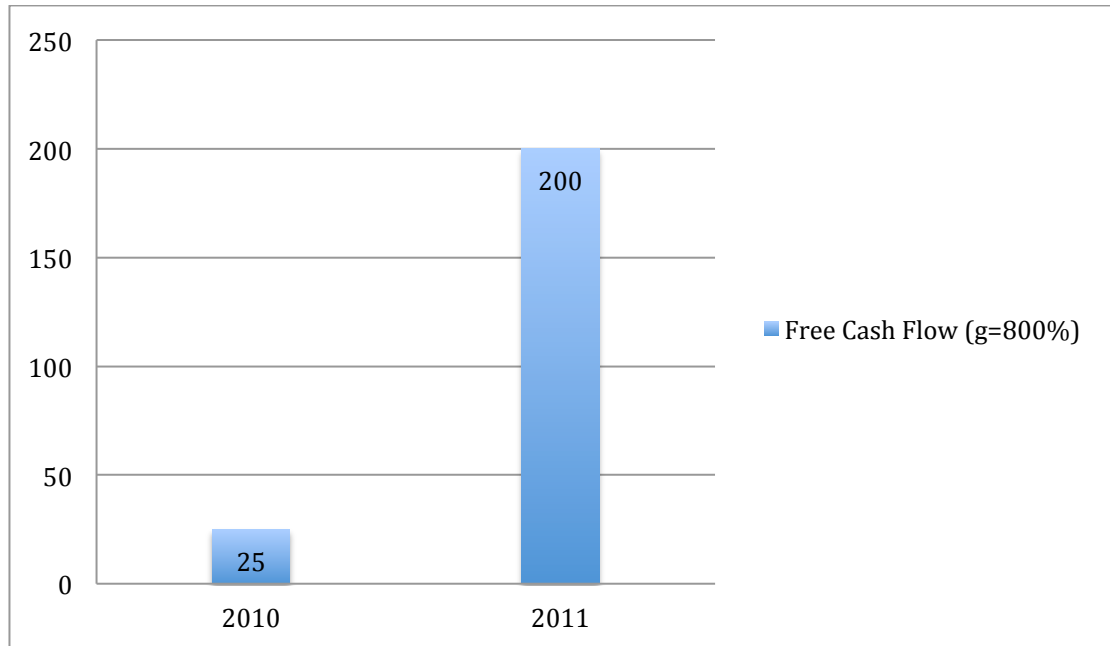


Figure 18: Free Cash Flows in £m

Cable & Wireless Worldwide PLC delivered, in 2011, positive free cash flow of £m 200. The low cash flows of 2010 were due to one-off demerger costs.

4. Standalone Valuation

As mentioned in the literature review, the first step of an M&A valuation is to value the individual firms independently. In order to perform these valuations it is necessary to forecast the future performance of each company. The performance forecasts in this case will be based on the historical performance of the firm (back to and including the financial year ended in 2008), future forecasts provided by management and professional analysts and other publicly available information on the company, industry and macroeconomic development. The forecasts will be performed from April 2011 onwards.

Two different valuation methods will be used in the valuation of each company; a discounted cash flow method and a comparable method. Applying two methods will give an opportunity to check for inconsistencies in assumptions.

4.1 DCF Valuation

Estimating bankruptcy costs and tax shields necessary in the adjusted present value method yields high uncertainties in the valuation. The Weighted Average Cost of Capital method will thus be applied in the DCF valuation as the weighted-average cost of capital already includes bankruptcy costs and tax shields.

The first step in the discounted cash flow method is to forecast the future cash flows available to all investors and claimholders.

$$FCFF = EBIT \times (1 - T_c) + \text{Depreciation \& Amortization} - \Delta \text{ in WC} - \text{CapEx}$$

The most important drivers of the free cash flows will be looked at separately in order to come up with reliable forecasts. These drivers are revenues and operating expenses to come up with the EBIT, and all the other components in the free cash flow to firm formula above. Further forecasts for financial leverage and cost of capital will be performed to complete the valuation.

Cash flows will only be forecasted for three years until 2014. Both the firms in this case are mature, exceptional growth periods should thus no longer be expected. Also the analyst and management forecasts available reach until 2014 and longer-term forecasts solely based on historical information will result in weak forecasts. A terminal growth rate will be applied to the 2014 cash flows to calculate a terminal value. The forecasts will be performed using nominal values.

4.1.1 Vodafone Group PLC

The components in the free cash flow to firm model will here be forecasted for Vodafone Group PLC. Revenue forecasts will be divided in two geographic regions; Europe and Africa, Middle East and Asia Pacific (AMAP). Lack of publicly available information for some countries makes it unpractical to divide revenues

by country. Operating expenses will be forecasted on a consolidated basis for the whole firm, as the firm does not provide a direct allocation of specific expenses to the representative geographic areas.

The terminal growth of operating income applied to reach the terminal value of Vodafone Group PLC is 0,08%. This growth rate is based on Damodaran's growth function mentioned in the literature review. In the calculation it is assumed that capital expenditure will equal depreciation and amortization in the long run.

4.1.1.1 Revenues

There are two main factors that can cause changes to the revenues in this case; a change in average revenue per user (ARPU) or a change in number of subscribers. Increases in ARPU or subscribers will lead to revenue growth while a decline in revenues will occur if ARPU or subscribers decrease. Revenue forecasts will thus be done by looking at different factors that might affect either ARPU or changes in the subscriber base of Vodafone Group PLC. The presentation of revenues below provides a division into the firms mature markets (Europe) and the firms emerging markets (AMAP). This is helpful as the two geographic regions face different challenges and opportunities. While increasing ARPU and customer retention drives growth in Europe, new subscribers drive the revenue growth in AMAP countries. The sum of Europe revenue and AMAP revenue does not add up to total group revenues. This difference comes from non-controlled interests, common functions and intercompany eliminations.

Europe

Historically the European market has been the primary source and growth driver of revenue for Vodafone Group PLC. Over the last couple of years however, the revenue growth in this region has slowed down. This is mainly due to the market maturing and average penetration rates reaching 130%. The high penetration rates create a more competitive environment as the focus shifts from new subscribers to retention of existing subscribers. The high competition

does not only make it difficult to grow the rate of new subscribers but also increases the pricing pressure, which further reduces revenue.

The challenging macroeconomic environment across southern Europe is also likely to continue its negative effect on the European revenues. The challenging macroeconomic environment leads to tighter household budgets, higher awareness of consumption and thus reduced average revenue per user.

Cuts in mobile termination rates are expected to continue over the next years until 2014 when they are again expected to stabilize. The mobile termination rate is a charge paid to carriers when a call connects to their mobile network. A reduction in this charge will reduce revenues, as Vodafone Group PLC will receive lower charges when other operators make use of their mobile network.

Accelerated growth in data revenues is expected to continue in Europe as the use of smartphones and tablets are still increasing in the region. Continuing development in adoption of converged fixed and mobile services is made to increase the average revenue per user together with an expansion in to new services such as machine-to-machine and financial services. These three factors are expected to make up for some of the challenges Vodafone Group PLC are facing in the European region.

Given the arguments above, a compound annual growth rate of -1,9% is assumed for the European revenues of Vodafone Group PLC in the period 2011 to 2014, a decrease of 9 percentage points compared to the compound annual growth rate of the previous four years. European service revenues are expected to stabilize after 2014 when significant mobile termination rate cuts are expected to end. This forecasted growth is in line with analyst reports from Goldman Sachs. Management also believe in a decline in Europe for the coming years.

AMAP

The AMAP region has seen significant growth over the last couple of years and the growth is expected to continue with penetration rates still very low in many significant areas. India, as the country with the largest amount of subscribers in Vodafone Group PLC, still has a penetration rate below 70%. An increase of subscribers is thus expected as an effect of the increasing penetration rates.

As the emerging markets in the AMAP region are developing, the adoption of data services is also expected to increase. As more subscribers in the AMAP countries make use of data services an increase of ARPU is expected.

Vodafone Group PLC's market share in India is expected to increase as the government in India decided to cancel the 2G licences distributed under controversial circumstances in 2008. The decision is expected to put pressure on several key competitors' balance sheets and drive them out of the market. Increased market share will lead to more subscribers on top of the increase expected from higher penetration rates. A trend of urbanization and rising income levels in India are also expected to increase ARPU in the area.

In South Africa voice competition is expected to decrease. Lower competition gives opportunities to sign new subscribers as well as more flexibility in service pricing.

A compound annual growth rate of 6,5% is estimated for the AMAP region from 2011 to 2014 assuming that the last years significant growth will return to more sustainable levels. This estimate is within expectations of Goldman Sachs analyst reports.

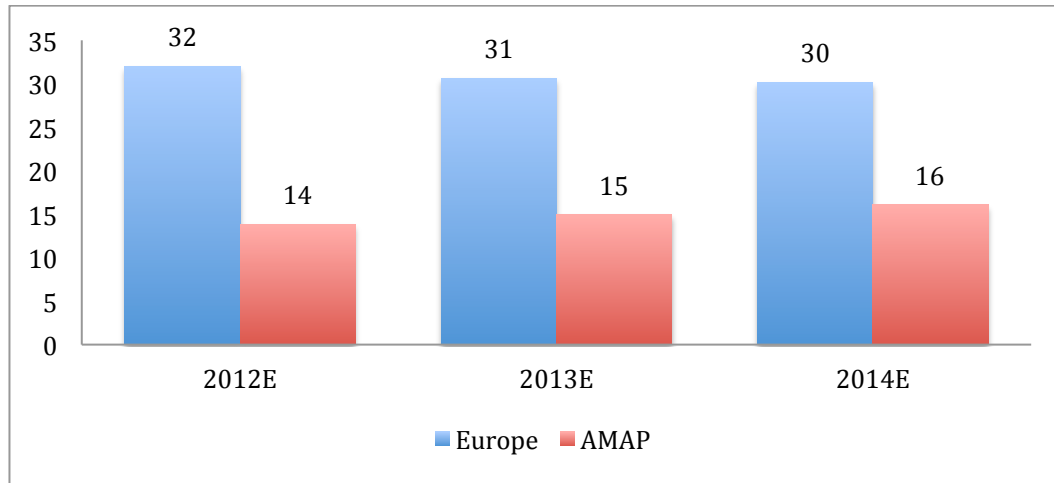


Figure 19: Forecasted revenues by region in £b

We end up with a compound annual growth rate of 0,5% from 2011 to 2014 when looking at the group revenues as a whole, 0,5% lower than management expectations.

4.1.1.2 Operating Expenses

The operating expenses will be presented on a consolidated basis for the whole group. The expenses consist of cost of sales, selling and distribution expenses and administrative expenses. There is no specific information from the firm on selling and distribution expenses and administrative expenses. However, assuming no major changes, there are consistent patterns in the historical data to provide solid forecasts.

Over the last four years the cost of sales as a percentage of revenue, for the total group, has increased with a compound annual growth rate of 2,86%. For the coming years the cost of sales are expected to stabilize, as a percentage of revenue, due to several cost efficiency programmes taking effect. A further increase of 2,86% to 69% of revenue is assumed from 2011 to 2012. The percentage is assumed then to remain stable from 2012 onwards.

Selling and distribution expenses have remained stable at 6,7% of revenue over the last three years, after a 0,5 percentage point decrease from 2008 to 2009. It

seems reasonable to assume that the selling and distribution expenses will remain at 6,7% of revenues.

Administrative expenses have varied between 11% and 12% of revenue over the last four years. An average of the last four years percentage of revenue, 11,5%, is used to calculate future administrative expenses and assumed stable.

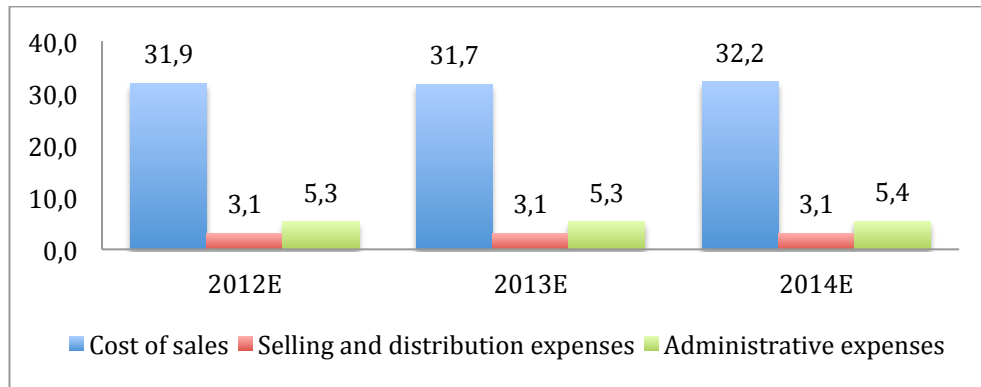


Figure 20: Forecasted expenses by category in £b

4.1.1.3 Tax Rate

A stable effective tax rate of 25% will be applied in the future tax calculations for Vodafone Group PLC. This tax rate is based on management guidance, which is the UK statutory tax rate of 26% adjusted for overseas income. The tax rate also includes taxes on share of result in associates. In order to assume this effective tax rate, a stable statutory tax rate in the UK, as well as on overseas income, and a stable geographical division of revenues must be assumed. Share of result in associates are also assumed to remain as a stable portion of total revenues.

4.1.1.4 Depreciation & Amortization

The depreciation and amortization includes profit or loss on disposal of property, plant and equipment and computer software. When forecasting depreciation and amortization it is assumed that historical trends will continue into the future. Depreciation has varied between 32,3% and 27,5% of the previous year's property, plant and equipment account (PPE) since 2008. An historical average of 29,8% of prior year PPE is assumed for the coming years.

The amortization in Vodafone Group PLC is divided into acquired intangibles and purchased licenses. Acquired intangibles has varied between 4,2% and 5,8% of prior year other intangible assets since 2008. It is a relatively large variation, but as there is no consistent pattern it seems like the best option to use an historical average of this ratio. For the coming years the acquired intangibles are thus assumed to remain stable at 4,9% of other intangible assets.

Purchased licenses has remained quite stable as a percentage of prior year other intangible assets since 2008, varying between 5,3% and 5,8%. An historical average of 5,45% is assumed for the coming years.

4.1.1.5 Capital Expenditure

Capital expenditure is an outlay made in order to maintain or increase the level of operations. In the case of Vodafone Group PLC the capital expenditures consist of investments in physical assets, such as property plant and equipment, and intangible assets, such as software. Besides maintaining current levels of operations, Vodafone Group PLC is currently in the process of improving data coverage and network performance. Current levels of capital expenditure are expected to be sufficient in order to maintain current physical and intangible assets as well as performing the targeted improvements.

Capital expenditure levels have been stable over the last four years between 13,6% and 14,4%. Levels reached 14,4% in 2009 due to a £b 1,4 investment in India with the aim to drive growth, and several extraordinary investments in Europe. An average of the previous four years, excluding financial year of 2009, will be used in order to estimate future capital expenditure levels. We thus assume a capital expenditure level of 13,9% of revenue for the coming years.

4.1.1.6 Net Working Capital

The net working capital is a measure of the firms operating liquidity. Vodafone Group PLC has experienced a negative, but stable net working capital over the last years. A negative net working capital can indicate problems with paying back creditors in the short run. However, a negative working capital can also indicate

that the firm is operationally efficient in turning over inventory and collecting receivables. When calculating net working capital the formula below has been applied.

NWC = Current Operating Assets – Current Operating Liabilities Excluding Net Taxation Liabilities

Current operating assets consist of inventory and trade and other receivables in the case of Vodafone Group PLC. The current operating liabilities consist of provisions and trade and other payables. In order to apply the formula we will go through each of the elements mentioned above.

Inventories have varied between 1,5% and 1,9% of cost of revenue over the last four years and we assume an historical average of this for the future, equal to 1,7% of cost of revenue. Trade and other receivables have fluctuated between 18,5% and 20,2% of revenue and we assume a future rate of 19,3% of revenue, the average of the previous four years.

Provisions are funds set aside for losses anticipated to occur in the future. Over the last four years the provisions have stayed between 0,9% and 1,2% of revenues. We assume the provisions will stay stable at an historical average rate of revenue of 1,06%. Trade and other payables are forecasted as a percentage of cost of revenue. Since 2008 the rate has fluctuated between 54,7% and 47,7%, of cost of revenue, and we assume the average of the last four years of 50,5% of cost of revenue will remain stable for the coming years.

4.1.1.7 Share of Result in Associates

Cellco Partnership (US), SFR (France) and Safaricom Limited (Kenya) are the current principal associates carrying on business affecting the profits and assets of Vodafone Group PLC. The group has recently decided to sell its entire stake in SFR to Vivendi (France) for a cash consideration of £b 6,8. The fair value of Safaricom Limited based on the closing price the 31th March 2011 is £m 456. We

can hence see that the absolute largest part of Vodafone Group PLC's investments in associates are in Cellco Partnership with a book value of £b 33,5. Cellco Partnership is traded under the name Verizon Wireless and Vodafone Group PLC holds a 45% stake in the firm. When discussing the share of result in associates below we will be assuming that all the results received will arrive from Verizon Wireless.

The share of result from associates has increased dramatically since 2008 from £b 2876 to £b 5059. This accounted for 63% of Vodafone Group PLC's net income in 2011. Although the share of result from associates are not direct cash flows to Vodafone Group PLC it is assumed in this valuation that the dividends from Verizon Wireless will increase to the level of share of results in associates. This assumption is based on public comments from Verizon (55% stakeholder in Verizon Wireless) to pay out excess cash flows from Verizon Wireless to the parents. The share of result from associates will thus be included in the DCF calculation and the forecast of these results will have a large impact on the value of Vodafone Group PLC.

The forecasted performance of Verizon Wireless is driven by expectations of increasing postpaid smartphone penetration, expanding customer base, strong data revenue and more efficiency in operating expenses. The growth expectations are partially offset by higher customer retention costs in the US. Based on the above expectations a compound annual growth rate (2011-2014) of 6% is assumed for Verizon Wireless. For the long-term Verizon Wireless is assumed to increase by the same long-term growth rate as Vodafone Group PLC.

4.1.1.8 Financial Leverage

Vodafone Group PLC has a current debt to asset ratio of 30% and has been at the same level since 2009. In 2008 the debt to asset ratio was down at 26%. Only interest-bearing liabilities are included in the calculation of the ratio. It is likely that that Vodafone Group PLC will revert to the industry average debt to asset ratio of 25 % (Damodaran data, 2011). It is thus assumed that the financial leverage will adjust to the industry average over the next years and remain at this level in perpetuity.

4.1.1.9 Cost of Capital

In order to reach the present value of the firm from the obtained free cash flows it is necessary to calculate a cost of capital. The cost of capital in this case will be the weighted average cost of capital as mentioned previously.

$$WACC = Re * E/(D+E) + Rd * D/(D+E) * (1-t)$$

The first step in this model is to calculate the cost of equity (Re) and to reach an estimate for the cost of equity the CAPM model is applied.

$$Re = Rf + (Rm-Rf) * \beta$$

The risk free rate (Rf) is set equal to the current yield of the 10Y UK government bond as mentioned in the literature review. This gives a risk free rate equal to 3,6% as of 31th of March 2011. The market risk premium is calculated by taking Damodaran's (2011) equity risk premiums by country and create a weighted average based on revenues in the different operating countries. This leads to a market risk premium of 5,48%, implying a slightly higher risk than the 5% premium for mature equity markets due to the firms operations in riskier emerging markets. As for the company beta the unlevered industry beta corrected for cash of the telecom services industry taken from Damodran's (2011) data is used for so to be re-levered at the target debt ratio. This gives us a company beta of 1,05. The correction for cash is made as cash is assumed to have a beta close to zero and large cash reserves would thus lower the beta. The estimated parameters give the following cost of equity.

$$Re = 3,6\% + 5,48\% * 1,05 = 9,35\%$$

The next step to reach a weighted average cost of capital estimate is to find the firms cost of borrowing (Rd). Management expects to maintain their current A-rating for the future. Assuming management is correct in their expectation a cost of borrowing equal to 5,25% is estimated by adding the default spread of 1,65%, found in Damodaran's data, for A- rated firms to the risk free rate. By now

applying the financial leverage and tax rate discussed previously the weighted average cost of capital is calculated below

$$WACC = 9,35\% * (1 - 0,25) + 5,25\% * 0,25 * (1 - 0,25) = 8\%$$

Applying the weighted average cost of capital to the free cash flows and adding the terminal value obtained with the terminal growth rate assumption of 0,08% leads to an enterprise value of £b 132,6 for Vodafone Group PLC. Further adding the cash reserves of the firm and subtracting the debt gives an equity value of £b 100,6 and a price per share equal to p 192. In the industry analysis one can see that the share price range over the last year for Vodafone Group PLC was between p 137 and p 182.

4.1.2 Cable & Wireless Worldwide

In order to apply the discounted cash flow approach for Cable & Wireless Worldwide the components of the free cash flow to the firm model will be estimated in the same way as for Vodafone Group PLC. The revenues in this case will be divided in the product sets IP & Data, Hosting & Apps and Traditional Voice & Legacy. This division is made to take into account the different stages of the typical technological life cycle these product sets are in. Operating expenses will be treated on a consolidated basis, as it is not possible to allocate all the expenses to each specific product set.

Damodaran`s growth function is applied to obtain a terminal growth rate for the firm in order to calculate a terminal value. The same assumptions are made as for Vodafone Group PLC that depreciation and amortization will equal capital expenditure in the long run. The formula leads to a terminal growth rate of -1,7% for Cable & Wireless Worldwide.

4.1.2.1 Revenues

Revenues will be analyzed in the same way as for Vodafone Group PLC with a focus on factors leading to changes in average revenue per user or changes in the firm`s subscriber base. As previously mentioned the different product sets

presented below figure in different stages of the typical technology life cycle. IP & Data is growing modestly. Hosting & Apps is currently in a period of high growth, while Traditional Voice & Legacy is a product set heading to end of life.

IP & Data

Over the last year the revenues from IP & Data services grew modestly by 2,15%. This growth has been driven by a change in the IP & Data portfolio, shifting from basic connectivity services to more complex managed network services. This shift has made up for the decline in basic connectivity prices, as higher provisions are charged on the more complex network services, and stabilized the average revenue per user of this product set.

The decline in basic connectivity prices and the increasing demand for complex bespoke networks are expected to continue for the coming years. The demand for complex networks increases with the sophistication of customers` network usage and reliance on key networks. General demand for bandwidth is also expected to experience strong growth driven by growth in application services, remote storage data and mobility through smartphones and 3G tablets. This growth in demand for bandwidth will however be offset by the decline in basic connectivity prices and the focus in this product set remains on shifting the portfolio to more complex services.

A negative compound annual growth rate of 1,5% is projected for the next three years. This projection is based on the assumption that the competitive pressure in the market for raw connectivity is currently too strong and will outpace the positive effects from portfolio transition. Management seems to be more optimistic, expecting the historical modest growth to continue. The projected growth rate is slightly above analyst estimates from Goldman Sachs who assume a negative compound annual growth rate of 1,6%.

Hosting & Apps

Hosting & Apps revenue experienced a strong growth of 9,6% in the previous year. The driver for this strong growth has come from a change in customer

demand. This is a change from pure colocation services to deeper managed hosting and is a similar trend to what is seen in the IP & Data product set. Customers have also shown a desire to bundle Hosting and Application services in the same solution. The strong growth from the previous year can be seen as a result from an increase in average revenue per user by offering more complex and integrated services.

The trend discussed above is expected to continue to drive the strong growth of this product set for the coming three years. Growth is also expected to occur in customer appetite for hosting space, increasing amount of users in this product set. Hosting services are charged by how much storage space the customer uses and thus an increase in demand for storage per user will also lead to an increase in average revenue per user.

A compound annual growth rate of 10,6%, from 2011 to 2014, is projected assuming the current trend will continue and adding 1% to the historic growth due to the increased appetite for hosting space. This projection is in line with both management projections and analyst estimates from Goldman Sachs.

Traditional Voice & Legacy

Revenue from Traditional Voice & Legacy experienced a decline of 5% in the financial year 2011. The decline in this end-of-life product set comes from intense price competition as competitors try to load their infrastructure. This price competition reduces the average revenue per user and can also lead to losing customers to competitors if the firm is not able to keep up with the price competition. The revenue decline is also a result of the firm's own efforts to move Traditional Voice & Legacy customers over to next-generation voice solutions, such as voice over IP and fixed mobile convergence. This is done due to the higher margins in IP services and only moves revenue from one product set to another.

The decline in this product set is expected to accelerate and a negative compound annual growth rate of 12,5% is projected for the coming three years. This is close to management expectations of an annual decline in excess of 10%

and in line with analyst estimates from Goldman Sachs.

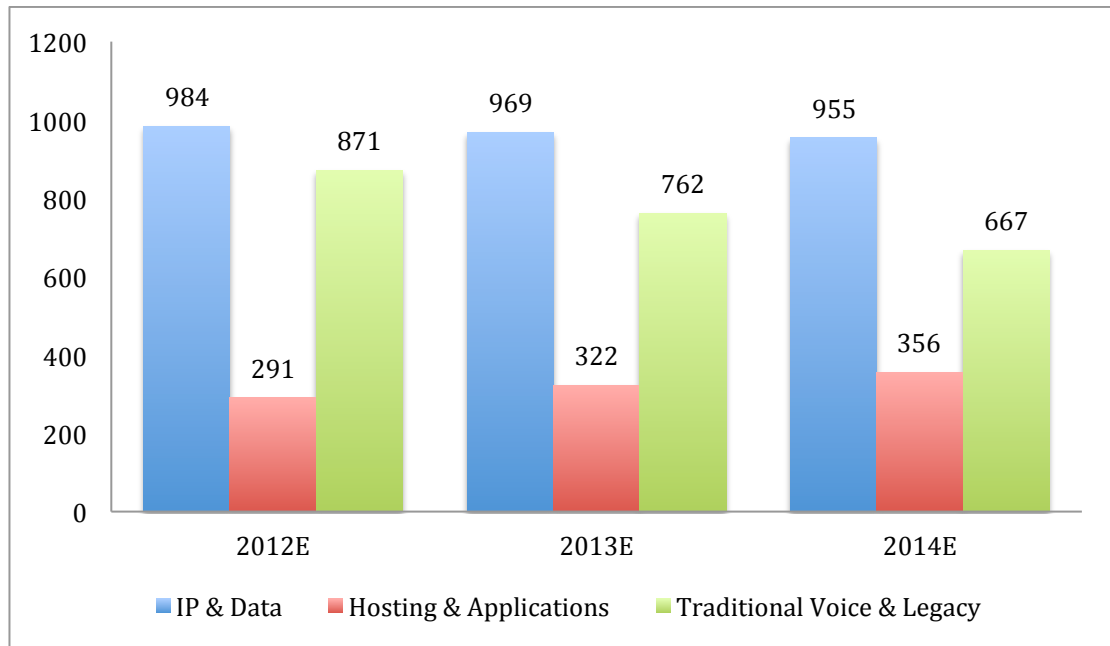


Figure 21: Forecasted revenues by product set in £m

4.1.2.2 Operating expenses

The operating expenses will be analyzed here divided into cost of sales and operating costs. The cost of sales will be allocated further to the different product sets to reflect the different margins they produce. This way revenue transitions between the product sets and the effect these transitions have on costs will be taken into account. Depreciation and amortization is not included in these expenses and will be analyzed later in this forecast.

For the cost of sales it is assumed that they will be presented by a constant percentage of revenue and that any change in the cost of sales will come as a result of changes in revenue. For IP & Data and Hosting & Applications the average of the last two years percentage of revenue, respectively 38,5% and 27,4% are assumed as constant percentages for the three next years. This projection is made due to the relatively stable percentage over the last two years. For Traditional Voice & Legacy the percentage of revenue for the financial year 2011 is assumed as a constant rate for the coming three years. Traditional Voice & Legacy has experienced a higher cost growth as % of revenue and the last year's higher rate of 73,5% is considered more relevant for the near future as the

product set is in an end-of-life stage.

Operating costs have stayed around 28% of revenue over the last two years and in excess of £m 600 total. For the following three years inflationary pressures, combined with increased operating expenditure in order to exploit cloud-computing opportunities, are expected to affect the operating costs. These factors are projected to increase the operating costs by £m 30 year-on-year for the next three years based on statements from the management.

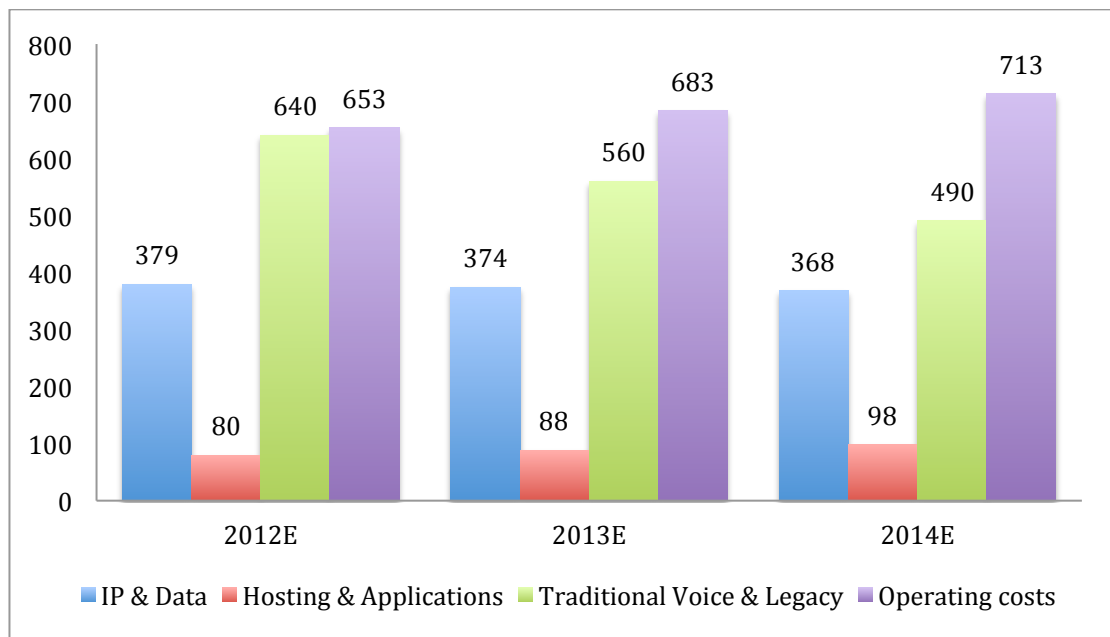


Figure 22: Operating expenses by category in £m

4.1.2.3 Tax rate

The UK corporate tax rate of 26% will be applied to obtain projected taxes for Cable & Wireless Worldwide. However, the management expects the tax charges for the foreseeable future to be less than £m 5 per year due to the utilization of deferred tax assets in the UK and overseas. For this reason the minimum of 26% and £m 5 will be applied as a tax charge for the forecast period. For the terminal value the corporate tax rate of 26% will be used.

4.1.2.4 Depreciation & Amortization

It is assumed here, as for Vodafone Group PLC, that historical trends will continue into the future. Depreciation will be analyzed as a percentage of the property, plant and equipment net book value, while amortization will be

analyzed as a percentage of the intangible assets net book value.

Depreciation has varied between 23,5% and 24,9% of property, plant and equipment over the last two years. An average of these percentages (24,2%) is assumed as a stable rate for the future. Amortization has been between 4,6% and 4,8% of intangible assets for the two last years. It is assumed here, as for depreciation, that an average of the percentages (4,7%) will remain as a stable rate for the future.

4.1.2.5 Capital expenditure

Capital expenditure for the last year in Cable & Wireless Worldwide was spent on customer contracts, new capability assets, maintaining property and network assets and assets required to deliver cost reduction programs. The overall capital expenditure has remained quite stable over the last two years both as a percentage of revenue and in absolute terms. However, expenses were shifted from assets required to deliver cost reduction programs to spend on customer contracts.

Further investments are required to deliver growth available in the cloud computing area. Capital expenditures are therefor assumed to remain at 12,4% of revenue through 2012 and 2013 due to the investments in the cloud area. From 2014 onwards the capital expenditure is assumed to decline to 11% of revenue, as the investment in cost reduction programmes are completed and investments in new capability assets are normalizing.

4.1.2.6 Net Working Capital

The net working capital of Cable & Wireless Worldwide has been negative, but slightly increased to a less negative value over the last two years. The same formula as used for Vodafone Group PLC is applied to calculate forecasted net working capital changes for the coming years.

The inputs in the formula will in this case be trade and other receivables and inventories giving the value for current operating assets, and trade and other payables and provisions for current operating liabilities. Trade and other

receivables and provisions are forecasted using the historical average percentage of revenue. Inventories and trade and other payables are forecasted using a historical average percentage of cost of sales. The calculations give a projection, for the future three years, of a yearly increase in net working capital in the range of £m 29 to £m 36.

4.1.2.7 Financial Leverage

The debt to asset ratio of Cable & Wireless Worldwide has remained around 15% for the two last years. There is currently no incentive for the management to increase the debt to asset ratio, as the firm is not paying UK corporation tax. It is therefor assumed that the debt to asset ratio will remain at 15% for the next three years. It is reasonable to assume that for the long term the debt to asset ratio will adjust to the industry average. The industry average debt to asset ratio of 25% (Damodaran data, 2011) will for this reason be applied in the calculation of the terminal value.

4.1.2.8 Cost of Capital

In the case of Cable & Wireless Worldwide a weighted average cost of capital will be applied like for Vodafone Group PLC. However, due to the different debt ratios assumed above, as well as a lower tax rate assumed for the forecast period, the WACC will be slightly different for each year of the forecast period and for the terminal growth period. In order to find the weighted average cost of capitals for Cable & Wireless Worldwide, estimates must be made for a risk free rate (R_f), market risk premium ($R_m - R_f$) and beta (β) to calculate the cost of equity. Further a cost of debt must be estimated to complete the calculations of the cost of capitals.

The current yield of the 10Y UK government bond of 3,6% as of 31th March 2011 is used as an estimate for the risk free rate like for Vodafone Group PLC. Cable & Wireless Worldwide receives 75% of their revenues from the UK and the remaining 25% comes from UK corporations operating abroad. The market risk premium is therefor estimated using Damodran`s (2011) equity risk premium for the UK of 5%. Damodaran`s (2011) sector beta, corrected for cash, for telecom services is used to estimate the company betas. This beta is then re-

levered at the different debt ratios and tax rates.

The cost of debt is estimated by calculating the average historic interest coverage ratio. This average historic interest coverage ratio of 1,73 gives a credit rating of B- looking at Damodaran`s scale for rating estimation for smaller and riskier firms. This credit rating gives a default spread of 6,75% and a cost of debt of 10,35%. When applying the estimates obtained to the weighted average cost of capital formula the following cost of capitals are produced.

	2012E	2013E	2014	T-Period
Rf	3,6%	3,6%	3,6%	3,6%
Rm-Rf	5%	5%	5%	5%
Beta	0,57	0,57	0,56	0,61
Tax rate	4,4%	7,8%	21,8%	26%
Rd	10,35%	10,35%	10,35%	10,35%
D/E	17,8%	17,8%	17,8%	33,33%
WACC	6,98%	6,92%	6,65%	6,91%

Table 1: Inputs and results for WACC

By discounting the estimated cash flows on their respective cost of capitals and applying the long-term growth rate of -1,7%, an enterprise value of £m 676 is estimated for Cable & Wireless Worldwide. An equity value of £m 667 is given by adding cash and cash reserves and subtracting current debt from the enterprise value. Finally an estimated share price of p 25,5 is found by dividing the equity value on the weighted average shares outstanding for Cable & Wireless Worldwide. From the industry analysis it can be seen that the share price over the last year varied between p 92 and p 52,45. The estimated value indicates a large overvaluation of the firm.

4.2 Comparable Valuation

The first step in the comparable valuation is to decide on which multiple to use. In the literature review an enterprise value to EBITA was recommended. In the Damodaran data used to obtain peer multiples however, an enterprise value to EBITA is not provided. Enterprise value to EBIT will thus be applied in this comparable valuation. The main weakness of this multiple is that it assumes depreciation & amortization equals capital expenditure. The second step in this valuation is to find a suitable peer group. When choosing comparable firms, only firms within the telecom service industry are chosen. Other factors that have been taken into account to some extent are scope, size, risk and expected growth of the firms. However, perfect peer groups are difficult to find and all of the requirements are not fulfilled for each comparable firm.

For Vodafone Group PLC the following peer group has been chosen.

Company name	Country	Market cap (millions)	Enterprise value (millions)	EV/EBIT	EV/EBITDA
France Telecom	France	\$55 347,60	\$94 876,00	8,37	3,98
Deutsche Telekom AG	Germany	\$55 649,80	\$120 997,30	10,81	4,28
Telecom Italia SpA	Italy	\$23 485,00	\$75 147,30	9,44	4,68
Telenor ASA	Norway	\$26 233,30	\$29 861,50	12,78	5,49
Telefonica, S.A.	Spain	\$102 581,50	\$179 368,40	9,91	5,59
TeliaSonera AB	Sweden	\$35 402,90	\$42 723,50	11,47	8,37
Swisscom AG	Switzerland	\$22 728,40	\$32 167,70	12,17	7,14
BT Group plc	United Kingdom	\$21 683,50	\$41 367,80	10,16	5,66
Royal KPN N.V.	Netherlands	\$23 103,20	\$39 653,70	8,86	5,65
Telekom Austria AG	Austria	\$6 176,80	\$10 027,50	12,27	4,29
Portugal Telecom	Portugal	\$9 842,20	\$11 259,60	9,38	3,26
Tele2 AB	Sweden	\$9 183,50	\$9 543,60	9,63	7,46
AT&T Inc.	US	\$172 154,20	\$240 433,20	11,19	5,83
Verizon Communic.	US	\$99 446,20	\$159 203,20	8,17	4,46
Average				10,33	5,44
Median				10,04	5,54
Standard deviation				1,43	1,39
Vodafone Group PLC	United Kingdom	\$134 884,90	\$186 737,60	18,27	8,34
			Adjusted multiples	10,40	5,94

Table 2: Peer group Vodafone Group PLC

Looking at the EV/EBIT multiple, Vodafone seems to be trading at a large premium to its peers. This can be explained, as the EBIT used in the multiple is not adjusted to include shareholder result in associates. If the adjusted EBIT is applied, one can find that Vodafone Group PLC is trading only at a small premium to its peers. However, one should have in mind that this is not an

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optimal comparison as the EBIT's of the peer group are not adjusted for other income. Another factor that should be considered is that most of the firms in the peer group have traditional fixed line as part of their business, while Vodafone Group PLC is a pure wireless operator. The traditional fixed line segment is decreasing in both margin and revenue and this can be an explanation for the premium indicated for Vodafone Group PLC. By applying the peer average multiple to the adjusted EBIT of Vodafone Group PLC we reach the value shown below. The value is significantly lower than the DCF value and can be explained to some extent by the arguments above regarding Vodafone's advantage as a complete wireless operator.

	Adjusted EV/EBIT	Adjusted EV/EBITDA
Enterprise value in £m	115 928	106 874
Equity value in £m	83 899	74 845
Share price in p	160	143

Table 3: Comparable valuation Vodafone Group PLC

For Cable & Wireless Worldwide the peer group picked consists of some smaller firms to fit its attributes.

Company name	Country	Market cap (millions)	Enterprise value (millions)	EV/EBIT	EV/EBITDA
KCOM Group PLC	United Kingdom	\$472,20	\$646,20	9,81	6,62
Adept (GB) Limited	United Kingdom	\$9,03	\$21,81	9,40	4,73
Magyar Telekom Telecommunications PLC	Hungary	\$2 589,10	\$4 199,70	6,02	3,12
Belgacom SA	Belgium	\$10 801,80	\$12 938,90	8,28	4,66
Mobistar SA	Belgium	\$3 903,90	\$4 300,52	8,29	5,33
France Telecom	France	\$55 347,60	\$94 876,00	8,37	3,98
Hellenic Telecommunications Organization SA	Greece	\$4 029,00	\$10 204,10	9,52	3,35
Telecom Italia SpA	Italy	\$23 485,00	\$75 147,30	9,44	4,68
Royal KPN N.V.	Netherlands	\$23 103,20	\$39 653,70	8,86	5,65
Portugal Telecom SGPS SA	Portugal	\$9 842,20	\$11 259,60	9,38	3,26
BT Group plc	United Kingdom	\$21 683,50	\$41 367,80	10,16	5,66
Average				8,87	4,64
Median				9,38	4,68
Standard deviation				1,08	1,08
Cable & Wireless Worldwide PLC	United Kingdom	\$2 687,40	\$2 742,40	10,21	4,61

Table 4: Peer group Cable & Wireless Worldwide

Out of the table it can be seen that Cable & Wireless Worldwide is trading higher than any of its peers' EV/EBIT. The only firm that is close to Cable & Wireless Worldwide's level is British Telecom which also has higher growth expectations than Cable & Wireless Worldwide. Taking into account that the expected growth

of Cable & Wireless Worldwide is also below most of its peers it can be concluded that the firm is trading at a large premium to its peers. The value of Cable & Wireless Worldwide applying the peer average EV/EBIT is shown below. The difference from the DCF value can be explained by the exceptional low growth expectations of the firm mentioned above.

	EV/EBIT	EV/EBITDA
Enterprise value in £m	1001	1827
Equity value in £m	992	1818
Share price in p	37,8	68,6

Table 5: Comparable valuation Cable & Wireless Worldwide

5. Valuation of the Merged Entity

At this point the standalone valuations for both firms have been completed. The next step of the M&A analysis will be to assess the value of the merged entity. Firstly the value of the merged entity without synergy will be estimated, for so to be compared with the value of the merged entity including synergy. This is done in order to obtain the value of eventual synergies. The value of the synergies will be added to the standalone valuation of the target firm to estimate the acquisition price. Only the values obtained by the discounted cash flow approaches will be applied from here on.

5.1 Valuation of the Merged Entity Without Synergies

In this section a consolidated DCF operation will be performed to find the value of the merged entity without synergy. This valuation should be based on the same assumptions as the two standalone valuations and hence create a value similar to the sum of the two standalone valuations performed. The target is to create a basis for estimating the synergies in the next section. In order to perform this DCF operation it is necessary to consolidate the financial statements of the two firms, as well as the long-term growth rates and discount rates.

The financial statements are consolidated with little effort, as the allocation will not affect the valuation. The revenues of Cable & Wireless Worldwide are allocated under other revenue of the Vodafone Group PLC income statement.

This is done, as it is not possible to allocate the forecasted revenues of Cable & Wireless by geographic region. The cost of sales of both firms is added together and the operating costs are consolidated into a single account.

For the cost of capital, both firms have similar risk free rates. The remaining components of the cost of capital will have to be consolidated. A weighted average of revenues was calculated to find the consolidated market risk premium. The consolidated tax rates were calculated by dividing the consolidated taxes by the consolidated EBITs. A weighted average of free cash flows were calculated to consolidate the betas and the terminal growth rate. Finally the consolidated debt was found by dividing the finance expenses on the different debt levels.

The consolidated DCF operation give an enterprise value equal to £m 133 322 and an equity value equal to £m 101 284. This is £m 57 lower than the sum of the two standalone valuations. The difference comes due to the difficulties in creating a perfectly consolidated cost of capital.

5.2 Valuation of the Merged Entity With Synergies

In this section the potential synergies in the merger between Vodafone Group PLC and Cable & Wireless Worldwide will be analyzed. Eventual implementation costs of the merger will be included in the analysis of the synergies. These synergies will then be implemented into the consolidated DCF analysis performed in the previous section to come up with a value for the merged entity including synergy. Due to the difference in value of the consolidated DCF approach and sum of parts method in the previous section the value of synergy will be found by the difference in the consolidated DCF approaches, excluding and including synergy. The value of synergy will then be added to the sum of the two standalone valuations to find the value of the merged entity including synergy. By subtracting the standalone value of Vodafone Group PLC we find the value of the target firm including synergy.

The analysis of potential synergies will be divided in operational synergies, financial synergies and integration costs.

5.2.1 Operational synergies

The merger between Vodafone Group PLC and Cable & Wireless Worldwide is expected to create little or no synergy in the earnings before interest and tax (EBIT). No synergies will thus be accounted for in the EBIT. The merger is expected to create its only operational synergy, and largest share of synergies, from a reduction in capital expenditure.

Cable & Wireless Worldwide currently holds one of the largest fibre networks in the UK and an international network reaching ca. 425 000 km in length, through 35 countries. This extensive fibre network is well situated to fit with the mobile base stations of Vodafone Group PLC. Backhaul benefits are expected to occur for the consolidated entity by integrating the extensive network. In other words, savings will occur in the process of getting data to a point from which it can be distributed over a network. These backhaul benefits are assumed to create savings in capital expenditure equal to 2,5% annually from 2013 onwards.

5.2.2 Financial synergies

Several financial synergies are expected to occur as an effect of the merger between Vodafone Group PLC and Cable & Wireless Worldwide. These synergies are of much less value than the operational synergies mentioned above, but also require less effort to realize.

The first financial synergy to be discussed is the use of Cable & Wireless Worldwide's tax losses in the merged entity. As Vodafone Group PLC is a British firm it is assumed that they can utilize the UK tax losses within Cable & Wireless Worldwide against their own profits. This is assumed to create tax savings equivalent to £m 100 for financial year 2013 and 2014.

Another financial synergy to be discussed is a decrease in cost of debt. Following the merger, the merged entity is assumed to maintain the low A credit rating of Vodafone Group PLC. It is thus likely that the consolidated debt will have a cost equal to the cost of debt of Vodafone Group PLC.

A final financial synergy is assumed to occur as the merged entity is expected to

increase its total debt ratio in the forecast period. The debt ratio of Cable & Wireless Worldwide has been assumed to be lower than the industry average through the forecast period as there have been no tax incentives to increase it. As the merged entity is now producing significant profits, there are sufficient tax incentives to increase the debt level through the forecast period to the industry average of 25%.

5.2.3 Integration costs

Integration costs are the costs of exploiting the opportunities mentioned above in order to realize the potential synergy. Integration costs include legal fees and other fees involved in closing the deal, as well as costs regarding the consolidation of the two firms. These costs can include spending in human resource services, consultancy services and marketing. In this case significant investments will also be needed in order to integrate Cable & Wireless Worldwide's network and update its data centers. This cost of integration is difficult to estimate without insight in internal data and information, as Vodafone Group PLC have not come out with any guidance on this point. However, an assumption is made that integration costs will equal 10% of Cable & Wireless Worldwide's sales, due to the extensive network integration required. This cost will be equally distributed over the two next years.

5.2.4 Value of Synergies

The assumed synergies have been discussed above and in order to reach an enterprise value for the merged entity including synergies, these assumptions have been included in the previous DCF approach for the consolidated firms. The value of the synergies will then be found by subtracting the value of the merged entity without synergies. The value of the synergies can be found in the table below.

CAPEX savings	1958
Tax benefits	119
Reduced cost of debt	146
Increase in debt ratio	4
Total synergies	2227
Integration costs	187
Net synergies	2040

Table 6: Value of synergies in £m

It can be seen from the table that the net synergies after integration costs equal £m 2040. Adding this to the sum of the two standalone valuations an enterprise value of the merged entity including synergy of £m 135 305 and an equity value of £m 103 267 is reached. Subtracting the standalone value of Vodafone Group PLC one can find that the value of the target firm including synergy equals £m 2707. This indicates a price per share of p 103,3.

In the table below one can see that savings in capital expenditure provides as much as 88% of the total synergies. The integration of the fibre network of Cable & Wireless Worldwide is thus crucial in the creation of synergies.

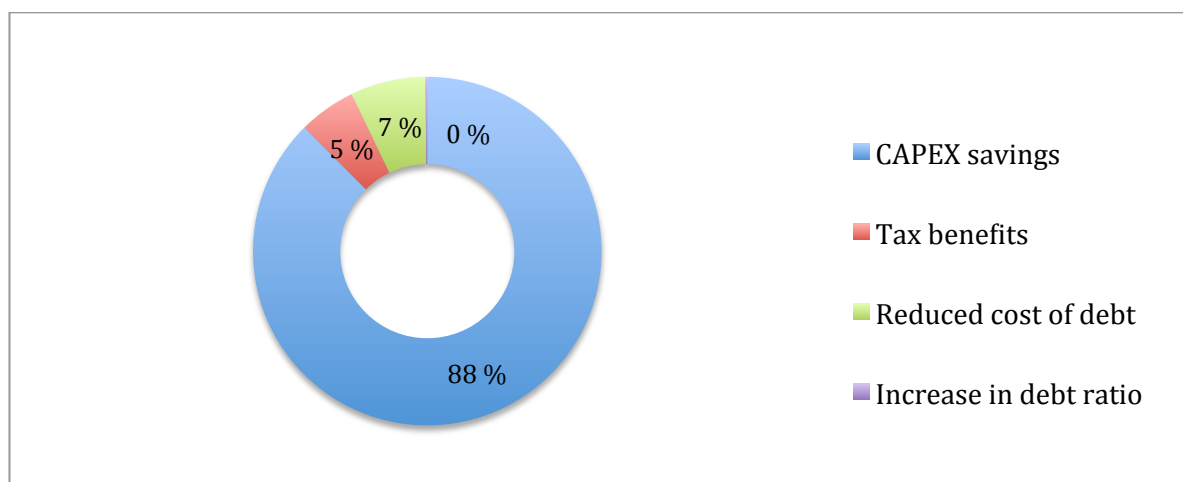


Figure 23: Distribution of synergies in % of total synergies

6. The Acquisition

So far a value for the target firm included synergy is estimated. In this section an analysis will be made of some other interesting aspects of the acquisition that were previously mentioned in the literature review. These aspects regard the acquisition method and strategy applied in the acquisition, the price offered for the target firm and how the payment will be performed.

6.1 Acquisition method and strategy

The strategic aim of this acquisition is for Vodafone Group PLC to strengthen their mobile broadband operations in the UK, improve their grip on business customers and help Vodafone better serve their multinational clients, all through the integration of Cable & Wireless Worldwide's large fibre network. Vodafone Group PLC will from this go from a strictly mobile to a converged fixed mobile service provider in the UK. When looking at the acquisition strategies mentioned in the literature review it is obvious that the strategy of this acquisition is to create synergy. This strategy seems to make sense based on the large synergies found in the previous section, although the success of the strategy still depends on successful synergy creation through the integration of the fibre network as well as the acquisition price, which will be discussed in the next section.

The acquisition of Cable & Wireless Worldwide by Vodafone Group PLC was completed on 23 April 2012 through a tender offer for the entire share capital of Cable & Wireless Worldwide. The offer initially required the approval of the majority of the shareholders equal to 75% of the votes. This was done to secure control of the firm if the acquisition went through in order to proceed with a merger. Cable & Wireless Worldwide is expected to remain as a separate unit for a period in order to ensure that the business is stabilized before a merger takes place. The execution of the merger is necessary in order to realize the strategy of creating synergy.

6.2 Acquisition price

The acquisition price offered in the accepted tender offer was p 38 per share, valuing the total share capital of Cable & Wireless Worldwide at £m 1044. This is a premium of p 12,5 per share or £m 377 total from the standalone valuation of Cable & Wireless Worldwide. Assuming successful synergy creation Vodafone Group PLC will remain with £m 1663 of synergies.

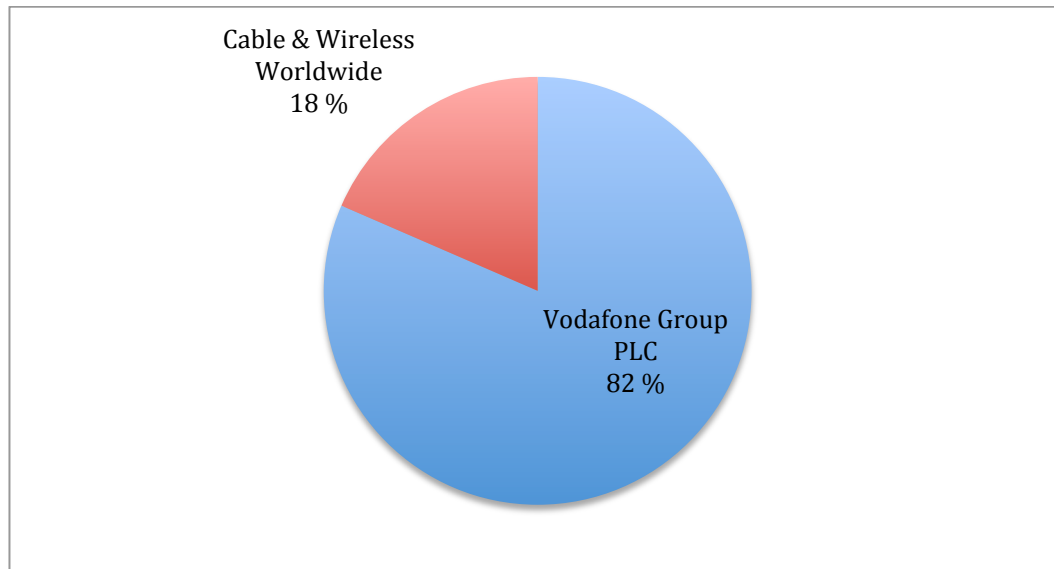


Figure 24: Division of synergies between firms

Vodafone Group PLC are clearly receiving the largest share of the synergies in this case, but they are also the once who are taking on the risk if the synergy creation proves unsuccessful. Assuming the worst-case scenario is that no synergies are created and integration costs are paid, Vodafone Group PLC is taking on a risk of losing £m 564.

Another important point regarding the acquisition price is the fact that Cable & Wireless Worldwide are not likely to receive an offer in the range of the one received from Vodafone Group PLC from any other bidder. This is due to the unique potential synergies in this case. Finding another bidder who can take advantage of Cable & Wireless Worldwide's fibre network like Vodafone Group PLC should prove a difficult task, and completely excludes private equity firms from potential bidders. The realization of tax benefits is limited to British firms and even together with the other financial synergies they would not justify the

premium paid by Vodafone Group PLC. These factors put Cable & Wireless Worldwide in a difficult position to negotiate a higher price to provide them with a larger share of the potential synergies and can thus explain the level of the acquisition price.

6.3 Payment method

The payment in this acquisition was offered in cash, enabled by Vodafone Group PLC's sufficient cash reserves. This cash offer is supported by the undervaluation of Vodafone Group PLC, indicated from the standalone valuation of the firm. The literature review provides theory that cash offers are preferred over stock transactions in cases of undervaluation of the acquirer. A cash offer will also provide a positive signalling effect to the market regarding Vodafone Group PLC's share price. Cash reserves will fund most of the cash offer, but will be supplemented by debt in order to increase debt ratios of the merged entity to industry levels to provide synergy.

7. Conclusion

Mergers & acquisitions is a widely used approach among firms to grow and expand their business. Vodafone Group PLC, as the largest mobile operator in the world measured by revenues, has long been pursuing this strategy of expansion and is always looking for new opportunities in the market. The challenge of M&A is to provide creation of value and to ensure that this value is distributed such that your firm gets as large a part of the value creation as possible. Unfortunately many firms fail to create synergy due to poor assessment of synergies prior to the acquisition or failure in the post-merger integration process. Synergies also tend to be unevenly distributed between the acquirer and target when paying too much or too little for the target.

This paper has investigated the process of Vodafone Group PLC acquiring another UK based telecom operator, Cable & Wireless Worldwide. The study set out to determine the possible value creation that this acquisition can produce and evaluate the acquisition method and strategy, acquisition price and payment

method involved in the acquisition. The acquisition was completed on the 23 April 2012, while this paper was written, something, which made it possible to evaluate the strategy, price, and payment method based on occurred events.

The results of this investigation show that there is significant potential of value creation in this acquisition as Vodafone Group PLC can make use of the large fibre network owned by Cable & Wireless Worldwide and hence produce large savings in capital expenditure. These findings further indicate that the acquisition strategy based on creating synergy is a valid strategy. Application of theory and reasoning also suggest that the acquisition price gives a fair distribution of the value creation and that the right decisions are made from the acquirer, regarding signalling effect and relative share price, when choosing the payment method.

Finally, a number of important limitations need to be considered. First, the valuations in this paper are performed on the basis of publicly available information. Second, the valuations performed involve predictions of the future, which always carry a level of uncertainty. Third, the choice of valuation method will have implications on the result and other methods might lead to different conclusions.

Although the acquisition looks positive so far it can still end up as a failure if synergy is not produced and value not created. To conclude with a truly successful acquisition it is necessary to follow up on post-merger performance to find if value is really created as a result of the acquisition.

8. Appendices

Appendix 1: Historical and forecasted income statement Vodafone Group PLC

Vodafone Group PLC income statement in £m	Historical performance year ended				CAGR 08-11	Forecasted performance year ended			CAGR 11-14
	2008	2009	2010	2011		2012E	2013E	2014E	
Operating revenue:									
Europe	26081	29634	32833	32015	7,07 %	31 999	30 655	30 195	-1,93 %
AMAP	9345	11320	11089	13304	12,50 %	13 849	14 916	16 064	6,49 %
Common functions/eliminations	52	63	550	565	121,49 %	308	308	308	-18,35 %
Total operating revenue	35 478	41 017	44 472	45 884		46 156	45 878	46 567	
Operating expense:									
Cost of sales	21 890	25 842	29 439	30 814	12,07 %	31 885	31 693	32 169	1,44 %
Selling and distribution expenses	2 511	2 738	2 981	3 067	6,89 %	3 092	3 074	3 120	0,57 %
Administrative expenses	3 878	4 771	5 328	5 300	10,97 %	5 319	5 287	5 366	0,41 %
Total operating expenses	28 279	33 351	37 748	39 181		40 296	40 054	40 655	
Other operating income (expense):									
Share of result in associates	2 876	4 091	4 742	5 059	20,71 %	5 363	5 684	6 025	6,00 %
Impairment losses	-	- 5 900	-2100	- 6 150		-	-	-	
Other operating income (Expense)	- 28	-	114	- 16	-17,02 %	-	-	-	
Total other operating income (expense)	2 848	- 1 809	2 756	- 1 107		5 363	5 684	6 025	
Operating income (before tax) EBIT	10 047	5 857	9 480	5 596		11 223	11 509	11 938	
Income tax	2 245	1 109	56	1 628		2 806	2 877	2 984	
Operating income (after tax)	7 802	4 748	9 424	3 968		8 417	8 632	8 953	
Other income (expense):									
Non-operating income (expense)	254	- 44	- 10	3 022		-	-	-	
Investment income	714	795	716	1 309		506	503	511	
Financing costs	- 2 014	- 2 419	- 1 512	- 429		- 2 010	- 1 552	- 1 589	
Total other income (expense)	- 1 046	- 1 668	- 806	3 902		- 1 503	- 1 049	- 1 078	
Profit after tax	6 756	3 080	8 618	7 870		6 914	7 583	7 875	
Other comprehensive income (expense)	6909	9854	-73	-4489		0	0	0	
Total comprehensive income	13 665	12 934	8 545	3 381		6 914	7 583	7 875	

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Appendix 2: Historical and forecasted balance sheet Vodafone Group PLC

Vodafone Group PLC balance sheet in €m	Historical position year ended				Forecasted position year ended		
	2008	2009	2010	2011	2012E	2013E	2014E
Assets							
Non-current assets							
Goodwill	51336	53958	51838	45236	45 236	45 236	45 236
Other intangible assets	18995	20980	22420	23322	23 167	23 027	22 903
Property, plant and equipment	16735	19250	20642	20181	19 236	18 542	18 130
Investments in associations	22545	34715	36377	38105	38 101	38 101	38 101
Other investments (Long-term)	7367	7060	7591	1381	1 381	1 381	1 381
Deferred tax assets	436	630	1033	2018	2 018	2 018	2 018
Post employment benefits	65	8	34	97	97	97	97
Trade and other receivables	1067	3069	2831	3877	3 431	3 410	3 461
Total non-current assets	118546	139670	142766	134217	132 666	131 812	131 327
Current assets							
Inventory	417	412	433	537	535	532	540
Taxation recoverable	57	77	191	281	281	281	281
Trade and other receivables	6551	7662	8784	9259	8 894	8 840	8 973
Cash and cash equivalents	1699	4878	4423	6252	1 255	4 894	8 711
Other Investments (Short-term)	0	0	388	674	-	-	-
Total current assets	8724	13029	14219	17003	10 964	14 547	18 504
Total assets	127270	152699	156985	151220	143 630	146 360	149 831
Liabilities							
Non-current liabilities							
Long-term borrowings	22662	31749	28632	28375	29 566	30 273	31 078
Taxation Liabilities	0	0	0	350	-	-	-
Deferred tax liabilities	5109	6642	7377	6486	6 486	6 486	6 486
Post employment benefits	104	240	237	87	87	87	87
Provisions	306	533	497	482	500	497	504
Trade and other payables	645	811	816	804	588	585	594
Total non-current liabilities	28826	39975	37559	36584	37 227	37 928	38 749
Current liabilities							
Short-term borrowings	4532	9624	11163	9906	-	-	-
Taxation liabilities	5123	4552	2874	1912	1 912	1 912	1 912
Provisions	356	373	497	559	490	487	495
Trade and other payables	11962	13398	14082	14698	15 305	15 213	15 441
Total current liabilities	21973	27947	28616	27075	17 707	17 612	17 848
Total liabilities	50799	67922	66175	63659	54 934	55 540	56 597
Net assets	76471	84777	90810	87561	88 697	90 820	93 235
Total equity							
Opening balance		76471	84777	90810	87561	88697	90820
Total comprehensive income		12934	8545	3381	6914	7583	7875
Common dividend paid		-4179	-4187	-4769	-5103	-5460	-5460
Share repurchase		-1000	0	-2125	-675	0	0
Other		551	1675	264	0	0	0
Closing balance	76471	84777	90810	87561	88697	90820	93235
Total equity and liabilities	127270	152699	156985	151220	143630	146360	149831

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 3: Historical and forecasted free cash flows Vodafone Group PLC

Vodafone Group PLC free cash flow in Em	Historical year ended				Forecasted year ended			
	2008	2009	2010	2011	2012E	2013E	2014E	
Total operating revenue	35 478	41 017	44 472	45 884	46 156	45 878	46 567	
Total operating expenses	28 279	33 351	37 748	39 181	40 296	40 054	40 655	
Other operating income (expense)	2 848	1 809	2 756	1 107	5 363	5 684	6 025	
EBIT (Adjusted)	10 047	5 857	9 480	5 596	11 223	11 509	11 938	
Tax charge	2 245	1 109	56	1 628	2 806	2 877	2 984	
Depreciation & Amortization	5 979	6 824	8 011	7 967	8 426	8 128	7 907	
Capital expenditure	5075	5909	6192	6219	6430	6391	6487	
Investment in working capital		347	-335	99	905	38	95	
Free cash flow	8 706	6 010	10 908	5 815	11 318	10 331	10 468	

Appendix 4: Vodafone Group PLC standalone DCF valuation

Beta levered:	$\beta_L (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,84
D/E	33 %
	1,05

Market risk premium:	Premium	Revenue
Europe	5 %	32015
US	5 %	24213
South Africa	6,73 %	5479
India	8,60 %	3855
Egypt	8,60 %	1329
Other	7,00 %	2642
Total	5,48 %	69533

Return on equity:	$R_f + (R_m - R_f) * \beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,48 %
Equity beta (levered)	1,05
Return on equity (Levered)	9,35 %

WACC:	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$
Return on equity (Levered)	9,35 %
Cost of debt (before tax)	5,25 %
Tax rate	25 %
Target D/(D+E)	25 %
WACC	8,00 %

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Terminal growth rate:	Reinvestment rate*Return on capital
Reinvestment rate:	
Capital expenditure	0
Depreciation	0
Investment in Working Capital	95
(EBIT-Taxes)	14 922
	0,64 %
Return on Capital:	
EBIT-Taxes	14 922
Fixed Assets (prior year)	131812
Non-cash working capital (prior year)	- 6 328
	11,89 %
Terminal growth rate	0,08 %

Explicit value	27647
Terminal value	104942
Enterprise value	132589
Cash & cash equivalents	6252
Total debt	38281
Equity value	100560
Outstanding shares	52478
Price per share	1,92

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 5: Historical and forecasted income statement C&WW

C&WW income statement in £m	Historical performance year ended			Forecasted performance year ended			
	2010	2011	Growth 10-11:	2012E	2013E	2014E	CAGR 11-14
Revenue:							
IP & Data	978	999	2,15 %	984	969	955	-1,50 %
Hosting & applications	240	263	9,58 %	291	322	356	10,60 %
Traditional voice & legacy	1047	995	-4,97 %	871	762	667	-12,50 %
Total revenue worldwide	2265	2257		2146	2053	1977	
Operating expense:							
Cost of sales:							
IP & Data	373	389	4,29 %	379	374	368	-1,84 %
Hosting & applications	66	72	9,09 %	80	88	98	10,68 %
Traditional voice & legacy	751	731	-2,66 %	640	560	490	-12,50 %
Total cost of sales	1190	1192		1099	1021	955	
Operating costs	644	623	-3,26 %	653	683	713	4,60 %
Depreciation & Amortization	268	285	6,34 %	281	284	286	0,10 %
Total operating expense	2102	2100		2033	1988	1954	
Other operating income (expense):							
LTIP	-14	9		0	0	0	
Exceptionals	-54	-15		0	0	0	
One-off demerger items	-153	-2		0	0	0	
Other income (expense)	-1	4		0	0	0	
Total other operating income (expense)	-222	-4		0	0	0	
Operating income (before tax) EBIT	-59	153		113	64	23	
Tax charge (credit)	-95	-69		5	5	5	
Operating income (after tax)	36	222		108	59	18	
Other Income (expense):							
Gain (loss) on disposal	-1	14		0	0	0	
Finance income	2	3		2	2	2	
Finance expense	-36	-30		-28	-29	-29	
Total other income (expense)	-35	-13		-26	-27	-27	
Profit after tax	1	209		82	33	-9	
Other comprehensive income	40	53		0	0	0	
Total comprehensive income	41	262		82	33	-9	

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 6: Historical and forecasted balance sheet C&WW

C&WW balance sheet in £m	Historical position year ended		Forecasted position year ended		
	2010	2011	2012E	2013E	2014E
Assets					
Non-current assets					
Intangible assets	932	919	904	889	875
Property, plant and equipment	974	983	998	1009	1018
Available-for-sale financial assets	1	0	0	0	0
Other receivables	24	24	23	22	21
Deferred tax assets	150	220	220	220	220
Total non-current assets	2081	2146	2144	2140	2134
Current assets					
Trade and other receivables	691	596	611	584	563
Inventories	17	47	30	27	26
Cash and cash equivalents	226	266	269	233	154
Total current assets	934	909	909	844	742
Non-current assets classified as held for sale	0	2	0	0	0
Total assets	3015	3057	3053	2984	2876
Liabilities					
Current liabilities					
Trade and other payables	1013	936	899	836	782
Loans and obligations under finance lease	25	30	0	0	0
Provisions	43	30	35	33	32
Current tax liabilities	13	12	12	12	12
Total current liabilities	1094	1008	946	881	826
Net current liabilities	160	99	37	37	84
Non-current liabilities					
Trade and other payables	1	0	0	0	0
Loans and obligations under finance lease	221	245	282	282	275
Financial liabilities at fair value	1	2	2	2	2
Provisions	160	155	149	143	138
Retirement benefit obligations	167	91	91	91	91
Total non-current liabilities	550	493	524	518	506
Total liabilities	1644	1501	1470	1399	1331
Net assets	1371	1556	1583	1585	1544
Total equity					
Opening balance	378	1371	1556	1583	1585
Total comprehensive income	41	262	82	33	-9
Common dividend paid	0	-117	-55	-31	-32
Share repurchase	0	0	0	0	0
Other	952	40	0	0	0
Closing balance	1371	1556	1583	1585	1544
Total equity and liabilities	3015	3057	3053	2984	2876

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 7: Historical and forecasted free cash flows C&WW

C&WW free cash flow in £m	Historical year ended		Forecasted year ended		
	2010	2011	2012E	2013E	2014E
Total revenue	2265	2257	2146	2053	1977
Total operating expense	2102	2100	-2033	-1988	-1954
Other operating income (expense)	-222	-4	0	0	0
EBIT	-59	153	113	64	23
Tax credit (charge)	95	69	-5	-5	-5
Depreciation & Amortization	268	285	281	284	286
Capital expenditure	-279	-282	-266	-255	-217
Investment in working capital		-25	-29	-36	-32
Free cash flow	25	200	93	52	54

Appendix 8: C&WW standalone DCF valuation

Beta levered (2012E):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,49
Tax rate	4,43 %
D/E	17,81 %
	0,573395454

Return on equity (2012E):	$R_f + (R_m - R_f) * \beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,00 %
Equity beta (levered)	0,573395454
Return on equity (Levered)	6,47 %

WACC (2012E)	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$
Return on equity (Levered)	6,47 %
Cost of debt (before tax)	10,35 %
Tax rate	4,43 %
D/(D+E)	15 %
WACC	6,98 %

Beta levered (2013E):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,49
Tax rate	7,76 %
D/E	17,81 %
	0,570490297

Return on equity (2013E):	$R_f + (R_m - R_f) * \beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,00 %
Equity beta (levered)	0,570490297
Return on equity (Levered)	6,45 %

WACC (2013E)	$Re(1-(D/(D+E))+Rd(1-t)(D/(D+E)))$
Return on equity (Levered)	6,45 %
Cost of debt (before tax)	10,35 %
Tax rate	7,76 %
D/(D+E)	15,12 %
WACC	6,92 %

Beta levered (2014E):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,49
Tax rate	21,78 %
D/E	17,81 %
	0,55825497

Return on equity (2014E):	$Rf+(Rm-Rf)*\beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,00 %
Equity beta (levered)	0,55825497
Return on equity (Levered)	6,39 %

WACC (2014E)	$Re(1-(D/(D+E))+Rd(1-t)(D/(D+E)))$
Return on equity (Levered)	6,39 %
Cost of debt (before tax)	10,35 %
Tax rate	21,78 %
D/(D+E)	15,12 %
WACC	6,65 %

Beta levered (Terminal value):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,49
Tax rate	0,26
D/E	33 %
	0,609658

Return on equity (Terminal Value):	$Rf+(Rm-Rf)*\beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,00 %
Equity beta (levered)	0,609658
Return on equity (Levered)	6,65 %

M&A: The Case of Vodafone and Cable & Wireless Worldwide

WACC (terminal value)	$R_e(1-(D/(D+E))+R_d(1-t)(D/(D+E)))$
Return on equity (Levered)	6,65 %
Cost of debt (before tax)	10,35 %
Tax rate	26 %
Target D/(D+E)	25 %
WACC	6,90 %

Terminal growth rate calculations:	Reinvestment rate*Return on capital	
Reinvestment rate:		
Capital expenditure		0
Depreciation		0
Investment in Working Capital	-	32
(EBIT-Taxes)		18
		-178,21 %
Return on Capital:		
EBIT-Taxes		18
Fixed Assets (prior year)		2140
Non-cash working capital (prior year)	-	257
		0,95 %
Terminal growth rate		-1,70 %

Explicit value	177
Terminal value	499
Enterprise value	677
Cash & cash equivalents	266
Total debt	275
Equity value	668
Outstanding shares	2621
Price per share	25,5

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 9: “Historical” and forecasted income statement merged entity without synergy

Merged entity income statement without synergy in £m	Historical performance year ended		Forecasted performance year ended		
	2010	2011	2012E	2013E	2014E
Revenue:					
Europe	32833	32015	31999	30655	30195
AMAP	11089	13304	13849	14916	16064
Other	2815	2822	2453	2360	2285
Total operating revenue	46737	48141	48301	47931	48544
Operating expense:					
Cost of sales	30 629	32 006	32 983	32 714	33 124
Operating costs	9 221	9 275	9 345	9 327	9 485
Total operating expense	39850	41281	42328	42042	42609
Other operating income (expense):					
Share of result in associates	4 742	5 059	5 363	5 684	6 025
Other income (expense)	- 2 208	- 6 170	-	-	-
Total other operating income (expense)	2534	-1111	5363	5684	6025
Operating income (before tax) EBIT	9421	5749	11336	11574	11961
Tax charge (credit)	- 39	1 559	2 811	2 882	2 989
Operating income (after tax)	9460	4190	8525	8691	8971
Other income (expense):					
Non-operating income (expense)	- 11	3 036	0	0	0
Investment income	718	1 312	509	506	513
Finance expense	- 1 548	- 459	- 2 038	- 1 581	- 1 619
Total other income (expense)	-841	3889	-1529	-1076	-1105
Profit after tax	8619	8079	6995	7616	7866
Other comprehensive income	-33	-4436	0	0	0
Total comprehensive income	8586	3643	6995	7616	7866

M&A: The Case of Vodafone and Cable & Wireless Worldwide

Appendix 10: “Historical” and forecasted balance sheet merged entity without synergy

Merged entity balance sheet without synergy in €m	Historical position year ended		Forecasted position year ended		
	2010	2011	2012E	2013E	2014E
Assets					
Non-current assets					
Goodwill	51838	45236	45236	45236	45236
Other intangible assets	23352	24241	24070	23917	23778
Property, plant and equipment	21616	21164	20234	19551	19148
Investments in associations	36377	38105	38101	38101	38101
Other investments	7591	1381	1381	1381	1381
Available-for-sale financial assets	1	0	0	0	0
Deferred tax assets	1183	2238	2238	2238	2238
Post employment benefits	34	97	97	97	97
Trade and other receivables	2855	3901	3453	3432	3482
Total non-current assets	144847	136363	134810	133952	133461
Current assets					
Inventory	450	584	565	559	566
Taxation recoverable	191	281	281	281	281
Trade and other receivables	9475	9855	9504	9424	9536
Cash and cash equivalents	4649	6518	1523	5127	8864
Other investments (short-term)	388	674	0	0	0
Total current assets	15153	17912	11873	15392	19246
Non-current assets classified for sale	0	2	0	0	0
Total assets	160000	154277	146684	149344	152707
Liabilities					
Non-current liabilities					
Long-term borrowings	28853	28620	29848	30556	31353
Taxation liabilities	0	350	0	0	0
Deferred tax liabilities	7377	6486	6486	6486	6486
Post employment benefits	404	178	178	178	178
Provisions	657	637	649	640	642
Trade and other payables	817	804	588	585	594
Financial liabilities at fair value	1	2	2	2	2
Total non-current liabilities	38109	37077	37751	38446	39255
Current liabilities					
Short-term borrowings	11188	9936	0	0	0
Taxation liabilities	2887	1924	1924	1924	1924
Provisions	540	589	525	520	527
Trade and other payables	15095	15634	16204	16048	16223
Total current liabilities	29710	28083	18652	18493	18673
Total liabilities	67819	65160	56404	56939	57928
Net assets	92181	89117	90280	92405	94779
Total equity					
Opening balance	85155	92181	89117	90280	92405
Total comprehensive income	8586	3643	6995	7616	7866
Common dividend paid	-4187	-4886	-5157	-5491	-5492
Share repurchase	0	-2125	-675	0	0
Other	2627	304	0	0	0
Closing balance	92181	89117	90280	92405	94779
Total equity and liabilities	160000	154277	146684	149344	152707

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Appendix 11: "Historical" and forecasted free cash flows merged entity without synergy

Merged entity free cash flow without synergy in £m	Historical year ended		Forecasted year ended		
	2010	2011	2012E	2013E	2014E
Total revenue	46737	48141	48301	47931	48544
Total operating expense	39850	41281	42328	42042	42609
Total other operating income (expense)	2534	-1111	5363	5684	6025
EBIT	9421	5749	11336	11574	11961
Tax charge (credit)	- 39	1 559	2 811	2 882	2 989
Depreciation & amortization	8279	8252	8707	8412	8193
Total capital expenditure	6471	6501	6696	6646	6704
Investment in working capital		74	876	-74	63
Free cash flow	11 268	6 015	11 411	10 383	10 523

Appendix 12: DCF valuation merged entity without synergy

(Value is explicitly used to find value of synergy and does not equal the real value of merged entity without synergy)

Market risk premium:	Premium	Revenue
Europe	5 %	34272
US	5 %	24213
South Africa	6,73 %	5479
India	8,60 %	3855
Egypt	8,60 %	1329
Other	7,00 %	2642
Total	5,47 %	71790

Beta levered	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,84
Tax rate	24,90 %
D/E	33 %
	1,0481772

Return on equity:	$R_f + (R_m - R_f) * \beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,47 %
Equity beta (levered)	1,0481772
Return on equity (Levered)	9,33 %

WACC	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$
Return on equity (Levered)	9,33 %
Cost of debt (before tax)	5,30 %
Tax rate	24,90 %
Target D/(D+E)	24,85 %
WACC	7,99 %

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Explicit value	27 827
Terminal value	105495
Enterprise value	133 322
Cash & cash equivalents	6518
Total debt	38556
Equity value	101 284

Appendix 13: “Historical” and forecasted income statement merged entity including synergy

Merged entity income statement without synergy in £m	Historical performance year ended		Forecasted performance year ended		
	2010	2011	2012E	2013E	2014E
Revenue:					
Europe	32833	32015	31999	30655	30195
AMAP	11089	13304	13849	14916	16064
Other	2815	2822	2453	2360	2285
Total operating revenue	46737	48141	48301	47931	48544
Operating expense:					
Cost of sales	30 629	32 006	32 983	32 714	33 124
Operating costs	9 221	9 275	9 345	9 327	9 485
Total operating expense	39850	41281	42328	42042	42609
Other operating income (expense):					
Share of result in associates	4 742	5 059	5 363	5 684	6 025
Other income (expense)	- 2 208	- 6 170	-	-	-
Integration costs			- 113	- 113	
Total other operating income (expense)	2534	-1111	5250	5571	6025
Operating income (before tax) EBIT	9421	5749	11223	11461	11961
Tax charge (credit)	- 39	1 559	2 811	2 782	2 889
Operating income (after tax)	9460	4190	8412	8678	9071
Other income (expense):					
Non-operating income (expense)	- 11	3 036	0	0	0
Investment income	718	1 312	509	506	513
Finance expense	- 1 548	- 459	- 2 038	- 1 581	- 1 619
Total other income (expense)	-841	3889	-1529	-1076	-1105
Profit after tax	8619	8079	6883	7603	7966
Other comprehensive income	-33	-4436	0	0	0
Total comprehensive income	8586	3643	6883	7603	7966

Appendix 14: “Historical” and forecasted balance sheet merged entity including synergy

Merged entity balance sheet without synergy in €m	Historical position year ended		Forecasted position year ended		
	2010	2011	2012E	2013E	2014E
Assets					
Non-current assets					
Goodwill	51838	45236	45236	45236	45236
Other intangible assets	23352	24241	24070	23917	23778
Property, plant and equipment	21616	21164	20234	19551	19148
Investments in associations	36377	38105	38101	38101	38101
Other investments	7591	1381	1381	1381	1381
Available-for-sale financial assets	1	0	0	0	0
Deferred tax assets	1183	2238	2238	2238	2238
Post employment benefits	34	97	97	97	97
Trade and other receivables	2855	3901	3453	3432	3482
Total non-current assets	144847	136363	134810	133952	133461
Current assets					
Inventory	450	584	565	559	566
Taxation recoverable	191	281	281	281	281
Trade and other receivables	9475	9855	9504	9424	9536
Cash and cash equivalents	4649	6518	1523	5127	8864
Other investments (short-term)	388	674	0	0	0
Total current assets	15153	17912	11873	15392	19246
Non-current assets classified for sale	0	2	0	0	0
Total assets	160000	154277	146684	149344	152707
Liabilities					
Non-current liabilities					
Long-term borrowings	28853	28620	30093	30802	31593
Taxation liabilities	0	350	0	0	0
Deferred tax liabilities	7377	6486	6486	6486	6486
Post employment benefits	404	178	178	178	178
Provisions	657	637	649	640	642
Trade and other payables	817	804	588	585	594
Financial liabilities at fair value	1	2	2	2	2
Total non-current liabilities	38109	37077	37997	38692	39495
Current liabilities					
Short-term borrowings	11188	9936	0	0	0
Taxation liabilities	2887	1924	1924	1924	1924
Provisions	540	589	525	520	527
Trade and other payables	15095	15634	16204	16048	16223
Total current liabilities	29710	28083	18652	18493	18673
Total liabilities	67819	65160	56649	57185	58168
Net assets	92181	89117	90034	92159	94539
Total equity					
Opening balance	85155	92181	89117	90280	92405
Total comprehensive income	8586	3643	6995	7616	7866
Common dividend paid	-4187	-4886	-5157	-5491	-5492
Share repurchase	0	-2125	-675	0	0
Other	2627	304	0	0	0
Closing balance	92181	89117	90280	92405	94779
Total equity and liabilities	160000	154277	146929	149590	152947

Appendix 15: "Historical" and forecasted free cash flows merged entity including synergy

Merged entity free cash flow without synergy in £m	Historical year ended		Forecasted year ended		
	2010	2011	2012E	2013E	2014E
Total revenue	46737	48141	48301	47931	48544
Total operating expense	39850	41281	42328	42042	42609
Total other operating income (expense)	2534	-1111	5250	5571	6025
EBIT	9421	5749	11223	11461	11961
Tax charge (credit)	39	1 559	2 811	2 782	2 889
Depreciation & amortization	8279	8252	8707	8412	8193
Total capital expenditure	6471	6501	6696	6479	6537
Investment in working capital		74	876	-74	63
Free cash flow	11 268	6 015	11 299	10 537	10 790

Appendix 16: DCF valuation merged entity including synergy

(Value is explicitly used to find value of synergy and does not equal the real value of merged entity including synergy)

Beta levered (2012E):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,84
Tax rate	25,04 %
D/E	33,33 %
	1,046301962

Return on equity (2012E):	$R_f + (R_m - R_f) * \beta_L$
Risk-free interest rate	3,60 %
Market risk premium	5,47 %
Equity beta (levered)	1,046301962
Return on equity (Levered)	9,32 %

WACC (2012E)	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$
Return on equity (Levered)	9,32 %
Cost of debt (before tax)	5,25 %
Tax rate	25,04 %
Target D/(D+E)	25,00 %
WACC	7,97 %

Beta levered (2013E):	$\beta_u (1 + (1-t) (D/E))$
Industry beta unlevered (corrected for cash)	0,84
Tax rate	24,28 %
D/E	33,33 %
	1,049815341

Return on equity (2013E):	$R_f + (R_m - R_f) \cdot \beta_L$	
Risk-free interest rate		3,60 %
Market risk premium		5,47 %
Equity beta (levered)		1,049815341
Return on equity (Levered)		9,34 %

WACC (2013E)	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$	
Return on equity (Levered)		9,34 %
Cost of debt (before tax)		5,25 %
Tax rate		24,28 %
Target D/(D+E)		25,00 %
WACC		8,00 %

Beta levered (2014E):	$\beta_u (1 + (1-t) (D/E))$	
Industry beta unlevered (corrected for cash)		0,84
Tax rate		24,16 %
D/E		33,33 %
		1,050097448

Return on equity (2014E):	$R_f + (R_m - R_f) \cdot \beta_L$	
Risk-free interest rate		3,60 %
Market risk premium		5,47 %
Equity beta (levered)		1,050097448
Return on equity (Levered)		9,34 %

WACC (2014E)	$R_e(1 - (D/(D+E))) + R_d(1-t)(D/(D+E))$	
Return on equity (Levered)		9,34 %
Cost of debt (before tax)		5,25 %
Tax rate		24,16 %
Target D/(D+E)		25,00 %
WACC		8,00 %

Beta levered (Terminal value):	$\beta_u (1 + (1-t) (D/E))$	
Industry beta unlevered (corrected for cash)		0,84
Tax rate		25,00 %
D/E		33,33 %
		1,047738834

Return on equity (Terminal value):	$R_f + (R_m - R_f) \cdot \beta_L$	
Risk-free interest rate		3,60 %
Market risk premium		5,47 %
Equity beta (levered)		1,047738834
Return on equity (Levered)		9,33 %

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WACC (Terminal value)	$R_e(1-(D/(D+E)))+R_d(1-t)(D/(D+E))$
Return on equity (Levered)	9,33 %
Cost of debt (before tax)	5,25 %
Tax rate	25,00 %
Target D/(D+E)	25,00 %
WACC	7,98 %

Explicit value	28 068
Terminal value	107294
Enterprise value	135 362
Cash & cash equivalents	6518
Total debt	38556
Equity value	103 324

Appendix 17: Value C&WW including synergy

Equity value C&WW excl. synergy	667
Value synergy	2227
Integration cost	187
Equity value C&WW incl. synergy	2 707
Price per share in pence incl. synergy	103,28

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