Mergers and Acquisitions:

The case of United and Continental Airlines

Jorge Miguel Braga Ferreira

(152412043)

Advisor: Peter Tsvetkov

Dissertation submitted in partial fulfillment of requirements for the degree of MSc. in Finance at Universidade Católica Portuguesa

September, 2014

Abstract

The US airline industry is characterized to be an industry with a high competition mainly in the domestic segment. In order to face this competition several airlines entered in mergers and acquisitions (M&A) deals as way to consolidate its position in the market. This trend was accentuated with the global recession that brought several challenges to this industry. For this reason, the merger between United and Continental Airlines, two major US carriers, are being planned and its valuation and analysis are the focus of the present dissertation. By taking in account the current conditions of both airlines are estimated potential synergies of around 37,4% of the merged airline' equity value without synergies which represent 69% of the current Continental's market capitalization, the airline seen as the target. Given this, it is suggested an offer with a premium of 21,6% over the current Continental's market capitalization which will constitute a deal of $3,018 million, which is here suggested to be paid all in stock.

Acknowledgments

The author would like to acknowledge to his advisor: Peter Tsvetkov by his availability and feedback provided which were crucial for the development of the present dissertation. Also he would like to express his acknowledge to his family by their supporting provided during the last months.

List of Contents

List of Appendixes

1. Introduction

The present dissertation has as main objective to analyze a merger and acquisition (M&A) deal by presenting the strategic and financial reasons to engage in and the possible synergies arise from it. In order to conduct this analysis is presented a real case, the merger between the United and Continental Airlines which announced their merger in 2010.

The period between 2008 and 2009 were characterized to be a period of hard economic conditions derived from the global recession which affect severely all the industries and put in risk the survival of several firms. The airline industry, as cyclical industry, was not exception by which was visible an increase in the debate about M&A's deals as way to increase the profitability and sustainability at long-term in this industry. Before that is analyzed the above mentioned real case in order to evaluate the possible benefits that can arise from the deal and if it is actually a way to increase their profitability.

Firstly, in the literature review are given a theoretical context about the main methods used in firm valuation as well as the main aspects related with the M&A deals which are referred and used in the practical part of the dissertation.

In the next section, the section 3, is presented an analysis of the US airline industry to contextualize and explain the environment which both airlines faced at the time as well as the visible trends stated in the last years. In this section is also analyzed each of one of the airlines in order to provide a portrait of the firms situation and their recent trends.

In section 4 is presented the valuation of each airlines as standalone with the explanation of the assumptions taken and the results achieved. After the valuation of the airlines in an independent way, the section 4 presents the valuation of both airlines together however, without taking in consideration the possible synergies that can arise from the deal. These synergies are approached in section 5 in which is analyzed their possible sources as well as the valuation of the merged airline with the synergies estimated.

Finally, the section 6 approaches the main issues related with the M&A transaction being presented the conclusions of the present dissertation in section 7.

2. Literature Review

The M&A's are an important component of an economy being a way to increase the effectiveness and the profitability of the evolved firms and the same time solve problems such as the excess capacity of the industry (Koller et al. 2010).

However, the M&A environment is highly changeable and complex where transactions involve a considerable amount of money (Bruner 2004). Several M&A's transactions fail being the most common reason the fact of the acquirer firm has overpaid the target one. For these reasons, the valuation assumes a central role in this context since is crucial to calculate the value of the target firm as well as the value of the expected benefits in a feasible way (Petitt and Ferris 2013).

Therefore, in order to provide a framework of the M&A's transactions, this section contains a literature review of the main firm valuation approaches and of the main issues related with the M&A's.

2.1. Valuation Approaches

According with Koller et al. (2010) the value is 'the defining of measurement in a market economy' being a useful measure of performance since it takes in account not only the long-term interests of the shareholders but also of the stakeholders. Therefore, the valuation is assumed as one of the key business skills in order to face business dilemmas by providing information to the managers (Bruner 2004).

The process of choice of the appropriated valuation 'approach is not straightforward being susceptible to several factors such as the objectives of the valuation, the characteristics of the firm or the preference of the analyst that are performing the valuation (Petitt and Ferris 2013).

Damodaran (2006) refers that there are four major approaches to valuate a firm. The first approach is the discounted cash flow (DCF) which is based in the present value of the expected cash flows generated by the firm. The second approach, the liquidation and accounting valuation, is based on the value of the present firm's assets. The third, called of multiple or relative valuation, values the firm by the use of multiples of comparable' firms. Finally, the last approach is the contingent claim/option valuation that conducts the valuation through the use of option pricing models.

None of the methods are seen as the right, in the absolute sense, for valuate a firm since there is uncertainty about the future in each of the values projected (Chaplinsky et al. 2000). Besides that, the numerous of events that occurred in last decades had influence in the validity of the methods and the assumptions that they are based on (Torrez et al. 2006). However, despite these facts, the DCF and the multiples approaches are the most popular and widely used methods among the analysts (Bancel and Mittoo 2014). Thus, in order to provide a more deep understanding, is analyzed these two approaches in the following sections.

2.1.1.Discounted Cash Flow approach (DCF)

According with Steiger (2008) the DCF method is based on a set of predictions about the future of the firm's business activity being a method that relies on forward looking data. In this line, the author state that the firm's value is based on the net present value (NPV) of its future free cash flows (FCF) discounted by a discount rate (r):

$$NPV = \sum_{t=0}^{n} \frac{FCF_t}{(1+r)^t} \tag{2.1}$$

The FCF corresponds to the amount of cash that is not required for operations or reinvestment activities (Brealey et al. 2006). Concerning to the discount rate, the weighted average of cost of capital (WACC) is indicated as the appropriated one to determine the NPV (Chaplinsky et al. 2000) being their use a consensus point in the finance literature. The WACC will be deeply analyzed in the next section.

This method is one of the most used among the analysts as were shown in different surveys such as the ones conducted by Schall et al. (1978) and Stanley and Block (1984). According with Koller et al. (2010) the popularity of this method is related with the fact that it bases exclusively on the flow of cash in and out of the firm and not on accounting-based earnings. However, there is some reluctance about their feasibility which arises mainly from the uncertainty related with the projections of growth in revenue and earnings that are required (Feldman 2005). For its turn Kaplan (1986) states that the limitations of the DCF method are in fact limitations of the user and not of the technique. Actually, in a study conducted by Kaplan and Ruback (1996) they concluded that the estimations obtained by the DCF method are more close to the actual values than the multiples one thus demonstrating a better performance of this method.

2.1.1.1. Cost of Capital

According with Pratt and Grabowski (2008) the cost of capital is "the expected rate of return that the market participants require in order to attract funds to a particular investment". It also can be seen, in economic terms, as the opportunity cost of an investor, their required rate of return on assets of similar risk (Bruner 2004). So, the cost of capital represents the cost of firm's financing in order to pursue their activity that can be a variety of sources since equity to debt passing from several instruments that are available to firms as ways to financing (Modigliani and Miller 1958).

The finance literature states that the firm's cash flows should be discounted at a rate that represents the firm's risk characteristics. As the firm's capital structure consists in equity and debt, the most common and more appropriated rate to use is the WACC which is a rate that takes in account the proportion of each of type of financing after tax cost of capital used (Mitra 2011). The WACC is calculated from the following formula (assuming only two kinds of financing: equity and debt):

$$WACC = \frac{D}{V} k_d (1 - T_m) + \frac{E}{V} k_e \quad (2.2)$$

Where k_d is the cost of debt, k_e the cost of equity, T_m is the marginal tax rate and $\frac{D}{V}$ and $\frac{E}{V}$ represents the ratio of each source of finance in the total value of the firm. In this line Fernández (2011) states that the WACC is an weighted average of two significant components: a cost that is from debt and an required return, more specificlly the required return to equity, that according with the author is not a cost.

In general the finance literature states that to calculate the WACC should be used the target market weights of both sources of financing instead of current book weights in order to reflect the current conditions of the market. When the management repay the debt and if not want to change the capital structure it will repurchases shares and this must to do in market values. Other aspect is that the current weights may not represent the normal observable capital structure and so must be used the target weights that will prevail in the future (Koller et. al 2010 and Bruner 2004).

In terms of the cost of debt (k_d) it is calculated after taxes to reflect the benefits of the tax deductibility of the interest (Brotherson et. al 2013). In its calcultion is commonly used the promised yield on newly issued debt of a firm (Erhardt 1994),

however, Cooper and Davydenko (2001) state that this way is not correct being necessary a measure that reflects the probability of default. According with Pratt and Grabowski (2008) in certain situations the rate that the firm pays is not the current rate of the market and not reflects the current conditions of the firm, only reflecting the conditions of the time in which was issued. So, to take in account the current conditions of the firm, the analyst can use the debt 'firm rating and infer from it the level of interest that the firm will pay according with their condition.

In its turn, the cost of equity (K_e) is commonly calculated through the Capital Asset Pricing Model (CAPM) which is given by the following formula:

$$K_e = R_f + \beta(R_m - R_f) \quad (2.3)$$

According with Bruner (2004) this method is the most appropriated since it focus explicitly in the risk-return relationship however, Koller et. al (2010) states that this method no provide enough guidelines to use in firm valuation namely in the estimation of each of its components. Despite the criticism about their use, the CAPM keeps as the most popular method as can be seen in the survey conducted by Welch (2007) in which 75% of finance professors recommend the use of this method to calculate the cost of equity. In the following subsections the author analyzes in more detail each component of the CAPM.

2.1.1.1.1. Risk-free rate (R_f)

The risk-free rate is the first component of the CAPM model and according with Férnandez (2004) it is the rate that is obtained from the acquisition of governments bonds at the date of the estimation of the cost of equity.

Koller et. al (2010) state that in order to calculate in a consisiting way the cost of equity and consequently the cost of capital should be use a government bond with a maturity equal to the time that is expected that cash-flows will be generated. However, the authors mentioned that the analysts frequently choose for simplicity the 10-year government bonds as proxy in the case of U.S. In other hand, Mukherji (2011) conducted a empirical study in order to analyse the best proxy for the risk-free rate in the U.S market and concluded that the Treasury bills are the best proxies to this rate than the long-term government bonds at any investment horizon since they have less market and inflation risk exposure.

Beside the importance of the choice of the type of security to use as proxy for the risk-free rate, Damodaran (2008) states that it is also equal important the use of a risk-free rate denominated in the same currency of the cash-flows estimated in order to achieve an accurate result.

2.1.1.1.2. Beta (β)

The other component of CAPM is the beta which is a parameter that measures how much the stock moves face to changes in the market (Koller et. al 2010).

In the finance literature is evidenced that the beta estimation for an individual firm is not the most adequate practice since contains some statistical noise. In order to surpass this problem the analysts estimate the betas for a set of comparables of the firm valuated that operate in same business (Kaplan and Peterson 1998). According with Koller et al. (2010) this practice is better since as the estimated errors are not correlated across the firms, the possible misleading valuations of individual firms tend to be cancel when calculated an average of the industry beta. For this it is need to exclude the leverage effect in order to only compare the operating risks that the firms are facing. This fact lead us to the use of the unlevered beta (or asset beta) which relationship with the leverege beta is given by the follow equation:

$$\beta_l = \beta_u \left(1 + (1 - t)\frac{D}{E}\right) \tag{2.4}$$

Where β_l is the leverege beta, β_u is the unleverege beta, *t* is the marginal tax rate and $\frac{D}{E}$ is the debt-to-equity ratio. After this process the unleverege beta needs to be adjusted to the current capital structure of the firm which will give the appropriated leverege beta. In the same way, Welch (2014) purpose the use of the unleverege beta of the firm valuated at the first stage in order to not introduce misleadings in the results arised from the kind of financing use in the different firms of the industry. The author also states that the use of betas of the industry is valuable mainly in situations in which the firm is private and their investors are well diversified.

In its turn, Kaplan and Peterson (1998) highlight that usually the analysts exclude the conglomerate firms from the estimation of the industry betas but these firms in some cases represent a significant share of the market which exclude them can introduce bias in the beta estimated due the negative correlation between the market capitalization and

betas. According with Berk (1995) this relationship comes from the fact that the firms with a higher risk have a smaller market capitalization due the additional risk premium incorporate in the discount rate of them. The beta, that measures the systematic risk, will be higher for the firms that have a smaller market capitalization misleading the beta' industry estimation. In order to solve this aspect, Kaplan and Peterson (1998) purpose a calculation of a market-capitalization-weighted industry beta that is achieved by a cross-sectional regression of the individual betas against the industry percentages, which take in consideration the share of their sales that is attributable to the industry.

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

The last component of the CAPM is the market risk premium that is the difference between the expected market return and the risk-free rate, or in more secific words, it is the expected rate of return that a risky project should be offer in excess of which the risk-free projects are offering (Welch 2014).

Brealey et. al (2001) state that the average market risk premium over the last 73 years is around 9 percent a year but in other hand Ibbotson and Chen (2003) for the same period estimate a market risk premium about of 5,9% . This is only two of several estimations given by several authors which ranging in a significant interval. Actually none model is universally accepted as the most adequate to estimate the market risk premium (Koller et. al 2010) and exist always the doubt if the period analyzed is a typical period where from which can be infered the market risk premium (Brealey et. al 2001)

The historical arithmethic average of the risk premium is viewed among the several methods proposed by the finance literature as the better tool to calculate the market risk premium since the arithmetic average is very well accepted as the best unbiased estimator (Koller et. al 2010). However, there is some concerns about this method since it assumes independent returns and the evidence suggests autocorrelation in it which indicates the opposite (Kaplan and Ruback 1995).

Beside the use of historical average of the market risk premium, the finance literature refers the realization of surveys to the analysts or investors in order to ask directly their perception about the market risk premium and the use of forward-looking models, namely the Gordon's model, in order to isolate the cost of equity which it is

assumed that equals the return expected by the market, as common alternatives used to calculated this component (Fernández 2004).

2.1.1.2. The Free Cash Flow to the Firm (FCFF)

The FCFF method is one of the most common DCF approach used by the analysts to calculate the firm value (Kaplan and Ruback 1996). According with Stowe et al. (2007) the FCFF is 'the cash flow available to the company's suppliers of capital after all operating expenses (including taxes) have been paid and necessary investments in working capital and fixed capital have been made'.

As referred by Eston et al. (2013) the first step in the calculation of this method consists in to forecast the FCFF for each period for a certain time horizon (between 4 to 10 years) and discounts them by an appropriate rate. The second step consists in to determine the terminal value in the post-horizon period. The sum of these two parts will provide the firm value as the following equation shows (Damodaran 2002):

$$Value\ of\ Firm = \sum_{t=1}^{t=n} \frac{FCFF_t}{(1+WACC)^n} + \frac{\left[\frac{FCFF_{n+1}}{WACC-g}\right]}{(1+WACC)^n} \qquad (2.5)$$

It is common the use of the Earnings Before Interest and Taxes (EBIT) of the firm as point of start to calculate it FCFF (Stowe et al. 2007) which relationship between them are given by the following equation (Bruner 2004):

$$FCFF = EBIT(1-t) + Depreciation - Capex - \Delta NWC + \Delta Deferred\ Taxes \qquad (2.6)$$

Where Capex is the capital expenditures and the NWC is the net working capital corresponding to the investment and operational expenses mentioned in the definition provided above. In terms of the discount rate, as the FCFF is the cash flow generated by the firm and that is available for all investors including the debt holders and equity holders (Steiger 2008), the WACC is indicated as the most appropriated rate since takes in account the firm's capital structure (Koller et al. 2010). Other important fact is that this FCFF does not include tax benefits related with interest payments since this will be taken in account when the cash flows are discounted by the WACC which already incorporates the after-tax cost of debt considering the benefits of it. Face this, the cash flows before

the tax advantage of debt are the most adequate to calculate the FCFF (Damodaran 2002 and Shrieves and Wachowicz 2001).

2.1.1.2.1. Terminal Value

From a certain point of time is unreasonable to estimate the FCFF for each period once there is less justification for the variables variation due the distance on the time (Quackenbush 2013) whereat can be applied a perpetuity-based formula after the explicit period which result will correspond to the terminal value (TV) (Koller et al. 2010). The perpetual constant growth model is the most used model to estimate the TV of a firm (Lütolf-Carroll and Pirnes 2009) assuming that the FCFF will growth at a constant rate in perpetuity (Gentry and Reily 2007) as shown in the equation 5.

Frequently the TV has a significant impact in the estimated firm value becoming a key factor in this process (Cornell 1993) as shown by Bruner (2004) that analyzed a sample of stocks of the New York Stock Exchange and found that the TV accounts for about 90% of their share prices. Due its importance is crucial to make a realistic estimation of the main economic value generators: the period of time, the growth rate (which will be analyzed in the next section) and the base FCFF that needs to be representative of the business' future and from which the extrapolation will be made (Lubian 2010).

Aside of perpetual constant growth approach, the multiples method is also commonly referred in the finance literature as a way to determine the TV. In this approach the analyst searches for comparable firms in the industry of the firm analyzed and try to find a relevant multiple in that industry to determine the TV (Lütolf-Carroll and Pirnes 2009).

Finally, a special case occurs when is expected that the firm will cease their operations in the future. In this case is more suitable consider the liquidation value as TV which represents the value of the assets that are expected to obtain in a fire sale at a certain point of the future (Damodaran 2002).

2.1.1.2.1.1. Long-term growth rate

The long-term growth rate is one of the main inputs in the calculation of the TV which, as stated in the previous section, accounts for a large portion of the total estimated firm's value. It is visible that small changes in the long-term growth originates significant

changes in TV and consequently in the firm value whereat it plays an important role in the valuation process but the fact of it be based in the judgment has originate several debates about their estimation (Rotkowski and Clough 2013).

The sum of the expected long-term rate of consumption growth of the respective industry (or real growth) and the expected inflation for the economy is seen by the most of the authors as the best estimation for the long-term growth rate (Koller et al. 2010). This estimation takes into consideration not only the expected real growth rate but also the capacity of the firm to surpass the effects of the inflation (Bruner 2004).

The growth rate, in most of the cases, is in a range from 0 % to 5 % having to be positive since the economies always grow at long-term (Steiger 2008). However, the long-term growth rate shouldn't be greater than the growth rate of the economy since as the firm grows is more difficult for it maintain a higher growth rate due the competitive conditions at long-term, converging to an equal or lower level of the economy's growth rate (Damodaran 2002 and Feldman 2005).

2.1.1.3. The Adjusted Present Value (APV)

In the previous method all future cash flows are discounted at a constant WACC but to it be constant is assumed that debt financing doesn't have impact on the rate and the debt ratio of the firm remains unchanged over the time (Booth 2002). However, in most of the cases these conditions are not observable. The firm's debt ratio tends to grow in a consistent way with the firm's value or the firms can plan to change their capital structure over the time, factors that have impact on the cash-flows that are used to repay the debt. However, a constant WACC not takes in account these types of situations and would overstate the present value of future tax shields of the debt (Thompson 1997 and Koller et al. 2010). Faced with this situation, most of the authors purpose the use of the APV approach as the most adequate way to surpass it.

According to Luehrman (1997), the APV approach, unlike the WACC, disintegrates and examines the financial operations separately. The author states that it views the value of the levered firm as the sum of the firm as totally financed by equity (base-case) with the all incremental cash flows that arises from the leverage:

$$APV = Base - case\ value + Value\ of\ all\ financing\ side\ effects \quad (2.7)$$

In the calculation of the base-case is need to consider the firm without debt and discount it free cash flows by it unlevered cost of equity that is the cost of the equity assuming that not exist debt on the firm's capital structure (Damodaran 2002 and Stowe et al. 2007). The financing side effects includes both the benefits and the costs related with the leverage namely the interest tax shields that arises from the tax deduction of the interests, the subsidies to debt financing from the governments, the costs of issue new securities and the direct and indirect costs related with financial distress (Ross et al. 2002). These effects should be discounted at the borrowing rate since the debt service is predetermined and are independent of the future firm's performance (Inselbag and Kaufold 1997).

Some authors, as Fernández (1995) and Inselbag and Kaufold (1997), demonstrated that both the APV and WACC approaches are equivalents yielding the same results when appropriately applied. However, the APV approach is seen as the most adequate and practical to implement when the firm has a non-fixed debt ratio over the time (Inselbag and Kaufold 1997) and by the fact of be a method that provides information to the managers about which are the sources of value's creation (Luehrman 1997).

2.1.2.Multiples valuation approach

The valuation of equity using multiples is one of the most used methods as has been evidenced in several studies such as the Carter and Van Auken (1990) and Bancel and Mittoo (2014). The popularity of this method is mainly related with their simple way to compute being possible to realize it with many fewer assumptions and in a speedily way compared with the cash flow valuation. Moreover, the multiples method helps to test the feasibility of the cash flows and it is a method that reflects the current situation of the market and their prespective in respect of which firm is more able to create value compared with the competitors (Koller et. al 2010). However, Damodaran (2002) states that as multiples reflects the market mood this can imply a high estimation when the market is overvaluing comparable firms and a low estimation when the market is undervaluing comparable firms thus not reflecting the reality.

The finance literature in general mentioned three essential aspects that are need to take in account when this method is used: the choice of the multiple, it calculation and the definition of the firm's comparables.

According to Eberhart (2004) the choice of the multiples is one of the main aspects to take in account since the valuation can be significantly sensible to the ratio, sometimes inducing in not feasible results.

The enterprise value to earnings before interest, taxes, depreciations and amortizations (EV/EBITDA) is one the most used multiple and according with Koller et. al (2010) used as a point of start once it contains essential information about the firm namely the growth rate, the return on invested capital (ROIC), the operating tax rate and the cost of capital. The same author states that the use of the multiple EV/EBITDA is more appropriated than the use of the ratio with the earnings before interests and taxes (EV/EBIT) since the depreciations and amortizations are an accounting artifact that arises from past acquisitions and are not tied with future cash flows distorting the results. However, the EV/EBITDA has also some limitations mainly the fact that not includes the changes in working capital and capital investments (Férnadez 2001).

Other common multiple used is the price-earnings ratio (P/E) that is a ratio of the firm's current share price to it per share earnings. According with Gaughan (2011) this multiple is more appropriate if the historical earnings of the firm were stable given a more accurate prediction. However, when it is compared with the EV/EBITDA the last one are more feasible because it only accounts for operating performance while the P/E ratio is affecting by the firm's capital structure and it net income is calculated after nonoperating items and one-times gains and losses which can artifficaly increase or decrease it (Koller et. al. 2010).

The multiples mentioned above are only two of a set of different multiples that can be choosen to valuate a firm but the effectiveness differs between them. Lie and Lie (2002) conducted a research about the feasibility of several multiples and concluded that the estimation achieved with the asset multiple are more exact when compared with multiples related with earnings or sales. In other hand, Chaplinsky et. al (2000) states that the market multiples are more subject to distortions and consequently less effective due the market misvaluations and accounting policies.

Also is important to take in account the implications of the use of forward looking multiples and the historical ones. According with Koller et. al. (2010) the forward-looking multiples are more feasible when compared with the historical ones since they are consisting with the valuation principle of that the value of the firm should be equal to the

present value of future cash flow. Liu and Thomas (2002) conducted a research about this aspect and found that the multiples based on forward earnings explain reasonably well giving a better measure of the performance than the historical and cash flows measures. However, Lie and Lie (2002) concluded in their study that there are not improvement in the estimation with the use of forward looking multiples instead of historical even with adjustments for firm's cash level. In the same way, Bruner (2004) states that the use of forward looking multiples can not be the most appropriated choice mainly in growth firms since the growth rate of the follow period can be higher which can induce in misleading.

Other fact that is need to take a special attention is the way as the multiples are calculated, or in other words, if they are calculated in a consistent way to not induce in misleading results (Koeller et. al 2010). Damodaran (2002) states that one of the key tests in the calculation of a multiple is examine if the numerator and denominator of it are defined consistently, for instance if the numerator is an equity value the denominator should also be in order to give an accurate result.

Finally, the choice of the comparable firms is the other crucial issue in the multiples method. According with Eberhart (2004) the firm's comparables are the set of firms that are in the the same industry of the valued firm. Damodaran (2002) states that a comparable firm is one that has similar cash-flows as well as similar potential growth for long-term and risk level. In addition, Koller et. al (2010) states that beside the similar outlooks for long term-growth, the comparable firms needs to have a similar ROIC. So, to form the peer group of the valued firm is need to choose firms that have charatectirsts related with the production, distribution and research and development (R&D) that leads mainly to similar figures of growth and ROIC.

2.1.2.1. Transaction multiples

In the specific case of M&A's, the use of comparable transactions as benchmark to valuate the target firm is a common practice where the analysts base their valuation on a range of previous acquisitions in order to establish a framework (Chaplinsky et. al 2000 and Gaughan 2011)**.**

This approach is similar with the general multiples valuation mentioned above by using most of the same multiples. The main difference is that this method reflects in their multiples the premium paid in other transactions which are not present in the traditional

multiples giving to the acquiring firm a guideline about what was practiced before (Bruner 2004).

According with Chaplinsky et. al (2000) the analysts needs to compare the target firm with similar deals from last year or two in order to calculate the median and average transaction multiples. Most similiarly is the previous acquisitions with the the one that the analyst is valuating most information he get about how the market has valued assets of this type.

2.2. Mergers and Acquisitions (M&A)

M&A is a strategy followed by firms for corporate restructuring and control that has an important role in external corporate expansion (Piesse et. al 2013) and it is one of the most important instruments by which the firms respond to changes in environments conditions and use to expanding their operations in order to increase their long term profitability (Bruner 2004).

Typically, M&A transactions are complex and there are many important issues that influence the own transaction and the performance of the post-acquisition firm that are needed to take in account. Some of these issues are addressed by the author in the following sections.

2.2.1.Types of M&A

Damodaran (2002) refers that there are several ways of one firm acquire another one, being possible to classify them as merger, consolidation, tender offer, acquisition of assets, leverage buyouts or management buyouts.

A merger is the grouping of two or more companies by purchase acquisition whereby only one of companies maintain their identity while the others are being dissolved with the integration (Ferrer 2012). In this case, the acquiring firm assumes all assets and liabilities of the acquired firm ceasing it existence and giving shares in the new entity or cash to their former shareholders by the sell. Usually, in a merger there is a visible acquirer that is the larger firm whose management will be responsible for the new entity, however there is also situations in which both firms' dimension is similar, called of merger of equals, and so both management boards are responsible in the new entity (Brealey et. al 2001).

According with Gaughan (2011) a consolidation is a transaction in which all the companies are dissolved to create an entirely new entity and it is the only one that continues to operating. In this case the original firms cease to exist and their shareholders become shareholders in the new entity. According with author the term consolidation is more adequate when both firms involved in the transactions are approximately with the same dimensions.

In the case of a tender offer, Brealey et. al (2001) refers that it is a direct takeover attempt realized by outsiders to the shareholder's target to buy their stock ignoring, in most of the cases, the directors board 'opinion of the target. The acquired firm keeps their identity and it is a separated entity, the only difference is that now is owned by the acquirer firm which obtained the control. According with Damodaran (2002) the acquired firm remains a separated entity once there are minority shareholders that not sell their position, however most of the tender offers tend to become mergers when these shareholders decide to sell.

In its turn, in the purchase of assets the acquiring firm acquires the assets of the target firm. Usually the target firms sell only part of their assets and the payment is frequently made directly to the selling firm rather than to the shareholders (Brealey et. al 2001) but is needed a formal approval of them to engage in the deal (Damodaran 2002).

The last two types of acquisitions: leverage buyout (LBO) and management buyout (MBO) differs from the others mentioned. According with Brealey et. al (2001) the LBO is an acquisition conducted by a group of investors in which the acquired firm becomes a private firm and their shares cease to trade in the markets. The main feature of a LBO is the fact that a significant proportion of the acquisition is financed with debt. A MBO differs from a LBO only because the group of investors is led by the current management of the firm whose becomes owner-managers and remain in administration of it.

In the finance literature the authors regularly also classify the mergers as horizontal, vertical or conglomerate mergers but according with Ross et. al (2002) the acquisitions also can be classified in the same way.

According with Ross at al. (2002) and Gaughan (2011) horizontal acquisitions happens when both firms involved in the acquisition are in the same industry and are

direct competitors in the market for what the main goal of the acquirer is the increase of their market power. For its turn, a vertical acquisition happens when the firms has a buyer-seller relationship, or in other words, are in different stages of the production process which allows the acquirer firm integrate more stages of the production cycle in their core business. Finally, an acquisition is classified as conglomerate when the companies are not related and are not competitors which the main goal is create value for the shareholders with a higher level of diversification.

Lastly, many authors in the finance literature also classify the acquisitions according with endorsement of the target's management: hostile versus friendly acquisitions. Morck et al. (1988) refer that a hostile acquisition typically happens when the target's management board refuses from the start the proposal made by the acquiring firm and put barriers in the achievement of an agreement being the friendly acquisition the opposite situation.

2.2.2.Reasons for M&A

In the finance literature are provide a large number of reasons that motivate the firms to engage in acquisitions deals however not all of them translates in an increase of the shareholder's wealth.

According with the efficiency theory, the synergies are one of the main reasons for the firms to engage in acquisition's deals (Trautwein 1990). If the acquirer firm is more efficient than the target firm and both are in the same industry, so the acquiring firm can engage in an acquisition deal since it is able to increase the efficiency of the acquired firm at least to their efficiency level taking advantage of synergies (Piesse, et. al 2013). To test the validity of this theory, Mukherjee (2003) conducted a survey to CFO's of 721 firms involved in acquisitions and mergers realized between 1990 and 2001 and concluded that actually the main reason for acquisitions is the synergies with 37,3 % of the answers.

The increase of market power is other very common reason use for proceed with an acquisition. According with Piesse (2013) the increase of the market power allows the firm to control the quality, price, and supply of its products due the scale of its production and allows the firm to achieve higher profits and at the same time place barriers to new entrances in the market contributing for a higher growth rate.

Frequently the firms use the acquisitions also to increase their competiveness through the achievement of economies of scale, economies of scope or economies of vertical integration. When firms engage in an acquisition deal with the purpose of achieve economies of scale it wants to take the opportunity of spread the fixed costs with a higher level of production (Brealy et. al 2001). For its part, economies of scope are economies of scale applied not only a product but a set of products that are produced jointly and that allows the firm decreases the costs of production that would not be possible with the production of only one of them (Motis 2007). Finally, with the vertical integration the firm add closely related activities which becomes easier the coordination of the operations increasing the efficiency and decreasing the costs (Ross at al. 2002).

Other motive behind the acquisitions is related with the improvement of managerial efficiency. Ross at al. (2002) and Jensen and Ruback (1983) stated that the value to some firms could be increased by the changing of their management. Some firms managers are resistant in to adapt their strategies and the own structure of the company to the changes of the market and technological conditions becoming their management inefficient. So, the acquirer firm can see an opportunity to acquire these firms and benefit of a more efficient management from their managers contributing to a high level of profitability.

All these motives mentioned can contribute to an increase of shareholder's wealth however there are motives behind the acquisitions that can origin a decrease in their wealth placing them in a worst situation. The managerial hubris, the free cash-flow and the agency motive theory are the most frequent motives mentioned in the finance literature that can have a harmful influence in the wealth's shareholder.

The managerial hubris hypothesis was proposed by Roll (1986) and states that the managers of the acquiring firms can be overconfident about their abilities in the management of the target firm and as consequence they are more willing to overpay for it which can induce future losses to the shareholders.

In part linked with the previous one, the agency theory states that managers tend to seek their own individual goals and maximize their welfare in expense of the shareholders. In the case of a diversified firm and where the management not own a significant proportion of the firm 'shares they tend to pursue strategies that will give them more control and a higher compensation in expense of the shareholder's wealth (Piesse

et. al 2013). The managers when believe in their management abilities and that they are able to perform better the target firm are more willing to overpay for an acquisition in expense of the shareholders (Shleifer and Vishny 1989).

In terms of the cash flow theory, Jensen (1986) states that the managers whose firm has a significant amount of excess cash are more likely to engage in acquisitions changing the payout policy which may lead to interest conflicts with the shareholders. The managers believe that spend the excess cash in acquisitions are more preferable than to pay it to shareholders. For them the payment of dividends will not bring benefits whereby the acquisitions are more attractive mean to conserve the corporate wealth (Shleifer and Vishny 1991).

At last, it is also used the diversification reason as motive to engage in acquisition deals, but it is considered by the majority of authors a dubious reason since it not have a linear impact on shareholder's wealth. According with Roberts et. al (2012) a large number of studies concluded that the unrelated acquisitions not reduce the risk faced by the acquired firm since a more diversified firm tends to place less effort in developing specifics tools and techniques to deal with individual problems related to its range of business.

2.2.3.Synergy and the acquisition premium

Synergies translates into the ability to make a combination of firms more profitable than they are individually, being this fact one of the most important in the determination of the premium paid by the acquirer (Gaughan 2011). According Ismail (2011) the post-merger equity value of the combined firm is the sum of equities value of each firm before the merger plus the present value of the synergies that will be generated (2.8):

$$V_e^{(combined)} = V_e^{(Acquirer)} + V_e^{(Target)} + Synergy \qquad (2.8)$$

The maximum price that the acquirer firm is able to offer is given by the difference between the equity value of the combined firm and the equity of the acquirer firm which translates in the sum of the equity value of the target with the synergies. This implies that the premium that the acquirer firm is willing to pay will depend of the estimated synergies (Davidson 1985). According with Eccles et. al (1999 the acquirer company needs to offer a higher price than the intrinsic value of the firm in order to incentive the target shareholders to engage in the deal and the highest value of acquisition will match the

intrinsic value plus the synergy value, taking in consideration that the acquirer shareholders avoid to achieve this value to not give all the synergies to target's shareholders.

However, Ismail (2011) states that managers use estimated synergies more to induce the shareholders to engage in the deal than to define the premium that will be paid in the acquisition. In addition, Slusky and Caves (1991) suggest that the maximum price depends not only of the willingness of the acquirer firm pays for these synergies but also of the willingness of the target's management. The target management has a tendency to lower the maximum price of the acquirer firm to conserve its independence and the bargaining power between the parties.

Towards this, the measure of synergies is a crucial point in an acquisition transaction. According with Cullinan et. al (2007) to calculate the value of the synergies is need to distinguish the different types of synergies and measure the potential value and the probability that they will be realized. While the cost reductions are the most common factor mentioned as origin of synergies because can be realized in short term and the probability to occur is higher, Camara and Renjen (2004) says that the success of mergers depends mostly of the vision of how the combined firm is able to increase their revenues and market share as a combined entity, or in other words, the capacity of the firm to choose the best characteristics of the two firms that will contribute for the creation of value.

According to Damodaran (2005) the synergies can be classified according with the potential source in two major groups: operational synergies and financial synergies. The operating synergies translate in the capacity of the firm increase their operating income with a more efficient use of the existing assets by the combination with other firm whereas the financial synergies can be translate in a reduction in cost of capital or in higher cash flows due financial benefits, as interest tax shields, in the new entity.

Concerning to operating synergies and according with Devos et. al (2009) they can be divided in two categories: the synergies that origin is the increase of operating profits and the synergies that comes from the savings from reductions in investments. If a firm engages in a merger primarily to increase the market share or the market power it is expected that the operational synergies will come from a higher operating income due the revenue increase or costs savings. On other hand, if a merger occurs primarily to take

advantage of scale or scope economies, the operating synergies will be originating due the revenue increases or costs savings but also from reductions in investments. Regarding with financial synergies, the author stated that it is observable if the primarily reason of the merger is tax reasons or a decrease in cost of capital.

Despite the motives behind the merger, the success of it and the realization of the synergies depend of an efficient deployment of economic resources with a good coordination of business assets and an effective management team (Slusky and Caves 1991).

2.2.4.Methods of payment

The method of payment is an important factor along with the expected synergies that influence the premium paid for the acquisition (Wansley et. al 1983). The success of the transaction and the future benefits from it can be strictly dependent of the choice of the payment form, if is in cash, stock or a combination of two (Ismail and Krause 2010).

According with Rappaport and Sirower (1999) in stocks payments the acquiring' shareholders give to target's shareholders a percentage of ownership in the new firm, establishing a ratio exchange of shares, whereby they share with them the risk of the synergies will not be materialized, however at the same time they also share the future value and will dilute their position in post-merger entity. In share payments the acquiring firm can choose between fixed shares modality, where the number of shares is fixed but the value can change between the announcement date and the closing date not affecting the ownership structure, and fixed value modality where the value of the shares is fixed and the final ownership structure only is establish in the closing date when the final price is defined. In terms of cash payments the authors stated that it is a simple transfer of ownership where the acquiring shareholders support the entire synergy risk but avoiding the dilution of their position in the new entity.

In general it's observable that the shareholders of the target company prefer the cash payment from the acquirer and in fact empirical studies demonstrates that the target's shares suffer a significantly positive return after the announcement for cash offers (Ismail and Krause 2010). However, when managers of the target firm values their influence in the combined firm will prefer the payment with shares rather than cash in order to enable them the job retention (Ghosh and Ruland 1998). Similar situation happens when the

shareholders have strong expectation in benefit from the future synergies (Rappaport and Sirower 1999). On the side of the acquiring firms the managers prefers cash payments to avoid ownership dilution and consequently avoid the loss of control in the firm post-merger (Harris and Raviv 1988) and empirical evidence shows that the acquiring shareholders in pure share offers suffer, in most of the times, significant losses (Travlos 1987).

The choice of the payment method is also related with the characteristics of the acquiring and the target's firm as well as with the environmental conditions. An acquirer company that wants to show that are confident in the deal and consequently take the risks tends to choose the cash payment (Rappaport and Sirower 1999). An acquiring firm that has a low cash balance when compared with the value of the acquisition tends to use stock as payment method (Martin 1996). If the acquirer firm believes that their shares are undervalued in the market tend to opt for a cash payment in order to avoid the issue of new shares. When a firm issues new shares to finance an acquisition, the market receives this issuance as a signal that the firm's managers believe that their shares are overvalued which consequently induce a drop in their value penalizing the current shareholders (Rappaport and Sirower 1999). When exists a real or potential competitor for the acquisition of the target's firm, the acquiring firm is more likely to use cash payment in order to anticipate the competition (Martin 1996).

It is also defined as economically important determinants in the choice of the payment method the return correlation between the stocks of the merging firms, if there are the existence of defense mechanism and whether the merger is hostile (Ismail and Krause 2010) being the last factor typically related with cash payments while the friendly transactions are associated with shares offers (Travlos 1987).

2.2.5.Post M&A returns

When a firm enters in an M&A strategy is with the aim to improve its profitability and increase the wealth of the current shareholders. Along of the last decades an extensive research has been done to analyze whether the M&A are profitable or conversely they translates in a wealth reduction for shareholders and these empirical studies demonstrated that mergers not provide a linear performance to the shareholders involved in the transaction.

According with Damodaran (2005) the presence of synergies will not necessarily translate in gains for the acquiring shareholders. The author states that the clear winners in M&A transactions are the target firms' shareholders earning significant returns not only in the days around the announcement of the transaction but also in the follow periods.

Jensen and Ruback (1983) reviewed much of the scientific literature about corporate takeovers and stated that the evidence shows that the shareholders of the acquirer firm earns profits close to zero in a merger case while the target shareholders earn significant profits with an average return around announcements of 20% in successful mergers.

Other studies focused more in long-term analysis than the periods around the announcement to analyze the returns for both shareholders. One of these studies was performed by Loughran and Vijh (1997) where they analyze five-year post acquisition returns using 947 mergers during the period between 1970 and 1989 taking in account the type of merger and the form of payment. They found that in transactions in which the cash is used as payment method the returns are higher, being this difference ranging from -25% in the case of stock mergers to 61,7% in the case of cash tender offers. According with the authors this findings are in line with the hypothesis that managers tend to choose stock as payment method when they believe that their firm is overvalued. Concerning with the target shareholders they found that in general they gains from the transactions however the shareholders who received stock as payment method for the transaction suffers a decrease in their gains level over time.

Agrawal et. al (1992) also focused their research in long term returns after adjusting the firm size effect and the beta risk for a sample of mergers in which both parties are quoted in NYSE/AMEX and occurred between 1955 and 1987. They found that the acquiring shareholders suffers a wealth loss of around 10% over the five year after the merger and concluded that this finding not seems to be caused by changes in beta after the transaction.

Other authors focused in the returns to acquiring and target firm combined to analyze the net economic gain of the transaction. According with Bruner (2004) most of the researches performed concluded that the combined firms reported significantly positive returns which suggests that M&A does pay the investors in the combined acquirer and target firms.

Considering the several studies that are made about this subject is evident that the acquirer firm shareholders not necessarily receive the gains from the acquisition and the winners are the targets firm shareholders. As Damodaran (2005) stated even in cases where synergy is real, the acquiring shareholders get little or none of the benefits from it. One of the reasons to this happen is the fact that in a significant percentage of acquisitions the acquiring firms pay more than the total value of the synergies originating a worst situation for acquiring shareholders.

2.3. Conclusions

In last sections were covered the main firm valuation aspects as well as several issues about the M&A's transactions. As visible in the finance literature, the DCF and the multiples methods are the most popular and widely used to conduct a firm valuation by which these two methods will be applied in the present dissertation, always taking in account the details mentioned and covered in this section. Relatively to M&A transactions is concluded that it will not necessarily will translate in an increase of the shareholder's wealth by which is need to take in account the factors described above , namely the motive behind of the deal and the way that the synergies and consequently the premium to be paid are estimated.

After this theoretical context is analyzed the US airline industry in the next sections as well as the individual firms in order to give a portrait of their situation which is need to be take in account in the M&A valuation that are also approached in the following sections.

3. Industry and firms analysis

3.1. Analysis of US airline industry

3.1.1. Industry Overview

The US airlines industry accounts for a major part of the global airlines industry representing 40,3% of its value in 2009 (Datamonitor 2010). Focusing in the national US economy, this industry represented 5,2%[1] of its value in 2009 (with $1,3 trillion

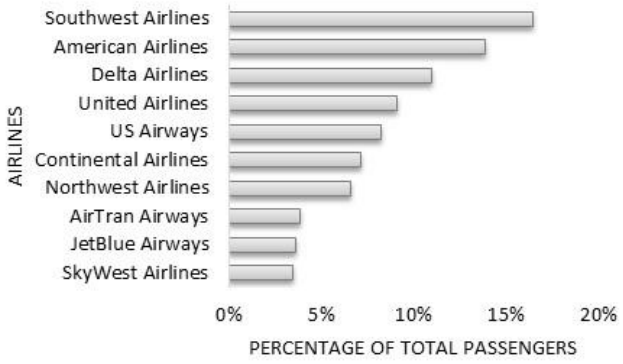
[1] Taking in account the entire civil aviation sector

generated) with an employment impact of 10,2 million jobs which represented 7,3% of the total jobs in that year (FAA[2] 2011).

This industry is characterized by having several types of firms with different segments of business by which the U.S. Department of Transportation (US DOT) classify them in four groups of carriers taking in account their revenues: the majors, the national, the regional and the cargo carriers (App. 1). The US airlines industry comprises around 100 certified passenger airlines which represents to approximately 10 million flight departures per year (Belobaba et al 2011). From these airlines, 17 was classified by US DOT as major passenger airlines in 2009 (App. 2) with an annual revenue of equal or over $1 billion. In terms of market capitalization, the US airlines industry valued $58 billion in 2009 in which the major airlines represented the majority of the most valuable airlines (App. 3).

The passenger transport is the primary source of the US airline industry accounting for 52% of the total operating revenue of this industry in 2009 (Fig. 2). A significant percentage of the passenger transport' revenues comes from the domestic market that represents the major segment accounting for 80,5% of the 768 million passengers transported in 2009. From these total, 50% were transported by the top four airlines in terms of number of domestic passengers transported (Fig. 1) while the top ten represents 83% of the total passengers. The remaining 19,5% represents the international market in which the top ten airlines were responsible by the transportation of 52% of the total international segment' passengers, being evident the competition of foreign carriers in this market (App. 4).

Figure 1: Top airlines in terms of domestic passengers transported-2009

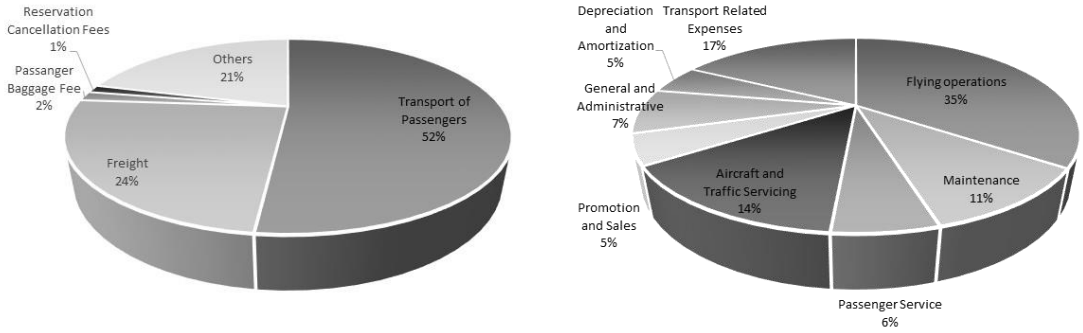


Source of data: Bureau of Transportation Statistics T-100 Market data. Percentages calculated by the author.

[2] Federal Aviation Administration

A common productivity' measure of an airline firm is the revenue passenger miles (RPM's) that can be compared with the available seat miles (ASM's) in order to calculate the overall passenger load factor. In 2009, the top 10 airline with both higher RPM's and ASMs are all major airlines (App. 5) representing 83% and 86% of the total industry' RPM's and ASM's respectively.

Figure 2: Components of the industry' operating revenue and operating expenses in 2009



Source of data: Bureau of Transportation Statistics. Percentages calculated by the author.

Besides the passenger transportation, there are other revenue sources in this industry namely the freight/cargo transportation that individually accounts for 24% of the industry' operating revenue in 2009 (Fig. 2). In these segment there are airlines leaders such as the FedEx and the UPS that exclusively transport cargo however, the passenger airlines also compete in this segment but in a small percentage with the top five passenger airlines representing only 21% (US DOT and ATA) of the total industry revenue ton mille (App. 6)

Concerning with the expenses, the flying operations expenses, which includes the fuel, represent 35% of the total operating expesnses of the industry in 2009 (Fig. 2) being the most significant component. Due the significant percentage of these expenses the industry is pretty exposure to fluctuations in the material and supplies prices (IBES 2011). Individually, the fuel expenses represents 21% of the total operating expenses of the US airlines industry demonstrating the importance of this component in this industry.

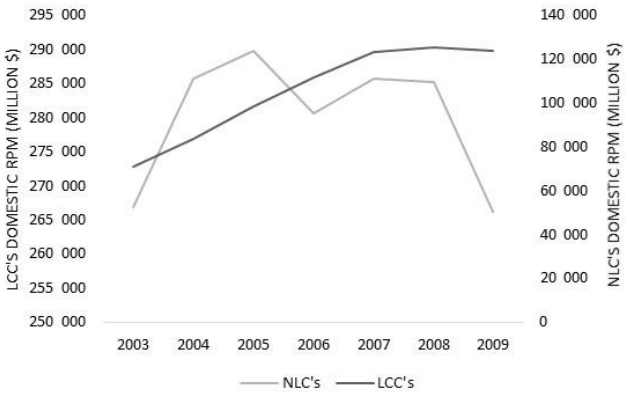
3.1.2.Competition environment

The US Airlines industry was deregulated in 1978 allowing the entrance of several low-cost carriers (LCCs). These airlines with a lower cost structure contributed for a higher competition and forced the established network legacy carriers (NLCs) to reformulate their strategies in order to maintain their market share (Belobaba et al. 2011).

This competition is mainly visible through the fares offered (App. 8) since the LCC's focus more in single flights rather than conduct the passengers through the hubs, the case of the NLC's, they are more able to reduce the costs achieving a higher margin to practice lower fares than the NLC's (Hüschelrath and Müller 2011).

In last years, the LCC's increase their RPM's and maintains a positive growth rates in the domestic market even in crisis periods (e.g. 2008-09 crisis) (Fig.3). Four of the major passenger airlines (Appendix 2) are LCC's being the Southwest the leader in terms of number of domestic passengers transported in 2009 (Fig. 1) and the most of top airlines in terms of higher operating profit in that year (App. 7) are LCC's, thus demonstrating the penetration of these airlines in the industry.

Figure 3: RPM for major NWCs and LCCs (2003-2009)[3]



Source: Bureau of Transportation Statistics T-100 Market data.

In addition, the NLC's also face a strong competition in the international segment from the foreign airlines due the several agreements of "open skies" between the US and other regions, as the European Union in 2008. This fact arouses some concerns for the US airlines as referred by Continental Airlines (2010): 'this competition may have a material adverse effect on our results of operations, financial condition or liquidity'. Moreover, the codesahring arrangements and international alliances as Star Alliance contribute also for the increase of competition from foreign airlines (Delta Airlines 2010).

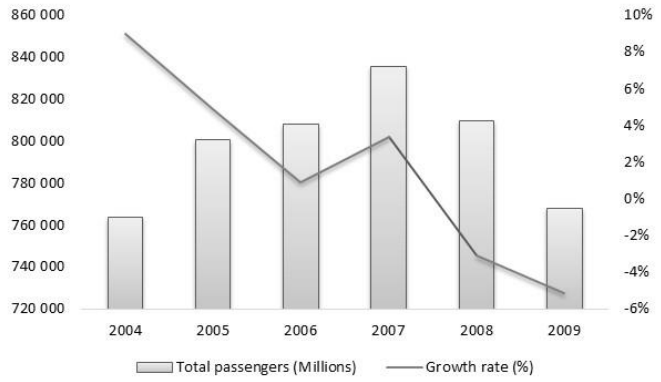
3.1.3.Recent trends

The recent global crisis affected severely the US airline industry in 2008 and 2009 being the deepest downturn experienced by this industry according with IATA[4] (2010).

[3] Based on the airlines classified by US DOT as major in 2009
[4] International Air Transport Association

The number of passengers transported in 2009 decreased 5,1% relatively to the previous year, accentuating the trend already observed in 2008 (Fig. 4) mainly in the domestic segment (App. 9) In order to minimize the impact of the weak passenger demand, the airlines reduced the passenger capacity by which there was a decrease of 7,3% in the number of enplanements in 2009 (FAA 2010) and a decrease of 5,9% in the ASM's (App. 7). However, despite this effort, the industry experienced a decrease of 4,7% in the RPM's in 2009 being the lowest performance of the last six years (App.10).

Figure 4: Total passengers transported in the US airline industry (2003-2009)



Source: Bureau of Transportation Statistics T-100 Market data. Percentages calculated by author

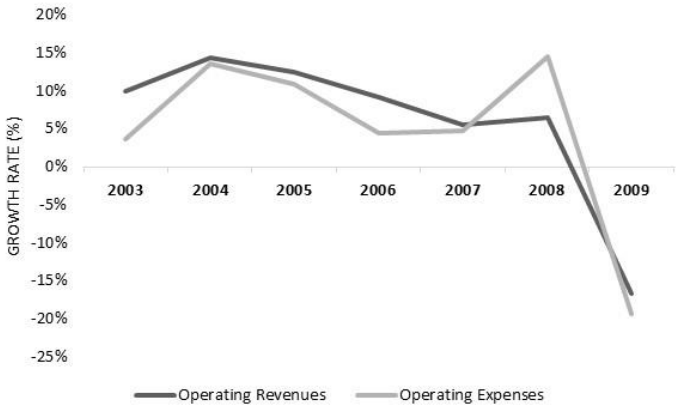
As stated by IATA (2010), the airlines industry is a capital intensive industry whereby a high asset utilization is the central point in order to decrease the weight of the fixed costs. If there is a decrease of the capacity, this means a decrease in the asset utilization increasing the weights of fixed costs whereat the airline will try compensate this with the increase of the fares. However, the increase of the fares was not viable in 2009 since the price competition significantly increase in this year leading to a lower price level (App. 8) which implicated a non-efficient result from the capacity cuts. The cargo demand also suffered a decline with a drop of $20.2 billion in cargo revenue (ATA 2010) mainly due the strong competition and the alternative shipping modes (FAA 2010).

The fuel costs was the main driver of industry' costs in 2009. In this year, the fuel price decrease significantly when compared with 2008 (App. 11) however, this period was characterized by a high volatility of the fuel price ranged from $147 per barrel to $33 per barrel in only five months (ATA 2010).

Towards this events, the operating revenue decreased 16,7% in 2009, the deepest decrease in the last seven years (Fig. 5). In terms of operating expenses they decreased

19,4% in 2009 after having achieved a record level in 2008, mainly drove by the 31,8% of reduction of fuel price relatively to the record prices observed in 2008 (FAA 2010).

Figure 5: Evolution of the operating revenues and expenses of US airline industry (2003-2009)



Source: Bureau of Transportation Statistics. Percentages calculated by author.

This results allowed the industry airlines to increase their operating profit in 2009 after having achieved the lowest level of the last four years in 2008 (App. 12). Despite this fact, the industry presented a negative net income in 2009 however, with a significant improve relatively to 2008 (App. 12).

3.1.4. General growth perspectives

For the next years is predicted a gradual recovery of the US and global economy. According with the Federal Reserve is estimated a US economy growth between 3% and 3,5% in 2010 increasing gradually until 2012, point at which it will be grow at a long run growth rate of between 2,5% and 2,8%. Consequently, this recovery will be translate also in a growth in the US airlines industry which is estimated to growth 22% in the period of 2009-2014 with an annual growth of 4,1% achieving a total value of $187,3 billion in 2014 (Datamonitor 2010).

In terms of passenger demand the FAA (2010) forecast a minor growth in 2010 with an increase of 0,3% in the RPM's and an increase of 0,5% in the passengers enplanements. According with FAA (2010) this growth will be more significant from 2011, year in which the RPM's is estimated to grow 2,6% and the passengers enplanements in 2,1%. It estimates that until 2030, the RPM's will grow at 3,5% a year and the passengers enplanements at 2,6%, supported by the US economy recovering and the fall of the fares 'level.

Focusing in the domestic market, the FAA (2010) estimates a decrease of the RPM's in 2010 but a recovery from 2011 with an increase of 2,6% and 3,3% in the RPM's and passengers enplanements respectively due the strengthening of the economy. In terms of the international segment is also expected an increase of 3,3% in the numbers of passengers in 2010 and from 2011 an annual average growth of 5%.

Regarding with cargo transportation, the FAA (2010), based in the evolution of the US GDP as primary drive, estimates a growth of 3,4% in the RTM's in 2010 and 4,9% in 2011, growing from this year at an average of 5.1% until 2030.

Concerning with the fuel price as the economic conditions are expected to improve it price is also expected to rise. According with IATA (2010) forecasts is expected an average oil price of $79 in 2010, increasing with the recovery of the economy however, this part of the costs has a significant component of uncertainty.

3.1.5. M&A trends in the industry

The deregulation of the US airline industry in 1978 allow the lifting of several operational restrictions and the free competition among the airlines creating also space for M&A deals. During the last decade, the US airline industry has experienced a restructuring with a significant increase of the number of M&A transactions. A significant number of these deals were between regional or small airlines in order to face the competition from the major airlines and increase their operations coverage however, other trend has become visible: the 'mega-mergers.

The 'mega-mergers' involve major airlines which have a significant percentage of the market, mainly of the domestic market, which incur in M&A deals in order to consolidate their position in it. This type of deals lead to a significant concentration of the ASM and consequently of the number of passenger transported to a fewer number of airlines as was demonstrated in Fig. 1. This fact is also evident in a study conducted by Johnston and Ozment (2011) in which is analyzed the Herfindahl-Hirschman Index that measures the industry concentration and through which they conclude that the concentration increased mainly from 2007 until to 2009 standing currently at a medium concentration level.

The merger between the US Airways and the America West in 2005 and the merger between Delta Airlines and Northwest Airlines in 2008 are the two main 'mega-

mergers' which change the US airline landscape but this type of deals tend to increase as be evident with the announcement of the United-Continental Airlines merger, the case which is here analyzed.

3.2. Firms analysis

3.2.1. United Airlines

3.2.1.1. Firm overview

The United Airlines is a US major airline established in 1926 whose operations focus in the transport of passengers, cargo and mail. In 2009, it was the third largest US airline in terms of capitalization (App. 3) and the fifth largest in terms of RPM in the US airline industry (App. 5). The United is the main subsidiary of the UAL Corporation representing almost the totality of its operations.

The airline operates around 3,300 flights per day by the own flights and the regional operators under capacity purchase agreements to more than 230 US domestic and international destinations from its main hubs: Chicago, Denver, Los Angeles, San Francisco and Washington Dulles airports. In 2009, the United had available 409 aircrafts for the mainline operations and 292 aircrafts for regional operations accounting with approximately 47,000 employees.

In terms of the domestic segment, the United operates around 80 destinations in US and Canada concentrating its activity primarily in the previous mentioned airports which they use as platforms to conduct the passengers through other United's flights or through regional flights operated in majority by independent regional carriers under capacity purchase agreements which complement the airline' offer. In 2009, the United was the fourth largest US airline in domestic's passengers transported with around 56 million passengers which represent approximately 9% of the industry total[5] (Fig. 1).

Regarding with the international market, the United operates around 150 international destinies including Trans-Atlantic, Latin America and Pacific flights being one of the largest international carriers based in United States with around 10 million passengers transported in 2009 (App. 4) which represented 7% of the total international' passengers transported in that year. The firm focuses mainly in the integration of domestic

[5] This percentage only includes the mainline operations

and international routes in order to increase the US territory covered by international flights. In addition, the United has numerous codeshare agreements and was one of the founders of the Star Alliance in 1997, which contributed to the increase of the firm' penetration in this segment.

Finally, in terms of cargo transportation, the airline provide both domestic and international services in which around 88% of the cargo's volume in 2009 is related with freight shipments and the remaining with mail transportation, being the airline responsible by the transportation of 5% of the total industry' RTM's in that year.

3.2.1.2. Operating revenues and expenses

The majority of United' revenues comes from the passenger transportation which accounted for 92% of the total United's operating revenues in 2009. The passengers revenues, measured by the RPM's, suffered a decrease of 10% in 2009 as compared with 2008 (App. 17) accentuating the trend already visible since 2007 as consequence of the global recession that affected the passenger travel demand (App.16). In order to maximize the operations efficiency towards the passenger demand drop, the United realized a capacity cut of around 10% in 2009 beyond those already realized in the previous years originating a decrease trend of the RPM's in last years (App. 17).

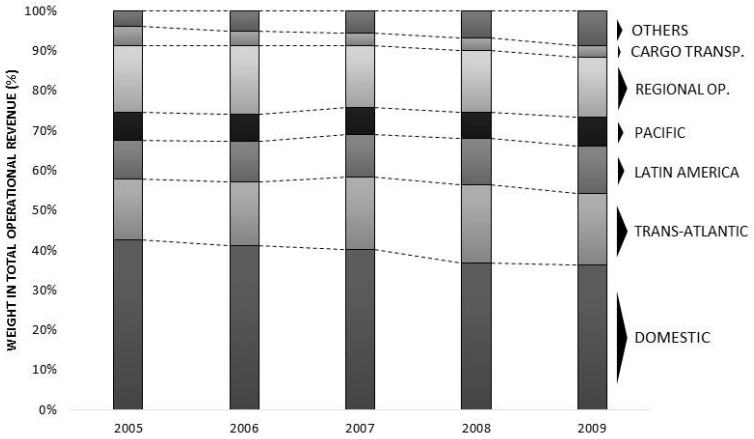
The domestic segment is the one that most contribute for the United' passenger revenues accounting for 65% of it and representing 47% of the total operating revenues in 2009 (Fig 6). This segment suffered a decrease of 11% and 21% in 2008 and 2009 respectively reflecting the global recession effect mentioned above. For its turn, the regional operations, which complements the domestic flights, are the second most important source of the United' operating revenues representing 11% of it in 2009. This segment also suffered a revenue decrease in 2009 however, of only 1%.

In the international segment, the United has significant revenues from the Pacific and Trans-Atlantic segments that each represented 12% of the total operating revenues in 2009. These two segments suffered a decrease in its revenues in 2009 being the most significant drop in Pacific segment which decreased 29% while the Trans-Atlantic segment dropped 18%.

Beside the passenger transportation, the United also realize cargo transportation services however, it only represented 3% of the total operating revenues in 2009 (Fig. 6).

Similarly with the other segments, the cargo transportation revenues suffered a drop of 37% in 2009 as compared with 2008 due the cargo capacity reduction, the lower demand and prices as well as the lower fuel surcharges on the cargo shipments.

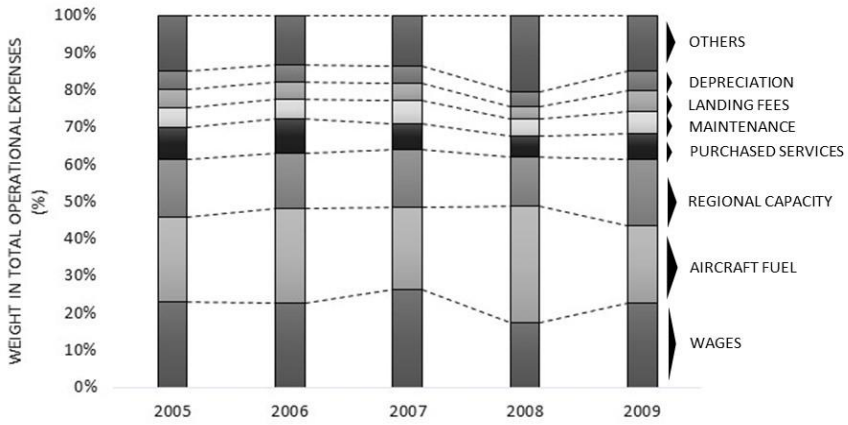
Figure 6. Evolution of the United's operating revenues components (2005-2009)



Source: United's Annual Reports. Percentages calculated by the author.

Relatively to operating expenses, the wages and aircraft expenses are the items that most contributed to the United' total operational expenses in last years, representing 21% and 23% respectively of it in 2009 (Fig. 6). The wages expenses after an increase trend in 2006 and 2007 decreased 14% and 12% in next two years respectively, mainly drove by the reduction of the workforce and the decrease of the severance expenses. In terms of the fuel expense it decreased 56% in 2009 after have increased 81% in 2008 due the record fuel's prices observed in that year (App.20). This fact had a significant impact in the regional operations expenses, which includes the fuel expenses of it, by which this item is the third most important in the total operating expenses, representing 18% of it in 2009.

Figure 7. Evolution of the United's operating expenses components (2005-2009)

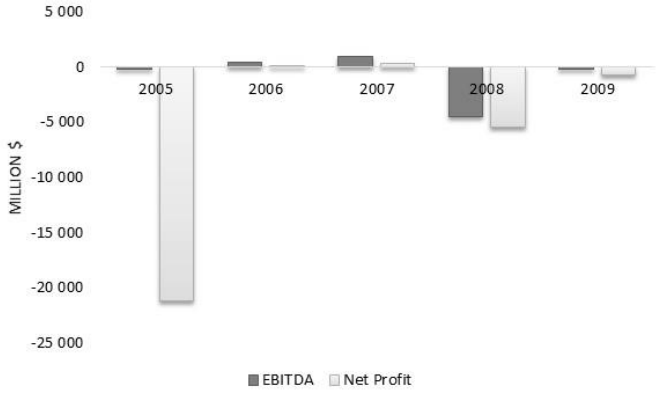


Source: United's Annual Reports

3.2.1.3 Profitability

Focusing in the EBITDA, as performance measure, is visible that the United presented in 2006 and 2007 a slight increase trend however, this trend was interrupted in 2008 by the global recession which affected severely the airline's operations resulting in the worst result of the last years (Fig. 8). Regarding with the last year, 2009, is visible that the airline recovered in comparison to 2008 demonstrating an increase in its profitability however maintaining its EBITDA in a negative level.

Figure 8. Evolution of the United's EBITDA and net profit (2005-2009)



Source: United's Annual Reports.

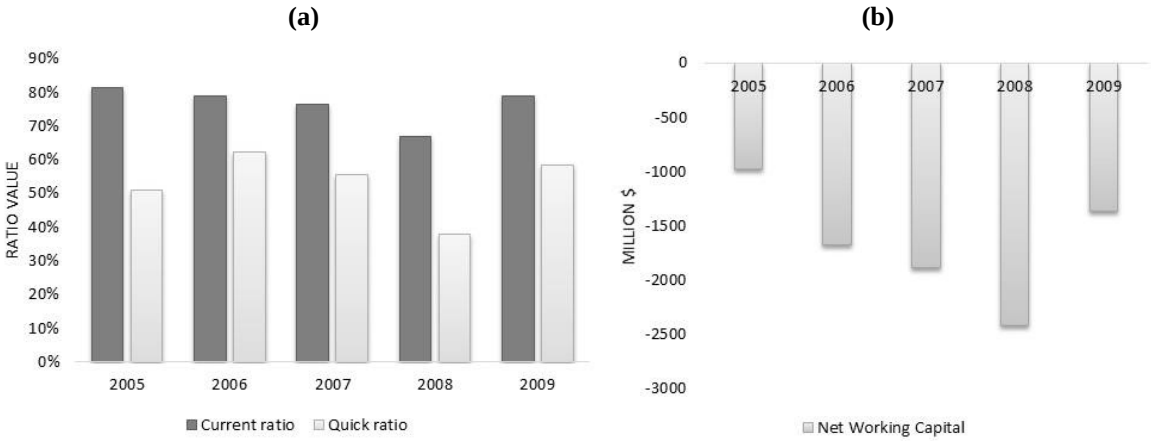
A similar trend was presented in terms of net profit which the worst result was recorded in 2005 due the airline' bankruptcy condition, followed by a slight recovery in the next two years. The year of 2008 was marked also for a deep negative net profit, identically to EBITDA, with a recovery in 2009 which demonstrated an increase in the airline' profitability despite the fact of it be yet negative. Comparing both measures with the US airline industry can be state that the United's followed an identical trend with exception for 2009 in which the industry presented a positive EBITDA on contrary of the United which demonstrate that the airline was more affected in their operations by the global recession than the industry overall (App. 12).

3.2.1.4. Liquidity

The United presented a current ratio always below 1 in the period of 2005-2009 (Fig. 9 (a)) which demonstrated that the firm can be unable of pay off its obligations if they came due once it's current assets are lower that it's current liabilities. The lower current ratio was recorded in 2008, reflecting the firm's difficulties due the global recession, being observed a slight improvement in 2009. In terms of quick ratio, the airline

presented the same trend (Fig. 9 (a)) which demonstrated that the firm has more current liabilities than liquid assets that can be used as primary source to pay it. Comparing with the ratios of the US airline industry is visible that the United was in line with its industry in the period of 2005-2007, however in last two years it presented lower ratios demonstrating a lower liquidity.

Figure 9. Evolution of United's current ratios, quick ratios and Net Working Capital (2005-2009)



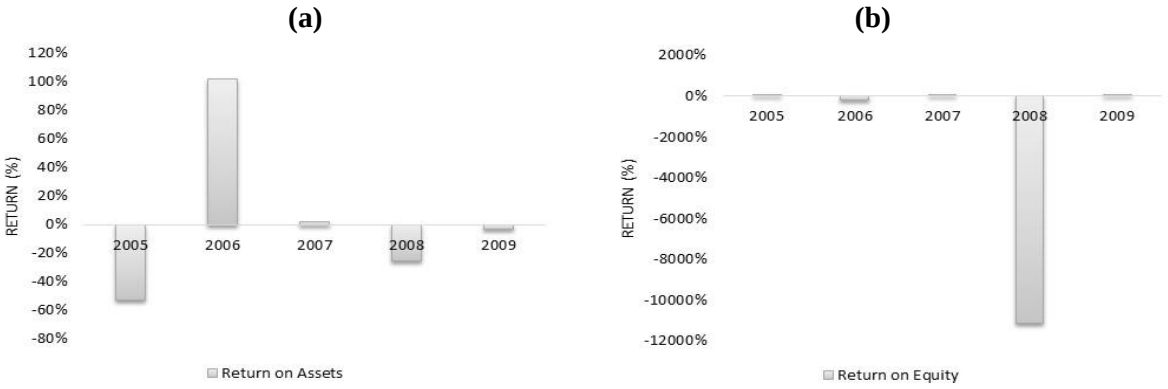
Source: United's Annual Reports. Ratios calculated by the author.

In terms of net working capital, the United presented negative results in the entire analyzed period (Fig. 9 (b)) which confirm the conclusions taken in the previous ratios of the disproportional quantity of current assets in relationship to the current liabilities.

3.2.1.5. Assets and equity

The United's return on assets (ROA) achieve their lower level in 2005 due the airline's bankruptcy condition mentioned above and which evidenced the decrease of the firm's capacity to use its assets to generate earnings. In the following two years, the airline recovered by which presented a positive ROA despite being very close of 0% in 2007. This trend was interrupted in 2008, year in which the airline presented the worst ROA since 2005 due the effects of the global recession on its operations, but being reverted in part during 2009 in which the return was -3%. This trend was similar to the one observed in the US airline industry being the negatives returns in 2005 and 2008 more pronounced than in the industry.

Figure 10. Evolution of United's return on assets and return on equity (2005-2009)



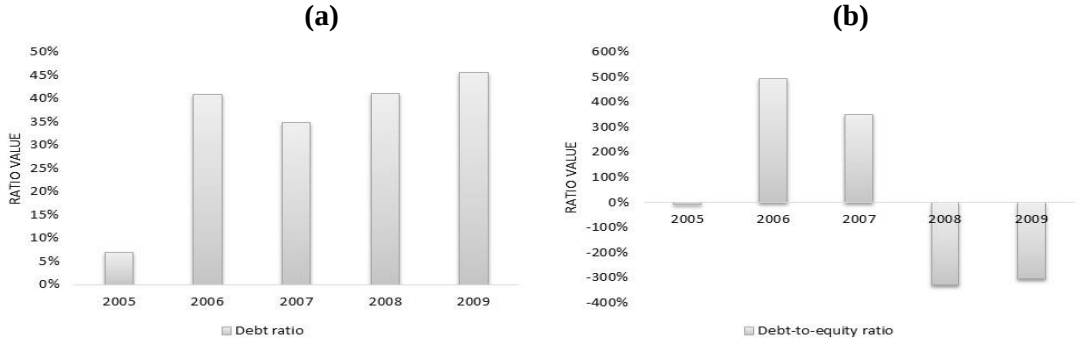
Source: United's Annual Reports. Returns calculated by the author.

Concerning with United's return on equity (ROE), the airline presented the lowest return in 2008, around of -11,000% (Fig 10 (b)) representing the worst year in terms of returns for the shareholders which reflected the significant impact of the global recession in the airline operations. In 2009, this return increase to 25% meaning a positive return for the shareholder due the improvement of the net income but yet negative which with the total shareholders' equity negative implied a positive return.

3.2.1.6. Debt

The United had an average debt ratio of 34% in the period of 2005- 2009 (Fig. 1a.), being slightly high than the industry average that was in 30% (App. 15). The main increase happened in 2006 in which the airline achieved a ratio of 41% compared with the 7% of 2005, due the raise in debt to financing the firm's exit of the bankruptcy and follow their reorganization plan. Since 2007, the firm had presented a debt ratio with a moderate increase trend standing in 46% in 2009. In this year, the airline presented a total debt of $8,543 in which $7,572 are long term debt incurred for the acquisition of aircrafts and equipment's in previous years and long-term obligations in operating leases.

Figure 11. Evolution of United's debt ratio and debt to equity ratio (2005-2009)



Source: United's Annual Reports

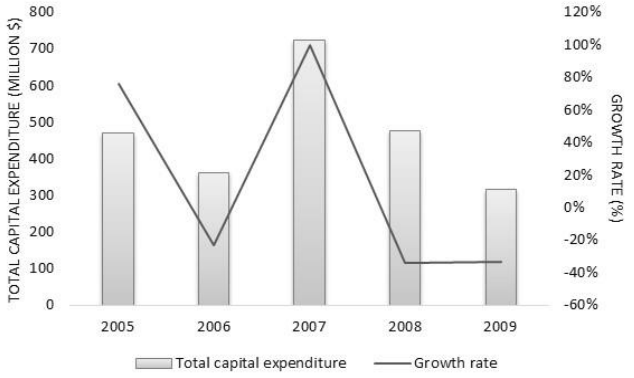
Relatively to the debt-to-equity ratio, the airline had presented a significant volatility in it in the period 2005-2009 (Fig. 11 (b)). The highest ratios were achieved in 2006 and 2007 mainly drove by the increase of debt mentioned above. However, in the following two years the ratios drop for a negative level due the presented negative total shareholders' equities which were affected by the retained losses and the decrease in the shareholder's investments contracting the industry average in this period (App. 15).

3.2.1.7. Capital Expenditures

In last years, the United's capital expenditures are primarily related with cash expenditures for property, equipment and software. The airline focused their investments mainly in acquisition of new aircrafts as well as in the acquisitions of aircrafts that were under operating leases' contracts, in the portion that are not financed by debt.

Analyzing the last five years (Fig. 12), is visible that 2007 was the year in which the airline presented a higher level of capital expenditures due mainly the acquisitions of several aircrafts. However, due the hard economic environment lived in the following two years, the airline reduced their capital expenditure level with the goal of optimize its available cash. Despite this situation, the airline has several capital commitments that will influence the future capital expenditures independently of the economic situation namely aircrafts enhancements.

Figure 12. Evolution of the United's capital expenditures (2005-2009)



Source: United's Annual Reports

3.2.1.8. Stock performance

The UAL common stock are traded in the NASDAQ market under the symbol 'UAUA' having approximately 1,426 holders of its common stock at February 15, 2010 which correspond to 167,610,620 outstanding shares. Due the reorganization plan,

mentioned before, the firm canceled the old common stock and issued up to 125,000,000 shares of new common stock which began to trade in the market at beginning of 2006.

Relatively to the shares performance, they achieved the highest price at the beginning of 2007 (Fig. 13), around $51 per share, remaining its price always above the $30 until the end of the year. However, during 2008, the shares prices dropped until $3 per share which reflected the negative impact of the global recession in the airline' results and in the industry in general by the reduction of the passenger demand and the increase of the fuel prices. The year 2009 started with the same trend observed in the previous year, but at the end of this year the shares prices recovered slightly, worth around $13 at 31st December, due the signs of a recovery of the market conditions. Comparing the UAL stock performance with the S&P 500 index can be stated that from 2008 both recorded a similar trend.

Figure 13. UAL stock' performance (2006-2009)

Source: Bloomberg

3.2.2. Continental Airlines

3.2.2.1. Firm overview

Continental Airlines is a US major airline established in 1934 being in 2009, the US' fourth largest airline in terms of RPM (App. 5) and the fourth US largest airline in terms of market capitalization (App. 3). It's operations focus on the transportation of passengers, cargo and mail operating not only own flights but also regional flights under capacity purchase agreements with other airlines and a wholly-owned subsidiary, the Continental Micronesia. It provides around to 2,000 daily departures having in 2009 flights to 118 domestic and 124 international destinations including Trans-Atlantic,

Pacific and South America destinations. At this time, the airline accounted with 337 mainline jets and 264 regional aircrafts and a total of 39,640 employees.

Regarding the domestic operations, the airline operates their routes mainly through the hubs of the Newark, Houston and Cleveland airports, thus concentrating their activity in large population centers in order to provide a large number of connections with other cities. Additionally, the regional operators under capacity purchase agreements offers flights to US destinations to complement the Continental 'offer and at the same time realize short-distance flights in which Continental using their aircrafts would not be profitable. According with airline' information, Continental was responsible for 75%, 84% and 65% of the average daily departures of the Newark, Houston and Cleveland airports respectively in 2009[6]. In this year, it was responsible by the transportation of 10% of total passengers in the domestic market[7] representing around 63 million passengers (App. 21).

In terms of international operations, the airline also concentrates their activities mostly in the previous hubs and in the Guam being the main gateways for international destinies. According with Continental' information, 51% of the airline' mainline operations (in terms of ASM) was committed with international services being the third US airline with more passengers transported to international destinies (App. 4). In order to extend their offer in the international segment, the airline has several codeshares agreements with foreign airlines and became a Star Alliance' member in 2009.

Continental Airlines also provides services of cargo' transportation in the domestic and international segments. It was responsible for 3% of the total RTM's of the US airline industry in 2009 (App. 6).

3.2.2.2. Operational revenues and expenses

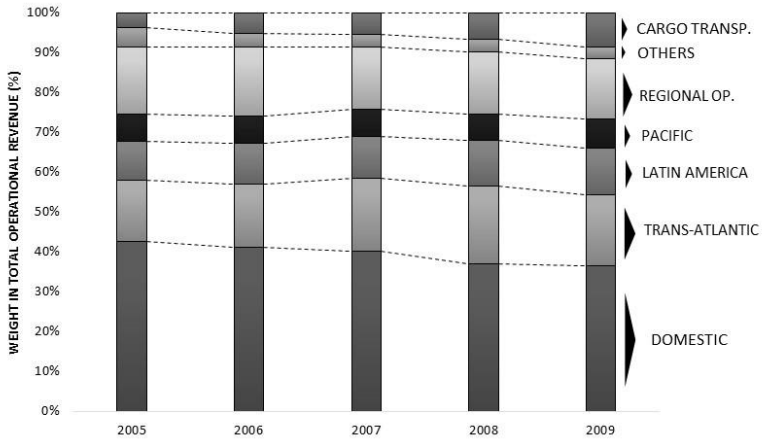
The major percentage of the Continental's operating revenue comes from the passenger 'transport that accounted for 88,5% of the total operating revenues in 2009 while the cargo transportation, the second most important revenues 'component, only accounted with 2,9%. The passenger 'revenues suffered a decreased of around 18,9% in 2009 relatively to 2008 after a constant increase trend observed since 2005 (App. 23).

[6] These percentages include the mainline and regional operations.
[7] Includes the regional operations. This percentage decrease for 7% when considered only the mainline operations (Fig.1).

This reflected the impact of the global recession which implied a decreased of passenger' demand (App. 21) namely of the business passenger segment, the highest yield segment, and the low fares. This can be stated also by the evolution of the Continental's RPM that suffered a decrease in 2008 and 2009 as well as in terms of ASM that decreased 5,2% in 2009 due the cuts in the total capacity in order to minimize the lower demand (App. 21).

The domestic segment is the one that most contributes for the passenger revenues accounting for 36,4% of the total operating revenue in 2009. In the international segment can be highlighted the Trans-Atlantic and Latin America flights that represent 17,9% and 11,8% respectively of the operation revenue of that year. Additionally, the regional operations contributed for 15,1% of the operational revenue, thus demonstrating once more the importance of the domestic market (Fig. 14).

Figure 14. Evolution of the Continental's operating revenue components (2005-2009)



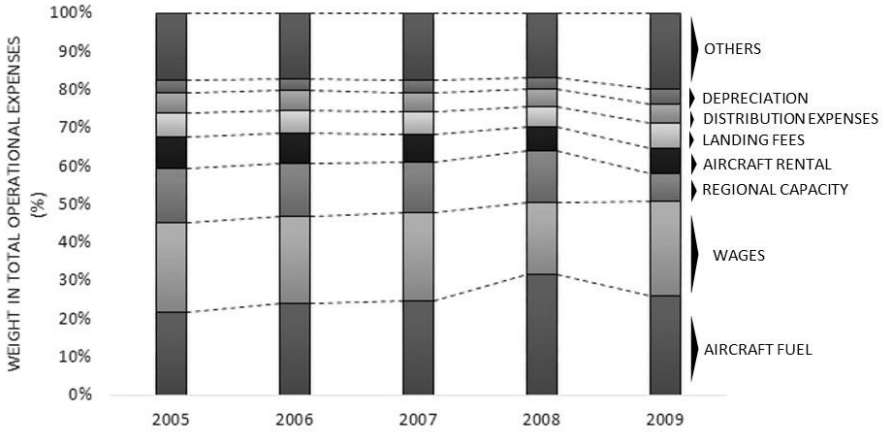
Source: Continental' Annual Reports

All of these segments suffered a significant decrease in 2009 namely the domestic segment that saw their revenues decrease 18,7%, the Trans-Atlantic segment that decreased 24,6% and the regional operations which decreases of 19,6% (App. 23). In terms of cargo revenues they suffered also a decrease of 26% in 2009 relatively to 2008 (App. 23) that according with the airlines is related primarily due the decrease in the cargo volume and the lower fuel surcharge rates.

Concerning with operating expenses, the fuel and wages are the components that most contributes for it (Fig. 15) representing 51% of the total operating expenses in 2009. The fuel costs increased since 2005 however, in 2009 this cost dropped in 32,3% (App. 25) due the lower level of the jet fuel price that decreased from $3,27 in 2008 to $1,97 in

2009 per gallon[8]. Relatively to the wages costs they increased 6% in 2009 after a decrease in 2008, being this costs strictly correlated with the level of collective bargain power demonstrated by the number of employees represented by unions which in 2009 was 97%.

Figure 15. Evolution of the Continental's operating expenses components (2005-2009)

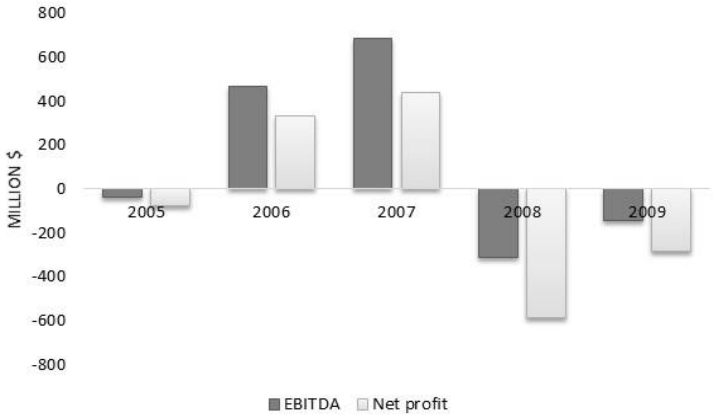


Source: Continental' Annual Reports

3.2.2.3. Profitability

A key performance 'measure is the EBITDA which after two years of growth trend, it dropped drastically in 2008 with a decrease of around 145% due primarily the record fuel prices observed in that year (App. 25). In 2009, the trend improved but remained negative due the decrease in the operational revenues that was attenuated by the lower level of fuel prices (Fig. 16).

Figure 16. Evolution of the Continental's EBITDA and net profit (2005-2009)



Source: Continental' Annual Reports

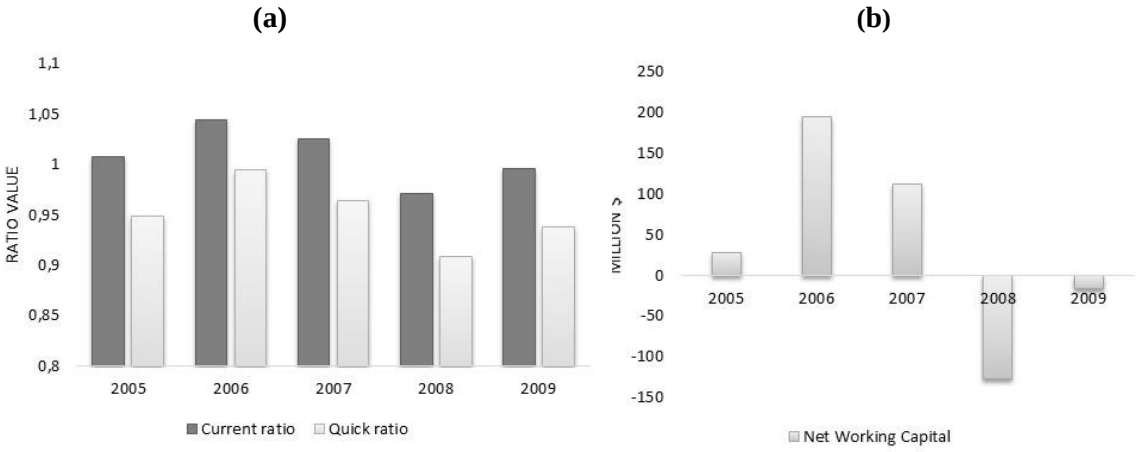
[8] Average consolidated of the airline

In terms of net profit, they followed the same trend of the EBITDA with a significant drop in 2008 of around 175% and a recovery in 2009 but still remaining in a negative level (Fig. 16) mainly drove by the previous mentioned factors. Through this results can be stated that Continental saw their profitability fall in last periods reflecting the global recession however, is already visible a slight recovery trend.

3.2.2.4. Liquidity

The Continental' current ratio decreased in 2007 and 2008 which meant a decrease in the firm 'ability of pay the short-term obligations and a reduction of it liquidity. However, in 2009 was visible a slight recovery achieving a current ratio of 0,9964. Despite this event, Continental presented between 2005 and 2009 a higher ratio than the industry one (App. 13) which had an average value of 0,8544 in this period. Regarding with quick ratio was observed the same trend of the current ratio with a decrease in the firm's ability to meet its short-term obligation with the most liquid assets in 2007-2008.

Figure 17. Evolution of Continental's current ratios, quick ratios and Net Working Capital (2005-2009)



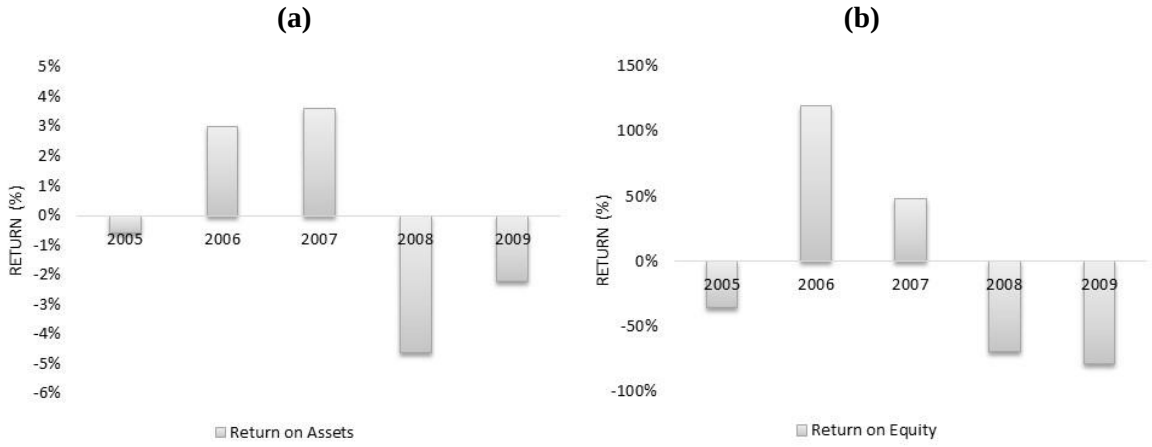
Source: Continental's Annual Reports

In terms of Net Working Capital (NWC) it suffered a drop of around 213% in 2008 reflecting a decrease in the firm 'ability to pay its current liabilities due mainly the global recession that, as mentioned previously, affected the Continental's operations. Keeping the same trend of the previous liquidity indicators, the NWC situation improved in 2009 nevertheless keeping in a negative level.

3.2.2.5. Assets and equity

The Continental' return on assets (ROA) had a decrease trend since 2006 with the lowest returns observed in 2008 with -5% and 2009 with -2% (Fig. 18 (a)). Before this results, it is visible that the firm's ability to use its assets to create profit decrease in this period as can be stated by the net profits observed in the last two years that was affected by the revenue 'decrease and instability of fuel prices. This evolution follows the overall trend of the US industry airline (App. 14) that was deeply affected by the previous factors.

Figure 18. Evolution of Continental's return on assets and return on equity (2005-2009)



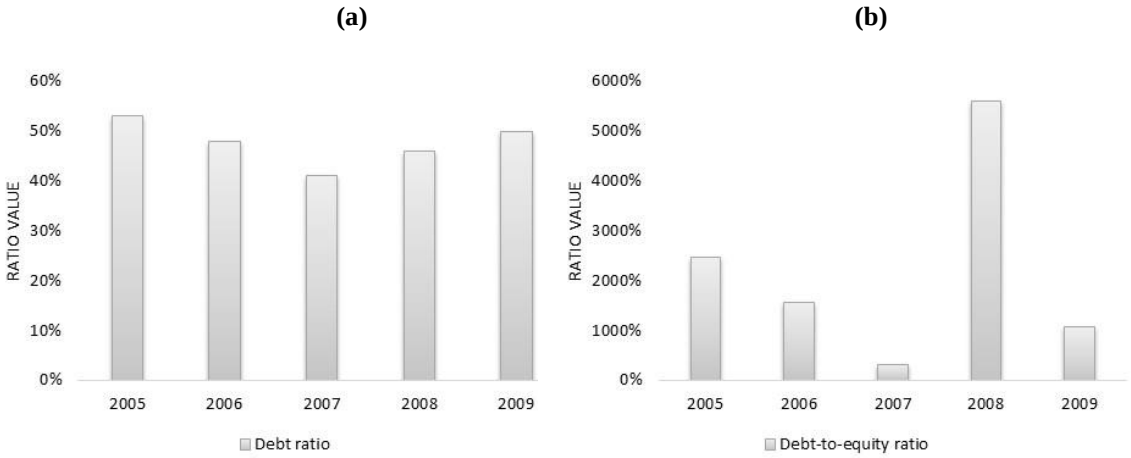
Source: Continental's Annual Reports

Following the same trend, the return on equity (ROE) suffered a decline trend since 2006 being also 2008 and 2009 the years with worst performance relatively to this measure with -70% and -79% respectively (Fig. 18 (a)), thus reflecting the deterioration of the firm's ability in generate return to the shareholders mainly drove by the factors above mentioned which affected all the industry (App.14).

3.2.2.6. Debt

Continental presented a relatively stable debt ratio between 2005 and 2009 with an average ratio of 48%, higher than the 30% average debt ratio observed in the industry in this period (App. 15). The lowest debt ratio was observed in 2007 with 41% being observed a moderate increase trend after this year until achieve a ratio of around 50% in 2009 (Fig. 18 (b)). In this year, the debt totaled $6,266 million in a total assets of $12,788 million. From the total debt value, $5,291 million are related with long-term debt and capital leases which were primarily incurred to purchase or lease facilities or equipment, mainly aircrafts, to run the firm activity.

Figure 19. Evolution of Continental's debt ratio and debt to equity ratio (2005-2009)



Source: Continental's Annual Reports

Regarding with debt-to-equity ratio, the airline presented a quite high ratio in the period between 2005 and 2009. The most critical year was 2008 in which the firm presented a debt-to-equity ratio of more 5000% (Fig. x), being evident that the firm relies more in financing external sources than in financing from the shareholders. This trend also was observable in the US airline industry, however in a lower proportion with an average debt-to-equity ratio of 134% in the period 2005-2009 (App. X). Once more is evident the importance of debt in order to get the needed funds to realize the required investments.

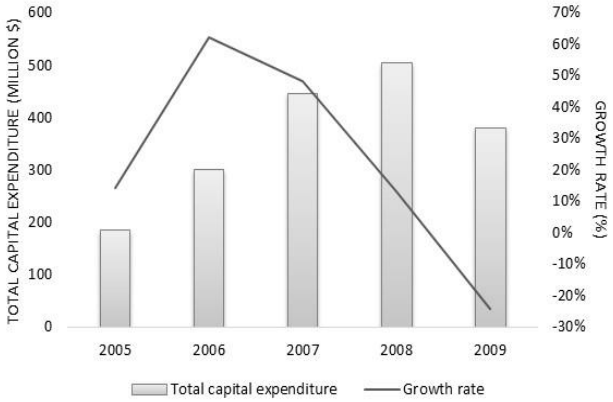
3.2.2.7. Capital Expenditures

The Continental's capital expenditures basically can be classified in fleet and non-fleet expenditures which represent the majority of this expenditures (App. 26). The fleet expenditures consisted mostly in aircraft acquisitions (the share of the total acquisition cost that is not cover by financing), in acquisition of flight simulators and training equipment as well as capital expenditures incurred to improve the passenger travel' condition (e.g. entertainment systems). In terms of non –fleet expenditure they are mostly related with ground support equipment and terminal improvements. Beside of these two main components, a small percentage is related with the rotable parts that are restored.

The capital expenditures increased significantly until to 2008 (Fig. 20) suffering a substantial decrease of around 24% in 2009 thus reflecting the hard economic environment. The economic condition is the main driver of the capital expenditures as

stated by the firm, however exists commitments taken by it, namely acquisition of aircrafts, which cannot be easily reverted thus influencing the future capital expenditures.

Figure 20. Evolution of the Continental's capital expenditures (2005-2009)



Source: Continental' Annual Reports

3.2.2.8. Stock performance

The Continental's shares are traded in the NYSE with the symbol 'CAL' having around 18,890 holders of its common stocks at February 16, 2010 with 123,264,534 outstanding shares. Analyzing its stock' performance in last five years (Fig. 21) it is visible a decrease trend in its price since 2007. The highest price was achieved in 2007, around $51 per share however, since this year Continental's saw their stock price drop drastically achieving a price of around $7 during 2008 and 2009 due the negative impact of the global recession on the firm's operations. At the end of 2009 was already visible a slight recovery trend with the share price in around $18, mainly drove by the signs of improvement of Continental's results and by the news about the merger with the United Airlines. Comparing with the S&P 500 index performance is visible that both followed a similar trend namely from 2008 reflecting the crisis 'impact (Fig. 21).

Figure 21. Continental stock' performance (2005-2009)

Source: Bloomberg

4. Firms' valuation as standalone

The United and Continental Airlines are both US major airlines with similar dimensions and which, as analyzed previously, serve the same geographic segments. This leads to the fact of both have the main performance drivers and are exposed to the same market conditions and risks. For these reasons, the assumptions and indicators taken in consideration are identical for both companies in order to calculate the components of their free cash flow (equation 2.6) which are described in the following sections and which are also present in the forecast balance sheet and income statement of each airline (App. 30-47).

4.1. Operating revenues

The airline industry is cyclical by which the economic conditions have a significant impact in the passenger demand and consequently plays an important role in the determination of the revenues. For this reason it is extremely important to take in consideration the economic projections in order to estimate the revenues in the most reliable way.

For the current analysis and taking in account the above mentioned aspect, the estimation of United and Continental's revenues for the next years is based in the FAA's RPM projections (App. 29). The FAA projected the RPM's growth for each of the geographic segments served by the US airlines taking in account the economic environment in each of these regions. As the RPM is the basic productivity measure of an airline company that take in account the evolution of the passenger traffic and the capacity available, it is the most suitable proxy for revenues performance by which their growth rates are applied to estimate them. For this analysis is assumed that both firms will maintain its market share of 2009 and as major airlines will follow the growth trend of the industry.

The year of 2008 and 2009 represented a significant downturn in the industry, as stated in previous sections, however the recent projections indicate a slight recovery that will start in 2010 but this recovery is more significant in determined regions than others by which in order to estimate the revenue growth in following years it is applied to each region the respective projected growth rate (App. 27-28).

The domestic operations, the most important source of revenues for both airlines, is assumed that it will suffer a slight decline of -0,2% in its revenues in 2010, trend also visible in the Trans-Atlantic operations but in a more significant way, around of 2%. This is mainly due the slow recovery of US and European economies that were the most affected economies by the recession whereat is assumed that in these economies will remain the tight credit and consequently a lower consumer spending. This trend will be reversed from 2011, year in which the economic recovery is expected to become more pronounced with the US GDP growth between 3,4% to 4,5% according with the Federal Reserve projections (App. 27), and the Europe, Africa and Middle East GDP in around 2% of growth according with FAA and Global Insight Inc. estimations (App.28). Taking in account this estimations is predicted a revenue growth of 1,5% and 5,2% in the domestic and Trans-Atlantic operations respectively in 2011. In 2012, the US domestic operations is predicted to achieve a revenue growth of 4,1% while the Trans-Atlantic operations revenue is expected to growth 4,7%, being this year the point in time that is expected that the respective growth rates will slowly start to stabilize achieving a growth rate of 3% and 3,8% in the US domestic and Trans-Atlantic operations respectively in 2017.

Regarding with the Latin America segment is estimated a growth rate of 3,5% in 2010 follow by a period of significant growth until 2014, year in which is expected a revenue growth of 5,9%. This projections are mainly driven by the expected stronger economy growth in this region that were less affected by the world recession, their GDP in the period analyzed is expected to grow at an average of 4% per annum. From 2014, the revenues from this segment is expected to decrease but in a slight way, staying at 5,5% in 2017. In the other international segment, the Pacific, the estimations appointed for a growth rate of 1,3% in 2010 follow by a period of significant growth due also the expected growth of the economies in this region which average GDP growth rate is of 5% until 2015, year in each this segment is predict to grow around 5,8% . Similar to the others segments, it also suffer a slight decrease in their growth but maintaining in a high level with a growth rate of 5,6% in 2017 reflecting once again the economic conditions of the countries in this region.

Concerning with the regional operations is assumed a growth rate of 3,9% in 2010. Despite of the hard economic environment, the slight recovery of the US economy which GDP is expected to growth around 3,2% in this year and taking in account the trend of

the last years in which the regional operators demonstrated a better performance than the mainline airlines, it is expected a significant recovery from these operators which taken advantage with the agreements with the mainline carriers. These airlines can provide flights in an efficiently way for several destinies that for the major airlines such as United and Continental are not whereat they can increase their profitability by realizing partnerships with these airlines. Similar to the domestic operations, it will growth in a more notable way until 2012, year in which the segment is predicted to grow 5,8%. From this year it will start to grow at a moderate rate achieving a rate of 4,2% in 2017 following the trend of US national economic conditions.

In terms of cargo transportation is assumed that their performance are primarily tied with the US economy growth, which are the main market served by both airlines. In this segment are used as proxy for the future revenue performance, the RTM's that as similar to RPM's take in account the capacity as well as the quantity of cargo expected to transport. Before the economic perspectives, the projections also take in account several aspects such as the alternatives and substitutes for air cargo, the competition from the all-cargo air carriers and the estimations for the air fuel surcharges. From that, it is expected a growth in this segment of 3,1% in 2010, which is in line with the economy growth, followed by a period of more substantial growth until 2012 in which achieve a growth rate of 5,4% and decreasing after this year until a growth rate of 4,6% in 2017. Finally, the other revenues as include revenues strictly linked with the performance of all segments such as baggage fees or cancellation fees, is assumed an average rate of the growth rates applied to the others segments.

4.2. Operating expenses

Concerning with the operating expenses (App. 36 and 45), the jet fuel costs represent the component which have more uncertainty relatively to its estimation. During the last years the jet fuel price was very volatile achieving record prices in 2008 follow by an abrupt fall during 2009, as mentioned in previous sections. Due its significant weight in the operating costs of both airlines is crucial to take special attention in this item.

For the fuel costs estimation is also used the FAA's projections that assume a constant growth of its price during the next years taking in account the economic projections. As both airlines realize fuel contracts hedging over a part of the estimated

fuel consumed is taken in account a reduction of 0,5% in the estimated growth rate of jet fuel cost in order to reflect the possible gains from this contracts inferred by the gains in last years. Before this, for the year of 2010 and 2011 is expected a fuel price increase of around 4,5% being expected a more significant increase in 2012 with an increase of 6,8%. From this year the growth rate tend to stabilize around 2% per annum until 2017 in which is expected an increase of 0,9%.

In order to calculate the total jet fuel cost is also analyzed the total volume of jet fuel expected to consume based in the amount reported by the airlines in 2009. For 2010, is assumed a decrease of 0,5% and 2% in the total fuel consumed from United and Continental respectively reflecting the recent trend of capacity reduction to face the lower passenger demand, trend that is expected to be reversed in 2011 and follow years with an increase between 1% and 2% per annum to answer to the increasing passenger demand.

Regarding with the wages and salaries expenses is assumed that they are primarily driven by the evolution of the US inflation rate being the estimation based in the predictions of the Federal Reserve (App. 27). However, both airlines, as showed previously, have a significant percentage of the employees represented by unions which increase their bargaining power and the possibility of higher costs in the future by which is added to the expected inflation rate an average margin of 1% to reflect this situation.

Relatively to the regional purchase expenses, its estimation is based in the regional operations revenues, since these expenses are all related with the agreements with the regional operators. In 2010 is assumed that the weight of this expenses in the total regional operations revenues slightly decrease in order to take in account the reduction of costs that are predicted by both airlines, growing at the regional revenues rate. However, in the follow years is assumed that the weight of these costs will increase until the weight average of the previous 5 years that was 95% and 45% to the United and Continental respectively in order to reflect the segment recovery described above. Other specific case is the aircraft rentals expenses that are estimated based in the current obligations of each airline concerning with operational leasing related with aircrafts which translates in the rentals payments expenses.

All the others estimated operating expenses that include the landing fees, passenger services/purchased services, distribution expenses and maintenance are estimated based in the total operational revenues since all of these expenses are primarily

tied with the level of passenger demand and the number of flights. Taking in account a slight reduction of some costs for both airlines in 2010 is also estimated from this year an increase of their respective weights in the total operational revenues until their average weighted of the last 5 years in order to reflect the economy recovery and consequently the increase of number of passenger and flights.

4.3. Capital expenditures and depreciation

The airline industry is capital intensive by which the airlines need to realize substantial investments in fixed assets by purchasing new aircraft and equipment and improve the condition of the current ones to run their activity. Following the finance literature, the capital expenditures is estimated as percentage of the total operating revenues since it demonstrates the evolution of the firm's activity and reflects the ability and the timing for new investments.

In 2009, the capital expenditures represented 1,9% and 3% of the operating revenues of United and Continental respectively (App. 32 and 41). Due the hard economic conditions and the low passenger demand is estimated for 2010 an equal weight of this expenditures for both airlines increasing only in the growth rate of the operating revenues. However, as mentioned in the firm's analysis both firms have future capital commitments namely the Continental that has contracts about new aircrafts that will be delivered from 2011 to 2016. In order to reflect this situation, the weights in both airlines are estimated to increase gradually until achieve a weight of 4% and 4,5% of the total revenues of United and Continental respectively in 2017. These rates reflect an additional margin of 1% over the historical weight averages in order to take in account the estimated value of this investments and other possible future capital requirements.

In terms of depreciation and amortization is estimated according with the weight that they had in the total of amount of property and plant (PP&E) in the historical period. Both airlines presented a relative constant rate of depreciation in the historical period by which it's assumed a constant weight of 6% and 6,5% of the PP&E of the United and Continental respectively.

4.4. Working capital

In order to calculate the net working capital (App. 31 and 40) for both airlines and following the finance literature is excluded from the current assets and liabilities the

nonoperating items, namely the cash and equivalents, short-term investments and the short-term debt. So, for the net working capital calculations is only considered the respective accounts receivables, accounts payables, inventories, air traffic liabilities and other currents assets and liabilities that according with the airlines' reports are related with their operating activity.

Regarding with the accounts receivables, accounts payables and inventory estimations is used the respective outstanding days. For these calculations is used the credit sales, the inventory account and the cost of goods sold which is assumed to be all operating expenses (excluding the depreciation and amortization and distribution costs) since to sell a flight ticker the airline needs to incur in all expenses discriminated. For these three items is assumed that in the analyzed period their outstanding days will converge for the average observed in the historical period. A similar approach is applied to the air traffic liabilities and other current assets and liabilities but using as base their percentage in the total operating revenues in the case of the assets and in the total operating expenses in the case of liabilities.

4.5. Valuation output

The free cash flows are predicted for a period of 8 years once analyzing the revenues forecasts can be stated that in 2017 they will already growth at a stabilize rate when compared with the previous years. After defining the free cash flows was conducted a valuation of both airlines through three methods: the Free Cash Flow to the Firm (FCFF), the Adjusted Present Value (APV) and the multiple approach, in order to compare and assess the feasibility of results obtained. In the following sections is explained the assumptions taken in each of one of this methods for both airlines.

4.5.1. Free Cash Flow to the Firm (FCFF)

In the FCFF method (App. 37 and 46), the free cash flows are discounted at the weighted average of cost of capital (WACC) which has as inputs the after-tax cost of debt, the cost of equity and the debt-to-value ratio of the firm.

The cost of equity is calculated through the CAPM approach using the equation 2.3., which has as inputs the risk free rate, the market risk premium and the beta. Following the finance literature, the US 10 years government bond yield is used as the risk free rate being assumed a rate of 3,84% which was observed at December 31, 2009.

In terms of market risk premium is assumed a rate of 5,5% which was the average rate used by US analysts in 2009 according with a survey conducted by Férnandez (2011). Concerning to betas it's assumed the adjusted betas calculated by Bloomberg at December 31, 2009 which take in account the respective stock and S&P 500 index performance of the last five years. At this time, the United's beta is 1,977 and the Continental's beta is 1,511. With this data, the United' cost of equity is estimated to be 15,7% while the Continental's cost of equity is estimated to be 12,2%.

The capital intensive nature of the airline industry lead their firms to use more debt than equity to sustaining their operations scale by which presents high debt-to-value ratios. In 2009, according with data provided by DOT, the industry presented a debt-to-value ratio of around 73% while the United presented a ratio of 80% and Continental a ratio of 72% (by using market values) being evident that they are consistent with their industry. Before this fact, it is assumed that their ratios will be maintained unchangeable through the issue of new debt every year at the same amount of debt (including capital leases) that will be due (it is assuming that the new debt will be constantly amortized over the follow 15 years). Relatively to the cost of debt, as both airlines have a rating of B-, it is assumed a spread of 5,2% (Damodaran 2011) over the risk-free rate giving a total cost of debt of 9,04%.

Regarding with the tax rate is assumed a rate of 37% for both airlines. By analyzing the effective rate paid by each airline in the historical period is evident that they differ considerably from the federal tax rate of 35% mainly due the use of previous net operating losses (NOL's) which reduce the effective tax rate. However, due the uncertainty in the estimation of these future tax reductions is assumed the federal tax rate of 35% plus a rate of 2% which reflects the average state tax rate paid in the last years from both firms. When applied this tax rate over the debt cost is achieved an after-tax cost of 5,92%.

With all the previous inputs is estimated a WACC of 7,72% for United and 7,53% for Continental which are used to discount the free-cash flows until 2017. In order to calculate the terminal value for the period beyond 2017, it is assumed a growth rate of 2,5% which corresponds to the Federal Reserve estimation for US GDP long-term growth at this time. This rate is the most suitable to assume as growth rate for the perpetuity since the airline industry is cyclical and both firms have their main operations in US market.

Considering the discounted free cash-flows of the explicit period and the terminal value is estimated a total enterprise value of $8,702 million and $7,335 million for United and Continental respectively. By subtracting the net debt is achieved an equity value of $2,324 million for the United and $2,237 million for Continental which translate in a value per share of $13,83 and $18,19 respectively.

4.5.2. Adjusted Present Value (APV)

As referred in the literature review, the APV (App. 46 and 47) breakdown the enterprise value in order to measure the impact of each of the components of the capital structure. The first component of the APV is the calculation of the enterprise value as they are totally equity financed, by which is need to estimate the unlevered cost of equity to discount the free-cash flows. Following Koller et al. (2010) the most adequate way to calculate the unlevered cost of equity is through the equation 4.1 since both airlines will manage their debt-to-value ratio to keep them in the target level.

$$k_e = k_u + \frac{D}{E}(k_u - k_d) \tag{4.1}$$

In order to estimate the unlevered cost of equity through the previous equations is used the cost of debt (k_d) of 9,04%, the respective levered cost of equity calculated through the CAPM in the previous section and the debt-to-equity ratio that is 3,95 in the case of the United and 2,52 in the case of Continental. From that are estimated an unlevered cost of equity of 10,15% and 9,90% for United and Continental respectively which give an total all-equity enterprise value, including the terminal value, of $5,617 million in the case of United and $5,032 in the case of Continental.

The second component of the APV is the calculation of the expected tax benefits over the debt which is a function of the corporate tax rate of 37% and discounted at the cost of debt of 9,04%. In terms of terminal value of the interest tax shield (ITS) is assumed that it is the difference between the terminal value of the levered and the unlevered firm, which according with Holthausen and Zmikewski (2014) reflect the benefits which arise from the tax shield in the perpetuity. The total estimated amount of interest tax shield, including the terminal value, totalize $3,526 million and $2,699 million in the case of United and Continental respectively.

The third and last step is the estimation of the expected bankruptcy costs taken in account the probability of firm's default and the expected direct and indirect costs of this situation. As both airlines have an corporate rating of B- according with the Standard's & Poor's (S&P) (2011) the probability of default for this level is 39,41% in 2009 being assumed this probability for both airlines. Relatively to the bankruptcy costs, according with Thoburn (2000) the bankruptcy direct costs are typically between 1% and 10% of the enterprise value while the bankruptcy indirect costs, according with Bris et al. (2006), are between 10% and 20% of the enterprise value. Beside this, it is assumed an average bankruptcy cost of 20% of the unlevered firm value for both airlines. Taken in account this information is estimated a bankruptcy cost of $443 million and $397 million for the United and Continental respectively which will be subtracted of the two previous components.

The estimated United' equity value through this method is $2,322 million while the estimated Continental's equity value is $2,237 million which translates in a price share of $13,82 and $18,18 respectively being these results extremely close of the prices obtained in the FCFF.

4.5.3. Multiple Valuation

In order to assess the feasibility of the previous results is also conducted a multiple valuation of both airlines in order to analyze if they are fairly priced relative to comparable firms which form their peer group. The peer group is formed by listed global major airlines (Fig. 22), usually known as flag carriers, which serve the same markets segments served by both United and Continental. This set of airlines, as global carriers with a similar range of destinations, face the same market conditions and risks as well as similar growth prospective, whereby they constitute a good benchmark for the airlines analyzed. Beside these facts also is considered the ROIC prospective for each of one of the airlines in order to maintain the consistency.

According with Ferris and Petitt (2013) the enterprise value multiples are the most popular and used in the M&A transactions since reflect both the debt and equity. Following this, were conducted a multiples analyses of both airlines using the most popular enterprise multiples: the EV/EBITDA, the EV/EBIT and the EV/Sales multiples being the first one the most cited in the finance literature as appropriated to M&A transactions. Taken in account the peer group established, the multiples range from1,34

times to 14,98 times the EBITDA, from -32,48 times to 18,74 times the EBIT and from 0,06 times to 1,21 times the sales.

Focusing in the EV/EBITDA multiple, by multiplying the estimated United's EBITDA of $469 million and the Continental's EBITDA of $380 million with the median, of the multiple is achieved a value per share of $14,26 and $18,31 for United and Continental respectively which are relatively close and in line with the results obtained in the previous methods thus confirming the feasibility of the analysis. Even when are deleted the all the outliers such as the multiple of 1,34 or 14,98, the value per share remain around of these values.

Figure 22. Peer group of United and Continental Airlines

(In million dollars, except the ratios)		Data for 2010 E				Multiples		
Airline	**Country**	**EV**	**EBITDA**	**EBIT**	**Sales**	**EV/EBITDA**	**EV/EBIT**	**EV/Sales**
United Airlines*	United States	11 381	1 921	1 018	19 687	5,92	11,18	0,58
Continental Airlines*	United States	5 798	1 100	720	10 788	5,27	8,05	0,54
Delta Airlines	United States	22 160	4 178	2 667	31 756	5,30	8,31	0,70
US Airways	United States	4 104	1 059	786	11 907	3,88	5,22	0,34
American Airlines	United States	9 419	1 401	308	22 170	6,72	2,92	0,42
Lufthansa	Germany	10 644	2 601	1 335	27 340	4,09	7,97	0,39
Emirates Airlines	Emirates	3 303	2 461	1 481	54 834	1,34	2,23	0,06
British Airways	United Kingdom	12 149	811	-374	12 950	14,98	-32,48	0,94
Singapore Airlines	Singapore	12 499	2 089	902	10 313	5,98	13,86	1,21
Air Canada	Canada	7 252	1 032	387	10 247	7,03	18,74	0,71
* The airline compared is not included in their own peer group				**Median for United**		**5,104**	**7,973**	**0,537**
				Median for Continental		**5,925**	**7,973**	**0,578**

Source of data: Bloomberg and airline's reports

Relatively to EV/EBIT multiple its results cannot be take in account since the EBIT forecast for both airlines to 2010 are negative which will not give a feasible valuation. Concerning with the EV/Sales multiple it presents discrepant values from the ones achieved in the other methods as well as in the EV/EBITDA multiple. According with this multiple the United' per share price is $44,84 while the Continental's price per share is $56,92. However, this multiple by focusing only in a specific item, the sales, can significantly distort the enterprise value by which cannot be adequate to valuate a firm in a specific industry such as the airline industry which is cyclical. From that, the EV/EBITDA multiple is the most acceptable multiple for the case here analyzed.

4.5.4. Sensitivity Analysis

A sensitivity analysis is conducted in order to analyze the impact on the target price of possible changes in some valuation components. For this purpose is analyzed the change in four components: the operating revenues, the operating costs, the WACC and the growth rate.

As cyclical industry, the operating revenues are strictly correlated with the economic conditions by which is important to measure the impact of a change in it due a better or worst economic environment. An equal reason is also applied to the analysis of the operating costs since both airlines have cost 'components with a significant weight and which volatility can be high due the economic environment, namely the fuel costs. It is also important to analyze the impact of changes in WACC since it is the rate by which is discounted the free-cash flows having impact in the total enterprise value calculated. Finally, it is also analyzed the growth rate assumed in terminal value since it has a significant weight in the total enterprise value.

The Fig. 23 show basically four scenarios in order to reflect an optimistic, a very optimistic, a pessimist and very pessimist scenario for a conjunction of changes in operating revenues and expenses (Fig.23 (a)) and for a conjunction of changes in the WACC and the growth rate (Fig.23 (b)).

Figure 23. United and Continental' sensitivity analysis

(a)

United Airlines						
		Operating Revenues				
		-2,00%	-1,00%	0,00%	1,00%	2,00%
Operating Exp.	-2,00%	$13,53	$16,73	$19,93	$23,12	$26,32
	-1,00%	$10,47	$13,67	$16,87	$20,06	$23,26
	0,00%	$7,41	$10,61	$13,83	$17,00	$20,20
	1,00%	$4,35	$7,55	$10,74	$13,94	$17,14
	2,00%	$1,29	$4,49	$7,68	$10,88	$14,08

		Growth rate for terminal value				
		2,30%	2,40%	2,50%	2,60%	2,70%
WACC	7,00%	$14,46	$15,50	$16,37	$17,27	$18,28
	7,50%	$13,54	$14,34	$15,17	$16,04	$16,94
	7,72%	$12,28	$13,04	$13,83	$14,55	$15,50
	8,00%	$11,43	$12,17	$12,93	$13,72	$14,54
	8,50%	$10,44	$11,14	$11,87	$12,62	$13,41

(b)

Continental Airlines						
		Operating Revenues				
		-2,00%	-1,00%	0,00%	1,00%	2,00%
Operating Exp.	-2,00%	$17,71	$21,23	$24,74	$28,26	$31,78
	-1,00%	$14,43	$17,95	$21,47	$24,98	$28,50
	0,00%	$11,15	$14,67	$18,19	$21,70	$25,22
	1,00%	$7,87	$11,39	$14,91	$18,42	$21,94
	2,00%	$4,59	$8,11	$11,63	$15,14	$18,66

		Growth rate for terminal value				
		2,00%	2,25%	2,50%	2,75%	3,00%
WACC	6,50%	$20,76	$21,86	$23,02	$24,22	$25,48
	7,00%	$17,93	$18,94	$19,99	$21,08	$22,22
	7,53%	$16,21	$17,16	$18,19	$19,17	$20,24
	8,00%	$15,32	$16,24	$17,19	$18,19	$19,22
	8,50%	$14,08	$14,97	$15,88	$16,83	$17,82

Regarding with United Airlines, from the analysis of the Fig 23. (a) which approach changes in both operating revenues and expenses, is visible that the price per share range between $1,29 in a case of a very pessimistic scenario and $18,28, in a very optimistic scenario being an evidence of a significant dispersion for the intervals analyzed. The values highlighted in the squares are the values that are closer to the target price achieved in the previous sections which corresponds to scenarios in which both revenues and costs move in the same direction. Regarding with the prices achieved in the

pessimist and very pessimist scenarios (the ones in which there is a decrease in the operating revenues and increase of the operating costs) they are below of the United's share price observed in 31st December, 2009 which was around of $12,91. The opposite happens with the optimistic and very optimistic scenarios. In the case of Continental Airlines, the range is between $4,59 and $31,78 which similar to United show a significant dispersion with the pessimistic and very pessimistic scenarios standing at a lower level than of the market price at the end of 2009 which was $17,92.

Focusing in the approach in which there are changes in both WACC and growth rate (Fig. 23 (b)), the dispersion has a lower magnitude but yet significant. In these analysis, the price per share range between $10,44 and $18,18 in the case of United and between $14,08 and $25,48 in the case of Continental. By analyzing the results achieved, it is visible that in both cases in most of the pessimist scenarios (the ones with a higher WACC and lower growth rate) the price per share are lower than the market value. The opposite situation is visible in the most optimistic scenarios.

4.5.5. Conclusion

The three valuation methods, which taken in account several different aspects, given consistent results among them. Besides that, can be established a target price of $13,8 per share for United and $18,2 per share for Continental by taking in account the shares outstanding at the beginning of 2010. When analyzed the estimated equity values, the estimated results represent an upside potential of 7% in the case of United and a downside potential of around 11% in the case of Continental's case by taking in account the market cap of both airlines at the end of 2009. However, when these values are translate into prices per shares the estimated price per shares represent an upside potential of 7% and 2% in the case of United and Continental respectively by taking as reference the prices observed at 31st December, 2009 which were $12,9 and $17,9 respectively.

The previous results demonstrate that both airlines are slightly undervalued in the market which is a consequence of the lack of confidence as well as the hard economic environment lived at the time. By analyzing each of the historical airlines price per share can be stated that the cyclicality characteristic of this industry and at the same time the potential growth of them in a propitious economic environment providing support to the results achieved.

In the next section will be analyzed the two airlines joined without considering synergies that can arise from this deal.

5. Valuation of the Merged Firm

5.1. Valuation of the merged firm without synergies

In this section is analyzed the merger of the two airlines without considering the possible synergies that arise from the M&A deal. Therefore, it is assumed that with the merger of the two airlines they will not incur in restructuring costs neither will achieve additional benefits such as revenues enhancements or cost cuts by operating jointly being only the sum of the two airlines as they are individually.

In the forecast balance sheet and income statement of the merged firm (App. 48 and 50) is visible that the revenues and costs are simply the sum of the individual estimations based in the assumptions referred in the previous sections. The same situation is visible in the capital expenditures, depreciation and the net working capital.

For this situation are also conducted a valuation through the FCFF and APV method in order to analyze the value of equity. In the case of the FCFF, to calculate the WACC is assumed the same risk-free rate and market risk premium used in the individual valuation. In the case of beta is calculate as a weighted average of the individual betas by taking in consideration the current market capitalization of each airline in order to reflect the proportion of each individual firm in the new entity. From this, the value of the merged firm beta is 1,728. Regarding with the debt-to-value ratio, as this case is only the sum of the individual debt, is also a weighted average of the individual ratios which give a ratio of 76% with an equal cost of debt since are not yet considered financial synergies. With these inputs, the WACC is estimated to be 7,52% which is used to discount the free-cash flows that assuming the same growth rate for the terminal value and subtracting the net debt give an equity value of $4,561 million.

Relatively to the APV method, the unlevered cost of equity is calculated through the same equation mentioned previously (equation 3) in order to discount the free-cash flows. Using as inputs the same cost of debt and ta debt-to-equity ratio of 3,19, is estimated an unlevered cost of equity of 10%. Relatively to the interest tax shield is follow the same methodology used in the individual valuation by using a tax rate of 37% over

the interest paid and discount them at the cost of debt. Finally, the bankruptcy costs are also the same since the corporate rating stay unchangeable. Taking these all aspects in account is estimated a merged firm' equity value of $4,560, thus confirming the result obtained in the FCFF approach.

However, when two firms engage in an M&A deal is with the purpose of take advantage of synergies which would not be possible if they continued operating alone. The estimated synergies that is expected to arise from the United-Continental merger are analyzed in the next sections.

5.2. Synergies estimation

The synergies estimation plays a crucial role in the valuation of a M&A deal influencing the complete process. According with Bruner (2004) is important to define the synergies in a real and reliable way in order to give a competitive advantage to the post-merger firm over the competitors and increase the shareholder's wealth.

In order to have a context in the synergies estimation are analyzed the previous mergers occurred in last years which involved US major and global airlines. At this time, the main airline mergers were the US Airways-American West in 2005 and Delta Airlines-Northwest Airlines in 2008, which were all airlines with a significant market share namely in the domestic market. In the next sections are estimated the United-Continental synergies by taking in account the way as the previous merger estimated their synergies, the results achieved them until the moment (if information are available) as well as the current and forecast economic conditions and the reports issued by The American Antitrust Institute (AAI).

5.2.1. Revenue enhancement synergies

According with Moss (2013), the revenue enhancement is in average 60% of the synergies achieved in an airline merger being their main source the optimization of the routes network. The merger between the United and Continental will allow them to take advantage from their hubs that are located in different regions of the US territory. As it is visible in the App. 53, the airports served by Continental and not from the United are more concentrated at the South while the only United's served airports are more concentrated in the North and West being an evidence of the future complementary that

the post-merger airline can benefit and which will allow it to respond strategically to the competition.

Due the merger, the fare prices can increase since the merged airline will reduce the number of flights in the same route in order to avoid overlap flights which will reduce the total available capacity. However, the fare prices' increase and the lower capacity level will open space for the entrance of new airlines, namely low-cost airlines, which will enter in these routes to provide lower fares. This scenario are more probable to happen in the domestic market since, as stated before, the low-cost airlines have a more significant presence. So, it is not expected a significant increase of fare prices in the domestic market by which the increase of revenues will be more related with the increase of passenger transported with the new route network.

The previous facts are also extend to the regional and cargo segment which will benefit of more extensive and optimized route network increasing the efficiency of these segments. Relatively to the international segment, the hubs location will allow the new airline to have a broader network in terms of the international service and it can achieves price gains since despite the competition to be significant it is lower when compared with the domestic market and have certain entry barriers which can create space to increase the fare price.

Before these facts, the entity post-merger will mainly benefit from the greater scope and scale of the network, the fleet optimization due the combination of their routes and from a strong connectivity between the major cities.

By taking in account a slight higher margin for the international segments than for the domestic and regional segments it is expected that the total revenues synergies will be 0,3% of the total revenues achieved by the combination of the two airlines in 2010. This percentage reflect both the small recovery of the economy and the restrictions that can arise in the combination of routes. After this year, the total revenue synergy will grow gradually stabilizing from 2014 ahead around of 0,8%. With this estimation, it is expected an average annual revenue gross synergy of approximately $154 million which is much more conservative than the estimations presented by both airlines which was around of $800 million (United's presentation 2010). By comparing with the similar transactions is also stated that it is conservative since the US Airways-American West estimation was of

$360 million and the Delta-Northwest estimation was of around $700 million (Moss 2013).

5.2.2. Cost saving synergies

The merged airline will benefit mainly from cost savings which arise from a better use of the facilities or leaseholds. This type of synergies are more visible in operating expenses such as the aircraft rentals, the maintenance or distribution expenses originating an increase of the operation efficiency by cutting double expenses.

As saw in the previous sections, the wages and jet fuel expenses have the most significant weights in the operating expenses of both airlines and consequently in the merged entity. However, the jet fuel as commodity is vulnerable to the crude price which can be very volatile by which cannot be assumed a direct synergy from the reductions in the jet fuel expense. Nevertheless, the new airline can be able to enter in more hedge fuel contracts in order to minimize the jet fuel price volatility by which is assumed a small percentage of 0,1% per annum in order to reflect the synergies that can arise from this contracts.

Relatively to the wages expenses synergies was followed the trend that was observed mainly in the Delta-Southwest merger. This cost 'component has a significant potential of synergies by cutting the number of employees that are exercising the same function. However, as stated in the previous sections, both airlines have their major employees represented by unions which difficult the cuts in the workforce. From that and taking in account a more conservative view of which actually happened in the first two years of the Delta-Southwest merger is estimate a reduction of 1,5% in the wages expenses in 2010 following by a reduction of 1% in 2011 and 0,5% in 2012 being the employee' early retirement the major way of the cuts.

Other important expense item is the regional purchase agreements expenses. After the merger, the airline can rescind some of the contracts that both airlines had previously to the merger in order to increase the efficiency and avoid the overlapping routes. By taking in account this fact is estimated a decrease of 0,3% in this expenses relatively to the estimated value without synergies in 2010 following by an increase of this reduction until 2013 to around 1%. Until 2015, the last year assumed to have this type of synergies is estimated a gradually decrease of the synergy rate until 0,5% reflecting the increasing trend of the passenger' demand which can increase the need of this type of contracts.

Similar with the regional capacity agreements, the new airline can also cut in the aircrafts rentals since with the merger the set of aircrafts will be larger and the need of engage in operational leasing will be smaller originating a source for cost saving. Before that is estimated a small decrease of 0,1% in 2010 since this type of leasing contracts can have some restrictions in their termination, increasing similarly with the regional agreements expenses in the follow years, until achieve a 0,5% of reduction in 2015, the last year.

Finally, the other costs which includes the passenger services, the maintenance or the distribution costs also is estimated to decrease and be a source of efficiency to the new airline. In this type of expenses can be cut the excess of resources applied as well as increase the efficiency by the implementing the existing technology of each airline in the other which had not access. From that, is estimated a small reduction of 0,1% in 2010, due the restrictions that can arise from this type of cuts in the first year. After this year is estimated a gradually increase of this synergy until 0,8% in 2014 being followed by a period of a gradual decrease until 2017, year in which this synergy achieves a value of 0,5%.

Before this synergies sources, is estimated an average annual cost saving synergy of $196 million which are very close to the valuation presented by United (2010) that estimate a cost saving between of $200 million and $300 million per annum. When compared with the similar mergers can also be stated that it is in line with the annual $270 million of cost savings in the US Airways and America West Airlines according with data provided by Moss (2013) however, more conservative than the estimated annual cost savings of around $600 million in the Delta-Northwest merger.

5.2.3. Capital expenditures synergies

As stated in the individual airlines valuation, both airlines have capital commitments and future capital acquisition options, namely over new aircrafts purchases. However, when the two airlines join their aircraft fleet they will benefit from a complementary relation since each airline has types of aircrafts which the other one doesn’t has available (App. 54). For example the United Airlines has 24 Boeings 747 which are more appropriated to long-range flights but the Continental doesn’t have any aircraft of this type. Relatively to Continental Airlines, it has 226 Boeings 737 which are

suitable for short and medium long distance flights, type of aircrafts which the United doesn´t have.

These aircraft fleet complementary beyond to allow the new airline to optimize the routes and respond in a more flexible way to the passenger demand will allow it to decrease the amount of capital expenditures needed, since the post-merger airline can reduces the expected number of purchased aircrafts namely the ones which the airlines don't have contract and only the purchase option. In addition, the new airline will take advantage of the technology already implement in both airlines.

By taking in account the capital expenditures value estimation given by the airlines, namely the amount needed to purchase the new aircrafts presented by Continental, is estimated a decrease of 1% in the capital expenditures in 2010. This rate will increase gradually to 6% until 2014 in order to reflect the integration' level of both. From this year, the rate will decrease to 1% in 2016, the last year assumed to be possible achieve this type of synergies. This trend that is estimated to be observed from 2014 reflects the need of the new airline in purchase new technologies or even new aircrafts in order to increase the operation efficiency and face the estimated increase of the passenger' demand, by which is assumed that after this year will not be possible incur in more capital expenditures synergies.

5.2.4. Financial synergies

The merger between United and Continental Airlines, two large firms in their industry, will originate a larger and more diversified firm with a higher market share and enhanced conditions. According with JP Morgan (2009) these factors could result in better credit conditions for the entity post-merger with a reduction of the cost of capital through corporate rating upgrades mainly in merger of equals which is the case.

At December 31, 2009, both airlines had a corporate rating of B- which mean that both firms are considerable below the investment grade level. However, with the merger is expected an improvement of the credit conditions since the new airline will have a significant market share and will be one of the leaders in this market. Also when is analyzed previous airlines mergers most of them had a rating upgrade. Before this, it is expected a slight upgrade from B- to B grade by maintaining a conservative approach.

With an upgrade for B level, the required debt spread will decrease slightly from 5,2% to 5% (Damodaran 2011) which consequently will decrease the debt cost from 9% to 8,8%. As the debt-to-value ratio and cost of equity will be kept unchangeable, the WACC will decrease from 7,6% to 7,4%. This credit rating upgrade will be also translate in a slight decrease of the probability default used in the APV method, from 30,41% to 30,61% according with S&P (2011).

5.2.5. Restructuring costs

When a firm engages in a M&A deal incurs in restructuring costs which reflect the costs of the integration of both firm's operations. In the case of the United-Continental merger also is expected a significant amount of restructuring costs which can be primarily classified as costs related with the own merger transaction, severance costs, facilities restructuring and contracts restructures, by taking in account the similar mergers that happened in last years.

The costs related with the merger transaction are the costs related with the own deal which the firm incur. In terms of the severance costs, as mentioned before, is estimated a reduction of the workforce and this process only is possible by the payment of severances which are additional costs incurred due the merger. In addition to the merger and severance costs, there are also the facilities restructuring costs which are the costs incurred by the firms in integration process of their facilities and by adapting them to the post-merger entity. Finally, the contracts restructures costs are primarily expect to be related with the early termination of the regional capacity purchase contracts as well as with aircraft rentals ones which have additional costs when rescinded before the time stipulated.

By taking in account a more conservative view of the restructuring costs incurred by Delta-Northwest merger in the first two years (Delta, 2010) is estimated that this costs will be 5% of the United-Continental airlines' operating revenues in 2010. These costs are estimated to decrease gradually until 2014, year in which is estimated that these costs will represent 1% of the operating revenues. This year is estimate to be the last year in which these type of costs will be incur by the merged airline.

5.3. Valuation of the merged firm with synergies

After defining the synergies sources was conducted a valuation of the merged airlines by including them. In order to verify the feasibility of the valuation were conducted a valuation through the FCFF (App. 58) and the APV approach (App. 59) similarly with which were realized in the previous sections.

The free cash-flows assumed in this section already take in account the revenue enhancements, the cost saving and the capital expenditure reductions synergies. In the FCFF approach is assumed the new WACC, of 7,44%, which incorporate the financial synergy described above. Discounting the new cash-flows by the new WACC and maintaining the remaining components unchangeable is achieved an enterprise value of $17,745 million which after subtracting the total debt give an estimated equity value of $6,269 million.

Relatively to the APV approach, the new free-cash flows are discounted by the unlevered cost of equity of 9,9% which incorporate the new interest rate (Eq. 4.1.) described in the financial synergies, giving a total unlevered enterprise value of $11,493 million. In terms of the interest tax shield, by also taking in account the new cost of debt of 8,8%, is achieved a total value of $6,954. In the calculation of the bankruptcy costs is assumed that they will remain at 20% of the unlevered enterprise value but as the new airline has a higher credit rating grade it will have a lower probability of default which according S&P (2011) is 30,61%. By taking in account all of these components is achieved an enterprise value of $17,744 million which after subtract the total amount of debt give an estimate equity value of $6,268 thus confirming the result achieved in the FCFF method.

The net synergies value will be the difference between the enterprise value achieved in the case in which the merger airlines is assumed to be only the sum of both airlines as they are independently without considering the synergies and the enterprise value achieved when considered the synergies estimation, the value showed here in this section. From this, the net synergies value is estimated to be around of $1,707 million which represent an increase of the estimated equity value of 37,4% when compared with the equity value of the merged airline without considering the synergies.

5.4 Breakdown and analysis of the synergy value

In this section is analyzed in more detail the contribution of each of synergy sources for the total value synergies achieved. For this purpose is analyzed individually the impact of each synergy source in the total enterprise value as can be stated in the Fig. 24.

Figure 24. Breakdown of the synergy value

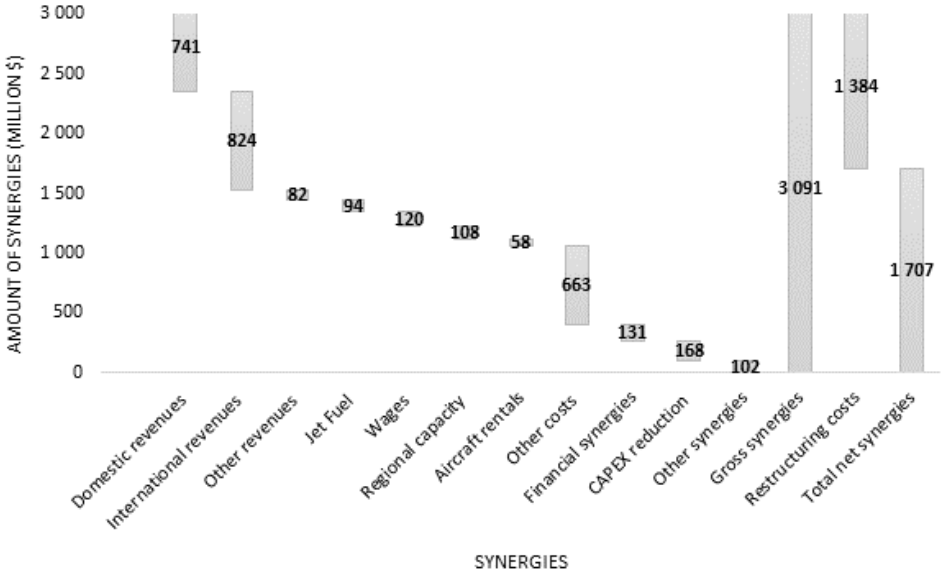
(Million of dollars)	Value of synergy	% in total synergy	EV without synergies	EV with synergies
Domestic revenues synergies	741	24%	16 037	16 778
International revenues synergies	824	27%	16 037	16 861
Other revenues synergies	82	3%	16 037	16 119
Jet fuel expenses	94	3%	16 037	16 131
Wages expenses	120	4%	16 037	16 157
Regional capacity agreements	108	3%	16 037	16 145
Aircraft rentals	58	2%	16 037	16 095
Other costs synergies	663	21%	16 037	16 700
Financial synergies	131	4%	16 037	16 168
CAPEX reduction synergy	168	5%	16 037	16 205
Other synergies	102	3%	16 037	16 139
Gross synergies	**3 091**		**16 037**	**19 128**
Restructuring costs	1 384			**17 745**
Total net synergies	**1 707**			

Following the information provided in the previous sections is estimated a total gross synergy value of $3,091 million. The revenues enhancements synergies represent 53% of them being its largest contributor and thus being in line with Moss (2013) which stated that the majority of the synergies in this industry comes from the revenues enhancements. From the revenues synergies can be highlighted the contribution of the two segments: the domestic segment that will contribute with 24% and the international segment with 27% of the total gross revenues. The others revenues which includes for example the cargo transportation and the baggage fee represent 3% of the total gross amount.

In terms of cost savings, they represent 34% of the total gross synergies. In this type of synergies can be highlighted the regional capacity expenses synergies which contributes for 3% of it and the wages expenses synergies which contributes for 4%. Relatively to the fuel costs expenses synergies represent only 3% due the reasons mentioned previously while the aircraft rentals expenses synergies represent individually 2% of the total estimated gross synergy.

Finally the financial synergies, linked with the rating grade upgrade, contributes for 4% of the gross synergies while the capital expenditures reduction synergies contributes for 5% of it. When all these synergies are taken in account in the valuation is achieved a synergy value higher in $102 million relatively to the sum of the previously items. This type of synergies are here mentioned as other synergies and represent 2% of the total gross value. This type of synergies represent the ones that are not directly attributable to a specific area but that occur due the conjunction of all improvements that the firm experiences. In terms of restructuring costs is estimated a present value of $1,384 million which by subtracting to the gross synergies give the total net synergies of $1,418. The Fig 25. shows the synergy waterfall in order to provide a clearer portrait of the estimated synergies.

Figure 25. Synergy waterfall



6. Acquisition Process

In this section is clarified the main aspects about the transaction and under what conditions the transaction must occur. The merger between United and Continental Airlines is seen and classified as a merger of equals since both have a similar dimension. None of them can be clearly indicated as acquirer or acquired due their similar dimensions and current conditions, however, the United is seen as the one that took the merger initiative by which is commonly referred as the acquirer firm. From that, in this section

is analyzed the perspective of a United offer to Continental's shareholders despite the fact of both are of the same dimension which can result in an equally owned new airline.

The United-Continental merger as horizontal merger will consolidate its position in both domestic and international market with a larger network. This merger will allow the new airline surpass the hard economic environment lived by uniting their capabilities and resources and by optimizing the flights. The new airline will be a global class airline with a more diversified offer and a stronger presence in the domestic and international segments becoming the airline with more ASM's as well as one of the largest airlines in terms of market capitalization, by taking in account the indicators observed in 2009.

6.1. Synergy benefits' distribution

In order to determine the transaction' value and estimate the premium that the acquirer firm is able to pay in order to induce the target firm to engage in the deal is important to determine the share of each of the parties in the estimated synergies.

In the case of United-Continental merger, as was analyzed, each of the parties will contribute with similar capabilities and resources which will allow the new airline to benefit of a complementary relation. However, due the similarity and complementary relation is difficult to estimate concretely the percentage of the synergies that each airline will contribute. Given this, the most appropriate method to calculate it, is by assuming that each of the airlines will generate and have right over the synergy percentage that equals to its weight in the total merged airline' enterprise value without considering the synergies.

The enterprise value of the merged airline without considering the synergies is $16,037 million. By taking in account the individual valuation of each airline can be stated that the United will have a weight of 54% in the merged airline' enterprise value while the Continental will have a weight of 46%. So, from this is stipulated that the United will receive 54% of the net synergies while the Continental will receive 46% of it.

6.2. Estimation of the premium to be offered

As is already known the percentage of each airline in the estimated synergies, in this section is calculated and explained the premium that United will offer to Continental. As merger of equals is assumed that will have a premium to be paid to Continental's

shareholders in order to induce them to engage in the merger 'deal and reinforce the friendly nature of the transaction.

The Continental Airlines presented a market capitalization of $2,483 million at December 31, 2009 however, as stated in the standalone valuation conducted in the previous sections, the estimated equity value is lower in around 11% value with an estimated value of $2,237million. When considered the Continental equity value with its share in the estimated synergies, the value increases to $2,885 million representing an upside potential of around 34,9% in relation to the standalone valuation. By taking in account all these aspects is calculated a premium of 21,6% in relation to the Continental's market cap.

Figure 26. Summary of the premium offered calculations

United's merger with Continental	
Value synergies	1 707
% of Synergies in Continental Market Cap	69%
% Synergies paid to Continental	46%
Value of Synergies pay to Continental	781
Continental's Market Cap	2 483
Continental's estimated Equity value	2 237
Continental's estimated Equity value with synergies	3 018
Premium to be offered in relation to market cap	**21,6%**
Premium to be offered in relation to Equity value	**34,9%**

6.3. Method of payment

The method of payment, as described in literature review, plays an important role in a M&A deal being an aspect before which the market are very susceptible since it shows the confidence's level of the investors about the transaction success and about their estimations.

Usually in a merger of equals the shareholders of both firms are willing to sell their shares in exchange of securities issued by the post-merger entity by which in this type of transaction the payment is always did through stock payments (Giddy, 2006).

One of the main advantages of an all stock payments in this merger is that both United and Continental's shareholders will share the future risk which will give a certain security level for each of the deal's parties. In the market perspective, the all stock

payment will transmits the idea that both parties are confident in the future investment' success and both want to be represented in the new airline to have a share in the future gains. Finally, with an all-stock payment, the United avoid to issue new debt which would lead to a higher debt ratio and higher debt costs due its credit rating grade.

6.4. The merger proposal

According with Fig. 26, the total transaction amount is estimated to be $3,018 million which reflect the Continental's equity value and its percentage in the estimated synergies representing the premium to be paid. As the merger will be totally realized with stock, the United Airlines needs to establish the exchange ratio of shares, or by other words, it needs to establish the total amount of shares that the Continental's Airlines shareholders will receive in the merged airline. In order to calculate the exchange ratio is followed the equation 6.1 (Gaughan 2011):

$$Exchange\ ratio = \frac{Offer\ price}{Share\ price\ of\ acquirer} \tag{6.1}$$

According with the estimated Continental's equity value with synergies, the offer price is establish to be $24,5 per share which by taking in account the United's price per share of $19,35 (also reflecting the airline's share in the synergies) give an exchange ratio of 1,27, or by other words, each Continental's shareholders will receive 1,27 United's shares.

6.5. Industry regulation issues and related risks

As stated in the industry analysis, the US airline industry was deregulated which meant a decrease of the government power in this industry. However, there are some specific regulations that are needed to take in account mainly in a case of a merger of this dimension.

According with the annual reports of both airlines, the largest US airports, most of them served by United and Continental, were subject to government regulation in terms of the airport' access rights. Airports such as JFK and La Guardia in the New York area or the Reagan National Airport in Washington D.C. have domestic restrictions in terms of access rights since these airports are classified by FAA as 'high density traffic airports'. With a merger between two the largest US carriers such as the United and Continental

there is the probability of the new airline not fulfill with the requirements by exceeding its recommended share in these airports. A similar situation can also be verified in the domestic routes which can lead to a capacity reduction in the new airline.

A similar situation also happen in the international flights. As referred in the industry analysis section, the US has several ‘open skies’ agreements however, there are some geographical regions in which the US doesn’t has agreements or whose airports have also access restrictions as happen in the London Heathrow Airport, the São Paulo Guarulhos Airport or the Beijing Capital International Airport, in which both airlines have a significant presence. These facts can impose some restrictions in possible future plans for international routes expansion in the new airline.

7. Conclusion

In last years, the M&A deals are seen by the US airlines as way to consolidate its position in the market and a way to surpass the difficult economic environment derived from the global recession and which had deep consequences in this industry. In line with this trend, the United and Continental announced a merger between them that will create one of the largest global airlines and which was here analyzed.

Through the dissertation was mentioned several advantages which the new airline will benefit from the merger. The majority of the estimated synergies were related with the passenger transportation revenues derived from the more diversified network route in both domestic and international segments. The other important synergies source is the cost savings that the new airline will benefit by implementing more efficiently procedures and by cutting double fixed costs. Also linked with this synergy source, the new airline will benefit of a larger aircraft fleet which allow it to optimize its operation according with the demand's passenger in easier and more flexible way.

According with the current conditions of both airlines and by taking in account the economic perspectives for the next years is estimated an combined airline' equity value of $6,269 million which represents an increase of 37,4% in relation of the equity value of the combined equity without synergies. With this result, the new airline will be one of the US largest carriers in terms of market capitalization by taking as reference the values observed in 2009 as well as the largest airlines in terms of ASM's.

From these results is estimated a 21,6% premium to be offer from United Airlines over the current Continental's market capitalization since this airline are commonly referred as the target airline. This premium added to the Continental's estimated value give a total transaction amount of $3,018 million which is here suggested to be paid all in stock.

8. Appendixes

Appendix 1. Classification of the airlines according with US DOT

Classification	Level of revenue	Type of services
Major airlines	Over $1 billion	National /International flights
National Airlines	$100 million-$1 billion	Commonly national flights
Regional Airlines	$20 -$100 million	Specific region flights
Cargo Airlines*	-	Transport of goods

*Can be classified also in the previous groups

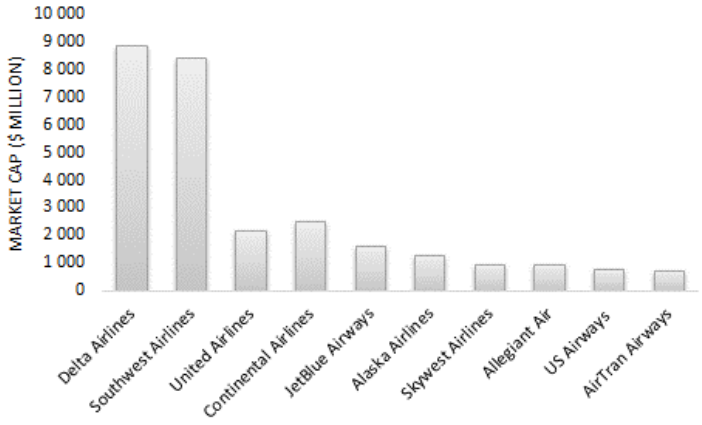
Source: US Department of Transportation

Appendix 2. US major airlines in 2009

Airline Firm		Observations
ABX Air		Cargo Airline
AirTran Airways		Low-cost Airline – subsidiary of Southwest
Alaska Airlines		
American Airlines		
American Eagle Airlines		Regional division of American Airlines
Atlantic Southeast Airlines		
Atlas Air		Cargo and passenger charter airline
Comair		Wholly owned subsidiary of Delta Airlines
Continental Airlines		
Delta Airlines		
Federal Express		Cargo Airline
Frontier Airlines		Low-cost airlines
Hawaiian Airlines		
JetBlue Airlines		Low-cost airlines
Northwest Airlines		Merger with Delta Approved in 2008
SkyWest Airlines		Operates on a regional airlines level
Southwest Airlines		Low-cost airlines
United Airlines		
UPS Airlines		Cargo Airlines
US Airways		
World Airways		Most of operations are non-schedule services

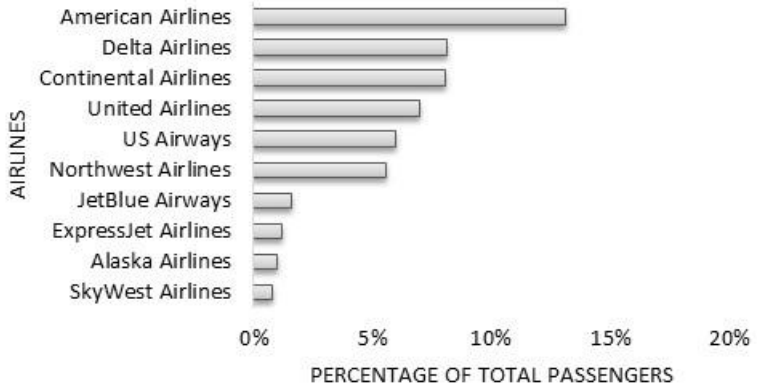
Source: US Department of Transportation

Appendix 3. Top ten airlines in terms of market capitalization-2009[9]



Source: Bloomberg

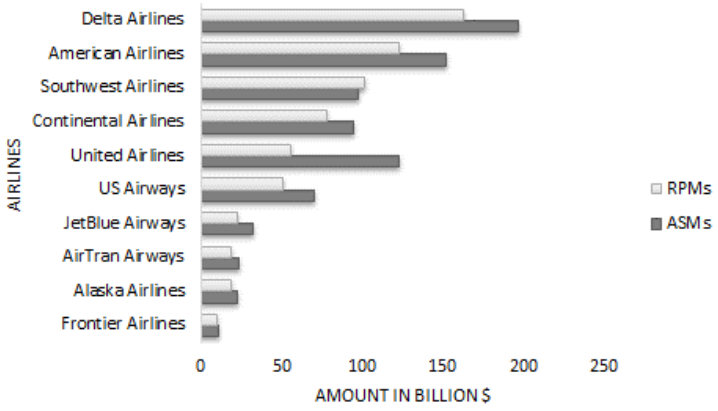
Appendix 4. Top ten airlines in terms of international destiny passengers transported-2009[10]



Source of data: Bureau of Transportation Statistics T-100 Market and Air Tansport Association[11]. Percentages calculated by the author

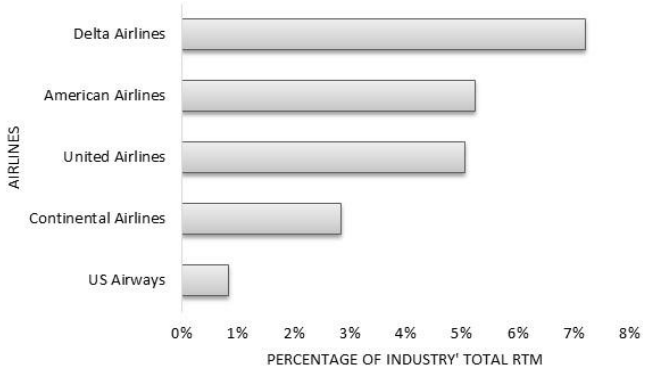
[9] Referent to all airline services
[10] Referent to all airline services
[11] Air Transportation Association

Appendix 5: Top airlines in terms of RPMs and ASMs-2009[12]



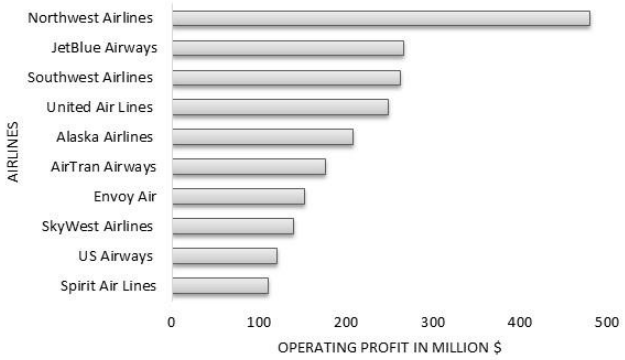
Source of data: Bureau of Transportation Statistics T-100 Market and Air Tansport Association[13]. Percentages calculated by the author.

Appendix 6: Top passengers airlines in terms of RTMs-2009[14]



Source of data: Bureau of Transportation Statistics T-100 Market and Air Tansport Association[15]. Percentages calculated by the author.

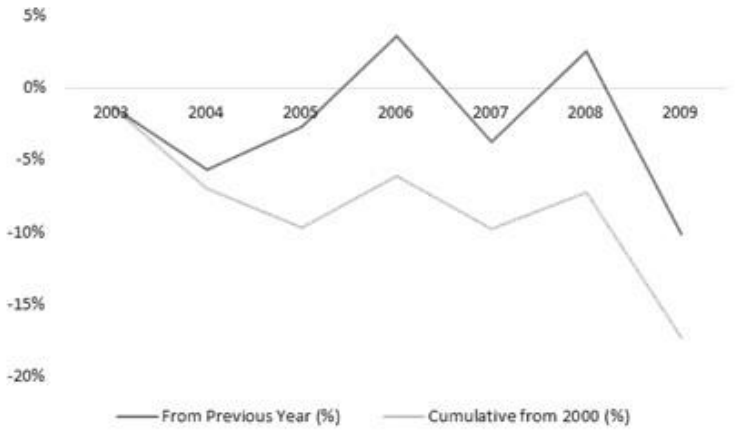
Appendix 7: Top passengers airlines in terms of Operating Profit-2009[16]



Source of data: Bureau of Transportation Statistics T-100 Market. Percentages calculated by the author.

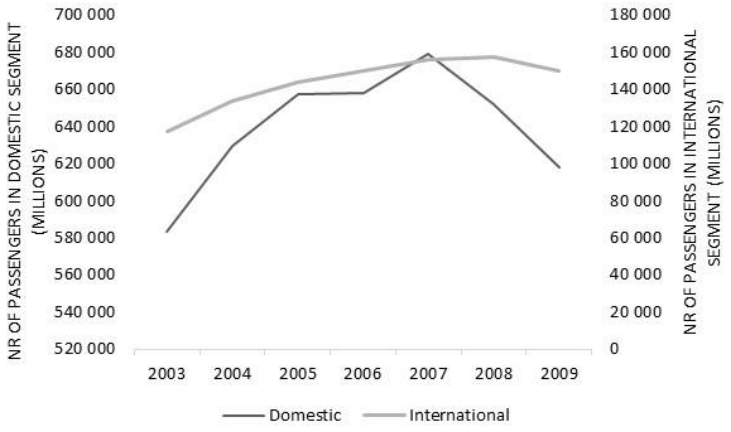
[12] Referent to all airline services
[13] Air Transportation Association
[14] Referent to all airline services
[15] Air Transportation Association
[16] Referent to all airline services

Appendix 8: Evolution of the annual U.S domestic average itinerary fare[17]



Source of data: Bureau of Transportation Statistics. Percentages calculated by the author.

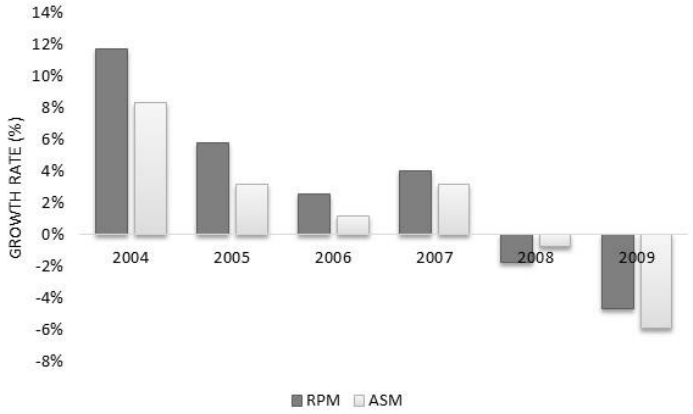
Appendix 9: Evolution of the total passenger transported in U.S airline industry (2003-2009)



Source of data: Bureau of Transportation Statistics T-100 Market. Percentages calculated by the author.

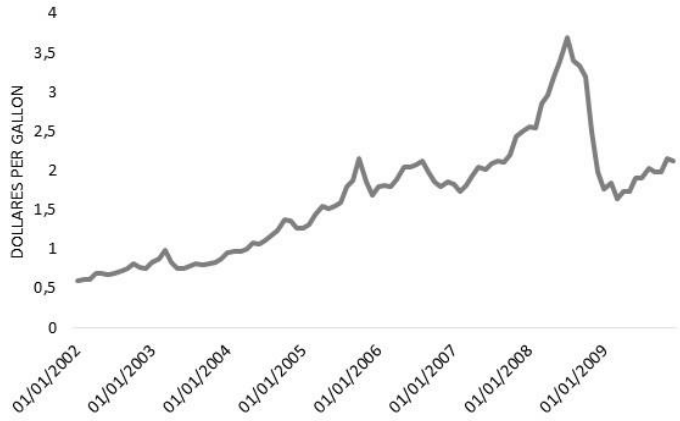
[17] At constant prices of 2013

Appendix 10: Evolution of RPM's and ASM's of the US airline industry (2004-2009)



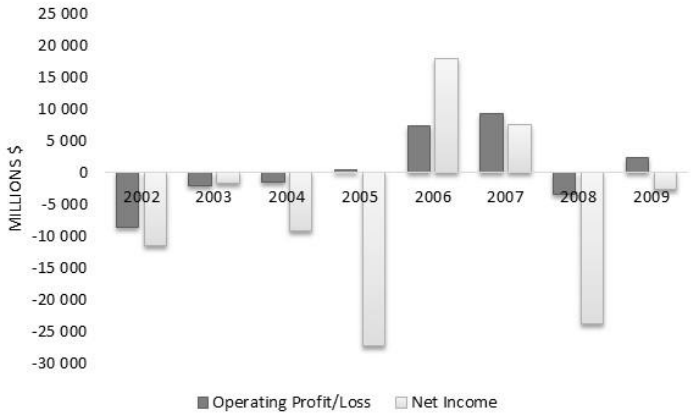
Source of data: Bureau of Transportation Statistics T-100 Market. Percentages calculated by the author.

Appendix 11: Evolution of the fuel price per gallon



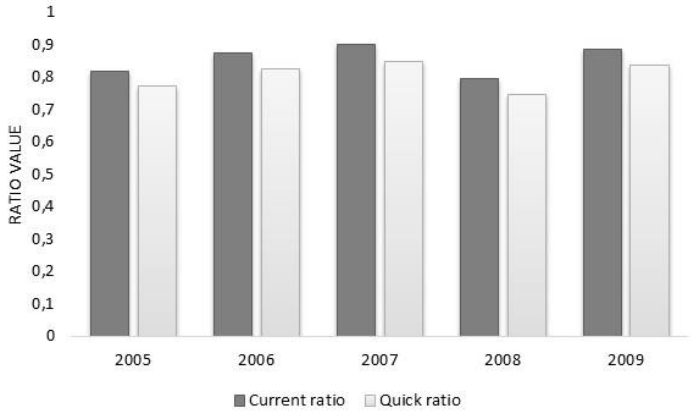
Source: Bureau of Transport Statistics

Appendix 12: Evolution of the operating profit/loss and the net income of the US airline industry (2004-2009)



Source: Bureau of Transportation Statistics. Percentages calculated by the author.

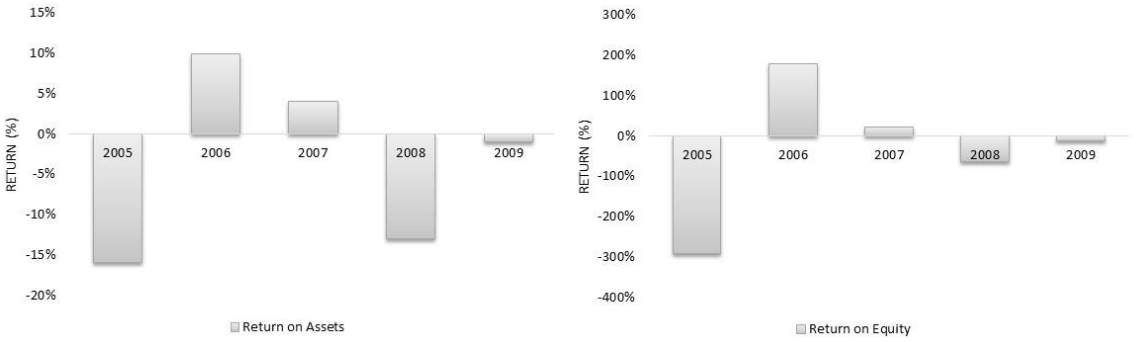
Appendix 13. Evolution of US airline industry 'current and quick ratios (2005-2006)



Source: Bureau of Transport Statistics

Appendix 14. Evolution of US airline industry's return on assets and return on equity (2005-2006)

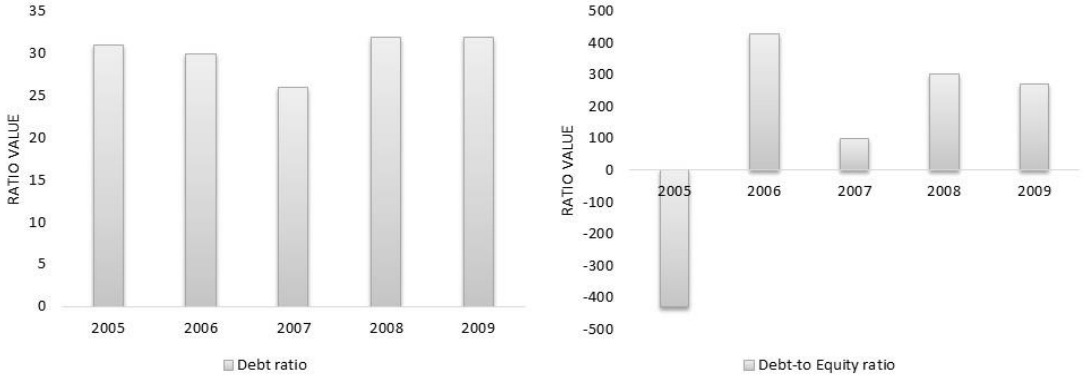
(a) **(b)**



Source: Bureau of Transport Statistics

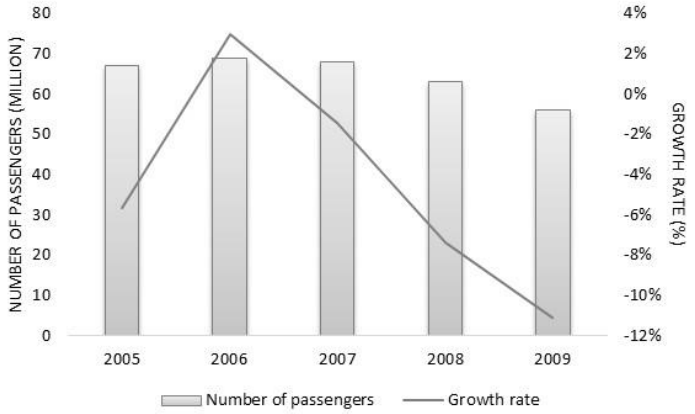
Appendix 15. Evolution of US airline industry's debt ratio and debt-to-equity ratio (2005-2006)

(a) **(b)**



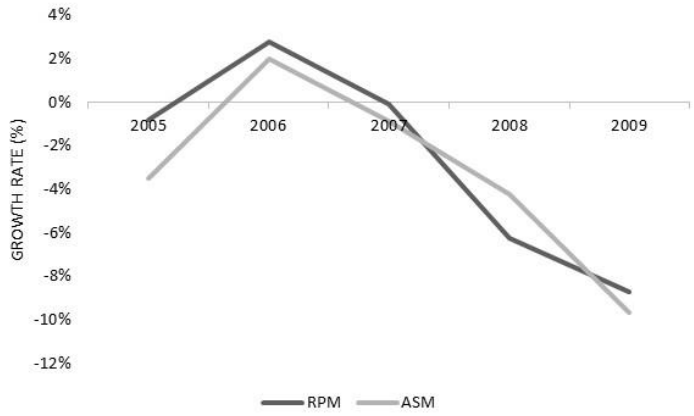
Source: Bureau of Transport Statistics

Appendix 16. Evolution of the number of passengers transported by United[18] (2005-2009)



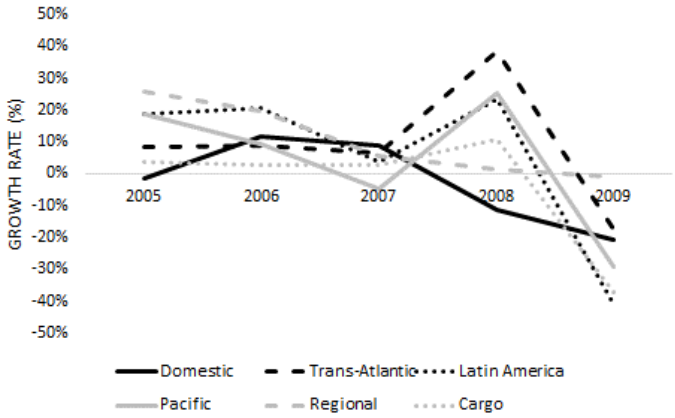
Source: United' Annual Reports

Appendix 17. Evolution of the United's RPM and ASM (2005-2009)



Source: United' Annual Reports

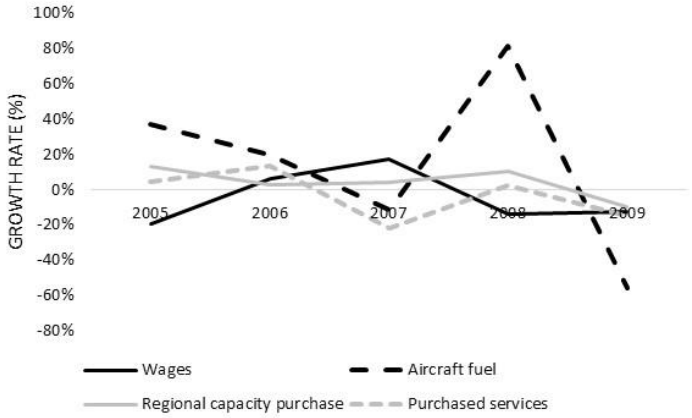
Appendix 18. Growth rates of the main components of United's operating revenues



Source: United' Annual Reports

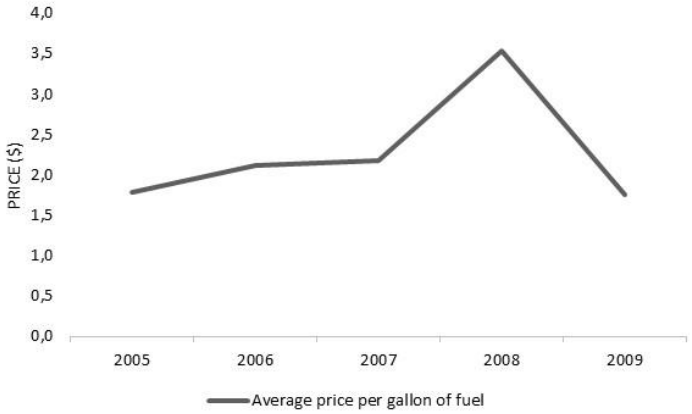
[18] Excluding the regional operations

Appendix 19. Growth rates of the main components of United's operating expenses



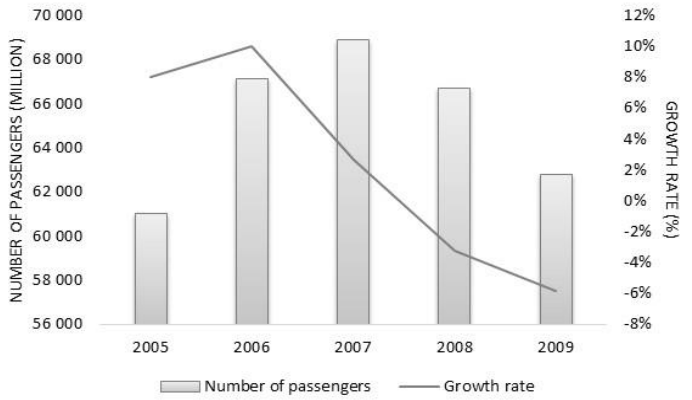
Source: United' Annual Reports

Appendix 20. United' average price per gallon of fuel jet (2005-2006)



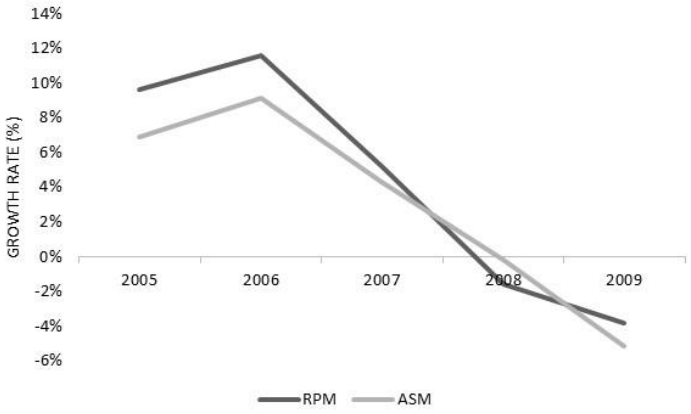
Source: United' Annual Reports

Appendix 21. Evolution of the number of passengers transported by Continental (2005-2009)



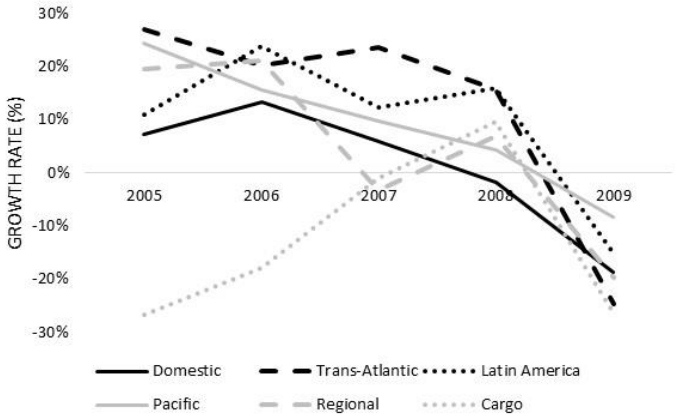
Source: Continental' Annual Reports

Appendix 22. Evolution of the Continental's RPM and ASM (2005-2009)



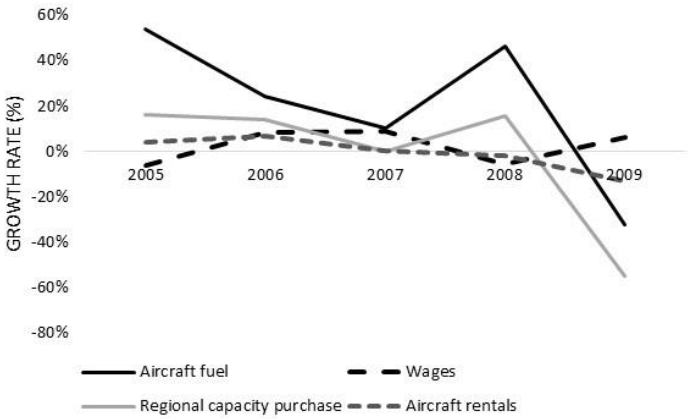
Source: Continental' Annual Reports

Appendix 23. Growth rates of Continental's operating revenues



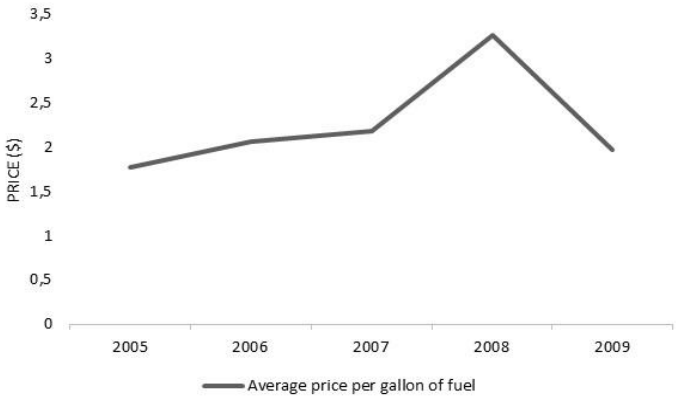
Source: Continental' Annual Report

Appendix 24. Growth rates of the main components of Continental's operating expenses



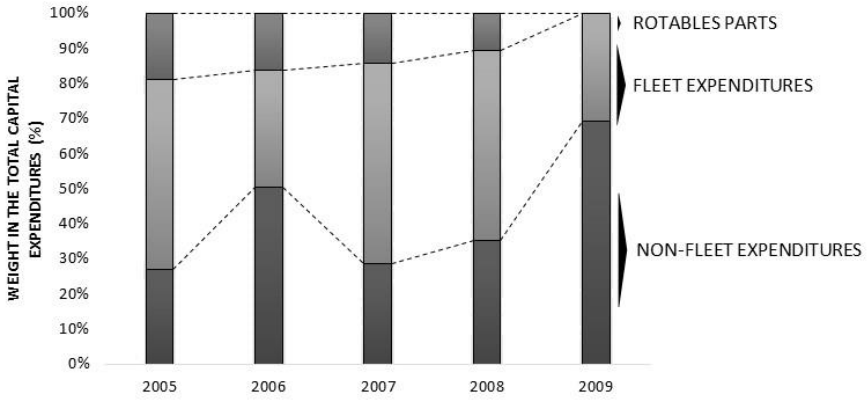
Source: Continental' Annual Reports

Appendix 25. Continental' average price per gallon of fuel jet (2005-2006)



Source: Continental' Annual Reports

Appendix 26. Evolution of Continental's capital expenditures components (2005-2006)



Source: Continental' Annual Reports

Appendix 27. FED US growth predictions

	FED US growth predictions					
	2010	**2011**	**2012**	**2013**	**2014**	**Long run**
Change in real GDP (%)	3.2 to 3.7	3.4 to 4.5	3.5 to 4.5	3.5 to 4.6	3.3 to 4.0	2.5 to 2.8
Inflation (%)	1.0 to 1.4	1.2 to 1.8	1.1 to 2.0	1.4 to 2.0	1.5 to 2.0	1.7 to 2.0

Source: US Fed

Appendix 28. GDP growth predictions

	Global Insight and FAA predictions -GDP							
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Europe/Africa/Middle East	1,30%	2,00%	2,50%	2,70%	2,80%	2,55%	2,50%	2,40%
Latin America	3,20%	4,30%	4,40%	4,10%	3,90%	3,80%	3,70%	3,60%
Pacific	4,70%	4,70%	5,20%	5,50%	5,50%	5,40%	5,30%	5,20%

Source: Global Insight and FAA.

Appendix 29. Revenues growth assumptions

Revenues Growth Assumptions								
	2010	2011	2012	2013	2014	2015	2016	2017
Domestic	-0,20%	1,50%	4,10%	3,70%	3,20%	3,20%	3,10%	3,00%
Trans-Atlantic	-1,90%	5,20%	4,70%	4,40%	4,20%	3,80%	3,80%	3,80%
Latin America	3,50%	4,60%	5,60%	5,70%	5,90%	5,70%	5,50%	5,50%
Pacific	1,30%	3,60%	5,10%	5,50%	5,80%	5,80%	5,60%	5,60%
Regional Operations	3,90%	3,70%	5,20%	5,20%	4,80%	4,50%	4,20%	4,20%
Cargo Transportation	3,10%	4,80%	5,40%	5,20%	5,10%	5,00%	4,80%	4,60%
Other	1,62%	3,90%	5,02%	4,95%	4,83%	4,67%	4,50%	4,45%

Source: FAA

Appendix 30. Historical and Forecasted Balance Sheet of United Airlines

United's Balance Sheet												
	Historical Period					Forecast Period						
(In million dollars)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Assets													
Cash and Equivalents	1 761	3 832	1 259	2 039	3 042	1 817	1 378	981	904	626	859	1 092	1 585
Short-Term Investments and restricted cash	720	653	2 620	54	128	165	339	443	556	772	803	834	866
Accounts receivables	839	820	888	714	743	740	757	787	812	846	880	914	949
Inventory	193	218	242	237	197	203	199	203	207	209	216	223	229
Deferred income taxes	0	122	78	268	63	394	533	645	709	731	683	580	399
Others	746	628	1 008	1 554	932	955	1 000	1 064	1 111	1 235	1 285	1 335	1 386
Total Current Assets	**4 259**	**6 273**	**6 095**	**4 866**	**5 105**	**4 274**	**4 205**	**4 124**	**4 298**	**4 418**	**4 725**	**4 977**	**5 416**
Property and Equipment													
Flight Equipment and other equipment	17 408	10 502	11 106	10 517	10 048	10 377	10 801	11 333	11 981	12 753	13 555	14 390	15 256
Less Accumulated depreciation	6 106	503	1 062	1 598	2 010	2 194	2 488	2 920	3 357	3 808	4 281	4 770	5 281
Owned property and equipment, net	**11 302**	**9 999**	**10 044**	**8 919**	**8 038**	**8 183**	**8 313**	**8 413**	**8 624**	**8 944**	**9 275**	**9 620**	**9 976**
Capital Lease	2 665	1 545	1 483	1 617	2 147	2 147	2 147	2 147	2 147	2 147	2 147	2 147	2 147
Less: Acumulated amortizations	739	81	168	224	345	771	1 070	1 220	1 362	1 494	1 617	1 736	1 847
Capital leases, net	1 926	1 464	1 315	1 393	1 802	1 376	1 077	927	785	653	530	411	300
Total property and equipment, net	**13 228**	**11 463**	**11 359**	**10 312**	**9 840**	**9 559**	**9 390**	**9 340**	**9 409**	**9 597**	**9 805**	**10 031**	**10 276**
Other assets, net	1 855	7 633	6 766	4 287	3 739	3 739	3 739	3 739	3 739	3 739	3 739	3 739	3 739
Total Assets	**19 342**	**25 369**	**24 220**	**19 465**	**18 684**	**17 573**	**17 334**	**17 203**	**17 446**	**17 754**	**18 269**	**18 748**	**19 431**
Current Liabilities													
Current maturities of LT debt and leases	33	1 797	928	950	971	927	1 127	1 349	1 856	1 161	845	846	858
Accounts Payable	596	667	877	829	803	805	761	752	758	761	785	810	834
Air Traffic and flyer liability	2935	3461	3880	2944	3007	2 990	2 918	3 015	3 093	3 168	3 267	3 374	3 474
Other currents liabilities	1 670	2 020	2 294	2 558	1 692	1 711	1 724	1 820	1 888	1 956	2 018	2 084	2 146
Total Current Liabilities	**5 234**	**7 945**	**7 979**	**7 281**	**6 473**	**6 433**	**6 531**	**6 936**	**7 595**	**7 046**	**6 915**	**7 114**	**7 313**
Long term debt and Capital leases	1 400	8 803	7 521	7 054	7 572	7 616	7 416	7 194	6 687	7 382	7 698	7 697	7 695
Deferred income taxes	428	688	638	804	551	0	0	0	0	0	0	0	0
Other liabilities	2 824	5 785	5 664	6 647	6 899	6 899	6 899	6 899	6 899	6 899	6 899	6 899	6 899
Liability subject to compromise	35 016	0	0	0	0	0	0	0	0	0	0	0	0
Total Liabilities	**44 902**	**23 221**	**21 802**	**21 786**	**21 495**	**20 948**	**20 846**	**21 029**	**21 181**	**21 327**	**21 512**	**21 710**	**21 907**
Stockolder's Equity													
Common Stock	1	1	1	1	2	2	2	2	2	2	2	2	2
Additional paid-in capital	5 064	2 053	2 139	2 919	3 136	3 136	3 136	3 136	3 136	3 136	3 136	3 136	3 136
Accumulated deficit	-29 122	16	152	-5 308	-5 956	-6 520	-6 656	-6 971	-6 880	-6 718	-6 388	-6 108	-5 621
Acumulated other comprehensive income	-36	82	141	93	35	35	35	35	35	35	35	35	35
Treasury Stock	-1 467	-4	-15	-26	-28	-28	-28	-28	-28	-28	-28	-28	-28
Total Stockholders'equity	**-25 560**	**2 148**	**2 418**	**-2 321**	**-2 811**	**-3 375**	**-3 511**	**-3 826**	**-3 735**	**-3 573**	**-3 243**	**-2 963**	**-2 476**
Total Liabilities and Stockholder's equity	**19 342**	**25 369**	**24 220**	**19 465**	**18 684**	**17 573**	**17 334**	**17 203**	**17 446**	**17 754**	**18 269**	**18 748**	**19 431**

Appendix 31. Estimation of NWC and short-term investments of United Airlines

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Operating Expenses	17 598	18 893	19 106	24 632	16 496	16 610	16 581	17 329	17 985	18 633	19 216	19 846	20 437
Current Assets													
Accounts Receivables	839	820	888	714	743	740	757	787	812	846	880	914	949
Days Outstanding	17,6	15,5	16,1	12,9	16,6	16,4	16,3	16,2	16,0	16,0	16,0	16,0	16,0
Inventory (spare parts)	193	218	242	237	197	203	199	203	207	209	216	223	229
Days Outstanding	4,2	4,4	5,1	3,8	4,8	4,8	4,7	4,6	4,5	4,4	4,4	4,4	4,4
Short Term investments	720	653	2 620	54	128	165	339	443	556	772	803	834	866
% of Operat. Revenue	4,1%	3,4%	13,0%	0,3%	0,8%	1,0%	2,0%	2,5%	3,0%	4,0%	4,0%	4,0%	4,0%
Others	746	628	1 008	1 554	932	955	1000	1064	1111	1235	1285	1335	1386
% of Operat. Revenue	4,3%	3,2%	5,0%	7,7%	5,7%	5,8%	5,9%	6,0%	6,0%	6,4%	6,4%	6,4%	6,4%
Total	2 498	2 319	4 758	2 559	2 000	2 063	2 294	2 497	2 685	3 061	3 183	3 306	3 432
Current liabilities													
Accounts Payable	596	667	877	829	803	805	761	752	758	761	785	810	834
Days Outstanding	13,0	13,5	18,3	13,2	19,5	19,0	18,0	17,0	16,5	16,0	16,0	16,0	16,0
Air Traffic and flyer liability	2935	3461	3880	2944	3007	2990	2918	3015	3093	3168	3267	3374	3474
% of Operat. Expense	16,7%	18,3%	20,3%	12,0%	18,2%	18,0%	17,6%	17,4%	17,2%	17,0%	17,0%	17,0%	17,0%
Other currents liabilities	1 670	2 020	2 294	2 558	1 692	1711	1724	1820	1888	1956	2018	2084	2146
% of Operat. Expense	9,5%	10,7%	12,0%	10,4%	10,3%	10,3%	10,4%	10,5%	10,5%	10,5%	10,5%	10,5%	10,5%
Total	5 201	6 148	7 051	6 331	5 502	5 506	5 404	5 587	5 739	5 885	6 069	6 268	6 455
Cost of sales	16 742	18 005	17 451	22 990	15 060	15 467	15 430	16 144	16 757	17 355	17 899	18 487	19 036
Non Cash Working Capital	-3 423	-4 482	-4 913	-3 826	-3 630	-3 607	-3 449	-3 533	-3 610	-3 595	-3 689	-3 796	-3 890
Change of Non Cash WC		-1 059	-431	1 087	196	23	159	-84	-77	14	-94	-107	-93

Appendix 32. Estimation of CAPEX and depreciation of United Airlines

(In million dollars)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Total capital expenditure	470	362	723	475	317	329	424	532	648	772	803	834	866
% Capex in operating revenue	2,7%	1,9%	3,6%	2,4%	1,9%	2,0%	2,5%	3,0%	3,5%	4,0%	4,0%	4,0%	4,0%
Depreciation	856	888	876	932	902	610	593	582	579	583	595	608	622

Appendix 33. Estimation of tax rate of United Airlines

	2005	2006	2007	2008	2009
Annual tax rate	0,0%	48,8%	45,6%	0,5%	2,5%
Average tax rate of 5 years	19,5%				
Average tax rate of 3 years	16,2%				
Average tax rate assumed	**37%**				
Federal tax rate	35%				
State tax rate	2%				

Appendix 34. United's Debt summary

(In millions dollars)	2010	2011	2012	2013	2014	2015	2016	2017
Repayments	971	991	976	1 480	2 151	1 096	845	846
Interest	755	739	703	708	717	725	729	736
Issue of new debt	971	991	976	1 480	2 151	1 096	845	846

Appendix 35. Historical and Forecasted Income Statement of United Airlines

United's Income Statement													
	Historical Period					Forecast Period							
(In million except per share data)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	**17 379**	**19 340**	**20 143**	**20 194**	**16 335**	**16 469**	**16 946**	**17 730**	**18 519**	**19 290**	**20 071**	**20 855**	**21 660**
Domestic	8 982	10 033	10 943	9 721	7 711	7 696	7 811	8 131	8 432	8 702	8 980	9 259	9 537
Trans-Atlantic	1 442	1 573	1 679	2 326	1 917	1 881	1 978	2 071	2 162	2 253	2 339	2 428	2 520
Latin America	327	395	410	506	300	311	325	343	363	384	406	428	452
Pacific	2 163	2 366	2 255	2 827	2 006	2 032	2 105	2 213	2 334	2 470	2 613	2 759	2 914
Regional Operations	2 429	2 901	3 063	3 098	3 064	3 183	3 301	3 473	3 654	3 829	4 001	4 169	4 344
Cargo Transportation	729	750	770	854	536	553	579	610	642	675	709	743	777
Other	1 307	1 322	1 023	862	801	814	846	888	932	977	1 023	1 069	1 116
Operating Expenses	**17 598**	**18 893**	**19 106**	**24 632**	**16 496**	**16 610**	**16 581**	**17 329**	**17 985**	**18 633**	**19 216**	**19 846**	**20 437**
Aircraft fuel and related taxes	4 032	4 824	4 261	7 722	3 405	3 547	3 680	3 970	4 150	4 284	4 422	4 564	4 651
Wages, salaries and related taxes	4 027	4 267	5 003	4 311	3 773	3 848	3 891	3 957	4 028	4 105	4 183	4 262	4 343
Regional capacity purchase, net	2 746	2 824	2 941	3 248	2 939	3 042	3 037	3 230	3 434	3 637	3 801	3 961	4 127
Purchased services	1 524	1 729	1 346	1 375	1 167	1 153	1 203	1 277	1 352	1 427	1 485	1 543	1 603
Aircraft rentals	402	415	406	409	346	455	331	321	293	291	282	313	325
Landing fees and other rentals	915	876	925	862	905	904	830	851	870	887	923	959	996
Distribution costs	0	0	779	710	534	532	559	603	648	694	723	751	780
Maintenance, materials and repairs	881	1 009	1 166	1 096	965	963	881	940	1 000	1 061	1 104	1 147	1 191
Depreciation and amortization	856	888	876	932	902	610	593	582	579	583	595	608	622
Other	2 215	2 061	1 403	3 967	1 560	1 555	1 575	1 599	1 629	1 662	1 699	1 738	1 799
Operating Income	**-219**	**447**	**1 037**	**-4 438**	**-161**	**-141**	**364**	**400**	**535**	**657**	**854**	**1 009**	**1 222**
Nonoperating Income (Expense)	**-360**	**-492**	**-385**	**-989**	**-511**	**-755**	**-739**	**-703**	**-708**	**-717**	**-725**	**-729**	**-736**
Interest Expense	-482	-770	-704	-571	-577	-755	-739	-703	-708	-717	-725	-729	-736
Interest income	38	249	257	112	19	0	0	0	0	0	0	0	0
Gains on sales of investments	0	0	41	0	0	0	0	0	0	0	0	0	0
Other, net	84	29	21	-530	47	0	0	0	0	0	0	0	0
Income (Loss) before Income Taxes	**-579**	**-45**	**652**	**-5 427**	**-672**	**-895**	**-375**	**-303**	**-173**	**-59**	**130**	**280**	**487**
Income Tax Expense (Benefit) (37%)	**0**	**21**	**297**	**-25**	**-17**	**-331**	**-139**	**-112**	**-64**	**-22**	**0**	**0**	**0**
Others reorganization items	**-20 597**	**22 942**	**5**	**6**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Income (Loss)	**-21 176**	**22 876**	**360**	**-5 396**	**-651**	**-564**	**-236**	**-415**	**-109**	**-37**	**130**	**280**	**487**
Earnings (Loss) per share:													
Basic	**-$182,29**	**$196,75**	**$2,94**	**-$42,59**	**-$4,32**	**-$3,36**	**-$1,41**	**-$2,47**	**-$0,65**	**-$0,22**	**$0,77**	**$1,67**	**$2,90**
Diluted	**-$182,29**	**$196,75**	**$2,65**	**-$42,59**	**-$4,32**	**-$3,36**	**-$1,41**	**-$2,47**	**-$0,65**	**-$0,22**	**$0,77**	**$1,67**	**$2,90**
Shares Used for Computation:													
Basic	**116**	**116**	**122**	**127**	**151**	**168**	**168**	**168**	**168**	**168**	**168**	**168**	**168**
Diluted	**116**	**116**	**136**	**127**	**151**	**168**	**168**	**168**	**168**	**168**	**168**	**168**	**168**

Appendix 36. Estimation of some of the United's operating costs

	FAA forecasts for jet fuel prices							
	2010	2011	2012	2013	2014	2015	2016	2017
Fuel Prices changes	4,7%	4,3%	6,8%	3,5%	2,2%	2,2%	2,2%	0,9%

	Continental's historical fuel data					Continental's forecast fuel data							
Mainline	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Average price per gallon of fuel $	1,79	2,11	1,86	3,54	1,75	1,84	1,91	2,04	2,12	2,16	2,21	2,26	2,28
Fuel gallons consumed (millions)	2 250	2 290	2 292	2 182	1 942	1 932	1 922	1 941	1 961	1 980	2 000	2 020	2 040
Total fuel cost	4 032	4 824	4 261	7 722	3 405	3 547	3 680	3 970	4 150	4 284	4 422	4 564	4 651

	Regional Capacity												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Regional Operations revenues (ROR	2 429	2 901	3 063	3 098	3 064	3 183	3 301	3 473	3 654	3 829	4 001	4 169	4 344
Regional capacity purchase (RCP)	2 746	2 824	2 941	3 248	2 939	3 042	3 037	3 230	3 434	3 637	3 801	3 961	4 127
% of RCP in ROR	113,1%	97,3%	96,0%	104,8%	95,9%	95,0%	92,0%	93,0%	94,0%	95,0%	95,0%	95,0%	95,0%

	Distribution Costs												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue (OR)	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Distribution Costs	0	0	779	710	534	532	559	603	648	694	723	751	780
% of D. Costs in the OR	0,0%	0,0%	3,9%	3,5%	3,3%	3,2%	3,3%	3,4%	3,5%	3,6%	3,6%	3,6%	3,6%

	Landing fees												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue (OR)	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Landing fees	915	876	925	862	905	904	830	851	870	887	923	959	996
% of Landing fees in the OR	5,3%	4,5%	4,6%	4,3%	5,5%	5,5%	4,9%	4,8%	4,7%	4,6%	4,6%	4,6%	4,6%

	Purchased Services												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue (OR)	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Purchased services	1 524	1 729	1 346	1 375	1 167	1153	1203	1277	1352	1427	1485	1543	1603
% of P. Services in the OR	8,8%	8,9%	6,7%	6,8%	7,1%	7,0%	7,1%	7,2%	7,3%	7,4%	7,4%	7,4%	7,4%

	Aircraft rentals												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue (OR)	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Rentals	402	415	406	409	346	330	331	321	293	291	282	313	325
% of Rentals in the OR	2,3%	2,1%	2,0%	2,0%	2,1%	2,0%	2,0%	1,8%	1,6%	1,5%	1,5%	1,5%	1,5%

	Maintenance												
	Historical Period					Forecast Period							
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue (OR)	17 379	19 340	20 143	20 194	16 335	16 469	16 946	17 730	18 519	19 290	20 071	20 855	21 660
Maintenance	881	1 009	1 166	1 096	965	963	881	940	1000	1061	1104	1147	1191
% of Maintenance in the OR	5,1%	5,2%	5,8%	5,4%	5,9%	5,9%	5,2%	5,3%	5,4%	5,5%	5,5%	5,5%	5,5%

Appendix 37. United's FCFF approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017
EBIT	-141	364	400	535	657	854	1 009	1 222
(-) Taxes	-52	135	148	198	243	316	373	452
(+)Depreciation	610	593	582	579	583	595	608	622
(-) CAPEX	329	424	532	648	772	803	834	866
(-) NWC	23	159	-84	-77	14	-94	-107	-93
Cash-flows	169	240	387	345	211	424	517	619
WACC	7,72%	7,72%	7,72%	7,72%	7,72%	7,72%	7,72%	7,72%
DCF	157	207	309	256	146	271	307	341

Sum of DCF	1 995
TV	6 707
Enterprise Value	8 702
Net Debt	6 378
Equity Value	2 324
Shares	168
Price per share	$13,83

Beta	1,977
Rf	3,84%
Rm	6,00%
Re	15,70%
kd	9,04%
D/V	80%
WACC	7,72%
Market cap	2 164

Terminal value (TV)
12 157

Appendix 38. United's APV approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017	
Cash-flows	169	240	387	345	211	424	517	619	**TV**
DCF	154	198	289	234	130	237	263	286	8 291
Sum of DCF	1 791								
PV of TV	3 826								
Interest	755	739	703	708	717	725	729	736	
ITS	279	273	260	262	265	268	270	272	**TV**
PV ITS	256	230	201	185	172	160	147	136	3 865
Sum PV ITS	1 487								
PV of TV ITS	2 039								
PV Bankruptcy cost	443								
Enterprise Value	8 700								
Net Debt	6 378								
Equity Value	2 322								
Shares	168								
Price per share	$13,82								

D/E	3,95
kd	9,04%
Re levered	15,70%
Re unlevered	10,15%
Default probability	39,41%
Assumed bankruptcy costs	20,00%

Appendix 39. Historical and Forecasted Balance Sheet of Continental Airlines

Continental's Balance Sheet													
	Historical Period					Forecast Period							
(In million dollars)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Assets													
Cash and Equivalents	1 723	2 123	2 128	2 165	2 546	1 833	1 502	1 260	1 124	1 140	1 416	1 882	2 602
Short-Term Investments	234	361	675	478	310	318	341	371	403	450	469	488	508
Accounts receivables	533	582	606	453	494	498	518	546	575	604	634	664	691
Inventory	201	217	271	235	254	254	252	259	264	272	280	288	296
Deferred income taxes	154	165	259	216	203	415	554	662	704	672	569	397	138
Others	582	681	622	800	566	572	591	619	647	675	704	732	762
Total Current Assets	**3 427**	**4 129**	**4 561**	**4 347**	**4 373**	**3 888**	**3 757**	**3 717**	**3 717**	**3 814**	**4 072**	**4 453**	**4 997**
Property and Equipment													
Flight Equipment and other equipment	8 078	8 403	8 730	10 140	10 556	10 937	11 344	11 798	12 315	12 901	13 526	14 210	14 972
Less Accumulated depreciation	2 328	2 539	2 790	3 229	3 509	3 966	4 417	4 864	5 311	5 762	6 222	6 691	7 174
Owned property and equipment, net	**5 750**	**5 864**	**5 940**	**6 911**	**7 047**	**6 971**	**6 927**	**6 934**	**7 004**	**7 138**	**7 304**	**7 519**	**7 798**
Capital Lease	344	303	297	194	194	194	194	194	194	194	194	194	194
Less: Acumulated amortizations	109	87	93	53	63	73	83	93	103	113	123	133	143
Capital leases, net	235	216	204	141	131	121	111	101	91	81	71	61	51
Total property and equipment, net	**5 985**	**6 080**	**6 144**	**7 052**	**7 178**	**7 092**	**7 038**	**7 035**	**7 095**	**7 219**	**7 375**	**7 580**	**7 849**
Other assets, net	1 117	1 099	1 400	1 287	1 230	1 230	1 230	1 230	1 230	1 230	1 230	1 230	1 230
Total Assets	**10 529**	**11 308**	**12 105**	**12 686**	**12 781**	**12 210**	**12 026**	**11 982**	**12 042**	**12 263**	**12 677**	**13 263**	**14 076**
Current Liabilities													
Current maturities of LT debt and leases	546	574	652	519	975	1 217	741	856	595	577	568	568	574
Accounts Payable	846	1 076	1 013	1 021	924	899	921	970	1 014	1 051	1 101	1 134	1 164
Air Traffic and flyer liability	1475	1712	1967	1881	1855	1 867	1 874	1 925	1 975	2 021	2 082	2 146	2 204
Other currents liabilities	532	593	817	1 053	635	639	664	705	742	794	818	843	866
Total Current Liabilities	**3 399**	**3 955**	**4 449**	**4 474**	**4 389**	**4 623**	**4 200**	**4 456**	**4 326**	**4 442**	**4 570**	**4 690**	**4 808**
Long term debt and Capital leases	5 057	4 859	4 366	5 353	5 291	5 049	5 525	5 410	5 671	5 689	5 698	5 698	5 692
Deferred income taxes	154	165	259	216	203	0	0	0	0	0	0	0	0
Other liabilities	1 693	1 982	1 481	2 520	2 308	2 308	2 308	2 308	2 308	2 308	2 308	2 308	2 308
Total Liabilities	**10 303**	**10 961**	**10 555**	**12 563**	**12 191**	**11 980**	**12 033**	**12 174**	**12 305**	**12 440**	**12 576**	**12 697**	**12 809**
Stockolder's Equity													
Common Stock	1	1	1	1	1	1	1	1	1	1	1	1	1
Additional paid-in capital	1635	1370	1606	2 038	2 216	2 216	2 216	2 216	2 216	2 216	2 216	2 216	2 216
Accumulated deficit	406	-11	448	-160	-442	-802	-1 040	-1 224	-1 295	-1 208	-930	-466	235
Acumulated other comprehensive loss	-675	-1013	-505	-1756	-1185	-1185	-1185	-1185	-1185	-1185	-1185	-1185	-1185
Treasury Stock	-1141	0	0	0	0	0	0	0	0	0	0	0	0
Total Stockholders'equity	**226**	**347**	**1550**	**123**	**590**	**230**	**-8**	**-192**	**-263**	**-176**	**102**	**566**	**1267**
Total Liabilities and Stockholder's equity	**10 529**	**11 308**	**12 105**	**12 686**	**12 781**	**12 210**	**12 026**	**11 982**	**12 042**	**12 263**	**12 677**	**13 263**	**14 076**

Appendix 40. Estimation of the NWC and short-term investments of Continental

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Operating Expenses	11 247	12 660	13 545	15 555	12 732	12 788	13 015	13 556	14 007	14 435	14 874	15 325	15 746
Current Assets													
Accounts Receivables	533	582	606	453	494	498	518	546	575	604	634	664	691
Days Outstanding	17,4	16,2	15,5	10,8	14,3	14,3	14,4	14,5	14,6	14,7	14,8	14,9	14,9
Inventory (spare parts)	201	217	271	235	254	254	252	259	264	272	280	288	296
Days Outstanding	7,1	6,8	7,9	6,0	8,0	7,9	7,7	7,6	7,5	7,5	7,5	7,5	7,5
Short Term investments	234	361	675	478	310	318	341	371	403	450	469	488	508
% of Operat. Revenue	2,1%	2,7%	4,7%	3,1%	2,5%	2,5%	2,6%	2,7%	2,8%	3,0%	3,0%	3,0%	3,0%
Others	582	681	622	800	566	572	617	674	719	780	860	895	931
% of Operat. Revenue	5,2%	5,2%	4,4%	5,2%	4,5%	4,5%	4,7%	4,9%	5,0%	5,2%	5,5%	5,5%	5,5%
Total	1 550	1 841	2 174	1 966	1 624	1 641	1 727	1 850	1 961	2 107	2 243	2 336	2 427
Current liabilities													
Accounts Payable	846	1 076	1 013	1 021	924	899	921	970	1014	1051	1101	1134	1164
Days Outstanding	30,1	33,8	29,7	25,9	29,0	28,0	28,2	28,5	28,8	29,0	29,5	29,5	29,5
Air Traffic and flyer liability	1475	1712	1967	1881	1855	1867	1874	1925	1975	2021	2082	2146	2204
% of Operat. Expense	13,1%	13,5%	14,5%	12,1%	14,6%	14,6%	14,4%	14,2%	14,1%	14,0%	14,0%	14,0%	14,0%
Other currents liabilities	532	593	817	1 053	635	639	664	705	742	794	818	843	866
% of Operat. Expense	4,7%	4,7%	6,0%	6,8%	5,0%	5,0%	5,1%	5,2%	5,3%	5,5%	5,5%	5,5%	5,5%
Total	2 853	3 381	3 797	3 955	3 414	3 406	3 459	3 600	3 731	3 866	4 002	4 123	4 235
Cost of sales	10 270	11 619	12 450	14 400	11 614	11 725	11 924	12 424	12 845	13 224	13 623	14 032	14 407
Non Cash Working Capital	-1 537	-1 901	-2 298	-2 467	-2 100	-2 083	-2 073	-2 121	-2 173	-2 209	-2 227	-2 275	-2 316
Change of Non Cash WC		-364	-397	-169	367	17	10	-48	-51	-36	-18	-47	-42

Appendix 41. Estimation of Capex and depreciation of Continental Airlines

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating revenue	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Total capital expenditures	185	300	445	504	381	381	407	454	518	585	626	684	762
% capex in operating revenue	1,7%	2,3%	3,1%	3,3%	3,0%	3,0%	3,1%	3,3%	3,6%	3,9%	4,0%	4,2%	4,5%
Depreciation	389	391	413	438	494	467	461	457	457	461	469	479	493

Appendix 42. Estimation of the tax rate of the Continental Airlines

	2005	2006	2007	2008	2009
Taxes at statutory rate	35,0%	35,0%	35,0%	35,0%	35,0%
State Income tax rate	3,4%	1,1%	2,1%	2,0%	2,0%
Meals and entertainment disallowance	-11,0%	1,6%	1,1%	-0,7%	-1,0%
Valuation Allowance	13,8%	-38,4%	-18,0%	-20,4%	-36,0%
Other	-41,2%	0,7%	0,9%	-0,1%	35,7%
Annual tax rate	0,0%	0,0%	21,1%	15,8%	35,7%
Average tax rate of 5 years	14,5%				
Average tax rate of 3 years	24,2%				
Average tax rate assumed	**37%**				
Federal tax rate	35%				
State tax rate	2%				

Appendix 43. Continental's debt summary

(In millions dollars)	2010	2011	2012	2013	2014	2015	2016	2017
Repayments	982	1 217	741	856	595	577	568	568
Interest	485	485	486	486	486	487	487	488
Issue of new debt	982	1 217	741	856	595	577	568	568

Appendix 44. Historical and Forecasted Income Statement of Continental Airlines

Continental's Income Statement													
	Historical Period					Forecast Period							
(In million dollars except per share data)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	**11 208**	**13 128**	**14 232**	**15 241**	**12 586**	**12 702**	**13 123**	**13 748**	**14 380**	**15 008**	**15 639**	**16 277**	**16 935**
Domestic	4 772	5 413	5 731	5 633	4 581	4 572	4 640	4 831	5 009	5 170	5 335	5 501	5 666
Trans-Atlantic	1 733	2 085	2 577	2 983	2 249	2 206	2 321	2 430	2 537	2 644	2 744	2 848	2 957
Latin America	1 085	1 343	1 510	1 750	1 483	1 535	1 606	1 695	1 792	1 898	2 006	2 116	2 233
Pacific	768	888	974	1 016	931	943	977	1 027	1 083	1 146	1 213	1 281	1 352
Regional Operations	1 877	2 274	2 203	2 355	1 894	1 968	2 041	2 147	2 258	2 367	2 473	2 577	2 685
Cargo Transportation	557	457	453	497	366	377	395	417	438	461	484	507	530
Other	416	668	784	1007	1082	1 100	1 143	1 202	1 262	1 324	1 384	1 447	1 512
Operating Expenses	**11 247**	**12 660**	**13 545**	**15 555**	**12 732**	**12 788**	**13 015**	**13 556**	**14 007**	**14 435**	**14 874**	**15 325**	**15 746**
Aircraft fuel and related taxes	2 443	3 034	3 354	4 905	3 317	3 381	3 433	3 740	3 910	4 036	4 166	4 300	4 382
Wages, salaries and related taxes	2 649	2 875	3 127	2 957	3 137	3 215	3 299	3 388	3 490	3 598	3 709	3 824	3 943
Regional capacity purchase, net	1 572	1 791	1 793	2 073	848	787	837	902	971	1 065	1 113	1 160	1 208
Aircraft rentals	928	990	994	976	934	994	977	948	933	904	890	877	864
Landing fees and other rentals	708	764	790	853	841	826	827	852	877	901	938	977	1 016
Distribution costs	588	650	682	717	624	597	630	674	705	750	782	814	847
Maintenance, materials and repairs	455	547	621	612	617	610	617	632	662	675	704	732	762
Depreciation and amortization	389	391	413	438	494	467	461	457	457	461	469	479	493
Passenger services	332	356	389	406	373	368	367	371	388	390	407	423	440
Other	1 183	1 262	1 382	1 618	1 547	1 544	1 567	1 591	1 614	1 655	1 696	1 739	1 791
Operating Income	**-39**	**468**	**687**	**-314**	**-146**	**-86**	**108**	**193**	**374**	**573**	**765**	**952**	**1 189**
Nonoperating Income (Expense)	**-29**	**-99**	**-131**	**-381**	**-293**	**-485**	**-485**	**-486**	**-486**	**-486**	**-487**	**-487**	**-488**
Interest Expense	-410	-401	-393	-376	-367	-485	-485	-486	-486	-486	-487	-487	-488
Interest income	72	131	160	65	12	0	0	0	0	0	0	0	0
Gains on sales of investments	90	61	37	78	0	0	0	0	0	0	0	0	0
Other-than temporary impairment losses on investments	204	92	0	-60	0	0	0	0	0	0	0	0	0
Other, net	15	18	65	-88	62	0	0	0	0	0	0	0	0
Income (Loss) before Income Taxes	**-68**	**369**	**556**	**-695**	**-439**	**-572**	**-377**	**-293**	**-113**	**87**	**278**	**464**	**701**
Income Tax Expense (Benifit)	**0**	**0**	**-117**	**109**	**157**	**-212**	**-139**	**-108**	**-42**	**0**	**0**	**0**	**0**
Cumulative Effect of Change in Accounting Principle	**0**	**-26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Net Income (Loss)	**-68**	**343**	**439**	**-586**	**-282**	**-360**	**-237**	**-185**	**-71**	**87**	**278**	**464**	**701**
Earnings (Loss) per share:													
Basic	**-$0,96**	**$3,86**	**-$4,53**	**-$5,54**	**-$2,18**	**-$2,93**	**-$1,93**	**-$1,50**	**-$0,58**	**$0,71**	**$2,26**	**$3,77**	**$5,70**
Diluted	**-$0,97**	**$3,30**	**$4,05**	**$5,54**	**$2,18**	**-$2,93**	**-$1,93**	**-$1,50**	**-$0,58**	**$0,71**	**$2,26**	**$3,77**	**$5,70**
Shares Used for Computation:													
Basic	**70**	**89**	**97**	**106**	**129**	**123**	**123**	**123**	**123**	**123**	**123**	**123**	**123**
Diluted	**70**	**111**	**114**	**106**	**129**	**123**	**123**	**123**	**123**	**123**	**123**	**123**	**123**

Appendix 45. Estimation of some of the Continental's operating costs

	FAA forecasts for jet fuel prices							
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Fuel Prices changes	4,7%	4,3%	6,8%	3,5%	2,2%	2,2%	2,2%	0,9%

	Continental's historical fuel data					Continental's forecast fuel data							
Mainline	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Average price per gallon of fuel $	1,78	2,06	2,18	3,27	1,97	2,06	2,15	2,30	2,38	2,43	2,48	2,54	2,56
Fuel gallons consumed (millions)	1 671	1 791	1 853	1 809	1 681	1 639	1 596	1 628	1 644	1 661	1 677	1 694	1 711
Total fuel cost	2 974	3 689	4 040	5 915	3 312	3 381	3 433	3 740	3 910	4 036	4 166	4 300	4 382

	Regional Capacity												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Regional Operations revenues (ROR	1 877	2 274	2 203	2 355	1 894	1 968	2 041	2 147	2 258	2 367	2 473	2 577	2 685
Regional capacity purchase (RCP)	1572	1791	1793	2073	848	787	837	902	971	1065	1113	1160	1208
% of RCP in ROR	83,8%	78,8%	81,4%	88,0%	44,8%	40,0%	41,0%	42,0%	43,0%	45,0%	45,0%	45,0%	45,0%

	Distribution Costs												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Operating revenue (OR)	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Distribution Costs	588	650	682	717	624	597	630	674	705	750	782	814	847
% of D. Costs in the OR	5,2%	5,0%	4,8%	4,7%	5,0%	4,7%	4,8%	4,9%	4,9%	5,0%	5,0%	5,0%	5,0%

	Landing fees												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Operating revenue (OR)	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Landing fees	708	764	790	853	841	826	827	852	877	901	938	977	1016
% of Landing fees in the OR	6,3%	5,8%	5,6%	5,6%	6,7%	6,5%	6,3%	6,2%	6,1%	6,0%	6,0%	6,0%	6,0%

	Passenger Services												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Operating revenue (OR)	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Passenger Services	332	356	389	406	373	368	367	371	388	390	407	423	440
% of P. Services in the OR	3,0%	2,7%	2,7%	2,7%	3,0%	2,9%	2,8%	2,7%	2,7%	2,6%	2,6%	2,6%	2,6%

	Aircraft rentals												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Operating revenue (OR)	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Rentals	928	990	994	976	934	994	977	948	933	904	890	877	864
% of Rentals in the OR	8,3%	7,5%	7,0%	6,4%	7,4%	7,8%	7,4%	6,9%	6,5%	6,0%	5,7%	5,4%	5,1%

	Maintenance												
	Historical Period					Forecast Period							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Operating revenue (OR)	11 208	13 128	14 232	15 241	12 586	12 702	13 123	13 748	14 380	15 008	15 639	16 277	16 935
Maintenance	455	547	621	612	617	610	617	632	662	675	704	732	762
% of Maintenance in the OR	4,1%	4,2%	4,4%	4,0%	4,9%	4,8%	4,7%	4,6%	4,6%	4,5%	4,5%	4,5%	4,5%

Appendix 46. Continental's FCFF approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017
EBIT	-86	108	193	374	573	765	952	1 189
(-) Taxes	-32	40	71	138	212	283	352	440
(+)Depreciation	467	461	457	457	461	469	479	493
(-) CAPEX	381	407	454	518	585	626	684	762
(-) NWC	17	10	-48	-51	-36	-18	-47	-42
Cash-flows	14	113	173	226	273	344	442	521
WACC	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%	7,53%
DCF	13	97	140	169	190	223	266	292

Sum of DCF	1 390
TV	5 945
Enterprise Value	7 335
Net Debt	5 098
Equity Value	2 237
Shares	123
Price per share	$18,19

Beta	1,511
Rf	3,84%
Rm	5,50%
Re	12,15%
kd	9,04%
D/V	72%
WACC	7,53%
Market cap	2 483

Terminal value (TV) 10 625

Appendix 47. Continental's APV approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017	
Cash-flows	14	113	173	226	273	344	442	521	
DCF	13	93	131	155	170	195	228	245	
Sum of DCF	1 231								**TV**
PV of TV	3 802								7 218
Interest	485	485	486	486	486	487	487	488	
ITS	180	180	180	180	180	180	180	180	**TV**
PV ITS	165	151	139	127	117	107	98	90	3 407

Sum PV ITS	994
PV of TV ITS	1 705
PV Bankruptcy cost	397
Enterprise Value	7 335
Net Debt	5 098
Equity Value	2 237
Shares	123
Price per share	$18,18

D/E	2,52
kd	9,04%
Re levered	12,15%
Re unlevered	9,90%
Default probability	39,41%
Assumed bankruptcy costs	20,00%

Appendix 48. Historical and Forecasted Balance Sheet of the merged airline without synergies

United-Continental's Balance Sheet without synergies													
	Historical Period					Forecast Period							
(In million dollars)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Assets													
Cash and Equivalents	3 484	5 955	3 387	4 204	5 588	3 649	2 880	2 241	2 028	1 766	2 275	2 974	4 186
Short-Term Investments	954	1 014	3 295	532	438	482	680	814	958	1 222	1 272	1 322	1 374
Accounts receivables	1 372	1 402	1 494	1 167	1 237	1 238	1 274	1 333	1 387	1 450	1 514	1 579	1 641
Inventory	394	435	513	472	451	457	450	462	471	481	496	511	525
Deferred income taxes	154	287	337	484	266	809	1 087	1 307	1 413	1 403	1 252	977	537
Others	1 328	1 309	1 630	2 354	1 498	1 527	1 590	1 682	1 758	1 910	1 988	2 067	2 148
Total Current Assets	**7 686**	**10 402**	**10 656**	**9 213**	**9 478**	**8 162**	**7 962**	**7 841**	**8 015**	**8 232**	**8 797**	**9 430**	**10 413**
Property and Equipment													
Flight Equipment and other equipment	25 486	18 905	19 836	20 657	20 604	21 314	22 145	23 130	24 296	25 653	27 082	28 599	30 228
Less Accumulated depreciation	8 434	3 042	3 852	4 827	5 519	6 160	6 904	7 784	8 668	9 571	10 502	11 461	12 454
Owned property and equipment, net	**17 052**	**15 863**	**15 984**	**15 830**	**15 085**	**15 155**	**15 241**	**15 346**	**15 628**	**16 082**	**16 579**	**17 139**	**17 774**
Capital Lease	3 009	1 848	1 780	1 811	2 341	2 341	2 341	2 341	2 341	2 341	2 341	2 341	2 341
Less: Acumulated amortizations	848	168	261	277	408	844	1 153	1 313	1 465	1 607	1 740	1 869	1 990
Capital leases, net	2 161	1 680	1 519	1 534	1 933	1 497	1 188	1 028	876	734	601	472	351
Total property and equipment, net	**19 213**	**17 543**	**17 503**	**17 364**	**17 018**	**16 652**	**16 429**	**16 374**	**16 504**	**16 816**	**17 181**	**17 611**	**18 125**
Other assets, net	2 972	8 732	8 166	5 574	4 969	4 969	4 969	4 969	4 969	4 969	4 969	4 969	4 969
Total Assets	**29 871**	**36 677**	**36 325**	**32 151**	**31 465**	**29 783**	**29 360**	**29 184**	**29 488**	**30 017**	**30 946**	**32 010**	**33 506**
Current Liabilities													
Current maturities of LT debt and leases	579	2 371	1 580	1 469	1 946	2 144	1 868	2 205	2 451	1 738	1 414	1 414	1 432
Accounts Payable	1 442	1 743	1 890	1 850	1 727	1 705	1 682	1 722	1 771	1 811	1 886	1 944	1 999
Air Traffic and flyer liability	4 410	5 173	5 847	4 825	4 862	4 857	4 793	4 940	5 068	5 188	5 349	5 519	5 679
Other currents liabilities	2 202	2 613	3 111	3 611	2 327	2 350	2 388	2 524	2 631	2 750	2 836	2 927	3 012
Total Current Liabilities	**8 633**	**11 900**	**12 428**	**11 755**	**10 862**	**11 056**	**10 731**	**11 392**	**11 921**	**11 488**	**11 485**	**11 805**	**12 121**
Long term debt and Capital leases	6 457	13 662	11 887	12 407	12 863	12 665	12 941	12 604	12 358	13 071	13 396	13 395	13 387
Deferred income taxes	582	853	897	1 020	754	0	0	0	0	0	0	0	0
Other liabilities	4 517	7 767	7 145	9 167	9 207	9 207	9 207	9 207	9 207	9 207	9 207	9 207	9 207
Liability subject to compromise	35 016	0	0	0	0	0	0	0	0	0	0	0	0
Total Liabilities	**55 205**	**34 182**	**32 357**	**34 349**	**33 686**	**32 928**	**32 879**	**33 203**	**33 486**	**33 766**	**34 087**	**34 407**	**34 716**
Stockolder's Equity													
Common Stock	2	2	2	2	3	3	3	3	3	3	3	3	3
Additional paid-in capital	6 699	3 423	3 745	4 957	5 352	5 352	5 352	5 352	5 352	5 352	5 352	5 352	5 352
Accumulated deficit	-28 716	5	600	-5 468	-6 398	-7 322	-7 696	-8 195	-8 175	-7 926	-7 318	-6 574	-5 386
Acumulated other comprehensive loss	-711	-931	-364	-1 663	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150
Treasury Stock	-2 608	-4	-15	-26	-28	-28	-28	-28	-28	-28	-28	-28	-28
Total Stockholders'equity	-25 334	2 495	3 968	-2 198	-2 221	-3 145	-3 519	-4 018	-3 998	-3 749	-3 141	-2 397	-1 209
Total Liabilities and Stockholder's equity	**29 871**	**36 677**	**36 325**	**32 151**	**31 465**	**29 783**	**29 360**	**29 184**	**29 488**	**30 017**	**30 946**	**32 010**	**33 506**

Appendix 49. NWC, CAPEX and Depreciation of the airline merged without synergies

(In million dollars)	2009	2010	2011	2012	2013	2014	2015	2016	2017
CAPEX		710	830	986	1166	1357	1428	1518	1628
Depreciation		1 077	1 054	1 040	1 036	1 045	1 064	1 087	1 115
Accounts receivables	1 237	1 238	1 274	1 333	1 387	1 450	1 514	1 579	1 641
Inventory	451	457	450	462	471	481	496	511	525
Other current assets	1 498	1 527	1 590	1 682	1 758	1 910	1 988	2 067	2 148
Total	3 186	3 222	3 315	3 478	3 616	3 841	3 998	4 157	4 315
Accounts payables	1 727	1 705	1 682	1 722	1 771	1 811	1 886	1 944	1 999
Air Traffic and flyer liabili	4 862	4 857	4 793	4 940	5 068	5 188	5 349	5 519	5 679
Other current liabilities	2 327	2 350	2 388	2 524	2 631	2 750	2 836	2 927	3 012
	8 916	8 912	8 863	9 187	9 470	9 750	10 071	10 391	10 690
Non- cash WC	-5 730	-5 690	-5 548	-5 709	-5 854	-5 909	-6 073	-6 234	-6 375
		40	142	-161	-145	-55	-163	-161	-141

Appendix 50. Historical and Forecasted Income Statement of airline merged without synergies

United-Continental's Income Statement without synergies													
	Historical Period					Forecast Period							
(In million dollars except per share data)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	**28 587**	**32 468**	**34 375**	**35 435**	**28 921**	**29 171**	**30 069**	**31 478**	**32 900**	**34 298**	**35 710**	**37 131**	**38 594**
Domestic	13 754	15 446	16 674	15 354	12 292	12 267	12 451	12 962	13 442	13 872	14 316	14 759	15 202
Trans-Atlantic	3 175	3 658	4 256	5 309	4 166	4 087	4 299	4 501	4 699	4 897	5 083	5 276	5 477
Latin America	1 412	1 738	1 920	2 256	1 783	1 845	1 930	2 038	2 155	2 282	2 412	2 544	2 684
Pacific	2 931	3 254	3 229	3 843	2 937	2 975	3 082	3 239	3 418	3 616	3 826	4 040	4 266
Regional Operations	4 306	5 175	5 266	5 453	4 958	5 151	5 342	5 620	5 912	6 196	6 475	6 746	7 030
Cargo Transportation	1 286	1 207	1 223	1 351	902	930	975	1 027	1 081	1 136	1 193	1 250	1 307
Other	1 723	1 990	1 807	1 869	1 883	1 914	1 989	2 090	2 194	2 301	2 407	2 515	2 628
Operating Expenses	**28 845**	**31 553**	**32 651**	**40 187**	**29 228**	**29 398**	**29 597**	**30 885**	**31 992**	**33 068**	**34 091**	**35 171**	**36 183**
Aircraft fuel and related taxes	6 475	7 858	7 615	12 627	6 722	6 928	7 114	7 710	8 060	8 319	8 587	8 864	9 033
Wages, salaries and related taxes	6 676	7 142	8 130	7 268	6 910	7 064	7 190	7 345	7 518	7 703	7 892	8 087	8 286
Regional capacity purchase, net	4 318	4 615	4 734	5 321	3 787	3 829	3 874	4 131	4 405	4 703	4 914	5 121	5 336
Passenger services and purchased services	1 856	2 085	1 735	1 781	1 540	1 521	1 571	1 648	1 740	1 818	1 892	1 966	2 043
Aircraft rentals	1 330	1 405	1 400	1 385	1 280	1 449	1 308	1 269	1 226	1 195	1 172	1 190	1 189
Landing fees and other rentals	1 623	1 640	1 715	1 715	1 746	1 730	1 657	1 703	1 748	1 788	1 862	1 936	2 012
Distribution costs	588	650	1 461	1 427	1 158	1 129	1 189	1 276	1 353	1 445	1 505	1 565	1 626
Maintenance, materials and repairs	1 336	1 556	1 787	1 708	1 582	1 573	1 498	1 572	1 662	1 736	1 808	1 879	1 953
Depreciation and amortization	1 245	1 279	1 289	1 370	1 396	1 077	1 054	1 040	1 036	1 045	1 064	1 087	1 115
Other	3 398	3 323	2 785	5 585	3 107	3 099	3 143	3 190	3 244	3 317	3 395	3 476	3 589
Operating Income	**-258**	**915**	**1 724**	**-4 752**	**-307**	**-227**	**472**	**593**	**908**	**1 230**	**1 619**	**1 960**	**2 411**
Nonoperating Income (Expense)	**-389**	**-591**	**-516**	**-1 370**	**-804**	**-1 240**	**-1 224**	**-1 189**	**-1 194**	**-1 203**	**-1 211**	**-1 216**	**-1 223**
Interest Expense	-892	-1 171	-1 097	-947	-944	-1 240	-1 224	-1 189	-1 194	-1 203	-1 211	-1 216	-1 223
Interest income	110	380	417	177	31	0	0	0	0	0	0	0	0
Gains on sales of investments	90	61	78	78	0	0	0	0	0	0	0	0	0
Other-than temporary impairment losses on investments	288	121	21	-590	47	0	0	0	0	0	0	0	0
Other, net	15	18	65	-88	62	0	0	0	0	0	0	0	0
Income (Loss) before Income Taxes	**-647**	**324**	**1 208**	**-6 122**	**-1 111**	**-1 467**	**-752**	**-596**	**-286**	**27**	**408**	**744**	**1 188**
Income Tax Expense (Benifit)	**0**	**21**	**180**	**84**	**140**	**-543**	**-278**	**-220**	**-106**	**-22**	**0**	**0**	**0**
Net Income (Loss)	**-647**	**303**	**1 028**	**-6 206**	**-1 251**	**-924**	**-474**	**-375**	**-180**	**49**	**408**	**744**	**1 188**
Earnings (Loss) per share:													
Basic	**-$3,47**	**$1,48**	**$4,69**	**-$26,67**	**-$4,47**	**-$3,18**	**-$1,63**	**-$1,29**	**-$0,62**	**$0,17**	**$1,40**	**$2,56**	**$4,08**
Diluted	**-$3,47**	**$1,33**	**$4,12**	**-$26,67**	**-$4,47**	**-$3,18**	**-$1,63**	**-$1,29**	**-$0,62**	**$0,17**	**$1,40**	**$2,56**	**$4,08**
Shares Used for Computation:													
Basic	**186**	**205**	**219**	**233**	**280**	**291**	**291**	**291**	**291**	**291**	**291**	**291**	**291**
Diluted	**186**	**228**	**250**	**233**	**280**	**291**	**291**	**291**	**291**	**291**	**291**	**291**	**291**

Appendix 51. Merged airline without synergies - FCFF approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017
EBIT	**-227**	**472**	**593**	**908**	**1 230**	**1 619**	**1 960**	**2 411**
(-) Taxes	-84	175	219	336	455	599	725	892
(+)Depreciation	1 077	1 054	1 040	1 036	1 045	1 064	1 087	1 115
(-) CAPEX	710	830	986	1 166	1 357	1 428	1 518	1 628
(-) NWC	40	142	-161	-145	-55	-163	-161	-141
Cash-flows	183	379	589	588	518	819	965	1 146
WACC	7,52%	7,52%	7,52%	7,52%	7,52%	7,52%	7,52%	7,52%
DCF	170	328	474	440	360	530	581	642

Sum of DCF	3 525
TV	12 512
Enterprise Value	16 037
Net Debt	11 476
Equity Value	4 561

Beta	1,728
Rf	3,84%
Rm	5,50%
Re	13,3%
kd	9,04%
D/V	76%
WACC	7,52%
Market cap United	2 164
Market cap Continen	2 483

Terminal value (TV)
22 352

Appendix 52. Merged airline without synergies - APV approach

	2010	2011	2012	2013	2014	2015	2016	2017	
FCFF	183	379	589	588	518	819	965	1 146	**TV**
DCF	166	313	442	402	322	463	495	535	15 669
Sum of DCF	3 138								
PV of TV	7 946								
Interest	1 240	1 224	1 189	1 194	1 203	1 211	1 216	1 223	
ITS	459	453	440	442	445	448	450	453	**TV**
PV ITS	421	381	339	312	289	267	246	226	6 684
Sum PV ITS	2 481								
PV ITS TV	3 344								
PV Bankruptcy costs	874								
Enterprise value	16 036								
Net Debt	11 476								
Equity Value	4 560								

D/E	3,19
kd	9,04%
Re levered	13,34%
Re unlevered	10,00%
Default probability	39,41%
Assumed bankruptcy costs	20,00%

Appendix 53. Localization of exclusive United and Continental' served airports

Source of image: United-Continental final investor presentation

Appendix 54. Aircraft fleet before and after the merger

Aircraft	UNITED	Continental Airlines	United Airlines
Boeing 747	24	--	24
Boeing 777	52	20	72
Boeing 767	35	26	61
Boeing 757	96	61	157
Boeing 737	--	226	226
Airbus 320 Family	152	--	152
Total	**359**	**333**	**692**

Source of table: United-Continental final investor presentation

Appendix 55. Historical and Forecasted Balance Sheet of the merged airline with synergies

United-Continental's Balance Sheet with synergies													
	Historical Period					Forecast Period							
(In million dollars)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Current Assets													
Cash and Equivalents	3 484	5 955	3 387	4 204	5 588	2 853	1 658	1 150	1 066	1 314	2 194	3 336	4 961
Short-Term Investments	954	1 014	3 295	532	438	482	680	814	958	1 222	1 272	1 322	1 374
Accounts receivables	1 372	1 402	1 494	1 167	1 237	1 238	1 274	1 333	1 387	1 450	1 514	1 579	1 641
Inventory	394	435	513	472	451	457	450	462	471	481	496	511	525
Deferred income taxes	154	287	337	484	266	1 174	1 623	1 863	1 888	1 718	1 448	1 088	571
Others	1 328	1 309	1 630	2 354	1 498	1 527	1 590	1 682	1 758	1 910	1 988	2 067	2 148
Total Current Assets	**7 686**	**10 402**	**10 656**	**9 213**	**9 478**	**7 731**	**7 277**	**7 305**	**7 528**	**8 094**	**8 912**	**9 904**	**11 221**
Property and Equipment													
Flight Equipment and other equipment	25 486	18 905	19 836	20 657	20 604	21 307	22 113	23 049	24 145	25 434	26 820	28 322	29 951
Less Accumulated depreciation	8 434	3 042	3 852	4 827	5 519	6 347	7 203	8 091	9 018	9 990	11 011	12 084	13 214
Owned property and equipment, net	**17 052**	**15 863**	**15 984**	**15 830**	**15 085**	**14 961**	**14 910**	**14 958**	**15 127**	**15 444**	**15 809**	**16 238**	**16 736**
Capital Lease	3 009	1 848	1 780	1 811	2 341	2 341	2 341	2 341	2 341	2 341	2 341	2 341	2 341
Less: Acumulated amortizations	848	168	261	277	408	844	1 153	1 313	1 465	1 607	1 740	1 869	1 990
Capital leases, net	2 161	1 680	1 519	1 534	1 933	1 497	1 188	1 028	876	734	601	472	351
Total property and equipment, net	**19 213**	**17 543**	**17 503**	**17 364**	**17 018**	**16 458**	**16 098**	**15 986**	**16 003**	**16 178**	**16 410**	**16 710**	**17 088**
Other assets, net	2 972	8 732	8 166	5 574	4 969	4 969	4 969	4 969	4 969	4 969	4 969	4 969	4 969
Total Assets	**29 871**	**36 677**	**36 325**	**32 151**	**31 465**	**29 158**	**28 344**	**28 260**	**28 500**	**29 241**	**30 291**	**31 583**	**33 278**
Current Liabilities													
Current maturities of LT debt and leases	579	2 371	1 580	1 469	1 946	2 144	1 868	2 205	2 451	1 738	1 414	1 414	1 421
Accounts Payable	1 442	1 743	1 890	1 850	1 727	1 705	1 682	1 722	1 771	1 811	1 886	1 944	1 999
Air Traffic and flyer liability	4 410	5 173	5 847	4 825	4 862	4 857	4 793	4 940	5 068	5 188	5 349	5 519	5 679
Other currents liabilities	2 202	2 613	3 111	3 611	2 327	2 350	2 388	2 524	2 631	2 750	2 836	2 927	3 012
Total Current Liabilities	**8 633**	**11 900**	**12 428**	**11 755**	**10 862**	**11 056**	**10 731**	**11 392**	**11 921**	**11 488**	**11 485**	**11 805**	**12 111**
Long term debt and Capital leases	6 457	13 662	11 887	12 407	12 863	12 665	12 941	12 604	12 358	13 071	13 396	13 395	13 387
Deferred income taxes	582	853	897	1 020	754	0	0	0	0	0	0	0	0
Other liabilities	4 517	7 767	7 145	9 167	9 207	9 207	9 207	9 207	9 207	9 207	9 207	9 207	9 207
Liability subject to compromise	35 016	0	0	0	0	0	0	0	0	0	0	0	0
Total Liabilities	**55 205**	**34 182**	**32 357**	**34 349**	**33 686**	**32 928**	**32 879**	**33 203**	**33 486**	**33 766**	**34 087**	**34 407**	**34 705**
Stockolder's Equity													
Common Stock	2	2	2	2	3	3	3	3	3	3	3	3	3
Additional paid-in capital	6 699	3 423	3 745	4 957	5 352	5 352	5 352	5 352	5 352	5 352	5 352	5 352	5 352
Accumulated deficit	-28 716	5	600	-5 468	-6 398	-7 944	-8 709	-9 117	-9 160	-8 699	-7 971	-6 998	-5 601
Acumulated other comprehensive loss	-711	-931	-364	-1 663	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150	-1 150
Treasury Stock	-2 608	-4	-15	-26	-28	-28	-28	-28	-28	-28	-28	-28	-28
Total Stockholders'equity	-25 334	2 495	3 968	-2 198	-2 221	-3 770	-4 535	-4 943	-4 986	-4 525	-3 797	-2 824	-1 427
Total Liabilities and Stockholder's equity	**29 871**	**36 677**	**36 325**	**32 151**	**31 465**	**29 158**	**28 344**	**28 260**	**28 500**	**29 241**	**30 291**	**31 583**	**33 278**

Appendix 56. Merged airline with synergies debt' summary

(In millions dollars)	2010	2011	2012	2013	2014	2015	2016	2017
Repayments	1 953	2 208	1 716	2 401	2 746	1 755	1 431	1 432
Interest	1 217	1 200	1 164	1 023	1 178	1 209	1 212	1 217
Issue of new debt	1 953	2 208	1 716	2 401	2 746	1 755	1 431	1 432

Appendix 57. Historical and Forecasted Income Statement of the merged airline with synergies

United-Continental's Income Statement with synergies													
	Historical Period					Forecast Period							
(In million dollars except per share data)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Operating Revenues	**28 587**	**32 468**	**34 375**	**35 435**	**28 921**	**29 238**	**30 173**	**31 616**	**33 075**	**34 527**	**35 900**	**37 293**	**38 762**
Domestic	13 754	15 446	16 674	15 354	12 292	12 292	12 501	13 027	13 522	13 983	14 401	14 833	15 278
Trans-Atlantic	3 175	3 658	4 256	5 309	4 166	4 099	4 317	4 524	4 728	4 931	5 113	5 302	5 504
Latin America	1 412	1 738	1 920	2 256	1 783	1 851	1 938	2 049	2 168	2 298	2 426	2 557	2 698
Pacific	2 931	3 254	3 229	3 843	2 937	2 984	3 095	3 256	3 438	3 641	3 849	4 060	4 287
Regional Operations	4 306	5 175	5 266	5 453	4 958	5 167	5 358	5 642	5 942	6 233	6 507	6 773	7 058
Cargo Transportation	1 286	1 207	1 223	1 351	902	931	976	1 029	1 084	1 140	1 196	1 251	1 309
Other	1 723	1 990	1 807	1 869	1 883	1 914	1 989	2 090	2 194	2 301	2 407	2 515	2 628
Operating Expenses	**28 845**	**31 553**	**32 651**	**40 187**	**29 228**	**30 476**	**30 187**	**31 100**	**32 120**	**32 888**	**33 962**	**35 108**	**36 148**
Aircraft fuel and related taxes	6 475	7 858	7 615	12 627	6 722	6 921	7 107	7 702	8 052	8 311	8 579	8 855	9 024
Wages, salaries and related taxes	6 676	7 142	8 130	7 268	6 910	6 958	7 118	7 308	7 518	7 703	7 892	8 087	8 286
Regional capacity purchase, net	4 318	4 615	4 734	5 321	3 787	3 818	3 854	4 103	4 366	4 670	4 890	5 121	5 336
Passenger services and purchased services	1 856	2 085	1 735	1 781	1 540	1 520	1 567	1 641	1 731	1 803	1 881	1 957	2 033
Aircraft rentals	1 330	1 405	1 400	1 385	1 280	1 448	1 304	1 263	1 216	1 187	1 166	1 190	1 189
Landing fees and other rentals	1 623	1 640	1 715	1 715	1 746	1 728	1 654	1 697	1 739	1 774	1 850	1 926	2 002
Distribution costs	588	650	1 461	1 427	1 158	1 128	1 187	1 271	1 346	1 433	1 495	1 557	1 618
Maintenance, materials and repairs	1 336	1 556	1 787	1 708	1 582	1 571	1 495	1 566	1 653	1 722	1 797	1 870	1 944
Depreciation and amortization	1 245	1 279	1 289	1 370	1 396	828	856	889	927	972	1 021	1 073	1 130
Other	3 398	3 323	2 785	5 585	3 107	3 096	3 139	3 186	3 241	3 314	3 391	3 473	3 586
Restructuring Costs	0	0	0	0	0	1 462	905	474	331	0	0	0	0
Operating Income	**-258**	**915**	**1 724**	**-4 752**	**-307**	**-1 238**	**-14**	**516**	**955**	**1 638**	**1 938**	**2 185**	**2 614**
Nonoperating Income (Expense)	**-389**	**-591**	**-516**	**-1 370**	**-804**	**-1 217**	**-1 200**	**-1 164**	**-1 023**	**-1 178**	**-1 209**	**-1 212**	**-1 217**
Interest Expense	-892	-1 171	-1 097	-947	-944	-1 217	-1 200	-1 164	-1 023	-1 178	-1 209	-1 212	-1 217
Interest income	110	380	417	177	31	0	0	0	0	0	0	0	0
Gains on sales of investments	90	61	78	78	0	0	0	0	0	0	0	0	0
Other-than temporary impairment losses on investments	288	121	21	-590	47	0	0	0	0	0	0	0	0
Other, net	15	18	65	-88	62	0	0	0	0	0	0	0	0
Income (Loss) before Income Taxes	**-647**	**324**	**1 208**	**-6 122**	**-1 111**	**-2 454**	**-1 214**	**-648**	**-68**	**461**	**729**	**973**	**1 396**
Income Tax Expense (Benifit)	**0**	**21**	**180**	**84**	**140**	**-908**	**-449**	**-240**	**-25**	**0**	**0**	**0**	**0**
Net Income (Loss)	**-647**	**303**	**1 028**	**-6 206**	**-1 251**	**-1 546**	**-765**	**-408**	**-43**	**461**	**729**	**973**	**1 396**
Earnings (Loss) per share:													
Basic	**-$3,47**	**$1,48**	**$4,69**	**-$26,67**	**-$4,47**	**-$5,52**	**-$2,73**	**-$1,46**	**-$0,15**	**$1,64**	**$2,60**	**$3,47**	**$4,99**
Diluted	**-$3,47**	**$1,33**	**$4,12**	**-$26,67**	**-$4,47**	**-$5,52**	**-$2,73**	**-$1,46**	**-$0,15**	**$1,64**	**$2,60**	**$3,47**	**$4,99**
Shares Used for Computation:													
Basic	**186**	**205**	**219**	**233**	**280**	**280**	**280**	**280**	**280**	**280**	**280**	**280**	**280**
Diluted	**186**	**228**	**250**	**233**	**280**	**280**	**280**	**280**	**280**	**280**	**280**	**280**	**280**

Appendix 58. Merged airline with synergies - FCFF approach

(In million dollars, except per share price)	2010	2011	2012	2013	2014	2015	2016	2017
EBIT	**-1 238**	**-14**	**516**	**955**	**1 638**	**1 938**	**2 185**	**2 614**
(-) Taxes	-458	-5	191	353	606	717	808	967
(+)Depreciation	828	856	889	927	972	1 021	1 073	1 130
(-) CAPEX	703	806	936	1 096	1 289	1 386	1 503	1 628
(-) NWC	40	142	-161	-145	-55	-163	-161	-141
Cash-flows	-695	-100	438	578	770	1 019	1 108	1 290
WACC	7,44%	7,44%	7,44%	7,44%	7,44%	7,44%	7,44%	7,44%
DCF	-647	-87	354	434	538	663	671	727

Beta	1,728
Rf	3,84%
Rm	5,50%
Re	13,3%
kd	8,84%
D/V	**76%**
WACC	7,44%

Terminal value (TV) 26 789

Sum of DCF	2 651
TV	15 093
Enterprise Value	17 745
Net Debt	11 476
Equity Value	6 269

Appendix 59. Merged airline with synergies - APV approach

	2010	2011	2012	2013	2014	2015	2016	2017	
FCFF	-695	-100	438	578	770	1 019	1 108	1 290	
DCF	-633	-83	330	396	480	578	572	606	**TV**
Sum of DCF	2 248								17 866
PV of TV	9 245								
Interest	1 217	1 200	1 164	1 023	1 178	1 209	1 212	1 217	
ITS	450	444	431	378	436	447	448	450	**TV**
PV ITS	414	375	334	270	285	269	248	229	8 923

Sum PV ITS	2 423
PV ITS TV	4 531
PV Bankruptacy costs	704
Enterprise value	17 744
Net Debt	11 476
Equity Value	6 268

D/E	3,19
kd	8,84%
Re levered	13,34%
Re unlevered	9,90%
Default probability	30,61%
Assumed bankruptcy c	20,00%

9. References

Academic literature

Agrawal, A., Jaffe, J.F. & Mandelker, G.N., 1992, 'The Post-Merger Performance of Acquiring Firms: A Reexamination of an Anomaly', *The Journal of Finance* 47 (4), pp. 1605-21.

Bancel, F. & Mittoo, U.R.,2014. 'The Gap between Theory and Practice of Firm Valuation:Survey of European Valuation Experts'. Working Paper.

Belobaba, P., Hernanadez, K., Jenkins, J., Powell, R. & Swelbar, W., 2011. 'Productivity trends in the US passenger Airline Industry 1978-2010'. US transportation Productivity Study. MIT publication.

Berk, J.B., 1995, 'A Critique of Size-Related Anomalies', *Review of Financial Studies*, Summer, pp. 275-286.

Booth, L., 2002. 'Finding Value Where None Exists: Pitfalls in Using Adjusted Present Value'. *Journal of Applied Corporate Finance* 15 (1), pp. 95-104.

Brealey, R.A., Myers, S.C., Marcus, A.J., 2001, *Fundamentals of Corporate Finance*, The McGraw-Hill Companies, Inc., New York.

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

Bris, A. Welch, I. & Zhu, N., 2006, 'The costs of bankruptcy: Chapter 7 liquidation versus Chapter 11 reorganization', *Journal of Finance* 61 (3), pp. 1253-1303.

Bruner, R.F., 2004, *Applied Mergers & Acquisitions*, JohnWiley & Sons, Inc, Hoboken, New Jersey.

Camara, D. & Renjen, P., 2004, 'The secrets of successful mergers: dispatches from the front lines', Journal of Business Strategy 25 (3), pp. 10-14.

Carter, R.B & Van Auken, H.E., 1990, 'Security ananlysis and portfolio management: A survey and analysis', *The Journal of Portfolio Management* 16 (3), Spring, pp. 81-85.

Chaplinsky, S., Schill, M. J. & Doherty, P.,2000, 'Methods of Valuation for Mergers and Acquisitions', *Darden Business Publishing*, Charlottesville, Virginia.

Cornell, B., 1993, *Corporate Valuation. Tools for Effective Appraisal and Decision Making*, Business One Irwin Inc., New York

Cullinan, G., Le Roux, J.M. & Weddigen, R.M., 2007, 'When to Walk Away from a Deal', *Harvard Business Review*, April, pp. 1-10.

Damodaran, A., 2002, *Investment Valuation*, JohnWiley & Sons, Inc., New York.

Damodaran, A., 2005, '*The Value of Synergy'*, Stern School of Business, New York.

Damodaran, A., 2005. 'Valuation Approaches and Metrics: A Survey of the Theory and Evidence'. *Foundations and Trends in Finance* 8 (1), pp. 693-784

Damodaran, A., 2008, '*What is the riskfree rate? A Search for the Basic Building Block',* Stern School of Business. Working Paper.

Davidson, I.R., 1985, 'Takeovers: Partitioning of Gains and Pareto Improvement in a Rational Market with Asymmetric Information', *Journal of Business Finance and Accounting* 12, pp. 373-85.

Devos, E., Kadapakkam, P.R. & Krishnamurthy, S., 2009, 'How Do Mergers Create Value? A Comparison of Taxes, Market Power, and Efficiency Improvements as Explanations for Synergies', *The Review of Financial Studies* 22 (3), pp. 1179-212.

Eberhart, A.C, 2004, 'Equity Valuation using Multiples', *The Journal of Investing*, Summer, pp.49-54.

Eccles, G.E., Kersten L.L., & Thomas, C.W., 1999, 'Are You Paying Too Much for That Acquisition?', *Harvard Business Review,* July, pp. 136-46.

Ehrhardt, M. C. (1994), 'Measuring the Company's Cost of Capital', Harvard Business School Press.

Easton, P.D, Wild, J.J., Halsey, R.F. & McAnally, M.L., 2013, *Financial Accounting for MBAs*, Cambridge Publishing, 5th Edition.

Feldman, S.J., 2005, *Principles of Private Firm Valuation*, JohnWiley & Sons, Inc., Hoboken, New Jersey.

Ferrer, R.C., 2012, 'An Empirical Investigation of the Effects of Merger and Acquisition on Firms Profitability', *Academy of Accounting and Financial Studies Journal* 16 (3), pp. 31-55.

Fernández, P., 1995, 'Equivalence of the APV, WACC and Flows to Equity Approaches to Firm Valuation', IESE Business School paper.

Fernández, P., 2001,'Valuation using multiples. How do analysts reach their conclusions?', IESE Business School paper.

Fernández, P., 2004, '80 common errors in company valuation', IESE Business School paper.

Fernández, P., 2004, 'Market Risk Premium: Required, Historical and Expected', IESE Business School paper.

Gaughan, P.A., 2011,*Mergers, Acquisitions, and Corporate Restructurings*, JohnWiley & Sons, Inc., Hoboken, New Jersey.

Gentry, J.A. & Reily, F.K., 2007. 'Estimating the Intrinsic Value of an Enterprise with and Integrated Financial Management System', Working paper

Giddy, I., 2006, 'Mergers & Acquisitions: An Introduction', text that belongs to the learning content of the course of mergers and acquisition in the New York University, New York.

Gosh, A. & Ruland, W., 1998, 'Managerial Ownership, the Method of Payment for Acquisitions, and Executive Job Retention', *The Journal of Finance* 53 (2), pp. 785-98

Harris, M. & Raviv, A., 1988, 'Corporate Governance: Voting Rights and Majority Rules', *Journal of Financial Economics* 20, pp.203-35.

Holthausen, R.W & Zmijewski, M.E., 2014, *Corporate Valuation: Theory, Evidence and Practice.* Cambridge Business Publishers.

Ibbotson, R. & Chen, P., 2003, 'Long-Run Stock Returns: Participating in the Real Economy', *Financial Analysts Journal* 59 (1), pp. 88-98.

Inselbag, I. & Kaufold, H., 1997, 'Two DCF Approaches for Valuing Companies Under Alternative Financing Strategies (And How to Choose Between Them)'. Journal of Applied Corporate Finance 10 (1), pp. 114-22.

Ismail, A. & Krause, A., 2010, 'Determinants of the method of payment in mergers and acquisitions', *The Quarterly Review of Economics and Finance* 50, pp. 471-84

Ismail, A., 2011, 'Does the Management's Forecast of Merger Synergies Explain the Premium Paid, the Method of Payment, and Merger Motives?*', Financial Management*, Winter, pp. 879-910.

Jensen, M.C & Ruback, R.S., 1983, 'The Market of Corporate Control: The Scientific Evidence', *Journal of Financial Economics* 11, pp. 5-50.

Jensen, M.C., 1986, 'Agency Costs of Free Cash Flow, Corporate Finance and Takeovers', *American Economic Review* 76 (2), pp. 323-29.

Johnston. A. & Ozment. J., 2011, 'Concentration in the airline industry: evidence of economies of scale?', *Journal of Transportation Management* Fall/Winter, pp. 59-74.

Kaplan, R., 1986, 'Must CIM be justified by faith alone?', *Harvard Business Review*, 64 (2), pp. 87–95.

Kaplan, S.N. & Ruback, R.S., 1995, 'The Valuation of Cash Flow Forecasts: An Empirical Analysis', *The Journal of Finance* 50 (4), pp. 1059-93.

Kaplan, S.N & Ruback, R.S., 1996, 'The Market Pricing of Cash Flow Forecasts: Discounted Cash Flow vs. the Method of ''Comparables''', *Journal of Applied Corporate Finance* 8 (4), pp. 45-60.

Kaplan, P.D. & Peterson, J.D., 1998, 'Full-Information Industry Betas, *Financial Management* 27 (2), Summer, pp.85-93.

Koller, T., Goedhart, M. & Wessels, D., 2010, *Valuation: Measuring and Managing the Value of Companies,* JohnWiley & Sons, Inc., Hoboken, New Jersey.

Lie, E. & Lie, H.J., 2002, 'Multiples Used to Estimate Corporate Value', *Financial Analysts Journal* 58 (2), Mar/Apr, pp. 44-54.

Liu, J. & Thomas, J., 2002, 'Equity Valuation Using Multiples', *Journal of Accounting Research* 40, pp. 135-72.

Lubian, F.J.L., 2010. 'Opening Terminal Value's Black Box'. Working Paper

Luehrman, T.A, 1997, 'Using APV: A Better Tool for Valuing Operations'. *Harvard Business Review* 75 (3), pp. 145-54

Lütolf-Carroll, C. & Pirnes, A., 2009, *From Innovation to Cash Flows: Value Creation by Structuring High Technology Alliances*, John Wiley and Sons, New Jersey.

Martin, K.J, 1996, 'The Method of Payment in Corporate Acquisitions, Investment Opportunities, and Management Ownership', *The Journal of Finance* 51 (4), pp. 1227-46.

Modigliani, F. & Miller, M.H., 1958, 'The Cost of Capital, Corporation Finance and the Theory of Finance', *The American Economic Review* 48 (3), pp. 261-97.

Morck, R., Shleifer, A. & Vishny, R.W., 1988, 'Characteristics of Targets of Hostile and Friendly Takeovers', *Corporate Takeovers: Causes and Consequences*, pp.101-136.

Moss, D.L., 2013, 'Delivering the Benefits? Efficiencies and Airline Mergers'. Publication of American Antitrust Institute.

Motis, J., 2007, *'Merger and Acquisition Motives'*, in possession of the Toulouse School of Economics and University of Crete.

Mukherjee, T.K., Kiymaz, H. & Baker, H.K, 2003, 'Merger Motives and Target Valuation: A Survey of Evidence from CFOs', University of New Orleans, University of Houston and American University.

Mukherji, S., 2011, 'The Capital Asset Pricing Model's Risk-Free Rate', *The International Journal of Business and Finance Research* 5 (2), pp.75-83.

Petitt, B.S. & Ferris, K., 2013. *Valuation for Mergers and Acquisitions*. Pearson Education Inc., New Jersey

Piesse, J., Lee, C.F., Lin, L. & Kuo, H.C., 2013, 'Merger and Acquisition: Definitions, Motives, and Market Responses', *Encyclopedia of Finance*, pp. 541-54.

Pratt, S.P. & Grabowski, R.J, 2008, '*Cost of Capital: Applications and Examples*', JohnWiley & Sons, Inc., Hoboken, New Jersey.

Quackenbush, W.,2013.'Terminal Value: a Look at Some Key Issues', *Financial Valuation and Litigation Expert* 46, pp. 10-4.

Rappaport, A., Sirower, M.L.,1999, 'Stock or Cash? The Trade-Offs for Buyers and Sellers in Mergers and Acquisitions', *Harvard Business Review*, November, pp. 147-58.

Roberts, A., William, W. & Moles, P., 2012, '*Mergers and Acquisitions',* text that belongs to the learning content of the course of mergers and acquisition in the Edinburgh Business School, Edinburgh.

Roll, R., 1986, 'The Hubris Hypothesis of Corporate Takeovers', *The Journal of Business* 59 (2), pp. 197-216.

Ross S.A., Westerfield R.W. & Jaffe, J., 2002, *Corporate Finance,* The McGraw-Hill Companies, Inc., New York.

Rotkowski, A. & Clough, E., 2013. 'How to Estimate the Long-Term Growth Rate in the Discounted Cash Flow Method.' *Insights*, Spring, pp. 9-20.

Schall, L., Sundem, G. & Gerjsbeek, W.R., 1978, 'Survey and Analysis of Capital Budgeting Methods', *The Journal of Finance,* pp. 281-7.

Shleifer, A., Vishny, R.W., 1989, 'Management Entrenchement: The Case of Manager-Specific Investments', *Journal of Financial Economics* 25, pp. 123-39.

Shleifer, A., Vishny, R.W., 1991, 'Takeovers in the '60s and the '80s: Evidence and Implications', *Strategic Management Journa*l 12, pp.51-9.

Shrieves, R.E. & Wachowicz, J.M., 2001, 'Free Cash Flow (FCF), Economic Value Added (EVA), and Net Present Value (NPV): A Reconciliation of Variations of Discounted-Cash-Flow (DCF) Valuation', *The Engineering Economist* 46 (1), pp. 33-52.

Stanley, M.T. & Block, S.B.,1984 'A Survey of Multinational Capital Budgeting', The *Finance Review*, pp. 36‑51.

Steiger, F., 2008, 'The Validity of Company Valuation Using Discounted Cash Flow Methods', Working Paper.

Stowe, J.D., Robinson, T.R., Pinto, J.E & McLeavey, D.W., 2007, *Equity Asset Valuation,* JohnWiley & Sons, Inc., Hoboken, New Jersey.

Slusky, A.R. & Caves, R.E., 1991, 'Synergy, Agency, and the Determinants of Premia Paid Mergers', *Journal of Industrial Economics* 39, pp. 277-296.

Thompson, T., 1997,'Value (APV) Method vs. Adjusted Discount Rate (ADR) Method (Theory)'. Working Paper

Torrez, J., Al-Jafari, M. & Juma'h, A.H., 2006. 'Corporate Valuation: A Literature Review'. *Inter Metro Business Journal* 2 (2), pp. 39-58.

Thourborn, K.S., 2000, 'Bankruptcy auctions: costs, debt recovery and, firm survival', *Journal of Financial Economics* 58, pp. 337-368

Trautwein, F., 1990, 'Me.rger Motives and Merger Prescriptions' *Strategic Management Journal* 11, pp. 283-95.

Travlos, N.G., 1987, 'Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns', *The Journal of Finance* 42 (4), pp. 943-63.

Vijh, A.M. & Loughran, T., 1997, 'Do Long-Term Shareholders Benefit From Corporate Acquisitions?', *The Journal of Finance* 52 (5), pp. 1765-90.

Wansley, J.M., Lane, W.R. & Yang, H.C., 1983, 'Abnormal Returns to Acquired Firms By Type of Acquisition and Method of Payment', *Financial Management,* Autumn, pp. 16-22.

Welch, I., 2008, 'The Consensus Estimate for the Equity Premium', Academic Financial Economists in December 2007, Unpublished Working Paper, Brown University.

Welch, I., 2014, *Corporate Finance,* Publisher Ivo Welch, US.

Other sources

Air Transport Association (2010). Annual report- 2010.

Continental Airlines, Inc. (2005) Annual report - Form 10K.

Continental Airlines, Inc. (2006) Annual report - Form 10K.

Continental Airlines, Inc. (2007) Annual report - Form 10K.

Continental Airlines, Inc. (2008) Annual report - Form 10K.

Continental Airlines, Inc. (2009) Annual report - Form 10K.

Datamonitor (2010). Report: Airline profile-Airlines in United States.

Delta Air Lines Inc. (2010) Annual report – Form 10K.

Federal Aviation Administration (2010). Report: 'FAA Aerospace Forecast - Fiscal years 2010-2030'.

Federal Aviation Administration (2011). Report:' The economic impact of the civil aviation on the US economy'.

Federal Reserve (2010) Minutes of the Federal Open Market Committee, Available at: http://www.federalreserve.gov/monetarypolicy/fomcminutes20100428ep.htm (Accessed: 2nd August 2014).

IBIS (2010). Report:' On standby: Travelers will return to the skies and boost revenues as the economy recovers'.

International Air Transport Association (2010). Annual Report-2010.

J.P. Morgan (2009). Report: 'A shifting landscape for synergies: How financial considerations are affecting value creation in mergers and acquisitions'.

Standard & Poor's (2012) 2011 Annual U.S. Corporate Default Study And Rating Transitions, Available at: http://www.standardandpoors.com/ratings/articles/en/ (Accessed: 3rd August 2014).

Standard & Poor's. (2011). Report: '2011 Annual U.S. Corporate Default Study And Rating Transitions'.

UAL, Corporation. (2005) Annual report - Form 10K.

UAL, Corporation. (2006) Annual report - Form 10K.

UAL, Corporation. (2007) Annual report - Form 10K.

UAL, Corporation. (2008) Annual report - Form 10K.

UAL, Corporation. (2009) Annual report - Form 10K.

United Airlines (2010). Final Investor Presentation: ‘Let’s Fly Together’.

US Department of Transportation (DOT). Available at: http://www.dot.gov/ (Accessed: July/August 2014).