Master Thesis

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Mergers and Acquisitions:

The Case of Delta Airlines and US Airways

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Acknowledgments

The conclusion of the present thesis is the culmination of not only six months of particular research on airline mergers and acquisitions, but also the completion of my formal education process.

I have no doubt that this particular paper was the greatest and most challenging academic task I have ever been assigned to, which posed several theoretical and practical difficulties throughout its building process. Yet, considering that along the way I could acquire a set of important skills and understanding related to M&A field, I am certain that based on the final outcome all the difficulties were successfully overcome.

I would like to express my gratitude to supervisor Peter Tsvetkov for his helpful and useful role during the last months, greatly reflected on his availability and valuable feedback.

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Abstract

Over the last decade, US passenger airline industry faced an extremely adverse period when it comes to profit generation, culminating in significant losses and bankruptcies of several carriers. Within this market, airlines operate under a very demanding and stressful environment. Three main factors are reflective of this specific setting, such as: the existence of unpredictable fuel costs (being the major burden to these firms), the increasing competition forces mainly coming from low-cost carriers and a very economic-sensible air travel demand faced by carriers. Taking into account those industry-specific features, airlines found M&A a strategic tool to increase their profitability by sharing and pooling resources. Ultimately, most recent mega-mergers within this sector are performed aiming at the reduction of capacity in order to strengthen efficiency levels, so the companies can properly weather economic adverse conditions.

In this paper, a proposed merger of equals between Delta Airlines and US Airways is analyzed in order to attest a further step on US airline industry consolidation. Simultaneously, the thesis is expected to fill the blanks about how much value would be yielded by combining these carriers not only from a macro perspective, but also assessing how much value would be captured by each party.

The paper found that the deal would be supported by the generation of cost synergies due to the fact that both companies have a considerable portion of overlapped business operations, specially reflected on identical routes. Indeed, the final results of the report show that after the combination of both firms – including the net effect of synergies -, the value would be 22.6% higher than the enterprise value of the simple combination of each firm based on their standalone valuations. Despite of such positive outcome, this paper took into account the role of antitrust authorities on the process, which can influence the final result of the deal, due to the fact that, after the proposed deal, the combined firm would get a considerable stake of the market, posing questions at the competitive level.

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List of Abbreviations

π_A	Probability of default
APV	Adjusted Present Value
ASM	Available site mile
β_L	Beta levered
β_u	Beta unlevered
CAGR	Compound annual growth rate
CAPEX	Capital Expenditures
CAPM	Capital Asset Pricing model
CASM	Costs per available seat mile
CFD	Cost of financial distress
D	Debt
D&A	Depreciation and amortization
DCF	Discounted Cash Flow

DOJ	Department of Justice
DOT	Department of Transport
E	Equity
EBIT	Earnings before interests and taxes
EBITDA	Earnings before interests, taxes, depreciation and amortization
EV	Enterprise value
FAA	Federal Aviation Association
FCFF	Free Cash Flow to Firm
g	Growth rate
GAO	US Government Accountability Office
HR	Human Resources
IATA	International Air Transport Association
K	Cost of capital
LCC	Low-cost carrier
M&A	Mergers and acquisitions
MOE	Merger of equals
MTP	Meet the premium line
MV	Market Value
NOL	Net Operating Losses
NPV	Net present value
NWC	Net Working Capital
P/E	Price-to-earnings
PBGC	Pension Benefit Guaranty Corporation
PP&E	Property, Plant and Equipment
PV	Present Value
PV (its)	Present value of interest tax shields
RASM	Revenue per available seat mile
r_d	Cost of Debt
r_e	Cost of Equity
r_f	Risk free rate
r_m	Market return
R&D	Research and Development
RPM	Revenue per mile

S&P	Standard and Poor's
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification
SVAR	Shareholder value at risk
t_c	Corporate tax rate
Vu	Unlevered Value
WACC	Weighted average cost of capital
WC	Working capital

1. Introduction

The present paper approaches the case of a proposed merger between two American airlines, namely Delta Airlines and US Airways. Both carriers turn out to have considerable portions of the American market and are considered to be amongst the US top air carriers in terms of revenues. The aim of the thesis is to assess the sources of potential value creation and how such deal should be structured. Logically, those two final points are the result of a thorough research on finance theoretical concepts applied to the reality of US airline industry, which was intensively studied.

Taking into account that the assessment of hypothetical synergies is associated with some levels of subjectivity and uncertainty, this paper is strongly supported by a theoretical framework exposed in literature review. This section provides widely accepted principles by academics and practitioners with respect to company valuation and all associated concepts one should be prudent when handling them. Moreover, literature review will also cover important facts within M&A topic, portraying the in-between steps companies usually follow when pursuing the conclusion of such deals as well as the most recent trends within this field.

The next section, Industry and Company Analysis, will provide a valuable overview of the US airline industry, based on the depiction of how this market is organized; which market players one should take into account and how this industry has performed over the most recent years. Simultaneously, both companies will be presented through the representation of their revenue, cost, operational and financial past performance, which will provide a reliable and clear picture of their situation, this being crucial to perform the forecasting of several variables.

Company Valuation section shows a detailed process of forecasting the most important drivers that will influence decisive inputs for both companies' standalone valuation. For each company, three valuation methods were used (discounted cash flow based on WACC method, adjusted present value model and relative valuation), in order to add robustness to the findings.

The last section of the paper analyses the potential value creation when combining Delta and US Airways, through the assessment of the sources of synergies as well as their respective valuation. Lastly, the acquisition itself is going to be analyzed presenting its most important details. Simultaneously, the paper will propose the fair terms that should be implied in this deal in order to enable the agreement between these two firms to go forward.

2. Literature Review

Mergers and acquisition has been a topic of great interest: it has been deeply studied by academics and also widely used by practitioners and managers as a strategic tool. Indeed, until 2007 M&A activity was soaring by reaching in that year more than 4.000 deals involving roughly $4.5 trillion worldwide.

Such popularity among world business is the ultimate reflection of a belief from managers that the combination of two entities generates an extra value – commonly referred to as synergies – that would not be attained if those companies operated on an individual basis (Damodaran, 2005).

Yet, M&A outcome with regard to synergies generation is inconclusive and, consequently, has created two schools of thought across academics. While some average statistics show that most acquisitions do not create value for acquiring shareholders and are often based on whims and "attraction to control and power" (Eccles et al. 1999), Bruner (2005) refuses the average outcome of those statistics arguing that each merger is case-specific and its success may be linked to particular features of the industry, economy, market structure and companies involved. Throughout academics, the following analysis found no precise evidence of the certainty of success or failure of M&A in the majority of industries.

The following section of this analysis will provide insight into the most common approaches regarding company valuation - that will serve as the theoretical base for this analysis' conclusions – as well as a thorough review of some fundamentals aspects of M&A topic based on past academic research.

2.1 Valuation Approaches

Valuation is surely one of the most important and widely used tools in the world of finance. Its relevance for financial specialists and academics has always been central, though, nowadays it has also been increasingly important for general managers as they become more assertive in resource-allocation decisions (Luehrman, 1997a).

For the sake of consistency, the literature review will only cover the valuation models that are either relevant for the application of the thesis topic or those which are widely accepted by academics and practitioners.

By pointing out these requirements, two valuation models arise: The DCF technique – entailing different perspectives of how a cash flow should be discounted – and the Multiples technique – which presents various ratios. The major difference between these methodologies lies, as Damodaran (2006a) simply clarifies, on a philosophical disparity: while DCF methodologies focus on the intrinsic value of an asset driven by the value created along the future and discounted to the present at a certain rate entailing a given amount of risk, the multiples method finds an asset value by assessing what the market has offered for an asset with similar characteristics.

Furthermore, academics have also researched about what could be the most legitimate and reliable method to be used. DCF models were considered as the most reliable valuation methodology (Kaplan & Ruback, 1996), and have been regarded as the most widely practice for valuing assets, projects, divisions and companies (Koller et al.,2010).

However, the level of reliability of a valuation methodology is intrinsically linked to the level of accuracy of the assumptions and forecasts. Thus, multiples analysis can be a strong provider of reliability to forecasts and DCF valuations by sourcing comparability of those in

order to assess if one's company valuation is higher or lower than what the market has been offering (Koller et al., 2010).

2.1.1 The Components of Discounted Cash Flow Models

DCF methodology is based on the cumulative sum of all the forecasted expected cash flows the firm will generate which will be discounted at the opportunity cost (the return the company would earn in a similar risk level project composed by the value of time as well as a the risk premium),(Luehrman, 1997a).

Hereafter, a thorough analysis will be made to each one of the elements that compose any DCF method: starting with the components of Free Cash Flow to Firm (FCFF), the components of the cost of capital and, finally, some insight about the clash between some of the far and wide used models: DCF using weighted average cost of capital (WACC) and the Adjusted Present Value (APV).

$$Intrinsic\ Value = \sum_{t=i}^{n} \frac{Expected\ Cash\ flow_i}{(1+k)^n}$$

Free Cash Flow to Firm

In order to value the firm as a whole - including equity – one should use the Free Cash Flow to Firm, which entails the residual cash flows after meeting operational expenses and taxes, but before debt payments (Damodaran, 2006a):

$$FCFF = After\ tax\ operating\ income - (CAPEX - Depreciation) - \Delta WC$$

This cash flow is widely used in DCF based on WACC models as well as on the APV model, as it will be demonstrated later.

Throughout the following analysis, the term WACC approach refers to the model, which resorts to FCFF as cash flows used, being discounted at the weighted average cost of capital. Despite some unanimity among practitioners and academics that considered WACC approach as the primary model to be used in valuation over the last quarter of 21st century, new models have come to challenge its dominance (Luehrman, 1997a), such as the APV as later it will be covered.

$$Value\ of\ the\ Firm = \sum_{t=1}^{t=n} \frac{FCFF_t}{(1+WACC)^t} + \frac{\frac{FCFF_t.(1+g)}{WACC-g}}{(1+WACC)^n}$$

Growth

Growth is an extremely crucial input for DCF valuation methodology, which directly influences the value of a firm driven by the expected earnings growth rate, but also serves as an indirect factor for relative valuation (Damodaran, 2008a). The same author defines growth (g) as the sum of two different portions: the first related to the growth motivated by new investments, and the second regarding the growth driven by efficiency.

$$g = ROIC_{new}.Reinvestment\ rate + \frac{ROIC_{existing\ t} - ROIC_{existing\ t-1}}{ROIC_{existing\ t-1}}$$

The first term reflects the multiplication of the marginal return of a new investment by the plowback ratio (i.e. proportion of earnings retained in the company). The second term exposes the effects efficiency gains in existing assets.

Damodaran (2008) and Koller et. al (2010) concluded that there is no persistency of patterns in terms of how companies grow: a company which records a high growth rate during a given period of time is as likely to continue to produce those rates as a company recording a low growth rate during the same period.

Moreover, growth rates vary across industries due to disparities in one company's life cycle, competitive environment, macroeconomic movements and size (Damodaran, 2008a).

Terminal Value

When valuing a company, the terminal value assumes a very important part of it, since it represents a big chunk of the final valuation (Damodaran, 2006b). The terminal value is estimated by assuming that earnings grow at a constant rate through the long-term (Damodaran, 2006b), meaning that the last period's cash flow will be generated indefinitely as a growing perpetuity (Kester, 1997). Formally, one should compute terminal value and its present value as it follows:

$$Terminal\ value = \frac{FCFF_{t-1}.(1+g)}{WACC-g} \qquad PV(Terminal\ value) = \frac{\frac{FCFF_{t-1}.(1+g)}{WACC-g}}{(1+WACC)^n}$$

However, this only holds if one assumes that the company being valued is a going concern, in other words, if it will last long enough to reap the terminal value portion of the total firm's value. When companies report negative earnings, have large outstanding debts and fail to have spare cash to cover their operating needs, one should acknowledge that they are facing financial distress.

Therefore, when companies are unlikely to survive into the future, it is wrong to incorporate the terminal value (Damodaran, 2006b). Financial distress will affect one's company valuation process, as it will be covered later.

Finally, seeing that the deal approached refers to two companies in a capital-intensive industry – which is the airline sector – it is important to highlight the fact that when assessing this variable, capital expenditures should be equal or higher than depreciation (Kaplan & Ruback, 1996). It is clear to see that an air company requires a large amount of capital investments over its lifetime (e.g. investment in aircraft equipment).

Estimating the Cost of Capital

The majority of companies and projects are financed through a mix of funds coming from different sources, having different costs (i.e. equity and debt). The following paragraphs will describe how the cost of different sources should be estimated, also pinpointing the main insights about the elements that compose one and the other.

Considering the fact that companies have different capital sources, the company's cost of capital should be derived from the concept of WACC:

$$WACC = r_e \cdot \frac{E}{(D+E)} + r_d \cdot \frac{D}{(D+E)} \cdot (1 - t_c)$$

The aforementioned formula regards the after-tax WACC, weighting the cost of both equity and debt by their relative relevance on the company's capital structure and, also, incorporating the fact that interests are tax deductible (Modigliani & Miller, 1958).

The after-tax WACC equation provides the cost of capital at which cash flows are discounted, particularly FCFFs, which will be used in our analysis.

Cost of Debt

The cost of debt can be measured by applying a credit default spread over the risk free rate - also known as default risk premium – which will be computed according to the risk profile of the company. Thus, the default spread is regarded as the price charged by debtholders for perceived risk in a loan (Damodaran, 2010a).

$$Cost\ of\ debt = riskfree\ rate + Default\ spread$$

According to Damodaran (2010a), one could derive the cost of debt from three alternatives. The first states that, if the company has bonds outstanding, cost of debt should be equal to the interest rate on traded bonds because securities' market prices reflect what investors think it is a fair value for them.

Secondly, in order to assess the default spread, a company can also rely on rating agencies which will rate the company's debt according to the size of the debt relative to the value of the firm, the volatility of the firm's assets value and the length of time the debt has to run.

Finally, seeing that many companies do not have access to public debt markets nor they have rated debt, the most general approach is to use the historical borrowing cost as the cost of debt. Furthermore, in cases in which debt has some complexity involved and has different sources, the cost of debt is equal to the book interest rate as follows:

$$Book\ interest\ rate = \frac{Interest\ expenses}{Book\ value\ of\ Debt}$$

Another way to compute the cost of debt is through the Capital Asset Pricing model (CAPM), as long as the beta for debt is not equal to zero or, in other words, the credit default spread is positive. Therefore, CAPM application is more relevant to compute the cost of debt when the company has on its balance sheet high-yield debt or other risky types of debt (Cooper & Davydenko, 2007).

Cost of Equity

When assessing the cost of capital – entailing the cost of debt and cost of equity - the latter turns out to be the most challenging one. Theoretically, the cost of equity is the opportunity cost equity holders could expect if they would invest in a similar project in terms of risk (Luehrman, 1997a). The most far and wide used model to compute this variable is the

CAPM[1], which models the relationship between risk and return. A company's cost of equity equals a risk free rate (r_f), pegged to a sovereign bond, plus a risk premium ($r_m - r_f$) appropriate to the level of the risk engaged. The extent on which risk premium is either higher or lower is defined by the beta (β), which reflects the asset return sensitivity to market volatility. A major assumption of this model lies on the fact that the marginal investor holds a diversified portfolio (market portfolio)[2], containing every asset of the market, reducing to zero the firm-specific risk. Thus, the only risk the investor faces is the one that cannot be reduced through diversification, also known as systematic risk. Simultaneously, this type of risk is the only source of uncertainty that the investor should be compensated for. As Damodaran (1999) states, the risk the marginal investor faces comes from the addition of marginal risk to the "market portfolio ".

$$r_e = r_f + \beta_L . (r_m - r_f) \qquad r_u = r_f + \beta_u . (r_m - r_f)$$

From the model, one could derive the cost of equity levered (r_e) and also the cost of equity when the company is fully financed by equity (r_u). One should be attentive to the fact that the beta varies from one equation to another. Logically, by running into debt, company's equity holders find themselves with less seniority when claiming the company's cash flows, requiring a higher return. That difference is generated by the fact that β_L is higher that β_u, as follows:

$$\beta_L = \beta_u . \left[1 + \frac{D}{E}\right]$$

The CAPM is a very simple and effective asset-pricing model with a very strong theoretical base about risk and return (Koller et al., 2010). However, the model has drawn attention because some of its pitfalls, which were intensively studied by academics. Fama and French (1992,1996,2003) studied deep into the assumptions and findings of CAPM and they have drawn interesting conclusions: they rejected the fact that the betas are sufficient to explain the expected returns, and average stock returns are responsive to other variables such as EPS, cash-flows-to-price and book equity-to-market equity. Moreover, it could be concluded that empirical failures of CAPM were caused by bad proxies for the market portfolio, which would generate erroneous outcomes: the relationship between beta and return, according to those authors, was actually flatter than predicted, making high stock betas too high and low stock betas too low. For that reason, Fama and French (1992,1996, 2003) argue that in order to model the relationship between return and risk, one ought to rely on multi-factor models.

Nonetheless, despite of the presence of some pitfalls, CAPM is still regarded as the most useful asset-pricing model available to be used. Koller et. al (2010) claims, "it takes a better theory to kill an existing theory."

Thus, throughout this analysis, the CAPM is the model selected to predict the cost of equity. In the following paragraphs attention will be devoted attention on each input of this model for a better understanding of how it works.

[1] Model developed by Sharpe (1964) and Lintner (1965)

[2] Seeing that a true Market portfolio is only theoretically possible and less likely to be observable, proxies are used. A common Market index proxy in the U.S is the S&P 500 (Koller et al., 2010).

Risk Free Rate

The concept of risk in the finance world regards the variance between the actual and expected return on a certain investment. Therefore, a free risk investment will yield an actual return precisely equal to the expected return. The risk free rate is pegged to riskless securities/investments i.e. securities that are issued by a default free entity, such as governments that are most likely to guarantee[3] the repayment to bondholders because of their ability to print money (Damodaran, 2008b). Besides, the same author argues that a riskless investment cannot have reinvestment risk in order to be considered so.

The risk free rate is vital, due to its contributions to the assessment of both the cost of debt and capital; as one of the components of the cost of capital (Luehrman, 1997a), and using a flawed risk free rate will generate erroneous discounted rates, which eventually can lead to misvaluation problems (Damodaran, 2008b).

Regarding the time period of risk free rate that should be used, Damodaran (2008b) emphasizes it has to be adequate to the frequency in which cash flows are generated (i.e. one would use a 5-year government bond to derive the risk free rate for a 5-year cash flow). Furthermore, Damodaran (2008) stated that as long as the company operates in a mature market, using a 10-year bond of the same currency as cash flows is a good practice in valuations.

Therefore, since the deal that is being analyzed entails two American companies, operating in a mature market, and the US treasury is a free default entity, the risk free rate used should be the 10-year Treasury bond.

Beta

Beta (β) measures the degree to which returns on a certain security move together (Bodie et al., 2011), as well as the risk added to a well-diversified portfolio (Damodaran, 1999). According to Damodaran (1999) and Neves (2000), the beta is computed by regressing the security returns against a certain market index – representing a globally and broad-asset base diversified portfolio in theory.

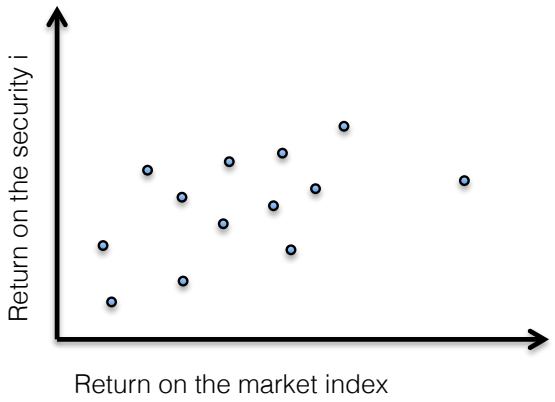


Figure 1: Graphical Representation of Beta

One should compute the beta as McNulty et al. (2002) refer:

$$\beta = \frac{stock\ volatility}{Index\ volatility} . Correlation\ stock\ vs. Index$$

[3] By printing money, the government can only guarantee that bondholders will recover their investment in nominal terms.

A more formal derivation can be presented as Bodie et al. (2011) concluded which is: the $Cov\ (r_i, r_m)$, the covariance between a certain security and the market return divided by the market volatility (σ_m^2).

$$\beta_i = \frac{Cov(r_i, r_m)}{\sigma_m^2}, \quad 0 \leq \beta_i \leq 1$$

The estimation of beta is a source of debate across various academics. Koller et al. (2010) mention the difficulty of the process of estimating it as well as the imprecision involved. Moreover, computing this variable is a source of frustration and a vast portion of practitioners and academics find them unreliable (McNulty et al., 2002). As mentioned before, Fama and French (1992, 1996, 2003) argue that the betas are not ample enough to explain the average return – motivated, specially, by the weak market proxies the CAPM is based on.

Damodaran (1999) acknowledges that for a reliable estimate of the beta, one should use a market-weighted index with the broadest set of stocks possible naming the S&P 500 as a good option. Regarding this specific topic, Koller et. al (2010) share the same opinion. Simultaneously, the choice of a time period is vital. In the analysis of firms which have been restructured, acquired or divested, one should use shorter estimation periods when compared to stable firms (in terms of business cycle and capital structure).

Finally, in order to reduce imprecision when computing the beta of a specific firm, one should resort to industry-based betas. Within the same industry, companies share similar levels of operating risk, yielding analogous betas (Koller et al., 2010). However, one should recall that even within the same industries, companies might be distinct among them (Koller et al., 2010) .

Risk Premium

In finance, the risk premium is the extra return one can expect by engaging in risky investments (Luehrman, 1997a), meaning that a well-diversified investor expects to be compensated by a premium for the systematic risk (Damodaran, 2010b). There are several underlying factors which affect the stability of risk premiums, such as extent of risk aversion of the investor, economic risk, liquidity and Government policy (Damodaran, 2010b).

The majority of analysts and practitioners use the historical premium as the main approach to estimate the equity risk premium, comparing long-term actual returns against a risk free rate as a government bond (Goetzmann & Ibbotson, 2005). However, Damodaran (2010) argues that when using this widely used technique one should account for three issues:

- **Time period:** one should be cautious on how far back an analysis should go, seeing that information is less reliable in earlier periods and levels of risk premium from the past century are different from those of today. Nevertheless, considering short periods might also add some problems and may not be a valid and reliable solution, since studies showed that standard errors of risk premium were higher when considering such time frames. Approaching this specific issue, Koller et. al (2010) regressed the US market premium versus time for a 100-year period, concluding that not only no trend was found, but also observations for shorter-periods yielded significant higher values of volatility.

- **Market index and risk free rate:** one should use a sufficiently broad index of stocks, which should be market-weighted (e.g. S&P 500 in the US) and should include equity investments from companies that have gone bankrupt or were acquired – avoiding the survivor bias. Regarding the risk free rate, one should use a long-term government bond as standard rather than a short-term security. In the US – where our deal took place – one should use a 10-year Treasury bond (Koller et al., 2010).
- **Averaging:** one ought to use arithmetic average over geometric average when there is evidence that returns are uncorrelated over time which is also confirmed by Koller et. al (2010).

If one takes into account historical averages and forward-looking estimates, a tolerable market risk premium is between 4.5% and 5.5% (Koller et al., 2010).

2.1.2 WACC Model and Adjusted Present Value Method

The DCF model based on WACC has reigned through academics and practitioners during the 1970s until late 1990s, and for that period it was considered as the best DCF methodology for valuing companies and projects (Luehrman, 1997b). However, the development of computing techniques – motivated by the decreasing associated costs (Luehrman, 1997b) -, allowed other more sophisticated and detailed models to arise, making that past and reigning model obsolete.

One of the new models was the APV approach, introduced by Myers (1974). This model lays its valuation analysis by splitting the value of the company into two chunks: the first being regarded as the base case value, which concerns the unlevered value of the company or, in other words, the value if the company was 100% equity-financed:

$$Unlevered\ firm = \sum_{t=1}^{n} \frac{FCFF_t}{(1+r_u)^n} + Terminal\ Value$$

As with DCF based on WACC model, one should compute the FCFFs for each period and Terminal Value, both discounted at an appropriate unlevered cost of capital.

The second chunk of the firm's value comes from the side effects of its choice of capital structure. Tax shields are one of the most important positive impacts of the presence of debt, since interests are tax deductible:

$$PV(interest\ tax\ shields) = \sum_{t=1}^{n} \frac{D_t . r_d . t_c}{(1+r_d)^n} + Terminal\ Value$$

Among academics there is still some controversy on the specific question about the discount rate at which tax shields should be discounted, though initially Myers (1974) computed them by using the cost of debt. Milles and Ezzel (1980) refer to the cost of equity as the most suitable rate for the incorporation of the risk of interest tax shields. Luehrman (1997b) conversely, argues that those should be discounted at cost of debt because tax shields are as uncertain as principal and interest payments, except for those companies

facing extreme adverse financial conditions, which often are able to fulfill debt obligations but fail to use tax shields.

Other side effects from the decision on capital structure are important to mention, such as the present value of all the costs of financial distress, subsidies, hedges and issue costs (Luehrman, 1997b).

Computing the present value of financial distress costs is crucial when valuing a non going concern company, and this model is quite insightful in this field, because it can explicitly present a number for the financial distress. Financially distressed companies ought to assess the consequences of default or bankruptcy when computing their value. Damodaran (2006b) shows that the expected bankruptcy are equal to the probability of default (π_A) times the bankruptcy costs.

The probability of default can be computed through three different methods: statistical approach, bond rating analysis and bond price analysis (Damodaran, 2006b). In order to compute the bankruptcy costs, one ought to include all the litigation fees from dealing with the liquidation process – which represents 3-5% of the firm's value (Warner, 1997) – and all the indirect costs such as the reluctance of customers to buying the company's products, the strictness of suppliers and the inability to approve positive NPV projects (Almeida & Philippon, 2008); altogether these factors may can account for 10-23% of the company's total value (Andrade & Kaplan, 1998). Simultaneously, Korteweg (2007) for airline companies, found that bankruptcy costs may account for 48% of the value of the firm altogether in case of distress.

$$PV(Expected\ Bankruptcy\ costs) = \pi_A . PV(Bankruptcy\ costs)$$

$$Firm\ Value = V_u + PV(its) - \pi_A . PV(Bankruptcy\ costs)$$

Logically, one should verify that the level of present value of expected bankruptcy costs is positevely linked to the level of the company's financial distress. Consequently, combining the fact that distressed firms generate few tax shields – due to low or negative operating income – and high bankruptcy costs, the value of the company will be reduced (Damodaran, 2006b).

Finally, while the WACC is simple and straighforward to use (Luehrman, 1997a), it is not as complete and precise as the APV. For instance, the WACC may lead to errors (Koller et al. 2005), for companies with non-constant capital structures, as well as for those with non-vanilla debt on their balance sheets and complex tax positions (Luehrman, 1997a). Conversely, APV is stated to be more flexible, less prone to errors helping managers to know where the value comes from, introducing the concept of value additivity in valuation (Luehrman, 1997b). Threfore, in the specific case of M&A field, this methodolgy takes further importance seeing that it allows managers to verify not only the source of value generated (i.e. synergies coming from costs reductions or revenue enchanements (Sirower & Sahni, 2006)), but also the distribution of value after the deal: how much of the value is retained by the seller company and captured by the acquiring company (Luehrman, 1997b).

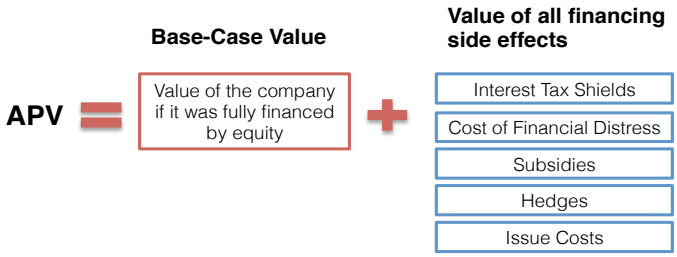


Figure 2: Unbundled Value of a Firm resorting to APV model (Luehrman 1997b)

2.1.3 Relative Valuation

Relative valuation is an alternative methodology for valuing a company. Unlike the DCF methods, whose analysis was entirely based on the unique features of an asset, multiples approach relies on what the market offers, on average, for similar assets (Damodaran, 2006a).

In current literature, DCF models are described to produce more reliable estimates of market value (Kaplan & Ruback, 1996), although the same researchers found that using a combination of DCF and multiples could lead to even more precise and effective results. From the same school of thought, it is argued that multiples are not only a good instrument for valuation, but also a highly useful tool to produce accurate forecasts and to verify if a DCF valuation outcome is higher or lower compared to the company's peers (Koller et al., 2005).

In fact, practitioners have been using relative valuation to a large extent. Damodaran (2002), mentions that almost 90% of equity research valuations and 50% of acquisition valuations use this approach, while investment bankers and appraisers call upon this methodology because DCF models require cash flows and discount rates estimates which are often very difficult to assess (Lie & Heidi, 2003).

By following this methodology, value is derived by multiplying the multiple[4] (i.e. median value) of the comparable companies by the performance measure of the company one is valuing (Kaplan & Ruback, 1996).

A very discussed topic within relative valuation refers to the question about the scope of the comparable term, namely what criterion should be followed when one wants to build a set of comparable companies. Some argue that comparable companies are those which share similar cash flow growth as well as an analogous risk profile (Kaplan & Ruback, 1996), and also a comparable ROIC (Koller et al., 2005). Others, conversely, claim that choosing comparable firms on the basis of the same industry – sharing the same 3 digit SIC code – will produce the smallest estimation errors for the particular case of P/E multiple (Lie & Heidi, 2003). However, one should be cautious because even within the same industry, companies often have different growth and ROIC expectations as well as different capital structures (Koller et al., 2005).

Koller et al. (2005) point out important issues that should be followed for a correct valuation based on multiples. Firstly, enterprise value multiples should be used over Price-to-Earnings, because they are both affected by capital structure decisions and, since based on earnings, they become affected by non-operating items. Secondly, empirical evidence shows that multiples based on historical data are not as accurate as forward-looking multiples. Finally, when enterprise value multiples are used, one should take into account adjustments for some non-operating items such as excess cash, operating leases, employee stock options and pensions.

[4] Price/Earnings; Price/Sales; Enterprise Value/EBIT; Enterprise Value/EBITDA, among others

2.2 M&A Essentials

M&A activity has been a flourishing field, which saw a steady upward growth – both in terms of value and number of deals – specially from the late 1990's (Eccles, Lanes, & Wilson, 1999). After having reached a peak in 2007, this activity, however, has slowed down due to the recent economic turmoil: global M&A activity saw in 2012 its transaction values decreasing by 41% from pre-crisis numbers totaling $2.177 billion (Clifford Chance, 2013). Globalization and geographic diversification (Zenner et al., 2008) are the drivers of today's M&A presence in every part of the globe: the US still represents more than 40% of the global M&A activity, while Europe absorbs 31% of the deals. However, emerging markets are also becoming proactive in this field, not only sheltering target companies that are acquired by developed market companies, but also creating acquiring companies in developed economies.

Over the years, the upward trend of this activity has not been consistent with the empirical research about the extent of successfulness of the deals. Eccles et al. (1999) stated that in the past 75 years 50% of the deals failed to create their expected value. Many authors have argued that few deals generated positive returns for the acquiring firm shareholders, while there is a "conventional wisdom", as Bruner (2005) poses, that M&A always fail and is a "loser's game", which according to the author, are misleading conclusions.[5]

The following section of the literature review has the purpose of providing some insight about M&A. This section will start by defining under which forms M&A may be materialized as well as which payment methods exist. Then, special attention will be given to synergies – the main driver pushing managers to engage in this kind of operations. Finally, this section will cover the controversial issue regarding whether or not M&A provides value to the shareholders.

2.2.1 Categories of M&A

M&A as a term is often used in a very broad sense entailing several different types of transaction. Damodaran (2002) splits into two main categories according to the characteristics of the acquirer: a firm can be either acquired by another or can be acquired by its own managers and outside investors (namely through buyouts). For the sake of consistency and simplicity, focus will be placed only on the first category.

When a firm is acquired by another, Damodaran (2002) refers to four different types of transaction under which the deal can arise:

1. **Mergers –** Operations under which the target firm will be fused to the acquirer's structure and future operations will be only performed under the acquirer's brand name.
2. **Consolidation –** The combined companies will generate a new firm and operations will work under a new brand name.
3. **Tender Offer –** Under this operation the acquirer company approaches the target shareholders – being often considered to be hostile to the target managers (Loughran & Vijh, 1997) and if the latter are receptive to the proposal, the deal eventually becomes a merger.

[5] Bruner (2004), refers that from his empirical research, he found that 130 studies backed the proposition that M&A does pay.

4. **Acquisition assets –** The target firm will proceed as a company, although it will transfer its assets for the acquiring's firm balance sheet.

Loughran & Vijh (1997) found that tender offers yielded positive excess return of 43% to the acquiring firm shareholders during a 5-year period , whereas mergers deals produced a negative excess return of -15.9%. The explanation for this number lies on the characteristcs of each one of the deals. Tender offers are designed to be built upon negotiations between the acquiring firm and target firm shareholders, leaving managers outside the table of negotiations. Therefore, this type of deal is prone to replace inneficient management boards by more dilligent and efficient ones, having a major impact on disciplining the way the target company is run.

2.2.2 Methods of payment

When engaging in M&A, an acquiring firm has some methods to pay for the deal. It can pay with cash, with its own stock, by mixing those or through an earnout contract, setting the level of payouts according to the future performance of the target firm (Zenner et al., 2008).

Empirical research shows that cash offers outperforms stock offers (Sirower & Sahni, 2006), and during a 5-year period the former yielded a positive 18.5% excess return while the latter generated a -24.2% figure (Loughran & Vijh, 1997).

Loughran &Vijh (1997) explains that the gap between those methods of payment may be explained by the market adjusting to the market-timing theory stating that due to access of privileged information, managers only use stock to finance these operations when they think it is overvalued. Indeed, Savor & Lu (2009) found that there are positive effects involved in the long run to the acquirer company when it resorts to overvalued stock as the method of payment, namely through the acquisition of the target firm assets at a discount[6]. Plus, they also acknowledge the fact that stock acquirers tend to be growth firms and it is acceptable to argue that both managers and market might have been excessively optimistic about the company's growth prospects.

In terms of preferences from both sides of the deal, acquirers prefer cash while the target firm shareholders prefer stock, due to benefits from the upside of the combined company and because tax payments may be deferred (Zenner et al., 2008). However, when the offer is based on stock, target firm shareholders end up by bearing some risk that would not be taken otherwise (Damodaran, 2005).

2.2.3 Synergies

The basic concept of synergy addresses the value that is created from the combination of two companies which would not be generated if those companies operated on a standalone basis (Damodaran, 2005).

On one hand, synergies may either come from the generation of revenue enhancements (e.g. revenue increase due to the combination of expertise in product quality from one firm and access to a developed distribution network from the other) and cost reductions (Sirower & Sahni, 2006). On the other hand, Damodaran (2005) goes even

[6] This premise only holds if the acquiring firm stock is more overvalued than the hard assets of the target company.

deeper and divides synergies into two groups and, subsequently, sources. When combining firms, one should assist to the creation of both operating and financial synergies.

Firstly, the operating synergies are those that enhance expected cash flows, due to the creation of economies of scale, increasing pricing power, differential functional strengths and higher growth by exploring new markets. Secondly, financial synergies are those that not only boost expected cash flows – mainly through the growth rate of the combined firm –, but also reduce the cost of capital at which cash flows are discounted. Tax benefits (using target's depreciation or operating losses to reduce tax burden), diversification and higher debt capacity are the sources of this kind of synergy.

When valuing synergies, Damodaran (2005) built a simple and straightforward framework one should follow: firstly, one should value the companies involved in the deal on a standalone basis. Secondly, one ought to add each one of the company's values to form the combined firm without synergies. Thirdly, the effect of synergies is incorporated on DCF inputs (e.g. growth rates, discount rates and expected cash flows), and the value of the combined firm with synergies is computed. Finally, the value of synergies is derived by computing the difference between the value of the combined firm with synergies and the value of the combined firm without them.

One should ask, then, if synergies are a source and a means to improve the company's value, why is the debate about the profitability of M&A so intense? Why is there skepticism about it?

Firstly, when engaging in M&A, a firm makes an extreme financial effort by paying upfront a given amount. Secondly, synergies do not occur instantaneously, requiring some time to start generating value (Sirower & Sahni, 2006).Thirdly, the premium paid might not be adjusted to the value of the synergies, being too high for the future generation of value (Eccles et al., 1999). Despite the relationship between the amount of premium paid and the success of the deal is not linear (Eccles et al., 1999), it was shown that the higher is the premium paid by the acquirer firm, more is the likelihood of having negative returns in the long run (Sirower & Sahni, 2006).

The relationship described is incorporated in the concept of Shareholder Value at Risk (Sirower & Sahni, 2006), which is the portion of the company's value at risk if, after the acquisition synergies are not realized: the higher is the premium, the higher is the value of risk that the acquirer shareholders have to bear, translated into lower or negative returns.

$$SVAT = Premium(\%).\frac{Value_{target}}{Value_{acquirer}}$$

Sirower & Sahni (2006) deeply explored the relationship between synergies and the premium paid in deals. They suggest that a premium should only be paid according to the levels of synergies created from the combination of the firms. This premise is reflected in the "Meet The Premium Line" concept, which engrosses all the combinations of revenue enhancements and cost reductions necessary to boost the company's earnings that justify a given premium.

Figure 3 shows us 3 different points in the vicinity of the MTP line[7]: any point below the line should be avoided by the acquirer firm, since neither revenue enhancements nor

[7] MTP line is represented by the expression $\%SynC = \frac{\Pi}{1-\Pi}.(\%P - \%SynR)$, which is a function of pre-tax profit margins (Π), premium ($\%P$) revenue synergies ($\%SynR$)

cost reductions resulting from the combination of the companies provide enough earnings improvements that can justify the premium (point A). Conversely, those points that lie within the "plausibility box" (combinations of required synergies that are likely to be attained), and above the line, produce more than enough synergies to justify the premium paid (point B).

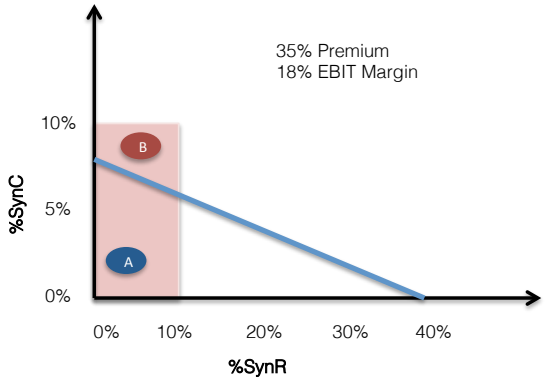


Figure 3: "The Meet the premium line" concept (Sirower & Sahni, 2006)

Managers should also question themselves about the strategic sense of the deal. Sirower & Sahni (2006) argued that when assessing the strategic sense of the deal, managers should position themselves in the three-by-three capabilities/market access matrix (Figure 4). The main variables in question are the capabilities (e.g. R&D, product design, operations, cost structure, supply chain) and market access (e.g. sales, brand value, third party relationships). Then, one should analyze any deal by weighing the level of relatedness between the two companies, ranging from "same", "better" (i.e. one party is better than the other in some capability or market access) and "new" (i.e. when there are no overlapping capabilities and/or market access).

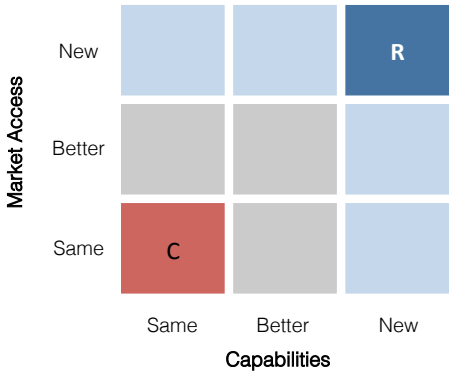


Figure 4: The Matrix Capabilities/Market Access (Sirower & Sahni, 2006)

The lower left corner of the matrix is linked to deals whose synergies are sourced by cost savings (e.g. economies of scale and reduction of redundancies). As we move away to the upper right corner, revenue enhancements become the source of synergies, due to the fact that the combined firm leverages what each firm has best to offer.

A controversial topic about M&A through academics has been the discussion about the extent of success between acquisitions based on focus/relatedness and on diversification. Sirower & Sahni (2006) argue that "projection of cost synergies are much more reliable than revenue synergies" and, then, deals that are based on synergies coming

from cost savings (lower left corner of the aforementioned matrix that entails highly related companies) are more likely to achieve expected synergies and justify the premium paid.

Bruner (2005) acknowledges that the focus strategy yields more opportunities to synergies to be exploited, arguing that diversification - though in specific cases can pay off - can be achievable in a cheap way if investors diversify themselves their portfolios.

2.2.4 M&A and return for shareholders

Synergies are the leading argument for an acquisition (Damodaran, 2005). However, evidence shows that many deals are driven not only by synergies-related argument, but also emotions, enthusiasm and excitement aroused by the negotiations (Eccles et al., 1999). As previously covered, even when deals are driven by synergies, value creation is not guaranteed: they might only be plausible in paper (Damodaran, 2005), they take time to arise (Sirower & Sahni, 2006), and the premium paid may absorb any gains that, inclusively, could have a perverse effect (Eccles et al., 1999).

Literature is extensive regarding the benefits for shareholders, both from the perspective of acquiring firm and target firm. Yet, the findings are also broad, comprising positive and negative relationships between M&A activity and return to shareholders.

Regarding the acquiring firm's shareholders, Loughran and Vijh (1997), from 947 acquisitions (mergers and tender offers) and making a buy and hold analysis during 5 years upon the announcement of the deal, concluded that those yielded a negative excess return of -6.5%. The outcome of this analysis is regarded as predictable for most of the acquisitions (Eccles et al., 1999). Nevertheless, different studies proved alternative outcomes. Firstly, Bruner (2005) rejects that an acquisition harms the acquiring firm shareholder by definition, by referring that taking into account 50 studies, investment returns after the deals were as high as the rate of return required by the market for similar projects, in terms of risk. Moreover, the same author acknowledges the fact that M&A are very beneficial for buyer and target firm shareholders when combined, creating value at a macroeconomic level (Sirower & Sahni, 2006).

Secondly, Savor and Lu (2009) also argue against that school of thought. By studying this topic in detail, they wanted to test the hypothesis of whether stock financed mergers would bring benefits for the buyer firm shareholders in the long run. They found that when stock is overvalued, the buyer firm would be able to acquire hard assets at a discount, bringing gains to their shareholders in the long run. Throughout 3 years, those companies that were successfully engaged in acquisitions gained more 13.6% in returns during the first year than those that were operated as a single business. The disparity grew even larger as time window enlarged: in the second and third year the gap grew to 22.1% and 31.2% respectively.

The discussion seems to be less vigorous when the topic is based on the returns to the seller company shareholders. M&A transactions yielded a positive abnormal return in 25 studies, boosted by the premium involved in the deal (Bruner, 2005). In fact, sellers are deemed to be the big beneficiaries of M&A. Despite the common acceptance that almost every M&A deal produce value for the seller firm shareholder, Loughran and Vijh (2005) explored further the question. They argued that, in fact, those shareholders who sell out soon after the acquisition reap all the benefits created by the premium. However, the picture changes if the same shareholders hold the acquirer's stock received as payment. In that

case, as the authors proved, their gains diminish over time and tend to be neutral. Figure 5 graphically represents the distribution of the value created by a deal between two companies. As it is represented, the purchase price turns out to get extremely important, as it influences the value generated to the acquirer's shareholders. Therefore, even within a deal with positive synergies associated, the acquirer company should never overpay them in order to preserve value for its shareholders.

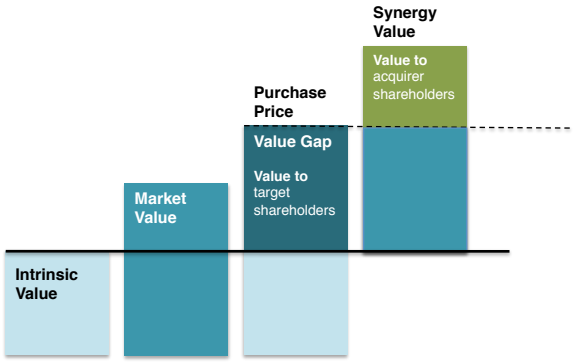


Figure 5: How the value may be distributed by shareholders between the two parts (Eccles et al.,1999)

2.2.5 Conclusion

M&A is, without doubt, a controversial topic that draws attention for research and debate. Far from being an unanimous topic, the truth is that M&A not only involve metrics – through valuation techniques, which often add subjectivity to the assumptions – but also some dose of unpredictable variables such as emotional attachment, excitement and desire for control (Eccles et al., 1999) .

Through Bruner (2005) and Sirower & Sahni (2006), one can see the reason why M&A transactions saw an upward trend from the late 20th century, despite the prophecies of failure of some literature. If the effects are taken on a macro level, M&A are considered to have a positive impact over the economy as a whole, since the gains absorbed by the target shareholders are greater than the acquirer shareholders' losses. However, within academics is still possible to sense some distrustfulness about M&A as a tool for generation of value, as the focus and attention predominantly lay on acquirer shareholders' apparent loss of wealth.

Therefore, it is difficult to determine M&A net benefits for all the agents involved and to the economy as a whole and its inconclusive outcome should be the base of further and more up-to-date research. Current economic times may be unique for M&A field, as companies continue to find more ways to operate and compete efficiently in order to weather harsh economic times as those faced in late 2007. Indeed, efficiency-driven mergers and acquisitions during low economic cycles may create better scenarios for the involved parts than those that have not engaged in such agreements.

3. Company and Industry Analysis

3.1 Airline Industry overview

The airline industry is surely one of the most important sectors for the US economy, with operating revenues of roughly $191 billion in 2011, which is equivalent to 1% of the total GDP of this country. Moreover, the industry not only is a source of economic dynamism – by having carried 730 million passengers in 2011 (Appendix 4) – but also a source of employment, seeing that in the same year it has directly employed 536 000 workers (US Department of Transportation FAA, 2011).

The development of the industry *per se* is not exclusive to the US and since the second half of the last century global air traffic has exponentially grown. Technological breakthroughs and sustainable increases in the disposable income are considered to be the base of such rapid growth, which helped the airline industry to be one of the major drivers for the globalization trend we live nowadays.

In 1978, following the government's decision to stop controlling the airfares, routes and new-market entries the US airline sector has been operating in a deregulated market. Ever since, the sector saw unstable periods characterized by a cyclical financial performance that forced the emergence of both bankruptcy and mergers & acquisitions processes.

One considers the past decade as the *horribilis* period of the global airline industry, with the US industry being particularly affected. Starting the analysis in 2000, 2006 was the first year the industry ran into positive operating results after 9/11 events and 5 consecutive years delivering negative results, accumulating more than $25 billion in losses. In spite of some evidences of recovery, 2008 brought the industry down again specially propelled by the high historic record of jet fuel price - which reached a high historical figure of $3.89 per gallon - and by the economic crisis, which made the American economy halt: in 2008 and 2009 US GDP recorded a negative grow of -0.4% and -3.5% respectively (US Department of Transportation FAA, 2011).

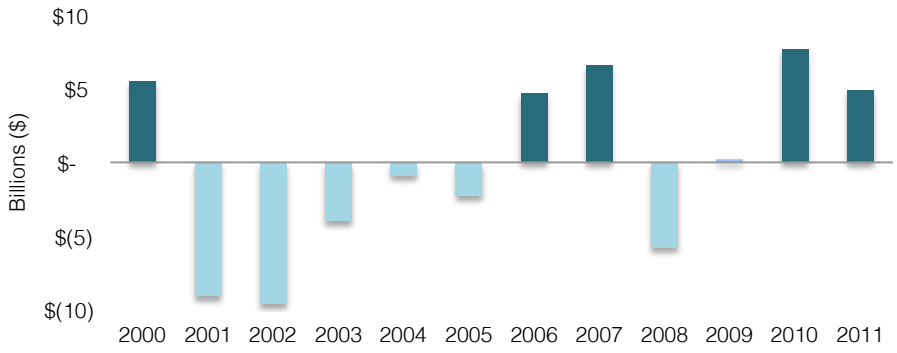


Figure 6: Domestic Operating Profit and Loss of Major US Major Airlines, *Bureau of Transportation Statistics*

Indeed, the historical behavior of the industry's operating results reflects the extremely high industry's sensitivity not only to internal forces but also to various external factors. Nowadays, companies operate under a highly stressed internal environment. Competition is fierce – and is propelled by low-cost carriers – meaning that one's company ought to work in a very efficient way; suppliers are few (e.g. Boeing and Airbus are the main

aircraft providers) having an elevated bargaining power; workers are strongly supported by unions, being very hard for airline managers to tackle costs by reducing personnel expenses.

Externally, this industry is also affected by a number of factors. One could name terrorism threat as a major one, reflected by the negative aftermath of 9/11 in terms of the industry's operating results. Government pressures are also important to emphasize. Albeit its known liberalization, this industry is highly regulated in terms of security and safety, which often absorb a considerable portion of a company's efforts and resources. Lastly and perhaps the most important forces, are the economic pressures, which the industry is highly sensitive to. For instance, the 2008 economic turmoil weakened almost every country's economy around the world. As a major consequence, employment rates were reduced leading downwards the purchasing power of consumers[8]. Seeing that travelling is highly elastic to disposable income, families reduced largely the portion of their income once allocated to this activity.

As Figure 7 shows, the disposable income and revenue passenger miles (RPM)[9] share a similar trend after the economic meltdown: in 2008 and 2009 economic harsh times brought down RPM by 3.95% and 5.23% respectively and, simultaneously, the number of passengers also fell by approximately the same proportion.

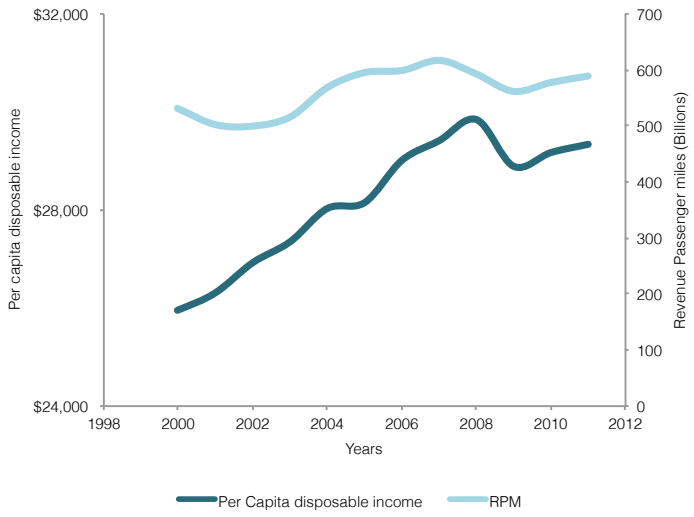


Figure 7: Per Capita Disposable Income (Inflation Adjusted to 2000) and Revenue Passenger miles, *Bureau of Economic Analysis and Airline Data Project*

From 2009 onwards, data shows that a slow recovery is in place as RPM and operating results of the industry have been increasing. This sector has managed to transform and adapt itself to restore its profitability through enhancing its management capacity (involving both costs and revenues), diversifying its revenue structure and, also, resorting to M&A. All these questions are going to be analyzed in more detail later on.

[8] Measured by the per capita disposable income, the purchasing power of an average US consumer fell 3% after the economic downturn that took place in 2008.

[9] Revenue Passenger Mile is extensively used in the airline industry and is regarded as a reliable proxy for air travel demand. It can be computed by multiplying the number of revenue passengers (those who pay full fares) by the number of miles flown.

3.1.1 Market structure and Market share

Federal Aviation Administration – national authority being in charge of the oversight of civil aviation in the US - defines the airline industry market into four different segments according to the revenue capacity of the companies (Table 1). Firstly, major companies[10] are considered those which deliver annual revenues of over $1 billion and, in fact, are those which hold a significant proportion of the market: within this segment, one may find carriers such as United, American, Southwest, Delta and US Airways. Secondly, national companies entail those airlines that fall in the revenue bracket of $100 million to $1 billion, whereas regional companies comprise those, which have annual revenues lower than $100 million. Finally, cargo segment represents all companies specialized in freight services, over which the current analysis will not go into much detail.

Segment	Annual Revenue Bracket	Main Carriers
Major/Legacy	> $ 1 Bn	United, Delta, Southwest, American, US Airways
National	$ 100M - 1 Bn	Frontier, Allegiant, Spirit
Regional	<$ 100M	American Eagle, Atlantic Southeast, Express Jet
Cargo	-	United Parcel Service, Federal Express

Table 1: Federal Aviation Administration (FAA) Classification of airline segments

Another important topic to be highlighted affecting the way this market is organized has to with the distinction between network and low-cost carriers (LCCs). Indeed, over the past decade, the US market has seen a massive increase in the number of LCCs – represented by companies such as Southwest, Jet Blue and Virgin America – which caused a profound shift in the competitive scenario of the industry.

LCCs business model is based on an extreme cost differentiation, offering much lower fares compared to network carriers. In order to build such thin cost structure, LCCs often resort to high aircraft utilization with high seating density operated by a single aircraft type (e.g. in the European LCC Ryanair, air fleet is 100% based on Boeing 737), leading training and maintenance costs downwards (United States Government Accountability Office, 2008).

While network carriers work under a “hub and spoke” network scheme, connecting different locations through hubs whose focus varies from short to long haul routes, LCCs are only concerned about transporting passengers from a point-to-point basis, focusing mostly on short-haul routes.

The presence of LCCs in the market brought an inevitable downward trend in terms of fares (Figure 8). By setting such competitive setup when it comes to offering flights at a very low fare to consumers, network carriers had also to adapt to such pressures by reducing their fares, imposing structural changes on their cost structures in order to maintain their original margins. Additionally, an increasing competitive environment was also matched by the growing transparency of ticket pricing facilitated by the Internet and online distribution channels, also pushing average fares downwards. Since US government deregulated this industry in 1978, average fares decreased by an impressive figure of 36.9%, reflecting a $163.28 decrease at 2000 dollars.

[10] Analysts also name this group as Legacy companies. Companies that were founded before the deregulation process that took place in 1978.

Indeed, since 1998 an increasing level of competition characterizes the industry's competitive panorama: during the time frame 1998-2006 the number of dominated markets[11] fell by 15% (United States Government Accountability Office, 2008) as the number of competitors and their scope grew.

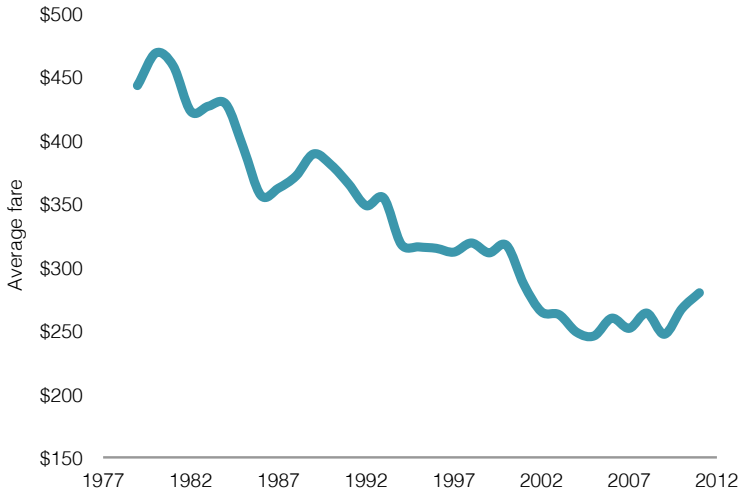


Figure 8: Annual US Domestic Average Itinerary Fare (1978-2011), 2000 dollars, *Bureau of Economic Analysis and Bureau of Transportation Statistic*

Actually, between 2000 and 2011, LCCs saw their RPM expansively grow: whereas in 2000, LCCs generated RPM of roughly 49 billion, the figure has extensively grown to 153 billion in 2011, recording a 206% impressive increase during this period. As Figure 9 depicts, the LCCs presence in the US airline market grew solidly, absorbing nowadays 21% of the market, which contrasts with its residual position back in 2000 when it accounted for only 8% of the market[12].

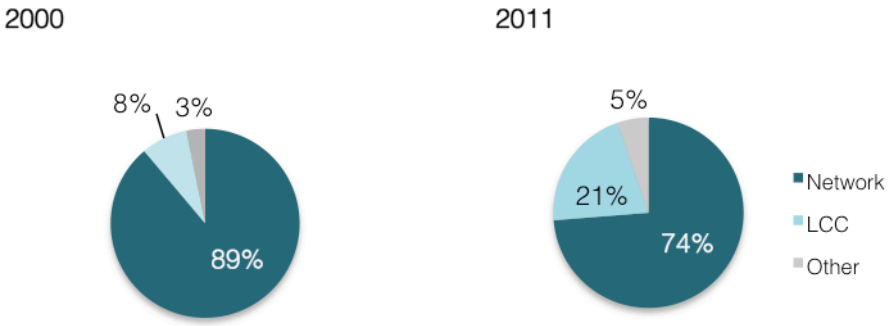


Figure 9: Market Share by network and low-cost sub sectors, *Airline Data Project*

If one examines the industry as a whole, one could conclude that network carriers are still dominant in terms of market share despite their decay over the last decade comparing to

[11] Markets where there is one company which absorbs more than 50% of the market.

[12] Network companies: American, Continental, Delta, Northwest, United, US Airways, American West; low-cost carriers: Southwest, JetBlue, AirTran, Frontier, Virgin America; Other: Alaska, Hawaiian, Allegiant

LCCs. In 2011, United – resulting from the 2009 merger between United Airlines and Continental Airlines – was the largest carrier by comprising 22% of total industry RPM, followed by Delta Air lines (20.4%), American Airlines (15.3%) and US Airways (7.4%). Southwest Airlines (10.16%), which alone accounts for 2/3 of LCC market, managed to outperform US Airways, as the company invested more in expanding its business namely, through its reliance both on "hub and spoke" network schemes and on medium/long haul routes that were once considered exclusive features of network carriers.

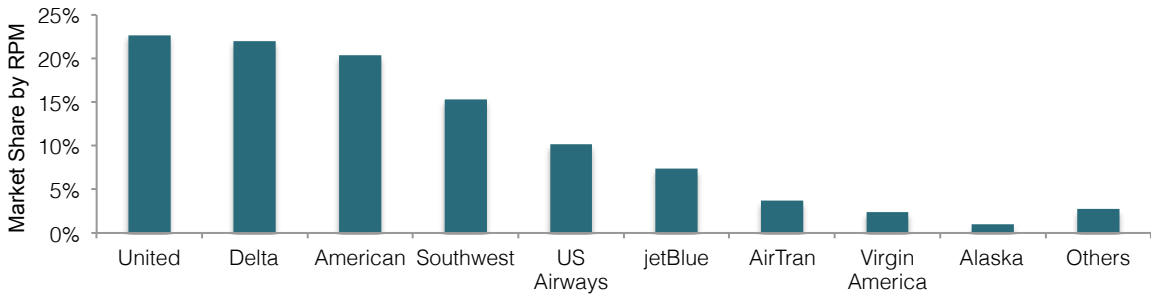


Figure 10: Market share by network and low-cost sub sectors measured in RPM, *Airline Data Project*

3.1.2 Costs

Jet fuel costs have a dramatic impact over the total costs of an airline company. One can see that the behavior of CASM is highly molded by the variability of the jet fuel price. Indeed, fuel related expenses, on average, account for 22% of the total costs of an airline, amounting to over $31 billion in 2011. Though, interestingly, if one does exclude the fuel related expenses, US airline companies have been able to maintain the operating expenses stable and, inclusively, reduce them: non-fuel related CASM decreased 16% over the past decade (IATA, 2011). This downward trend is the outcome of three different factors. Firstly, companies have engaged in negotiations of contracts and pay concessions with labor unions, overcoming their strictness of giving in on any salary topic. Secondly, airline companies could also alleviate the personnel expenses by reducing their staff over the years, which is clearly reflected in the 19.8% steep decrease of personnel employed in this industry during the period from 2000 to 2011. Thirdly, airline companies, by taking advantage of bankruptcy process (when filling Chapter 11 bankruptcy protection), can rearrange their cost structure in a way they would not do otherwise. For instance, airline companies under bankruptcy processes are allowed to cease their pension spending, by shifting those obligations to PBCG[13].

[13] Pension Benefit Guaranty Corporation

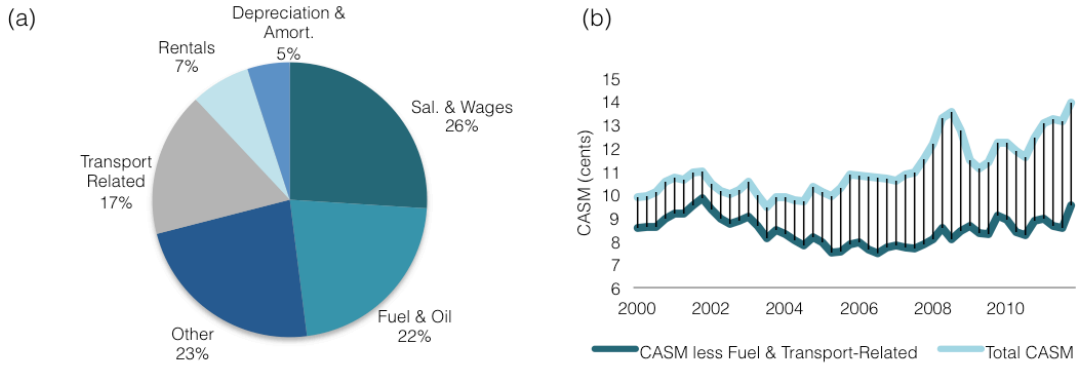


Figure 11: (a) Cost breakdown for US Airline Industry in 2009; (b) Cost per Available Seat Mile (CASM) with and without Fuel, *IATA* and *Bureau of Transportation Statistic*

The level of debt in almost every airline company's balance sheet is considered to be a problem and is seen as one of the reasons this industry is financially strained.

In order to assess the financial stability of the industry and how self-sustained it is, one should resort to Debt-to-investment[14] ratio. By doing so, one concludes that the US airline industry started to become highly leveraged in the early 2000s, particularly the sub sector of network carriers (Figure 12).

In 2000, half of the investments made by the industry were financed by debt, while 5 years later this ratio peaked at 207%. The ultimate outcome for such reliance on debt was the increase of the industry's vulnerability to market turbulence, as it happened in 2008.

Conversely, from 2005 onwards, the level of debt has been decreasing as companies relied less on debt to finance their business: in 2011, on average, for every dollar invested by an airline company, 84 cents came from debt. The downward trend is explained by the fact that companies have been strengthening their cash and liquidity positions so they can weather economic shocks that this industry is specially sensitive to. As a consequence, carriers are trying to pay down the high levels of debt on their balance sheets and, also, start to use their own funds to finance their capital investments and routine operations (US Department of Transportation FAA, 2011).

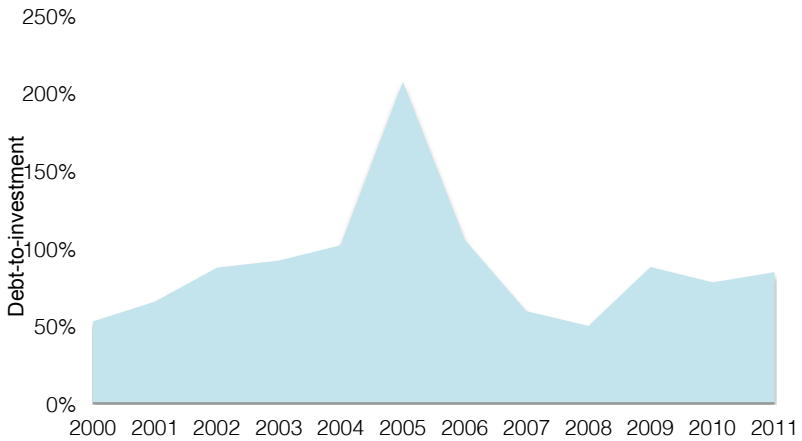


Figure 12: Leverage of Airline industry expressed by debt-to-investment ratio, *Airline Data Project*

[14] Debt-to-investment ratio is computed as $\frac{Debt}{Debt+Equity}$

3.1.3 Revenues

Industry's revenues are mainly generated by 4 different sources such as passenger, transport, cargo and ancillary revenue.

The industry propensity to generate revenue has been affected by cycles over the past decade. The early 2000s brought the fatidic events of 9/11, which deteriorated revenue generation as 20% of the industry's capacity was reduced due to a drop of demand from consumers. Thus, those incidents brought down industry's revenues by $8 billion - or a 9% drop. From 2002 to 2008, the industry's revenues experienced a 72% grow reaching its peak in 2008 by recording a $157 billion figure. As Figure 13 shows, 2008-2009 saw a sharp decline on income creation of roughly 15% that is being recuperated since 2009, as every revenue item recorded a positive grow.

Although the average fare paid has been decreasing since the market deregulation, data shows that passenger revenue is still the major driver of income in the US airline industry and in 2011 it accounted for 71.2% of its total operating revenue.

On the other hand, in spite of a still small contribution for the total operating income, ancillary revenue is becoming increasingly important in a company's revenue structure. From the beginning of the past decade, the entrance of LCCs in the market set a completely new ticket pricing approach: consumers would be charged a lower basic fare for a set of indispensable services, leaving amenities such as baggage, ticket change, cancellation and seat selection – once included in the normal ticket fare – to be considered as extra offers subject to additional fees. In spite of the fact that LCCs first set up this pricing strategy, they soon started to be followed by network carriers that are now resorting to such approach in order to be able to offer competitive fares in the market.

Since the last industry shock occurred in 2008, one can verify that airline companies tried to boost this revenue item in order to avoid fare increases which would not be well corresponded by a weakened and sensitive demand. During the period 2008-2011, ancillary revenue grew every year on average 29%, contributing in the latter year with $8.4 billion to the industry's total operating revenues.

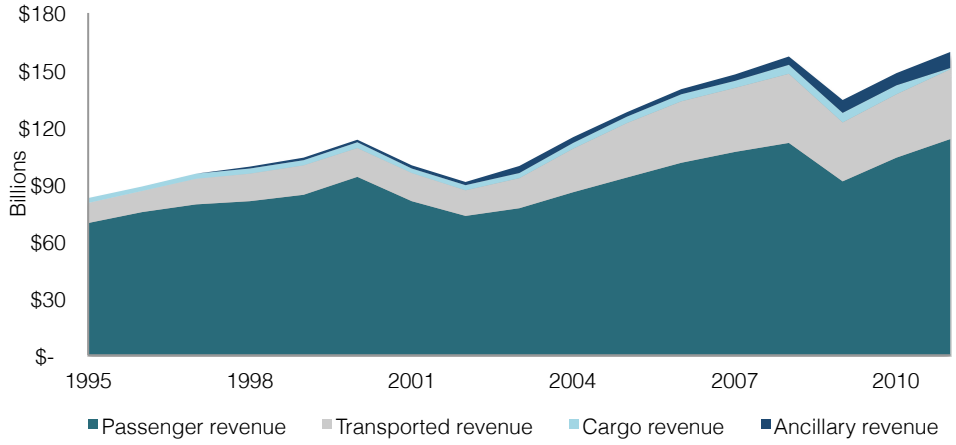


Figure 13: Total Operating revenue by source (1995-2011), *Airline Data Project*

Another important trend within the revenue topic is linked to the way the industry manages capacity, which has a direct influence on its profitability.

Considering the increasing burden of fuel in any airline cost structure coupled with a lower demand from consumers, companies started to discipline their capacity, by reducing the number of scheduled flights – which decreased by 13.9% between 2009 and 2011 – and managing in a more efficient way their excess capacity. American companies, by cutting their capacity and by taking advantage of the increase of passenger enplanements (recovering since 2009), were able to pack flights and boost the industry's load factor[15]. Consequently, combining an increasing trend in load factor levels with the fact that airlines have currently less empty available seats – being less prompt to offer discount fares to fill them –, the revenue per flight is being strengthened as a result. Those facts are expressed in Figure 14, showing that RPM and ASM have been converging since 2009, boosting the level of industry's load factor from 71% (2000) to 82% (2011).

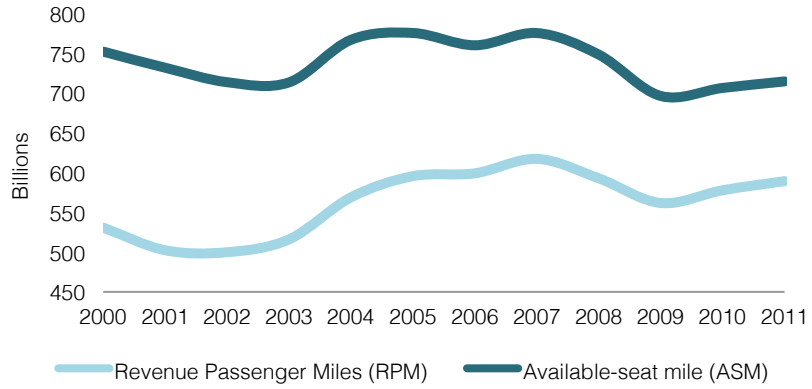


Figure 14: Industry RPM and ASM, *Airline Data Project*

3.1.4 M&A trends in airline Industry

As shown earlier, airline companies have been facing dark times since 2000, which severely affected their profitability: costs have largely increased led by fuel related expenses, whereas the combination of a lower demand for travelling struck by the crisis and a highly competitive environment greatly damaged companies' ability to generate revenues. The accumulated net losses within network carriers totaled $61 billion between the period 2000-2011, which is a clear reflection of a financially strained industry.

Since 2000, it comes as no surprise the fact that 51 US airline companies filed for bankruptcy and 13 of them occurred only in 2008, coinciding with the economic crisis. Indeed, the two central companies in this research filed for Chapter 11 bankruptcy protection throughout the past decade: US Airways filed twice (2003 and 2004) before its merger with American West, while Delta Airlines filed its process in 2005.

M&A are considered within this sector as a means to restore the industry's profitability. Analysts found that M&A are a useful way to efficiently manage capacity by reducing costs and expand revenues. Indeed, due to its competitive panorama, various routes across the US were being served by numerous carriers, leading to levels of supply substantially higher than demand for air travel. ASM[16] peaked in 2005 with 775.4 billion ASMs combined with an

[15] Load factor measures the percentage of available seating that is filled with passenger. It can be computed as $Load\ Factor(\%) = \frac{Revenue\ Passenger\ Mile}{Available\ seat\ Miles}$

[16] Measurement of an airline supply computed as $ASM = \#Available\ seats * \#Total\ miles\ flown$

average load factor of 74% over the period 2000-2005, reflecting an over supply and excess capacity issue within the industry.

For that reason, excess capacity has been tackled through the consolidation of the sector, which saw an intense M&A process during the past decade. In early 2000, 10 airline companies accounted for roughly 90% of the market in terms of ASMs, whereas 12 years later only 5 companies[17] absorbed 85% of the market, reflecting the positive outcome of M&A involving airline companies (Figure 15).

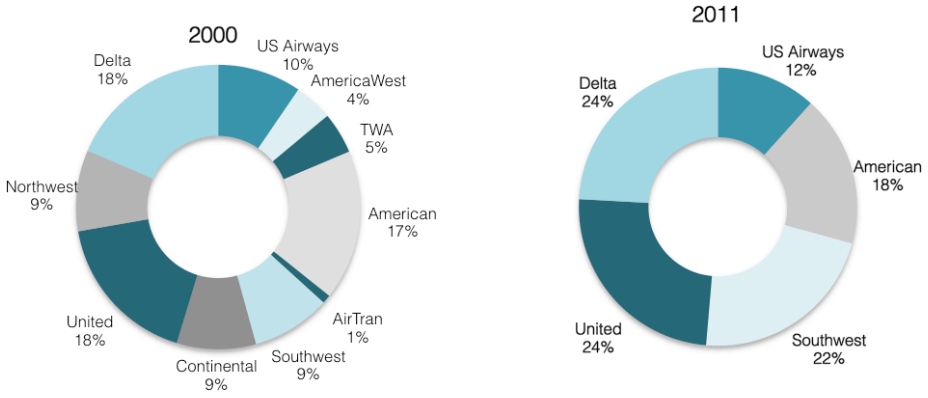


Figure 15: Consolidation of the US Airline Industry from 2000 to 2011, % of domestic passenger Capacity, *Bureau of Transportation and Statistic*

Taking historical data into consideration, M&A within this industry may lead to the elimination of duplicated operating costs through reduction of personnel costs (specially non-cabin crew), reduction of overlapping routes and hubs, procurement savings and working capital and balance sheet restructures. Moreover, M&A effect on the reduction of capacity may lead to the creation of additional revenue through increased fares in certain routes. The occurrence of this revenue increment, however, may only be applied on a short-term perspective seeing that the entrance of other competitors in that same route may diminish those abnormal gains in the long run (United States Government Accountability Office, 2008).

On the other hand, M&A may be realized not because of reduction of capacity but to aim at strategic purposes in order to generate greater revenues. This form of process often occurs when a foreign carrier seeks to expand its network overseas, acquiring a domestic carrier that is well established in those markets, augmenting its domestic and international destinations. By engaging in such strategic approach, the acquirer carrier reaps the benefits of how consumers behave in this market. Within this sector, consumers have a low level of bargaining power – specially in the sub sector of network carriers - seeing that switching costs are relatively high and, above all, competition across the sector made the service offered by each one of the operators very similar in terms of features. Therefore, considering the fact that every network carrier shares the same level of amenities, consumers – when deciding which carrier to use – may rely their decision criterion on the extent of the carrier network route. In fact, according to a survey conducted by Business Traveller Coalition, 53% of respondents confirmed that they were likely to choose a certain airline company because of the extent of its network route, which confirms the competitive advantage of a carrier having an expanded scope (United States Government Accountability Office, 2008).

[17] See Appendix 11 for the most recent M&A activity within the US Airline Industry

3.2 Company Analysis

3.2.1 US Airways Group

US Airways Group is a major air carrier with a predominant focus on passenger transportation within the US. The company's first roots date back to 1939 with the emergence of All American Aviation as an airmail company. Through the years, the business concept has dramatically changed as well as the company's structure. After buyouts and mergers – which saw All American Aviation grow into Allegheny Airlines and then into US Air – US Airways Group was finally formed in 1982. The current organizational structure of the group was designed upon the merger with American West in 2005, which turned out to be a necessity because of the poor financial condition of US Airways.

Therefore, as Figure 16 shows, US Airways Group operates under its wholly-owned subsidiaries: US Airways (core business and brand), Piedmont Airlines, Inc., PSA Airlines Inc. (operating within US Airways Express), and finally Material Services Company, Inc. and Airways Assurance Limited which operate in areas of procurement of aviation fuel and insurance.

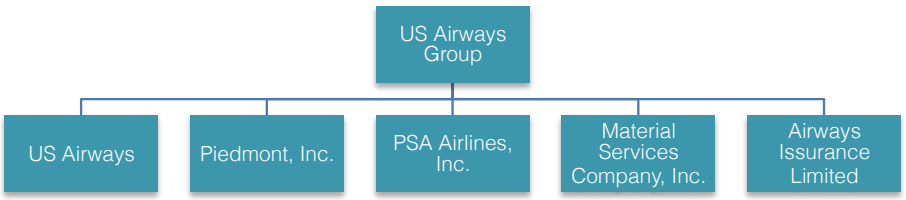


Figure 16: US Airways Group Organization Structure, (US Airways Group, 2013)

US Airways Group generates revenue from four different sources one should account for: mainline passengers; express passengers; cargo and other[18].

In 2012, US Airways through its operational segments, generated $13.8 billion in revenues, being able to offer a $ 776 million enhancement from the previous year. As Figure 17 (a) portrays, every segment experienced an increase over the period analyzed: mainline and express segment increased 8.37% and 8.58% respectively, confirming their relevance on the company's revenue structure as their combined contribution accounted for more than $12 billion in 2012. This trend is the outcome of the ongoing industry capacity discipline effort – earlier covered - and also the recovery of demand for air travel as the consumer purchasing power in most developed countries is starting to grow again after the economic turmoil.

Cargo segment showed a 1.9% CAGR[19] in spite of its slowing pace recorded between 2011 and 2012, which was essentially the ultimate consequence of the decreasing international freight volumes, fostered by the uncertain economic environment which has been surrounding Europe.

Conversely, following the industry trend, US Airways was also able to increase its ancillary revenue: between 2011 and 2012, a $48 million improvement was achieved due to the increase of this company's Frequent Flyer Program as well as to the upsurge of fees

[18] Ancillary revenue, including extra fees applied to the basic fare (i.e. passenger ticketing change fee, baggage fee, ticketing selection fee)

[19] Compound annual growth rate

applied to items such as baggage and passenger ticketing change. In 2012, ancillary revenue accounted for roughly 10% of US Airways operating revenues.

Leaning on the comparison between the two operational segments strictly linked to revenue passenger, one can verify through Figure 17 (b) that the mainline segment provided the larger portion of RPM in 2012, representing 85% of the total figure with a contribution of 62.435 million. Equally, express segment accounted for 15% of total RPM, reflecting a contribution of 10.883 million in that same year. The discrepancy of revenue generation is explained by the concept of business of both segments: while express segment (e.g. US Airways Express) focus relies on regional routes with small aircrafts, transporting passengers from low-density airports to the main hubs where US Airways large jets operations are not economically viable, mainline stands to be the core business of the group, entailing more available aircrafts (346) with a focus on medium/long haul routes. Indeed, in 2012, 54 million passengers boarded through mainline segment, whereas express segment enplaned 28 million passengers.

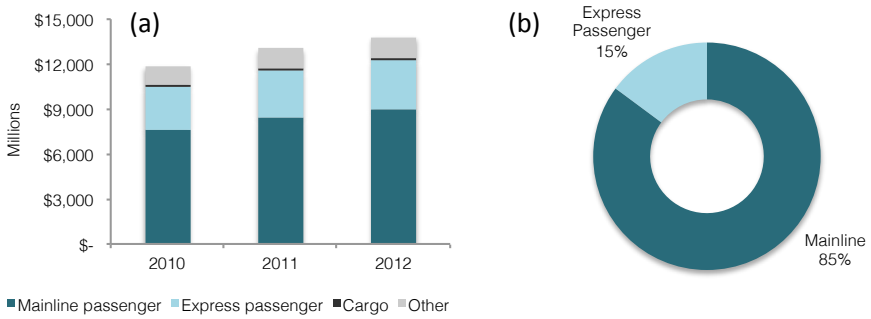


Figure 17: (a) Annual revenue by operational segment; (b) Passenger revenue breakdown in RPM, (US Airways Group, 2013)

Between 2007 and 2012, US Airways was affected by the volatility of jet fuel price, which is regarded as one of the crucial aspects that define the profitability of the airline industry. In fact, in 2012, aircraft fuel had a major preponderance on this company cost structure, as it represented 35% of total operating expenses with a sum of $4.6 billion. As Figure 18 shows, fuel expenses weight on total operating costs ranged from 24% in 2009 to 35% in 2012 – surpassing in the latter year the peak of 2008 as jet fuel prices are currently starting to face an upward trend in the markets.

Nonetheless, US Airways has struggled to maintain a low-cost structure, which has been effective and fruitful: CASM excluding fuel expenses have been performing in a very stable way over the recent years, seeing that between 2010 this item has increased less than 1%.

Salaries and benefits took also an important share in the company's cost structure as it accounted for 19% amounting to $25 billion in 2012. Simultaneously, aircraft rent represented $672 million in that same year comprising the expenses related to leasing contracts the company engaged as an alternative of equipment acquisition.

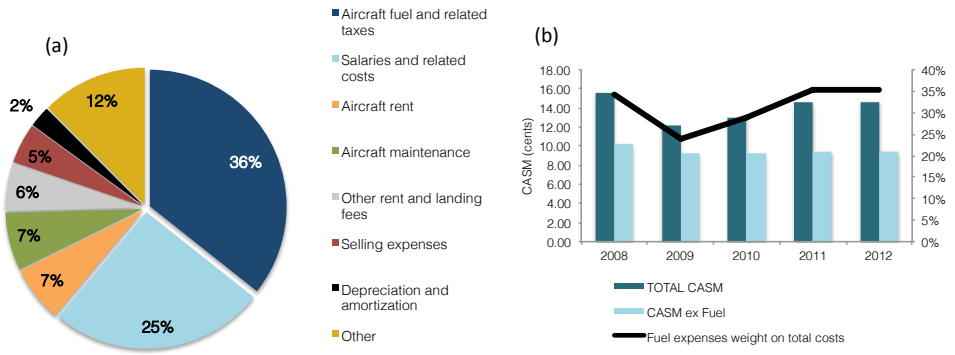


Figure 18: (a) Operational expenses breakdown in 2012; (b) CASM vs. CASM ex. Fuel and Fuel expenses' relevance on operating costs, (US Airways Group, 2013)

When it comes to income generation, US Airways profitability pattern coincides with the industry trend since 2008. The economic crisis in that year was severely felt in this company as it brought a $2 billion loss, followed by a $140 million loss in 2009. This company was only able to run into profit in 2010 by delivering a $600 million result. Despite the seeming recover, US Airways saw its net income shrink in the following year because of a substantial increase in fuel costs and due to the uncertainty surrounding both US and Europe economies that eventually led to a more fragile demand for air travel.

Last year, though, US Airways managed to boost their profitability, recording a 3% growth that was mainly driven by the combined action of revenue enhancement and cost control this company has been doing. Figure 19 (b) reflects the roots of such profitability improvement by analyzing the gap between RASM[20] and CASM. One can verify that profits in the future can emerge in a more stable way, seeing that RASM have been growing faster than CASM since 2011 – 3.8% and 0.7 respectively.

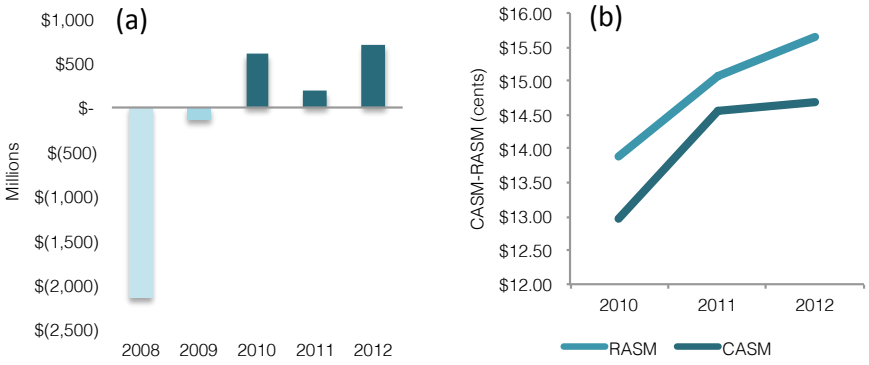


Figure 19: (a) US Airways Net Income (loss) from 2008-2012; (b) CASM vs. RASM 2010-2012, (US Airways Group, 2013)

The company has a capital structure characterized by the high level of leverage, which matches the trend within the airline industry. In 2012, long-term debt amounted to $5.3 billion

20 Revenue per available seat mile computed as $RASM = \frac{OPerating\ revenues}{ASM}$

and accounted for 56.4% of total assets, however, if one does consider current liabilities, that figure can be as high as 91.6%, meaning that stockholders equity does only finance 8.4% of the company's assets. Conversely, almost 40% of the company assets are based on current assets, which makes US Airways a company with a solid liquidity position.

3.2.2 Delta Airlines

Delta Airlines, founded in 1929, is an airline holding company that started way back in 1929 when it carried its first passenger in Louisiana. The company, as most of the legacy carriers, has grown within the US market through mergers and acquisitions of several other carriers. Indeed, it is still a current growth strategy as this company has acquired Northwest Airlines in 2008.

From a consolidated perspective, Delta Airlines stands out in the US airline market by absorbing 20% of its total RPM, obtaining the 2nd largest market share amongst its main competitors, which contrasts with the position this company had in 2008 – before the merger between United and Continental - when it was the largest carrier in the US in terms of RPM.

Despite that, Delta strong presence in the market is mostly reflected in noteworthy facts such as its wide operational scope – it operates across 318 airports, serving 59 countries in every continent – and also its major operational routine, offering 5.000 daily flights through its extensive 700 mainline aircraft fleet.

As with US Airways, Delta Airlines revenue structure is composed of different sources of revenue listed as passenger, cargo and other (i.e. ancillary revenue). During the triennium 2010-2012 (Figure 20 (a)), Delta Airlines was able to achieve a 10.2% increase when it comes to revenue generation. In fact, in 2012, this company could deliver a $3.1 billion marginal enhancement compared to the previous exercise, reaching a $36.7 billion figure.

Such positive revenue scenario is the outcome of a 5% increase of passenger revenues propelled by the improvement on yield factor[21] - which in 2012 rose by 4.9% - and a decrease in Delta's capacity, reflected by a decrease of 1.8% of this company's ASM. Consequently, efficiency was gained and can be measured by the increase in the company's load factor that rose by 1.7%.

Indeed, passenger revenue is the main revenue driver of this company, having a stake as large as 87% of Delta's total operating revenues and, between 2010 and 2012, it turned out to be the item with the most substantial growth (10.20%). Furthermore, when analyzing the two sources of passenger revenue (i.e. mainline and regional carriers), one verifies that the former has a major weight on total revenues accounting for 79%, whereas the latter gets a 21% stake.

[21] Yield factor measures the average fare paid per mile per passenger. It can be computed as $Yield\ Factor = \frac{Passenger\ Revenue}{RPM}$

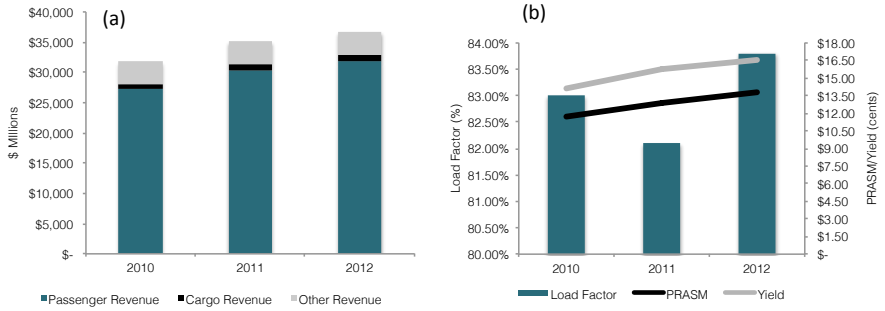


Figure 20: (a) Annual revenue by operational segment; (b) Load factor in percentage, passenger revenue per ASM in cents and passenger yield per mile (cents) 2010-2012, (Delta Airlines, 2013)

Finally, thanks to its large operational capabilities, Delta Airlines operations are not only restricted to the US market, rather, the company has a sizable exposure to international markets that has been steadily growing. The trend is confirmed by the fact that 35% of this company's total operating revenue comes from outside the USA. Atlantic market (Europe and Africa) stands out from the list of international destinations, as Delta reached $56 billion in revenues from this market last year, followed by Pacific that provided $3.6 billion to this company.

Total operating expenses have increased since 2009, and have reached the highest value in the last year of the analysis period when the company recorded a $34.5 billion figure. After 2009 where more moderate levels of expenses were met, 2011 brought a 12% increase or a $3.6 billion compared to the previous year. The abrupt increase is heavily related to a rapid escalation of fuel prices, which soar $0.70/gallon driving a dramatic increase of the company's aircraft fuel expenses by 28% or a $2.1 billion. The fact that fuel price has remained high and volatile contributes not only to a higher level of this company's operating expenses, but also molds its cost structure as this item accounts for 30% of total expenses (Figure 21 (a)).

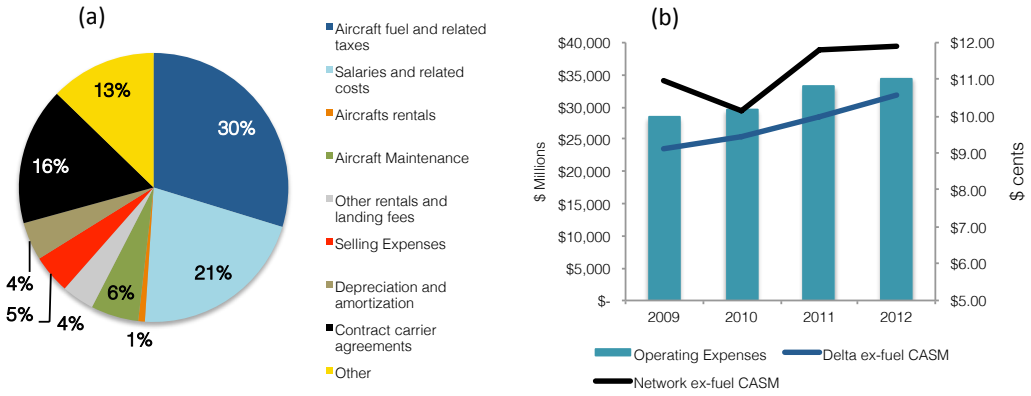


Figure 21: (a) Operational expenses breakdown in 2012; (b) Operating expenses and CASMs 2008-2012, (Delta Airlines, 2013)

As Figure 21 (b) depicts, there is a clear upward trend on this company's operating expenses since 2009, confirming the facts outlined above. The same figure shows that the company is below the network segment average in terms of ex-fuel CASM, reflecting the

company's effort to control all the operating cost items that are not related to fuel costs.

Although there is a beneficial gap towards Delta, ex-fuel CASM have been increasing, becoming even closer to the average figures of the network segment of the business. This recent trend is mainly explained by the rising of some particular operating cost items such as aircraft maintenance costs –which increased $190 million in 2012 – and salary costs that under recent union agreements led to wage increments making this item larger by $372 million.

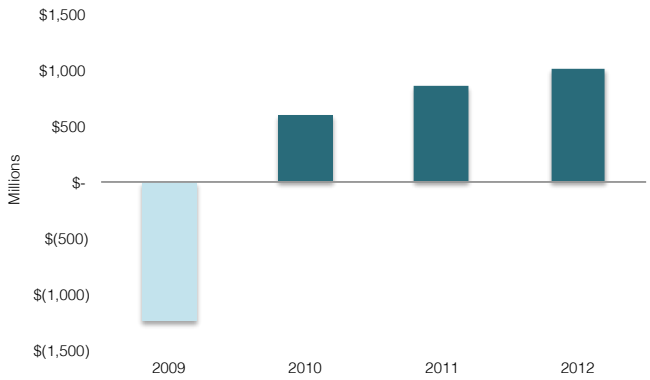


Figure 22: Delta Airlines Net income (loss) between 2009 and 2012, (Delta Airlines, 2013)

In 2012, Delta Airlines was able to deliver profits for the 3rd year in a row. Indeed, 2009 was the last fiscal year the company ran into red numbers (recording a - $1.2 billion loss), much of that motivated by a depressed economic environment (considered as systemic and common across all network carriers), and also due to the integration process with Northwest Airlines after the 2008 merger, which made Delta Airlines incur in $1 billion in one-time cash costs. However, ever since that year this company has leveraged on the economic recovery that has been boosting air travel demand as well as on its larger operational capabilities gained after the recent merger. In 2010, Delta delivered a $593 million result and could steadily consolidate that trend by recording profits of $854 and $1 billion in 2011 and 2012 respectively.

	US Airways	Delta Airlines
RPM (billions)	62,435	192,974
Operating Revenues (millions)	$13,381	$36,670
Operating Expenses (millions)	$12,975	$34,495
EBIT (millions)	$856	$2,175
Net Income (millions)	$637	$1,009
EBIT Margin	6.20%	5.90%
ROA	6.60%	2.30%

Table 2: Relative financial performance analysis of US Airways and Delta Airlines in 2012

Table 2 summarizes a comparative financial performance between US Airways and Delta. As mentioned earlier, Delta Airlines was the largest player in the US market up until the merger between United and Continental, holding therefore the 2nd larger carrier status nowadays. For that reason, Delta presents a bigger financial dimension when it compared to US Airways – positioned as the 5th larger carrier in the market. In 2012 Delta's turnover more than doubled that of US Airways', recording $22.8 more revenues. This company's extensive

operational capability is reflected on its RPM – more than 3 times higher than its peer - and on net income that yielded a gap of $392 in Delta's favor.

Profitability wise, US Airways, despite its lower scale, turns out to yield relatively higher returns. On one hand, this company's assets were able to deliver a 6.6% return, 4.4 percentage points higher than Delta's. On the other hand, US Airways proved to be more efficient in its operating activity as its EBIT margin was also higher than Delta's, namely 0.3 percentage points.

4. Rationale For the Proposed Acquisition

The proposed merger between Delta Airlines and US Airways approached in this paper is the result of a thorough analysis of the potential gains attached to the combination of those firms.

Indeed, US airline passenger industry has been considered to still have room to accommodate further consolidation, in order to sustain its over capacity issue and create higher levels of efficiency that can bring sustainable profit streams to the industry. Comparatively to 2001, this industry saw a wave of mega-mergers between top National carriers, which was ultimately reflected on a significant decrease in the number of major market players ever since. Yet, studies showed that, in order to properly compete in an increasing competitive global market, US carriers will have to engage in more consolidation as top European, South american and Asian carriers are becoming bigger, stronger and more resilient after merger deals.

Delta and US Airways would have several incentives to combine themselves and create the biggest American carrier. If the deal were successfully applied, the merged entity would total revenues of more than $50 billion, surpassing by far United – the current largest American carrier.

Motivated by economic reasons, the deal would essentially be supported by the generation of major savings at operational level, at investing level and would bring substantial financial synergies. Due to the similarity of business areas and geographic scope (i.e. high portion of overlapped routes), operational cost synergies would be greatly propelled by the rationalization of the firm's new network and the elimination of the duplicated overhead costs. Simultaneously, this paper found reasons to believe that an adjusted aircraft fleet to a much more rationalized network, would reduce the merged firm's capital investment requirements, and consequently improve its FCFFs.

The type of deal suggested for this particular case – merger of equals – would not entitle neither of the parties to become an acquirer/target as it is seen on a traditional merger case. Based on previous airline mega-mergers, carriers commonly resorted to such type of deal, where no side takes over the other. Rather, the combined firm will be governed by both firms' executives and synergies will be split by each firm's shareholders in accordance with relative size of US Airways and Delta Airlines on the total enterprise value of the merged entity.

Lastly, though this deal concedes stronger financial and operational foundations to both firms (reducing the probability of default in the coming years), antitrust reviews executed by the DOJ may not be sensitive to such motives and may possibly reject the completion of the proposed deal, since Delta-US Airways would get a considerable large stake of the

American market and become a giant carrier within borders. Such legal hurdles will be thoroughly analyzed later in this paper.

Since this paper is an academic exercise, the potential merger between American Airlines and US Airways – that might happen in 2013 - will be ignored. For that reason, it is assumed that American Airlines, albeit financially weak and facing a Chapter 11 process, will keep operating in this market and continue to be seen as one of the top US airline market players.

5. Stock Performance

As an industry with strong ties to the economic environment, the uncertainty around the most advanced economies is still harming airlines' performance, which is ultimately reflected in their respective earnings and consequently, on their stock prices. Figure 23, conveys how both companies' stock prices have performed over the past 2 years.

US Airways' share price in 2011 followed a negative trend, as its business pace turned out to be relatively lower than previous year's performance. A reduction of 3.5 percentage points of EBITDA margin that led to a 86% decrease of earnings was reflected by a major slump of this company's stock price of 52% over 2011, as it dropped from $10.6 (January 2011) to $5.07 (December 2011).

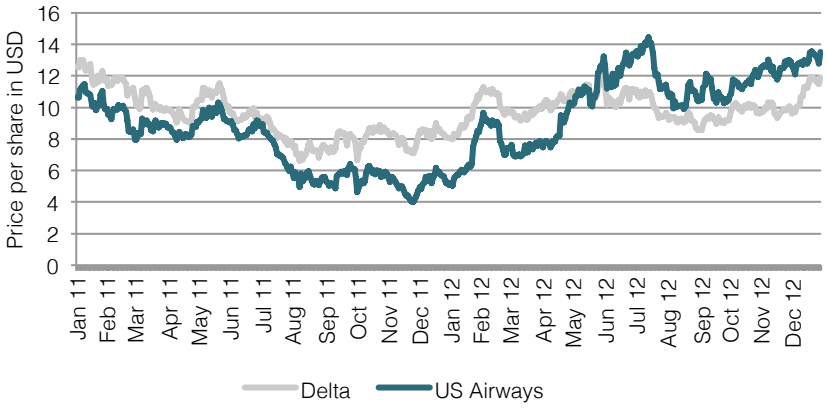


Figure 23: 2-year Historical Stock prices: Delta Airlines and US Airways, *Bloomberg*

Conversely, in 2012, as the company could reap the benefits on margin improvements due to a more positive economic outlook in both American and European markets, its share price increased. Throughout that year, US Airways stock jumped from $5.12 to $13.5, recording a stunning 136% year-over-year.

When it comes to Delta Airlines, its stock price has followed a relatively analogous path, being, however, less volatile throughout the 2-year analysis. When comparing to US Airways, this company recorded a less strong slump in 2011 – as its price dropped $4.4 or 36% - but it showed a slower recovery in 2012, when it taped a 47% increase. As of December 2012, this company's share price was at $11.87.

To conclude, when comparing both companies' stock price in 2011 and 2012 to those same figures recorded in pre-financial crisis (2007), US Airways is still lagging behind those

numbers: in January 2007, its stock was trading at roughly $60, being more than 4 times higher than December's 2012 price. Equally, Delta Airlines gap is not as pronounced. In 2007, its stock was trading at $22, less than twice as much. Table 3 summarizes the range at which both firms have been trading their shares during 2011 and 2012.

	US Airways (NYSE:LCC)	Delta Airlines (NYSE:DAL)
Range 2011	$4.00 - $11.47	$6.62 - $13.00
Range 2012	$5.03 – 14.45$	$8.01 - $12.1

Table 3: Historical stock information for Delta Airlines and US Airways, *Bloomberg*

Finally, both companies have not paid out dividends for their shareholders and from the available information this policy, will be kept the same for the next several years**.**

6. Standalone Valuation

The following part of the present report will approach each company separately when performing the respective valuations. As academics and practitioners suggest, standalone valuation is the very first step to assess a merger and all the potential value that might be generated from synergies.

The following standalone valuations will be based on historical data provided from both company's SEC fillings and past reports launched by FAA. Plus, both valuations are strongly linked to the forecasts this analysis managed to yield for the most important key drivers. On this matter, the explicit period will be from 2013 to 2022, which adequately reflects a reasonable time window for the projections to be made. Furthermore, as sources of the projections – which are going to be identified through the text – this analysis took major considerations on 2013 FAA forecasts report and the extrapolation of recent past trends. For that reason, seeing that projections are made upon uncertain grounds one should not expect that, throughout the 10-year explicit period, the forecasted variables perform exactly the way this analysis predicted.

In order to perform both firms' valuations, the present analysis will resort to WACC approach and to APV model, as suggested earlier in literature review. Albeit different in the respective process, one should expect that those two approaches yield identical outcomes.

6.1 Performance Forecast and Valuation

When projecting revenues into the future, one should not only take into consideration how fast or slow revenues have grown, but also the specificities of the airline industry. The following paragraphs will synthesize how this analysis will forecast revenues, expenses and other important items that will have an impact on the valuation process of both US Airways and Delta Airlines. For both companies, this analysis will use a 10-year forecast period (2013-2022). As for any forecasting exercise, historical data assumes a very important role as a platform to align future expectations to what has occurred in the past. For US Airways,

historical data will comprise the last 6 years (2007-2012), while Delta Airlines will use a 4-year period[22] (2009-2012).

6.1.1 US Airways Group

Revenue Forecasting

The following paragraphs summarize the main assumptions made to project US Airways revenues into the future. Revenues are organized according to the company's operating segments, such as passenger and non-passenger sources of revenue – entailing cargo and ancillary revenue.

Passenger Revenue

As argued before, airline industry is highly dependent on the way economies are performing and, therefore, in order to forecast this company's revenue stream one should incorporate economic projections. As already mentioned, air travel demand heavily depends upon the level of business and leisure activity, therefore, the main driver of revenue growth defined in this analysis is the annual percentage growth of disposable income per capita, this being the most accurate proxy for air travel demand[23]. This analysis will consider that this company will generate revenues in line with the specificities of the industry in which it operates. Seeing that this sector is highly competitive and has reached a mature stage, one can presume that revenues will grow hand-in-hand with the moderate growth prospects of the American economy. For that reason, this analysis will ensure the design a smooth pattern of growth, taking into consideration economy-based systemic conditions as well as the absence of great industry shocks.

Within the US, from 2007 to 2012 household disposable income per capita (Table 4) grew on average 1.2%, reflecting a period of slower economic pace and a more-than-average unemployment rate. During the period 2013-2022, this analysis expects an economic recovery within this country, bringing more positive numbers with regard to GDP growth and employment growth. Thus, American families will see their purchasing power – measured by disposable income per capita - grow on average by 2.6% during that period - peaking at 3% in 2014 (and stabilizing from 2017 to 2022 when reaching a 2.4% growth.

On the other hand, that number is higher when considering international markets to which US Airways has exposure to: Europe, Asia & Pacific, Latin America and Canada. Regarding average household consumption for each of those regions, one should expect a 3.4% growth rate from 2013 to 2022. This gap between domestic and global within this indicator is essentially the consequence of fast growing economies in Asia and South America.

[22] The analysis used a reduced historical period because of the merger between Delta and Northwest airlines that took place in 2008. Indeed, if one considers pre-merger data, it could lead to misinterpretations about the past trend of several items on this company's financial statements. Therefore, by using a historical period from 2009 to 2012 this analysis will expunge all the values before the merger.

[23] Many analysts would peg air travel demand to GDP of a country. However, this economic indicator may not be the best proxy for it, due to the fact that many of GDP components have no connection to consumption. Indeed, variations in GDP may not be related to changes in consumption, being rather linked to amount of imports, exports, investment stocks, etc. Therefore, when GDP records a positive variation one should not confidently expect an increase in household disposable income and ultimately in air travel demand.

	2007	2008	2009	2010	2011	2012	2013-2022
Asia & Pacific	5.40%	3.70%	3.70%	5.10%	4.90%	5.00%	**4.50%**
Europe	1.70%	-0.20%	-2.00%	-0.90%	-0.30%	0.30%	**1.80%**
South America	5.40%	3.30%	-1.80%	5.10%	4.60%	4.80%	**4.70%**
North America	1.40%	-1.30%	-2.60%	1.00%	1.70%	1.40%	**2.40%**
International Aggregate	3.50%	1.40%	-0.70%	3.00%	2.70%	2.90%	**3.40%**
USA	1.30%	-1.50%	-2.70%	1.00%	1.70%	1.30%	**2.60%**

Table 4: Actual Annual % growth of household disposable income per capita, (2007-2012) and average annual % growth rate forecast per regions (2013-2022), *FAA*

Up to this point, annual household disposable income growth is defined as the main revenue driver and now some explanations should be made. Since US Airways has two sub segments within passenger revenue section – mainline and express – it is crucial to attribute and adjust different growth rates.

Firstly, express segment fully relies on its operations domestically. Thus, those revenues coming from this segment will be pegged to US household domestic disposable income per capita growth rate.

Secondly, mainline revenue growth rate has as drivers US household domestic disposable income per capita growth rate (g_{dom}) and International-aggregate GDP growth (g_{int}) . One should compute this segment rate as follows:

$$g_{Mainline} = \frac{International\ Revenues}{Total\ Revenues} * g_{int} + \frac{Domestic\ Revenues}{Total\ Revenues} * g_{dom}$$

This equation considers the weight of both international and domestic revenue on total revenue and respective household income growth rate (g_{int}, g_{dom}).

When applying the past insights and equations, mainline segment is expected to grow on average 2.8% during the forecasted period, being 0.2 percentage points above the express segment. The former segment is expected to take advantage of international markets growth, specially because the analysis expects that US Airways will expand its international exposure by increasing its international revenues weight on total revenues from 25% to a 40% target in 2022. Therefore, this company by 2022, is expected to generate revenues of $11.8 billion and $4.2 billion through its mainline and express segment, respectively.

Non-Passenger Revenue

When it comes to the growth rate of the non-passenger revenue segment – cargo and other – some considerations should be made.

Regarding cargo revenue segment, US Airways reckons freight activities as important ways to complement its core business. From 2007 to 2012, cargo revenues grew on average 11%, amounting to $155 million in 2012. The present analysis forecasted this item during the period 2013-2022 by pegging its progress to world GDP growth rate (Appendix 3). The reason to do so relies on the two following explanations. Firstly, it is reasonable to use a global indicator such as the one regarded, seeing that US freight activities have a strong focus on intercontinental transportation. For instance, the current economic uncertainty surrounding Europe has been negatively affecting the cargo revenue stream of US Airways, reflecting therefore its dependence and interconnectivity to international markets. Secondly,

one should use GDP as an indicator because it accurately pictures world industrial production, which is the main driver of cargo volume. For that reason, cargo revenue will grow annually, on average, 5.3% during the forecasted period.

Finally, "other revenues" item – also known within the airline industry as ancillary revenue - will grow according to its increasing relevance on total revenues in most of US network carriers, trailing a common upward trend.

This analysis, therefore, assumes that ancillary revenue will grow 6.75% every year during the forecasted period, following a reasonable presumption that US Airways, as a network carriers, will try to offset a flat growth rate on average fares by keeping or even escalating the charge of services such as luggage, seat selection and cancellation options. Consequently, this revenue item is expected to grow faster than the rest of the segments, reaching a $2.6 billion figure by 2022.

Figure 24 summarizes all the information provided regarding the forecasting for each one of the revenue sources of US Airways.

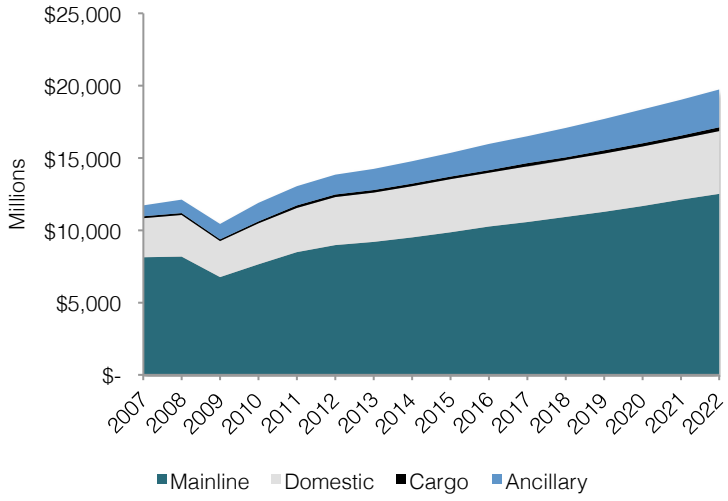


Figure 24: Growth prospects for US Airways revenue segments (2007-2022)

Expenses Forecasting

The following paragraphs regard the expenses related to US airway's operational activity. For the sake of simplicity, the next part will depict the prospects of operating expenses items that have a major impact on the company's total expenses, identified in the company's analysis. Therefore, as major operating expenses, the analysis will consider fuel expenses, salaries, express expenses, aircraft rent and depreciation. The reason for the proposed organization has to do with the fact that this company's income statement is very detailed and extensive regarding operating expenses. The operating expenses not covered in detail are assumed to follow sales behavior in the same proportion they did over the historical period (Appendix 14).

Aircraft Fuel

Aircraft fuel became recently the heaviest cost item in most companies' cost structure. Indeed, this item has logically a high-correlation with oil price evolution, which allows us to reasonably assume that aircraft fuel expenses should follow the trends verified in oil price evolution. This latter item has been characterized by its volatility and uncertain behavior: it reached a height-record in June 2008 when oil expanded to $134.38 a barrel and ever since, it has been varying around the $100/ barrel psychological barrier.

Indeed, when forecasting oil price, a couple of variables should be accounted for, such as future availability, the extent to which prices will fluctuate and inflation. The first two variables, in turn, are deeply associated with occurrences that are hardly predictable and difficult to be modeled like the upsurge of political disruptions in oil producer countries, the occurrence of natural disasters and, finally, the strength of US dollar.

Aircraft fuel projections,[24] in this analysis, will rely on two main drivers: the average fuel price per gallon (indexed to refiners' acquisition cost average,) and fuel consumption (Appendix 15), which are projected to follow the same ratio to revenues as it did in the past years (i.e. 8%).

Projecting aircraft fuel expenses will be the outcome of the product between average fuel price per gallon and fuel consumption projections, generating the following conclusions. This cost item is expected to reach a $4.9 billion figure at the end of the explicit period, meaning that the company will face an annual growth rate of 3.7%. If one breaks down that figure, one can conclude that this upward trend is propelled by an expected growth of 0.32% yearly on the average price per gallon, and by fuel consumption that is projected to increase on average 3.6% every year. Figure 25, depicts the projections for both aircraft fuel expenses and its respective inputs.

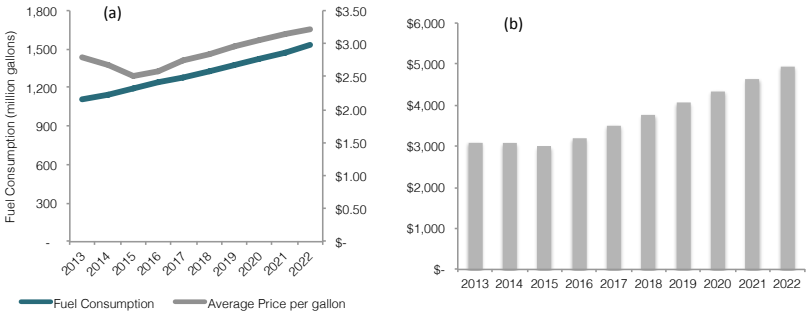


Figure 25: (a) Projections for average price per gallon (USD) and Fuel consumption; (b) US Airways projected aircraft fuel expenses

Salaries and Related costs

US Airways Group employs 31.200 workers – 4.000 pilots – and in 2012 has spent $2.5 billion in salaries representing roughly 25% of this company's total operating expenses.

Historical data shows that this cost item, from 2007-2012, averaged a 3.1% annual growth rate, which ranged from 10.1% in 2007 to -3.1% in the following year.

When forecasting salaries and related costs, one should take into account the following fact: 83% of US Airways are represented by labor unions, which logically makes it

[24] This analysis was provided with FAA forecasts for refiners' acquisition cost. However, those projections were based on constant prices. For the sake of consistency with the rest of the analysis, inflation (CPI annual change) was added to that variable.

difficult to US Airways management to reduce this cost item on a frequent basis, either through wage cuts or through personnel reductions. Therefore, one should expect a relatively stable growth during the forecasted period. This analysis will forecast salaries and related costs based on this item's proportion to sales. Taking into consideration the intrinsic difficulty to adjust this cost item, this analysis will assume that throughout the explicit period, salaries will be kept at 18% of sales – maintaining the ratio recorded in 2012.

By doing so, in 2022 salaries will amount to $3.7 billion after growing on average 4.1% per year, 2.3 percentage points over inflation.

Express Expenses

When it comes to express expenses - those related to US Airways express – one should expect that those would follow the same growth trend that has been in place from 2007. Since that year, those expenses averaged a growth of 4.5% per year until 2012, amounting to $3.2 billion in that same year.

Throughout 2007-2012, these expenses have been ranging from 22% to 25% of total revenues, and this cost item is expected to be 24% over the forecasted period. Associated with the evolution of this ratio, one can verify that this forecast reflects the few growing opportunities within regional segment, a fact that is mainly propelled by the increasing LCC dominance on those markets, and also reflects the assumption earlier stated of US airways increasing international exposure

Indeed, express expenses have been the 2nd largest expense item within this company, being mostly affected by fuel costs operating regional flights, and also by labor costs incurred by employing over 5.400 employees through its express subsidiaries, such as Piedmont and PSA. By the end of 2022, this cost item will maintain its weight on total operating expenses, reaching a $4.7 billion figure yielded by an annual average growth rate of 4%.

Aircraft Rent

Aircraft rent expenses are associated with operational expenses incurred with aircraft leases, which in turn will be the base for this cost item forecast until 2022. Indeed, historical data highlights its importance in US Airways fleet as the number of leased aircraft surpassed the owned fleet in every fiscal year.

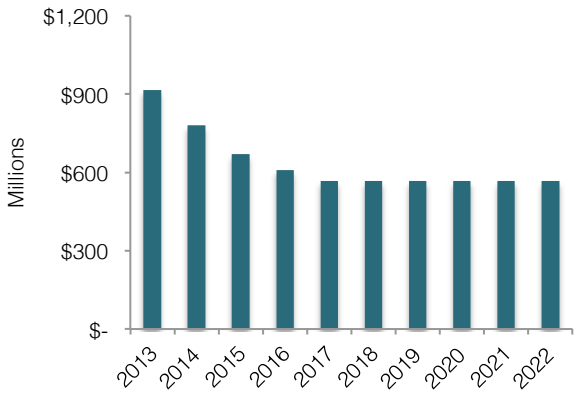


Figure 26: Projections for Aircraft rent expenses 2013-2022

Nonetheless, US Airways has been increasing the number of owned aircrafts both in absolute numbers and in comparison to leasing contracts. While in 2007 the ratio leased-to-owned aircrafts[25] was 3.8, five years later the same ratio dropped to 1.8.

This past trend is corroborated by the projections made by the company through its annual report regarding future commitments of aircraft leases. As Figure 27 shows, US Airways, during the first three years of the forecasted period, will meet higher values for this item when compared to 2012, averaging $789 million per year. Thereafter, it is expected that the company will progressively adjust the amount of leased aircrafts to lower patterns until 2022, stabilizing at $568 million.

Depreciation and Amortization

All the financial reports provided by the company refers depreciation and amortization (D&A) as a single account and, for that reason, the same principle will be used throughout this analysis.

For the forecasted period, this item will progress similarly at the same pace it has been evolving in the past years. D&A during the past 6 years has grown on average 5.9%, while the ratio depreciation-to-net property and equipment (PP&E) ranged from 8% to 5%. For that reason, throughout the explicit period, D&A item will be projected by assuming that the proportion to net PP&E will be equal to the average of the past 5 fiscal years, namely 6.6%. By assuming so, D&A will, on average, present a figure of $404 million, jumping from $340 million in 2012 to $474 million in 2022. Figure 27 quantifies the evolution of this item throughout the explicit period.

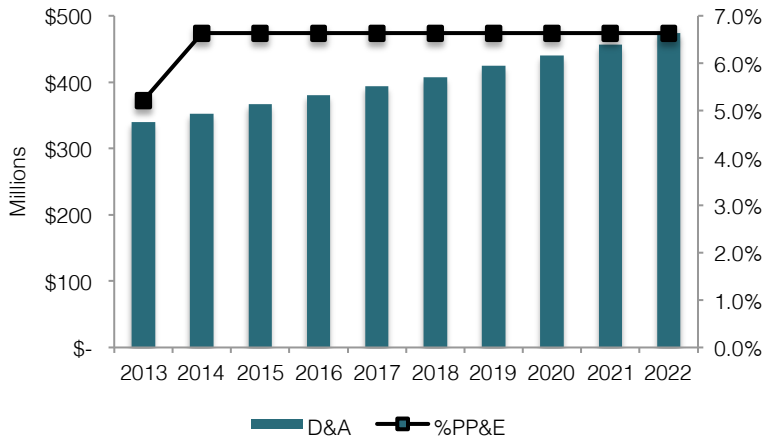


Figure 27: Depreciation and Amortization projections

Capital Expenditures

Capital expenditures comprise all the necessary investments US Airways has to fulfill in order to maintain or expand the company's ability to generate value through its operations. US Airways capital expenditures mainly entail investments in property and equipment, which in turn may be split into two major areas: flight equipment – which represents the most important sub item due to the fact of being a core resource for this business; and, also,

[25] How many leased aircrafts for each of the owned aircrafts. It can be computed as $\frac{\#leased\ aircrafts}{\#owned\ aircrafts}$

ground property and equipment. For that reason, this analysis will consider capital expenditures as the investment this company makes at PP&E level.

Looking at the most recent fiscal years, US Airways capital expenditures amounted to $201, $593 and $775 million in 2010, 2011 and 2012, respectively. The increasing trend has its roots on the expansion on the number of owned aircrafts. As earlier mentioned, as US Airways shifted from predominantly holding leased aircrafts to purchasing them, those facts have arouse an increase of investment needs. For instance, 56 new aircrafts were acquired between 2007 and 2012, which makes US Airways fleet reach 340 aircrafts.

For the purpose of forecasting this company's capital expenditures, one should consider the following aspects. Firstly, airline industry is capital intensive and requires frequent capital investments. Secondly, flight equipment has a relatively high lifecycle and marginal technological breakthroughs are relatively uncommon. Lastly, flight equipment investment may be associated with the company's turnover: as the business grows, more flights will be demanded and the company may expand its fleet. Conversely, cycles of lower demand may lead to a lower number of flights and less aircrafts used, which prompts the firm to adjust its fleet composition. Consequently, being on a mature industry with few opportunities to meet high expansions, it is reasonable to expect that capital expenditures will grow moderately.

According to Koller et. al (2005), capital investments (capex) should be the result of the sum of changes in net PP&E and depreciation:

$$CAPEX_t = (Net\ PP\&E_t - Net\ PP\&E_{t-1}) + D\&A_t$$

Furthermore, taking into consideration the relationship between capital needs and level of revenues, this analysis will project net PP&E according to its ratio to revenues, which is assumed to be 36%. As Figure 28 depicts, US Airways capex level will be on average $648 per year – ranging from $766 million (2013) to $576 million (2015) - being roughly 1.62x D&A throughout the period.

This analysis strongly believes that capex projections are aligned with both the industry specificities and the company's own characteristics.

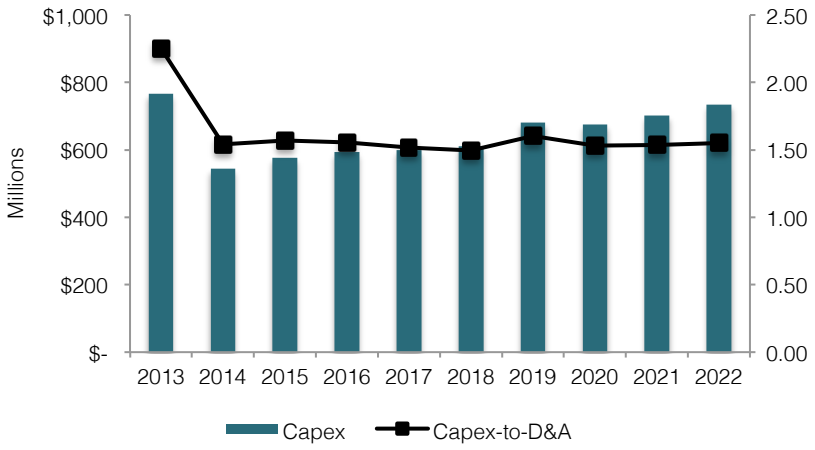


Figure 28: US Airways Capex projections

Net working Capital

A firm's net working capital refers to the capital it requires to keep its operational activity going on smoothly. This measure is often considered to set the difference between current assets and current liabilities; however, one should only consider current items that are related to the operational core of the company, excluding financing items such as short-term investments and liabilities as well as cash and cash equivalents (Koller et. al,2010). For the purpose of Airline industry, and specially US Airways case, net working capital comprises the following components: restricted cash, accounts receivable, materials & supplies and prepaid expenses (current assets); accounts payables, air traffic liability, accrued compensation and taxes and other accrued expenses (Table 5).

Almost all the aforementioned items' expected behavior is indexed to the respective relationship with revenues during the forecasted period, seeing that revenues turn out to be a reasonable driver as it represents the pace of the operational business and its turnover.

Throughout the historical period, net working capital (NWC) has been negative and the gap between current assets and liabilities has increased on average 2.5%, matching an increase of $52 million. In 2012, net working capital amounted to - $1.6 billion, following a common trend within the airline industry. This business specificities and its business cycle make most of carriers prone to face negative working capitals, as carriers collect the money at the time of booking which is considerably before the company provides the actual transportation service to those customers. Plus, legacy carriers – such as US Airways – are characterized to be large firms, which have a considerable bargaining power with their suppliers, which is materialized in longer credit periods. For that reason, in 2012, US Airways recorded accounts payables 1.22 times higher than accounts receivables and, above all, current liabilities 2.39 times higher than current assets.

When it comes to projecting net working capital into the future, by attaching the operating working capital items to revenues and assume that their respective proportion will be equal to the same average ratio recorded in the historical period, this analysis will presume that current liabilities will grow slightly faster than current assets. While in 2013, NWC will match a - $ 1.7 billion, the gap between current assets and current liabilities will be deepened as NWC will amount to - $2.4 billion (Figure 29). Subsequently, on average, US Airways will meet a $70 million marginal decrease in NWC, which turns out to be a source of funds to its operational activity, since it relieves cash to the firm claimholders.

Current Assets	%Revenues
Accounts receivable	2.70%
Materials and supplies	2.00%
Prepaid expenses and other	4.50%

Current Liabilities	%Revenues
Accounts Payable	3.70%
Air traffic liability	7.10%
Accrued compensation and vacation	1.80%
Accrued taxes	1.30%
Other accrued expenses	7.60%

Table 5: Current Assets and Current Liabilities as percentage of revenues for 2013-2022

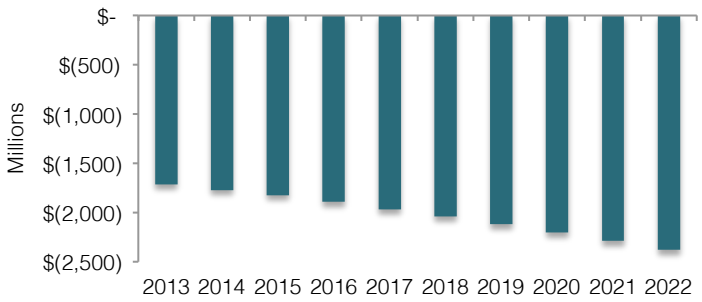


Figure 29: Net Working Capital projections for the forecasted period

Taxes

US Airways, as an American corporation, follows the existing tax laws within that country. Taking into account the size of taxable income, according to the US tax law, US Airways falls into the highest tax bracket due to the fact of producing a pre-tax income of over $18.3 million. Thus, this company faces a statutory tax rate of 35% (KPMG,2012) and for the purpose of the forecasted period, this figure is expected to remain constant.

When it comes to effective tax rate,[26] one can verify through Table 6 that US Airways tax burden has been quite uneven and considerably lower than statutory tax rate over the years due to the utilization of operating loss carryforwards. For the 2013-2022 period, effective tax rate will match the average of the effective tax rates of those years during which income was actually paid. For that reason, fiscal years 2006, 2007 and 2011 will be the base of the forecasts, yielding a 16% figure.

Due to previous fiscal years with major losses in 2008 and 2009, US Airways has been able to apply those losses to future income tax payments. As the company steps into profit over the next years in a stable way, those tax reliefs are expected to be gradually diluted, rising the effective amount of income tax paid and in consequence the company's effective tax rate. Therefore, after 2022, effective tax rate is expected to increase and converge to the statutory tax rate, and a 30% effective tax rate is expected to be achieved and it will be considered for the purpose of terminal value computation.

	2006	2007	2008	2009	2010	2011	2012
Taxable Income (millions)	$ 404	$ 430	$ (2)	$ (243)	$ 502	$ 90	$ 637
Effective amount of income tax paid (millions)	$ 101	$ 7	-	$ (38)	-	$ 19	-
Effective tax rate	25%	2%	-	-16%	-	21%	-

Table 6: Historical effective income taxes for US Airways, (US Airways Group, 2013)

Leverage

During the explicit period, this analysis assumes that US Airways will engage in a continuous effort to strengthen its balance sheet, by reducing its leverage. In 2012, at market values, this company Debt-to-equity ratio was as high as 2.80, which was fairly above what its main competitors were presenting.[27] As Table 7 shows, from the peer group, US Airways verified a weaker financial position, by having higher debt ratios.

[26] Effective tax rate is the amount of taxes actually paid by a firm on a fiscal year. It can be computed as $Effective\ tax\ rate = \frac{Taxes\ due}{Taxable\ Income}$

[27] For this purpose, the analysis considered Delta Airlines and United Airlines to be identical players, since both are legacy carriers and are operating in the same country-market.

In an effort to converge to average leverage levels, the analysis assumed that US Airways over the next 10 years would set a debt-to-equity target ratio of 1.8. Conversely, debt-to-capital ratio (73.7% in 2012) is equally expected to be reduced throughout the explicit period in order to join the peers' patterns, reaching by 2022, a 65% figure. As a reflection, by 2022 long-term interest bearing debt will represent 65% of long-term assets, which would represent a 10 percentage points decrease comparing to levels recorded in 2012.

Comparable firms	Debt-to-capital	Debt-to-equity
US Airways	73.70%	280%
United Airlines	62.29%	165%
Delta Airlines	59.70%	148%

Table 7: 2012 Debt ratios for comparable firms at market value

In spite of still being a high leverage ratio, there are business specific idiosyncrasies that support it. Firstly, airline industry is *per se* a highly leveraged sector, which has already seen higher leverage (e.g. in 2005 debt-to-capital ratio was 205%). Secondly, this industry as a capital-intensive sector, quite often faces high levels of volatility in its earnings, being unreasonable to assume that retained earnings may fund its high capital requirements. Thirdly, large carriers such as US Airways can "afford" to sustain such high debt ratios seeing that most of its debt is secured and highly recovered (i.e. most of debt is secured by collaterals which are highly transferred and marketable, such as flight equipment, route slots, etc).

Cost of Capital

For the purpose of US Airways valuation, cost of capital will – according to the model in use - entail the price of both sources of capital: equity and debt, and will represent the rate at which FCFF will be discounted. On one hand, when using DCF valuation model, cost of capital is matched by the WACC, on the other hand, APV model – just like previously announced in literature review – will discount FCFF at the unlevered cost of equity, since it will separately treat side effects regarding the way this company is financed.

Also mentioned in literature review, the current analysis – in pursuit for this company valuation – will be supported by CAPM model when assessing its respective cost of equity. In order to pursue that goal, the model's components will be highlighted and its values will be framed into the specificities of US Airways.

Firstly, regarding the risk free rate, one can consider that since US Airways operates in a developed country within a mature industry, the best and most common proxy for a riskless asset is the 10-year US Treasury bond (being paired with the same currency as US Airways cash flows). For that reason, this analysis took into consideration the respective average yield recorded between 2009 and 2012. During that period, the 10-year US Treasury bond averaged 2.7%[28], being, therefore, the figure used in this analysis as the risk free input for the CAPM model.

[28] This low yield reflects the current interest rate policy of Federal Reserve, in pursuit of stimulating the American economy.

Secondly, for the purpose of estimating market risk premium, this analysis will follow the guidelines provided by Koller et al. (2010) by extrapolating historical excess returns. Furthermore, since the same source argues that historical data should be based on a long time window, this analysis will use the long run premium for the USA from 1900-2012 provided by Credit Suisse (2013) through its Investment return yearbook, which was 5.6%. Once again, this analysis will stick to US reality-market not only because it is the country where the valued company is mainly focused on, but also because of the strong foundations of US equity market for many years, which yields a sense of stability and reliability that are important attributes when projecting historical trends into the future.

Concerning the computation of the beta, the following comments should be made. As Koller et al. (2010) argue, in order to yield better and more precise estimates for betas, one should use industry rather than company specific betas. Considering unlevered betas, airline carriers face the same operating risks throughout the industry, sharing the same industry cycle in terms of how revenues and expenses evolve. Subsequently, it is reasonable that unlevered airline industry beta will be, to a decent extent, a good proxy for the US Airways unlevered beta. Through Damodaran (2013a), this analysis was provided with an estimate for Air transportation unlevered industry beta of 0.82.

Moreover, this analysis relied on the process of leveraging the unlevered betas[29] provided by Damodaran[30]. As explained in the literature review, levered betas are higher than the unlevered betas by the proportion of debt within the capital structure of a company. After applying the suggested formula, this analysis found a levered beta of 2.3, which albeit high is the result of a highly leveraged capital structure.

Finally, regarding this company's cost of debt, the following valuation will infer it based on Damodaran's credit rating spread framework (Appendix 12). The reasoning for that lies behind the fact that US Airways has not issued public bonds – making it therefore impossible to assess its respective market price. Furthermore, given the fact this company has several types of debt with different maturities, repayment schemes, amounts and conditions, a unique interest rate would be hard to compute due to the complexity involved.

According to US Airways 2013 10-k form, this company's credit rating has been B- [31] ever since 2007. The current rating is the replication of both high level of this firm's indebtedness as well as the past volatility of the business itself and consequently earnings and cash flows: the more volatile those are, the more uncertain is US Airways capability to cover all its contractual obligations. For that reason, a 7.25% default spread should be added over the risk free rate. Therefore, this analysis will be based on a pre-tax cost of debt of 9.95%.

Finally, when computing US Airways terminal value this analysis will assume that cash flows will grow in perpetuity at 2.5%. This rate is based on the FAA long-term forecast for US GDP between 2022 and 2033. This growth rate is in line with the prospects of both US economic environment and the airline industry – which is a mature sector; and also with the proposal made by Koller et. al (2010), who acknowledge the fact that the long-term

[29] If one assumes that the beta of debt is 0 – due to the fact that Debtholders are the first who get paid, one's company levered beta is computed as follows:

$$\beta_e = \beta_u * \left[1 + \frac{D}{E}\right]$$

[30] Unlevered betas of the industry still stand sue to the fact that they not consider any effect of the capital structure of the company. Therefore, this will serve as the base for the estimation of levered beta.

[31] Standard and Poors

growth rate of a company should never surpass the GDP growth of the respective country plus inflation.

Table 8, reflects the fundamental inputs that were the primary base for the following DCF valuation conclusions.

Risk-free rate	2.70%
US risk premium	5.60%
Effective tax rate	16.00%
Target (D/D+E)	65.00%
Cost of debt	9.95%
Unlevered Beta	0.82
Unlevered rate of return, equity	7.30%
US Airways levered beta	2.3
Levered rate of return, equity	16.00%
WACC	10.90%
Long-term sustainable growth	2.50%

Table 8: US Airways Valuation inputs

Valuation

Firstly, when applying the aforementioned input for the DCF valuation based on WACC, the model (deeply expanded in Appendix 18) yielded an enterprise value of $4.8 billion.

Acknowledging the fact that equity value is yielded by the difference between the enterprise value and debt[32], one can conclude that the value of equity is $2.30 billion. According to US Airways financial report, as of December 2012 the company had 162.897.835 common stock outstanding[33], which would yield an equity value per share of $14.15 (Table 9).

Market wise, as of December 2012 the average stock price stayed at $12.94, making US Airways market capitalization be equal to $2.11 billion, which is fairly close to this analysis estimates.

Analysts expect that for the next years, US air carriers will be able to improve their margins and, mostly, reduce their overcapacity either through their own operational efficiency or through market consolidation. For that reason, it is reasonable to assume that in a near future, these positive facts will be incorporated in a higher market capitalization due to its strengthened stock price.

[32] Debt net of cash and cash equivalents. The net debt position of US Airways as of December 2012 was $2.517 billion.

[33] As of December 2012. Repurchase of stock is not expected to happen during the explicit period.

	Millions	
Enterprise Value	$	4.821
Debt, Mv	$	4.793
Cash & cash equivalents	$	2.276
Net Debt	$	2.517
Equity Value	$	2.304
Equity per share	$	14,15

Table 9: Valuation Output using WACC

Alternatively, performing the APV model, the present analysis named three components of this firm's value: the base case value that assesses the value of the firm as a fully equity financed company; the tax shields generated from bearing debt on its balance sheet; and finally, the costs linked to the firm's debt level, known as costs of financial distress.

The first component, base case value, aggregated all the FCFF that the company would yield during the explicit period plus a terminal value, all discounted back at the unlevered cost of equity of 7.3%.

Secondly, tax shields were computed by multiplying the company's annual interest expenses by the effective tax rate (known as tax deductions), and discount them at an adequate rate that fairly incorporates their riskiness. As explained earlier in literature review, one should reasonably assume that the company's cost of debt is a fair discount rate, which will be assumed in this company's valuation. US Airways is expected to yield a present value of interest tax shields of $887 million.

Thirdly, due to the fact that US Airways relies its activity on a relatively high level debt – compared to other industries – it is crucial to account for the downside of sustaining such high debt ratios within its balance sheet. As provided earlier in literature review, costs of financial distress (CFD) result from the product between the probability of default and the present value of bankruptcy costs.[34] Due to the subjectivity, complexity and lack of applicable alternative methods to compute CFD, its components were assessed based on frameworks created by academics that resulted from empirical evidence and some adjustments.

Those estimates were retrieved from statistical researches based on industry analysis. Nevertheless, assuming that even within the same industry, companies may differ from one to the other, one should interpret those estimates carefully.

$$EV = V_u + (1 - \pi_A) * PV(its) - (\pi_A * \%CFD * V_u)$$

When it comes to bankruptcy costs, this analysis will follow the academic suggestions of Korteweg (2007), who looked at those costs (as percentage of firm value) in different industries, splitting them into *ex-ante* an *ex-post* costs of financial distress.

Being an air carrier, US Airways for will face relatively high CFDs, both before the hypothetical bankruptcy and during that process. Indeed, according to Korteweg (2007) research within the air transportation sector, *ex-ante* CFDs will be as high as 32.6%[35] of the firm's value. This is mainly explained by the fact that customers' perception towards the

[34] Present value of bankruptcy costs is expressed as the percentage of Value of the unlevered firm.

[35] Korteweg (2007) generated *ex-ante* CFD according to firms' leverage ratio. Therefore, 32.6% represents the cost of financial distress (in percentage of value of the firm) of a company with the same leverage ratio as US Airways.

company would be highly damaged if they were suspicious about its financial strength of the company. Firstly, they would stop buying tickets in advance to avoid the risk of not being served in the future; and secondly, they would not buy tickets from an air carrier whose security and safety levels may be negligible due to financial distress.

On the other hand, through this study an air carrier on average would also experience in a loss of value of 15.8% due to the litigation process and involved fees that would be incurred during the liquidation process. Putting together those components, a potential bankruptcy would absorb 48.4% of the firm value.

Regarding probability of default, this analysis took into consideration the probability of default linked to the company's credit rating, since no other methods were applicable (e.g. implicit probability of default from traded bonds). According to Damodaran a B-, rated firm would face a probability of default of 42.12% (Appendix 12), reflecting the uncertainty of the firm's ability to repay all its contractual obligations. Therefore, CFD would be expected to match a $1.5 billion figure.

According to the above equation, the enterprise value should be equal to unlevered value of the firm plus the present value of interest tax shields (only those when company is solvent and able to generate earnings), minus the cost of financial distress. APV model, based on the aforementioned inputs, found an enterprise value of $6.5 billion, being over $1.5 billion WACC estimates:

$$EV = \$7.5 + (1 - 0.421) * \$0.87 - (0.421 * 0.484 * \$7.5) = \$6.49\ billion$$

Indeed, APV model yielded a higher valuation when compared to WACC outcome. This gap may be explained by the fact that probability of default, which the framework came up with, is not reflective of US Airways situation. As a matter of fact, this value is the result of the average of several firms from different industries, whose financial situation was identical. Consequently, those disparities may yield an underestimated probability of default regarding the financial reality of US Airways and also the specificities of the airlines industry. Therefore, this analysis resorted to a sensitivity analysis by changing probability of default, *ceteris paribus.* For that purpose, the analysis hypothetically set it equal to the next worse credit rates: CCC and CC, 51.40% and 60.40%, respectively.

Though as high as it may seem, this number reflects both the risk-specificities of the industry – high capital requirements, high fixed costs (labor and fuel), fierce competition and the existence of uncontrollable factors that negatively influence demand - and the negative record of the industry itself. Ever since the deregulation process in 1978, when regulators stopped raising fares every time companies were in financial trouble, US air companies filed for bankruptcy 189 times. All these facts prove that this industry is prone to financial failures and, above all, overleverage may increase the likelihood of cash flows generated by the company being insufficient to cover companies' obligations.

Logically, assuming a higher probability of default will reduce enterprise value. A 60.4% probability would set an enterprise value of $5.66 billion, reducing therefore the gap between the two valuation models considered.

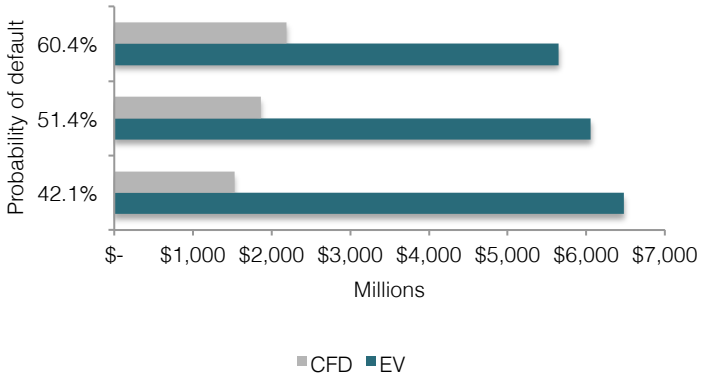


Figure 30: Sensitivity analysis adjusting probability of default, ceteris paribus

In spite of the existence of a gap between these 2 valuation models, this analysis will confidently use WACC results and truly believes that it reliably depicts the fair value of US Airways. Hence, an enterprise value of $4.8 billion ($14.15 per share) will be considered throughout the following stages of this report.

Relative Valuation

For the purpose of attesting to the fairness of this analysis valuation results, this paper had also resorted to relative valuation in order to check whether WACC valuation is aligned with the market patterns. For that reason, when addressing relative valuation, this analysis resorted to EV/EBITDA and did not regard P/E as usually done by practitioners. The reasoning behind that decision has to do with the fact that the former multiple provides a more reliable representation of the fair value of the company, by overcoming the distortions P/E multiple is sensitive to. These distortions are the reflection of changes within composition of capital structure, variations in depreciation policies, one-time events and account non-operating items. Indeed, those are elements that can be manipulated by the company in order to attain certain P/E level, leaving this multiple with a low sense of reliability.

Conversely, EV/EBITDA being unaffected by any capital structure decision and able to overcome distortions, such as depreciation and the consideration of non-operating items (i.e. cash is deducted to enterprise value, is considered a wiser option for this analysis.

In order to perform a correct comparison, the analysis focused its attention on comparable firms, which share the same business features of US Airways. This analysis resorted to Goldman Sachs research regarding EV/EBITDA multiple. By considering a group of 6 peers (Delta, United, Lufthansa, IAG, Air France and Turkish Airlines), the average within the group peer was 5.13, yielding for US Airways enterprise value a figure of $4.3 billion (Table 10). This conclusion turned out to become very close to the analysis' findings, since the difference to WACC results was roughly $0.57 billion. Then, seeing that the restricted peer group entails companies with much similar features, it is rewarding to verify that the enterprise value drawn by this analysis ($4.8 billion) is close to what market would dictate.

			Goldman Sachs 2013E
Company	Country	Market Cap (millions)	EV/EBITDA
United Cont'l Hldgs.	USA	$ 7.773	3,6
Delta Air Lines	USA	$ 10.108	4,7
Air France KLM	France	$ 2.731	4,8
IAG	U.K	$ 6.865	5,2
Lufthansa	Germany	$ 8.636	7,1
Turkish Airlines	Turkey	$ 5.874	5,9
Average		**$ 6.998**	**5,1**

Table 10: Peer group multiples, *Goldman Sachs*

Sensitivity Analysis

In order to improve robustness US Airways valuation results, one ought to deepen sensitivity analysis by marginally varying some key value drivers on a *ceteris paribus* basis. In fact, the valuation outcome is the result of forecasts – that are subject to uncertainty – and assumptions, which may often lead to some subjectivity. Table 11 entails two drivers that were subject to changes and materializes the extent to which equity value would vary to the correspondent marginal change of revenue growth rate, long-term sustainable growth rate and cost of capital.

Firstly, if annual revenue growth rate were set at 1 percentage point higher than the base case (4.7% vs. 3.7%), it would impact equity value by a considerable extent. This level of elasticity was materialized on a 27.2% change, an increment of $627 million, due to a positive effect on FCFF of the company. Conversely, a downward adjustment would imply a lower equity value of roughly $449 million.

Secondly, when it comes to the remainder variables one can verify that a 1 percentage point positive change in the long-term growth rate would press upwards equity by 13.1% whereas a 1 percentage point negative change would make equity value decrease by 10%, or $231 million.

			Change in Equity Value	
	Base Case	Change	($ millions)	(percent)
Revenue growth	3,6%	+1pp	$ 627	27,2%
		-1pp	$ (449)	-19,5%
Long term sustainable growth	2,5%	+1pp	$ 303	13,1%
		-1pp	$ (231)	-10,0%

Table 11: Sensitivity Analysis

When it comes to the cost of capital, this analysis looked at the consequences of 4 different scenarios: increase (decrease) by 1 or 2 percentage points on each of the periods within the explicit period. The analysis found that enterprise value would vary within a window ranging from $4.2 billion (yielded by a 12.9% WACC), and $5.5 billion (yielded by an 8.8% WACC).

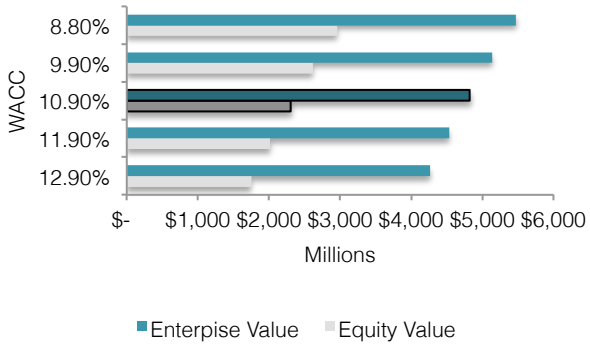


Figure 31: Equity and enterprise value for different cost of capital

6.1.2 Delta Airlines

Revenue Forecasting

The following paragraphs summarize the main assumptions made to project Delta's revenues into the future. Revenues are organized by the company's segment: passenger and non-passenger sources of revenue.

Passenger Revenue

Delta Airlines passenger revenues' growth is expected to follow identical path as US Airways: both operate within the same segment – network carriers – and they operate on a mature industry with few opportunities for high growing companies. For that reason, industry and general economic wide variables will drive their revenues.

During the explicit period, Delta Airlines passenger revenues reckon to grow, on average, 3.5% per year for the mainline segment and 2.6% for the regional segment. The former will be driven by the disposable income per capita growth on both domestic and international market [36] (Table 4). Consequently, Delta Airlines mainline revenues are expected to reach $35.4 billion by 2022, after jumping from a $25.2 figure in 2012.

On the other hand, regional segment is expected to grow from $6.8 billion to $8.5 during the forecasted period, reflecting a 2.6% annual average growth rate. This trend is highly driven by the positive prospects of disposable income per capita of American families until 2022 (Table 4). Total passenger revenues are, therefore, expected to present a 3.2% average annual growth during the explicit period, making Delta Airways able to reach a $43.9 billion figure in 2022. Furthermore, these projections keep this revenue representing 85% of the total operating revenue until 2022, as it occurred during the historical period.

[36] Like US Airways, the analysis assumes that Delta's international activity will account for 35% of the business throughout the explicit period.

Non-passenger Revenue

Non-passenger revenue of this company, like US Airways, entails non-core activities such as cargo business (freight services) and ancillary sources of revenue (previously explained).

Firstly, Delta's cargo business has been irregularly growing over the past 3 years and it would not be prudential to extrapolate the past trend into the future, due to the high level of uncertainty. Accordingly, as previously applied to US Airways, World's GDP may serve as a good proxy for this part of the company business, seeing that industrial activity strongly affects the need for cargo transportation. Thus, this analysis expects an annual growth rate of 5.3% for revenues coming from cargo, yielding on average a $63 million improvement per year until 2022, as it follows the World's GDP nominal growth rate.

Secondly, when it comes to ancillary revenue, this analysis assumes once again that this item's relevance on total revenues will grow, as it did over the past years in most of US network air carriers when they pursued alternatives to offset a decreasing trend on average fares. This analysis expects an annual average growth rate of 6.8%, making this revenue item jump from $3.9 billion in 2012 to $7.4 billion in 2022. For this revenue source, historical trend shows that industry wise it has grown faster than any other revenue item. Applying to Delta's case, ancillary revenue will represent 14% of its total operating revenues by 2022 - a 3 percentage points increase compared to 2012 numbers.

Figure 32 summarizes all the information provided regarding the forecasting for each one of the revenue sources.

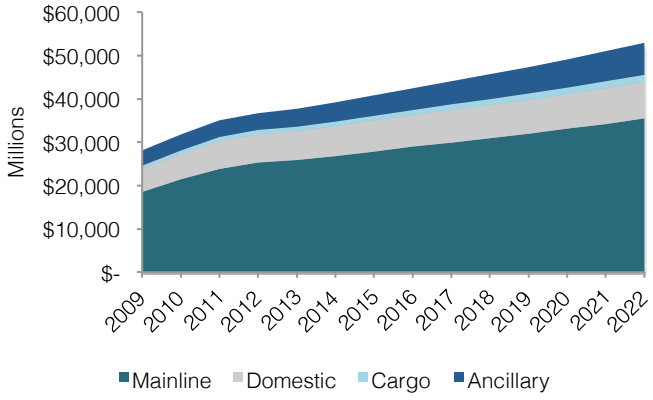


Figure 32: Growth prospects for Delta's revenue segments (2009-2022)

Expenses Forecasting

The following paragraphs regard the expenses related to Delta's operational activity. Due to the fact that Delta income statement is very detailed and extensive with regard to operating expenses, only the most important items and those that could severely impact Delta's performance are looked into more detail within the next part.

Aircraft Fuel

Like US Airways, this analysis considers aircraft fuel expenses outcome as a function of the company's fuel consumption (in gallons) and average price of gallon.

On one hand, fuel consumption is expected to follow the company's revenue as it did in the past, namely maintaining a stable fuel consumption-to-revenues ratio: it is expected that until 2020 this ratio will be 10%, and thereafter it will decrease to 9%.

On the other hand, average fuel price per gallon will be indexed to refiners' acquisition cost average forecast built by FAA for this analysis' explicit period (Appendix 23). As US Airways, aircraft fuel expenses will result from the product of fuel consumption and price per gallon.

For that reason, these expenses are projected to reach a $15.7 billion figure by 2022, which would represent an annual average growth rate of 4.6%. As Figure 33 depicts, the increasing trend in fuel expenses is the ultimate result of an upward trend in both fuel consumption and price per gallon. Indeed, this analysis projects that average price per gallon will grow 1.6% per year, jumping from $2.87 in 2013 to $3.30 in 2022. Simultaneously, fuel consumption will grow 2.7% per year, being 1.26x of the 2012 consumption (4.766 million gallons vs. 3.769 million gallon).

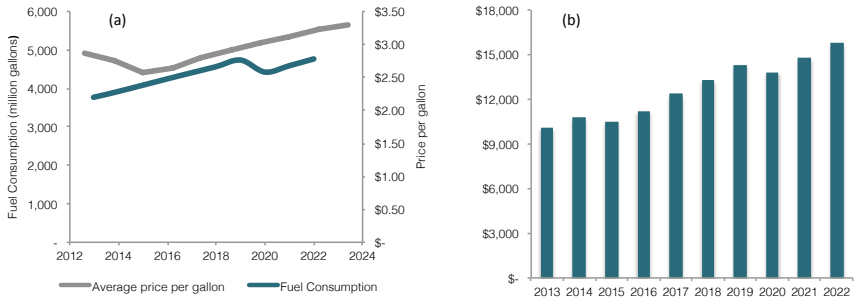


Figure 33: (a) Projections for average price per gallon (USD) and Fuel consumption; (b) Delta's projected aircraft fuel expenses

Wages, Salaries and Benefits

In 2012, labor costs turned out to be Delta's largest expense when excluding fuel expenditure and, for that reason, the analysis' projections will keep this item's relevance along the forecasted period.

Historical data shows that salaries have consistently been constant in relation to revenues, after 3 years accounting for 20% of Delta's total revenues. Thus, this analysis assumes that Delta will maintain the same ratio throughout the explicit period. This assumption will, in fact, yield an annual average growth rate of 3.8%, which ensure high levels of reasonableness seeing that it is aligned with inflation projections: salaries are expected to grow 1.8 percentage points over inflation.

As US Airways, Delta Airlines faces an highly unionized workforce that often drives it to attain high levels of bargaining power in specific issues such as wage raises and layoff negotiations which, ultimately, restricts management's scope when it comes to adjustments in this field.

Aircraft Maintenance

Delta aircraft's maintenance costs will grow slightly slower when it compared to historical data, as the company is expected to start replacing its aircraft fleet and therefore incur in less maintenance costs. For that reason, from 2013 to 2018, this expense item is

expected to grow 4% gradually and 5% thereafter as the fleet's useful life decreases. At the end of the explicit period, this item is projected to reach a $3 billion figure.

Contract Carrier Arrangements

Delta Airlines often resorts to arrangements with partner carriers in order to perform regional flights. Under these contract arrangements, regional affiliates operate under Delta's name, although all the back office services are provided by Delta, such as scheduling, pricing, ticketing and reservations.

As shown by Delta's cost breakdown (Figure 21), in 2012, this cost item turned out to represent as much as 6% of the company's total expenses, amounting to $5.6 billion. In that same year it also represented 16% of revenues, a ratio that is going to be extrapolated and used by this analysis when forecasting this cost item. Subsequently, if one projects the above proportion between contract arrangements and revenues, during the explicit period, this cost item will grow on average 4.1% yearly, amounting to $8.5 billion.

Taxes

Delta Airlines over the past four fiscal years has not shown a regular effective tax rate. Indeed, as US airways, this company would face a statutory text rate of 35% (KPMG, 2012) according to the US tax law.

As Table 12 shows, only fiscal years 2010 and 2012 have actual seen tax payments of $15 million and $16 million respectively, corresponding to a rather low effective tax rate of roughly 2%. Furthermore, Delta Airlines, through its 2013 Annual report, reaffirmed that it still has $16.3 billion worth of Net Operating loss (NOL) carryforwards, expecting therefore to " not pay any cash income tax during the next several years".

Taking into consideration this fact, during the explicit period, this analysis assumes that the utilization of that amount of NOL carryforwards will provide the company with the opportunity of having a 0% effective tax rate. However, due to the fact that NOL carryforwards do expire for tax relief purposes and also the fact that as the company runs into profit over time, effective tax rate is assumed to be 30% aiming at computing the firm's terminal value.

	2009	2010	2011	2012	2013-2022	Terminal Value
Taxable Income (millions)	$(1,581)	$608	$769	$1,025		
Effective amount of income tax paid (save) (millions)	$(344)	$15	$(85)	$16		
Effective tax rate	-	2%	-	2%	**0%**	**30%**

Table 12: Historical effective income taxes for US Airways in million dollars, (2007-2012), (Delta Airlines, 2013)

Capital Expenditures and Depreciation & Amortization

This analysis resorted to Goldman Sachs reports regarding this firm's capex projections. Analysts expect that Delta engages in higher capital expenditures when compared to historical average, not only to upgrade current aircrafts but also to expand its fleet, in order to fight LCC domestically and expand international routes – often more

profitable. As of 2012, this carrier owned a 717 fleet having committed itself to purchase 178 new aircrafts during the next years, which reflects this firm's preference for purchasing-contracts rather than leased ones. Indeed, it is expected Delta capex will amount to $2.5 billion per year, in an effort to balance lower investing levels in previous years driven by large operating losses incur by this company.

For the purpose of projecting the depreciation and amortization (D&A) item, it is assumed that it will also be tied to what Goldman Sachs projects for this company. By doing so, it is expected that capex-to-depreciation stays at 1.5 until 2016 and thereafter at 1.45. From that ratio, D&A levels could easily be derived, meaning that from 2013 to 2016 this item will amount to $1.66 billion annually, whereas from 2017 to 2022 it will total $1.78 billion annually.

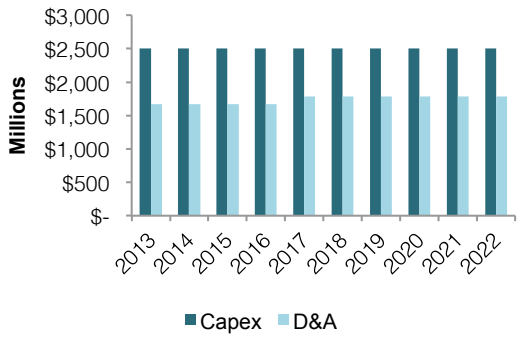


Figure 34: Capex and D&A projections for Delta Airlines

Net Working Capital

When it comes to short term operational cycle, this analysis – alike US Airways – will consider as current assets: restricted cash, receivables, fuel inventory, material supplies, deferred income tax and prepaid expenses. On the other hand, as current liabilities the following items were considered: air traffic liability, payables, frequent flyer deferred revenue, taxes payable, fuel card obligation and other accrued liabilities.

Current Assets	% Revenues
Restricted Cash	1%
Accounts Receivable	5%
Fuel Invetory	2%
Materials and supplies	1%
Prepaid expenses and other	3%
Deferred Income Tax	1%

Current Liabilities	% Revenues
Accounts Payable	5%
Air traffic liability	10%
Accrued compensation and vacation	4%
Accrued taxes	2%
Frequent Flyer deferred revenue	5%
Fuel Card Obligation	1%
Other accrued liabilities	3%

Table 13: Current Assets and liabilities items as a percentage of revenues for 2013-2022 period

This analysis tied every item to revenue growth[37] and assumed that their average proportion to the company's turnover recorded on the past 4 years would be extrapolated to the following years.

[37] Except for item Accounts payable that was tied to the company's total expenses

As previously explained, airline carriers with substantial size are able to generate very efficient operational cycles taking advantage of the fact that they can swiftly get cash inflows from Delta's clients and customers (i.e. through reservation of travel tickets, prior to offering its transportation services), compared to the coverage of short term obligations. Therefore, Delta's net working capital has been negative and it will keep that same trend, becoming an important source of funding for the company's operations.

As Figure 35 depicts, this analysis projects that for each year Delta's net working capital decreases on average $238 million, reaching therefore - $8.8 billion by the end of the explicit period.

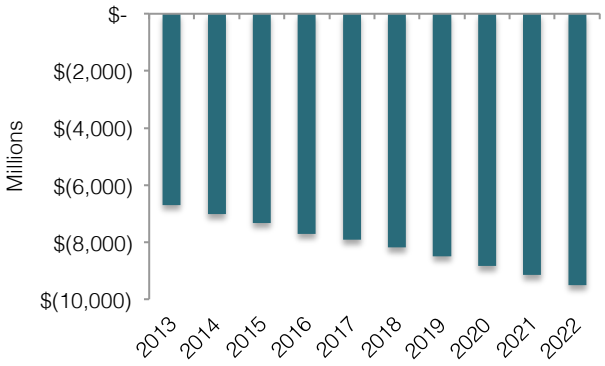


Figure 35: Net Working capital projections for the forecasted period

Leverage

During the explicit period, this analysis assumes that Delta's leverage will be maintained at the current level of indebtedness. In fact, Delta's current debt-to-equity ratio (market values) is 1.48, which is apparently high when compared to other industries, but comparatively lower within the airline sector. Taking into account US Airways and United Airlines – deemed as the most similar companies in terms of scale and market segment –, Delta presents a stronger financial position by recording a lower debt-to-equity ratio (148%) and also a lower debt-to-capital ratio (59.7%). For that reason, this analysis assumes that Delta will present these debt ratios for the next several years, this being as an important input for the company's cost of capital and, consequently, the company's valuation process. Table 7 depicts the financial position of those 3 comparable firms and reiterates Delta's improved financial outlook.

Also important to mention, when it comes to long-term interest bearing debt, this analysis has been sensible to the fact that over the past 4 years Delta was able to reduce it in terms of long-term assets (e.g. PP&E plus intangible assets). Indeed, from 2009 to 2012, the company reduced the ratio 46-percentage points, dropping from 77% to 31%. Consequently, during the explicit period, this analysis assumes that long-term interest bearing debt will be kept at 31% of PP&E and intangible assets.

Cost of Capital

Delta Airlines, for being in the same industry as US Airways, will logically share some of the inputs already used to assess this company capital cost.

Firstly, when assessing the cost of equity – following the CAPM model –, a 2.7% will be used again for the risk free rate, reflecting the US 10-year Treasury bond average annual

yield of the last 4 years (2009-2012). Furthermore, operating in the same country entitles Delta to use a 5.6% risk premium according to Credit Suisse (2013) during the forecasted period.

Secondly, concerning beta computation, this analysis relied on the industry's unlevered beta of 0.82 provided by Damodaran (2013a), being reflective of the intrinsic operational risk that any carrier incurs in the US. If one levers the industry's based beta taking into consideration Delta's indebtedness – reflected on a 1.48 debt-to-equity ratio –, a 2.03 levered beta emerged, as explained in the following equation:

$$\beta_{levered} = \beta_{unlevered} * \left(1 + \frac{D}{E}\right) \Leftrightarrow \beta_{levered} = 0.82 * (1 + 1.48) = 2.03$$

After the previous computation, one is able to assess the firm's cost of equity, which would be equal to 13.1% or the CAPM outcome as the following:

$$r_{equity} = 0.027 + 2.03 * 0.056 = 0.0137 = 14.1\%$$

Finally, regarding the company's cost of debt, the same approach used in US Airways case will be applied, by resorting to the company's credit rating. According to S&P, Delta's financial position was suffice to deserve a B+ rating, being 2 grade steps ahead US Airways due to a better financial situation. Subsequently, Delta Airlines will take advantage of a lower credit spread compared to US Airways, since its credit rating is matched to a 5.50% figure. Putting together this item with the risk free rate previously computed, Delta's cost of debt is assumed to be 8.20%.

By carrying both debt and equity on its capital structure, Delta's capital structure will also be computed by taking into consideration the firm's cost of equity and debt and weighting them at their respective capital weights. As previously stated, this analysis assumed that the company will sustain the current debt ratio during the next several years[38], yielding a constant capital structure: debt and equity are expected to represent 59.7% and 40.3%[39] of the company's capital respectively. By doing so, a 10.6% WACC will emerge and will serve as the rate at which the firm's cash flows will be discounted when inferring its value.

Finally, long-term sustainable growth rate is expected to be 2.5%, matching the long-term growth rate for the US economy.

Table 14, summarizes the valuation inputs necessary to undertake the next steps of this analysis:

[38] Current weights are considered to be the target capital weights since no capital swings are expected to happen for the next several years.

[39] For the purpose of WACC calculation, debt and equity weight on the firm's capital should be numbered at Market values.

Risk-free rate	2.70%
US risk premium	5.60%
Effective tax rate (terminal)	30.00%
Target (D/D+E)	59.70%
Cost of debt	8.20%
Unlevered Beta	0.82
Unlevered rate of return, equity	7.30%
Delta levered beta	2.03
Levered rate of return, equity	14.10%
WACC	10.60%
Long-term sustainable growth	2.50%

Table 14: Delta valuation inputs

Valuation

Taking into consideration all the valuation inputs (Table 15) and associated assumptions, the analysis concluded that Delta Airlines would be fairly valued at $20.5 billion (deeply exposed in Appendix 26). Splitting this value into equity and (net) debt value, one can conclude that after accounting for the latter item Delta's equity amounted to $10.21 billion or, dividing by its shares outstanding[40], $12 per share.

In order to check for the plausibility of the analysis outcome, one should align equity market value with equity fair value previously computed.

If one accounts for the average Delta's stock price during December 2012 – based on a $11.87 per share price – this company would have a market capitalization of $10.11 billion, which is fairly aligned with WACC valuation output.

	Millions	
Enterprise Value	$	20.510
Debt, Mv	$	12.709
Cash & cash equivalents	$	2.416
Net Debt	$	10.293
Equity Value	$	10.217
Equity per share	$	12.00

Table 15: Valuation Output using WACC

Applying APV model to this analysis found the company's unlevered value to be equal to $26 billion, yielded by an unlevered cost of capital of 7.3%. Regarding interest tax shields, following the assumption that Delta would not pay any income tax during the next several years, no interest tax shields are expected to be generated until 2022. However, Delta's continuing value is assumed to face an effective tax rate of 30% - 5 percentage points below the statutory tax rate that a company like Delta would incur. By doing so, terminal value of interest tax shields are projected to be equal to $2.64 billion considering cost of debt to be a fair discount rate.

[40] Delta Airlines had 851,590,992 shares outstanding as of December 2012. No stock buybacks are expected to occur throughout the analyzed period.

Finally, in order to enrich our APV estimation one should take into account the potential loss of value by carrying debt on this company's capital structure. Most of the assumptions applied to US Airways are logically the same and will be shared in this case. The more debt the firm gets, the more likely is the potential event of a distress situation, where debt obligations might not be covered leading to a bankruptcy situation. For the purpose of CFD computations, since Delta has no publicly traded debt (i.e. bonds), one could not rely on their probability of default. For that reason, like US Airways, the analysis relied on the credit rating to assess it.

On one hand, in this situation the analysis assumed that in case of a distress situation the company would loss 48.40% (32.6% *ex-ante costs* and 15.6% *ex-post* costs) of the unlevered firm value, reflecting all the specificities of the business that boost fundamentally *ex-ante* bankruptcy costs earlier explained.

On the other hand, a B+ rated company would yield a 24.82% probability of default according to Damadoran's framework (Appendix 12).

APV model, based on the aforementioned inputs, found an enterprise value of $24.8 billion, being over $4.3 billion when compared to WACC model conclusions.

$$EV = V_u + (1 - \pi_A) * PV(its) - (\pi_A * \%CFD * V_u)$$

$$EV = \$26.0 + (1 - 0.2482) * \$2.6 - (0.2482 * 0.4840 * \$26.0) = \$24.8\ billion$$

This gap is mainly generated by the difficulty of assessing a precise and exact probability of default for a company. As explained, Damodaran framework relies on average numbers and lacks timeliness, given that the relationship between credit rates and probability default is dynamic. Knowing that there is a lack of availability and applicability of alternate models to find the correct probability of a company's default, and the method used across this analysis being somehow subjective, a sensitivity analysis should also be used.

By modifying the probability of default, one can verify that enterprise value will vary. For the sake of consistency, this analysis will consider two other values for probability of default, which are the closest to Delta's current credit rate (B and B-).

Through Figure 36, one can confirm that as the probability of default moves towards higher values, CFD consequently increases leading to a decrease on enterprise value. Thus, when considering a 42.12% probability of default, CFD would equal $5.3 billion and enterprise value would rapidly converge towards WACC results, reaching a $22.3 billion figure being over $1.7 billion. In conclusion, these findings suggest that for Delta's case a higher probability of default should be expected, surpassing what the framework provided.

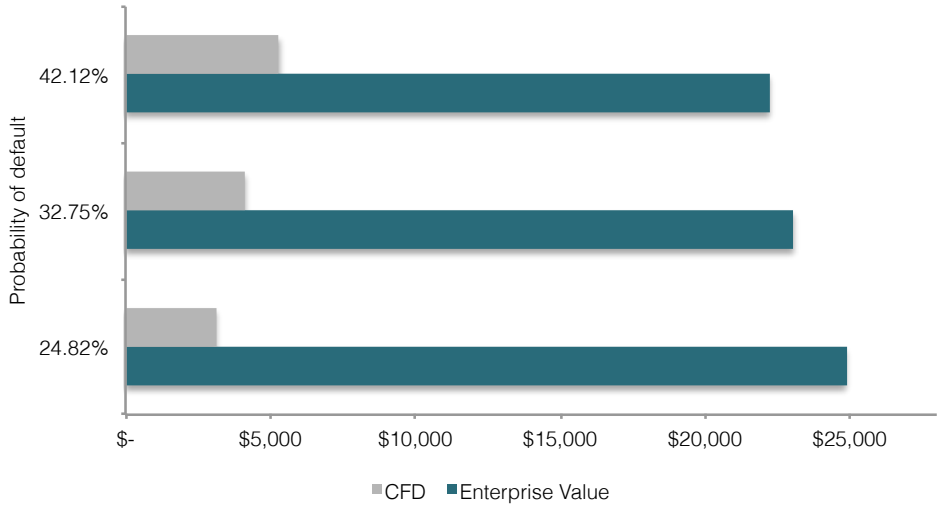


Figure 36: Sensitivity analysis adjusting probability of default, ceteris paribus

Despite the existence of a gap between these 2 valuation models, this analysis will confidently use WACC results and truly believes that it reliably depicts the fair value of Delta Airlines. Hence, an enterprise value of $20.5 billion ($12 per share) will be considered throughout the following stages of this report.

Relative Valuation

Finally, this analysis has also resorted to relative valuation in order to check if WACC valuation is aligned with the market patterns. Once again, EV/EBITDA was the chosen multiple following the same reasoning appointed earlier, as well as the extent and composition of the peer group.

The average multiple within the peer group was 5.4, yielding for Delta Airlines' enterprise value a figure of $19.04 billion (Table 16). When compared to WACC results, one can conclude that multiples yield a lower valuation, being $1.46 billion below the previous model's outcome. This gap may be explained by the fact that Delta Airlines presents different features even when compared to similar peers, such as market capitalization and growth prospects.

			Goldman Sachs 2013E
Company	Country	Market Cap (millions)	EV/EBITDA
United Cont'l Hldgs.	USA	$ 7.773	3.6
US Airways	USA	$ 2.108	5.5
Air France KLM	France	$ 2.731	4.8
IAG	U.K	$ 6.865	5.2
Lufthansa	Germany	$ 8.636	7.1
Turkish Airlines	Turkey	$ 5.874	5.9
Average		**$ 6.998**	**5.4**

Table 16: Peer Group Multiples, *Goldman Sachs*

Sensitivity Analysis

As previously explained, when performing a company valuation conclusions are drawn upon assumptions that are subject to some levels of uncertainty and, consequently, one should be open to relaxing some of the assumptions made. Therefore, it is useful to perform a *ceteris paribus* variation of the fundamental variables that stand behind the valuation outcome. As for the US Airways case, this analysis will marginally change drivers considered to be the most significant in the model with an impact on the final enterprise value, such as the annual revenue growth rate, long-term sustainable growth rate and the cost of capital.

Table 17 summarizes the changes in equity value motivated by two key drivers. If a 1-percentage point increase on annual revenue growth rate was allowed, equity value would increase by $2.2 billion or by 27.2%, whereas an opposite change would "destroy" $2.8 billion, reflecting a high sensitivity of the valuation to changes in this variable.

			Change in Equity Value	
	Base Case	Change	($ billions)	(percent)
Revenue growth	3,6%	+1pp	$ 2.196	27,2%
		-1pp	$ (2.833)	-19,5%
Long term sustainable growth	2,5%	+1pp	$ 2.040	13,1%
		-1pp	$ (1.503)	-10,0%

Table 17: Delta Valuation sensitivity analysis

Conversely, changing the long-term growth rate would impact equity value through the weight of Terminal value. A conservative approach would set the growth of this variable evolving hand-in-hand with inflation (1.5%), yielding a 10% lower equity value when compared to the base value. On the other hand, an optimistic approach would set a 3.5% growth rate, which would bring an increment of $2.04 billion into this firm's equity value.

Finally, this sensitivity analysis also comprised the change in the firm's cost of capital. The analysis considered 4 different scenarios with 4 different WACC, yielding respectively different valuations (Figure 37). It would be logically expected that the highest WACC considered (12.6%), would generate the lowest equity value ($7.59 billion). Simultaneously, the analysis found that a 1-percentage decrease would progressively increase that same value. On average, that effect would represent an increment of $1.4 billion, reflecting for that reason a moderate sensitivity of equity value to changes in the cost of capital.

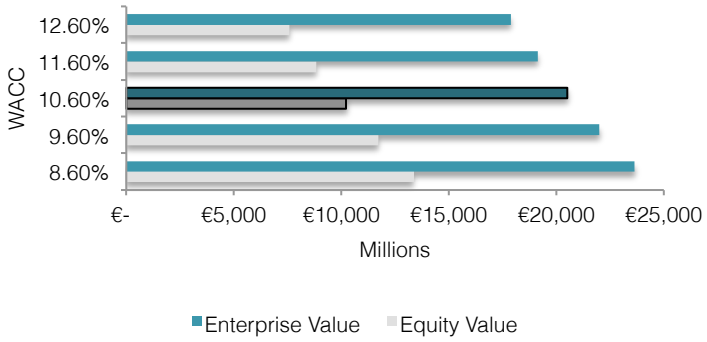


Figure 37: Equity and enterprise value for different cost of capital

7. Valuation of The Merged Company

As previously introduced in the literature review, the value created by a merger and acquisition is the final outcome of an ongoing process, which began by valuing each of the involved firms independently – previously covered – having its finals steps when the combined firm is primarily valued without synergies, and on a further stage, valued with them. Logically, assessing the value of potential synergies, which consists in this analysis' primarily goal, is derived from the difference between the two values obtained (Damodaran, 2005).

7.1 Merged Firm Without Synergies

Damodaran (2005) argues that the middle step to assess the potential value of synergies brought by mergers and acquisitions is to estimate the value of the combined firm by not regarding any improvement effect propelled by the deal. Therefore, one should add the values obtained for each firm by resorting to standalone valuation results.

Resorting to the aforementioned academic suggestion, the value of the new firm comprising Delta and US Airways without synergies would total $25.3 billion when based on WACC findings. For this new merged firm, its respective equity value would amount to $12.5 billion.

Taking into consideration the size disparity between the two players, it came as no surprise that Delta Airlines would represent 81% of the new company in terms of contribution to enterprise value, whereas US Airways would get a stake as high as 19%.

Conversely, when applying APV conclusions, this analysis found that the enterprise value for the merged firm would be higher than WACC valuation, since for standalone valuation it yielded a higher figure for both firms. For that reason, if one considers a value range based on the 3 scenarios yielded in the standalone valuation, this model generated an enterprise value for the combined firm from $27.9 billion to $31.4 billion. Table 18 and Table 19 breakdown the total enterprise value of the merged firm without synergies.

	WACC Valuation		
	EV	% EV	Equity Value
Delta Airlines	$20,511	81.00%	$10,218
US Airways	$4,821	19.00%	$2,304
Merged Firm	**$25,332**		**$12,522**

Table 18: Merged Firm enterprise value without synergies based on WACC model in millions

APV		
		EV
Delta	Min.	$24,870
	Max.	$22,235
US Airways	Min.	$6,489
	Max.	$5,666
Merged Company	Min.	**$31,359**
	Max.	**$27,901**

Table 19: Merged Firm enterprise value without synergies based on APV model in millions

7.2 Merged Firm With Synergies

Synergies are considered to be the base reason for companies to resort to M&A, pursuing the belief that combined firms may generate a greater value from increasing opportunities that would not be achieved if the parts involved operated independently. Albeit executable, synergies are easy to conceptualize but hard to materialize into reality.

Theoretically, synergies might be split into two categories: operating – cost savings and revenue improvements within the operating activity of the combined company – and financial synergies. The present analysis will portray how Delta and US Airways, as a combined firm, might attain those synergies, taking into account the specificities of the business.

Mergers and acquisitions, within the airline industry, have some tradition for some time now. Yet, they have been particularly important since 2000 coinciding with a very harsh period with regard to the industry's profitability. As previously mentioned, airline carriers happen to seek M&A not only as a strategic way to fortify their position in the market, but also to fill the necessity to keep operating within sustainable financial borders. Increasing competition matched with growing operating expenses (i.e. labor and fuel burden) and a soften air travel demand, have brought carriers to dangerously operate under small margins.

M&A, for that reason, provide airline carriers the opportunity to pool resources and share costs, thus enlarging their endurance against adverse market conditions. Simultaneously, within this sector M&A are known to generate benefits to the parts involved, such as the increase of the merged carrier's network scope as well as its market power; and also the enhancement of its public image, by being perceived as a larger and stronger enterprise from customers' perspective.

M&A are often approached by the skeptics as a corporate measure to increase market power at the expense of customers' welfare, by exploiting their willingness to pay and, due to lower levels of competition, reduce the quality level of the offered products and services. From the customers' perspective, the last decade of M&A, within the US airline, shows no evidence that their welfare was damaged; rather, they faced better services

provided by the smaller number of carriers. Indeed, consolidation brought higher levels of efficiency in services: mishandled baggage recorded the lowest rate in the last decade (2.97 per 1000 passengers), on-time arrival rate represented the best figure in 18 years (83.7%), while the 1.1% flight cancellation rate was the best since 1995 (Price Waterhouse Coopers, 2012). Moreover, efficiency improvements following mergers are not negatively offset by increased average fares. As it will be covered shortly, based on evidence and recent trends, M&A have not increased fares *per se* in the US.

Even if consolidation brings important synergies, one should not disregard several potential challenges for the success of a deal. Firstly, airline mergers turn out to be a complex process with regard to integration of workforces, organizational structures/cultures, aircraft fleet and IT systems. Secondly, any merger in the US market is subject to the Department of Justice (DOJ) antitrust review, which can potentially delay or even reject the completion of the deal.

7.2.1 Financial Synergies

Financial synergies may be materialized through either higher cash flows or a lower cost of capital or both (Damodaran, 2005). This analysis found that a potential merger between Delta Airlines and US Airways would generate financial synergies taking the form of higher cash flows.

This analysis found that financial synergies associated with the deal would essentially be yielded from tax shields, due to the following evidences. Firstly, cash synergies would not be generated since both companies have similar low levels of cash slack and, above all, none of them have high-return projects in sight (due to the mature stage of the industry), requiring upfront investments.

Secondly, this analysis found that this merger would not generate value due to the high debt capacity *per se*. Indeed, both companies, from a standalone perspective, have tried to deleverage their businesses and have had few incentives to take on more debt, due to the fact of being already highly leveraged. Yet, one could expect that as the merged company gets a larger amount of owned assets, it would be able to use them as collaterals in future borrowing commitments and, eventually, reduce borrowing costs.

Seeing that both US Airways and Delta Airlines activities are identical and both operate in the same market, they would face similar features such as risk free rate, market risk premium, unlevered beta and long-term sustainable growth rate.

Based on weighted average of Delta and US Airways EBITDA, the combined firm capital structure was defined as being composed by 60.7% of debt and 39.3% of equity, which does not differentiate much from Delta's initial position. Simultaneously, considering the fact that capital structure would not change drastically, this analysis assumed that the combined firm would face a beta of 2.03 (being equal to Delta's), and consequently a cost of equity of 14.1%. When it comes to cost of debt, an 8.53% was applied by also considering each firm EBITDA weight.

Finally, regarding taxes, it was assumed that the combined firm would record a 0% effective tax rate during the entire explicit period, whereas for the purpose of terminal value computations, the rate would be 30%. Indeed, a 0% effective tax rate is the result of the existence of a considerable amount of NOL carryforwards that Delta could use. As of December 2012, this company had $16.3 billion, which could still shield the consolidated income generated by the combined firm during the next several years. By doing so, the

combined firm would have consolidated income not subject to taxes, boosting the firm's cash flows until 2022.

Table 20 summarizes the combined firm's cost of capital inputs, which altogether would produce a combined cost of capital of 10.71%.

Cost of Capital Inputs	DELTA	US AIRWAYS	Combined Firm
Risk-Free	2.68%	2.68%	2.68%
Market Premium	5.60%	5.60%	5.60%
Levered Beta	2.03	2.29	2.03
Unlevered Beta	0.82	0.82	0.82
Levered rate of return, equity	14.10%	15.50%	14.10%
Cost of Debt	8.20%	9.95%	8.50%
Tax rate	0.00%	16.00%	0.00%
Capital structure			
D/(D+E)	59.70%	65.00%	60.70%
E/(D+E)	40.30%	35.00%	39.30%
WACC	10.57%	10.87%	10.71%
Long-term growth rate	2.50%	2.50%	2.50%

Table 20: Combined Firm WACC inputs

On the other hand, Table 21 portrays the cash flow improvement generated by the use of NOL carryforwards. On average, in each period, the combined firm would shield $131 million, which would contribute overall to an improvement of $1.3 billion. Therefore, this analysis considers that a deal between these two companies would generate financial synergies as high as $1.3 billion.

Year	FCFF base case (millions)	Improved FCFF (millions)
2013E	$ 496	$ 566
2014E	$ 1,427	$ 1,515
2015E	$ 2,168	$ 2,289
2016E	$ 2,109	$ 2,221
2017E	$ 1,479	$ 1,571
2018E	$ 1,181	$ 1,257
2019E	$ 810	$ 872
2020E	$ 1,276	$ 1,322
2021E	$ 1,012	$ 1,049
2022E	$ 823	$ 853
Terminal Value		$ 13,144
Enterpise Value		$ 26,660
Financial Synergies		$ 1,328

Table 21: Combined firm with financial synergies

7.2.2 Operating cost Synergies

The reduction of costs following a merger is one of the main synergies that managers use as the reason for the completion of such deals. Indeed, this type of synergy is the

easiest to estimate and the level of certainty of its achievement is quite high (Eccles et al., 1999). Moreover, companies are generally more successful in achieving cost reductions than revenue enhancements, because the former have associated results that are tangible and often quick to execute, while the latter not only takes longer to realize, but also its execution is uncertain (Sirower & Sahni, 2006).

Theoretically sustained, the merger between Delta Airlines and US Airways would go forward mainly because of the synergies generated at cost level. Besides the fact that mergers within the airline industry are fostered by the need to reduce the number of competitors in order to weather an adverse economic environment, a merger between these two players has the basic conditions to be propelled by cost savings. As Sirower & Sahni (2006) refer, costs synergies are likely to be significant when companies from the same industry and the same country are combined.

Figure 38 shows each firm's capacity per geographic sector. Delta serves 4 regions (domestic, atlantic, latin and pacific), whereas US Airways operates in the same market except for pacific, where it has no presence. One can see that both companies have a very low level of complementary markets and a high level of overlapped regions: domestic is the most proeminent market for both companies with a high level of overlapped routes within the US territory, while international destinations are covered by both, with Delta having a more powerful presence in the market when compared to its counterpart. An hypothetical merger would not expand the airline to new markets but, rather, it would consolidate its positions within the already covered markets.

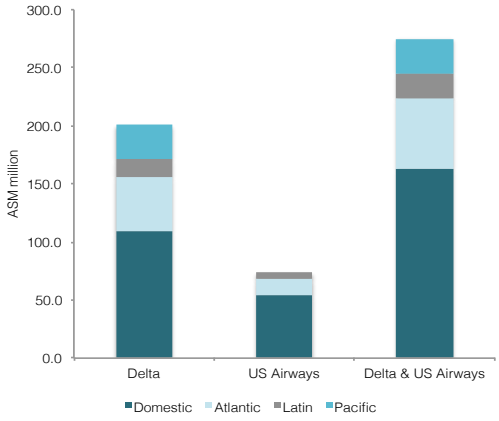


Figure 38: ASM Capacity with segment breakdowns in 2012, *Airline Data Project*

Based on that fact, cost synergies are expected to be high since the combined firm would engage in measures with the aim to reduce a duplicated structure. The following paragraphs will portray the effects on cost reductions after the deal.

As explained, the realization of synergies associated to a merger are often expected to happen within a time range, with different timings according to their own nature. This analysis on Delta-US Airways merger believes that operating cost savings are projected to occur at two different paces: the first type of cost synergies – known as quick wins – are expected to produce a 0.25% annual decrease on operating expenses until 2019, whereas from 2020 to 2022 savings would match a 0.5%, being associated with longer gains.

Quick Wins

The proposed merger would be able to attain a considerable portion of rapid and, to some extent, continuous cost savings at operating level.

Firstly, the combined firm would be able – through the integration of both structures - to rationalize its administrative structure by reducing its duplicated overhead associated with back office activities such as those within finance, HR, control, and marketing departments. Although already depicted as difficult to achieve, those reductions would be partially attained through reallocation of tasks and people, and mainly through job cuts. It is believed that these jobs – necessary to the efficiency of the new company - would be easier to cut and legally handled when compared to jobs with higher bargaining power such as pilots and other cabin crew.

Secondly, due to the similar marketing approach and brand positioning of these companies – whose marketing strategies were processed by identical channels –, this analysis believes that the combined firm would easily integrate marketing efforts and rapidly reduce commercial and marketing expenses. Therefore, the single marketing strategy would be reflected on a single network of stores/counters for selling tickets and provide assistance; single call centers; single commercial agreements with resellers and, finally, on a single brand to advertise.

Finally, the combined firm would get rapid cost savings by reaping the benefits of the first stages of the network rationalization process. As explained, Delta and US Airways have a large overlap percentage of domestic and international routes, opening space for a comprehensive network restructuring. Therefore, by reducing the routes where both companies were simultaneously active and replacing them with a single presence, the combined firm would reduce the costs directly associated to the realization of those flights such as fuel, on-board services, crew salaries[41] and selling expenses.

Long Gains

This merger would also generate cost savings whose expected delivery time is further ahead in the near future. Those synergies are believed to take longer due to their complexity, but they may bring larger savings for the combined firm.

Firstly, the merged firm would face considerable synergies by engaging in facility consolidation. On one hand, it would set a single headquarters (Delta headquarters would be chosen due to its larger size and more appropriate conditions for handling a larger organizational structure), eliminating duplicated costs required to maintain such large and complex buildings. On the other hand, it would engage in Airport facility consolidation by setting single maintenance facilities, airport check-in counters, gates and terminals.

Secondly, the firm would continue to engage in cost savings while rationalizing its network. A redesigned network with the absence of overlapped routes would make the combined firm lighter and more efficient. By reducing its capacity, the new firm would enhance its load factors compared to its individual past performance (e.g. in 2012 Delta and US Airways attained a 83.8% and 81.1% respectively), and to its main competitors. Moreover,

[41] A portion of a cabin crew member (e.g. pilots and flight attendants) salary is based on the number of landings and other variables. It is assumed that the variable portion is the one that can be reduced. This analysis assumes that no further salary reductions will be attained since those jobs are highly unionized and a salary reduction can lead to strikes, which would bring harmful consequences for the company.

the combined firm would eventually reduce its exposure to airport expenses associated with airport slots[42]. As firms merged, the combined firm would use the slots of only one of the sides, and engage in further savings.

Thirdly, costs savings would also occur through fleet rationalization. This analysis believes that the combined firm would progressively "standardize" its fleet, by having a large portion of it using the same aircraft model or manufacturer and a small portion consisting of different airplanes. Both companies – from a standalone view - deeply rely on Boeing and Airbus equipment (Appendix 17 and Appendix 25), and a further standardization would be expected in order to reap all related benefits such as, lower maintenance costs; lower pilot training costs and easier crew scheduling. As explained earlier, network carriers have been focusing on this solution in the pursuit of lighter cost structures in order to replicate LCCs aggressive approaches; and for that reason, this new firm is expected to follow this trend.

Lastly, following fleet and network rationalization, the combined firm would be able to renegotiate lease contracts and adjust the number of leased aircrafts required to operate in a much efficient network. Less aircrafts would be expected to be used due to the elimination of duplicated routes and, consequently, aircraft rent item is believed to decrease.

Year	Annual Cost savings (millions)	Improved DCFF (millions)
2013E	$ 124	$ 678
2014E	$ 129	$ 1,620
2015E	$ 131	$ 2,386
2016E	$ 136	$ 2,312
2017E	$ 143	$ 1,657
2018E	$ 150	$ 1,338
2019E	$ 157	$ 949
2020E	$ 320	$ 1,463
2021E	$ 334	$ 1,183
2022E	$ 349	$ 980
Terminal Value		$ 15,087
Enterpise Value		$ 29,653
Cost Synergies		$ 2,993

Table 22: Operating cost synergies after the merger in millions

Table 22 portrays the annual cost savings that would follow the merger and the total sum of those. From 2013 to 2019 – period where a 0.25% annual decrease is expected – the company is projected to save $970 million from what this analysis called quick wins. On the other hand, from 2020 to 2022, the company would reap a 0.5% decrease in its operating expenses by saving $974 million. This analysis, therefore, found that this merger could deliver cost synergies of $2.9 billion.

[42] Right of operating in a certain airport.

7.2.3 Capital Expenditures

For the sake of consistency, a redesigned network with the absence of overlapped routes would decrease the company's capital investment requirements, as the company would not need to expand its aircraft fleet.

This analysis, therefore, made some assumptions with regard to the combined firm's capital expenditures strategy. Throughout the first five years (2013-2017), it is assumed that the company's capex would equal the sum of both individual companies' investment prospects and no savings are expected to happen. On one hand, both companies still needed to replace older aircrafts that have been in place during the 2000 decade, this being an investment that has been postponed due to their weak financial position throughout that period. On the other hand, it is assumed that for the first five years, the combined firm, while pursuing fleet standardization in order to lower maintenance and training costs, would have to invest on the acquisition of identical aircrafts.

However, from 2018 to 2022, savings at this level are expected to happen. The absence of overlapped routes and substantial route rationalization would make the scale of the fleet prone to some adjustments. As of 2012, the combined firm would have 1047 aircrafts (Figure 39) operating under the same carrier name that would be clearly above the industry average.

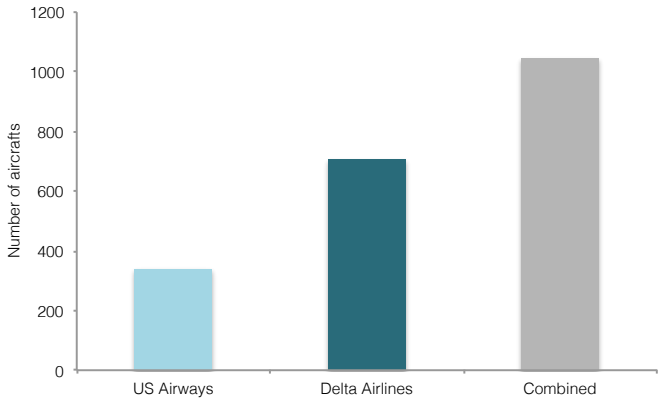


Figure 39: Aircraft fleet of individual firms and combined firm as of 2012

Therefore, in 2018 with less capital expenditures requirements, the combined firm would face a 5% decrease *vis-à-vis* the original projections – dropping from a figure of $3.1 billion to $2.8 billion - and maintaining that same level thereafter.

Thus, at capex level, the combined firm is believed to generate synergies of $2 billion, as Table 23 shows.

Year	Annual Capex savings (millions)	Improved DCFF (millions)
2013E	$ -	$ 566
2014E	$ -	$ 1,515
2015E	$ -	$ 2,289
2016E	$ -	$ 2,221
2017E	$ -	$ 1,571
2018E	$ 155	$ 1,341
2019E	$ 227	$ 983
2020E	$ 221	$ 1,419
2021E	$ 247	$ 1,148
2022E	$ 280	$ 955
Terminal Value		$ 14,703
Enterpise Value		$ 28,713
Capex Synergies		$ 2,052

Table 23: Capex potential savings

7.2.4 Net working Capital

Albeit larger and with a theoretically stronger bargaining power to deal with main suppliers and other stakeholders, this analysis assumed that no synergies at working capital level would be captured by the combined firm.

7.2.5 Questioning the realization of revenue synergies

The present analysis, by taking a conservative approach, believes that a potential merger between Delta Airlines and US Airways would not yield revenue enhancements. Albeit apparently too prudent, this assumption is supported by various studies which concluded that past airline mergers did not bring price increases nor the reduction of the fierce competition within this market.

In the US Airline industry mergers are commonly seen as a way for the involved carriers to increase their fares, facing great revenue enhancements due to the fact that airfares turn out to be the main revenue driver. However, this school of thought is questionable and data shows different conclusions.

When airfare growth is measured from 2004[43] to 2011, one concludes that the annual growth rate was quite modest (1.8%) (Figure 40), and when adjusted to inflation, airfares actually showed a decrease of roughly 1% per year.

[43] The year before the first mega-merger between American West and US Airways.

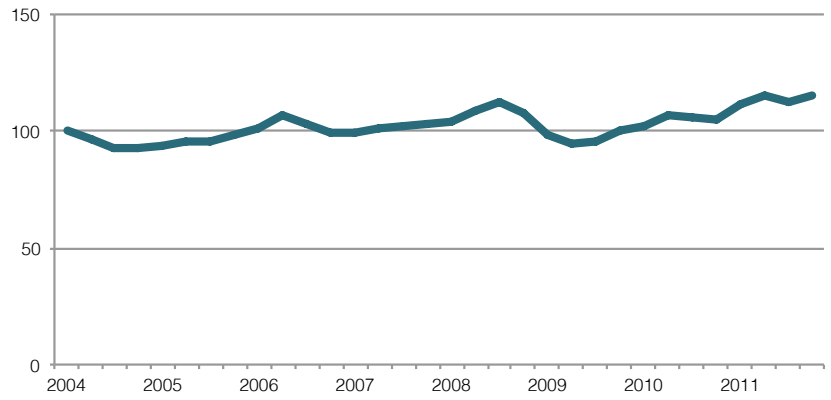


Figure 40: Index of quarterly average domestic airfares, *Bureau of Transportation Statistics*

This is the result of the inability of merged firms to increase prices on their own, because the market is still very competitive (during the same period, 29 more routes were being served by more players). Studies show that even if the combined firm attempts to increase its fares in some markets, that upward adjustment would only lasts until other players retaliate (United States Government Accountability Office, 2008). Also, the presence of LCCs – mainly through Southwest and Jet Blue – prevented merged firms to increase prices and considering their faster growing pace, they will keep operating under a low-cost strategy, leaving no space for drastic airfare increases[44].

Finally, this proposed agreement is essentially considered a cost-synergy driven merger, with few incentives to the generation of revenue enhancements. As explained, Delta and US Airways would merge in order to pool resources and share costs (which have been outpacing revenues over the last decade); moreover, Morrison and Winston (2000) argued that being able to raise prices is not a key factor in airline M&A decisions.

Given the recent historical inability of merged firms to increase fares in a sustained way during a considerable time window and also the fact that this proposed merger is supported by cost saving reasons, the present analysis will not – prudently – consider any revenue synergies after the completion of the deal.

7.2.6 Integration Challenges and Regulatory reviews

The next section portrays the costs the combined firm is likely to incur in order to integrate both structures within a single body as well as all direct costs involved with the deal itself. Moreover, it is crucial to cover the legal objections that might occur due to the fact that airline mergers are often a very sensitive case to the eyes of antitrust regulators.

Integration Costs

A merger, as shown, is prone to yield important synergies; however, there is a considerable number of barriers to the success of the deal and to the ability of the combined

[44] Historically based, the most recent mega-merger between United and Continental (2010) showed that airfares did not increase afterwards because of the deal and they simply followed the market fluctuations. In fact, only 4 cities experienced price increases, which is still residual when compared to the total number of cities served by the company.

firm for reaping the associated benefits. One of the major hurdles is the process of integrating the companies into a single body, which involves a substantial effort from managers, and also, a higher level of associated costs.

Airline mergers integration processes tend to be complex at the operational level. For the Delta-US Airways merger, three main integration issues would arise, such as workforce, aircraft fleet and information technology processes and systems.

Firstly, workforce integration would be the main source of cost generation because it would be complex, involving the negotiation of new labor contracts and redefinition and reallocation some jobs. Besides, airline mergers often need the approval from the respective workforces, as by fearing salary reductions and cuts, they tend to be very reluctant to relinquish their original compensation conditions. Moreover, this deal would bring many challenges when integrating pilots seniority list – which defines salary and hierarchy progression –, creating tension between pilots from both sides.

Secondly, integration of the fleet of both companies also stands to be a relevant issue one ought to consider. Particularly in this case, Delta and US Airways share identical aircrafts, majorly relying on Airbus and Boeing equipment. In short/medium haul routes, both companies use Boeing 737x and Airbus A320x, while in long haul routes they commonly rely only on Boeing equipment such as Boeing 767x, 777x and 747x. Despite of similarities, there is a portion – though small – of both companies' fleet that differs, which can raise integration problems at this level.

Thirdly, when it comes to the integration of information technology processes and systems, past mergers show that a full integration of those is time-consuming (it can reach 2.5 years), due to the high complexity involved. Both Delta and US Airways keep a portion of their systems (back office, booking and reservations systems) in-house leaving other portion to outsourced parties. For that reason, a merger between those companies would create some integration problems at this level, because third parties would be involved hampering the process.

Fourthly, additional hurdles to integration may arise due to the specificities of the merger agreement, which will be further analyzed (See 8.Acquisition). A merger of equals will most likely pose challenges at governance level, seeing that the board of directors and other institutional bodies within the combined firm will be shared by both companies' managers. Consequently, distinct views about what future strategic paths the company should follow may emerge, leading to potential governance and leadership clashes.

Finally, taking into consideration the main sources of integration problems and the extent to which the analyzed deal is sensible to each one of them, the present analysis considered integration costs based on the past trend of airline mergers. For that reason, it is assumed that integration costs would account for 10% of the total synergies.

Regulatory reviews

One of the biggest hurdles to overcome when pursuing the conclusion of the present deal would be the antitrust reviews and assessments carried out by international and domestic regulatory bodies, necessary to the completion of the merger. As mentioned before, in the US, any merger is subject to the review and approval of the DOJ. Particularly within the airline mergers, both DOJ and the Department of Transportation (DOT) would jointly assess the effect of the merger on competition within the American market. Indeed, this review has proven to be strict and rigorous along the past decade, as it has objected the realization of the proposed merger between United and US Airways in 2001 and the

acquisition of Continental by Northwest. However, the current deteriorating financial position of many carriers may compel regulators to adjust their criteria.

Yet, each merger review is case specific and, for that reason, some facts should be weighted when deciding the legitimacy of this deal: there are facts that favor the agreement Delta-US Airways – particularly related to efficiency gains –, and other that may bring some questions about the competing environment left after the transaction.

On one hand, DOJ would give credit to this deal due to some beneficial facts that are exogenous to it. Firstly, the US airline industry has become increasingly competitive both in domestic and international routes, being reflected by the fact that in 2011 more routes were served by a larger number of major competitors when compared to 2004 (Price Waterhouse Coopers, 2012). Moreover, the presence of LCCs (that often assures fierce competition and lower fares) is still growing and has increased in top markets since 1998. Consequently, this argument would favor the conclusion of the merger seeing that the likelihood of the combined firm charging higher prices and drastically restricting its output would be considerably low, considering its market competing forces.

Secondly, as previously stated, studies have shown that the merger wave within this industry over the last decade has not brought a loss of service quality and a reduction on consumers' welfare, as opposed to what is spread by common knowledge in this matter. Inversely, those mergers have brought better service seeing that operational statistics such as on-time arrivals, mishandled baggage and flight cancelations were at their best numbers for a considerable time window. Simultaneously, after this merger, customers would have an expanded route network and a more seamless travel experience. Subsequently, this analysis believes that in this matter, DOJ would also be expected to produce a positive judgment favoring the agreement.

Thirdly, Delta and US Airways would argue that a merger would tackle overcapacity, which has been an industry's problem since 2000 seriously damaging the companies' profitability and financial health. The merger would reduce capacity, as the combined firm would eliminate duplicated and inefficient routes, assuring its capacity to better weather the economic pressures that an airline company has to face.

On the other hand, this last fact could also play against the merged firm since its high overlapping portion of routes and geographic segments might threaten the market's competitive scenario thus opening the way for the entry of new players. Simultaneously, this merged firm would become the largest American air carrier both in terms of ASM and RPM, which would draw attention and would lead to further questions and investigation from DOJ.

Finally, even if the DOJ approved the merger, the combined firm may still be imposed requirements, limitations, costs and restrictions that might constraint some or all the synergies that were predicted in the previous section. Unfortunately, based on past mergers, those restrictions are often unpredictable and, consequently, will not be considered in this analysis.

7.3 Merged Firm With Synergies

Once all the sources of potential improvements are properly identified and valued, one can compute the merged firm value considering those synergies (Appendix 34). This analysis found an enterprise value with synergies based on the incorporation of

improvements at financial, operational and capex level into the company's FCFF discounted at the combined WACC earlier computed.

Enterprise Value	$	31,706
Cost Synergies	$	2,993
Capex Synergies	$	2,052
Financial Synergies	$	1,328
Integration Costs	$	637
Net Enterprise Value	$	31,068
Value added		22.6%

Table 24: Valuation of the Combined firm considering synergies in millions

As Table 24 shows, the Delta-US Airways merger would generate an enterprise value of $31.1 billion (net of integration costs that would total $637 million), yielding a $5.7 billion boost from the base case enterprise value without synergies, or a 22.6% value increase.

This analysis found that within the US airline industry, past mergers have successfully generated synergies of 3.9% to 6.5% of the combined firm's revenue (Rich, 2012). Comparatively, this merger would generate synergies representing 8.6% of the combined revenues during the forecasted period. This analysis believes that the reasoning behind this relatively higher figure is due to the scale of the companies involved, which is considerably higher than any other merger agreement that has occurred within this sector.

7.4 Distribution of Synergy Benefits

This analysis found interesting to examine how much value both companies would capture after the merger agreement, according to the contribution of each to the generation of synergies.

Firstly, financial synergies wise, one can conclude that both companies would benefit from this merger. On one hand, Delta would be able to shield a larger amount of income every year taking advantage of its $16 billion NOL of previous fiscal years, at no extra cost. On the other hand, US Airways would face a neutral tax rate, rather than its current effective tax rate of 16%.

Secondly, because of its smaller network, US Airways had higher core costs[45] than the average figures of the industry ($435 million more), which frequently turned out to be a competitive disadvantage for this company. By integrating itself in a larger network, the company would take advantage of Delta's scope and scale and would be able to dilute much of those costs. Simultaneously, Delta's need of capital investment in aircrafts within the next years would be somehow mitigated by the merger with US Airways, whose fleet is more standardized and modern.

Thirdly, though this analysis is not considering any revenue enhancement following the merger, it is believed that the combined firm would strengthen its market scope within both domestic and international market. After the merger, the company would have 5 hubs (Salt Lake City, Cincinnati, Atlanta, Charlotte and Philadelphia as Appendix 13 shows), thus making the company capable of easily operating domestically coast-to-coast.

[45] Operating expenses net of fuel and labor costs

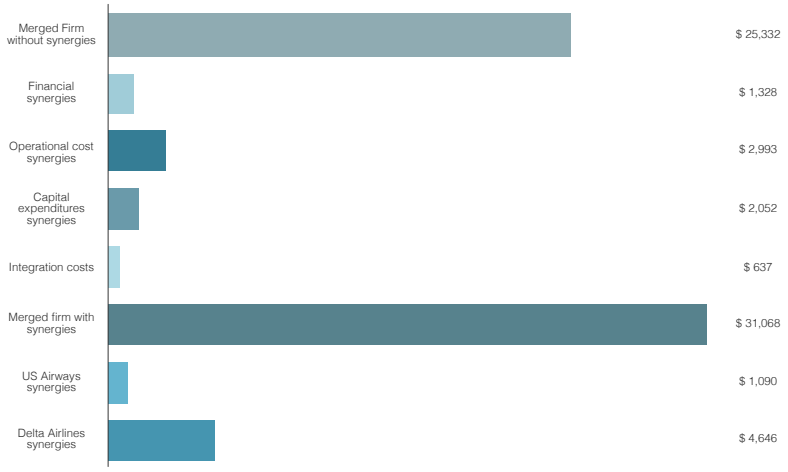


Figure 41: Distribution and sources of synergies in millions

This analysis considers that synergies would be grasped by both parties based on their enterprise value weight on the total combined firm value, considering that it is believed this is the fairest way to distribute the value generated in accordance with each firm's capabilities, scale and power.

As previously analyzed, Delta Airlines represented 81% of the total enterprise value which would entitle this firm to a larger portion of the synergies ($4.6 billion), while US Airways would grasp $1.1 billion due to its 19% stake on the combined enterprise value. Indeed, this distribution would reflect fairness seeing that Delta, due to its scale and scope, would be the propeller of most synergies. Figure 41 shows graphically the value creation after this merger as well as its distribution.

8. Acquisition

The present analysis believes that an agreement between these two companies would follow a merger of equals (MOE) type of deal, due to the most recent trend in mega-mergers in the US airline industry. In 2010, United and Continental – the most analogous case in terms of size – precisely followed this kind of agreement.

In a MOE, companies are expected to be combined differently from the perspective of a traditional merger/acquisition consisting of a larger acquirer and a small target as well as synergies premium payments involved. Conversely, under this kind of deal, one of the companies survives the transaction, and its stock will be used for the new combined firm to go forward. In this case, Delta would be the surviving firm – due to its scale – and a redesigned firm would emerge through the establishment of a holding (Delta-US Airways Group). For that reason, this new company would be governed jointly by Delta and US Airways boards and all value yielded from synergies would be directed to the shareholders of both companies, being distributed according to each firm's weights on total enterprise value. Consequently, in spite of US Airways being formally named as target, it would be a part of the combined firm management and, for that reason, no premium control should be considered.

In fact, these strategic transactions are often simple without the need for complex formalities. The combination of Delta and US Airways would not involve the payment of any

synergy premium upfront. Rather, as managers involved in MOE transactions usually argue, shareholders would face a premium that is reflected in a stronger and more capable combined entity.

More formally, this merger would be based on a stock-for-stock exchange, and a fixed exchange ratio would be established to enable the shareholders from each company to retain a certain ownership in accordance with the weight on the combined firm.

8.1 Exchange ratio

Through literature one can verify that the exchange ratio reflects the number of shares of the new entity (Delta-US Airways) that each firm's shareholder is entitled to receive for each share he/she owns. Mathematically, in this case exchange ratio, is the division between the US Airways and Delta stock price.

This analysis looked at the historical average exchange ratio based on the daily close prices of both firms over a 2-year period[46]. As Table 25 shows, the analysis found different exchange ratios for distinct time ranges. As it can be verified, the shorter the period the larger the exchange ratio. This fact can be explained by a more positive record from US Airways stock over the most recent period when compared to its counterpart. Altogether, historical exchange ratio between these two firms ranged from 0.84 to 1.14 during the analyzed period. Thus, the proposed ratio for the consummation of the deal would be logically expected to fall within this interval.

Period	Exchange Ratio
Since 1-Jan 2010	0.84
1-year	1.04
6-month	1.20
3-month	1.21
1-month	1.18
1-week	1.13
31-Dec-12	1.14

Table 25: Historical Exchange ratio between US Airways and Delta Airlines stock, *Bloomberg*

Based on evidence of past mergers and the fact that US Airways stock has been positively performing over the last year, this analysis considers the deal's exchange ratio as equal to the last ratio recorded in 2012, or in other words, 1.14. Therefore, US Airways shareholders would receive 1.14 shares of the new firm per each US Airways share, whereas the stock surviving company's shareholders receives 1 share of the new firm for every share of Delta.

Once the exchange ratio is defined, one can answer to the question of which portion of ownership would be held by each firm. The deal would create a combined firm with 1.036 billion shares outstanding (Delta's shares outstanding of 851 million plus 185 million shares issued to US Airways' shareholders).

[46] From 1st January 2010 to 31st December 2012

	US Airways	Delta	Delta-US Airways
Shares Outstanding (millions)	162.90	851.591	
Stand alone value of equity (millions)	$ 2,304	$ 10,218	$ 12,522
Exchange ratio	1.14	1.00	
Post-transaction Shares Outstanding (millions)	185.267	851.591	1,037
% of Delta-US Airways Group	18%	82%	100%

Table 26: Exchange ratio and ownership control

As Table 26 shows, based on post-transaction shares outstanding allocated to each party, one can verify that Delta would own 82% of the new merged firm, whereas US Airways would grasp a 18% stake. Interestingly, these final ownership percentages are very similar to the individual enterprise value weights on the combined firm's total enterprise value, whose distribution turned out to be 81% for Delta and 19% for US Airways.

9. Conclusion

Since the US airline deregulation process in 1978 - that brought incredible benefits to final consumers –, network carriers have seen a long troubled period of volatile profitability, leading to countless fiscal years of significant losses that ultimately led to the bankruptcy of many market players. In fact, an increasing competitive environment with very fierce players (e.g. LCCs) and unpredictable and often exogenous factors (e.g. jet fuel price and air travel demand), made the industry unable to bear such level of capacity and number of market players. Thus, it comes as no surprise that from the beginning of the new century, 51 US air carriers filed for bankruptcy and 13 of them occurred only in 2008.

In response to such adverse set of conditions, airlines have relied on mergers and acquisitions to become more resilient and, jointly, enhance their profitability. Since 2001, reflecting that trend, the US airline passenger market saw considerable consolidation developments, as the number of the biggest market players dropped from 10 to 5.

The proposed merger between Delta Airlines and US Airways would deepen the current consolidation trend within this industry and as it was shown, would generate additional value to both firms' shareholders and consumers in general.

As previously mentioned, an hypothetical merger between these 2 firms would be mainly supported on cost savings and efficiency reasons.

On one hand, the combined firm would save resources at operational level throughout several years in areas such as: administrative and overhead, network and routes, facilities and aircraft equipment. As shown, this portion of synergies is expected to be as high as $2.9 billion.

On the other hand, the merged firm would face lower capital requirements due to fleet rationalization, leading to $2 billion in Capex savings. Simultaneously, $1.3 billion would be attained through financial synergies propelled by Delta's NOL carryforwards, shielding a higher income yielded by both firms.

Yet, this paper predicted several integration problems that would particularly occur at workforce, information systems and air fleet level, which would justify earlier computed integration costs of $637 million.

Overall, Delta-US Airways is expected to reach an enterprise value of $31 billion becoming the largest American air carrier operating in this market, holding major hubs in every part of the American territory.

Lastly, it is necessary to reinforce that this hypothetical merger might have problems when facing antitrust reviews from regulatory entities, due to the large relevance of both firms in the US passenger airline market. Indeed, even considering the possibility of Delta-US Airways might absorb 37.1% of the market[47], it is still important to acknowledge the interesting findings that could be drawn from this paper with regard to both companies' shareholders welfare and, also, to the US airline industry.

[47] Measured in RPM.

10. Appendices

Economic and Industry data

	GDP (trillions)		Annual Growth
2007	$	13,134	2.0%
2008	$	13,273	1.1%
2009	$	12,761	-3.9%
2010	$	12,986	1.8%
2011	$	13,234	1.9%
2012	$	13,528	2.2%
2013E	$	13,764	1.7%
2014E	$	14,118	2.6%
2015E	$	14,594	3.4%
2016E	$	15,026	3.0%
2017E	$	15,428	2.7%
2018E	$	15,809	2.5%
2019E	$	16,196	2.4%
2020E	$	16,602	2.5%
2021E	$	17,018	2.5%
2022E	$	17,445	2.5%

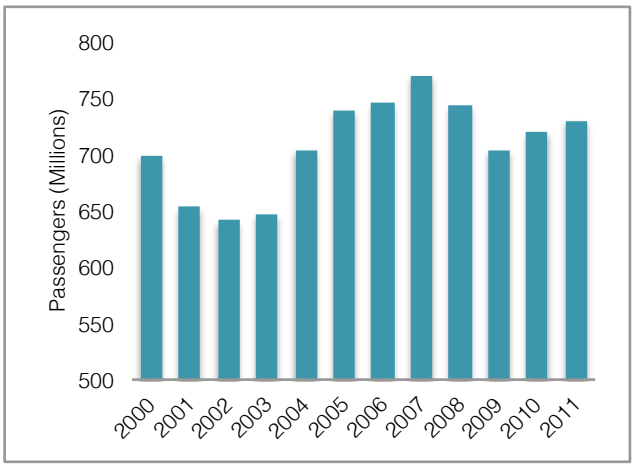
Appendix 1: US Nominal GDP projections, *FAA*

	Consumer Price Index	Change
2007	205.31	2.4%
2008	214.42	4.4%
2009	213.78	-0.3%
2010	217.42	1.7%
2011	223.11	2.6%
2012	228.54	2.4%
2013E	231.83	1.4%
2014E	235.70	1.7%
2015E	239.73	1.7%
2016E	243.98	1.8%
2017E	248.72	1.9%
2018E	253.61	2.0%
2019E	258.68	2.0%
2020E	263.71	1.9%
2021E	268.87	2.0%
2022E	274.19	2.0%

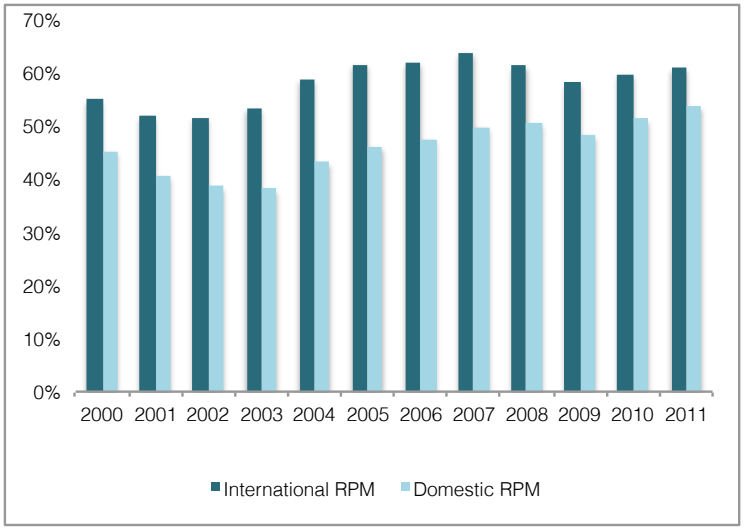
Appendix 2: Inflation projections for the US, *FAA*

	Annual growth
2007	6.5%
2008	8.5%
2009	1.1%
2010	-0.5%
2011	6.6%
2012	5.2%
2013E	3.7%
2014E	4.8%
2015E	5.4%
2016E	5.3%
2017E	5.4%
2018E	5.3%
2019E	5.3%
2020E	5.3%
2021E	5.2%
2022E	5.2%

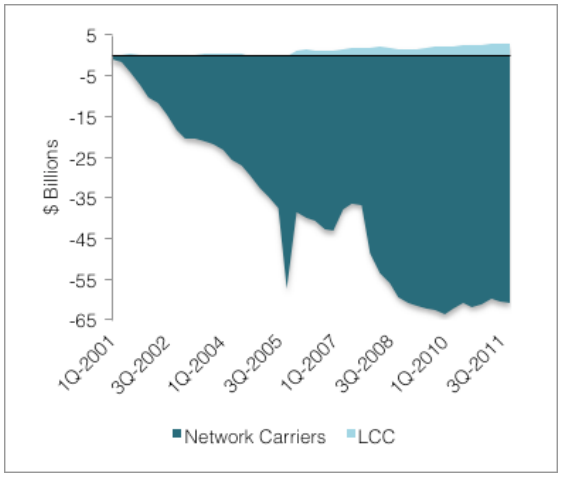
Appendix 3: World GDP projections based on nominal terms, *FAA*



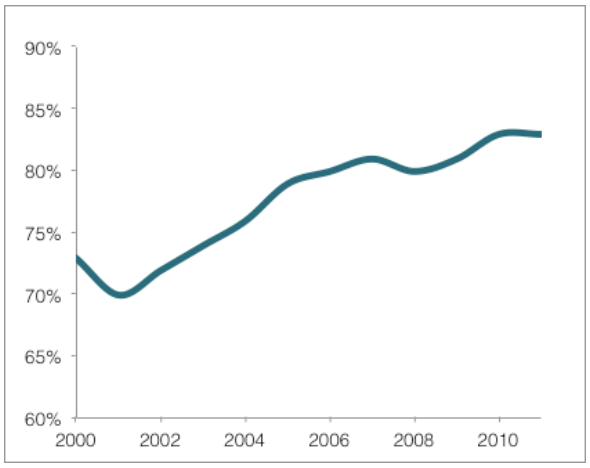
Appendix 4: Passenger enplanements from 2000-2011, *Bureau of Transportation and Statistics*



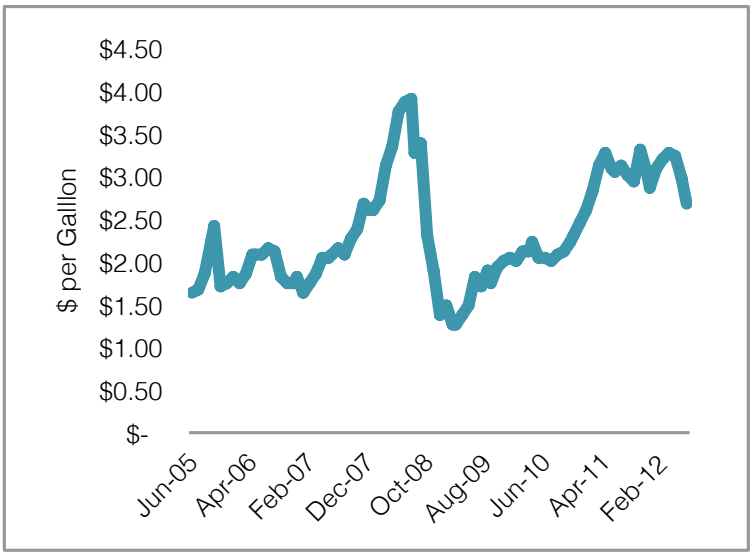
Appendix 5: Domestic and International Passenger Traffic in RPMs, *Bureau of Transportation and Statistics*



Appendix 6: Accumulated losses and gains within the US Airline Industry per segment, *Bureau of Transportation and Statistics*



Appendix 7: Industry Load Factor from 2000-2012, Air line Data Project



Appendix 8: Historical prices for jet fuel per gallon, *Energy Information Administration*

Year	Refiners' cost acquisition	Average price per gallon
2013E	$ 90.85	$ 2.87
2014E	$ 86.78	$ 2.75
2015E	$ 81.30	$ 2.57
2016E	$ 83.46	$ 2.64
2017E	$ 88.59	$ 2.80
2018E	$ 91.92	$ 2.91
2019E	$ 95.68	$ 3.03
2020E	$ 98.75	$ 3.12
2021E	$ 101.72	$ 3.22
2022E	$ 104.42	$ 3.30

Appendix 9: Projections for Refiners' cost acquisition for a barrel and average price per gallon in dollars, *FAA*

Year	Average Fare
1995	$ 444
1996	$ 409
1997	$ 415
1998	$ 440
1999	$ 450
2000	$ 456
2001	$ 420
2002	$ 402
2003	$ 397
2004	$ 375
2005	$ 365
2006	$ 378
2007	$ 364
2008	$ 373
2009	$ 335
2010	$ 357
2011	$ 375
2012	$ 378

Appendix 10: Average fare based on domestic itineraries at 2013 dollars, *Bureau of Transportation and Statistics*

Airline/Year	2000	2001	2005	2007	2009	2010	2012
Delta	$ ASA and Comair			$ Northwest			
American		$ TWA					
US Airways			$ American West				$ American
United					$ Continental		
Southwest						$ Air Tran	

Appendix 11: Recent merger deals within the US Airline Industry, *GAO*

Rating	Default Spread	Probability of Default
AAA	0.40%	0.03%
AA	0.70%	0.25%
A+	0.85%	0.40%
A	1.00%	0.56%
A-	1.30%	2.42%
BBB	2.00%	4.27%
BB	4.00%	16.89%
B+	5.50%	24.82%
B	6.50%	32.75%
B-	7.25%	42.12%
CCC	8.75%	51.38%
CC	9.50%	60.40%
C	10.50%	77.44%
C-	12.00%	87.16%

Appendix 12: S&P rating and default spread by credit rating, *Damodaran 2012*

Appendix 13: Combined firm's area of influence within the US market based on each individual firm's hub, *GAO*

Valuation: US Airways

	2007	2008	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Operating revenues																
Mainline Passenger	$ 8,135	$ 8,183	$ 6,752	$ 7,645	$ 8,501	$ 8,979	$ 9,199	$ 9,522	$ 9,880	$ 10,241	$ 10,587	$ 10,926	$ 11,298	$ 11,691	$ 12,098	$ 12,532
Express Passenger	$ 2,698	$ 2,879	$ 2,503	$ 2,821	$ 3,061	$ 3,326	$ 3,427	$ 3,530	$ 3,639	$ 3,746	$ 3,838	$ 3,922	$ 4,017	$ 4,117	$ 4,218	$ 4,325
Cargo	$ 138	$ 144	$ 100	$ 149	$ 170	$ 155	$ 161	$ 168	$ 178	$ 187	$ 197	$ 208	$ 219	$ 230	$ 242	$ 255
Other	$ 729	$ 912	$ 1,103	$ 1,293	$ 1,323	$ 1,371	$ 1,464	$ 1,562	$ 1,668	$ 1,780	$ 1,901	$ 2,029	$ 2,166	$ 2,312	$ 2,468	$ 2,635
Total Operating revenues	$ 11,700	$ 12,118	$ 10,458	$ 11,908	$ 13,055	$ 13,831	$ 14,250	$ 14,782	$ 15,364	$ 15,955	$ 16,523	$ 17,085	$ 17,700	$ 18,350	$ 19,026	$ 19,747
Operating expenses																
Aircraft fuel and related taxes	$ 2,630	$ 3,618	$ 1,863	$ 2,403	$ 3,400	$ 3,489	$ 3,100	$ 3,072	$ 2,991	$ 3,189	$ 3,505	$ 3,760	$ 4,055	$ 4,339	$ 4,634	$ 4,937
Fuel hedging instruments	$ (245)	$ 356	$ 7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Salaries and related costs	$ 2,302	$ 2,231	$ 2,165	$ 2,244	$ 2,272	$ 2,488	$ 2,670	$ 2,769	$ 2,878	$ 2,989	$ 3,095	$ 3,201	$ 3,316	$ 3,438	$ 3,564	$ 3,699
Express expenses	$ 2,594	$ 3,049	$ 2,519	$ 2,729	$ 3,127	$ 3,162	$ 3,391	$ 3,517	$ 3,656	$ 3,797	$ 3,932	$ 4,065	$ 4,212	$ 4,366	$ 4,527	$ 4,699
Aircraft rent	$ 727	$ 724	$ 695	$ 670	$ 646	$ 643	$ 916	$ 780	$ 670	$ 610	$ 568	$ 568	$ 568	$ 568	$ 568	$ 568
Aircraft maintenance	$ 635	$ 783	$ 700	$ 661	$ 679	$ 672	$ 692	$ 828	$ 861	$ 894	$ 926	$ 957	$ 992	$ 1,028	$ 1,066	$ 1,107
Other rent and landing fees	$ 536	$ 562	$ 560	$ 549	$ 555	$ 556	$ 659	$ 684	$ 710	$ 738	$ 764	$ 790	$ 811	$ 832	$ 853	$ 875
Selling expenses	$ 453	$ 439	$ 382	$ 421	$ 454	$ 466	$ 517	$ 536	$ 557	$ 579	$ 599	$ 620	$ 632	$ 645	$ 658	$ 671
Special items, net	$ 99	$ 76	$ 55	$ 5	$ 24	$ 34	$ 35	$ 57	$ 59	$ 62	$ 64	$ 66	$ 68	$ 71	$ 74	$ 76
Depreciation & amortization	$ 189	$ 215	$ 242	$ 248	$ 237	$ 245	$ 340	$ 353	$ 367	$ 381	$ 394	$ 408	$ 425	$ 440	$ 457	$ 474
Goodwill Impairment	$ -	$ 622	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other	$ 1,247	$ 1,243	$ 1,152	$ 1,197	$ 1,235	$ 1,220	$ 1,442	$ 1,496	$ 1,555	$ 1,615	$ 1,672	$ 1,729	$ 1,791	$ 1,857	$ 1,926	$ 1,999
Total operating expenses	$ 11,168	$ 13,919	$ 10,341	$ 11,128	$ 12,630	$ 12,976	$ 13,762	$ 14,093	$ 14,306	$ 14,852	$ 15,520	$ 16,165	$ 16,870	$ 17,584	$ 18,327	$ 19,105
EBIT	$ 532	$ (1,801)	$ 117	$ 780	$ 425	$ 855	$ 488	$ 689	$ 1,059	$ 1,103	$ 1,003	$ 920	$ 830	$ 765	$ 699	$ 642
Non operating income																
Interest income	$ 172	$ 83	$ 24	$ 13	$ 4	$ 2	$ 50	$ 29	$ 20	$ 20	$ 21	$ 24	$ 27	$ 24	$ 23	$ 23
Interest expense	$ (277)	$ (258)	$ (304)	$ (329)	$ (327)	$ (343)	$ (435)	$ (466)	$ (467)	$ (463)	$ (464)	$ (456)	$ (470)	$ (486)	$ (501)	$ (517)
Other	$ 2	$ (240)	$ (81)	$ 37	$ (13)	$ 122	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Non operating expenses	$ (103)	$ (415)	$ (361)	$ (279)	$ (336)	$ (219)	$ (386)	$ (436)	$ (447)	$ (443)	$ (443)	$ (433)	$ (442)	$ (463)	$ (479)	$ (494)
Income before taxes	$ 429	$ (2,216)	$ (244)	$ 501	$ 89	$ 636	$ 102	$ 253	$ 612	$ 660	$ 560	$ 487	$ 387	$ 303	$ 220	$ 147
Income tax provision	$ 7	$ -	$ (38)	$ -	$ 19	$ -	$ 16	$ 40	$ 98	$ 106	$ 90	$ 78	$ 62	$ 48	$ 35	$ 24
Net Income	$ 422	$ (2,216)	$ (206)	$ 501	$ 70	$ 636	$ 86	$ 212	$ 514	$ 554	$ 470	$ 409	$ 325	$ 254	$ 185	$ 124

Appendix 14: US Airways Income Statement for 2007-2022 in millions

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Refiners' cost of acquisition	$ 91	$ 87	$ 81	$ 83	$ 89	$ 92	$ 96	$ 99	$ 102	$ 104
Average Price per gallon	$ 2.80	$ 2.68	$ 2.51	$ 2.58	$ 2.73	$ 2.84	$ 2.95	$ 3.05	$ 3.14	$ 3.22
Fuel Consumption (gallons in millions)	1,106	1,147	1,192	1,238	1,282	1,325	1,373	1,424	1,476	1,532
Aircraft Fuel expenses	**$ 3,100**	**$ 3,072**	**$ 2,991**	**$ 3,189**	**$ 3,505**	**$ 3,760**	**$ 4,055**	**$ 4,339**	**$ 4,634**	**$ 4,937**

Appendix 15: US Airways aircraft fuel expenses projections based on FAA forecasts in millions.

	2007	2008	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Restricted Cash	$ 2	$ 186	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Accounts receivable	$ 374	$ 293	$ 285	$ 311	$ 327	$ 298	$ 386	$ 401	$ 416	$ 432	$ 448	$ 463	$ 480	$ 497	$ 516	$ 535
%revenues	3.2%	2.4%	2.7%	2.6%	2.5%	2.2%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%	2.7%
Materials and supplies	$ 249	$ 201	$ 227	$ 231	$ 235	$ 300	$ 281	$ 291	$ 303	$ 314	$ 326	$ 337	$ 349	$ 362	$ 375	$ 389
%revenues	2.1%	1.7%	2.2%	1.9%	1.8%	2.2%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Prepaid expenses and other	$ 548	$ 684	$ 520	$ 508	$ 540	$ 608	$ 638	$ 662	$ 688	$ 715	$ 740	$ 765	$ 793	$ 822	$ 852	$ 885
%revenues	5%	6%	5%	4%	4%	4%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Accounts Payable	$ 366	$ 797	$ 337	$ 386	$ 386	$ 366	$ 505	$ 517	$ 525	$ 545	$ 570	$ 593	$ 619	$ 646	$ 673	$ 701
%expenses	3.1%	6.6%	3.2%	3.2%	3.0%	2.6%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Air traffic liability	$ 832	$ 698	$ 778	$ 861	$ 910	$ 1,054	$ 1,007	$ 1,044	$ 1,086	$ 1,127	$ 1,167	$ 1,207	$ 1,251	$ 1,297	$ 1,344	$ 1,395
%revenues	7.1%	5.8%	7.4%	7.2%	7.0%	7.6%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%	7.1%
Accrued compensation and vacation	$ 225	$ 158	$ 178	$ 245	$ 176	$ 258	$ 254	$ 263	$ 274	$ 284	$ 294	$ 304	$ 315	$ 327	$ 339	$ 352
%revenues	1.9%	1.3%	1.7%	2.1%	1.3%	1.9%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Accrued taxes	$ 152	$ 142	$ 141	$ 149	$ 163	$ 181	$ 179	$ 183	$ 186	$ 193	$ 202	$ 210	$ 219	$ 229	$ 238	$ 248
%revenues	1.3%	1.2%	1.3%	1.3%	1.2%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
Other accrued expenses	$ 859	$ 887	$ 853	$ 802	$ 1,089	$ 1,027	$ 1,076	$ 1,117	$ 1,161	$ 1,205	$ 1,248	$ 1,290	$ 1,337	$ 1,386	$ 1,437	$ 1,492
%revenues	7.3%	7.3%	8.2%	6.7%	8.3%	7.4%	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%	7.6%
Net working Capital	$ (1,261)	$ (1,318)	$ (1,255)	$ (1,393)	$ (1,622)	$ (1,680)	$ (1,716)	$ (1,771)	$ (1,824)	$ (1,893)	$ (1,968)	$ (2,040)	$ (2,120)	$ (2,203)	$ (2,289)	$ (2,379)
Investment in Operating WC	**$ 367**	**$ (57)**	**$ 63**	**$ (138)**	**$ (229)**	**$ (58)**	**$ (36)**	**$ (55)**	**$ (53)**	**$ (70)**	**$ (74)**	**$ (73)**	**$ (80)**	**$ (83)**	**$ (86)**	**$ (91)**

Appendix 16: US Airways Net Working Capital for 2007-2022 in millions

Aircraft Fleet	Average Seat Capacity	Number
A330-300	291	9
A330-200	258	7
A321	184	75
A320	150	72
A319	124	93
B767-200ER	204	10
B757-200	181	24
B737-400	144	32
ERJ190	99	18
Total		340

Appendix 17: US Airways Fleet Composition as of 2012

	2007	2008	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 11,700	$ 12,118	$ 10,458	$ 11,908	$ 13,055	$ 13,831	$ 14,250	$ 14,782	$ 15,364	$ 15,955	$ 16,523	$ 17,085	$ 17,700	$ 18,350	$ 19,026	$ 19,747
- Operating expenses	$ 11,168	$ 13,919	$ 10,341	$ 11,128	$ 12,630	$ 12,976	$ 13,762	$ 14,093	$ 14,306	$ 14,852	$ 15,520	$ 16,165	$ 16,870	$ 17,584	$ 18,327	$ 19,105
= Earnings before interests and Taxes (EBIT)	$ 532	$ (1,801)	$ 117	$ 780	$ 425	$ 855	$ 488	$ 689	$ 1,059	$ 1,103	$ 1,003	$ 920	$ 830	$ 765	$ 699	$ 642
- Income tax provision	$ 7	$ -	$ (38)	$ -	$ 19	$ -	$ 78	$ 110	$ 169	$ 176	$ 160	$ 147	$ 133	$ 122	$ 112	$ 103
= After-tax EBIT	$ 525	$ (1,801)	$ 155	$ 780	$ 406	$ 855	$ 410	$ 579	$ 889	$ 926	$ 842	$ 773	$ 697	$ 643	$ 587	$ 539
+ Depreciation and Amortization	$ 189	$ 215	$ 242	$ 248	$ 237	$ 245	$ 340	$ 353	$ 367	$ 381	$ 394	$ 408	$ 425	$ 440	$ 457	$ 474
- Investment in Operating Working Capital	$ 367	$ (57)	$ 63	$ (138)	$ (229)	$ (58)	$ (36)	$ (55)	$ (53)	$ (70)	$ (74)	$ (73)	$ (80)	$ (83)	$ (86)	$ (91)
- Investment in Fixed Capital	$ (269)	$ 915	$ 495	$ (63)	$ 472	$ 844	$ 762	$ 540	$ 572	$ 589	$ 595	$ 606	$ 678	$ 672	$ 698	$ 731
= Free Cash Flow to Firm (FCFF)	**$ 616**	**$ (2,444)**	**$ (161)**	**$ 1,229**	**$ 400**	**$ 314**	**$ 24**	**$ 447**	**$ 736**	**$ 788**	**$ 716**	**$ 647**	**$ 524**	**$ 494**	**$ 432**	**$ 373**
Terminal Value																**$ 5,121**
Discounted FCFF of Forecasted Period							**$ 21**	**$ 363**	**$ 540**	**$ 521**	**$ 428**	**$ 349**	**$ 254**	**$ 217**	**$ 171**	**$ 133**
Disocounted FCFF of Terminal Value																**$ 1,825**
Enterprise Value							**$ 4,821**									

Appendix 18: US Airways Free Cash Flows and Valuation based on WACC in millions.

	2007	2008	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 11,700	$ 12,118	$ 10,458	$ 11,908	$ 13,055	$ 13,831	$ 14,250	$ 14,782	$ 15,364	$ 15,955	$ 16,523	$ 17,085	$ 17,700	$ 18,350	$ 19,026	$ 19,747
- Operating expenses	$ 11,168	$ 13,919	$ 10,341	$ 11,128	$ 12,630	$ 12,976	$ 13,762	$ 14,093	$ 14,306	$ 14,852	$ 15,520	$ 16,165	$ 16,870	$ 17,584	$ 18,327	$ 19,105
= Earnings before interests and Taxes (EBIT)	$ 532	$ (1,801)	$ 117	$ 780	$ 425	$ 855	$ 488	$ 689	$ 1,059	$ 1,103	$ 1,003	$ 920	$ 830	$ 765	$ 699	$ 642
- Income tax provision	$ 7	$ -	$ (38)	$ -	$ 19	$ -	$ 78	$ 110	$ 169	$ 176	$ 160	$ 147	$ 133	$ 122	$ 112	$ 103
= After-tax EBIT	$ 525	$ (1,801)	$ 155	$ 780	$ 406	$ 855	$ 410	$ 579	$ 889	$ 926	$ 842	$ 773	$ 697	$ 643	$ 587	$ 539
+ Depreciation and Amortization	$ 189	$ 215	$ 242	$ 248	$ 237	$ 245	$ 340	$ 353	$ 367	$ 381	$ 394	$ 408	$ 425	$ 440	$ 457	$ 474
- Investment in Operating Working Capital	$ 367	$ (57)	$ 63	$ (138)	$ (229)	$ (58)	$ (36)	$ (55)	$ (53)	$ (70)	$ (74)	$ (73)	$ (80)	$ (83)	$ (86)	$ (91)
- Investment in Fixed Capital	$ (269)	$ 915	$ 495	$ (63)	$ 472	$ 844	$ 762	$ 540	$ 572	$ 589	$ 595	$ 606	$ 678	$ 672	$ 698	$ 731
= Free Cash Flow to Firm (FCFF)	**$ 616**	**$ (2,444)**	**$ (161)**	**$ 1,229**	**$ 400**	**$ 314**	**$ 24**	**$ 447**	**$ 736**	**$ 788**	**$ 716**	**$ 647**	**$ 524**	**$ 494**	**$ 432**	**$ 373**
Terminal value																**$ 8,014**
Discounted FCFF of Forecasted Period							**$ 22**	**$ 388**	**$ 597**	**$ 595**	**$ 504**	**$ 425**	**$ 320**	**$ 282**	**$ 230**	**$ 185**
Discounted FCFF of Terminal Value																**$ 3,973**
Value Unlevered						**$ 7,521**										

Appendix 19: Unlevered Value of the company in millions

	2007	2008	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Interest expenses	$ 295	$ 277	$ 258	$ 304	$ 329	$ 327	$ 343	$ 435	$ 466	$ 467	$ 463	$ 464	$ 456	$ 470	$ 486	$ 501
Effective corporate tax rate	2%	0%	-16%	0%	21%	0%	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Interest Tax shields	$ 6	$ -	$ (41)	$ -	$ 69	$ -	$ 55	$ 70	$ 75	$ 75	$ 74	$ 74	$ 73	$ 75	$ 78	$ 80
Terminal Value																$ 1,104
Discounted its Forecasted Period							$ 50	$ 58	$ 56	$ 51	$ 46	$ 42	$ 38	$ 35	$ 33	$ 31
Discounted its Terminal Value																$ 427
PV Interest Tax Shields						$ 867										

Appendix 20: Interest Tax Shields in millions

Value Unlevered	$	7,521
% Cost of Financial Distress		48.40%
Probability default		42.10%
Costs of Financial Distress	$	1,532
Enterprise Value	$	6,489.47

Appendix 21: Financial Distress costs and APV outcome in millions

Valuation: Delta Airlines

	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Operating Revenues														
Mainline Passenger	$ 18,522	$ 21,408	$ 23,843	$ 25,237	$ 25,893	$ 26,837	$ 27,886	$ 28,940	$ 29,950	$ 30,933	$ 31,995	$ 33,101	$ 34,236	$ 35,429
Regional Carriers Passenger	$ 5,285	$ 5,850	$ 6,414	$ 6,570	$ 6,703	$ 6,904	$ 7,119	$ 7,328	$ 7,508	$ 7,673	$ 7,858	$ 8,054	$ 8,251	$ 8,460
Total Passenger revenues	$ 23,807	$ 27,258	$ 30,257	$ 31,807	$ 32,596	$ 33,741	$ 35,005	$ 36,269	$ 37,459	$ 38,605	$ 39,853	$ 41,155	$ 42,487	$ 43,889
Cargo	$ 788	$ 850	$ 1,027	$ 990	$ 1,026	$ 1,076	$ 1,134	$ 1,195	$ 1,259	$ 1,326	$ 1,397	$ 1,470	$ 1,547	$ 1,628
Other revenues	$ 3,468	$ 3,647	$ 3,831	$ 3,873	$ 4,134	$ 4,414	$ 4,711	$ 5,029	$ 5,369	$ 5,731	$ 6,118	$ 6,531	$ 6,972	$ 7,443
Total operating revenues	$ 28,063	$ 31,755	$ 35,115	$ 36,670	$ 37,757	$ 39,230	$ 40,851	$ 42,493	$ 44,087	$ 45,663	$ 47,368	$ 49,156	$ 51,006	$ 52,960
Operating Expenses														
Aircraft Fuel	$ 7,384	$ 7,594	$ 9,730	$ 10,150	$ 10,100	$ 10,773	$ 10,510	$ 11,223	$ 12,359	$ 13,282	$ 14,342	$ 13,824	$ 14,776	$ 15,749
Wages,Salaries &Benefits	$ 6,838	$ 6,751	$ 6,894	$ 7,266	$ 7,551	$ 7,846	$ 8,170	$ 8,499	$ 8,817	$ 9,133	$ 9,474	$ 9,831	$ 10,201	$ 10,592
Contract carrier arrangements	$ 3,823	$ 4,305	$ 5,470	$ 5,647	$ 6,041	$ 6,277	$ 6,536	$ 6,799	$ 7,054	$ 7,306	$ 7,579	$ 7,865	$ 8,161	$ 8,474
Aircraft Maintenance and outside repairs	$ 1,434	$ 1,569	$ 1,765	$ 1,955	$ 2,033	$ 2,115	$ 2,199	$ 2,287	$ 2,379	$ 2,497	$ 2,622	$ 2,753	$ 2,891	$ 3,036
Passenger commissions & other selling expenses	$ 1,405	$ 1,509	$ 1,682	$ 1,590	$ 1,624	$ 1,687	$ 1,757	$ 1,827	$ 1,896	$ 1,963	$ 2,037	$ 2,114	$ 2,193	$ 2,277
Contracted services	$ 1,595	$ 1,549	$ 1,642	$ 1,566	$ 1,624	$ 1,687	$ 1,757	$ 1,827	$ 1,896	$ 1,963	$ 2,037	$ 2,114	$ 2,193	$ 2,277
Depreciation and amortization	$ 1,536	$ 1,511	$ 1,523	$ 1,565	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786
Landing fees and other rents	$ 1,289	$ 1,281	$ 1,281	$ 1,336	$ 1,359	$ 1,382	$ 1,406	$ 1,430	$ 1,458	$ 1,487	$ 1,517	$ 1,546	$ 1,576	$ 1,608
Passenger service	$ 638	$ 673	$ 721	$ 732	$ 755	$ 785	$ 817	$ 850	$ 882	$ 913	$ 947	$ 983	$ 1,020	$ 1,059
Profit sharing	$ -	$ 313	$ 264	$ 372	$ 547	$ 569	$ 592	$ 616	$ 639	$ 662	$ 687	$ 713	$ 740	$ 768
Aircraft rent	$ 480	$ 387	$ 298	$ 272	$ 502	$ 484	$ 473	$ 423	$ 373	$ 400	$ 400	$ 400	$ 400	$ 400
Restructuring and other items	$ 407	$ 450	$ 242	$ 452	$ 200	$ 200	$ 200	$ 100	$ 100	$ 50	$ 50	$ 50	$ 50	$ 50
Other	$ 1,558	$ 1,646	$ 1,628	$ 1,592	$ 1,861	$ 1,933	$ 2,013	$ 2,094	$ 2,173	$ 2,250	$ 2,334	$ 2,423	$ 2,514	$ 2,610
Total operating expenses	$ 28,387	$ 29,538	$ 33,140	$ 34,495	$ 35,864	$ 37,404	$ 38,096	$ 39,642	$ 41,811	$ 43,693	$ 45,812	$ 46,402	$ 48,502	$ 50,685
	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
EBIT	$ (324)	$ 2,217	$ 1,975	$ 2,175	$ 1,893	$ 1,827	$ 2,754	$ 2,851	$ 2,276	$ 1,970	$ 1,556	$ 2,755	$ 2,504	$ 2,275
Other Income (Expenses)														
Interest expense	$ (908)	$ (969)	$ (901)	$ (812)	$ (909)	$ (931)	$ (949)	$ (970)	$ (991)	$ (989)	$ (1,009)	$ (1,030)	$ (1,053)	$ (1,076)
Amortization of debt discount	$ (370)	$ (216)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)	$ (193)
Interest income	$ 27	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Loss on extinguishment of debt	$ (83)	$ (391)	$ (68)	$ (118)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)	$ (56)
Miscelanious - net	$ 77	$ (33)	$ (44)	$ (27)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)	$ (7)
Total other expenses	$ (1,257)	$ (1,609)	$ (1,206)	$ (1,150)	$ (1,164)	$ (1,186)	$ (1,205)	$ (1,226)	$ (1,247)	$ (1,245)	$ (1,265)	$ (1,286)	$ (1,308)	$ (1,332)
Income before Taxes	$ (1,581)	$ 608	$ 769	$ 1,025	$ 729	$ 640	$ 1,549	$ 1,625	$ 1,029	$ 725	$ 292	$ 1,469	$ 1,196	$ 943
Income tax	$ (344)	$ 15	$ (85)	$ 16	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Income	$ (1,237)	$ 593	$ 854	$ 1,009	$ 729	$ 640	$ 1,549	$ 1,625	$ 1,029	$ 725	$ 292	$ 1,469	$ 1,196	$ 943

Appendix 22: Delta Airlines Income Statement from 2007-2022 in millions

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Refiners' cost of acquisition	$ 91	$ 87	$ 81	$ 83	$ 89	$ 92	$ 96	$ 99	$ 102	$ 104
Average Price per gallon	$ 2.87	$ 2.75	$ 2.57	$ 2.64	$ 2.80	$ 2.91	$ 3.03	$ 3.12	$ 3.22	$ 3.30
Fuel Consumption (gallons in millions)	3,769	3,923	4,085	4,249	4,409	4,566	4,737	4,424	4,591	4,766
Aircraft Fuel expenses	**$ 10,100**	**$ 10,773**	**$ 10,510**	**$ 11,223**	**$ 12,359**	**$ 13,282**	**$ 14,342**	**$ 13,824**	**$ 14,776**	**$ 15,749**

Appendix 23: Delta Airlines Aircraft fuel expenses based on FAA forecasts in millions

	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Restricted cash	423	409	305	375	$ 375	$ 392	$ 409	$ 425	$ 441	$ 467	$ 484	$ 503	$ 522	$ 542
%revenues	1.5%	1.3%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Accounts receivable	$ 1,353	$ 1,456	$ 1,563	$ 1,693	$ 1,812	$ 1,883	$ 1,961	$ 2,040	$ 2,116	$ 2,192	$ 2,274	$ 2,359	$ 2,448	$ 2,542
%revenues	4.8%	4.6%	4.5%	4.6%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%
Fuel Inventory	$ -	$ -	$ 168	$ 619	$ 644	$ 671	$ 684	$ 711	$ 750	$ 784	$ 822	$ 833	$ 870	$ 910
%expenses	-	-	0.5%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Materials and supplies	$ 327	$ 318	$ 367	$ 404	$ 407	$ 423	$ 441	$ 458	$ 475	$ 492	$ 511	$ 530	$ 550	$ 571
%revenues	1.2%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
Deferred Income tax	$ 357	$ 318	$ 461	$ 463	$ 458	$ 476	$ 495	$ 515	$ 534	$ 554	$ 574	$ 596	$ 618	$ 642
%revenues	1.3%	1.0%	1.3%	1.3%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Pre paid expenses and other	$ 853	$ 1,159	$ 1,250	$ 1,344	$ 1,473	$ 1,530	$ 1,593	$ 1,657	$ 1,719	$ 1,781	$ 1,847	$ 1,917	$ 1,989	$ 2,065
%revenues	3.0%	3.6%	3.6%	3.7%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
Air Traffic liability	$ 3,074	$ 3,306	$ 3,480	$ 3,696	$ 3,904	$ 4,056	$ 4,223	$ 4,393	$ 4,558	$ 4,721	$ 4,897	$ 5,082	$ 5,273	$ 5,475
%revenues	11.0%	10.4%	9.9%	10.1%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%	10.3%
Accounts Payable	$ 1,249	$ 1,713	$ 1,600	$ 2,293	$ 1,950	$ 2,096	$ 2,177	$ 2,346	$ 2,354	$ 2,458	$ 2,555	$ 2,659	$ 2,745	$ 2,855
%expenses	4.5%	5.4%	4.6%	6.3%	5.2%	5.3%	5.3%	5.5%	5.3%	5.4%	5.4%	5.4%	5.4%	5.4%
Frequent flyer deferred revenue	$ 1,614	$ 1,690	$ 1,849	$ 1,806	$ 2,007	$ 2,085	$ 2,172	$ 2,259	$ 2,344	$ 2,427	$ 2,518	$ 2,613	$ 2,711	$ 2,815
%revenues	5.8%	5.3%	5.3%	4.9%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%
Accrued salaries and related benefits	$ 1,037	$ 1,370	$ 1,367	$ 1,680	$ 1,510	$ 1,569	$ 1,634	$ 1,700	$ 1,763	$ 1,827	$ 1,895	$ 1,966	$ 2,040	$ 2,118
%revenues	3.7%	4.3%	3.9%	4.6%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Taxes payable	$ 525	$ 579	$ 594	$ 585	$ 659	$ 685	$ 713	$ 742	$ 769	$ 797	$ 827	$ 858	$ 890	$ 924
%revenues	1.9%	1.8%	1.7%	1.6%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
Fuel Card obligation	$ -	$ -	$ 318	$ 455	$ 405	$ 421	$ 438	$ 456	$ 473	$ 490	$ 508	$ 528	$ 547	$ 568
%revenues			0.9%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
Other accrued liabilities	$ 765	$ 654	$ 1,549	$ 1,128	$ 944	$ 981	$ 1,021	$ 1,062	$ 1,102	$ 1,142	$ 1,184	$ 1,229	$ 1,275	$ 1,324
%revenues	2.7%	2.1%	4.4%	3.1%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Net working capital	$ (4,951)	$ (5,652)	$ (6,643)	$ (6,745)	$ (6,210)	$ (6,517)	$ (6,797)	$ (7,152)	$ (7,327)	$ (7,592)	$ (7,871)	$ (8,197)	$ (8,485)	$ (8,809)
Investment in operating WC		**$ (701)**	**$ (991)**	**$ (102)**	**$ 535**	**$ (307)**	**$ (279)**	**$ (355)**	**$ (175)**	**$ (265)**	**$ (280)**	**$ (325)**	**$ (288)**	**$ (325)**

Appendix 24: Delta Airlines Net Working Capital 2007-2022 in millions

	Number
B373-700	10
B737-800	73
B747-400	16
B757-200	151
B757-300	16
B767-300	71
B767-400	21
B777-200	18
A310	56
A320	68
A330-300	11
A330-200	21
MD-88	117
MD-90	50
DC9-50	18
Total	717

Appendix 25: Delta Airlines Fleet Composition as of 2012

	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 28,063	$ 31,755	$ 35,115	$ 36,670	$ 37,757	$ 39,230	$ 40,851	$ 42,493	$ 44,087	$ 45,663	$ 47,368	$ 49,156	$ 51,006	$ 52,960
- Operating expenses	$ 28,387	$ 29,538	$ 33,140	$ 34,495	$ 35,864	$ 37,404	$ 38,096	$ 39,642	$ 41,811	$ 43,693	$ 45,812	$ 46,402	$ 48,502	$ 50,685
= Earnings before interests and Taxes (EBIT)	$ (324)	$ 2,217	$ 1,975	$ 2,175	$ 1,893	$ 1,827	$ 2,754	$ 2,851	$ 2,276	$ 1,970	$ 1,556	$ 2,755	$ 2,504	$ 2,275
- Income tax provision	$ 344	$ (15)	$ 85	$ (16)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
= After-tax EBIT	$ (668)	$ 2,232	$ 1,890	$ 2,191	$ 1,893	$ 1,827	$ 2,754	$ 2,851	$ 2,276	$ 1,970	$ 1,556	$ 2,755	$ 2,504	$ 2,275
+ Depreciation and Amortization	$ 1,536	$ 1,511	$ 1,523	$ 1,565	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786
- Investment in Operating Working Capital	$ (701)	$ (701)	$ (991)	$ (102)	$ 535	$ (307)	$ (279)	$ (355)	$ (175)	$ (265)	$ (280)	$ (325)	$ (288)	$ (325)
- Investment in Fixed Capital	$ 1,008	$ 2,026	$ 1,498	$ 1,962	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
= Free Cash Flow to Firm (FCFF)	**$ 561**	**$ 2,418**	**$ 2,906**	**$ 1,896**	**$ 525**	**$ 1,300**	**$ 2,200**	**$ 2,373**	**$ 1,737**	**$ 1,520**	**$ 1,122**	**$ 2,366**	**$ 2,078**	**$ 1,885**
Terminal Value														**$ 29,290**
Discounted FCFF of Forecasted Period					**$ 475**	**$ 1,064**	**$ 1,628**	**$ 1,588**	**$ 1,051**	**$ 832**	**$ 555**	**$ 1,059**	**$ 841**	**$ 691**
Discounted FCFF of Terminal Value														**$ 10,727**
Enterprise Value				**$ 20,511**										

Appendix 26: Delta Airlines Free Cash Flows and Valuation based on WACC in millions

	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 28,063	$ 31,755	$ 35,115	$ 36,670	$ 37,757	$ 39,230	$ 40,851	$ 42,493	$ 44,087	$ 45,663	$ 47,368	$ 49,156	$ 51,006	$ 52,960
- Operating expenses	$ 28,387	$ 29,538	$ 33,140	$ 34,495	$ 35,864	$ 37,404	$ 38,096	$ 39,642	$ 41,811	$ 43,693	$ 45,812	$ 46,402	$ 48,502	$ 50,685
= Earnings before interests and Taxes (EBIT)	$ (324)	$ 2,217	$ 1,975	$ 2,175	$ 1,893	$ 1,827	$ 2,754	$ 2,851	$ 2,276	$ 1,970	$ 1,556	$ 2,755	$ 2,504	$ 2,275
- Income tax provision	$ 344	$ (15)	$ 85	$ (16)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
= After-tax EBIT	$ (668)	$ 2,232	$ 1,890	$ 2,191	$ 1,893	$ 1,827	$ 2,754	$ 2,851	$ 2,276	$ 1,970	$ 1,556	$ 2,755	$ 2,504	$ 2,275
+ Depreciation and Amortization	$ 1,536	$ 1,511	$ 1,523	$ 1,565	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786	$ 1,786
- Investment in Operating Working Capital	$ (701)	$ (701)	$ (991)	$ (102)	$ 535	$ (307)	$ (279)	$ (355)	$ (175)	$ (265)	$ (280)	$ (325)	$ (288)	$ (325)
- Investment in Fixed Capital	$ 1,008	$ 2,026	$ 1,498	$ 1,962	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500	$ 2,500
= Free Cash Flow to Firm (FCFF)	**$ 561**	**$ 2,418**	**$ 2,906**	**$ 1,896**	**$ 525**	**$ 1,300**	**$ 2,200**	**$ 2,373**	**$ 1,737**	**$ 1,520**	**$ 1,122**	**$ 2,366**	**$ 2,078**	**$ 1,885**
Terminal Value														**$ 29,290**
Discounted FCFF of Forecasted Period					**$ 490**	**$ 1,130**	**$ 1,783**	**$ 1,792**	**$ 1,223**	**$ 998**	**$ 686**	**$ 1,350**	**$ 1,105**	**$ 935**
Discounted FCFF of Terminal Value														**$ 14,520**
Enterprise Value				**$ 26,010**										

Appendix 27:Unlevered Value of the company in millions

	2009	2010	2011	2012	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
Interest expenses	$ 909	$ 969	$ 901	$ 812	$ 909	$ 931	$ 949	$ 970	$ 991	$ 989	$ 1,009	$ 1,030	$ 1,053	$ 1,076
Effective corporate tax rate	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Interest Tax shields	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Terminal Value														$ 5,805
Discounted its Forecasted Period					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Discounted its Terminal Value														$ 2,640
PV Interest Tax Shields				$ 2,640										

Appendix 28: Interest Tax Shields

Value Unlevered	$	26,010
% Cost of Financial Distress		48.40%
Probability default		24.82%
Costs of Financial Distress	$	3,125
Enterprise Value	$	24,870

Appendix 29: Financial Distress Costs and APV outcome in millions

Combined Firm Valuation

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 52,008	$ 54,012	$ 56,215	$ 58,447	$ 60,610	$ 62,747	$ 65,068	$ 67,506	$ 70,032	$ 72,707
- Operating expenses	$ 49,627	$ 51,496	$ 52,402	$ 54,494	$ 57,331	$ 59,858	$ 62,682	$ 63,986	$ 66,829	$ 69,790
= Earnings before interests and Taxes (EBIT)	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
- Income tax provision	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
= After-tax EBIT	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
+ Depreciation and Amortization	$ 2,007	$ 2,020	$ 2,033	$ 2,048	$ 2,180	$ 2,194	$ 2,211	$ 2,226	$ 2,242	$ 2,260
- Investment in Operating Working Capital	$ 499	$ (362)	$ (332)	$ (425)	$ (250)	$ (337)	$ (359)	$ (408)	$ (374)	$ (416)
- Investment in Fixed Capital	$ 3,262	$ 3,040	$ 3,072	$ 3,089	$ 3,095	$ 3,106	$ 3,178	$ 3,172	$ 3,198	$ 3,231
= Free Cash Flow to Firm (FCFF)	**$ 627**	**$ 1,857**	**$ 3,106**	**$ 3,337**	**$ 2,613**	**$ 2,315**	**$ 1,778**	**$ 2,983**	**$ 2,622**	**$ 2,361**
Terminal Value										$ 34,411
Discounted FCFF of Forecasted Period	$ 496	$ 1,427	$ 2,168	$ 2,109	$ 1,479	$ 1,181	$ 810	$ 1,276	$ 1,012	$ 823
Discounted FCFF of Terminal Value										$ 12,552
Enterprise Value	$ 25,332									

Appendix 30: Combined Firm with no synergies.

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 52,008	$ 54,012	$ 56,215	$ 58,447	$ 60,610	$ 62,747	$ 65,068	$ 67,506	$ 70,032	$ 72,707
= Earnings before interests and Taxes (EBIT)	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
- Income tax provision	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
= After-tax EBIT	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
+ Depreciation and Amortization	$ 2,007	$ 2,020	$ 2,033	$ 2,048	$ 2,180	$ 2,194	$ 2,211	$ 2,226	$ 2,242	$ 2,260
- Investment in Operating Working Capital	$ 499	$ (362)	$ (332)	$ (425)	$ (250)	$ (337)	$ (359)	$ (408)	$ (374)	$ (416)
- Investment in Fixed Capital	$ 3,262	$ 3,040	$ 3,072	$ 3,089	$ 3,095	$ 3,106	$ 3,178	$ 3,172	$ 3,198	$ 3,231
= Free Cash Flow to Firm (FCFF)	**$ 627**	**$ 1,857**	**$ 3,106**	**$ 3,337**	**$ 2,613**	**$ 2,315**	**$ 1,778**	**$ 2,983**	**$ 2,622**	**$ 2,361**
Terminal Value										$ 36,359
Discounted FCFF of Forecasted Period	$ 566	$ 1,515	$ 2,289	$ 2,221	$ 1,571	$ 1,257	$ 872	$ 1,322	$ 1,049	$ 853
Discounted FCFF of Terminal Value										$ 13,144
Enterprise Value	$ 26,660									
Enterprise Value w/synergies	$ 25,332									
Financial Synergies	**$ 1,328**									

Appendix 31: Financial synergies incorporated in FCFFs in millions.

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 52,008	$ 54,012	$ 56,215	$ 58,447	$ 60,610	$ 62,747	$ 65,068	$ 67,506	$ 70,032	$ 72,707
- Operating expenses	$ 49,503	$ 51,368	$ 52,271	$ 54,358	$ 57,188	$ 59,708	$ 62,525	$ 63,666	$ 66,495	$ 69,441
= Earnings before interests and Taxes (EBIT)	$ 2,505	$ 2,645	$ 3,944	$ 4,090	$ 3,422	$ 3,040	$ 2,543	$ 3,840	$ 3,537	$ 3,265
- Income tax provision										
= After-tax EBIT	$ 2,505	$ 2,645	$ 3,944	$ 4,090	$ 3,422	$ 3,040	$ 2,543	$ 3,840	$ 3,537	$ 3,265
+ Depreciation and Amortization	$ 2,007	$ 2,020	$ 2,033	$ 2,048	$ 2,180	$ 2,194	$ 2,211	$ 2,226	$ 2,242	$ 2,260
- Investment in Operating Working Capital	$ 499	$ (362)	$ (332)	$ (425)	$ (250)	$ (337)	$ (359)	$ (408)	$ (374)	$ (416)
- Investment in Fixed Capital	$ 3,262	$ 3,040	$ 3,072	$ 3,089	$ 3,095	$ 3,106	$ 3,178	$ 3,172	$ 3,198	$ 3,231
= Free Cash Flow to Firm (FCFF)	**$ 751**	**$ 1,986**	**$ 3,237**	**$ 3,473**	**$ 2,757**	**$ 2,464**	**$ 1,935**	**$ 3,303**	**$ 2,956**	**$ 2,710**
Terminal Value										$ 41,733
Discounted FCFF of Forecasted Period	$ 678	$ 1,620	$ 2,386	$ 2,312	$ 1,657	$ 1,338	$ 949	$ 1,463	$ 1,183	$ 980
Discounted FCFF of Terminal Value										$ 15,087
Enterprise Value	$ 29,653									
Cost Synergies	**$ 2,993**									

Appendix 32: Operating costs synergies incorporated in FCFFs in millions.

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 52,008	$ 54,012	$ 56,215	$ 58,447	$ 60,610	$ 62,747	$ 65,068	$ 67,506	$ 70,032	$ 72,707
- Operating expenses	$ 49,627	$ 51,496	$ 52,402	$ 54,494	$ 57,331	$ 59,858	$ 62,682	$ 63,986	$ 66,829	$ 69,790
= Earnings before interests and Taxes (EBIT)	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
- Income tax provision	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
= After-tax EBIT	$ 2,381	$ 2,516	$ 3,813	$ 3,954	$ 3,278	$ 2,890	$ 2,386	$ 3,520	$ 3,203	$ 2,916
+ Depreciation and Amortization	$ 2,007	$ 2,020	$ 2,033	$ 2,048	$ 2,180	$ 2,194	$ 2,211	$ 2,226	$ 2,242	$ 2,260
- Investment in Operating Working Capital	$ 499	$ (362)	$ (332)	$ (425)	$ (250)	$ (337)	$ (359)	$ (408)	$ (374)	$ (416)
- Investment in Fixed Capital	$ 3,262	$ 3,040	$ 3,072	$ 3,089	$ 3,095	$ 2,951	$ 2,951	$ 2,951	$ 2,951	$ 2,951
= Free Cash Flow to Firm (FCFF)	**$ 627**	**$ 1,857**	**$ 3,106**	**$ 3,337**	**$ 2,613**	**$ 2,470**	**$ 2,005**	**$ 3,204**	**$ 2,868**	**$ 2,641**
Terminal Value										$ 40,672
Discounted FCFF of Forecasted Period	$ 566	$ 1,515	$ 2,289	$ 2,221	$ 1,571	$ 1,341	$ 983	$ 1,419	$ 1,148	$ 955
Discounted FCFF of Terminal Value										$ 14,703
Enterprise Value	**$ 28,713**									
Capex Synergies	**$ 2,052**									

Appendix 33: Capex synergies incorporated in FCFFs in millions

	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E
+ Operating revenues	$ 52,008	$ 54,012	$ 56,215	$ 58,447	$ 60,610	$ 62,747	$ 65,068	$ 67,506	$ 70,032	$ 72,707
- Operating expenses	$ 49,503	$ 51,368	$ 52,271	$ 54,358	$ 57,188	$ 59,708	$ 62,525	$ 63,666	$ 66,495	$ 69,441
= Earnings before interests and Taxes (EBIT)	$ 2,505	$ 2,645	$ 3,944	$ 4,090	$ 3,422	$ 3,040	$ 2,543	$ 3,840	$ 3,537	$ 3,265
- Income tax provision										
= After-tax EBIT	$ 2,505	$ 2,645	$ 3,944	$ 4,090	$ 3,422	$ 3,040	$ 2,543	$ 3,840	$ 3,537	$ 3,265
+ Depreciation and Amortization	$ 2,007	$ 2,020	$ 2,033	$ 2,048	$ 2,180	$ 2,194	$ 2,211	$ 2,226	$ 2,242	$ 2,260
- Investment in Operating Working Capital	$ 499	$ (362)	$ (332)	$ (425)	$ (250)	$ (337)	$ (359)	$ (408)	$ (374)	$ (416)
- Investment in Fixed Capital	$ 3,262	$ 3,040	$ 3,072	$ 3,089	$ 3,095	$ 2,951	$ 2,951	$ 2,951	$ 2,951	$ 2,951
= Free Cash Flow to Firm (FCFF)	**$ 751**	**$ 1,986**	**$ 3,237**	**$ 3,473**	**$ 2,757**	**$ 2,620**	**$ 2,162**	**$ 3,523**	**$ 3,203**	**$ 2,990**
Terminal Value										$ 46,046
Discounted FCFF of Forecasted Period	$ 678	$ 1,620	$ 2,386	$ 2,312	$ 1,657	$ 1,423	$ 1,060	$ 1,561	$ 1,282	$ 1,081
Discounted FCFF of Terminal Value										$ 16,646
Enterprise Value	$ 31,706									

Appendix 34: Combined firm gross enterprise value in millions

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