# Research on the Investment Value of United Airlines

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**Abstract.** This article mainly analyzes the investment value of United Airlines through the Porter Five Forces model, macroeconomic analysis, and profitability evaluation. The Porter's Five Forces model suggests that United Airlines operates in a fiercely competitive environment, with entry barriers and the power of established companies playing an important role. The company's success depends on its ability to manage costs, maintain a strong route network, offer competitive services, and effectively engage with customers through loyalty programs. The overall industry dynamics and external factors can greatly influence its profitability and market positioning. Macroeconomic and profitability assessments indicate that United Airlines is currently in a state of recovery but volatility. Tthere are still significant investment risks in the future situation. It is concluded that the investment value of United Airlines is high but accompanied by high investment risks. The ultimate advice for investors is to invest if they prefer risk, otherwise the opposite is true.

**Keywords:** Porter's five forces Model, United Airlines, Macro analysis, PPE.

## 1. Introduction

Risk analysis of stock investment using the value at risk methods with the Bayesian normal mixture approach. Inayati, Sahid and Kusuma Wati used Bayesian normal mixing, macroeconomic analysis, and profitability methods to analyze the stocks of three companies, ASII, TLKM, and UNVR. The research results showed that the highest risk of TLKM was 0.124272, ASII was 0.02533735, and UNVR was 0.02298288[1-2]. Based on existing literature research, this article will use three methods: macroeconomic analysis (Porter's Five Forces Model), financial analysis, and profitability analysis to analyze the investment value of United Airlines' stocks. The reason for choosing United Airlines as the research object is: As is well known, the stock market has always been fluctuating, and it can fluctuate for various reasons. Therefore, investors have always had a high demand for investment value analysis of their invested stock companies. Therefore, this article uses three methods to compare the investment scenarios of United Airlines with the data of other three peer companies, which can provide certain reference for investors' investment decisions and strategies [3-5].

As the managing corporation for the Boeing Air Transportation corporation, Pacific Air Transportation Company, National Air Transportation Company, and Vanni Airlines, which mostly transported mail in the United States, United Airlines (UAL), also known as United Airlines, was established in 1926. In addition to Lufthansa AG, Nordic Airlines, Thai International Airlines, Canadian Airlines, and Warburg Airlines, UAL is a member of the Star Alliance Group. Passengers can enjoy miles accumulation, share the terminal lounge, and streamline the registration processes for United Star Alliance covered passenger jets by participating in each other's frequent flyer programs [6].

## 2. Methods

### 2.1. Porter's Five Forces Model

Michael Porter is the author of the Porter's five forces model. Porter contends that five elements govern how much and how intensely competition exists in a particular industry. The attractiveness of the sector and the competitive strategic choices made by present enterprises are greatly influenced by these dynamics. The ability of new competitors to enter the market, the ability of substitutes to replace existing products, the bargaining power of suppliers, and the competitiveness of current rivals in the same industry are the five forces. Five forces, as outlined by Porter, will inevitably result in competition with other businesses when new resources, capabilities, industry vitality, and a drive to increase market share are introduced.

The Porter Five Forces Analysis is primarily used to study how companies compete in this industry and how it is related to other industries. It is a part of the external environment analysis' microenvironment area. It is essentially a technique for applying management theory to operations in strategic enterprise marketing management, which requires our enterprise marketing managers to oversee enterprises from the perspective of strategic analysis. It is emphasized to employ strategic awareness or specific types of strategic thinking [7].

### 2.2. Financial Analysis

Assessing the effectiveness and suitability of businesses, projects, budgets, and other financial-related transactions is done through financial analysis. Financial analysis is usually used to assess a company's soundness, solvency, liquidity, or profitability to decide whether to make a financial investment [8].

Equity investors, creditors, managers, governmental organizations, and other parties with an interest in the company are the main users of financial analysis. They use financial accounts for various objectives, call for various data, and apply various analytic techniques. The objective of financial analysis is to offer a solid foundation for decision-making for those who use financial statements. This is the purpose of financial analysis. The subject of the financial analysis restricts the purpose of the analysis, and the purpose of the analysis varies depending on the subject [9].

The three main goals of financial analysis are to evaluate historical business performance, assess current financial conditions, and forecast future development trends. The different types of financial analysis include thematic analysis (such as bankruptcy analysis and auditors' analytical examination techniques), profitability analysis, financial risk analysis, and liquidity analysis [10].

### 2.3. Porfitability Valuation

A company's capacity to make a profit is referred to as profitability. The main concern of all stakeholders, both inside and outside the company, is profit. Profit is the source of money used by creditors to recover principal and interest from debtors as well as investors to get investment returns. It is a focused example of the effectiveness of business operations and management, and it serves as a crucial assurance for the ongoing development of employee collective welfare facilities. Consequently, it is crucial to analyse business profitability. primarily assessed by the enterprise fund profit margin, sales profit margin, and cost expense profit margin [11].

The capacity of a business to turn a profit within a predetermined time frame is typically referred to as profitability. Profitability is a relative notion, meaning that it depends on how much money and resources are invested. Stronger profitability is correlated with greater profit margins; weaker profitability is correlated with lower profit margins. Profitability is a key indicator of a company's level of business performance. Managers, creditors, and owners (investors) of businesses all care deeply about the profitability of their companies and place a high value on the study, forecasting, and monitoring of profit margins and their shifting patterns.

Even more important to shareholders (investors) is the robustness of a company's profitability. Shareholders frequently think that a company's profitability is more significant than its financial health and profitability in a market economy. Because investors consistently place their money in businesses with significant profitability, even when there are multiple firms with the same or similar credit, the primary objective of shareholders is to increase profits. Given that their stock interest is closely correlated with the company's profitability and that an increase in corporate profitability will also result in an increase in stock prices, shareholders are interested in the amount of profit the company makes and place importance on analysing the profit margin [11].

# 3. Results

## 3.1. Macro Analysis on United Airlines based on Porter's Five Forces Model

Porter's Five Forces is a framework used to analyze the competitive dynamics of an industry. Here's a macro-level analysis of United Airlines using Porter's Five Forces model.

Threat of New Entrants: The airline industry has significant barriers to entry due to high initial capital requirements, stringent regulatory requirements, and the need for an established network and infrastructure. United Airlines, being a major player with an established route network and customer base, benefits from economies of scale and scope that new entrants would find challenging to replicate. Additionally, the existing airlines have established loyalty programs that make it harder for new entrants to attract customers [7].

Bargaining Power of Suppliers: Suppliers in the airline industry primarily include aircraft manufacturers, fuel suppliers, and labor unions. While there are only a few dominant aircraft manufacturers, such as Boeing and Airbus, their bargaining power is somewhat mitigated by the fact that airlines have some alternatives in terms of aircraft selection. Fuel costs can significantly impact airlines' profitability, but hedging strategies and competitive sourcing can help manage this risk. Labor unions can exert considerable power, especially in negotiating contracts and labor terms, which can impact the cost structure of airlines [7].

Bargaining Power of Buyers (Customers): Airline customers have some degree of bargaining power due to the availability of options, price sensitivity, and ease of switching between airlines. The industry is characterized by price competition and customer loyalty programs. However, for business travelers and customers requiring specific routes, the switching costs can be higher, reducing their bargaining power. United Airlines and other major carriers strive to differentiate themselves through services, routes, and loyalty programs to retain customers [12].

Threat of Substitutes: The threat of substitutes in the airline industry comes from alternative modes of transportation, such as trains, buses, and cars, especially for short distances. However, for long-haul and international travel, air travel remains the most efficient and practical mode of transportation. Additionally, the growth of virtual communication technologies (e.g., video conferencing) might impact business travel to some extent, but it's unlikely to completely replace the need for air travel [12].

Intensity of Competitive Rivalry: The airline industry is highly competitive, with numerous airlines vying for market share. This competition is driven by factors like price, routes, service quality, and customer loyalty. Airlines engage in price wars to attract customers, which can impact profitability. However, consolidation within the industry has led to a few major players, including United Airlines, which can stabilize competition to some extent. The industry is also sensitive to economic fluctuations, fuel prices, and geopolitical events, which can impact airlines' performance [12].

In conclusion, United Airlines operates in a competitive environment where barriers to entry and the power of established players play a significant role. The company's success depends on its ability to manage costs, maintain a strong route network, offer competitive services, and effectively engage with customers through loyalty programs. The overall industry dynamics and external factors can greatly influence its profitability and market positioning.

## 3.2. Results of Financial Analysis

UAL is an airline, and passenger and freight revenue account for the great majority of its profits. The financial analysis thus concentrates on UAL's revenue, costs, and property, plant, and equipment (PP&E). Based on UAL's yearly financial disclosures for 2019 through 2021, this analysis.

### 3.2.1. Revenue

According to the income statement in the annual financial statements released by UAL on February 18, 2022, the company's total revenue is 2463.4 billion dollars, while its operating profit is a modest

-102.2 billion dollars, down from the total revenue of 1535.5 billion dollars and the operating profit of 635.9 billion dollars in 2020. The total revenue for 2019 is $4.325.9 billion, and the operating profit for 2019 is $4.3 billion, which is much less than the revenue for 2020 and 2021 but still modest. In the event of the COVID-19 epidemic, the aircraft's passenger volume would be lower than usual, which would result in a drop in income (see Figure 1).

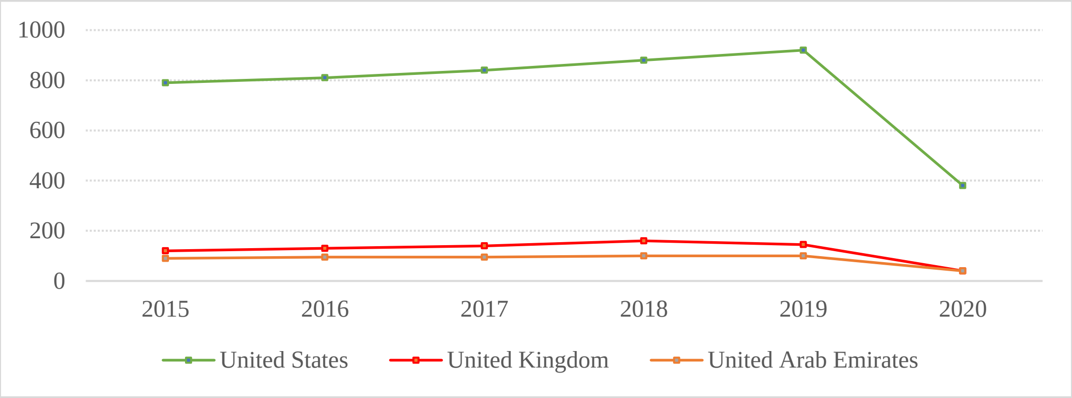


**Figure 1.** Air passengers carried from 2015 to 2020.

The money is split into two categories for analysis: tourist transportation revenue and freight transportation revenue. The tourism industry will generate $11805 million in 2020, a $27.8 billion (70.2%) fall from 2019. This decline is mostly because to COVID-19's global spread, shelter orders, and travel bans. The change fee was suspended by the corporation at the start of 2020. All standard economy class and premium class tickets travelling inside the 50 United States, Puerto Rico, and the US Virgin Islands no longer have a change fee as of August 30, 2020. Additionally, starting in December 2020, the corporation will no longer charge a change fee for any overseas flights departing from the United States (this cost was a source of revenue for tourist transportation). Destinations, costs, and all other international travel tickets purchased before to March31, 2021. By eliminating the change charge and exemption, the COVID-19 change fee revenue in 2020 will drop by $542 million in comparison to 2019 (From the official website united Airlines).

The amount of revenue from passengers in 2021 will be USD 20197million, a 71.1% increase over that in 2020. The passenger revenue is consistent with the overall study because the pandemic situation will start to alleviate in 2021 and then rapidly fall [13].

### 3.2.2. Expense

Salary and related expenses dropped by $2.5 billion, or 21.1%, in 2020 compared to 2019 [6, as indicated in Table 1 [6]. primarily because of a reduction in workforce of 22.4% brought about by COVID-19's voluntary separation programmes and furloughs, a $623 million decrease in profit sharing and other employee incentives because of COVID-19's impact on 2020 results, and $180 million in tax credits provided by the CARES Act's employee retention credit in 2020 [4]. Salaries and related expenses rose by $44 million, or 0.5%, in 2021 compared to 2020, primarily because of higher wages for frontline workers brought on by an increase in flight activity. This increase was partially offset by a $225 million increase in tax credits offered by the Employee Retention Credit under the CARES.

**Table 1.** Salaries and related costs of UAL in 2019, 2020 and 2021.

| $ million | 2021 | 2020 | 2019 |
|---|---|---|---|
| Salaries and related costs | 9566 | 9522 | 12071 |

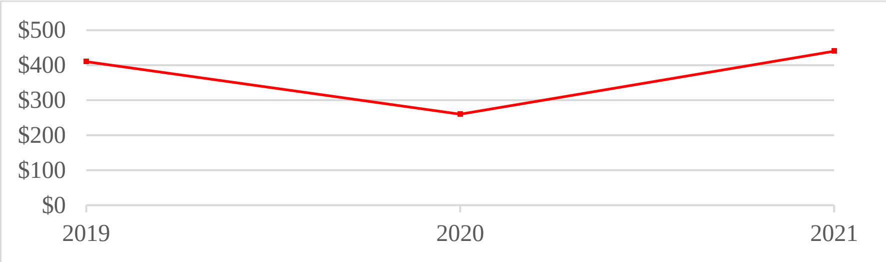


**Figure 2.** Crude oil prices from 2019 to 2021

One of the main elements that impacts airline income is fuel expense (see Figure 2). Before the epidemic broke out in 2019, the annual cost of fuel was 8953 million dollars, or 2.09 million dollars per gallon. The average price per gallon was 1.57 million dollars in 2020, whereas the overall cost of fuel was 3153 million dollars. The figures were 5755 million and 2.11 million in 2021, respectively. Because of the government's macro-control of the price of aviation oil, the overall fuel cost has little impact on UAL's flight costs because the price of oil is typically low while the passenger rate is low.

### 3.2.3. PPE

Between 2019 and 2021, UAL will have accrued depreciation of -14537 million, -16429 million, and -18489 million, respectively. According to an analysis of the total depreciation statistics, UAL's accumulated depreciation has been rising over the last three years, which suggests that its asset value has been falling. It can be assumed that the increase in accumulated depreciation is caused by the huge fluctuation of other property and equipment rather than aircraft depreciation because a specific analysis of property depreciation reveals that aircraft depreciation fluctuates slightly but other property and equipment depreciation fluctuates greatly. This demonstrates that UAL's primary assets are depreciating steadily.

The competition in the aviation industry has always been fierce. Market share will determine whether you have more customer transportation revenue, which will directly affect the overall revenue and main profitability of the company and is directly related to whether the company is worth investing. However, due to the sudden fluctuations in stable market share before the impact of the epidemic, UAL needs to regain market share to face industry competition. Due to the impact of the epidemic on 2022, the number of passengers cannot recover from the large number before the outbreak, and people have fewer travel choices than before, as the aviation industry is unlikely to recover to its ideal performance in 2022. The following ratios indicate that although the company is recovering, the pace is not ideal.

Return on assets is a metric for calculating the amount of net profit produced per unit of assets, and it can be used to evaluate a company's profitability. The ratio of gross profit to sales revenue (or operational revenue) is known as the gross profit margin. The ratio of operational profit to total sales is known as the operating profit rate. The greater the operating profit rate, the greater the operating profit generated by the company's sales of commodities, and the more profitable the company is. On the other hand, the smaller the ratio, the less profitable the company is. Table 2 shows that UAL's profitability is below the median in each of the three sectors. According to the market value of UAL, its airline ranked fourth, and its profitability was consistent with that of ordinary scale statements, so the situation was normal and reasonable [14].

**Table 2.** Profitability ratios of UAL and its peers in 2021 (%)

| | ROA | Gross profit ratio | Operating profit ratio |
|---|---|---|---|
| UAL | -2.880 | 26.74 | 2.01 |
| LUV | 2.680 | 25.4 | 5.53 |
| AAL | -2.998 | 19.93 | 0.03 |
| DAL | 0.386 | 17.59 | 5.82 |
| Average | -0.070 | 22.415 | 3.3475 |

All profit indicators in Table 3 are lower than in 2019, demonstrating that the epidemic has had a significant impact on airlines. Two years later, United Airlines is unable to regain its profitability prior to the outbreak, and both indices are below average, indicating that it would take several years for United Airlines to regain its profitability prior to the epidemic.

**Table 3.** Profitability ratios of UAL in recent three years (%)

| | ROA | Gross profit margin of sales | Net operating interest rate |
|---|---|---|---|
| 2021 | -2.88 | 56.65 | -7.97 |
| 2020 | -11.87 | 51.88 | -46.04 |
| 2019 | 36.72 | 76.43 | 6.96 |
| Average | -0.07 | 61.65 | -15.68 |

## 4. Discussion

From the analysis of the above three scenarios, overall, the economic situation of United Airlines is not optimistic because the company has experienced a huge impact of COVID-19 and its profitability is still recovering, and the recovery time is still insufficient. This means that there are still significant investment risks in the future situation. From a macro perspective, United Airlines is affected by external factors such as its costs and industry dynamics, based on financial analysis, the cost of United Airlines is temporarily balanced, and United Airlines is lagging in industry competition. Therefore, the suggestion for conservative investors is not to invest, and if they are risk averse, they can invest in United Airlines.

## 5. Conclusion

This article analyzes the investment value of United Airlines through the use of Porter's Five Forces model, financial analysis, and profitability analysis. It is concluded that the investment value of United Airlines is high but accompanied by high investment risks. It indicates that United Airlines is suitable for investors who prefer risk, but not for stable investors.

However, there are several limitations in this research. The future development of United Airlines is unknown and can only be analyzed based on existing data. It is not possible to provide an estimated value direction for the company in the future, so there are limitations in calculation and analysis, which will to some extent affect the evaluation of investment value.

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