

FINANCIAL ANALYSIS OF DELTA AIRLINES (DAL)

GROUP 9

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A. Business Analysis (DAL)

1. History:

- ✈ Founded in 1925 as Huff Daland Dusters in Macon, Georgia, focusing on aerial crop-dusting to combat cotton crop infestations, notably the boll weevil.
- ✈ Under the leadership of Collett Everman Woolman, the company expanded its operations and relocated to Monroe, Louisiana.
- ✈ In 1928, the company rebranded to Delta Air Service, named after the Mississippi Delta region, and started offering commercial passenger flights between Dallas, Texas, and Jackson, Mississippi.
- ✈ By 1929, Delta expanded its network, including stops in Shreveport and Monroe, and began offering a passenger service using larger aircraft.
- ✈ Throughout the 1930s and 1940s, Delta extended its network and secured contracts for mail transportation, gradually integrating larger aircraft into its fleet.
- ✈ In the post-war era, Delta adopted the hub-and-spoke model, centralizing operations through key hubs to optimize connectivity and efficiency.
- ✈ Over the decades, Delta expanded through strategic mergers, including the significant merger with Northwest Airlines in 2008.
- ✈ As of 2025, Delta is celebrating its centenary, marking a hundred years of growth from a small crop-dusting operation to a leading global airline. Delta now operates an extensive network of over 300 destinations in more than 50 countries worldwide.

- ✈ The company remains headquartered in Atlanta, Georgia, and continues to be one of the largest airlines globally.
- ✈ Delta Air Lines, is one of the biggest American airlines, flying passengers and cargo across the world. On March 5, the company announced a partnership with Jet Zero to develop a next-generation, fuel-efficient aircraft with a unique blended-wing-body design. This technology could make planes up to 50% more fuel efficient, supporting Delta's goal of net-zero emissions by 2050.

2. Current operations (products and services offered):

- ✈ **Passenger Transportation:** Delta provides scheduled air travel services for passengers both domestically within the United States and internationally to over 300 destinations across more than 50 countries.
- ✈ **Cargo Services:** Delta offers cargo transportation services, facilitating the shipment of goods across its global network.
- ✈ **Frequent Flyer Programs:** The airline operates a loyalty program known as SkyMiles, allowing passengers to earn and redeem miles for flights and services. A significant portion of Delta's profits comes from the sale of frequent flyer miles, especially to American Express.
- ✈ **Vacation Packages:** Delta offers vacation packages through third-party consumers, which include flights, accommodations, and other travel-related services.
- ✈ **Maintenance and Support Services:** Delta provides aircraft maintenance, engineering support, and repair services.
- ✈ **Mobile Services and Online Platforms:** Delta offers various distribution channels for ticket sales, including its official website, the Fly Delta mobile app, and third-party travel agencies.

- ✈ **Fleet Operations:** Delta operates a fleet of approximately 1,292 aircraft, including various models from Boeing and Airbus.

3. Macroeconomics Environment (Growth-organic or mergers or acquisitions):

Delta's growth strategy involves a combination of organic expansion and strategic partnerships rather than frequent mergers.

a) Organic Growth Strategies:

- ✈ Heavy investment in sustainable aviation fuel (SAF) to reduce carbon footprint.
- ✈ Focus on business-class and premium travel for higher revenue margins.

b) Mergers & Acquisitions:

- ✈ 2008 Merger with Northwest Airlines – Created one of the largest global airline networks.

4. Industrial competitors

- ✈ **United Airlines (UAL)** – A key rival with an extensive global presence and strong transatlantic partnerships.
- ✈ **American Airlines (AAL)** – The largest U.S. airline by fleet size, competing in both domestic and international markets.
- ✈ **Southwest Airlines (LUV)** – A dominant low-cost carrier in the U.S. domestic market.
- ✈ **International Competitors:** British Airways, Lufthansa, Emirates, Air France-KLM, and Singapore Airlines in long-haul markets.

5. Approximate market share of the company and competitors

- The “Big Four” of aviation—Delta, American, United, and Southwest Airlines—account for nearly 70% of the U.S. airline market.
- Globally, Delta competes with American Airlines and United Airlines as the three largest U.S.-based carriers. Together, these three airlines control a significant portion of the global airline market.
- Delta is a major player in the global aviation industry, with substantial market share in both U.S. and international routes.
- Global market share for Delta is approximately 17.8% of the total global airline capacity, competing with other large international carriers such as Emirates, Lufthansa, and British Airways.

B. RATIO AND VALUATION ANALYSIS (Using ratio analysis and CAPM)

1. Ratio analysis:

✈ Liquidity Ratios:

- **Current ratio (36.91%):** This is exceptionally high, indicating that DLA has substantial current assets compared to current liabilities.
- **Quick ratio (31.56%):** This ratio, which excludes inventory from current assets, is also very high. It suggests that DLA has strong

liquidity and can easily meet its short-term liabilities without relying on inventory sales.

- **Cash ratio (11.51%):** This ratio considers only cash and cash equivalents. It is still a healthy indicator that DLA has sufficient cash reserves to cover immediate obligations.

✈ **Profitability Ratios:**

- **Gross Profit margin (24.61%):** This means that for every dollar of revenue, DLA retains approximately 24.61 cents after accounting for the cost of goods sold.
- **Operating Profit Margin (9.73%):** This indicates that DLA manages its operating costs well but may have room for efficiency improvements.
- **Return on assets (4.59%):** This indicates that DLA generates 4.59% profit for every dollar invested in assets.
- **Return on equity (22.61%):** This is a strong return, showing that shareholders are receiving a significant return on their investment in the company.
- **Return on sales (8.77%):** An 8.77% return on sales means DLA retains 8.77 cents in profit for every dollar of revenue, which is a solid performance.
- **Return on Investment (11.79%):** This indicates the overall return from investments, meaning DLA earns 11.79% on its total investments.

✈ **Solvency Ratios:**

- **Debt to equity (1.49):** This suggests that DLA has \$1.49 of debt for every \$1 of equity. While not excessively high, it indicates a reliance on debt financing, which can increase financial risk.
- **Solvency ratio (36.87%):** This is a good indicator of financial stability. A solvency ratio above 20% is typically considered safe, meaning DLA is well-positioned to meet its long-term obligations.

✈ **Price to earning ratio (8.13):** This relatively low P/E ratio suggests that the company's stock may be undervalued, or investors have lower growth expectations. It may present a good investment opportunity if the company has strong future growth potential.

✈ **Dividend Payout ratio (11.26%):** This indicates that DLA distributes 11.26% of its net income as dividends to shareholders, retaining the rest for reinvestment.

DLA demonstrates strong liquidity, solid profitability, and reasonable solvency. However, the high current and quick ratios may suggest underutilized assets, and the reliance on debt financing (Debt-to-Equity of 1.49) should be monitored. The low P/E ratio could indicate an undervalued stock, while the modest dividend payout suggests a focus on reinvestment rather than shareholder returns.

2. Define CAPM and its importance in Business valuation:

CAPM is a capital asset pricing model that determines the return on investment based on the risk in the market. When making investment decisions, it help investors and businesses to evaluate the relationship

between risk and expected return. CAPM is widely used to estimate the cost of equity, that is essential for capital budgeting and business valuation.

The Beta (1.34) for DAL suggests that the stock is 34% more volatile than the overall market, meaning it experiences larger price swings compared to market movements. A higher beta indicates greater risk but also higher potential returns for investors. The R^2 value of 0.302 means that 30.2% of DAL's returns can be attributed to market fluctuations, while the rest is influenced by other factors. Using the CAPM formula, the expected return (R_a) is calculated as 13.21%, which represents the return an investor should anticipate for holding DAL, given its risk level.

✈ Beta: 1.34

✈ Geomean: 0.85%

✈ R_m : 10.65%

✈ R_f : 3.13%

✈ R_a : 13.21%

3. Identify Free cash flows of the company and analyse it:

DAL's free cash flow has shown significant fluctuations over the years. In 2021, it was slightly positive at \$17,000, but in 2022, it turned negative at -\$3,000, indicating cash constraints. However, in 2023, the company rebounded with \$1.14 million in free cash flow, followed by a strong recovery in 2024, reaching \$2.88 million. This suggests improved operational efficiency or reduced capital expenditures. Despite the recovery, the company's ability to generate consistent free cash flow remains uncertain, given the volatility in net cash flow from operations and

substantial capital expenditures. Monitoring future trends will be crucial to assess whether this improvement is sustainable.

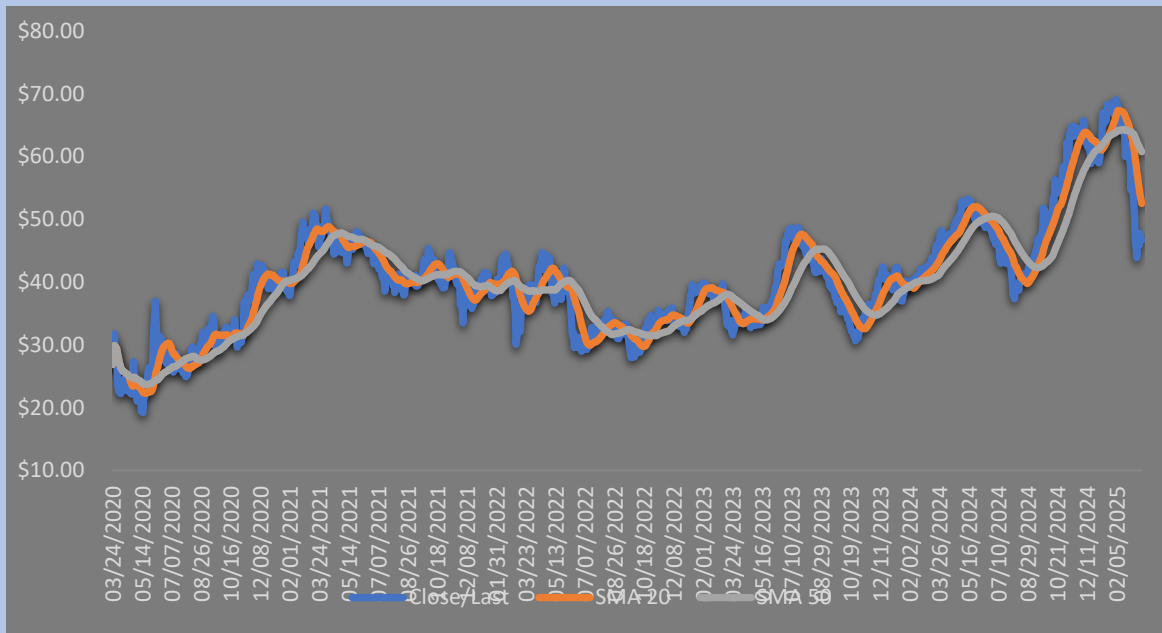
4. WACC

The calculated Weighted Average Cost of Capital (WACC) for DAL is 8.82%, reflecting the company's blended cost of financing from both equity and debt sources.

Weight of debt (D/V)	44.83%
Weight of equity(E/V)	55.17%
Cost of equity	13.21%
After tax cost of debt	3.42%
WACC	8.82%

However, differences between this intrinsic value and the market price of \$43.34 may arise due to various factors. Market sentiment, macroeconomic conditions, industry trends, and investor expectations can influence stock prices beyond fundamental valuation. Additionally, short-term fluctuations, speculative trading, and external shocks may cause deviations from the theoretically derived stock value. If the calculated value is higher than the market price, the stock may be undervalued, presenting a potential buying opportunity. Conversely, if the intrinsic value is lower, the stock may be overvalued, indicating caution.

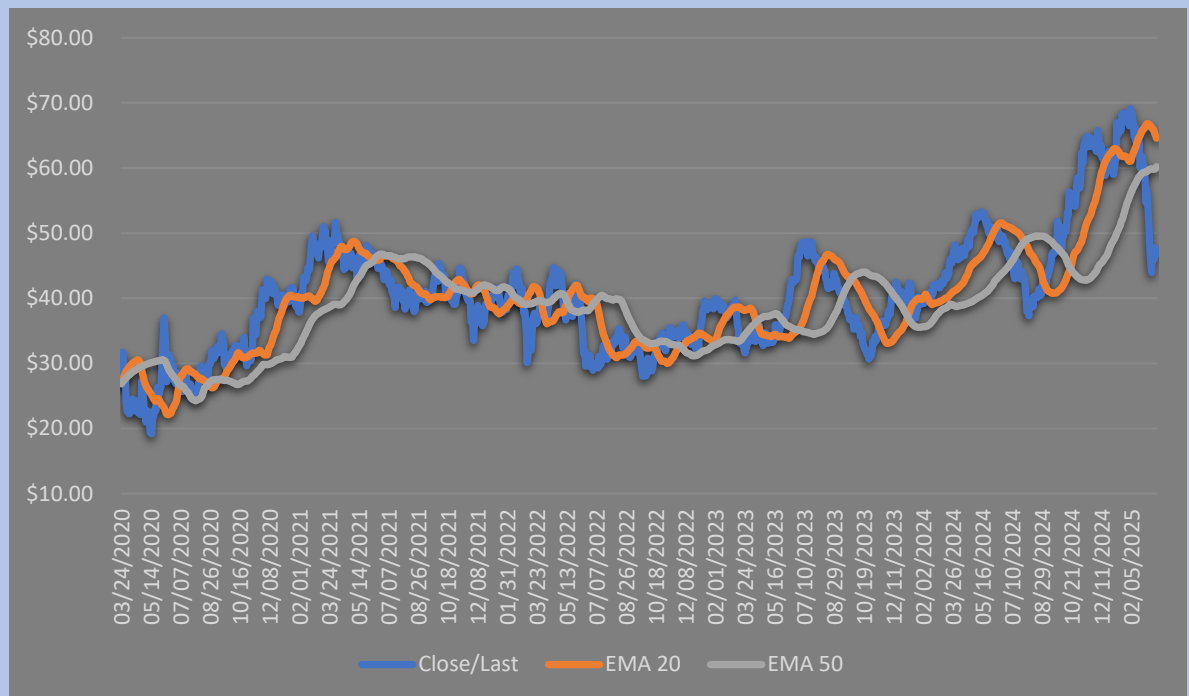
5.SMA 20 and SMA 50



This chart presents the stock price movement over time, along with two Simple Moving Averages (SMA):

- ✈ **SMA 20 (Orange Line):** This represents the 20-day moving average, which reacts more quickly to price changes.
- ✈ **SMA 50 (Gray Line):** This represents the 50-day moving average, which is slower to react and provides a broader trend perspective.
- ✈ When the SMA 20 crosses above the SMA 50, it signals a bullish trend (buy signal).
- ✈ When the SMA 20 crosses below the SMA 50, it signals a bearish trend (sell signal).
- ✈ Several golden crosses (bullish) and death crosses (bearish) appear on the chart, indicating changes in momentum.

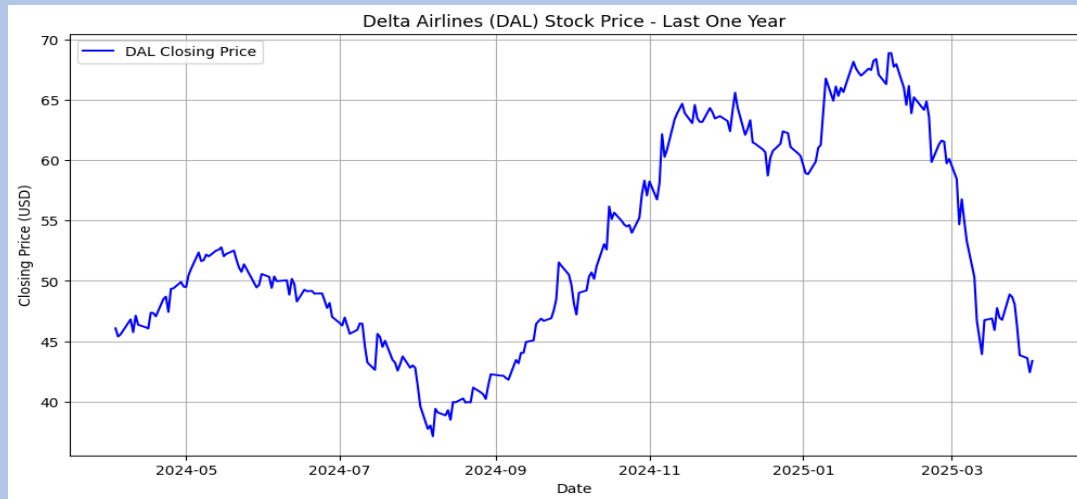
6. EMA 20 and EMA 50



- ✈ **Trend Analysis:** The stock price (blue line) has shown an overall upward trend since 2020, with periods of volatility and corrections.
- ✈ **EMA 20 vs. EMA 50:** The 20-day EMA (orange line) reacts faster to price changes, while the 50-day EMA (gray line) smooths out longer-term trends.
- ✈ **Bullish Signals:** When EMA 20 crosses above EMA 50 (golden cross), it signals upward momentum, observed multiple times, especially in late 2023 and early 2024.
- ✈ **Bearish Signals:** When EMA 20 crosses below EMA 50 (death cross), it indicates potential downtrends, such as in mid-2021 and early 2022.
- ✈ **Current Trend:** The stock experienced a sharp increase in late 2024 but has shown recent volatility.

C. Technical analysis

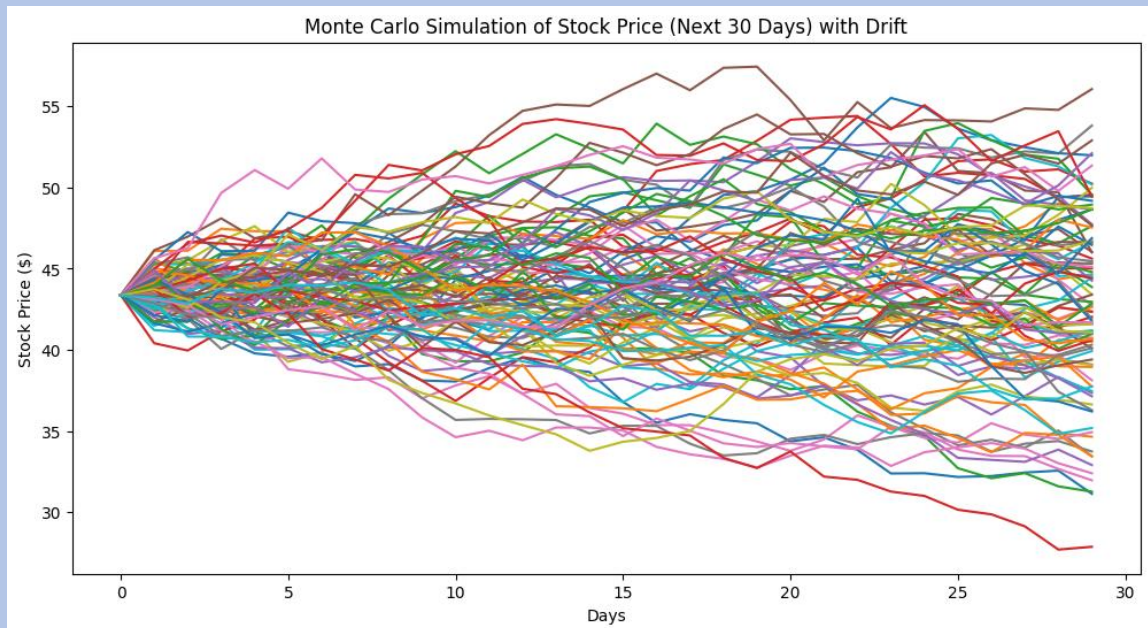
1. Stock Prices over past one year



Based on the visible trends in the graph:

- ✈ **Initial Growth (First Few Months):** The stock price shows an upward trend, reaching above \$50.
- ✈ **Mid-Year Decline:** There is a noticeable dip in the middle of the year, bringing the stock price closer to \$38.
- ✈ **Strong Recovery and Peak:** After the decline, there is a significant recovery, with the stock price peaking at nearly \$70.
- ✈ **Recent Sharp Decline:** In the last few months, the stock has experienced a steep drop, falling back to around \$40.
- ✈ The stock appears to be quite volatile over the year.
- ✈ The mid-year drop could be due to macroeconomic factors, company performance issues, or sector-specific downturns.
- ✈ The strong upward movement toward the end of the year might indicate positive earnings, investor confidence, or favorable industry trends.

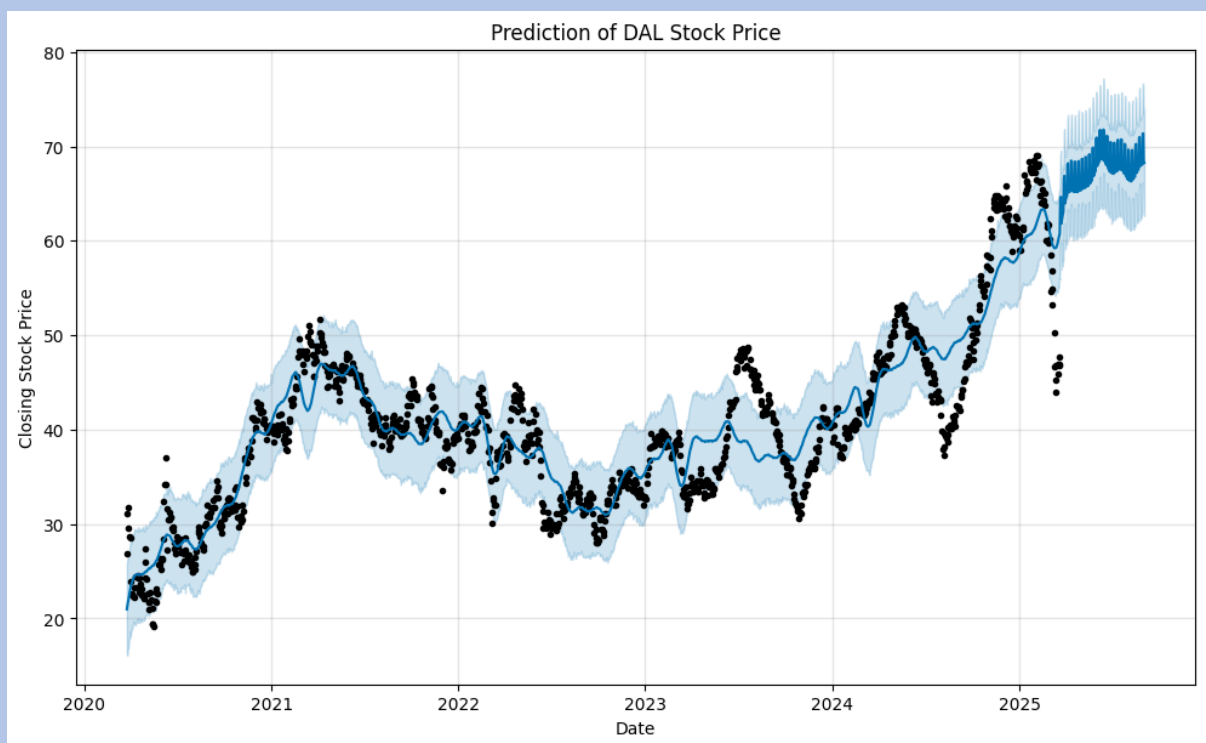
2. Monte Carlo simulations:



- ✈ The mean predicted price is \$42.88, slightly lower than the current price (\$43.37).
- ✈ This suggests a neutral to slightly bearish outlook, meaning the stock might see some downward pressure in the short term.
- ✈ The market appears uncertain, with a wide range of possible movements.
- ✈ 95% VaR (\$32.89): This means that there is a 5% chance that the stock price will drop below \$32.89 in the next 30 days.
- ✈ The upper bound of the 95% confidence interval is \$51.38, indicating that the stock could potentially rise as well.
- ✈ This suggests that while losses are possible, there is still a chance of moderate growth.
- ✈ The wide confidence interval (\$32.89 - \$51.38) highlights that DAL's stock is volatile, making it a risky short-term investment.
- ✈ The probability distribution suggests that while the stock could rise, there is a significant chance of a downward move.

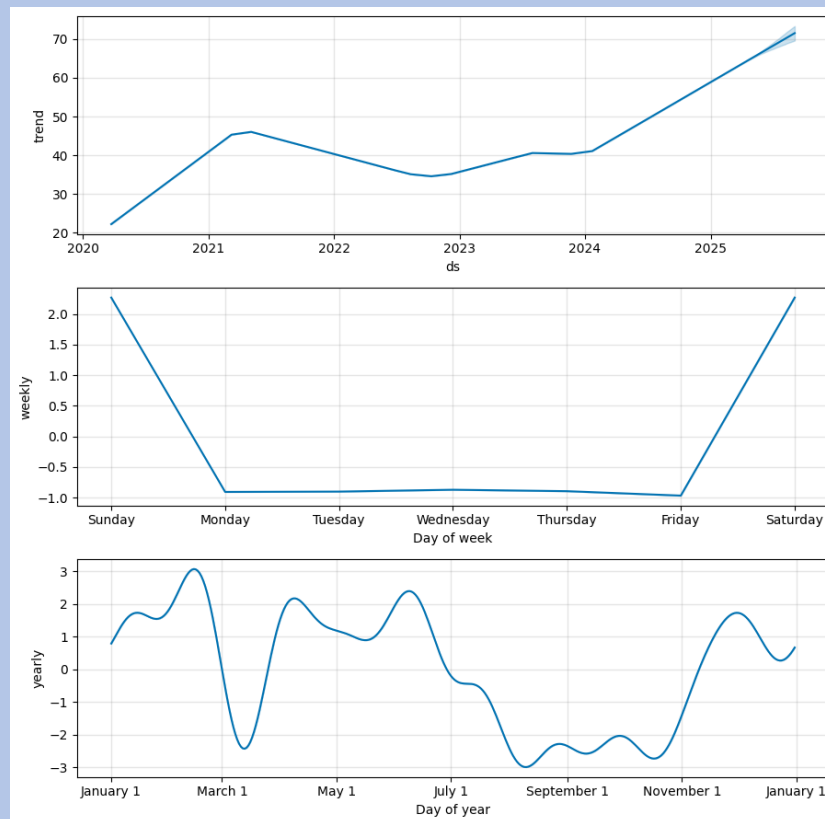
The Monte Carlo simulation graph shows a wide spread of possible stock price movements over the next 30 days, indicating high uncertainty. While some paths suggest a price increase, many others show a decline, with a few droppings significantly. The expected price is slightly lower than the current price, and the downside risk (VaR: \$32.89) is notable, meaning a sharp drop is possible. The upper bound (\$51.38) suggests some growth potential, but overall, the stock appears volatile with a neutral to bearish outlook in the short term.

3. FB PROPHET ANALYSIS



Interpretation of FB Prophet Forecast for DAL Stock Price:

- ✈ The stock price of DAL has shown an upward trend from 2020 to 2025.
- ✈ There were some periods of decline or sideways movement (e.g., mid-2022 and parts of 2023), but overall, the stock price has been rising.
- ✈ The forecast for 2025 suggests continued growth, with the price expected to rise above \$70.
- ✈ The black dots (actual stock prices) indicate that the stock has experienced high volatility, especially from mid-2023 onward.
- ✈ Despite the fluctuations, the forecast suggests strong long-term growth potential.



This image shows three key components of the stock price prediction using FB Prophet:

1. Trend Component (Top Graph)
2. Weekly Seasonality (Middle Graph)
3. Monthly Seasonality (Bottom Graph)

✈ Trend Analysis (Top Graph)

- The stock price shows strong growth from 2020 to 2021, followed by a slight dip in 2022 and 2023.
- Recovery starts in 2024, and by 2025, the stock price is predicted to rise sharply.
- This suggests the stock had a period of volatility but is now in a strong bullish trend.

✈ Weekly Seasonality Analysis (Middle Graph)

- The stock shows positive movement on Sundays and Saturdays.
- Monday to Friday have almost no movement, suggesting that the price does not fluctuate significantly on weekdays.

✈ Monthly Seasonality Analysis (Bottom Graph)

- Stock prices tend to peak in January, March, and May.
- A significant dip is observed around August-September.
- A recovery starts in November and continues into the new year.

4. Recommendations

Delta Air Lines (DAL) presents a strong long-term investment opportunity due to its solid financial performance, strategic initiatives in sustainability and premium services, and positive growth forecasts. The company's fundamentals are sound, with healthy liquidity and profitability ratios, and its long-term outlook is supported by increasing travel demand and innovation in fuel efficiency.

However, DAL operates in a cyclical industry prone to external shocks such as economic downturns, rising fuel costs, and geopolitical events. The stock also shows significant short-term volatility, with a relatively high debt-to-equity ratio (1.49), indicating reliance on debt financing.

Based on the analysis:

- ✈ Long-term investors are encouraged to buy and hold, especially during seasonal price dips (e.g., August–September), as the forecast suggests the stock could rise above \$70 by 2025.
- ✈ Current shareholders should hold, benefiting from long-term growth while riding out short-term fluctuations.
- ✈ Short-term or risk-averse investors might consider selling or avoiding due to potential near-term volatility, as indicated by Monte Carlo simulations (with a 5% Value at Risk showing a potential drop to \$32.89).

Overall, DAL is a strong candidate for long-term portfolios but should be approached with caution in the short term.

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