PUBLIC FIXED INCOME

# Choppy Skies and Silver Linings—the Airline Sector Amid the Pandemic

**December 17, 2020**

## Introduction

The coronavirus pandemic has caused a widespread and intense shock throughout many regions and sectors and has weakened the global economic outlook. The airline sector has been significantly affected given its exposure to travel restrictions and sensitivity to consumer demand and sentiment.

We believe the key points to focus on during the pandemic and the recovery are industry fundamentals (supply/demand), an airline's daily cash burn, liquidity and ability to raise capital, and the capacity for the airlines to remove costs from operations to offset the significant decline in demand. Government support has varied in form and by region and has been vital in helping airlines adjust to the pandemic. Multiple airlines have come to market to enhance liquidity, including in some cases issuing debt backed by frequent-flyer programs.

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As the pandemic and headwinds continue to unfold, we remain cautious. While the advent of vaccines looks promising and should help to reduce fear of global travel, there are still many unknowns including the timing and success of the vaccine rollout. And although consumers appear to have become more comfortable flying despite the pandemic headlines, short-term COVID-19 resurgence through the winter months, coupled with travel restrictions, could continue to impact passenger demand. While cost initiatives could also help reduce cash burn, they could have a disruptive impact on a potential recovery. Before diving into the airline fundamentals, we provide a brief overview of developments around the vaccine, given the bearing on global travel.

## Vaccine Update

On December 11, the U.S. Food and Drug Administration issued an emergency use authorization allowing Pfizer to distribute its COVID-19 vaccine in the U.S. while the Moderna COVID-19 vaccine is expected to gain emergency authorization before year-end. Pfizer concluded a Phase III study of the vaccine, and the results showed its primary efficacy to be 95% effective against COVID-19. Also, Moderna's data from its Phase III clinical trial of its COVID-19 vaccine candidate showed ~94% efficacy. We anticipate final data from this study imminently. The success of both late-stage trials was a positive surprise for the markets, as many expected the efficacy to be in the 50-60% range.

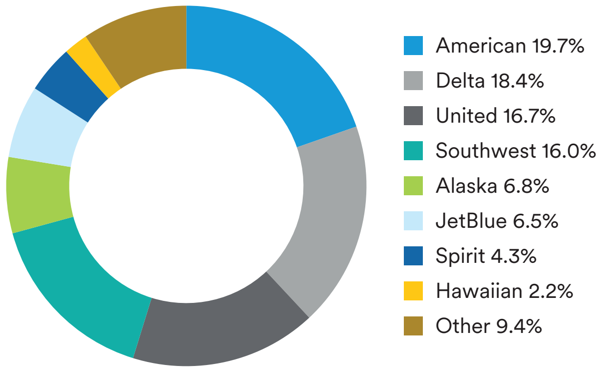
While the clinical trials produced positive data, there are several challenges ahead for these companies as it relates to the supply, including the ramp-up of the manufacturing and the logistical issues in the distribution of these vaccines. Also, it is still yet to be determined who will be first in line to receive the vaccine. However, once the manufacturing ramps up, we expect the vaccine to become more widely available.

In the latest semi-annual report of the airline industry released by the International Air Transport Association (IATA),[1] it anticipates the vaccine should support a global travel recovery in 2021, with its availability in the second half of next year. The IATA believes the vaccine will be the turning point for a demand recovery but expects a gradual recovery due to the time to ramp up the distribution. The IATA also estimates global passenger traffic to be down 66% in 2020 before increasing 50% year-over-year in 2021. Based on these estimates, global passenger demand for 2021 will likely be at roughly 50% of global demand levels in 2019. The current street consensus estimates for 2021 revenue also suggest a vaccine-led recovery in 2021 in the range of 55%-60% of 2019 levels for the large domestic legacy carriers and 65%-75% for the more domestic leisure oriented low-cost carriers.[2]

## Industry Fundamentals

Airlines are an important part of the global economy, transporting 4.4 billion passengers and 62 million tons of freight a year to a variety of destinations, with global airlines directly contributing $704 billion to global GDP (pre-pandemic).[3] By revenue passenger miles, the largest slice of the global market at 35% is dominated by airlines in Asia. U.S. airlines do maintain a higher revenue and profit share vs. passenger share and are estimated to generate ~45%[4] of the global industry's profits, a figure that has been growing prior to the recent crisis, largely reflecting industry restructuring and consolidation over the years. On the right is the domestic market share of U.S. airlines.

**U.S. Market Share Based on 2019 Passenger Demand**




*Source: Bloomberg*

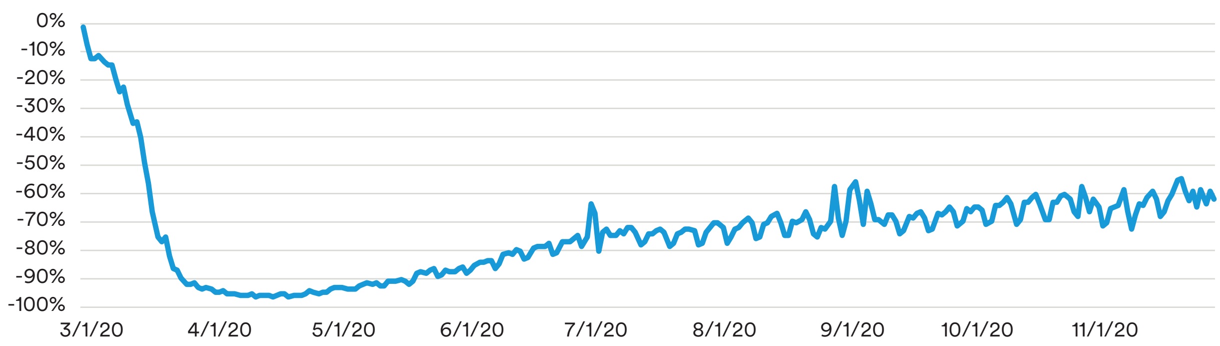
In early 2020, the coronavirus pandemic essentially brought airline passenger demand to a halt as the virus worked its way through China, Asia Pacific, Europe, and North America. In North America, second quarter 2020 passenger traffic declined 95% year-over-year as travel restrictions and stay-at-home policies negatively impacted leisure and business travel throughout the industry. As traffic has recovered from trough levels, the recent resurgence of COVID-19 cases and additional travel restrictions have delayed expectations for a demand recovery to potentially the spring or second half of 2021. We have provided the latest IATA forecast for demand and capacity for the global regions. The key demand indicator for global passenger traffic is revenue passenger kilometers ("RPK") which represents the number of paying passengers carried on a flight multiplied by the number of kilometers those passengers were flown. The airline industry measures capacity based on available seat kilometers ("ASK") which represents the total number of seats available for passengers multiplied by the number of kilometers those seats were flown.

| | Passenger Traffic (RPK) % Year-on-Year | | | | | | | Passenger Capacity (ASK) % Year-on-Year | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020E | 2021F | 2015 | 2016 | 2017 | 2018 | 2019 | 2020E | 2021F |
| **Global** | 7.4 | 7.4 | 8.1 | 7.4 | 4.2 | -66.3 | 50.4 | 6.7 | 7.5 | 6.7 | 6.9 | 3.4 | -57.6 | 35.5 |
| ***Regions*** | | | | | | | | | | | | | | |
| North America | 4.5 | 4.3 | 4.0 | 5.3 | 4.0 | -66.0 | 60.5 | 4.1 | 4.7 | 3.9 | 4.9 | 2.9 | -51.6 | 36.4 |
| Europe | 5.8 | 5.3 | 9.1 | 7.5 | 4.2 | -70.0 | 47.5 | 4.5 | 5.3 | 6.9 | 6.5 | 3.5 | -62.4 | 35.5 |
| Asia-Pacific | 9.6 | 11.1 | 10.8 | 9.3 | 4.7 | -62.0 | 50.0 | 7.5 | 10.1 | 9.0 | 8.7 | 4.4 | -55.1 | 38.4 |
| Middle East | 9.9 | 11.4 | 6.8 | 5.0 | 2.3 | -73.0 | 43.0 | 12.6 | 13.2 | 6.2 | 5.8 | 0.1 | -64.5 | 23.6 |
| Latin America | 6.7 | 4.5 | 7.3 | 7.4 | 4.2 | -64.0 | 39.0 | 6.5 | 3.3 | 5.4 | 7.8 | 3.0 | -60.0 | 34.3 |
| Africa | 3.4 | 7.3 | 5.5 | 6.1 | 4.7 | -72.0 | 35.0 | 2.4 | 6.9 | 2.2 | 4.3 | 4.5 | -62.8 | 21.5 |

*Source: IATA, Includes domestic and international traffic, and all commercial airlines. Historical data is subject to revisions. 11/2020*

In the U.S., travel remains down roughly 66% compared[5] to FY2019 levels as leisure travel has supported a modest recovery. However, the lack of essentially any business and international travel has capped the level of recovery. Airlines have shifted capacity to "sunshine" locations (e.g. Florida, Texas, Phoenix, among others) where they have seen the biggest recovery in demand from leisure travelers. The airline industry appears optimistic that leisure demand will be buoyed by travel in the Caribbean and Latin America; however, the timing and pace of passenger traffic recovery remains uncertain. This uncertainty reflects several variables, including the resurgence of COVID-19 infections, the duration that the virus remains in the population, consumer sentiment about flying, the availability and effectiveness of a vaccine, the return of employees to their offices, the re-opening of leisure destinations, travel restrictions and quarantine guidelines, the re-opening of international borders, and potential secular shifts in business demand. We have been following the Transportation Security Administration (TSA) daily passenger checkpoint data to gauge airline passenger demand in the U.S. (chart below), which shows a gradual increase in daily passenger volumes since the trough in April of 2020.

**TSA Travel Throughput - Year over Year Based on 1 Year Ago - Same Weekday**

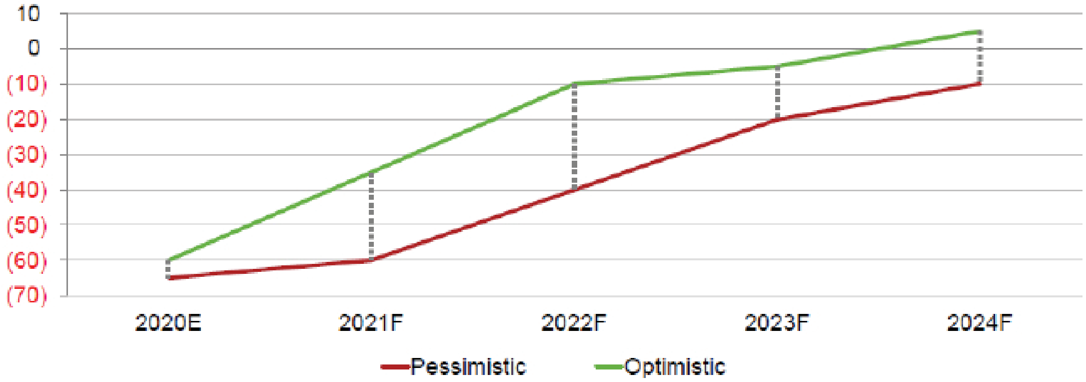



*Source: TSA, as of 11/30/2020*

The chart below shows the estimated pandemic recovery from an airline trade association. There is high variability in potential scenarios over the next one to two years which could lead to a wide range of possibilities regarding the pandemic's financial impact on the airlines. This uncertainty suggests that those carriers with relatively stronger balance sheets and liquidity may face less credit risk than more levered names which may carry lower corporate liquidity. Over the longer term (3-4 years), expectations suggest that by late 2024, demand will have recovered to within 90%-100% of 2019 levels; this is consistent with comments made by several airline executives and industry participants.

**Traffic Recovery Forecast: A4A/Street**

**2021-2022 Clouded by Uncertainty re: State of Pandemic, Vaccination/Therapeutics, Economy**
**Estimated U.S. Airline Industry Passenger Traffic Change (%) vs. 2019 levels**




*Source: JPM HG Credit. The Bumpy Road to Year-End: Airline/Aircraft Leasing Outlook. September 2020.*

The return of business travel will likely be a key driver of any meaningful recovery. While there are few current data points showing the split between business and leisure travel for specific airlines, based on comments from industry leaders we assume that the passenger mix for most legacy airlines is approximately 55% leisure and 45% business demand, with the split being closer to 80%/20% for the more leisure-oriented airlines. Several industry executives have commented that business travel remains down 85%-90% year-over-year.[6] Historically, the business traveler has provided higher revenue yield and profitability for the large U.S. carriers compared to the leisure traveler, compounding the negative financial impact caused by the pandemic. A debate continues within the industry as to whether business travel will ever fully recover since the pandemic has forced companies to adopt other modes of communication, including online meetings. There is concern that some of these modes may remain popular following the pandemic, potentially causing a secular decline in business travel.

The ability for the largest U.S. domestic airlines to fly internationally will likely also be a critical factor in establishing a durable recovery as the legacy airline carriers have historically generated anywhere from 25% to 40% of their revenue from travel to international destinations, while the more leisure-oriented and low-cost carriers generate less than 10% of their total revenue flying internationally.[7] A large portion of global traffic from the domestic U.S. is travel to European countries, among other destinations. Because regional travel restrictions will likely be a factor in the domestic airline carrier's recovery, we will briefly address some of these markets.

## European Airline Environment

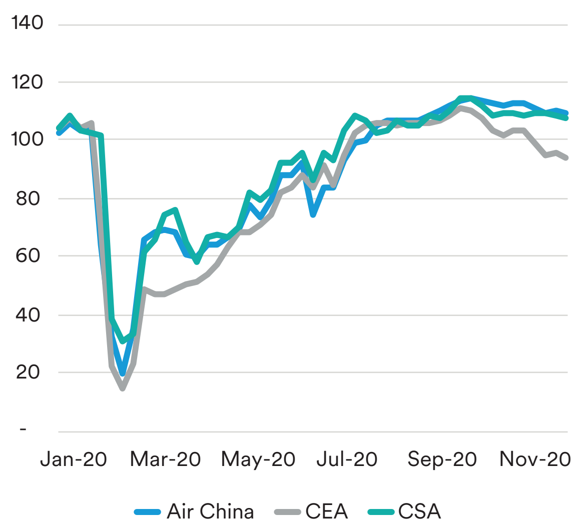
The onset of the COVID-19 pandemic in March had a similar impact on travel throughout Europe as the pandemic did on the U.S. With just over three-quarters of the European market structured towards international journeys, the implementation of travel restrictions in the first quarter of 2020 across Europe saw demand for air travel evaporate in days. Airlines, obliged to ground their fleets as borders closed, saw passenger traffic hit a trough on April 12th. According to air traffic manager, Eurocontrol, the continent's traffic in April fell by 88% relative to the previous year as the market stood still for both the European and wider global airline industry.[8]

Demand figures for European based airlines in the region were similarly depressed in May, and little better in June. European Commission (EC) guidance calling for a ban on all non-essential travel within the borders of the European Union served to almost shut down the market since mid-March. With restrictions beginning to yield lower infection rates the EC decided to lift the guidance from mid-June providing the catalyst for a mini revival. However, the gradual closure of international borders from the second half of August proved to be the end of the modest air traffic recovery in Europe. In the U.K, from mid-August, the introduction of quarantining requirements for many returning travellers from popular international destinations such as France, Italy, and Spain spelt the end for holiday travel in the local market. With the summer fuelling a second wave of COVID-19 transmissions over most of Europe, late October/early November has seen a spate of "second national lockdowns" pursued across Continental Europe and the U.K. With hopes dashed on a strong last quarter to the year for travel, European airlines have revised down expectations swiftly. Europe had initially recovered to almost half of last year's traffic volume in the month of August. Since then, those gains have steadily eroded, with November traffic down 62%. Unquestionably, the outlook looks challenging for the European airline industry for several years, with some observers not expecting a return to pre-pandemic activity levels until 2024, which is consistent with expectations for the U.S. market.[9] Even if vaccine availability changes industry momentum, Europe is expected to lag other regions and it may not be until 2022/23 before we see a more normal environment.

## China Airline Industry

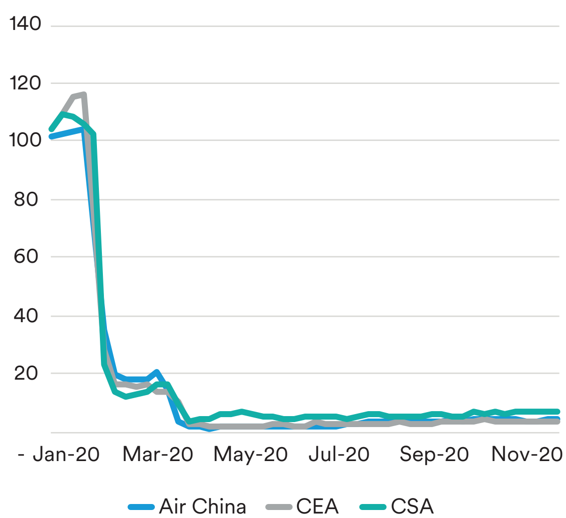
In China, the recovery has essentially made a complete comeback as volumes have rebounded to pre-pandemic levels (see charts below for the three largest Chinese airlines). Chinese domestic airline capacity, load factors and ticket prices have all returned to normalized levels amid lower COVID-19 cases. The data out of China seems to support the bullish thesis that traffic recovery could be faster than airports/airlines currently guide when COVID-19 case growth slows in other places throughout the world, including the U.S.

**Domestic Flight Schedule Recovery Across Big Three Airlines (Index vs. 2019 Average)**




*Source: JP Morgan, as of December 2020*

**International Flight Schedule Recovery Across Big Three Airlines (Index vs. 2019 Average)**




*Source: JP Morgan, as of December 2020*

## Industry Supply

In response to the rapid decline in demand, the airlines have cut capacity by reducing flights, parking aircraft, and limiting seating. While there have been limited retirements and fleet changes since the pandemic started, much of the industry supply of aircraft both globally and within the U.S. will likely shift as airlines adjust to the effects of the pandemic. In 2019 and 2020, aircraft deliveries were muted due to the grounding of the 737 MAX and the challenging industry conditions related to COVID-19. According to the IATA, the global aircraft fleet will decline almost 18% to roughly 24,500 in 2020. The IATA estimates the industry will take delivery of roughly 800 new aircraft in 2020, which is approximately half of the number of deliveries originally planned. For 2021, airlines are scheduled to take delivery of 1,302 new aircraft but given the challenging industry outlook we believe airlines will consider further cancellations or postponements.[10] Global aircraft retirements are expected to accelerate and the average age of retirements is expected to fall. Due to the pandemic, many airlines have deferred capex and aircraft deliveries; however, some airlines continue to expect to take delivery funded primarily through sale-leasebacks. The supply of new aircraft in the following years may also drive retirements of older aircraft, decrease aircraft values, and pressure passenger yields, especially if traffic does not fully recover to pre-pandemic levels.

## Access to Capital Utilizing Various Forms of Collateral

The capital markets have been open to the U.S. airline industry as companies have raised over $108 billion of new capital through equity offerings, government grants and loans, sale-lease back transactions, and secured and unsecured debt issuances. Most of the debt issued was secured by collateral from the airlines consisting of planes, engines, spare parts, slots/gates/routes, and loyalty programs. The CARES Act passed by the government provided $25 billion to U.S. airlines from the Payroll Support Program and an additional $25 billion via a Federal Loan Program with the U.S. Treasury. We believe without this support from the U.S. government, one or more of the U.S. airlines may have had to file for bankruptcy protection as liquidity would not have been sufficient to survive the cash burn and the capital markets may have been unwilling to provide additional capital.

**Capital Raised - FY2020 YTD 11/20/2020 ($ Millions)**

| | | PSP Grants | PSP Loans | Cares Act Loan | Sale - Lease | Debt (ex-govt) | Equity | Total |
|---|---|---|---|---|---|---|---|---|
| American Airlines | AAL | 4,220 | 1,764 | 5,477 | — | 9,240 | 1,650 | 22,351 |
| Alaska Air Group | ALK | 750 | 271 | 1,900 | — | 2,549 | — | 5,470 |
| Delta Air Lines | DAL | 3,800 | 1,757 | — | 1,200 | 24,477 | — | 31,234 |
| JetBlue | JBLU | 704 | 259 | 1,940 | 120 | 3,223 | — | 6,246 |
| Southwest | LUV | 2,377 | 975 | — | 815 | 8,793 | 2,294 | 15,254 |
| Spirit Airlines | SAVE | 271 | 73 | — | — | 1,186 | 357 | 1,887 |
| United Airlines | UAL | 3,601 | 1,543 | 5,170 | — | 12,590 | 2,104 | 25,008 |
| **Total** | | **15,723** | **6,642** | **14,487** | **2,135** | **62,058** | **6,405** | **107,450** |

This chart represents the 7 largest U.S. airlines by domestic market share as of 12/31/19.
*Source: Bloomberg. Note: Cares Act Loans not fully drawn*

### Slots/Gates/Routes – ("SGR")

Having access to slots, gates, and routes remains critical to airline operations and carriers have historically been able to use this "SGR" collateral to secure new debt issuance. However, the intangible nature of these assets and the lack of direct ownership of the underlying collateral has created some skepticism regarding the validity of perfected liens on these assets, which could potentially prevent airlines or creditors from monetizing such collateral as part of a financial restructuring. Though courts have recognized the validity of SGR as collateral in the past, we believe there is a risk that such liens may be challenged in bankruptcy court. The valuation of the SGR collateral uses a range of discount rates and terminal value assumptions where slight changes to the assumptions can shift valuations significantly. Generally, the SGR is appraised based on profitability of the entire network and not valued separately. However, value of slots individually can be roughly estimated. In the past, airlines have sold or divested slots, but transactions and data has been few and far between. We expect the general uncertainty surrounding the valuation of SGR assets to continue.

### Loyalty Programs

Airlines using their loyalty programs as collateral for debt is a relatively new concept. Multiple airlines have already used their loyalty programs as collateral for recent new debt issues. In our view, the loyalty programs are a critical asset to airlines and essential for an airline in case of bankruptcy as they can contribute a significant amount of an airline's total revenue. However, in the event of a liquidation of an airline, these assets would have very little value as the asset doesn't hold much worth for competitors. The cash flow generation of the loyalty programs is relatively strong and stable and is typically dependent on internal contractual agreements that include a price for miles sold and a price paid for miles redeemed.

### Enhanced Equipment Trust Certificate – "EETC"

An Enhanced Equipment Trust Certificate is a securitized structured note issued by airlines to purchase new airplanes or raise funds from existing planes. The airplanes are placed in a SPV trust (lessor) and leased back to airlines (lessee) through equipment notes that are passed on to EETC noteholders, in a mortgage-like arrangement. Modern EETCs (post-2008) are enhanced with cross-collateralization and cross-default lender protections, which prevent airlines from selectively selling or rejecting aircraft or defaulting on certain notes during bankruptcy. EETCs usually have liquidity facilities that fund interest payments (18-months standard) during bankruptcy and can have numerous tranches. Section 1110 of the U.S. Bankruptcy Code allows the airline 60-days to affirm, reject, or renegotiate the EETC, then allows creditors to repossess aircraft. The EETC market in our view, has improved credit protections with every downturn, including the recent crisis.

## Liquidity and Cash Burn is Key to Corporate Credit Profiles

During the pandemic, we have been closely monitoring each airline's corporate liquidity and daily cash burn status as we consider these metrics to be critical indicators of an airline's ability to continue operations. Multiple airlines have successfully raised debt (and some equity) to boost corporate liquidity and we look for signs of profitability improvement and balance sheet repair as the recovery gradually progresses. Daily cash burn has improved since the early stages of the pandemic, driven by higher revenue (vs. April trough), cost cutting initiatives and capex deferral. Daily cash burn includes cash flow from operations, capital expenditures, debt amortization, and excludes grants and other sources of capital. To evaluate the liquidity strength of airlines, we have focused on the "months of liquidity" metric, which is a function of total liquidity and the current daily cash burn guidance. The chart below highlights the relative strength of the major U.S. airlines which we feel appear to have enough liquidity to weather the pandemic-induced storm in the near-term, although a further decline in traffic from current levels could pressure revenue and negatively impact daily cash burn figures, thereby reducing the airlines' liquidity runway. As the recovery could be volatile, we may see airlines seek to raise additional liquidity by borrowing against unencumbered assets. The downside of raising debt to provide liquidity is that some airlines may become over-levered if cash burn and earnings weakness persists, which could de-stabilize capital structures and impact competitiveness. Even after the impact of COVID-19 recedes, we may see airlines struggle to allocate future capital for growth while also paying down the debt incurred during this pandemic.

**3Q'2020 - Debt, Liquidity, Cash Burn ($ Millions)**

| | | 2019 Debt | 3Q'2020 Debt | Cash | Total Liquidity | Daily Cash Burn | Months of Liquidity |
|---|---|---|---|---|---|---|---|
| American Airlines | AAL | 24,315 | 34,786 | 8,792 | 15,600 | 28 | 19 |
| Alaska Air Group | ALK | 1,499 | 3,822 | 3,759 | 5,524 | 4 | 46 |
| Delta Air Lines | DAL | 11,160 | 34,870 | 15,925 | 21,525 | 11 | 65 |
| JetBlue | JBLU | 2,334 | 5,649 | 3,145 | 3,955 | 5 | 26 |
| Southwest | LUV | 2,665 | 10,855 | 14,562 | 15,562 | 10 | 52 |
| Spirit Airlines | SAVE | 2,219 | 3,506 | 2,109 | 2,109 | 2 | 35 |
| United Airlines | UAL | 14,818 | 27,295 | 13,702 | 19,400 | 28 | 24 |

This chart represents the 7 largest U.S. airlines by domestic market share as of 12/31/19.
*Source: Company filings, including 10Ks, 10Qs, earnings reports*

## Significant Reduction in Operating Cost to Adjust to Demand and Preserve Cash

The airlines have taken quick action to reduce costs in wake of the rapid decline in passenger traffic. In aggregate, airlines have reduced year-over-year operating expenses around 50% since the pandemic started.[11] While a good portion of the cost reduction was in variable cost components such as fuel, passenger commissions/selling, landing fees, and maintenance, the airlines have been able to adjust fixed costs, including salaries and benefits expenses. The Payroll Support Program prohibited the airlines from involuntary layoffs through September 30, 2020. As the industry awaits a potential CARES Act II government deal, some airlines have announced additional furloughs and layoffs with contingencies to bring these employees back if a deal is passed. Other airlines have avoided involuntary layoffs and are either going to try to maintain their infrastructure for the recovery or are delaying layoffs in anticipation of added stimulus. Many airlines have also delayed discretionary expenditure on aircraft or have parked the fleet permanently, avoiding the maintenance expense on their older fleet. The following provides a brief overview of the U.S. airline cost structures and savings by operating expense for 2Q'20 vs 2Q'19.

| | AAL | | | DAL | | | LUV | | | UAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Operating Expenses - 2Q'20 vs. 2Q'19** | **2019** | **2020** | **%Chg** | **2019** | **2020** | **%Chg** | **2019** | **2020** | **%Chg** | **2019** | **2020** | **% Chg** |
| Salaries, benefits and related | 3,200 | 2,538 | -20.7% | 2,752 | 2,086 | -24.2% | 2,068 | 1,714 | -17.1% | 3,057 | 2,170 | -29.0% |
| Fuel | 1,995 | 217 | -89.1% | 2,291 | 372 | -83.8% | 1,136 | 257 | -77.4% | 2,385 | 240 | -89.9% |
| Regional expenses | 1,886 | 801 | -57.5% | 905 | 497 | -45.1% | — | — | 0.0% | 715 | 388 | -45.7% |
| Contracted services | — | — | 0.0% | 657 | 344 | -47.6% | — | — | 0.0% | — | — | 0.0% |
| Passenger commissions and selling | 401 | 43 | -89.3% | 538 | 45 | -91.6% | — | — | 0.0% | 442 | 31 | -93.0% |
| Landing Fees | 535 | 315 | -41.1% | 442 | 350 | -20.8% | 357 | 275 | -23.0% | 660 | 429 | -35.0% |
| Maintenance | 575 | 287 | -50.1% | 434 | 43 | -90.1% | 310 | 140 | -54.8% | 421 | 110 | -73.9% |
| Rent | 334 | 334 | 0.0% | 107 | 96 | -10.3% | — | — | 0.0% | 73 | 47 | -35.6% |
| Depreciation/ Amortization | | | | | | | | | | | | |
| Other | 1,271 | 568 | -55.3% | 1,569 | 685 | -56.3% | 768 | 220 | -71.4% | 1,546 | 528 | -65.8% |
| **Total Operating Expense ex D&A** | **10,197** | **5,103** | **-50.0%** | **9,695** | **4,518** | **-53.4%** | **4,639** | **2,606** | **-43.8%** | **9,299** | **3,943** | **-57.6%** |

*This chart represents the 4 largest U.S. airlines by domestic market share as of 12/31/19.*
*Source: Company filings, including 10Ks and 10Qs*

## Conclusion

COVID-19 has created a multitude of challenges for the airline industry by effectively grounding air travel during the early stages of the pandemic. Reflecting on the important role airlines serve in global commerce and connectivity, the major U.S. airlines have benefited from an initial round of government support as well as strong access to the capital markets. While aggressively raising debt has provided significant liquidity cushions for most of these airlines, the uncertainty surrounding the timing and pace of an eventual recovery lingers. Some airlines may emerge from this crisis with excessive debt and potentially constrained capital structures, which may impact operating decisions at these companies for years to come. How airlines grapple with the continuing impact of the pandemic, how quickly an effective vaccine can be widely distributed as well as the magnitude of a recovery in business travel will likely have long-term implications for this sector. Looking forward, though the uncertain future keeps us cautious, the recent advent of several promising vaccines may reveal a silver lining amid choppy skies.

### Endnotes

[1] IATA, Economic Performance of the Airline Industry – released November 24, 2020
[2] Bloomberg consensus estimates
[3] Air Transport Action Group and IATA; BofA Global Research, US Airlines Primer – 3rd edition. May 2019
[4] BofA Global Research, US Airlines Primer – 3rd edition. May 2019
[5] IATA, as of 11/30/2020
[6] Company 3rd quarter earnings conference calls
[7] Company filings including 10-K and 10-Qs
[8] Eurocontrol Draft Traffic Scenario for Airport Passenger Traffic, published 14 September, 2020
[9] Eurocontrol Forecast flight activity for Europe 2020-24, published 4 November, 2020
[10] IATA, Economic Performance of the Airline Industry – released November 24, 2020
[11] Company filings: 10Ks and 10Qs for AAL, ALK, DAL, JBLU, LUV, SAVE, UAL

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