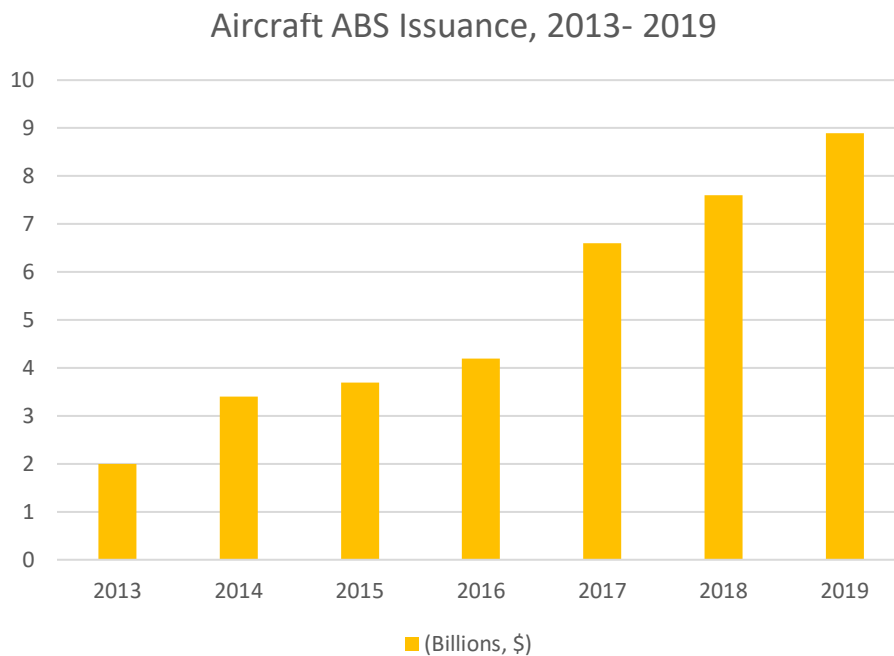


Alternative and Emerging Asset Class Spotlight: Aircraft ABS

The coronavirus outbreak has significantly disrupted global travel, and this has had a negative impact on the airline industry. For the time being, aircraft ABS are insulated from this negative credit event. This protection stems from the “hell or highwater” provisions found in long-term operating leases made to airline lessees that comprise the collateral of these securities as well as in the ABS structure that is designed to absorb losses due to lessee bankruptcy. However, a prolonged and widespread slowdown in global air traffic, leading to much higher than expected lessee defaults, would negatively impact aircraft ABS structures. Read below for a primer on Aircraft ABS.

Overview

Aircraft ABS issuance neared \$9 billion in 2019, 15% over 2018’s level and a 26% over 2017. For the past several years, supply has steadily increased to meet rising investor demand, attracting more issuers to the ABS market and driving down funding costs. Investors have been attracted by the sector’s attractive yield level relative to other similarly-rated securitization asset classes and strong credit performance on the underlying assets.



Source: Deutsche Bank

The below chart from Boeing Capital Corporation shows the various sources of financing for this sector. External financing is typically used by airlines to manage and replenish their fleet. The percentage of overall funding that comes from capital markets, which includes secured and unsecured debt transactions, has grown to almost a third of the total funding source. ABS supply has been led by larger, established issuers seeking to diversify funding sources. Recent years have seen ABS offerings from new entrants attracted by the sector's low funding costs.

Sources of industry delivery financing

Historical share of funding by capital provider

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019F
Cash	26%	25%	26%	25%	24%	23%	28%	26%	27%	26%
Capital Markets	14%	15%	18%	19%	28%	34%	30%	24%	28%	30%
Bank Debt	26%	27%	23%	30%	33%	30%	33%	44%	39%	34%
Export Credit	34%	33%	33%	26%	15%	13%	8%	4%	4%	7%
Insurance								1%	2%	3%
Manufacturer	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%
Total Revenue USD billions	\$62	\$77	\$96	\$104	\$115	\$122	\$122	\$122	\$126	\$143

Source: Boeing Capital Corporation, [Current Aircraft Finance Market Outlook 2019](#)

The Collateral and Structure

The diagram below shows a streamlined aircraft ABS structure. The leasing company typically acts as the seller and services the aircraft fleet. A special purpose vehicle (SPV) is established that purchases the aircraft and the rights to the lease payments in a true sale from the seller. The SPV finances the purchase of these assets by selling debt and equity interests in the pool. After the completion of the sale, the SPV becomes the lessor of the securitized fleet. Cashflows from lessees' payments and sales of aircraft from this fleet are used to fund maintenance and operational expenses, the aircraft ABS transaction expenses and the principal and interest payments on the tranching notes.¹ Investors are able to choose their investment based on their specific risk tolerance and return objective.

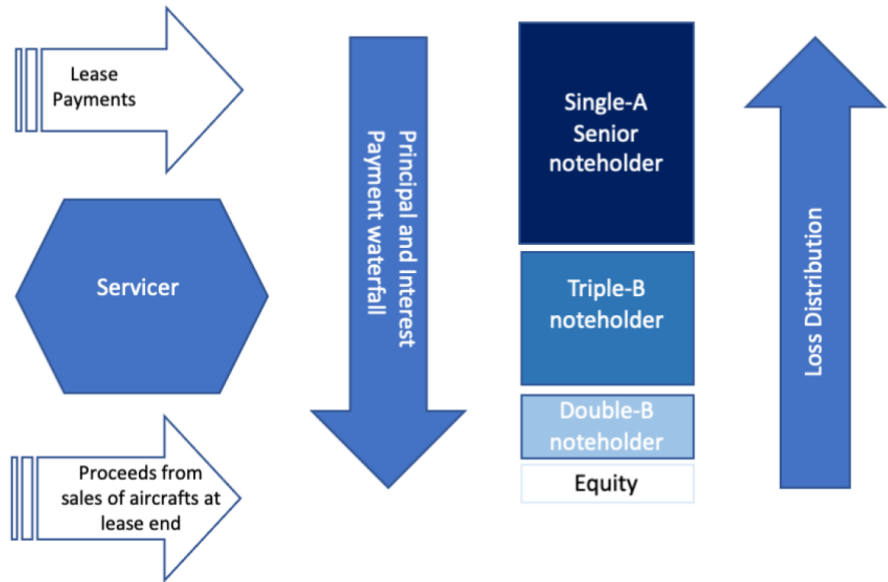
As with all securitizations, aircraft ABS contain structural credit enhancement features, such as overcollateralization, cash reserves, and performance triggers, that act to mitigate default risk on the senior tranches. Concentration limits apply in the event of re-leasing, aircraft sales or aircraft substitutions. Principal and interest payments on the bonds are structured so that higher-rated senior noteholders are paid before lower-rated junior noteholders and any losses to the trust are absorbed first by the equity noteholder or the most junior noteholder.

¹ <https://documents.krollbondratings.com/report/2266/abs-global-aviation-abs-rating-methodology>, p10

Aircraft ABS 2020-1

Typical Asset Composition

- Diversified pool of 25-50 aircraft on lease to 15-20 airlines across 10-20 countries
- Avg Age of aircraft ~10 yrs
- Avg Remaining Term on Lease ~ 5 yrs

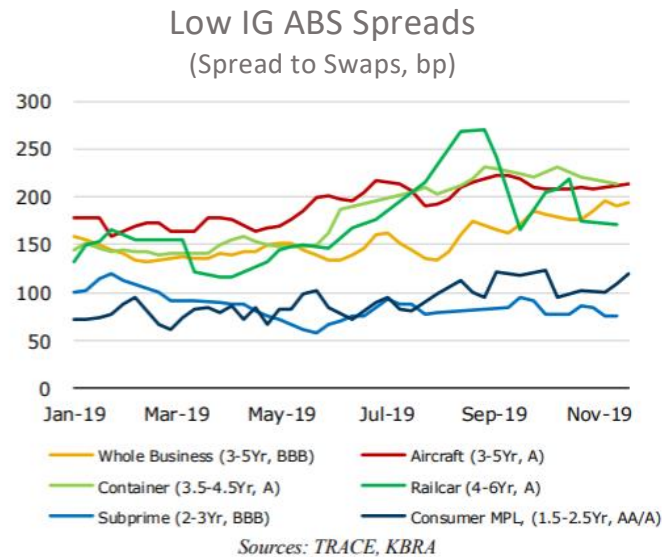


Aircraft operating leases are typically “hell or highwater leases”. Therefore, unlike consumer lease payments, lessees are contractually obligated to continue making lease payments irrespective of any difficulties the lessee may encounter. These payments, which are also considered the lessors’ revenues are protected for the full term of the lease, generally up to 12 years, and insulates the lessor from concerns around the lessee’s failure to pay due to an event other than bankruptcy. For example, even if an aircraft is grounded for a prolonged period—i.e., more than six months—the airline is obligated to pay the sum intended to make the lessor whole, usually within 120 days. Only when the lessor receives full payment is the lease terminated.²

Benefits of Investing in Aircraft ABS

Aircraft ABS allows investors access to investment grade debt collateralized by highly regulated long-dated assets. Investors that take time to understand the nuances of this sector and decide the investment(s) meet their desired risk tolerance will be compensated with higher yields over similarly rated ABS bonds. The graph below shows that single-A rated senior aircraft ABS notes can pay up to 150 bps more than similarly rated ABS backed by marketplace loans or subprime auto loans.

² <https://asreport.americanbanker.com/news/aircraft-lease-abs-shielded-from-boeing-max-not-so-simple>



Pools are typically diversified across aircraft types, age, and geographical regions. The portfolio composition determines the rental income from existing lease contracts as well as the sale proceeds from assets near their lease termination dates – the primary components of the transaction’s cash flow. Aircraft ABS has expanded recently from narrow body newer technology planes to include various types and ages of aircraft. All commercial aircraft ABS transactions in 2018 were comprised of mid-life aircraft (6 to 18 years) with a bit of new and end-of-life aircraft included as well. Investors support the inclusion of older aircrafts in securitized pools as this typically bring higher returns. A more diversified pool also allows lessors to more efficiently manage their fleet and sell older aircraft using the ABS market into the long term.³

Aircraft ABS also demonstrate historical high recoveries as a result of generous collateral arrangements and regulatory protection. Recovery rates on the structured debt instruments issued by a single airline (enhanced equipment trust certificate or EETCs) from 1994 through 2014 were 99.8% for “A” tranches.⁴ Aircraft ABS also offers investors a way to diversify away from consumer-based ABS which is beneficial in a broad economic downturn or recession. For example, the values of the most marketable aircraft models typically declined 10-20% during both the 2001-05 and the 2008-14 market downturns, reflecting relatively resilient demand even in periods of historically weaker air travel.⁵

What Are the Risks in this Sector?

Any event that curtails air travel, however, is negative for the airline industry. Events such as terrorist attacks, and global pandemics, such as SARS, Bird Flu, and most recently COVID-19, pose heightened risks for the airline industry, especially if air travel is suspended for a prolonged period of time. The impact of COVID-19 has been particularly negative. As the virus has spread beyond China, with many countries, including the United States, instituting strong measures of containment, demand has fallen precipitously. Global airline industry trade representative International Air Transport Association (IATA) estimated that global airline

³ <https://documents.krollbondratings.com/report/15644/abs-alternate-channels-the-evolution-of-aircraft-sales-and-fleet-management>, p2

^{4,5} [https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/\\$File/ey-aviation-finance-as-a-long-term-investment.pdf](https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/$File/ey-aviation-finance-as-a-long-term-investment.pdf), p.6-7

revenue will decline between \$63 billion and \$113 billion if the spread widens, or a 19% loss in worldwide passenger revenue, a level last seen in the Global Financial Crisis (see table below).

For the time being, aircraft ABS are insulated from this negative credit event. This protection stems from the “hell or highwater” provisions found in long-term operating leases made to airline lessees that comprise the collateral of these securities as well as in the ABS structure that is designed to absorb losses due to lessee bankruptcy. However, a prolonged and widespread slowdown in global air traffic, may lead to higher than expected lessee defaults particularly for weaker, smaller airlines with exposure to impacted regions. According to Fitch, the continuation of notable airline bankruptcy filings in the past three years, select higher airline defaults in a few aircraft ABS pools, and aircraft groundings have all tested aircraft ABS performance and placed a heightened importance on lessor servicing abilities.⁶ This experience will be instructive during a period of heightened market volatility

Extensive Spread Scenario

MARKET	IMPACT ON PASSENGER NUMBERS	IMPACT ON PASSENGER REVENUES
Australia, China, Japan, Malaysia, Singapore, South Korea, Thailand, Vietnam	-23%	-\$49.7 billion
Rest of Asia Pacific	-9%	-\$7.6 billion
Austria, France, Italy, Germany, Netherlands, Norway, Spain, Switzerland, Sweden, the United Kingdom	-24%	-\$37.3 billion
Rest of Europe	-9%	-\$6.6 billion
Bahrain, Iraq, Iran, Kuwait, Lebanon, the United Arab Emirates	-23%	-\$4.9 billion
Rest of Middle East	-9%	-\$2.3 billion
Canada and US	-10%	-\$21.1 billion

Source <https://www.iata.org/en/pressroom/pr/2020-03-05-01/>

Note: Note: Revenue loss figures are not additive due to overlaps of some markets, e.g., revenues for China and Germany both contain the revenues for the China-Germany market. Revenues are base fare revenues for all airlines flying to, from and within the country.

Recent Market Innovations

As the ABS markets have developed into an established vehicle for aircraft debt financing, the sale of equity in the ABS market has also expanded. An equity stake allows lessors to retain portfolio servicing, and thereby, relationships with the airlines leasing the planes. In addition, lessors can collect a servicing fee from the transaction. The development and evolution to tradable equity began in 2018 with GECAS’s Start transaction (STARR 2018-1) and Air Lease’s second Thunderbolt (TBOLT 2018-A) issuance with other issuers replicating the same features pre- or post-closing. Tradable equity, which is assigned a CUSIP number, allows an investor to purchase smaller positions in ABS equity and has created a secondary market for the investments. The equity issuance typically includes an anchor investor, who acts on behalf of the equity holders regarding decisions in which consent is required, as well as the possible inclusion of an issuer board seat within the securitization itself.⁷

Considerations for the Sector

⁶ <https://www.fitchratings.com/site/re/10111768>

⁷ <https://documents.krollbondratings.com/report/15642/abs-aircraft-abs-2019-outlook-we-ve-reached-our-cruising-altitude>, p4

Aviation debt is a niche asset requiring extensive market knowledge to access the markets and assess the contractual features and collateral offerings. For example, take the case of residual value, an important element when analyzing an aircraft ABS bond as proceeds derived from the sale of an aircraft contributes meaningfully to the cash flow in a securitization. There are several critical factors in predicting the residual value of aircrafts including: regulatory changes, the life of the fleet and where the aircraft is in its life cycle, popularity with airlines and a readily available secondary market.⁸ Unlike the used auto market, there is no market observable price for aircraft values. Institutional investors that find it challenging to determine the required “fair value” of an aircraft may adopt a mark-to-model approach, which can be challenging due to lack of industry transparency and available data.⁹ Factors that need to be considered when making a valuation assessment include: presence of structural features such as a liquidity facility, payment priority of the noteholder, credit quality of the airlines leasing the underlying pool of aircraft, and the leasing companies’ ability to service the portfolio.¹⁰

In Summary

Aircraft ABS has become an increasingly important source of funding for airlines and the airline industry. The asset class provides investors with opportunities away from consumer-based securitization investment and unsecured corporate bonds. Supported by strong performance and robust credit fundamentals, aircraft ABS saw record volumes in 2018 and 2019. **This sector will be tested by the coronavirus outbreak to the extent that the disruption in air travel is prolonged and widespread.** As it’s too early to determine the full impact of the coronavirus situation on this asset class, the Structured Finance Association (SFA) will continue to monitor the situation and its impact on securitization.

About the Structured Finance Association

SFA is the leading securitization trade association representing over 370 member companies from all sectors of the securitization market. Our core mission is to support a robust and liquid securitization market and help members and public policymakers grow credit availability and the real economy in a responsible manner. SFA provides an inclusive forum for securitization professionals to collaborate and, as industry leaders, drive necessary changes, advocate for the securitization community, share best practices and innovative ideas, and offers professional development for industry members through conferences and other programs. For more information, visit www.structuredfinance.org.

Contacts

Michael Bright

CEO

michael.bright@structuredfinance.org

202.524.6301

Kristi Leo

President

kristi.leo@structuredfinance.org

917.415.8999

Elen Callahan

Managing Director, Head of Research

Elen.Callahan@structuredfinance.org

347.529.4553

Alyssa Acevedo

Vice President, Policy Development

alyssa.acevedo@structuredfinance.org

202.524.6309

⁸ [https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/\\$File/ey-aviation-finance-as-a-long-term-investment.pdf](https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/$File/ey-aviation-finance-as-a-long-term-investment.pdf), p10

⁹ [https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/\\$File/ey-aviation-finance-as-a-long-term-investment.pdf](https://www.ey.com/Publication/vwLUAssets/ey-aviation-finance-as-a-long-term-investment/$File/ey-aviation-finance-as-a-long-term-investment.pdf), p. 8

