The Continued Evolution of Commercial Operating Leasing

18th January 2017

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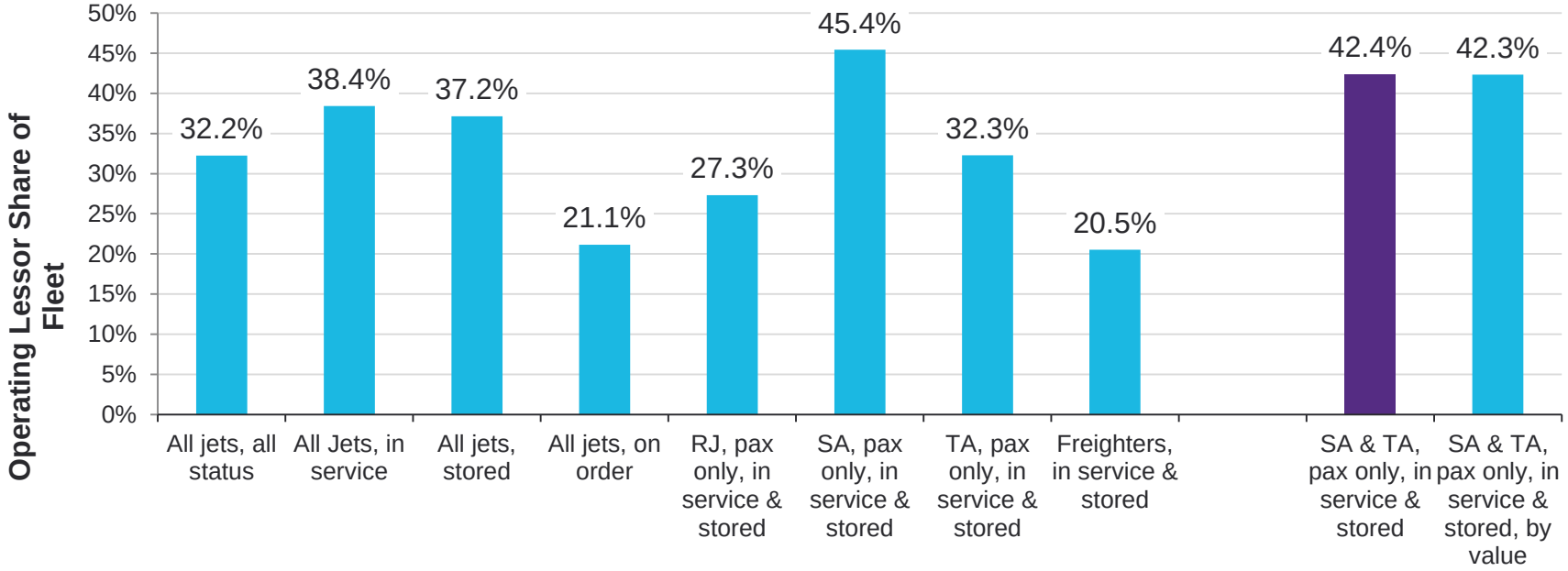
- Definitions
- Operating Leasing Fleet & Dynamics
- Competitive Landscape
- Operating Leasing Outlook

Definitions

Operating leasing is what share of the market?

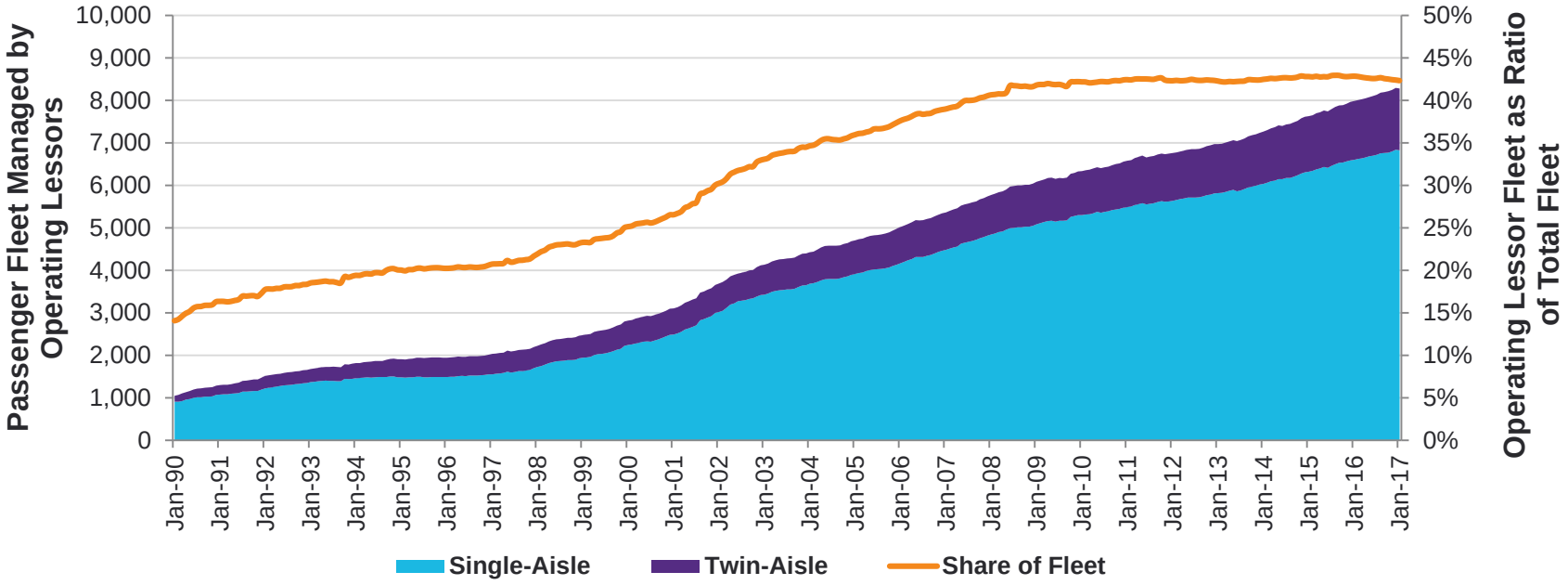


Typically use single and twin-aisle, in service / stored, by units = 42.4% today

Source: Flight Fleets Analyzer, 6th January 2017

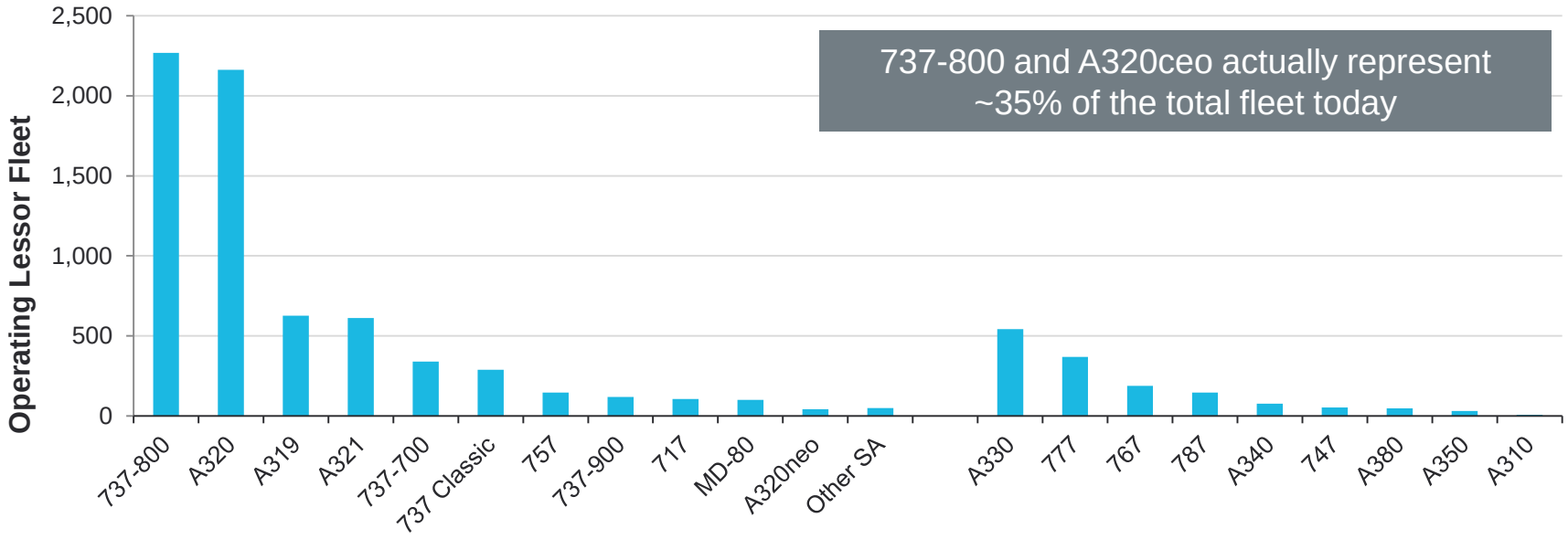
Operating Leasing Fleet & Dynamics

Operating lessor share of fleet has stagnated since peak in 2009



Source: Flight Fleets Analyzer (passenger aircraft in service / stored)

737-800 & A320ceo represent more than half of the lessor fleet today



Source: Flight Fleets Analyzer (passenger single and twin-aisles only, in service / stored)

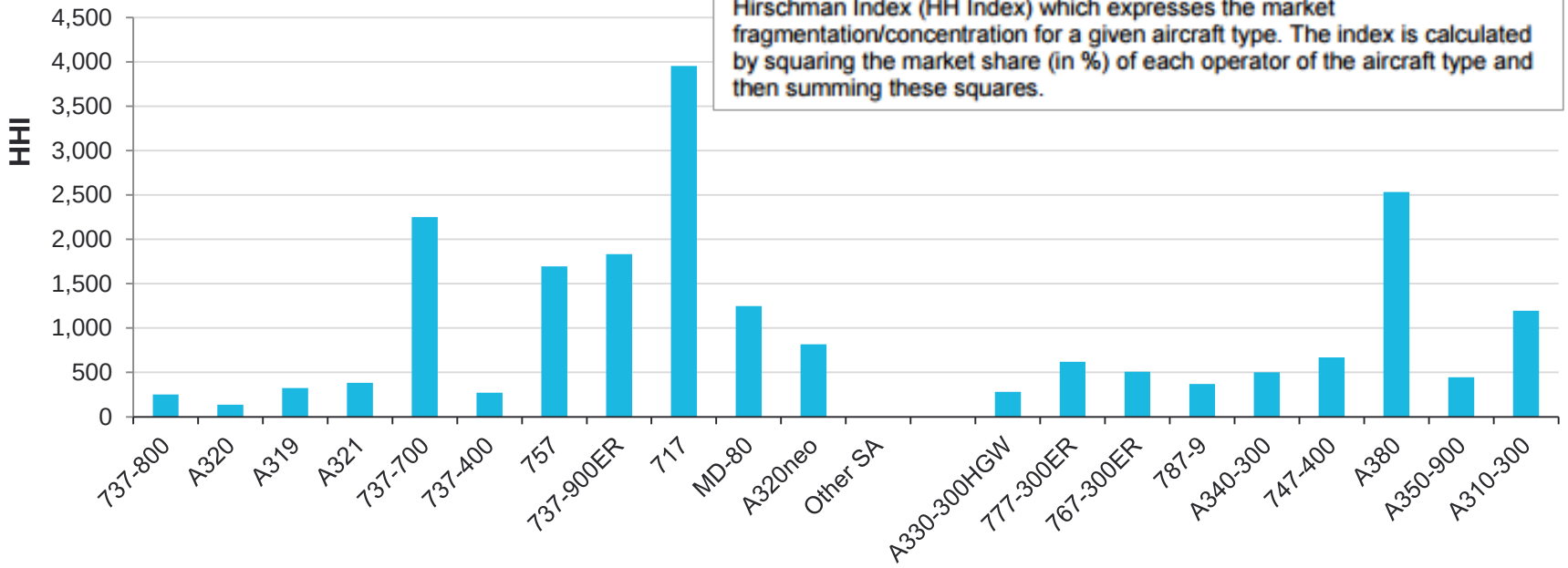
How do lessors select their assets?

- Lessors favour assets that have liquidity
- The aircraft most preferred by lessors today are single-aisles
  - A320 and 737 families
- Lessors business model drives portfolio strategy, can differentiate on
  - Age
  - Aircraft category (Regional, Widebody, Turboprop, Helicopter)
- Volatility of values must be considered in hand with depreciation
  - Ratings estimate downside risk on future base value
- Capital markets are the main financing source to purchase these assets

The Herfindahl-Hirschman Index (HHI) is a recognised measure of liquidity

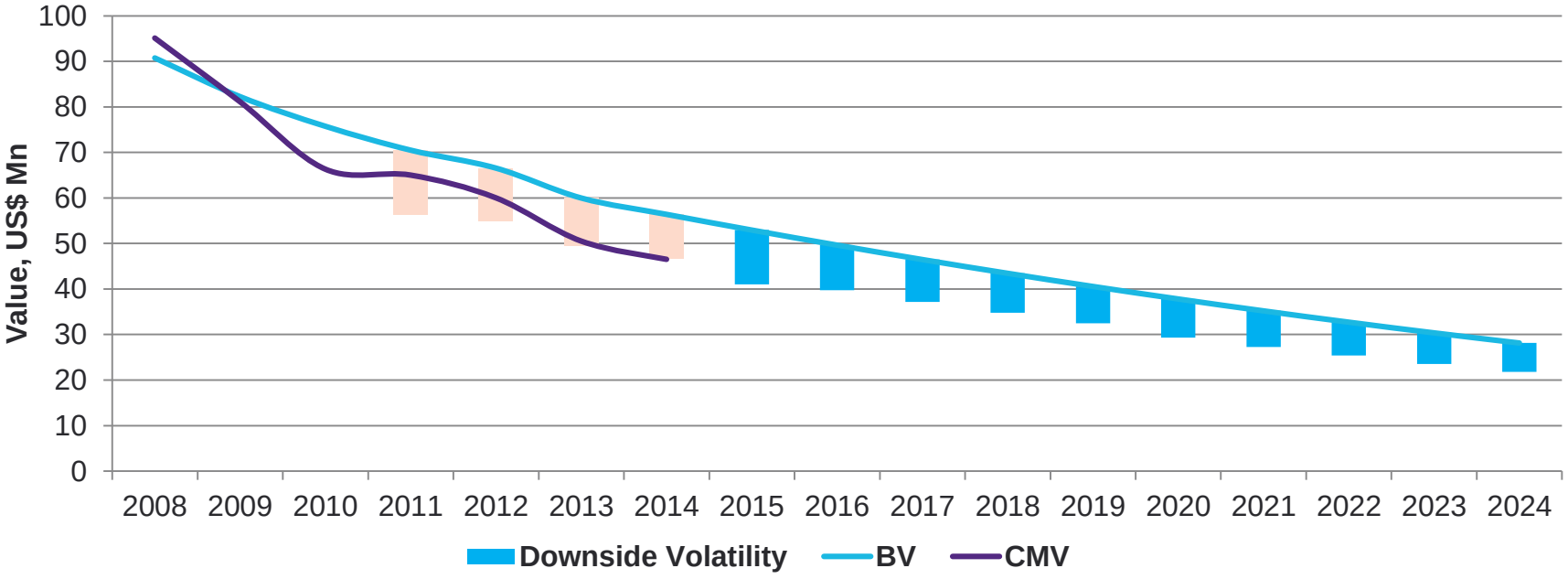
Herfindahl-Hirschman Index (HHI)

As one measure for liquidity for an aircraft type, we use the Herfindahl-Hirschman Index (HH Index) which expresses the market fragmentation/concentration for a given aircraft type. The index is calculated by squaring the market share (in %) of each operator of the aircraft type and then summing these squares.



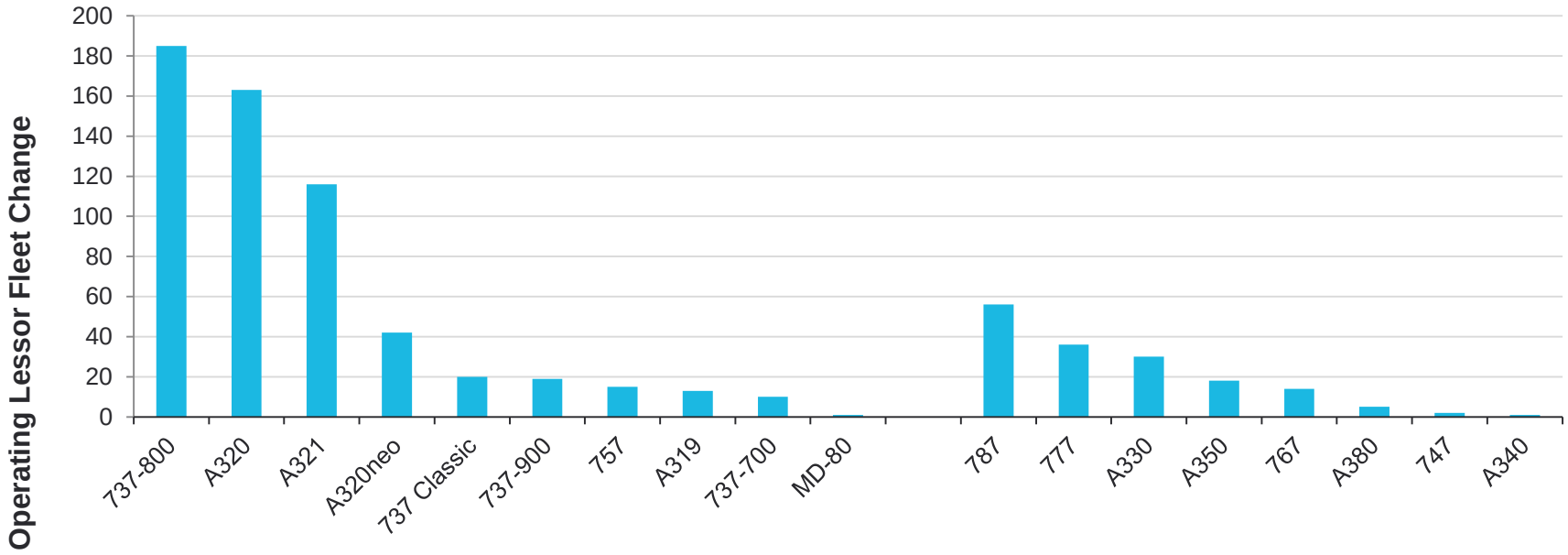
Source: Flight Ascend Consultancy analysis

Ratings use historical volatility to forecast a downside risk envelope



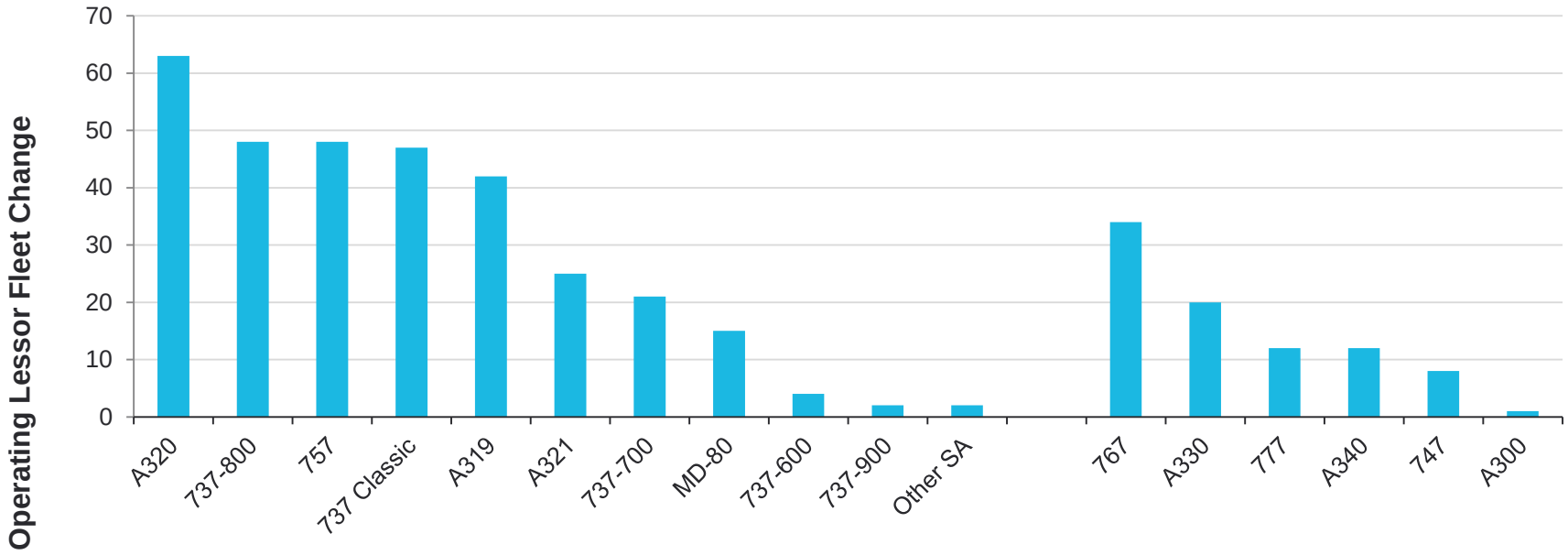
Source: Ascend Values & Ratings, 2008 build A330-200 (PW), 2% future inflation

750 aircraft added to lessor portfolios in 2016….



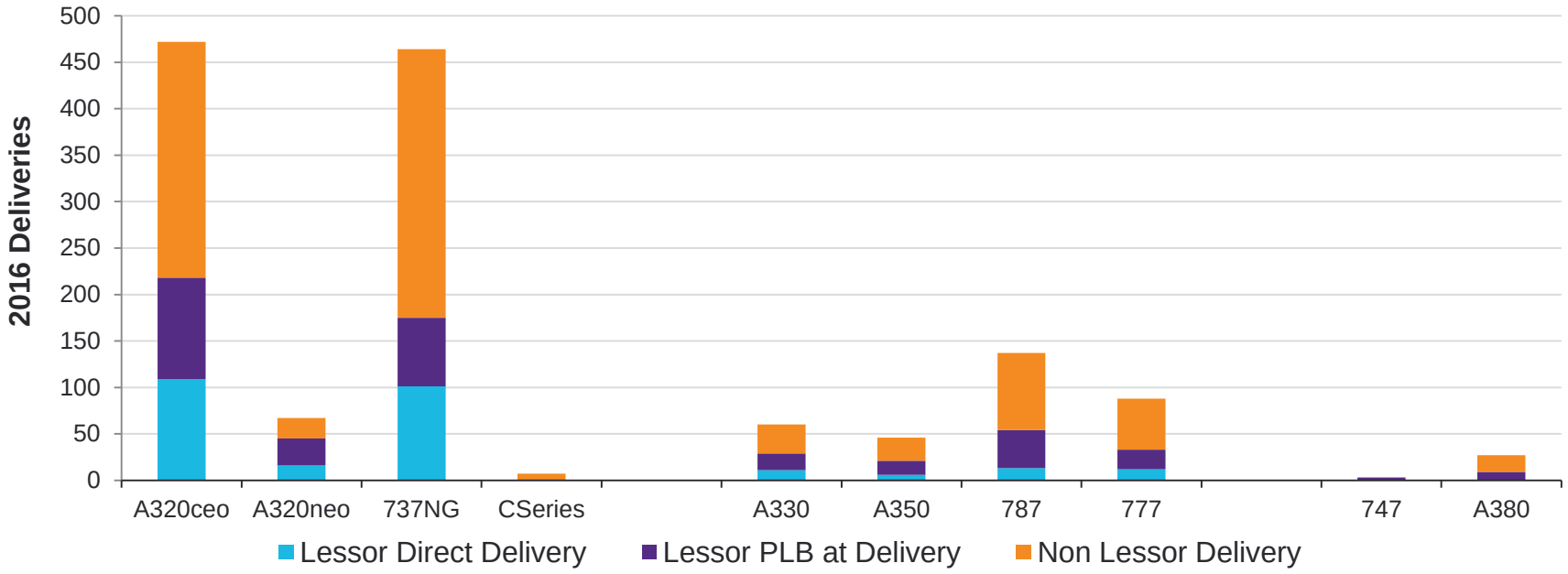
Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

….but 400 aircraft exited the portfolio



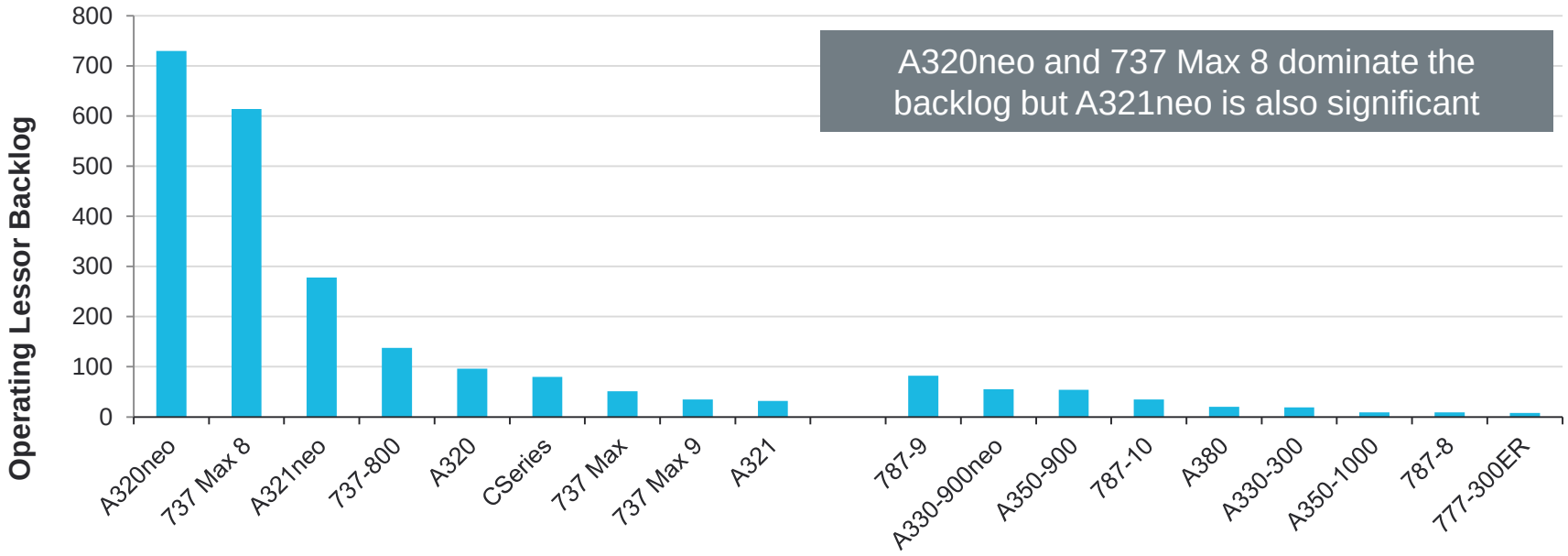
Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

Operating lessors acquired 43% of new commercial jet deliveries in 2016



Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

Speculative backlog includes >2,300 aircraft



Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

Competitive Landscape

The top 20 lessors account for close to 80% of the total lease fleet today

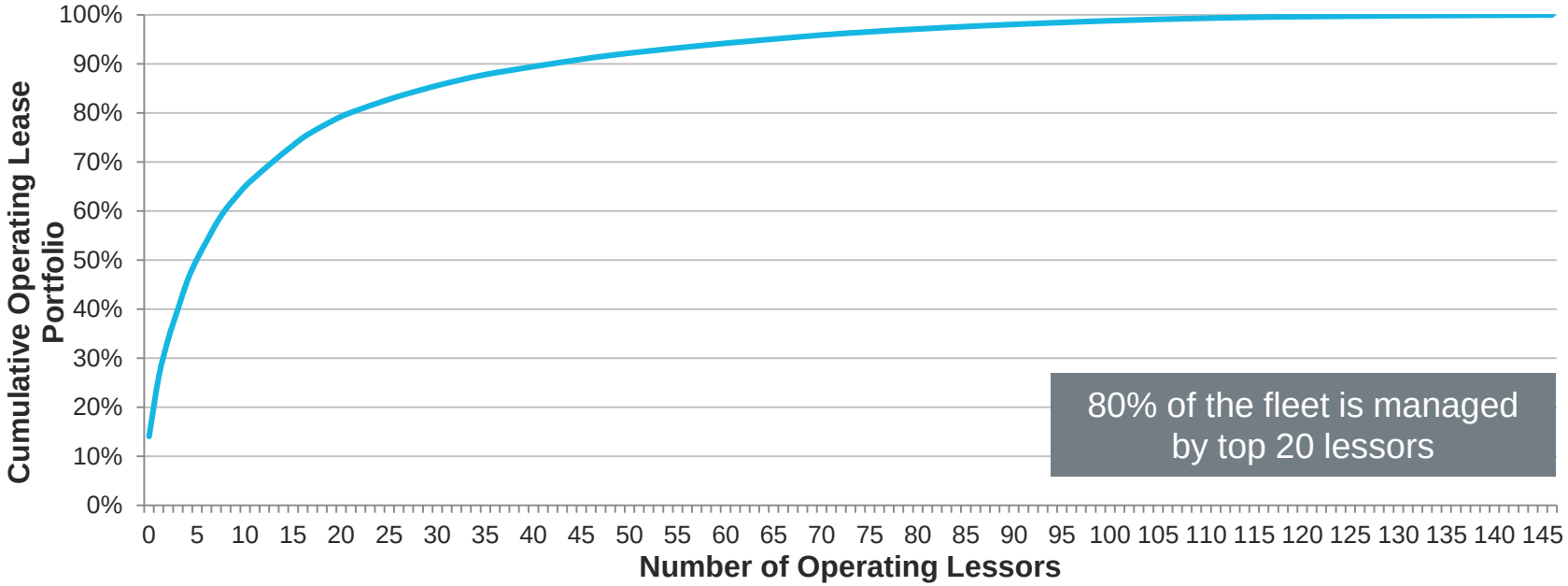
2017 Ranking (by Fleet + Backlog)	Manager	Current Fleet	Order Backlog	Current Fleet CMV ($mn)	2016 Ranking (by Fleet + Backlog)
1	AerCap	1,150	348	30,713	1
2	GECAS	979	311	23,699	2
3	Avolon (Inc CIT)	571	260	20,217	9
4	SMBC Aviation Capital	446	200	14,677	4
5	Air Lease Corporation	262	365	11,449	3
6	BOC Aviation	276	188	11,260	5
7	BBAM LLC	388		16,531	7
8	Aviation Capital Group	257	126	5,852	8
9	ICBC Leasing Co	266	47	11,769	12
10	AWAS	236	15	6,415	10
11	Macquarie	202	40	5,181	11
12	Aircastle	192		5,447	17
13	ALAFCO	59	125	1,812	14
14	Boeing Capital Corp	177		1,412	13
15	China Aircraft Leasing	82	91	2,888	15
16	CDB Leasing Company	142	23	5,357	18
17	ORIX Aviation	163		4,173	16
18	Standard Chartered	116	12	3,952	20
19	Jackson Square Aviation	119		5,088	19
20	BoCom Leasing	111		4,595	21

Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

China is a huge source of new lessor capital

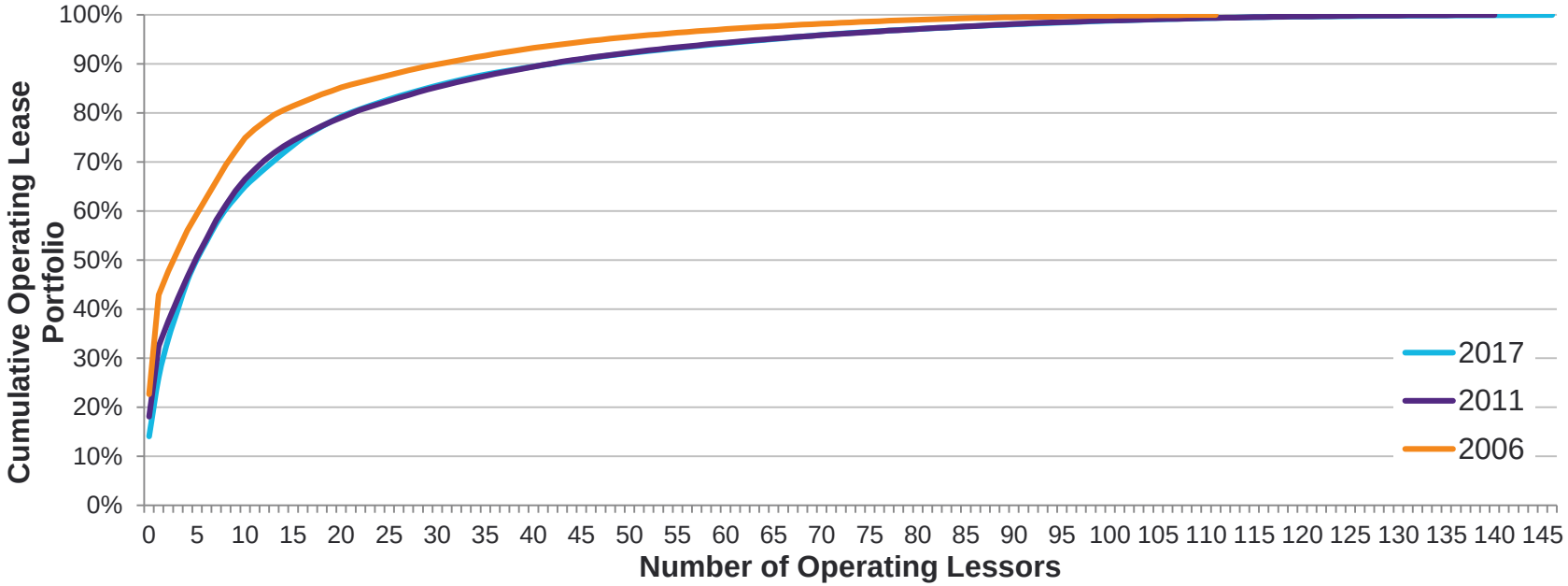
- Domestic domiciled Chinese lessor
  - ICBC, CDB Leasing, Minsheng, AVIC International Leasing, Bo Comm Leasing, CMB Financial Leasing, Changjiang Leasing Company, Ping An Leasing, ABC Leasing, SPDB Leasing, CITIC Securities, Everbright Financial Leasing, CCB, Industrial Bank, etc
- Chinese money invested offshore
  - Accipiter, Avolon
  - ICBC Leasing and Bohai's "bid" for AWAS

Although the operating leasing market appears highly competitive it is also highly concentrated



Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

The competitive dynamic has hardly changed in the recent past but more competition than 10-years ago



Source: Flight Fleets Analyzer (passenger single and twin-aisles only)

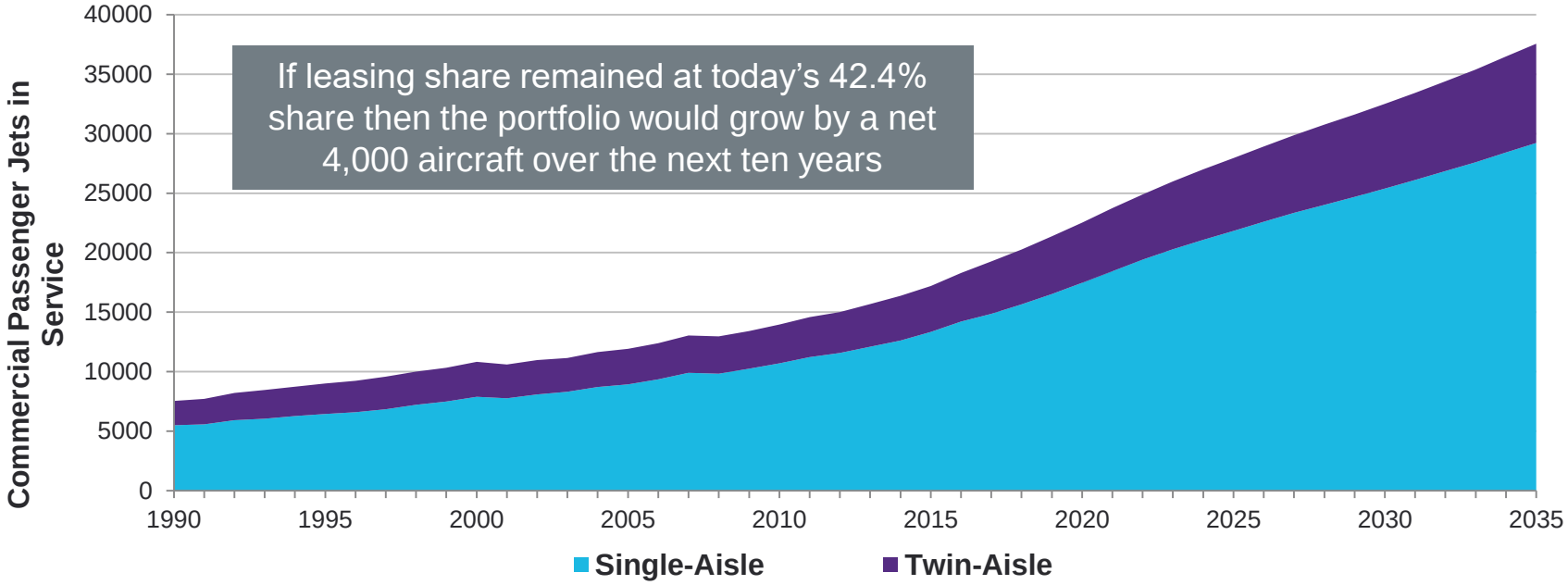
Operating Leasing Outlook

Aviation demand cycle

Demand side weakening, trends suggest may be past cyclical peak

Indicator	Current level	Trend
Passenger traffic	Above trend growth for sixth year running; 6.1 estimate for 2016. Led by India. China. LCCs and y-o-y recovery in Russia.	Growth rate was above 6% for most of 2015 and >7% during summer. H2 2016 has seen demand lag supply slightly.
Freight traffic	Recovery seen in 2015 slowed in H1/2016. YTD to Nov 2016 = 3.2%. Express/regional freight performing better.	Capacity significantly exceeding demand YTD. However, October and November showed much better growth. May have turned corner?
Yields	US has seen declines of 5-10%, but still well above 2008/09 levels. Aug-Nov 2016 showed decline of c5%. Costs are increasing (US labour, jet fuel up 50% in Jan 2017), so yields need to increase.	Yields have been falling since December 2014; However, this has not been a major concern yet, as costs are down by >10% as a result of falling oil prices. Now costs are increasing, yields have stabilised.
Load Factors	Still near historically record levels. Asia much lower – emerging evidence of overcapacity in some areas?	US, Middle East load factors showing slight decline. Europe mixed. China and India at historic highs.
New aircraft orders	Around 1,570 net orders for commercial jets. In 2016 with book to bill around 1.0. 2016 Single-aisle still >1.0 (GREEN), but twin-aisle and RJ around 0.5 (AMBER)	Order intake fallen sharply from the levels of 2011-2014, but new programmes sold out for several years, with limited slots now available, driving downward trend
Deferrals & cancellations	Deferrals have ticked up following recent airline capacity adjustments from prior low level. Cancellations now just above average, although this is lower if normalised for fleet size	Both cancellations and deferral rate increasing in H2 2016. Most canx due to OEMs cleansing order book but deferrals reflect fleet plan adjustments (Southwest, American, Turkish, Emirates, etc)

Passenger jet fleet forecast to increase by 10,600 units in next ten years



Source: Flight Fleets Analyzer, Flight Fleet Forecast

50% penetration is unlikely to be achieved any time soon

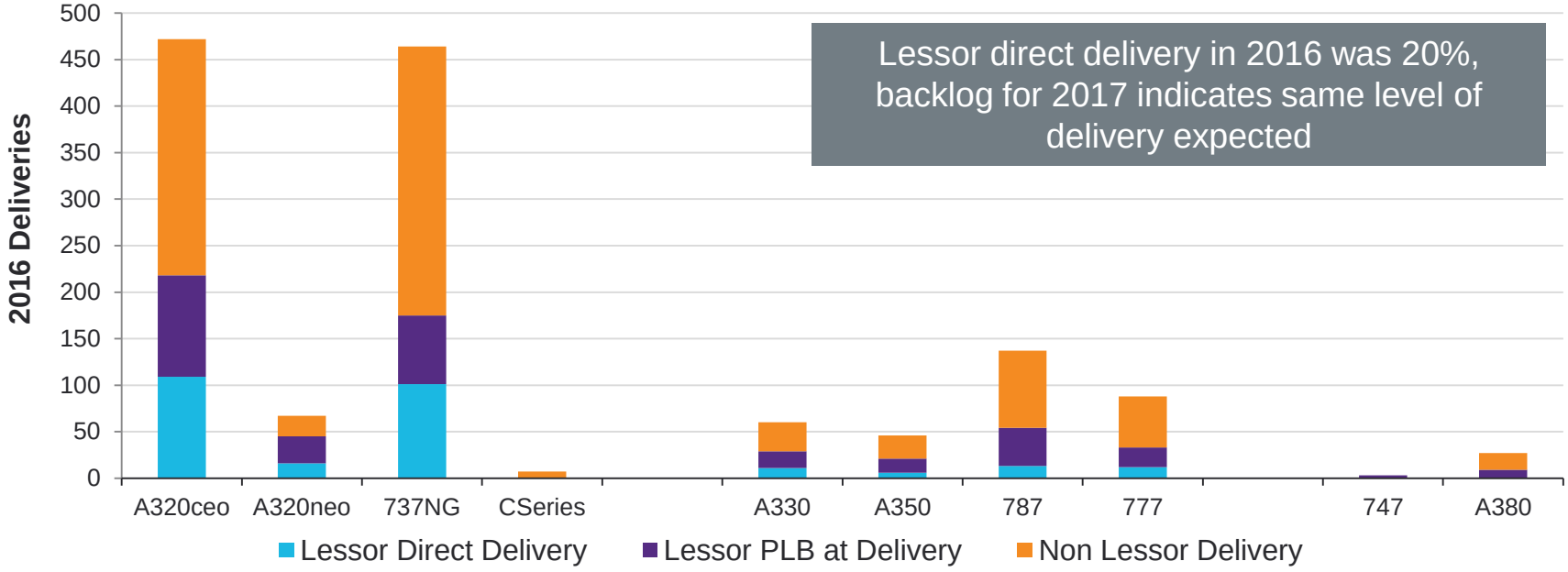
- Global passenger fleet at end of 2022 (excluding RJs) is predicted to be ~25,500 aircraft
- Leasing fleet in service would need to be ~12,750 aircraft
- Equivalent leasing fleet today is 7,220 aircraft
- So net addition of 5,530 aircraft required over next seven years
- Flightglobal Fleet Fo[illegible] jets through 2022
- ~40% of the operatin[illegible] today's fleet this equates to 3,100 aircraft that [illegible] en years
- So to achieve 50% fleet market share by 2022, under this scenario lessors would need to add 8,450 new aircraft (5,530 growth plus 3,100 replacement) to their portfolios over the next seven years – that's equivalent to 75% of new deliveries predicted over that period (and worth US$643 billion in 2015EC)
- **Even to maintain today's 42% market share under this scenario would require ~6,600 new deliveries – 57% of all new deliveries (US$490 billion)**

2016 Analysis

50% penetration is **still** unlikely to be achieved any time soon

- Global passenger fleet at end of 2026 (excluding RJs) is predicted to be ~28,900 aircraft
- Leasing fleet in service to achieve 50% would need to be ~14,470 aircraft
- Equivalent leasing fleet today is ~8,300 aircraft
- So net addition of ~6,200 aircraft required over next ten years
- Flight Fleet Forecast predicts delivery of ~17,100 commercial passenger jets through 2026
- ~40% of the operating lease fleet from seven years ago has been replaced; on today's fleet this equates to 3,300 aircraft that could be expected to exit the leased fleet in the next 7-10 years
- So to achieve 50% fleet market share by 2026, under this scenario lessors would need to add 9,500 new aircraft (6,200 growth plus 3,300 replacement) to their portfolios over the next ten years – that's equivalent to 55% of new deliveries predicted over that period
- **Even to maintain today's market share under this scenario would require ~7,300 new deliveries – 43% of all new deliveries**

Operating lessors acquired 43% of new commercial jet deliveries in 2016



Source: Flight Fleets Analyzer (passenger aircraft only)

Conclusions

- The share of the commercial passenger fleet managed by operating lessors is unlikely to achieve 50% within the next ten years
- The net leasing portfolio growth is estimated to be around 6,200 >100 seat aircraft over the next ten years
- Further portfolio additions (estimated around 3,300) will be required to replace aircraft that will exit the fleet through sale at end of lease and retirement / part-out
- At current delivery levels the portfolio is expected to remain at ~42% - 43% of the overall fleet

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