

Corporate Jet Investor Miami

Will Investors Keep Backing Business Aviation?

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Business Jet Forecast and Market Share – Deliveries Up 18% Y-o-Y in 2023E

We forecast deliveries recover 7% in 2022 with Another 14% in 2023E

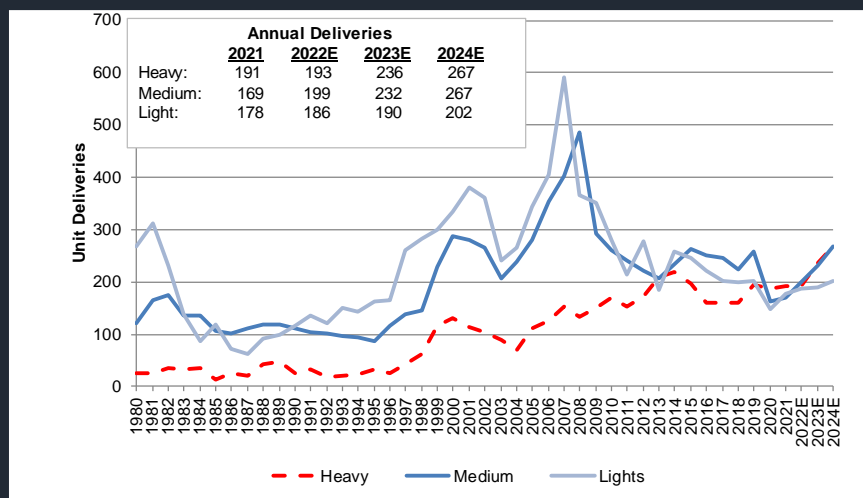
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022E	2023E	2024E
Airbus	12	9	11	13	9	9	6	5	4	1	0	1	6	5	5	2	2	2
Boeing	7	6	4	10	8	12	7	10	11	4	10	6	2	1	4	6	6	6
Bombardier	226	247	173	150	182	181	179	204	199	163	140	137	142	114	120	121	138	146
Cessna	388	466	289	178	183	181	139	159	166	178	180	188	206	132	167	181	200	222
Dassault	70	72	77	95	63	66	77	66	55	49	49	41	40	34	30	35	52	60
Embraer	36	38	122	145	99	99	119	116	120	117	109	91	109	86	93	105	107	115
Gulfstream	138	156	94	99	99	94	144	150	149	119	120	121	147	127	119	123	148	170
Hawker Beechcraft	162	160	98	73	52	32	0	0	0	0	0	0	0	0	0	0	0	0
Total	1039	1154	868	763	695	675	677	710	704	631	608	585	652	499	538	573	653	721
Total Deliveries YoY	18%	11%	-25%	-12%	-9%	-3%	0%	5%	-1%	-10%	-4%	-4%	11%	-23%	8%	7%	14%	10%
Revenues (\$ bin)	\$19.1	\$20.4	\$12.9	\$15.9	\$17.5	\$18.0	\$20.9	\$22.3	\$23.7	\$21.2	\$20.0	\$18.5	\$19.8	\$17.7	\$18.5	\$19.5	\$22.7	\$24.7
%share																		
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022E	2023E	2024E
Airbus	1%	1%	1%	2%	1%	1%	1%	1%	1%	0%	0%	0%	1%	1%	1%	0%	0%	0%
Boeing	1%	1%	0%	1%	1%	2%	1%	1%	2%	1%	2%	1%	0%	0%	1%	1%	1%	1%
Bombardier	22%	21%	20%	20%	26%	27%	26%	29%	28%	26%	23%	23%	22%	23%	22%	21%	21%	20%
Cessna	37%	40%	33%	23%	26%	27%	21%	22%	24%	28%	30%	32%	32%	26%	31%	32%	31%	31%
Dassault	7%	6%	9%	12%	9%	10%	11%	9%	8%	8%	8%	7%	6%	7%	6%	6%	8%	8%
Embraer	3%	3%	14%	19%	14%	15%	18%	16%	17%	19%	18%	16%	17%	17%	17%	18%	16%	16%
Gulfstream	13%	14%	11%	13%	14%	14%	21%	21%	21%	19%	20%	21%	23%	25%	22%	21%	23%	24%
Hawker Beechcraft	16%	14%	11%	10%	7%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

- Volumes were relatively stable in the 600-700 range in 2011-2019. We expect a 7% recovery in 2022 to 573 deliveries from 538 in 2021. In H1, deliveries were up 3% y-o-y, with our estimate implying a 10% increase in H2. The steepest ramps are at Embraer (+27% in H2 vs -12% in H1) and Gulfstream (+9% in H2 vs -4% in H1) implied in guidance.
- We expect deliveries up 14% in 2023. In terms of heavy, midsize, and light, we forecast heavy jets up 20% y-o-y, while midsize jets are expected up 14% and light jets up 5%. In 2022, our estimates imply heavy jets up 1% and light jets up 2%, while medium jets lead up 18% y-o-y.
- On a revenue basis, the figures are expected to be at \$19.5BB in 2022 and \$22.7BB in 2023, slightly shy of the peak of \$23.7BB in 2015, with more favorable mix offsetting fewer deliveries.

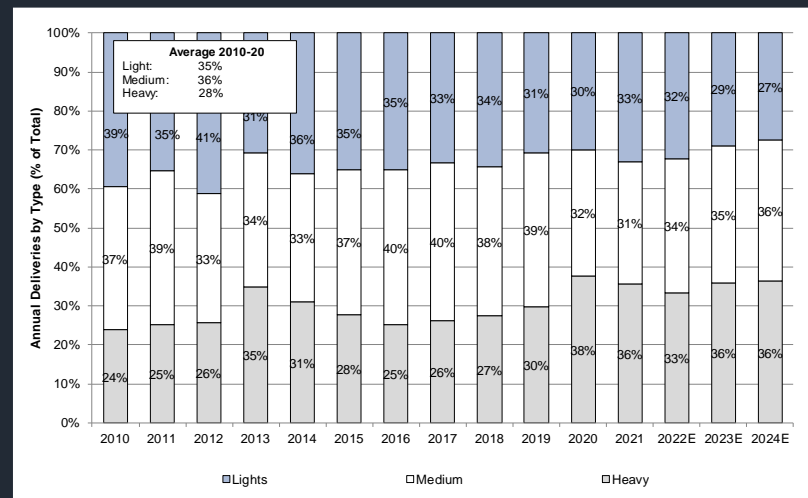
538 Deliveries in 2021 Rising to 721 by 2024

Business Jet Forecast and Market Share – Light Jet Share Declining as Midsize Grows

Light Aircraft Deliveries Down From 2008 Peak



Light Biz Jet Deliveries Decline to 29% of Total by 2023

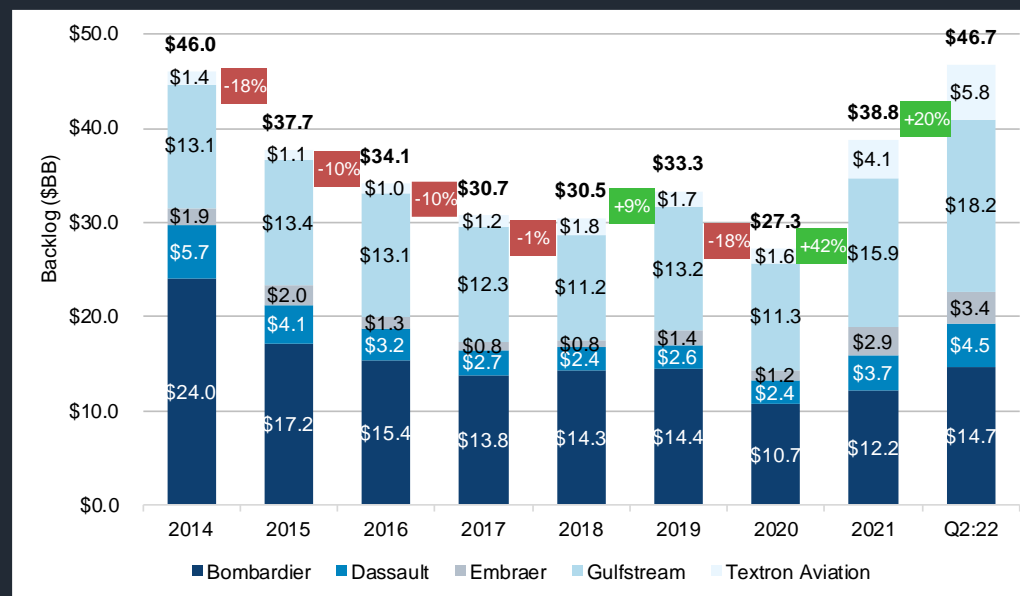


- Business jet deliveries have historically been larger for medium and light jets. However, we forecast a spike in large jet deliveries in 2023E to 236 jets vs. 193 in 2022E as the Gulfstream G700 and G800 enter service. Total G800/700/600/500 deliveries are expected at 67 combined in 2022E and 97 in 2023E. This compares to a peak of 121 G650/G550/G450 combined jets in 2013.
- The 7% expected recovery in FY22 biz jet deliveries is driven by medium aircraft. Medium jets are expected up 18% to 199 aircraft vs 257 in 2019, with the Longitude ramp offset by fewer Challenger 350s (34 vs. 51) and G280s (18 vs. 33). On the other hand, light jets are expected to fall to 29% market share in 2023E at 190 jets vs. 201 in 2019. Light jets are expected to lose share given the end of production for Learjets and ramping new models in the medium/heavy jet space.

Heavy and Medium Jets Taking Share from Lights

Backlogs at Multiyear High in 2022

OEM Business Jet Backlogs – Up 20% on TTM in Q2:22 Following 42% Growth in 2021

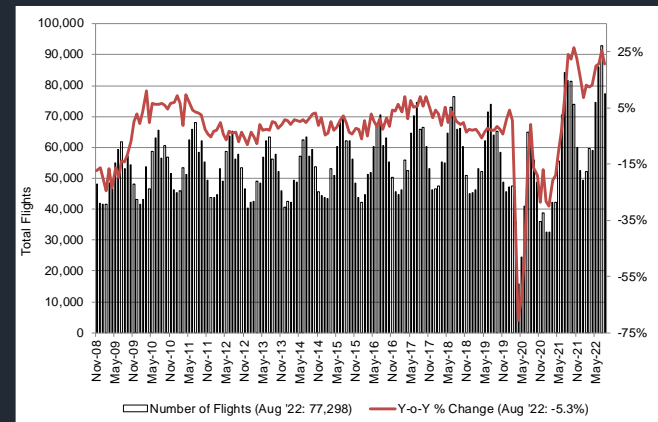


- In Q2:22, the OEMs reported an average B2B of 1.8X, with average lead times for new orders extending to 2024. TXT reported a B2B of 1.55X and Gulfstream at 2.2X.
- Q3:22 B2B of 1.3X at Gulfstream and 1.5X at TXT Cessna implied deliveries down 17% and 13% y-o-y, respectively, although backlogs remain at multi-year highs.
- Backlogs of \$46.7BB at Q2 across the 5 major OEMs are up 20% y-o-y and above the previous peak of \$46.0BB in 2014. Gulfstream has the largest backlog at \$18.2BB, followed by BBD at \$14.7BB and TXT Cessna at \$5.8BB.
- Long lead times for new jet orders have supported pricing. Customers are required to put down a significant deposit for new orders, making the backlogs higher quality than in the prior cycle.

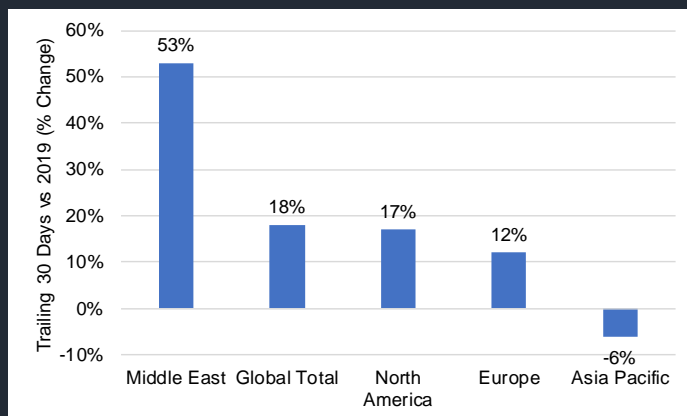
Business Jet Market: US August Departures Up 14% vs. 2019

- US Departures were down 1.4% y-o-y but 14.3% from 2019 levels in August, the most recent month reported by the FAA. On a trailing 6-month basis, departures are trending up 7.0% y-o-y.
- European business jet departures are down 5.3% y-o-y as of August but up 20.8% from 2019 levels.
- Business aviation activity is flat y-o-y in the trailing 30 days ending October 12 but up 18% relative to the same period in 2019, according to WingX. North America leads major regions.

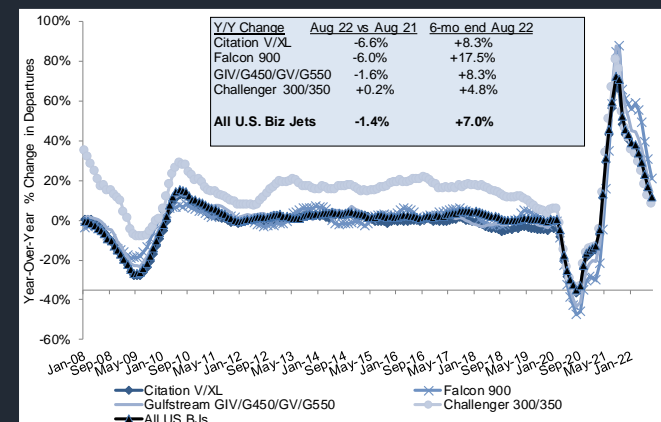
European Biz Jet Departures Down 5% Y-o-Y but 21% Above 2019



Global Departures 18% Above 2019 in Trailing 30 Days Ending Oct 12



US Business Jet Departures Down 1% Y-o-Y but 14% Above 2019



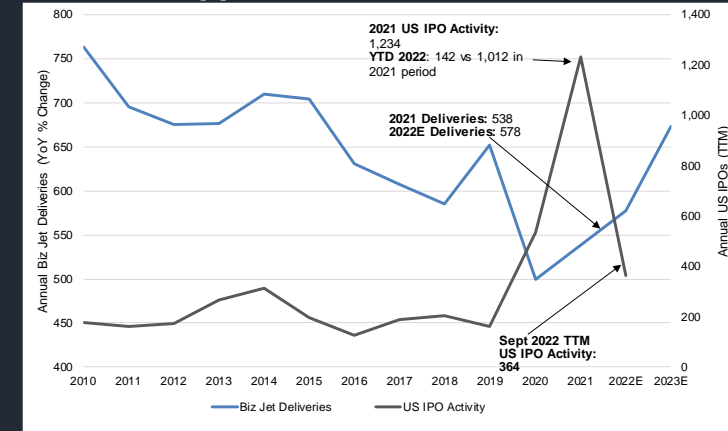
Biz Jet Utilization Trending ~15% Above 2019 Levels

Note: Traffic data is trailing 6-month totals of U.S. departures
 Source: FAA; General Aviation Manufacturers' Association; FactSet, WingX; EBAA; Jefferies estimates.

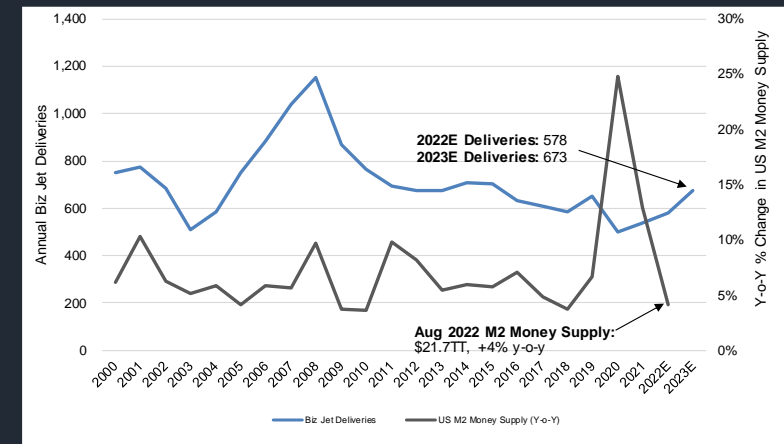
Business Jet Market: Biz Jet Demand Driven by Wealth Creation

- Business jet deliveries were previously correlated with S&P EPS growth, but the correlation broke in the past decade, partly due to the stigma post GFC.
- The relationship between wealth creation and biz jets could be the biggest driver this cycle, with a +4% y-o-y M2 money supply potentially driving slower orders. Higher available money combines with new IPO wealth and ongoing capex expansion to support the next cycle. M2 money supply is up 1% YTD but down slightly from the Feb 2022 peak of \$21.8TT. Higher interest rates have slowed the velocity of that money supply as well.
- If we consider IPOs over the past few years, IPOs peaked at 1,234 in 2021, with TTM IPO activity down to 364 through September. However, if we compare to the 2010-19 average of 197, activity remains elevated.
- YTD in 2022, there have been 142 IPOs, down 86% y-o-y from 1,012 in the same period during 2021.
- The moderation in money supply and IPO activity has not affected orders to date, with average B2B of 1.8X in Q2:22.

US TTM IPOs of 364 vs 2010-19 Average of 197 Support Biz Jet Deliveries

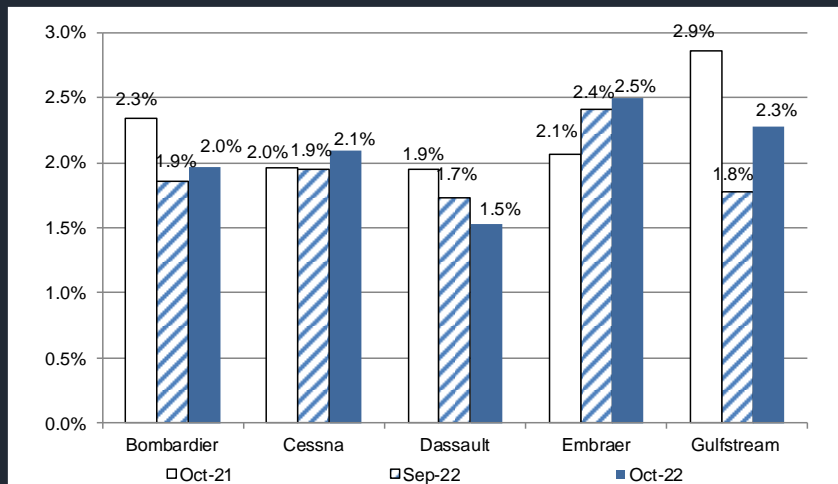


US Annual Avg M2 Money Supply vs. Biz Jet Deliveries



Business Jet Market: Used Jets Inventories Down 4% in October 2022

Used Jet Inventory as a % of Fleet – Down 10 bps Y-o-Y

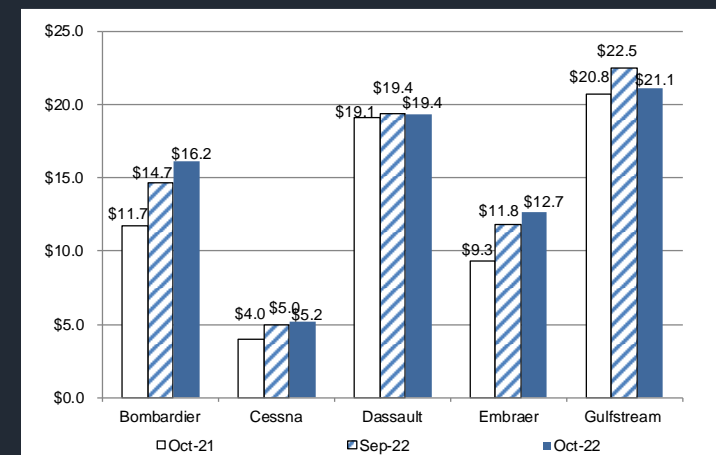


Total Used Jet Inventory at 2.9% of Fleet for Sale vs 5-Year Average of 6.1%



- October 2022 used jet inventories declined 4% y-o-y on our metrics, with total jets available for sale of 3.1% vs. 2.2% a year ago. However, inventories were up 10% sequentially.
- Total industry jets for sale, including all vintages and models, were 2.9% vs the 5-year average of 6.1%.
- Pricing was up 22% y-o-y and up 3% m-o-m. Pricing expanded across most OEMs, with Bombardier (+38%), Embraer (35%), Cessna (+31%), Gulfstream (+2%), and Dassault (+1%).

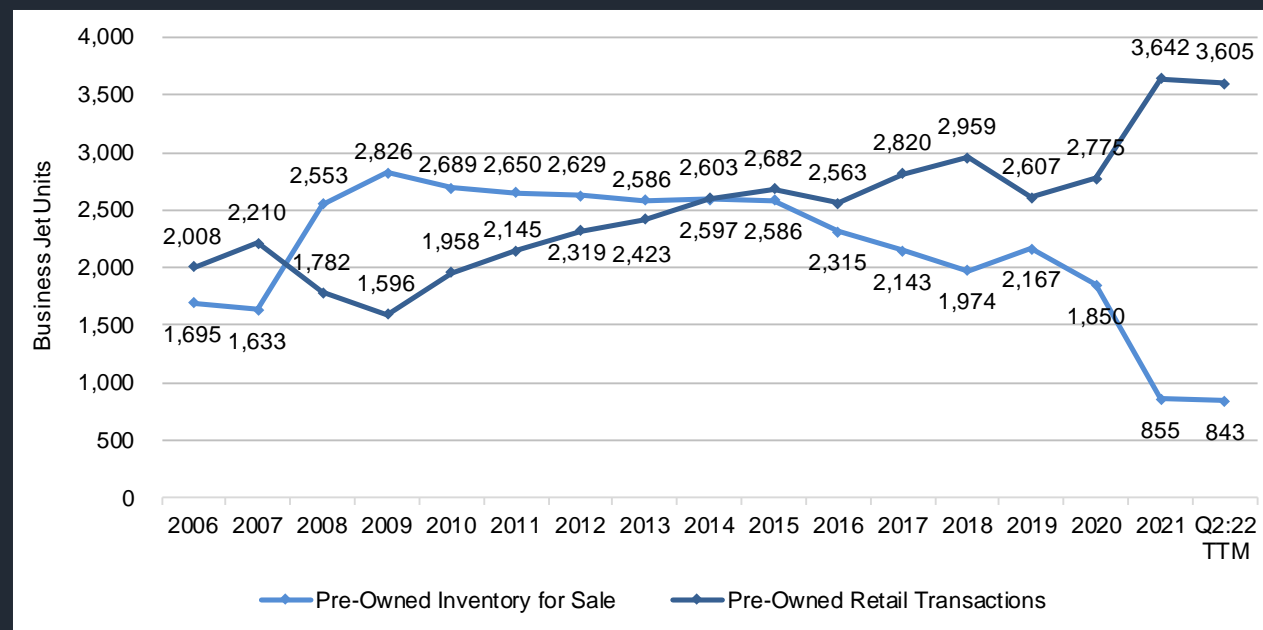
Used Jet Average Price Up 22% Y-o-Y



Used Jet Inventories Normalizing into Fall 2022

Business Jet Market: Used Jets Inventory vs Transactions

Global Pre-Owned Biz Jet Inventory vs. Pre-Owned Whole Retail Transactions - Significant Step-Up in Retail Buyers Tightly Correlated with Record-Low Inventories



- Pre-owned inventory for sale is down slightly from the 2021 average of 855 to 843 in Q2:22 TTM average (-1%), according to JETNET data. However, the slight decline may include certain aircraft taken off the market, with pre-owned retail transactions down 1% TTM over the same period.
- Historically, there has been a tight correlation between an uptick in pre-owned transactions and a decline in used jet inventories.

Source: JETNET and Jefferies estimates; Note: Includes whole aircraft retail sales and leases to end users; TTM = Trailing Twelve Months; includes Personal Jets

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