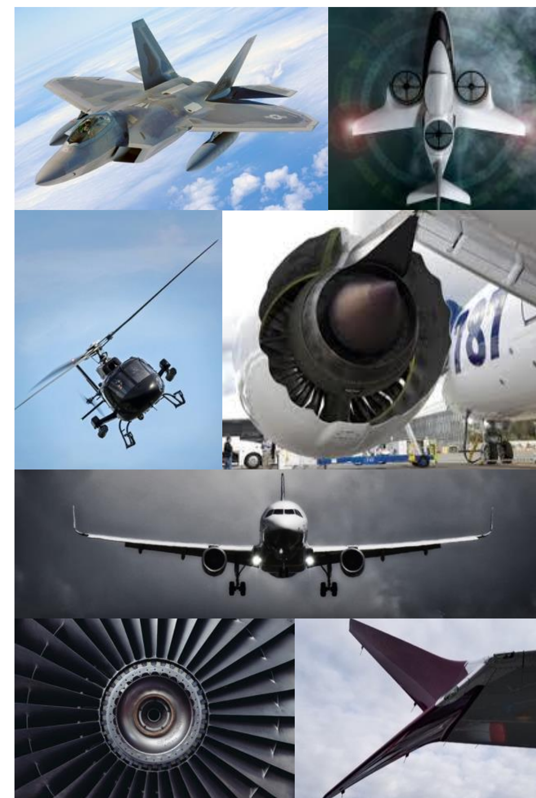
AEROSPACE MARKET OUTLOOK

Production Rate Brief for Manufacturers

Aug 2020



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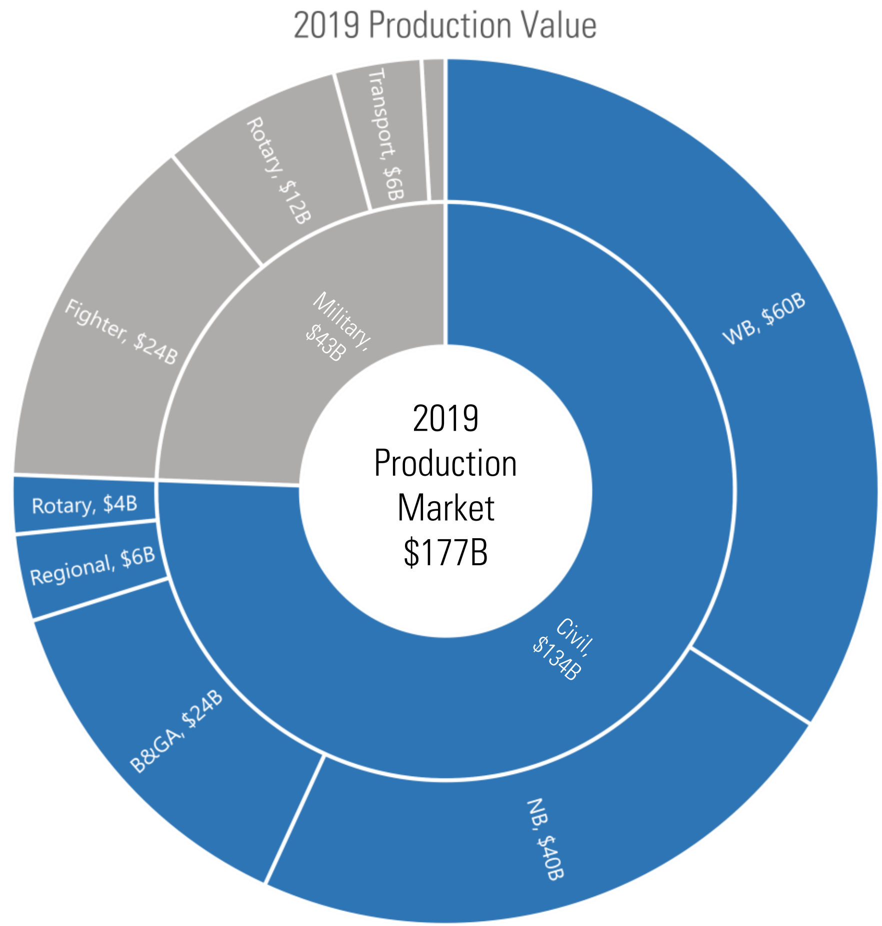
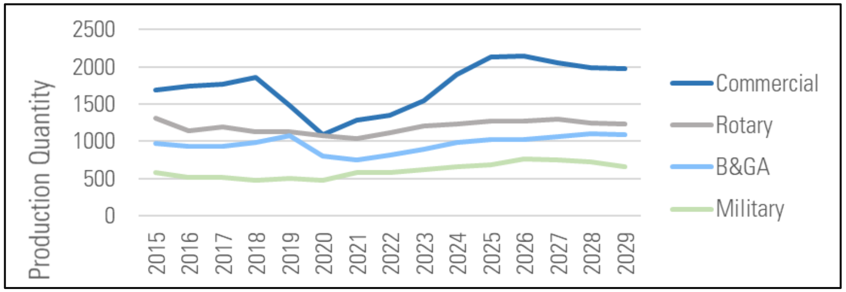
Recap: 2019 Aircraft Production Market was Valued at $177B

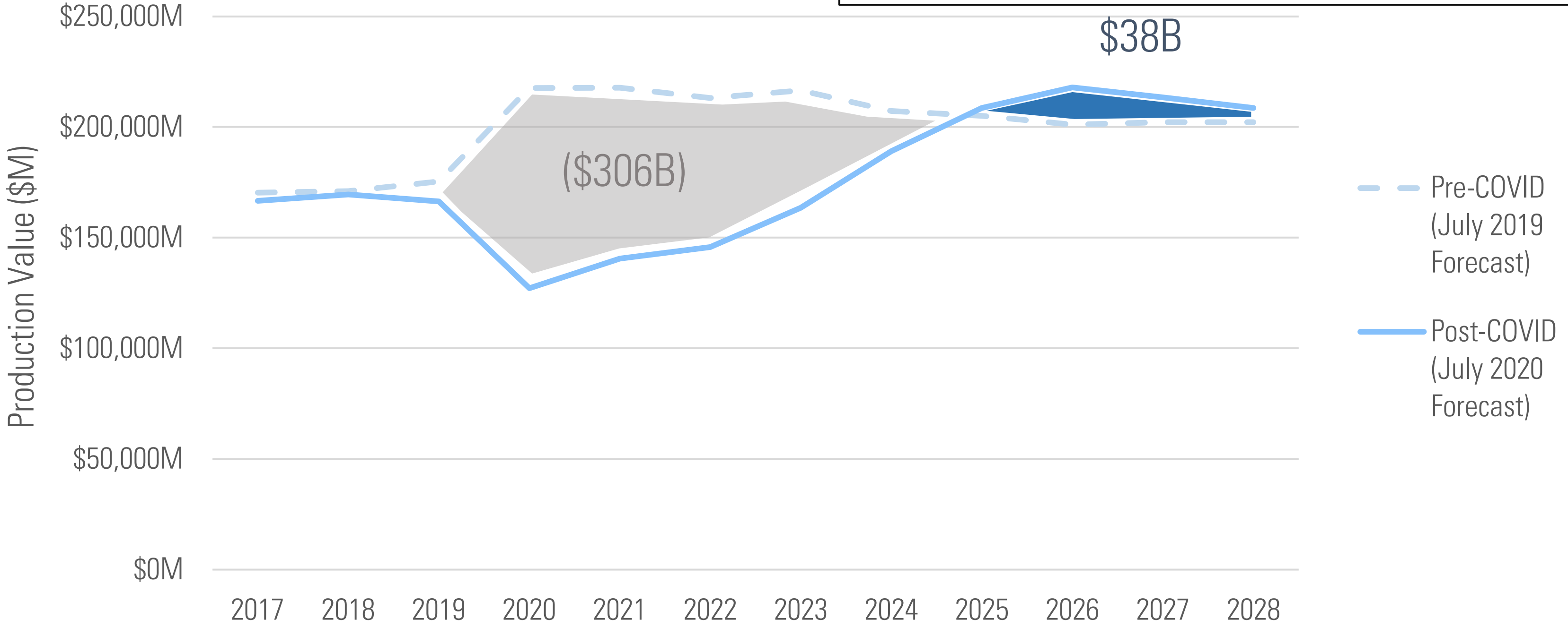
Market	Sub-Market	Total (2019 $Billion)
Civil		**134.0**
	Narrow Body (NB)	40.4
	Wide Body (WB)	60.3
	Business	23.6
	Regional	5.7
	Rotary	3.9
Military		**43.2**
	Fighter	24.0
	Rotary	11.9
	Transport	5.8
	Trainers	1.5
Total		**177.3**



Wide Body and Narrow Body jet liner production was at $100B in 2019 at list prices
Military aerospace production is dominated by Fighter jets, mainly JSF

COVID-19 Impact Estimated over $300B during 2020 - 2025





Estimates based on industry consensus of air traffic recovery by 2023

2020 Production estimated at $125B (a 30% drop from 2019) for all aerospace segments

Commercial segment bears the brunt ($200B) of impact in 2020-2025

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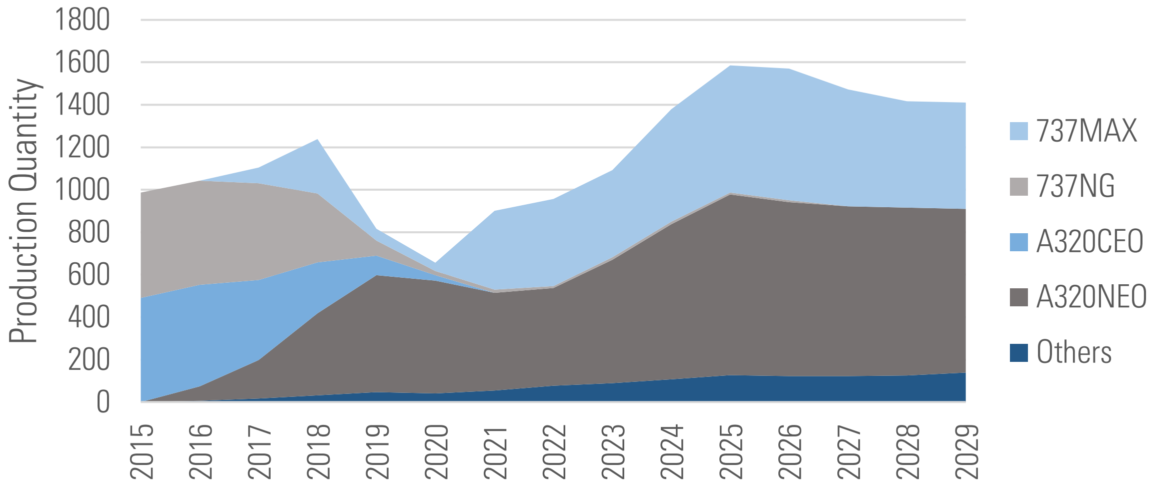
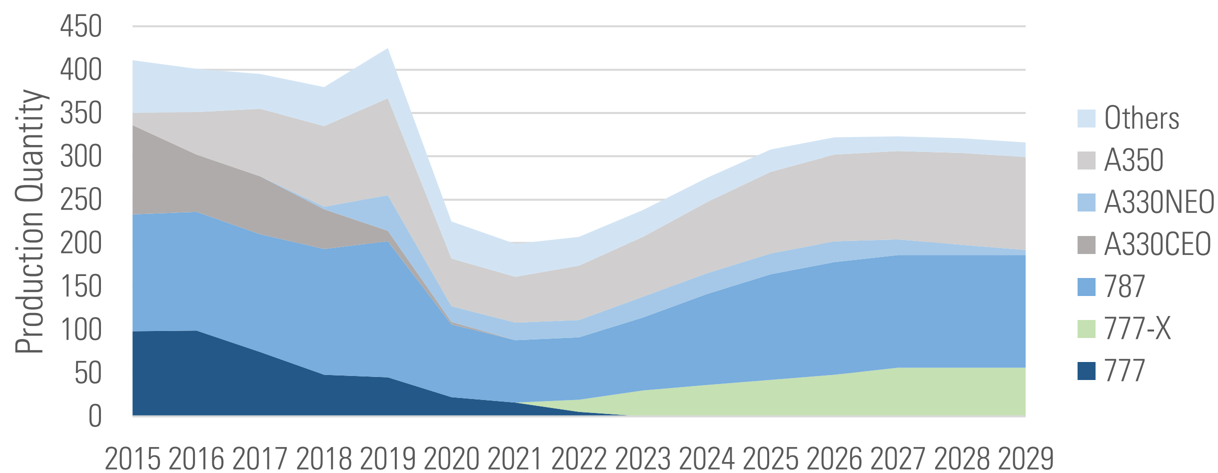
Wide Body Production Slower to Recover than Narrow Body





777X EIS delayed by another year
787 production rate reduction to 6 per month in 2021
737Max rate at 31 per month by early 2022

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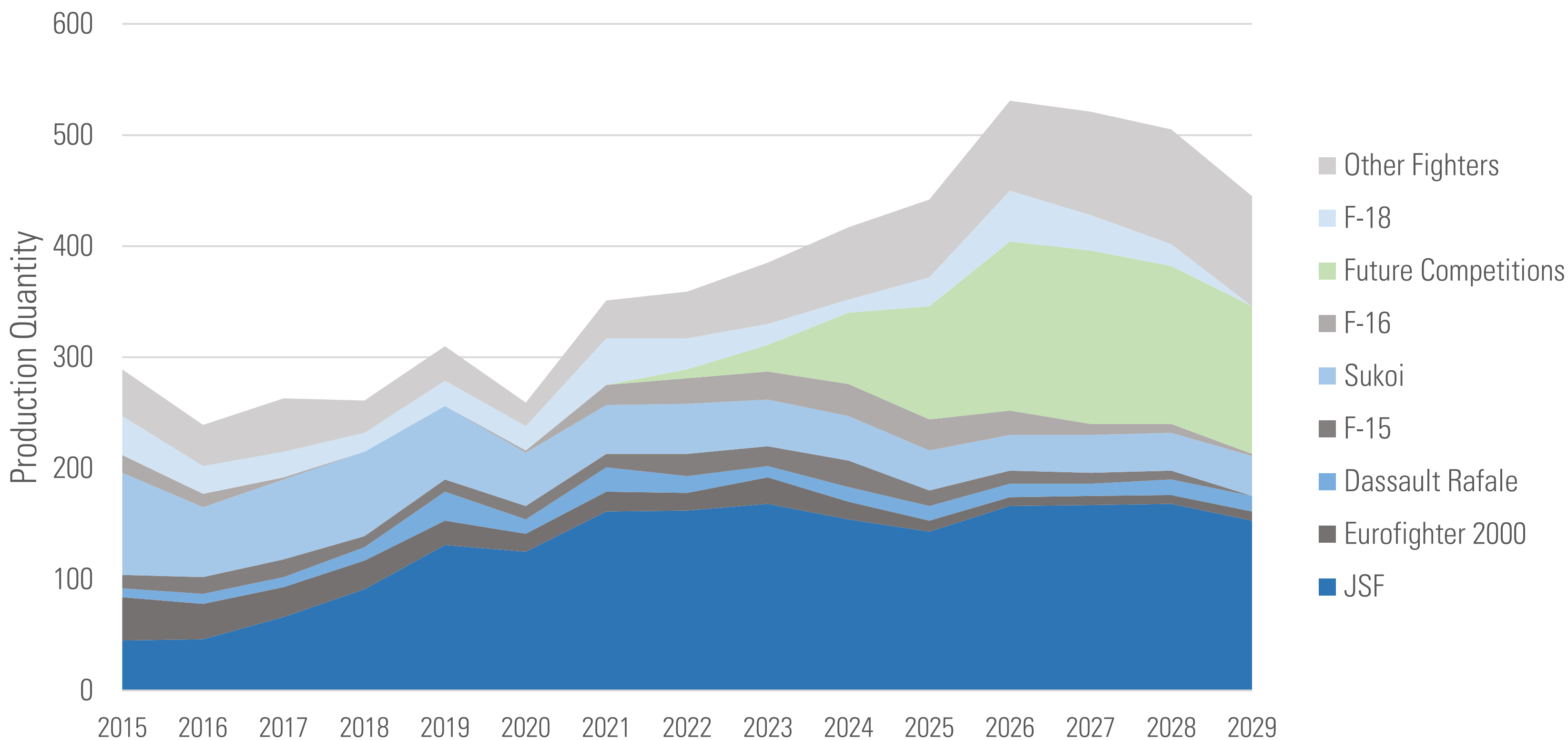
Fighter production has a large wild card (Future Competitions)



About 1/3rd of future demand will be driven by intense international competitions (India and Canada among the main countries)

Future international sales will likely be divvied up between JSF, F-18, Rafale and Eurofighter

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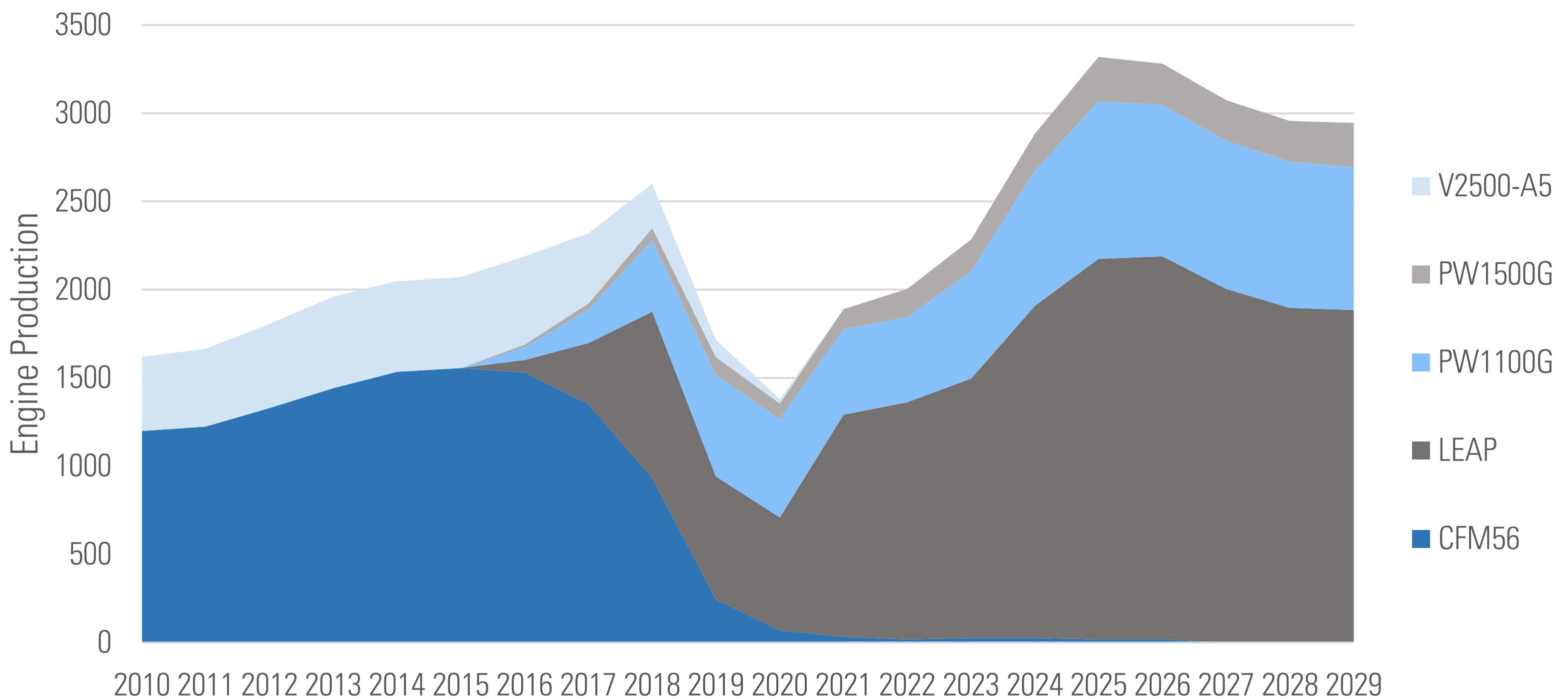
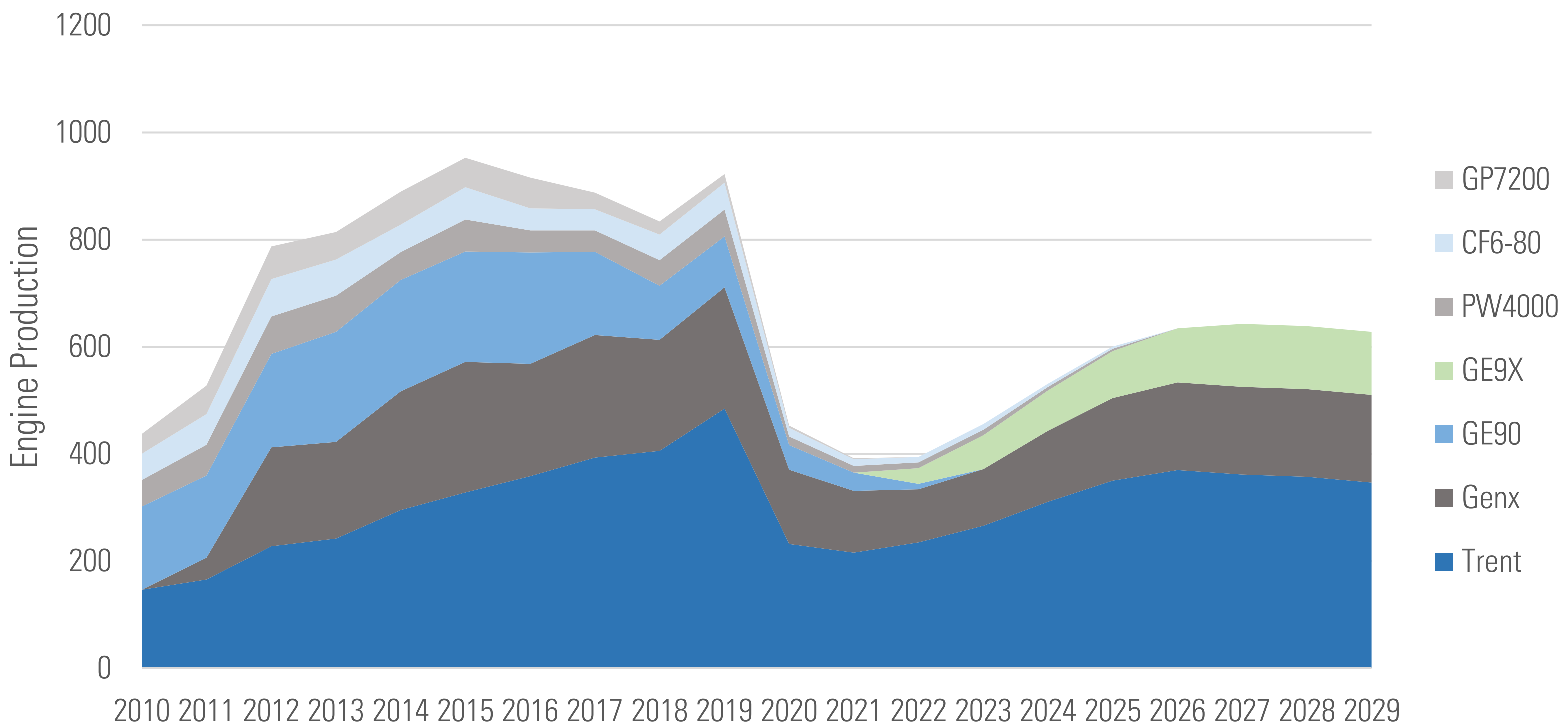
NB Jet Engine Production Rates will Settle to 2:1 GE vs. Pratt



LEAP will continue to dominate – the market share at about 65% is largely maintained

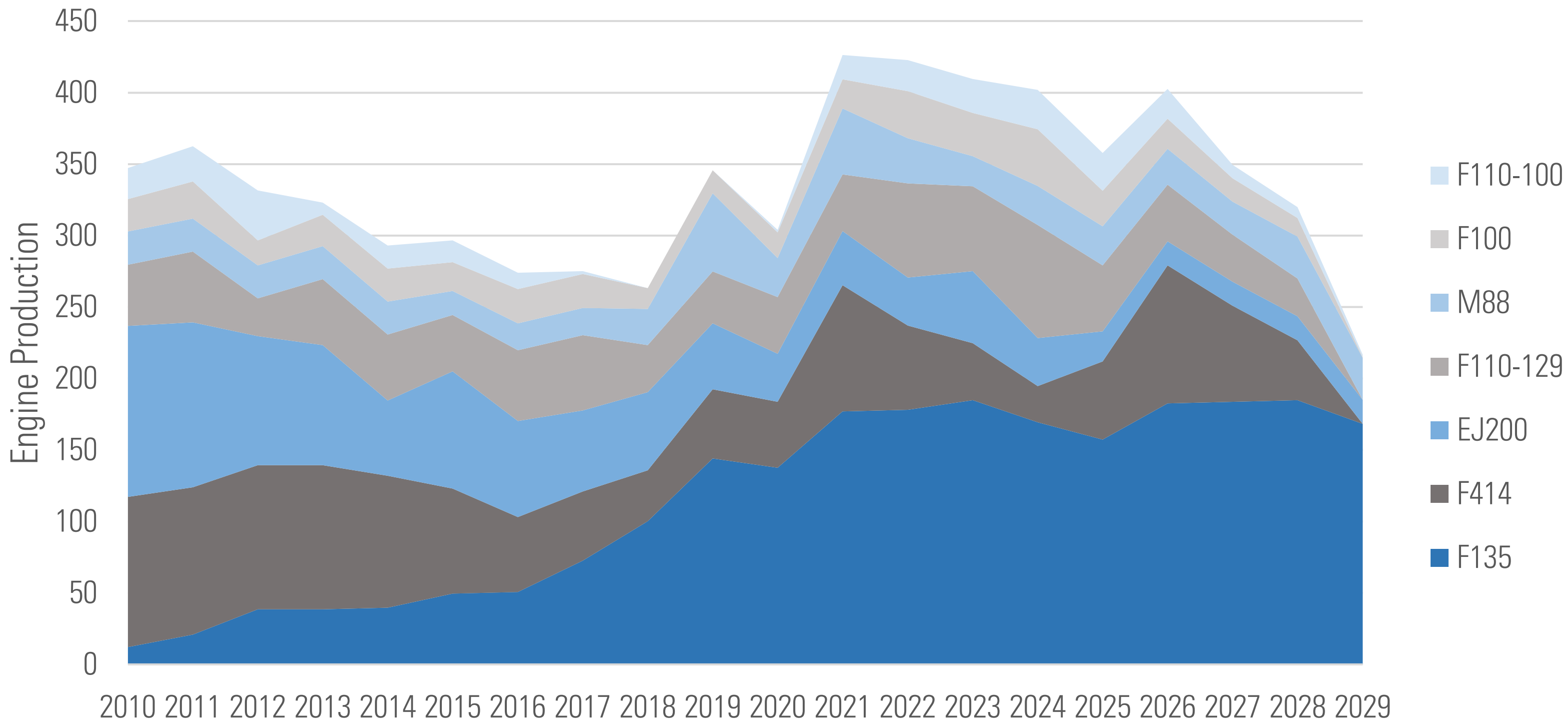
Pratt's GTF will grow with A320NEO & A220 while the smaller thrust PW1700G / PW1900G growth is stunted by E2 Jet's inability to sell in the North American market

Negligible Pratt Contribution in WB Production



Trent Family dominates despite several teething issues with various models
PW4000 and GP7200 will finally be out of production
GE will enjoy a healthy market share with GEnX and GE9X

Fighter Jet Engine Production Dominated by F135 and F414



Yet to be decided international competitions will have impact on mid/late 2020's engine production growth (not included here)

Thank you.

14525 Highway 7, Suite 345
Minnetonka, MN 55345 USA
734-249-0961
Amy.Barr@AdvisoryAero.Com
www.advisoryaero.com