Supply and Demand in the Aviation industry



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Academics Department





Overview

- Supply and Demand: Trends
- Supply and Demand: Drivers
- Implications
- Areas of concern
- Recommendations
- About us

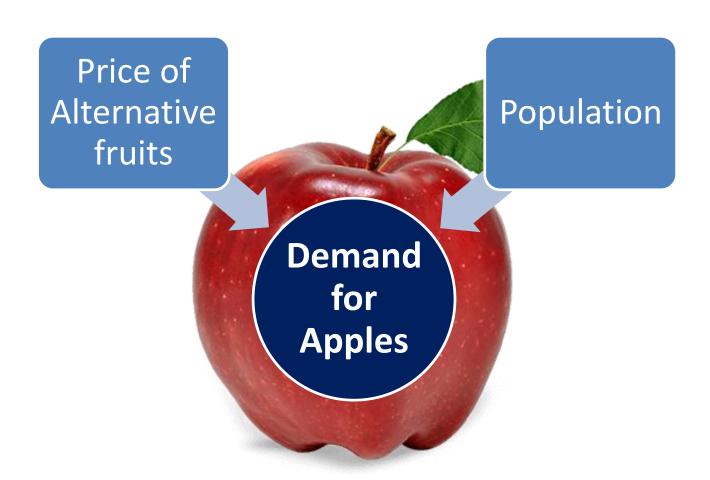




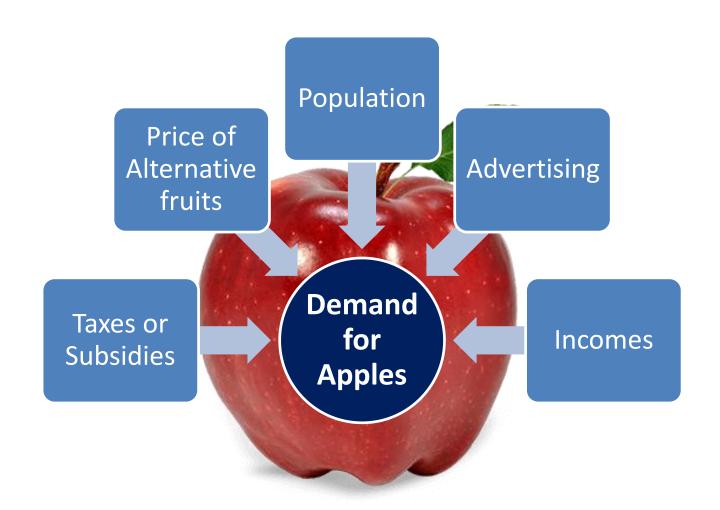
What determines the Demand & Supply of an...



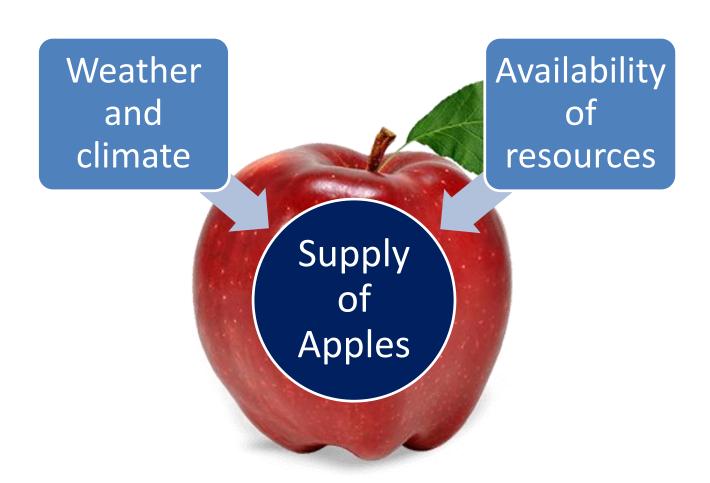




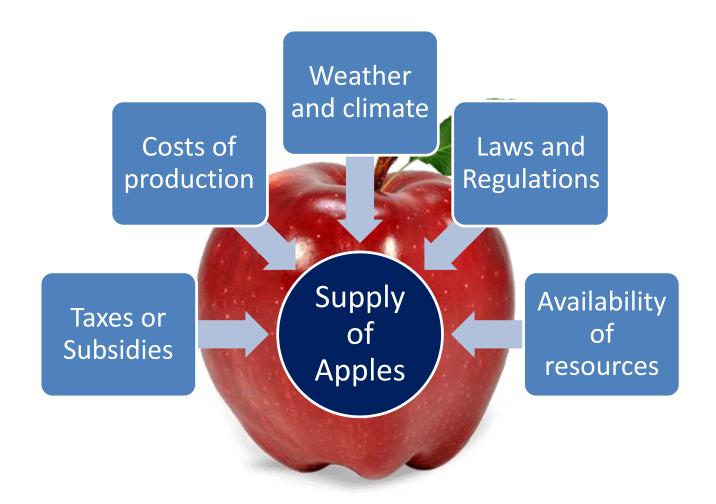








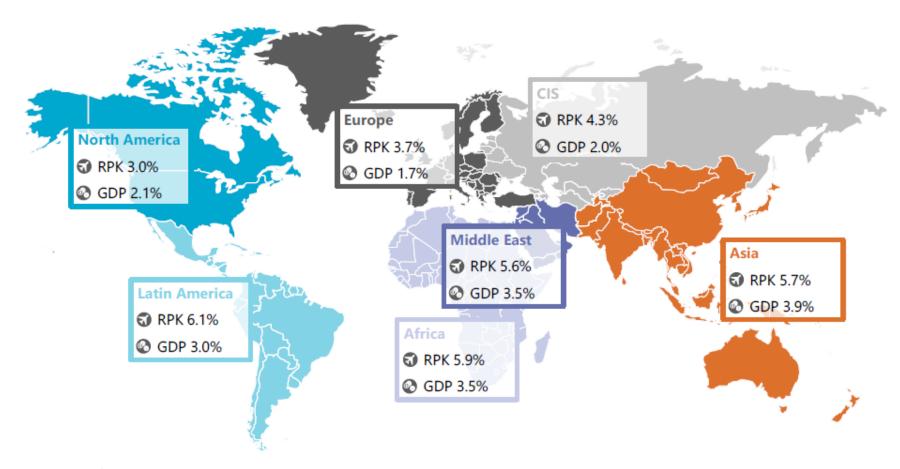






Demand Trends in Aviation: Passenger growth

EXHIBIT 4: 20-YEAR GDP AND RPK PROJECTED ANNUAL GROWTH RATES

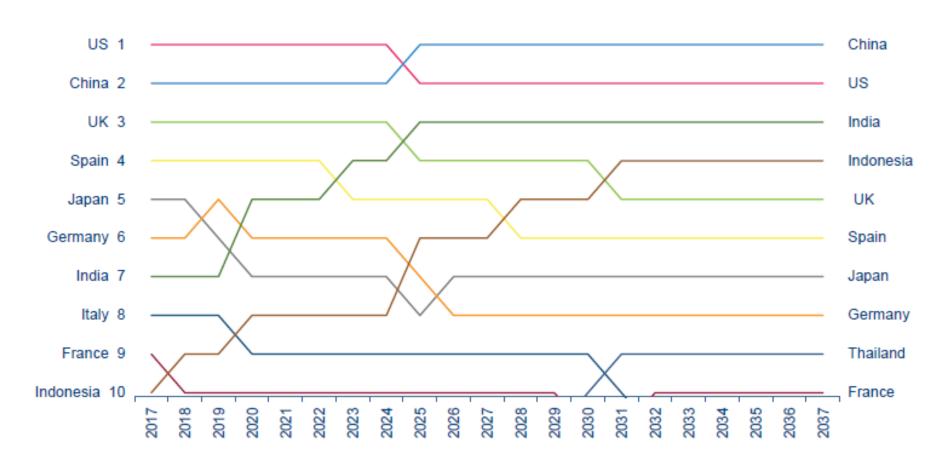


Source: Boeing



Demand Trends in Aviation: Passenger growth

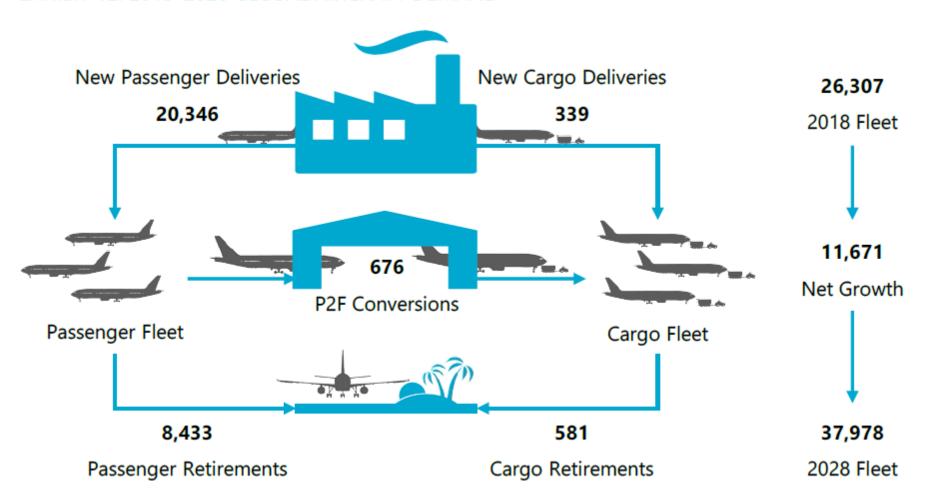
The 10 largest air passenger markets over time (ranked by passenger numbers, to, from and within each country)





Supply Trends in Aviation by Region

EXHIBIT 12: 2018–2028 GLOBAL AIRCRAFT DEMAND



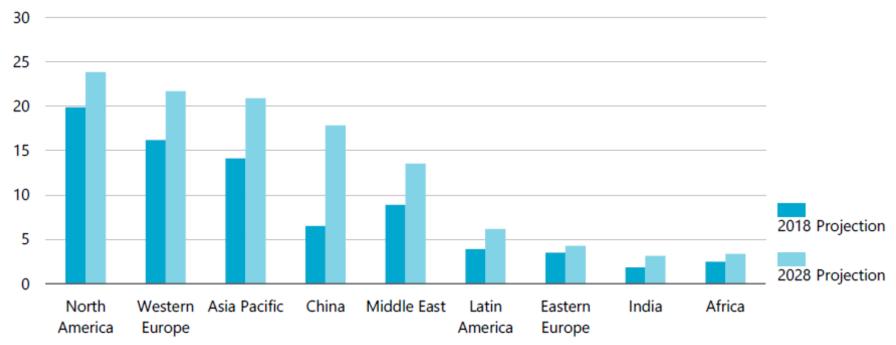


Supply Trends in Aviation by Region

- Larger Fleet: By 2028, worldwide fleet will be 38000, up from 26000 in 2018.
- Newer Fleet: By 2028 55% of the fleet will have been designed and built since 2000.
- Growth in MRO by 4%: Driven by China and India.

EXHIBIT 37: TOTAL MRO SPEND BY REGION

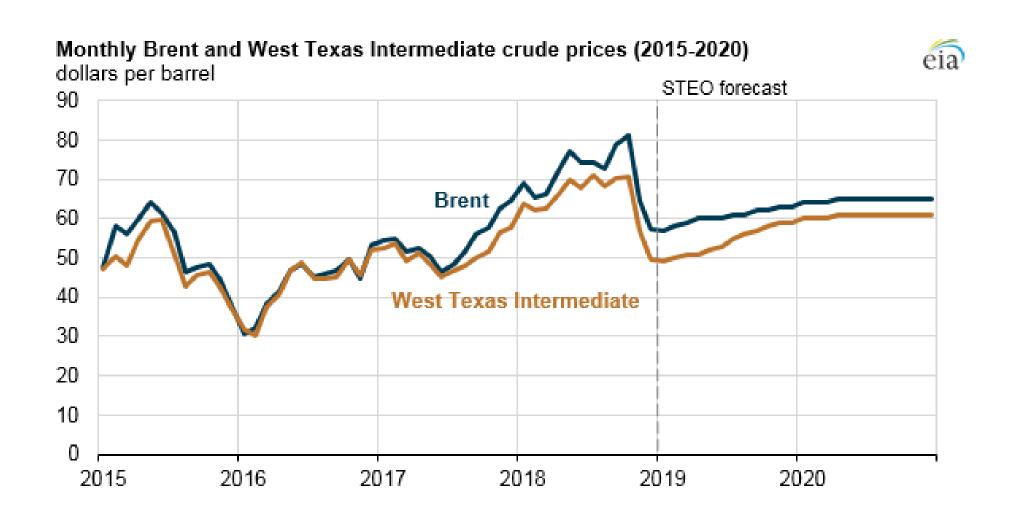
US DOLLARS (BILLIONS)



Source: Oliver Wyman Global Fleet & MRO Market Forecasts

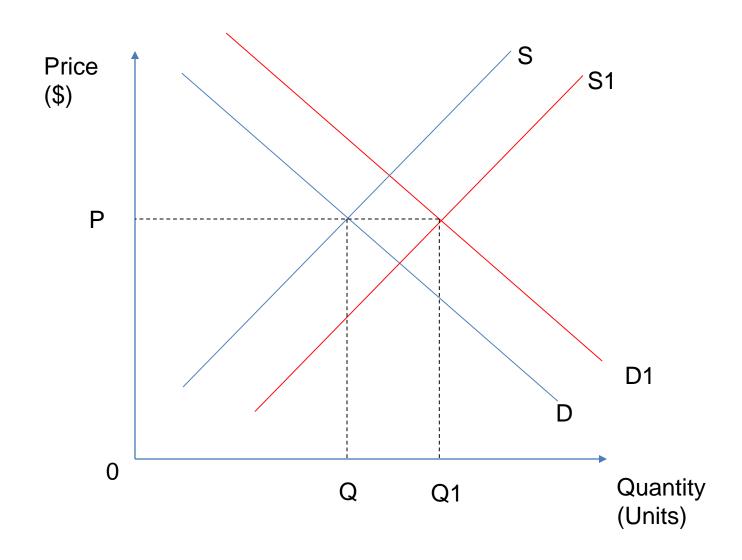


Supply Trends in Aviation: Oil Prices





Implications





Insights: Aviation Supply

High initial capital/sunk costs. Labour & capital intensive Overlapping hubs and city pairs from overexpansion **Unique features of Supply in Aviation Excess capacity** created when demand falls but inventory is inflexible

Time lags
between orders
& deliveries,
volatility of oil
increases risk

Highly
regulated and
in media
spotlight:
Strikes, crashes

Bankruptcies redistribute capacity, not reduce



Insights: Aviation Demand





Inter-relation between passenger growth, GDP and Jobs

The supply and demand for aviation personnel is **derived** from the supply and demand for aviation in general

SCENARIO	CAGR	TOTAL PAX IN 2037 (ORIGIN- DESTINATION PASSENGERS)	JOBS SUPPORTED IN 2037	GDP SUPPORTED IN 2037 (2016 PRICES)
Reverse Globalization	2.4%	5.7 billion	90 million	\$4.6 trillion
Constant Policy	3.5%	7.0 billion	100 million	\$5.5 trillion
Maximum Liberalization	5.5%	10.3 billion	119 million	\$7.6 trillion

Source: IATA/Tourism Economics & Oxford Economics



Areas of Concern

- Lack of diversity in Aviation: Under 5% of all pilots in both the US and UK are female. Indigo of India leads the way with 14% female pilots
- Pilot shortages: 790k new pilots required by 2037 (Boeing)
- MRO shortages: 10% shortfall in the number of mechanics required by 2028.
- Safety concerns: 16 crashes claiming 555 lives in 2018, after our best ever year, 2017
- Cuts to training budgets: Slim profit margins puts pressure on safety and training budgets
- Disruption to the aviation industry: Terrorist threats, trade wars, increased automation...
- The world economic slowdown may impact the incomes of middle classes and business and leisure travel



Growth areas reported by our colleges



Human Factors



Aviation maintenance



Air Traffic management



Flight



Business Analytics





Recommendations

Upstream student recruitment at grassroots Engaging diverse groups Integrated to widen incentives & participation: solutions across social media, multiple industry & stakeholders networking events **Recruitment and** retention of aviation personnel **Attractive long** term value Deepen industry-academic proposition: **Combination of** monetary & nonpartnerships monetary rewards Reduced discontinuity between phases

of training with a focus on soft skills



