

# **Black Swans: The Worst Kind Of Bird Strike**

**From Record Growth To Uncharted Territory**

**Presentation To the 34th FAA Aviation Forecast  
Conference**

Washington, DC

By Richard Aboulafia

Vice President, Analysis

Teal Group Corporation

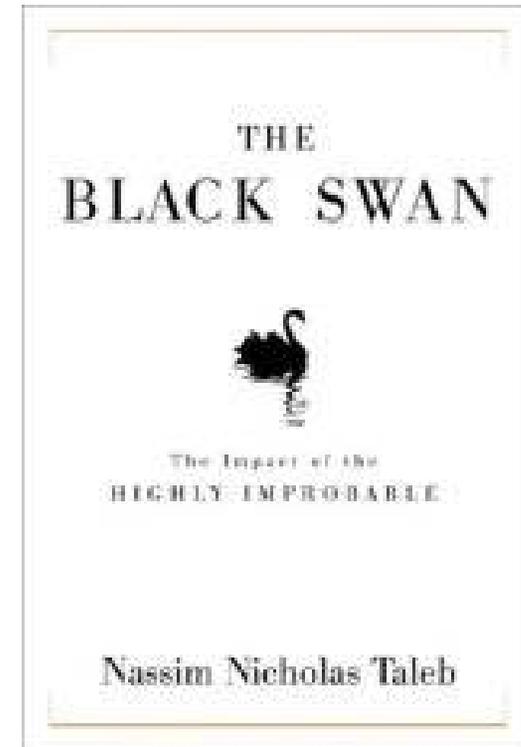
[www.tealgroup.com](http://www.tealgroup.com)

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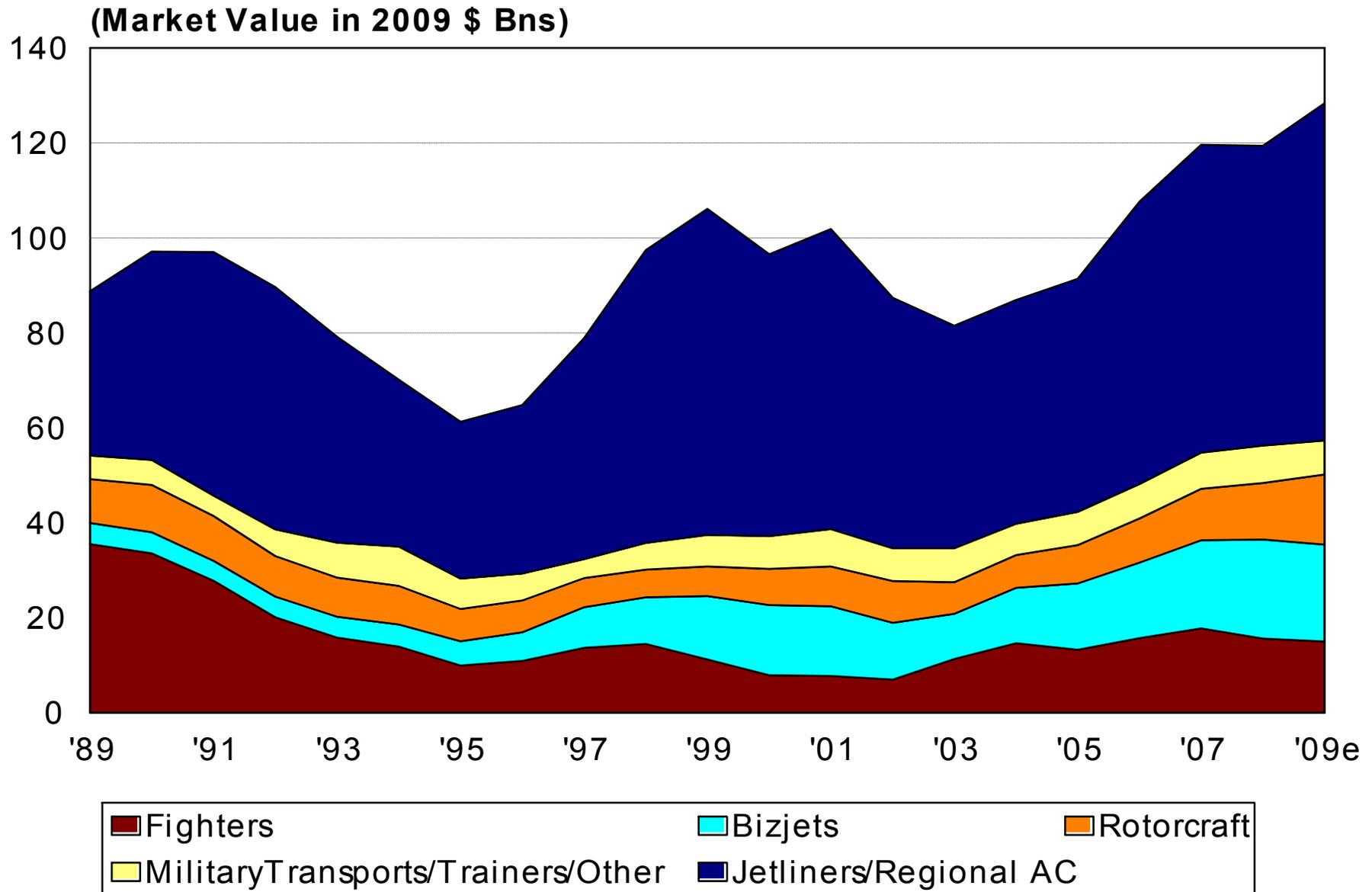
# A Very Important Book

Now Available In A Single PowerPoint Slide (or half of one)

- **Black Swan: an unanticipated event (like the appearance of a scientifically “impossible” bird) whose arrival has profound consequences for the future.**
- **Its very appearance changes perceptions and outlooks.**
- **It means the future might not just consist of a mixed-up bits of the past that can be used to extrapolate outward.**
  - **The future might feature radical shifts that alter the direction or composition of a market.**
- **Black Swans don’t do wonders for the forecasting biz.**



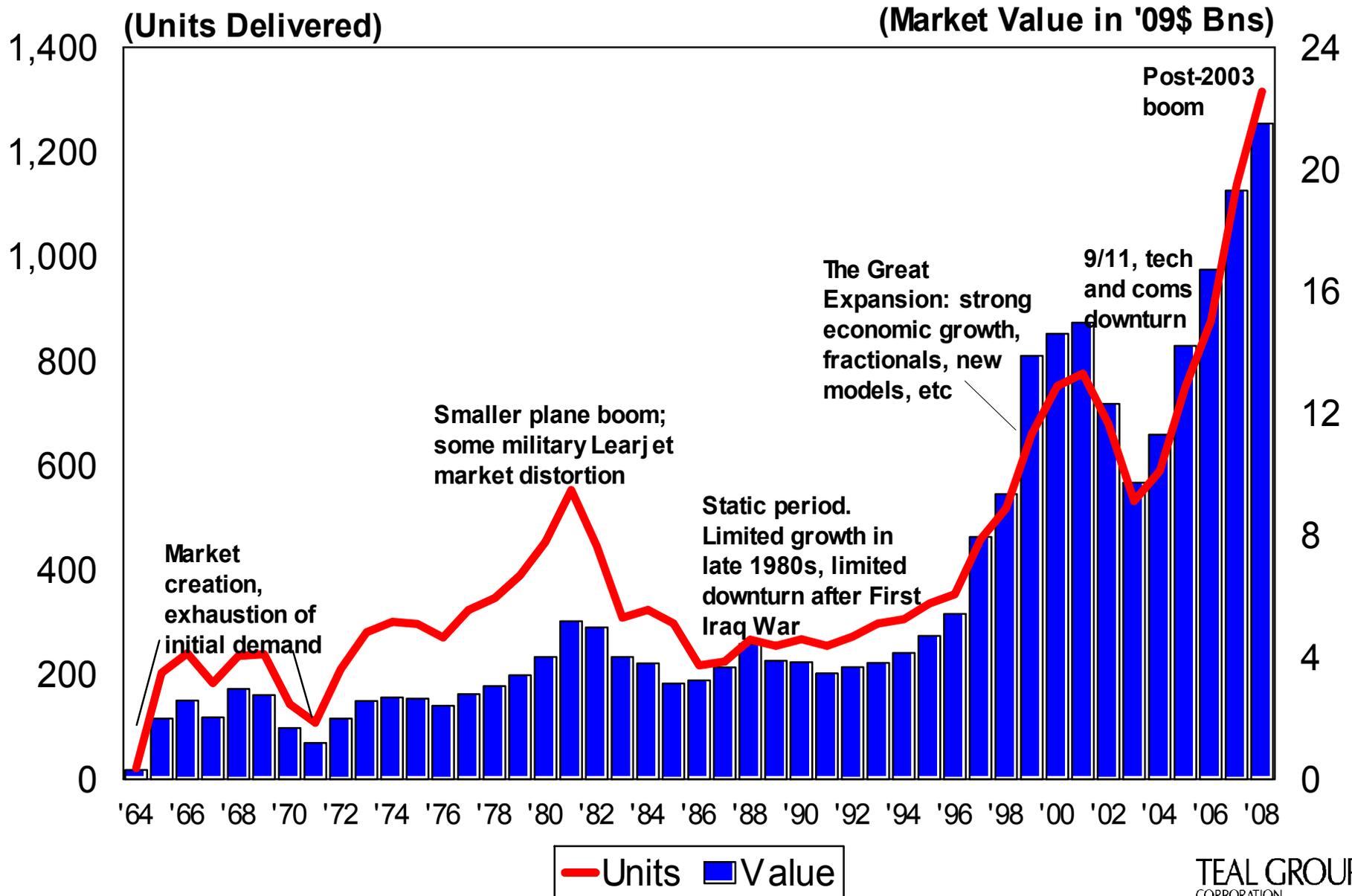
# Aviation Markets: The Past 20 Years



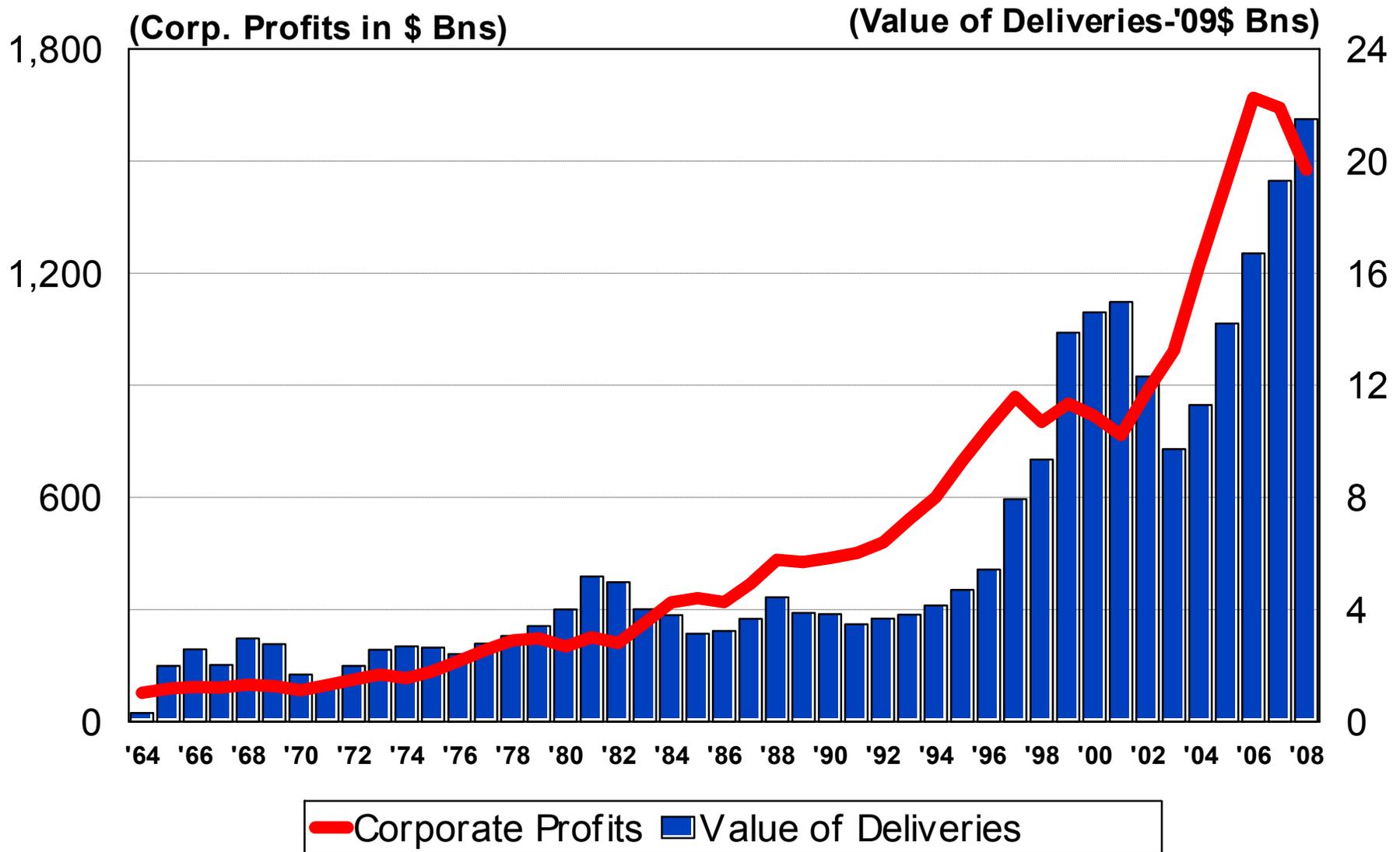
# What We Did During The Great Boom

<u>Market</u>	<u>CAGR</u> <u>'03-08</u>	<u>Outlook/Notes</u>
<b>Jetliners</b>	6.8%	Airbus 9.1%, Boeing 4.5%; BA and market would be higher w/o strike
<b>Business AC</b>	<b>17.1%</b>	<b>Market quadrupled '95-'08; will fall first and fastest</b>
<b>Regionals</b>	2%	Anemic. RJs Shrank, props grew
<b>Civil Rotorcraft</b>	14%	Best growth in decades; perhaps ever
<b>Military Rotorcraft</b>	11.5%	Strong US mil. Supplementals. Total rotorcraft: 12.3%
<b>Fighters</b>	6.6%	Big force structure problems
<b>Mil. Trans.</b>	4.3%	Relatively low priority given the mission
<b>Total</b>	<b>7.9%</b>	<b>Best growth in decades.</b>

# Business Jet History (W/Jetliners+RJs)



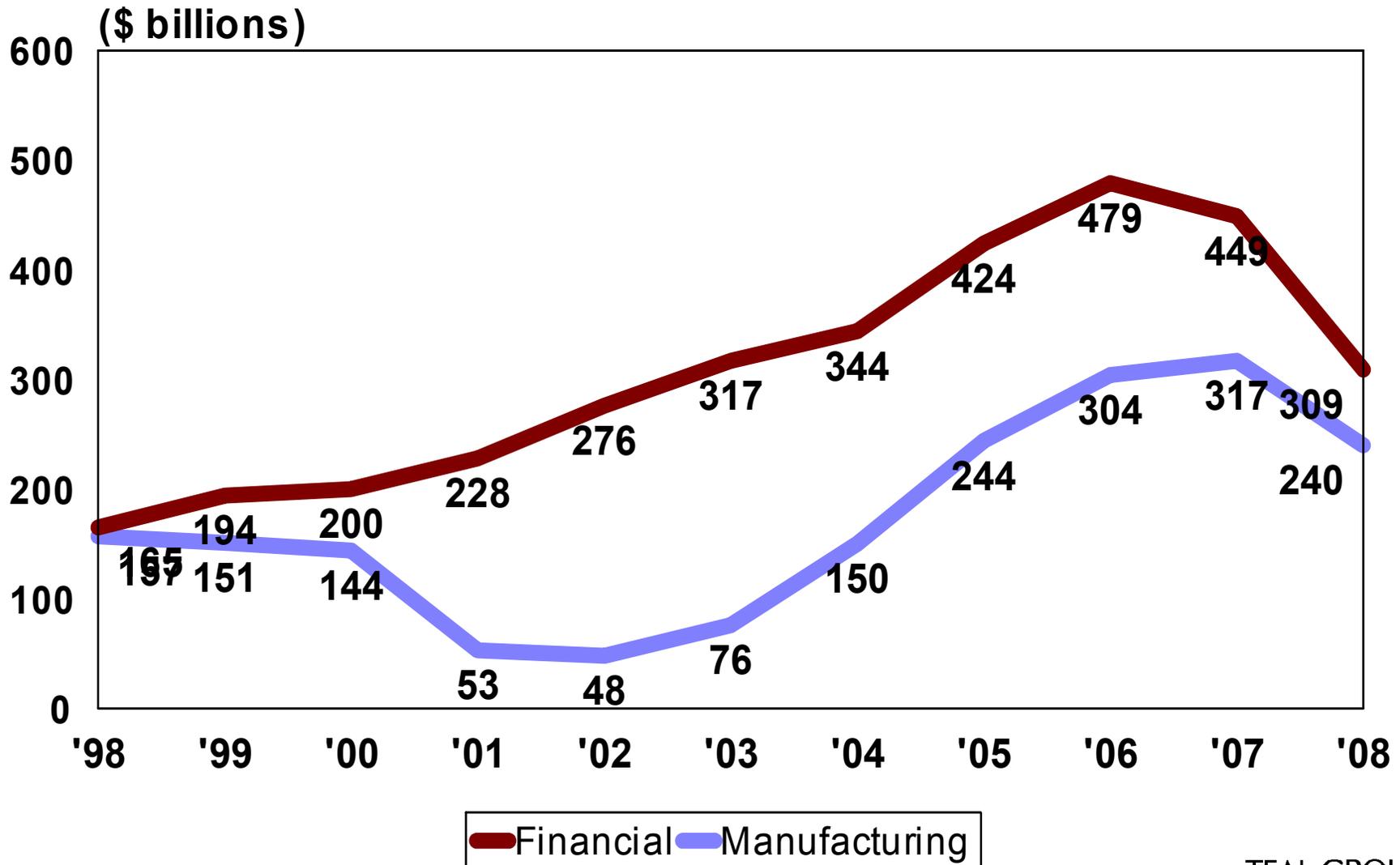
# Business Jets And Corporate Profits



Source: US BEA, Teal Group Research

# Corporate Profits Breakdown

## Why Those Car Guys Should Have Stood Their Ground



Source: BEA

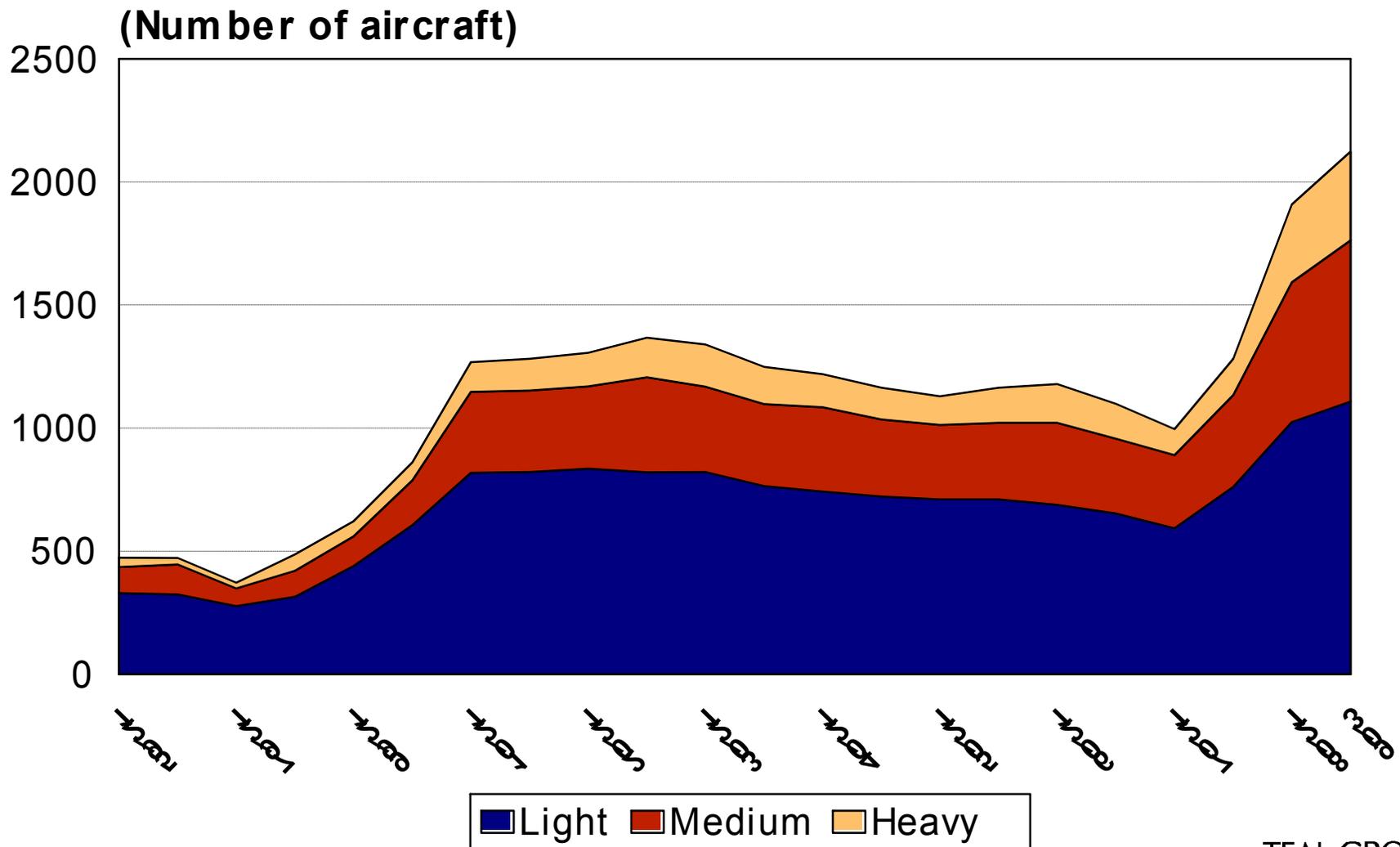
# Something To Watch. And Worry About.

<b>US Profits (\$ bns)</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008-1Q</b>	<b>2008-2Q</b>	<b>2008-3Q</b>	<b>2008-4Q</b>
Total Corporate	1,231	1,448	1,669	1,642	1,599	1,533	1,514	1,265
Manufacturing	152.7	243.8	304.3	316.6	240.5	214.9	272.6	231.2
Financial	348.9	425.3	478.8	449.9	412.8	383.2	308.9	130.9

Source: US BEA

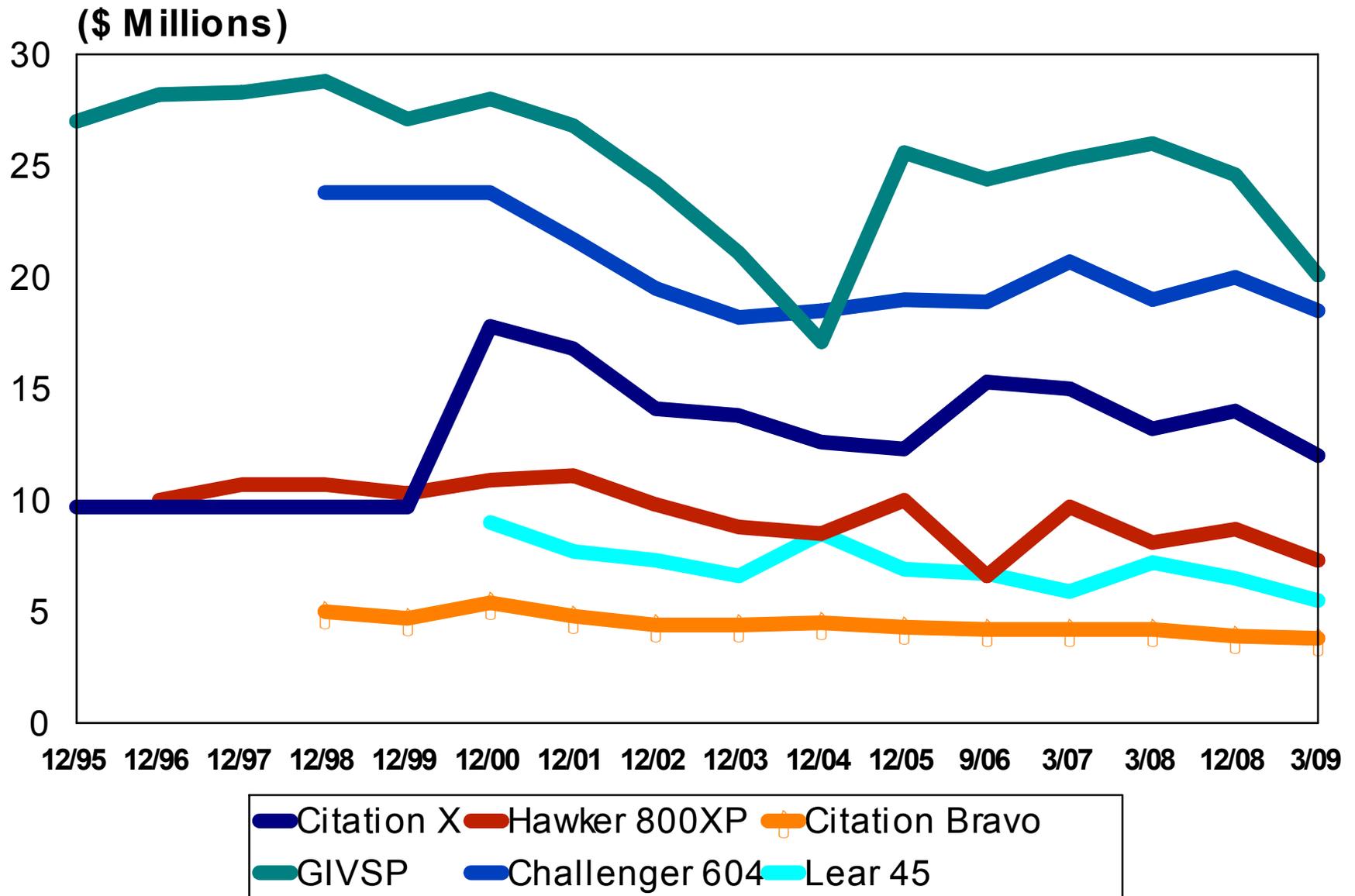
# Used Jet Availability

## Aftershocks Of An Economic Heart Attack



Source: AMSTAT

# Used Jet Average Selling Prices



Source: AMSTAT

# Two Big Possible Black Swans

- **World economic growth and trade.**
- **Relationship between global economic growth and business aircraft demand.**
- **But there are many “it’s different this time” *little black swans*....**



# Four Expensive Words: It's Different This Time

- **No safe havens.**
- **Very high volatility in ALL markets (equities, capital, oil, etc.).**
- **Exogenous yet non-violent shock.**
- **More than one popped bubble.**
- **Many “too big to fail” players.**
- **Clogged credit market—credit cheap, supply broken.**
- **De-coupling didn't happen; coupling is worse.**
- **Feedback loop between Main St. and Wall St.**
- **Impossibly low global growth numbers.**
- **Popular threat to globalization, market economy.**

# It's Different For Us, Too

- **Populism/Government interference with “nationalized” companies.**
  - Bizjets worth ~30% of the jetliner business by value, yet transport ~0.1% of the traffic.
- **Finance/OEM feedback.**
- **New products and heavy spending.**
- **Utilization dropping much faster than any economic indicator.**
- **Record available aircraft numbers.**
- **Protectionism/anti-trade sentiment.**
- **New market entrants.**

# Three Scenarios: Baseline + Two Departures

## 1. This too shall pass:

- Worst popped bubble(s) yet.
- The credit crisis just start of a serious downturn.
- But, nothing fundamental has changed; deliveries growth resumes in 2h 2012 after a prolonged recession (three years rather than two).
- Think: hockey stick.

**[THIS IS PROBABLY WHERE WE ARE. AT LEAST I HOPE IT'S WHERE WE ARE. IT'S THE RESULT OF A SMALL BLACK SWAN.]**

# Three Scenarios

## 2. We're still falling:

- Deflationary shock hurts prices and demand.
- Massive liquidity injections help.
- Then inflation. That feels better than deflation.
- Little growth (stagflation), but at least the steep fall would end.
- Think: Big “V”

**[THIS MIGHT BE WHERE WE ARE.]**

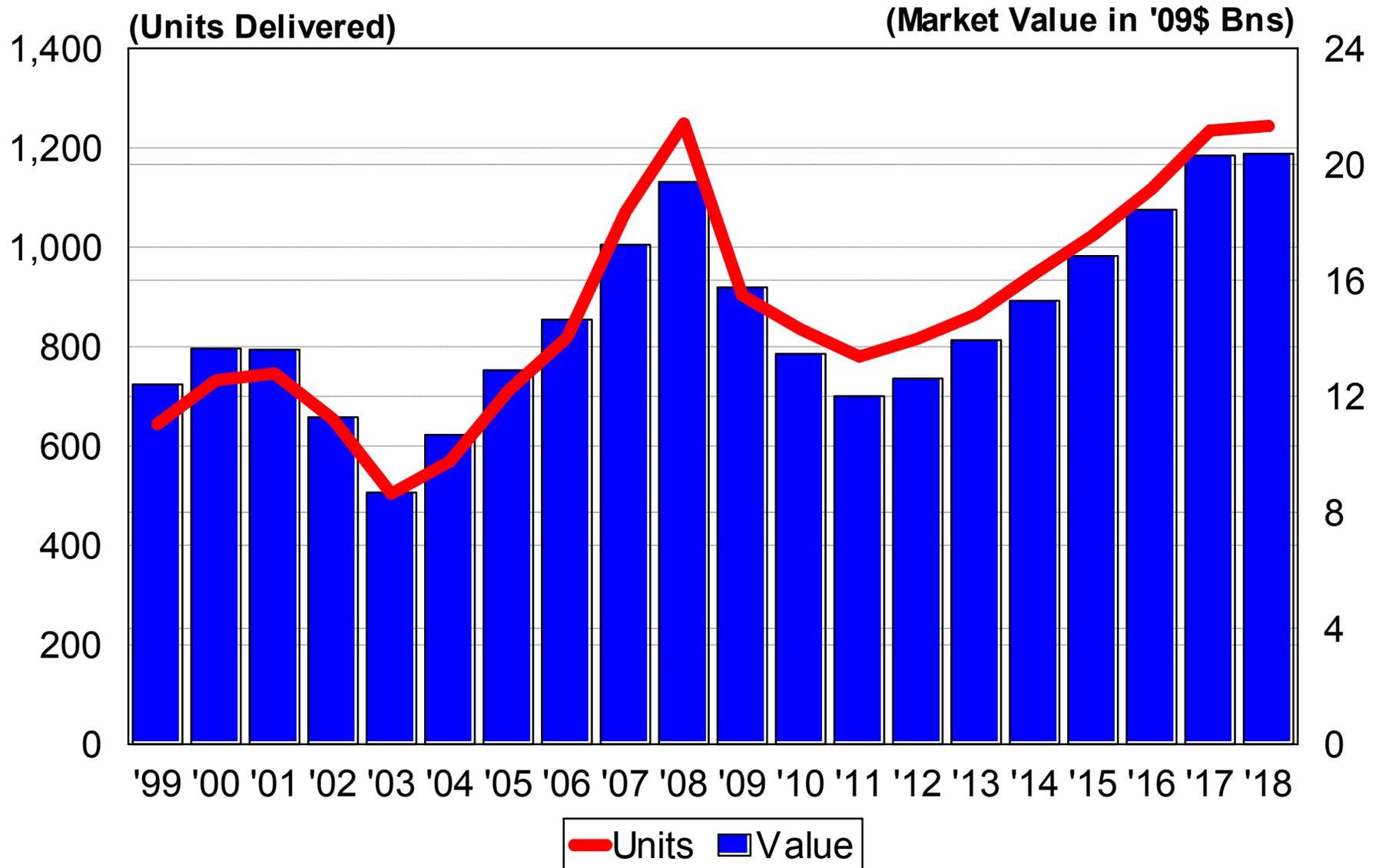
# Three Scenarios

## 3. We Have A Serious Problem:

- We're overleveraged and indebted.
- Starting an extended period of painful restructuring and de-leveraging, perhaps with global stagflation (following deflation).
- Overdue social spending bills make it worse.
- After a painful downturn, a decade of lost growth.
- Populist anti-globalization/anti-market economy sentiment could make things worse too.
- Think: Big “L,” or bathtub.

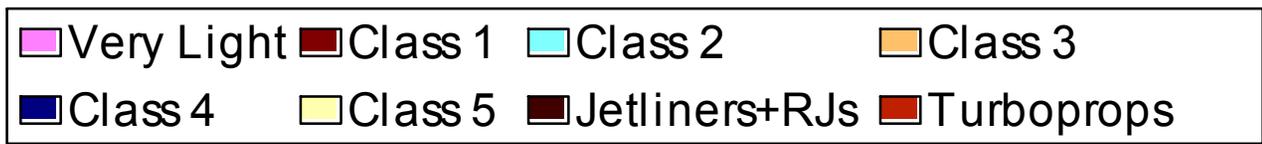
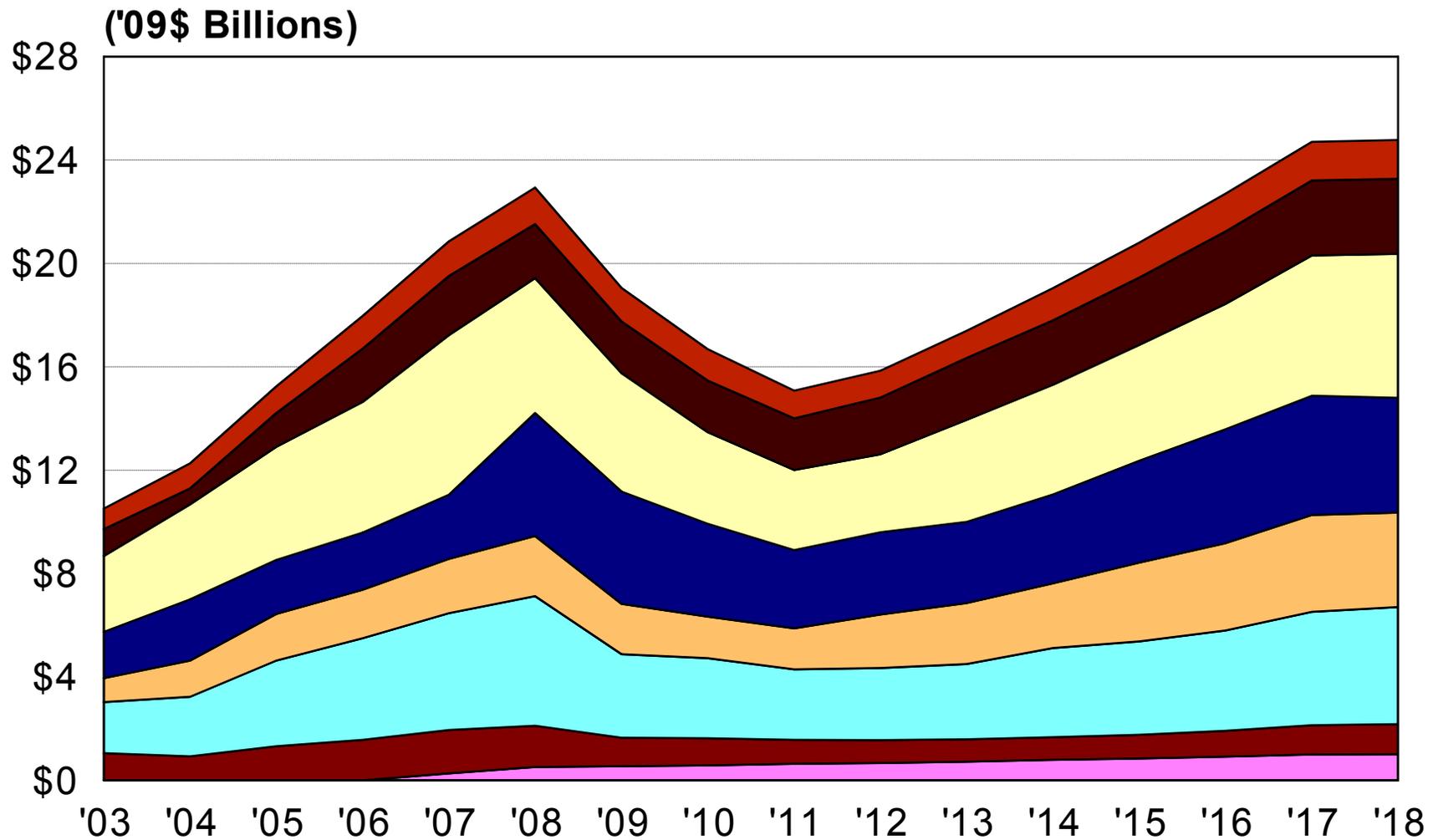
**[THIS IS A REMOTE BUT A TANGIBLE RISK,  
AND PRODUCED BY A BIG ANGRY BLACK  
SWAN.]**

# Forecast: As It Turns Out, We've Peaked



Excludes jetliners, RJs

# The Market by Aircraft Class



# Barriers To Aviation Market Entry: Stubbornly High

Except, Perhaps, In This Segment

- **One successful new civil jet manufacturer since 1960. Tough for niche players.**
  - And about that one new player...
- **Capital requirements: for \$100 million, you can dig yourself a hole...**
- **Honda, the great exception.**
- **About the Mid East...**

# VLJs/Air Taxis: An Exciting, New, and Frequently Fatal Market

- **It's Worse Than That, They're Dead, Jim:** Adam Aircraft, Safire, Avocet, AASI, Century Jet, ATG, Promavia, Visionaire.
- **It's Life Jim, But Not As We Know It:** Eclipse, Sino-Swearingen, Epic Elite/Victory, D-Jet, Piperjet, Cirrus Jet, Spectrum Aeronautical, Grob Utility Jet.
- **People Who Definitely Will Profit From This Bloated Fiasco:** Cessna, Embraer, Pratt & Whitney Canada.

# A Few Concluding Thoughts

- I am not aware of any responsible forecasts calling for an end to long-term economic and corporate wealth growth.
- I am mildly worried about a de-linkage between these drivers and business jet demand.
- I am very worried about the next six months.