




Identifying the pricks which will burst the bubble in aircraft orders

**Adam Pilarski,
Senior Vice President, AVITAS, Inc.
September 14th, 2017
Panama**

- **Using economics to understand them**
- **Implication on our life**

- 
- **To help us understand reality we can use 4 economic concepts**
 - Trade offs
 - Game Theory
 - Principal/Agent dilemma
 - Analytical thinking

Analytical Thinking

“For every simple problem there is an answer that is murky, complex and wrong.”

Paul Krugman

“For every complex problem there is an answer that is clear, simple and wrong.”

H. L. Mencken (1880-1965)


Trade-offs

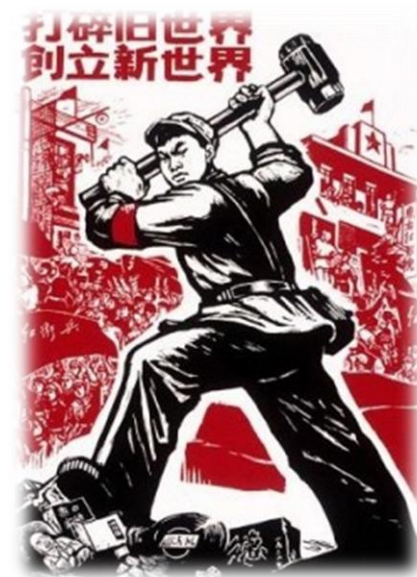
■ Trade off

- Benefit – economies of scale, lower costs (€)
- Cost – bureaucrats far away tell you what to do

Principal Agent Problem

Can we find better implementers?

- 
- **Movement from central authority**
 - Business people?
 - Military?



“Trump is CEO of the country”

**Nikki Haley
May 14th, 2017**

- **Judging by results (concentrate on efficiency)**
 - Plethora of billionaires in cabinet
 - Use/acceptance of business principles to guide our life
 - Education – Charter Schools
- **Can military run better government (plethora of generals in cabinet)**



Make America Great Again

not the same as

America World Leader



If not the U.S.....

The New World Leader?

The Washington Post

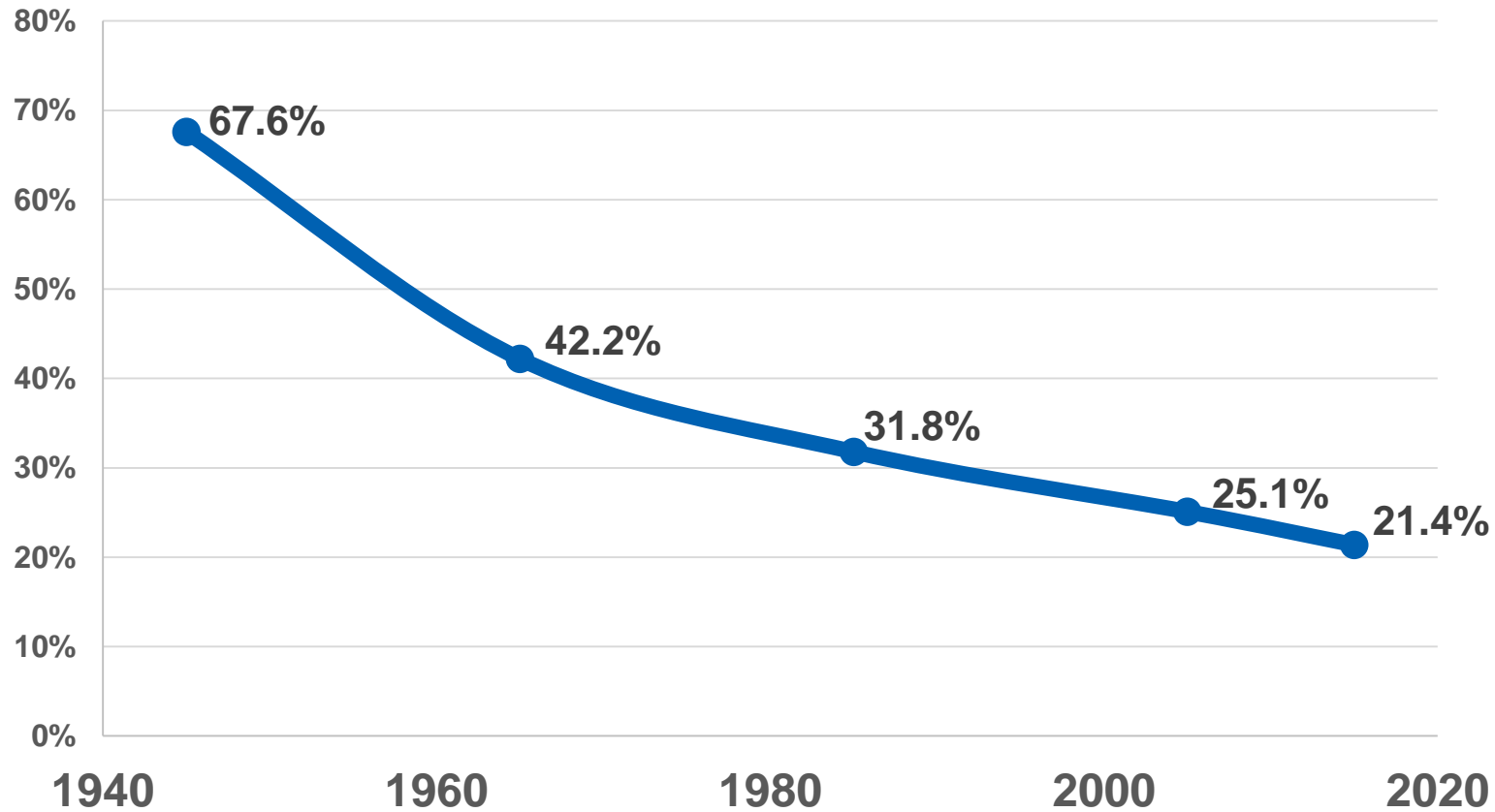
CHINAWATCH



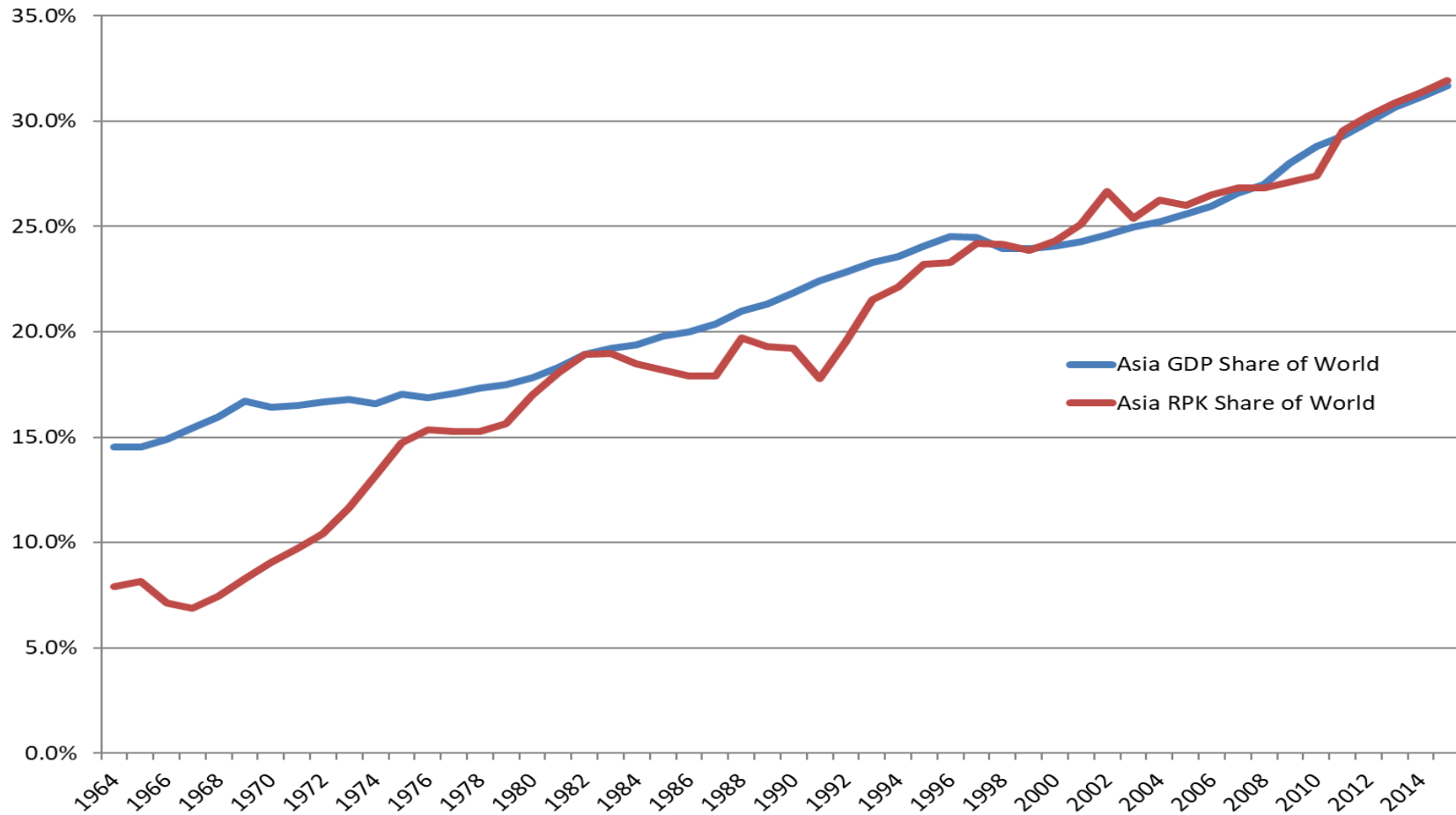


Implications for business

U.S. Share of World Traffic



Asia GDP and RPK % Share of World



- **Future role of dollar?**
- **Demise has been predicted many times**
- **Adam's theory of tallest midget**
- **Possible huge implication for our industry**
 - Pricing of aircraft
 - Financing
 - Oil prices

Adam Smith



- **Possible bubble**
- **Why bubble?**
- **How can bubble burst?**
- **Middle East developments**

Aviation is like a box of puppies

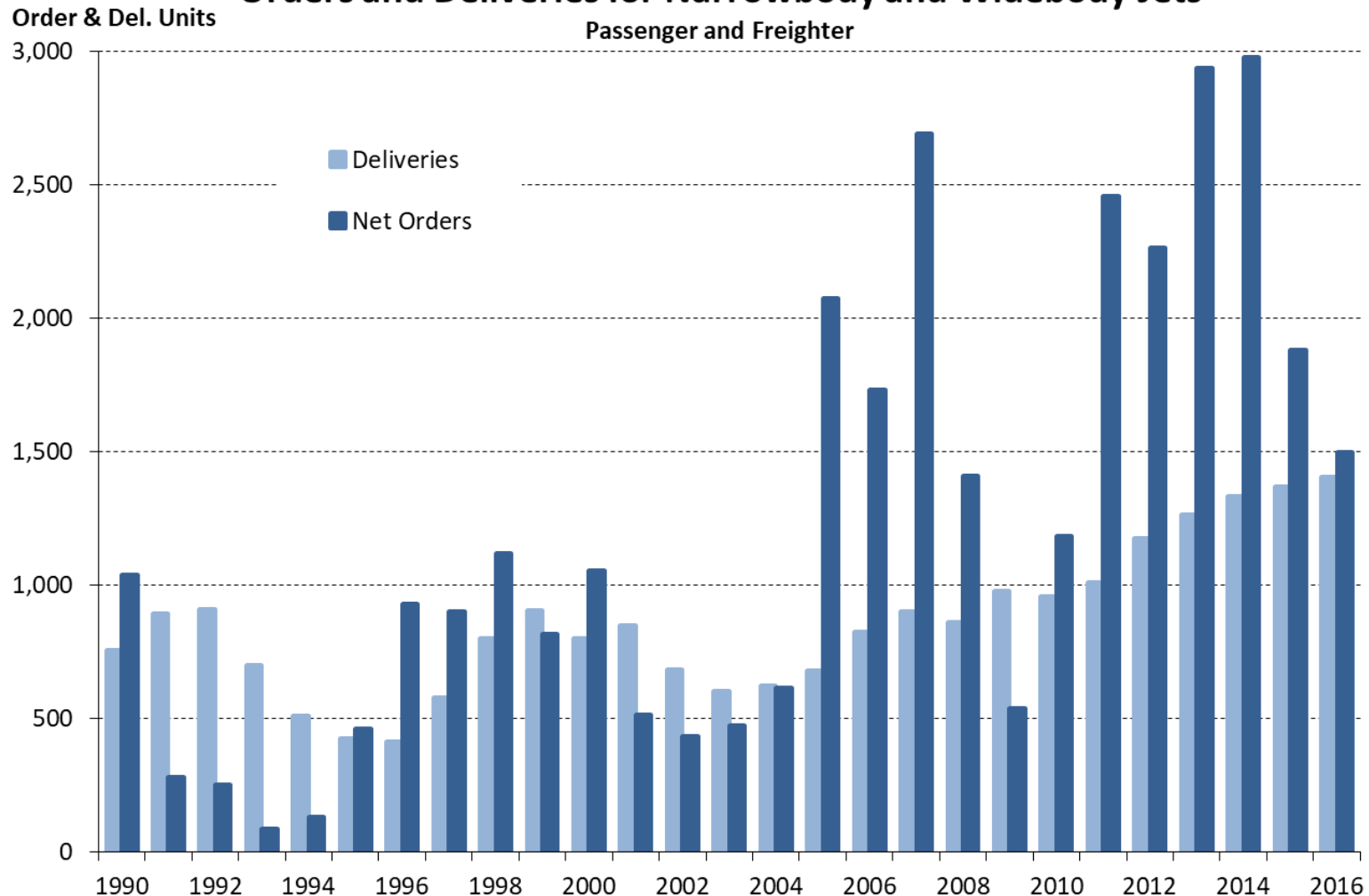
- Good for us all
- Long term sunny future



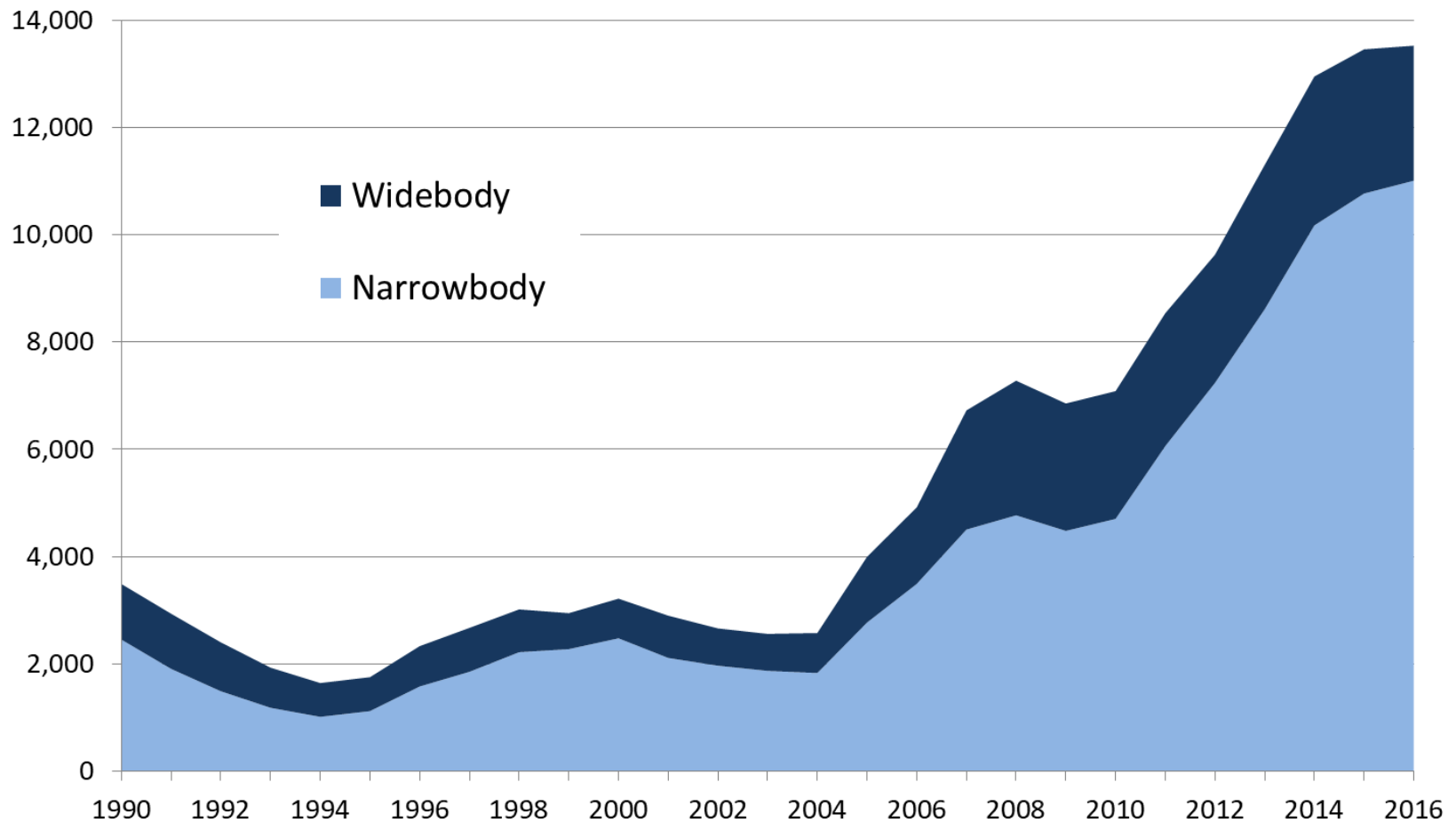
Short term

- Possible hiccup
- Possible over ordering / over supply

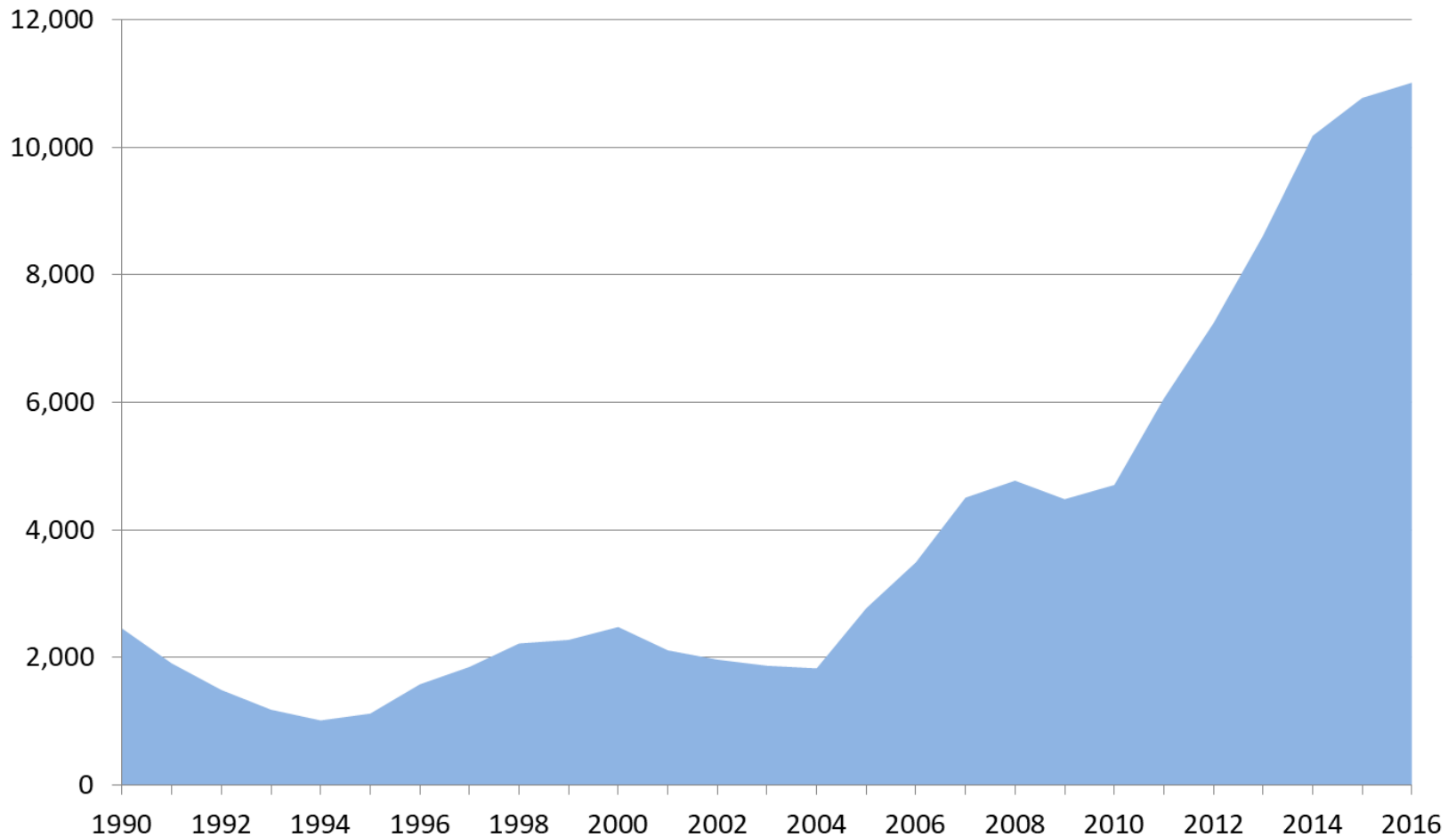
Orders and Deliveries for Narrowbody and Widebody Jets



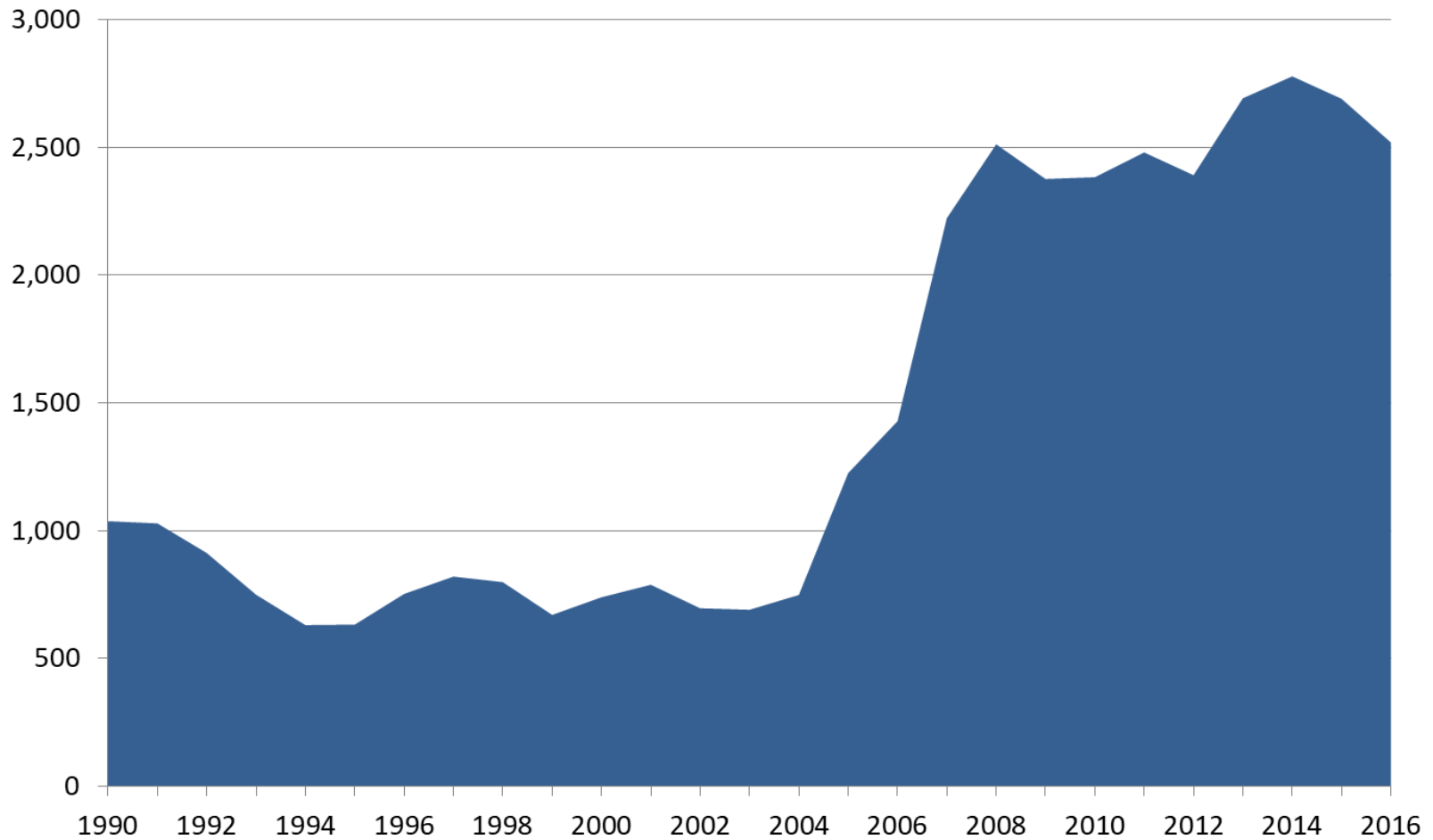
Backlog for Narrowbody and Widebody Jet Aircraft



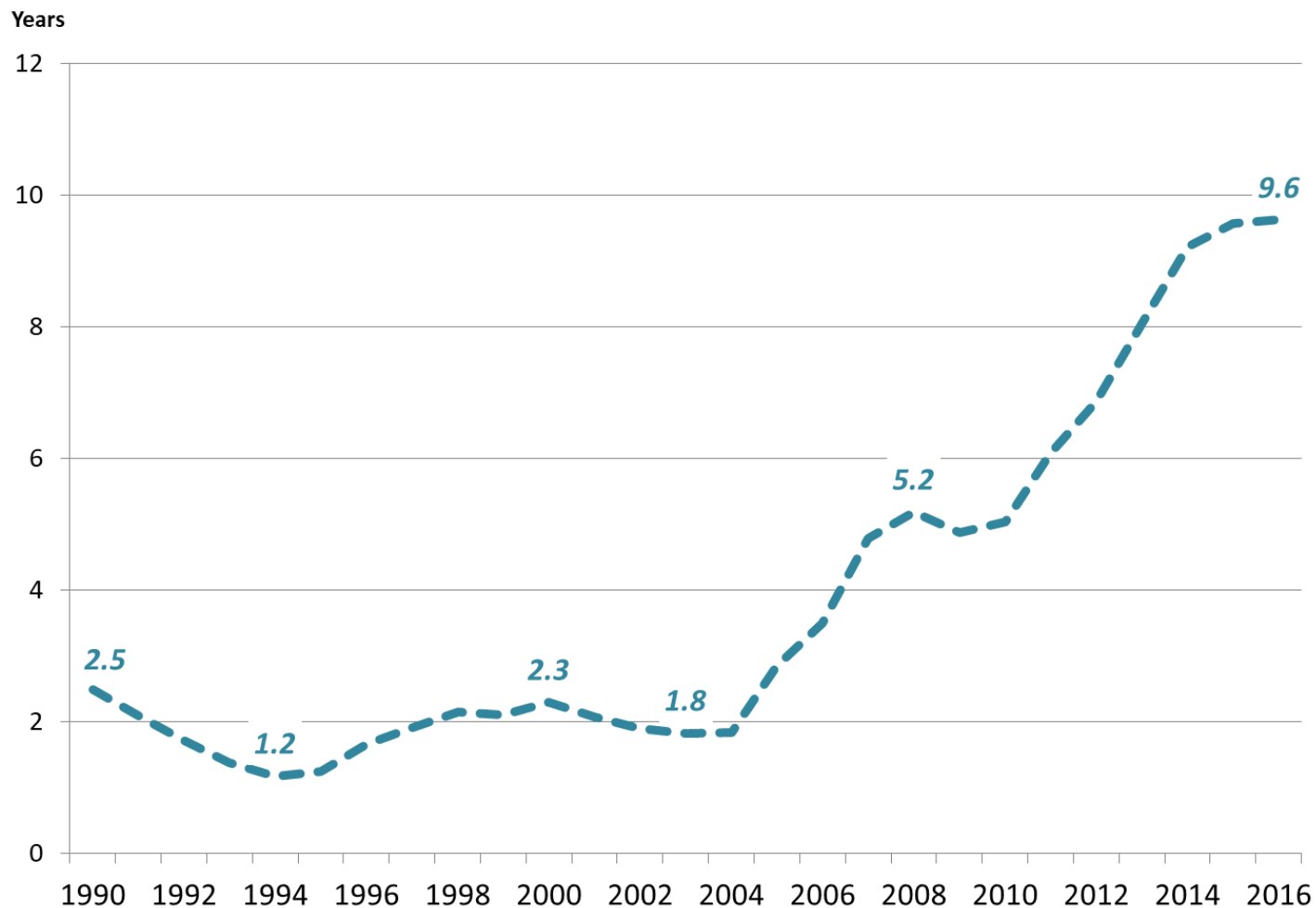
Backlog for Narrowbody Jet Aircraft



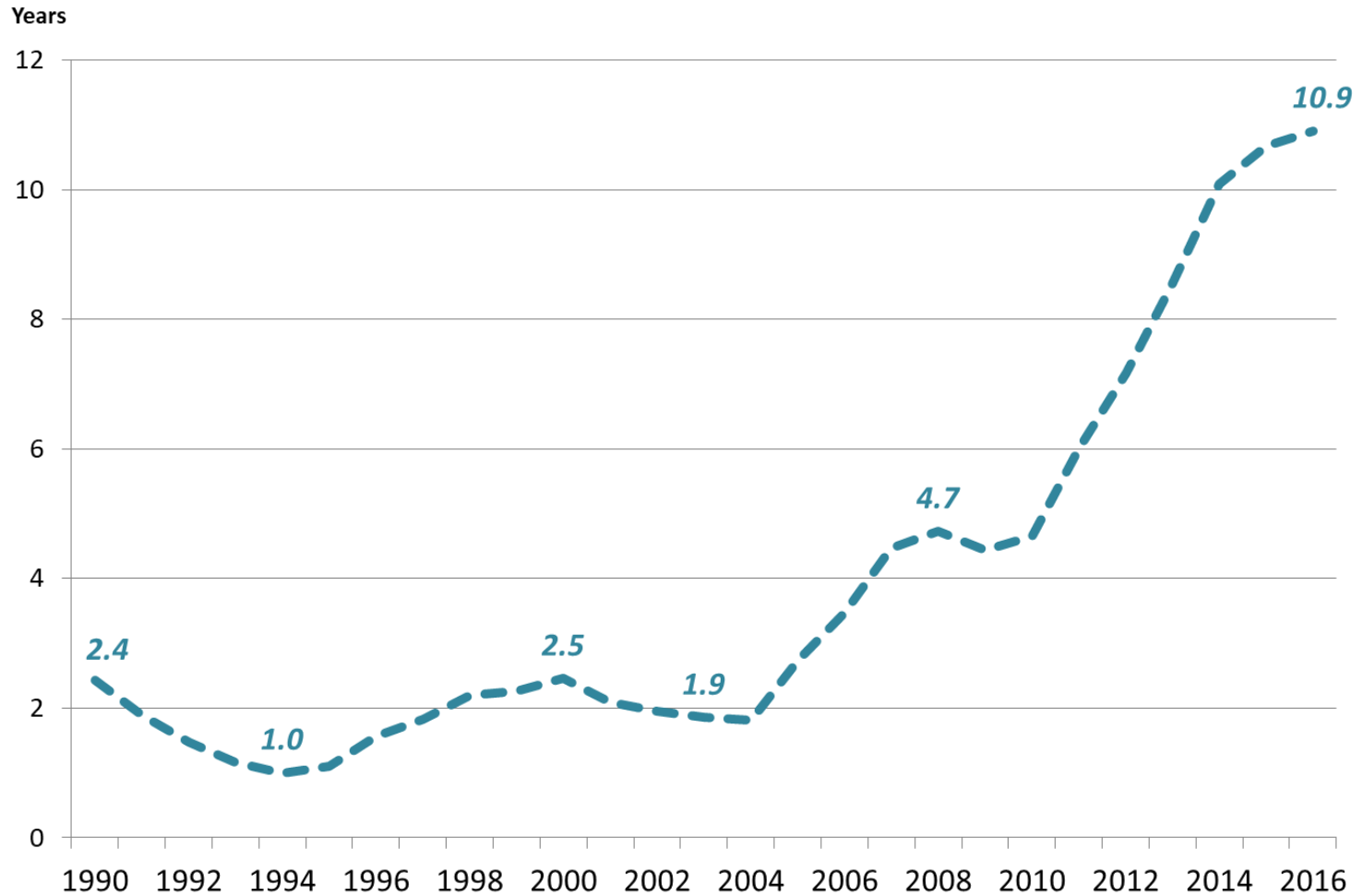
Backlog for Widebody Jet Aircraft



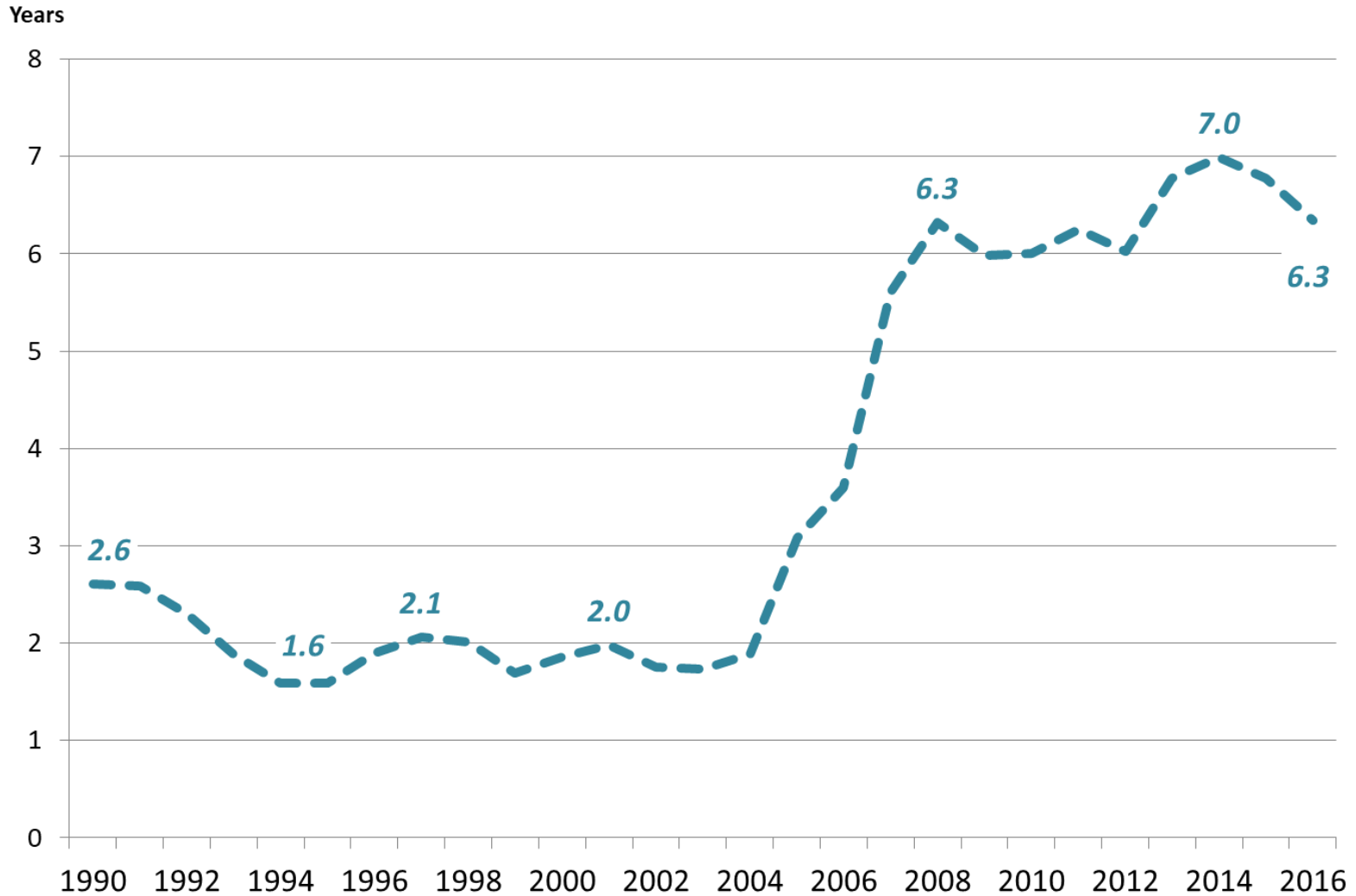
Backlog Years of Production for Narrowbody and Widebody Jets



Backlog Years of Production for Narrowbody Jets



Backlog Years of Production for Widebody Jets



No more cycle

- *“I think we’re a little bit more sophisticated in orderbook management. This is no longer a cyclical industry, it really isn’t.”*

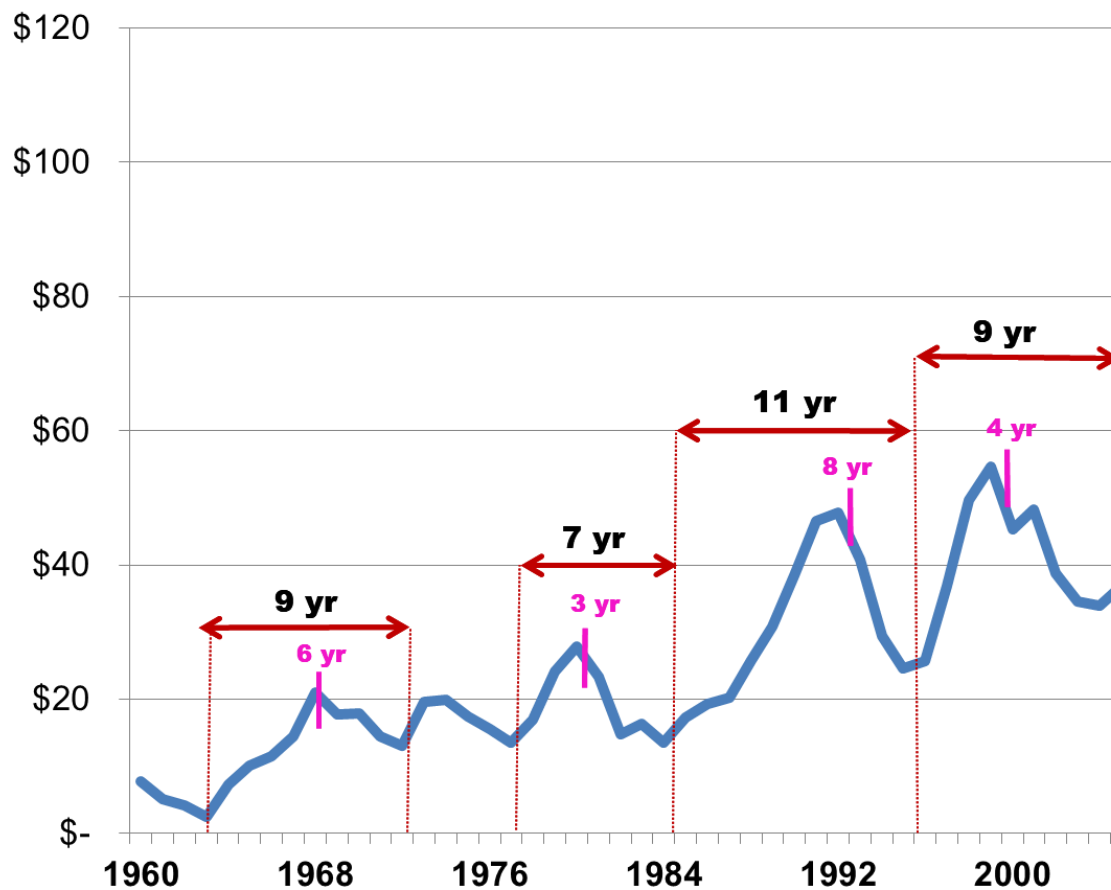
*John Leahy
ISTAT Meeting, March 2016*

- *“I think it’s highly unlikely you’ll ever see losses in this industry again. We are in a whole new world.”*

*Doug Parker
April 2016*

Value of Deliveries - Narrowbody and Widebody Aircraft

2016\$ Billions



Source: AVITAS estimates based on the *AVITAS BlueBook of Jet Aircraft Values*



Possible explanations for mother of all cycles

World Economy fine / box of puppies





Period of low oil prices

- Replacements
- Insurance
- New aircraft/engine developments

Monetary factors

- Historically low interest rates
- Plenty of funding available seeking returns
- New funding available (Middle East, China)



Result

- More aircraft available, some financed by new players (possible pressure on lease rates)
- More airlines, LCCs being supplied aircraft
- More traffic in part because lower oil prices and more competition
(possible pressure on yields)

Also

- More government supported entities?
- China, Middle East
- Less emphasis on markets



How can hypothetical bubble burst?

- Traditional way
- Interest rate rise
- China
- Middle East



Old fashioned economic recession

**Old fashioned policy mistakes
(aka trade war)**

Interest rate rise

- Unknown timing
- Could affect lessors, LCCs, others who financed short term at low rates

China

■ Important elections in October



Middle East

Gulf 3 Carriers in 2016

| | |
|-------------------------------------|-------|
| Percent of World's Widebody Fleet | 10.5% |
| Percent of World's Widebody Backlog | 23.6% |

Dubai Airport – Number 3 in the World

Top Airlines: Emirates #4, Qatar #14, Etihad #19





Middle East Aviation

| Percent of World's | 1970 | 2016 |
|--------------------|------|-------|
| Widebody Backlog | 0.7% | 31.2% |
| Widebody Fleet | 0.0% | 17.9% |

Good things about Middle East Carriers

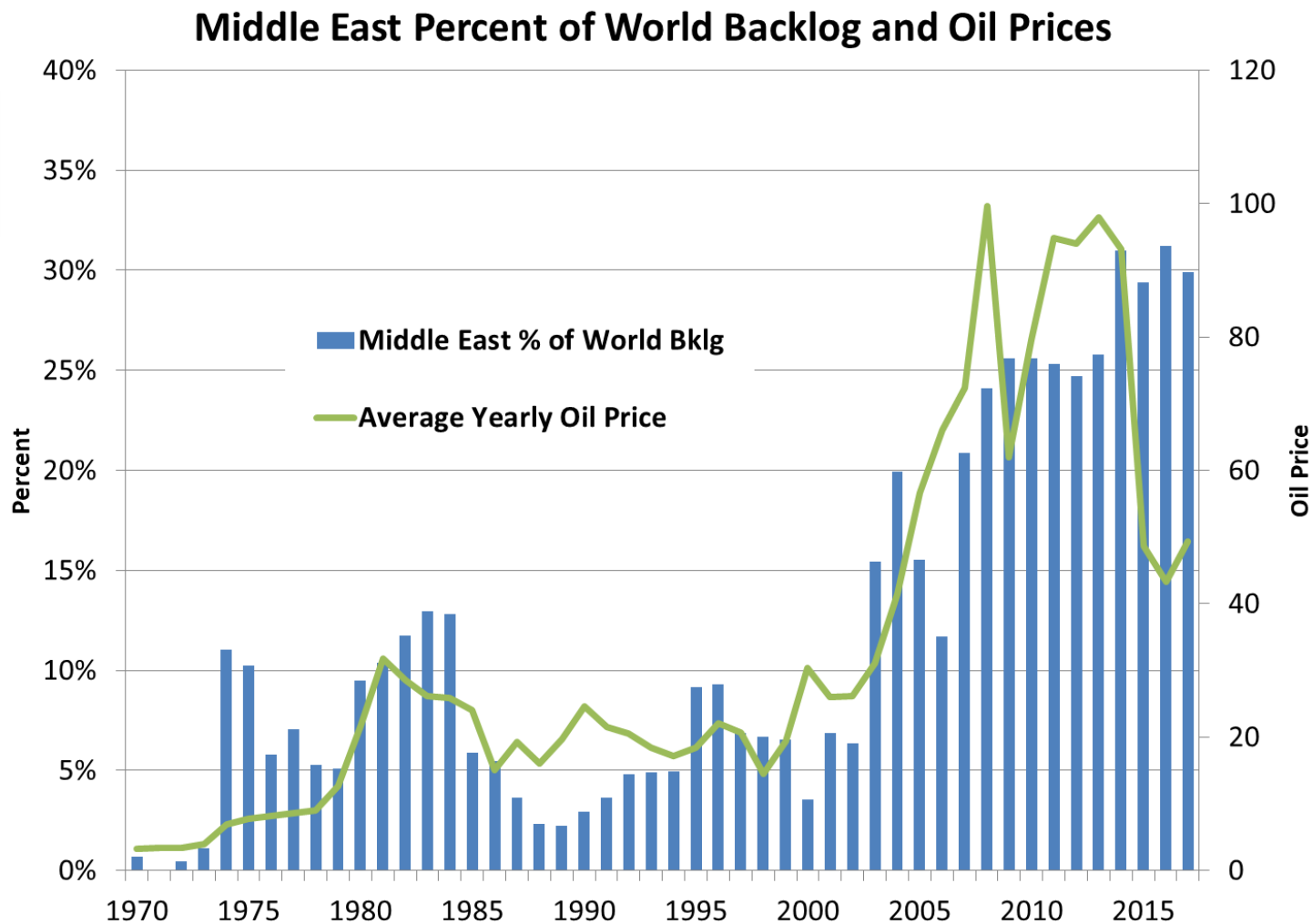
- Well run
- New type of service connecting new destinations



Oil prices related to Middle East airlines

- Oil prices related to traffic levels (both inbound and outbound)
- Hub traffic greatly affected
- Political factors in U.S. and Europe

Correlation
Coefficient
83%



- **More evidence we are facing a bubble**
- **Possible ways of slowdown identifiable**
- **Slowdown in Middle East not a temporary phenomenon**
- **Still believe in rosy future of aviation**

