



46th Annual Taxation Conference APPRAISAL for AD VALOREM TAXATION

of Communications, Energy and
Transportation Properties

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**Are Airlines Still Stuck at the Gate
Given the Current Economic
Environment?**

Presenters

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Agenda

- **State of the Industry**
- **Unitary Value Approach**
- **Fleet Value Approach**
- **Valuation Review**

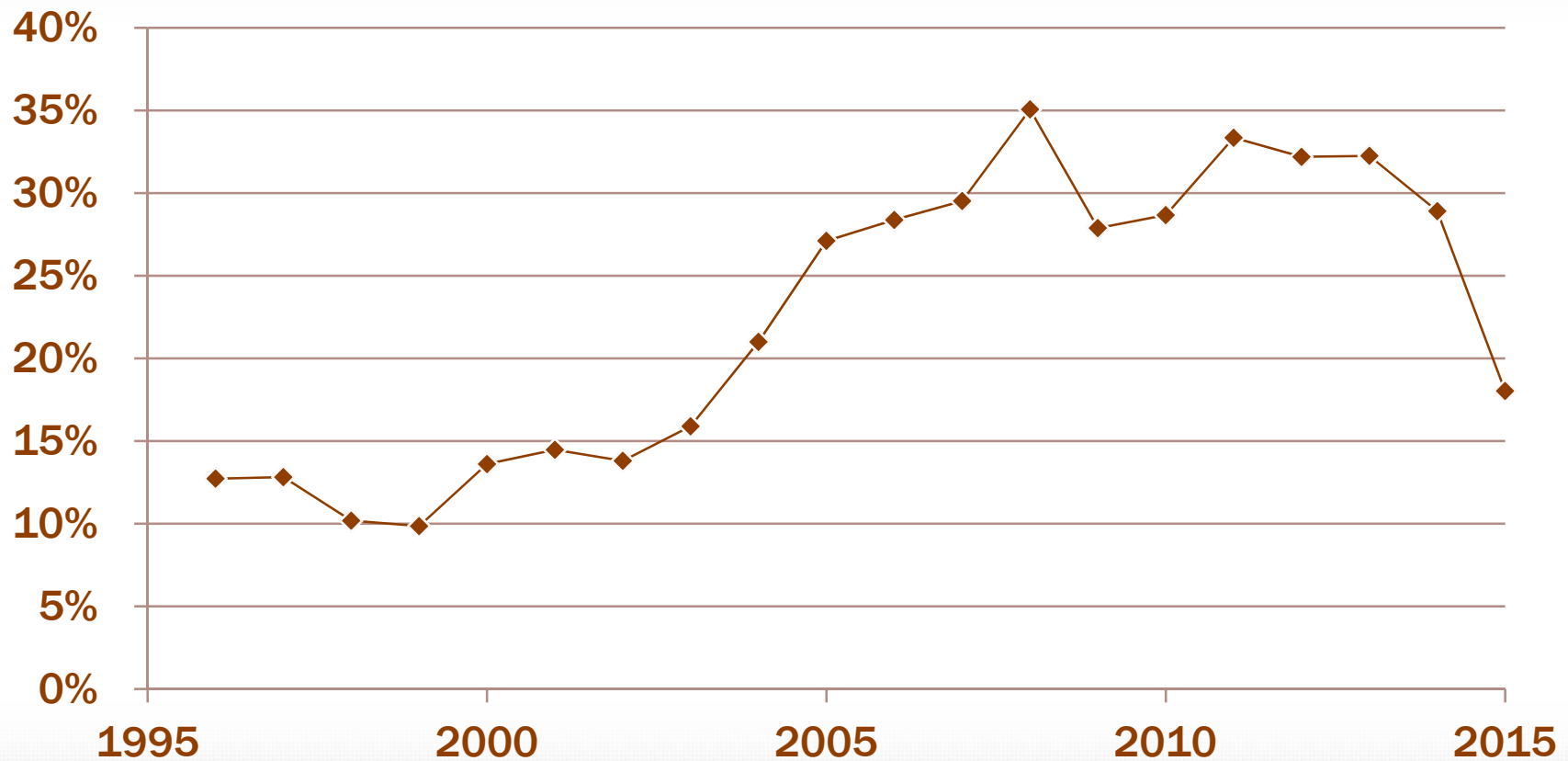
Load Factors Rising

Median Industry Load Factor



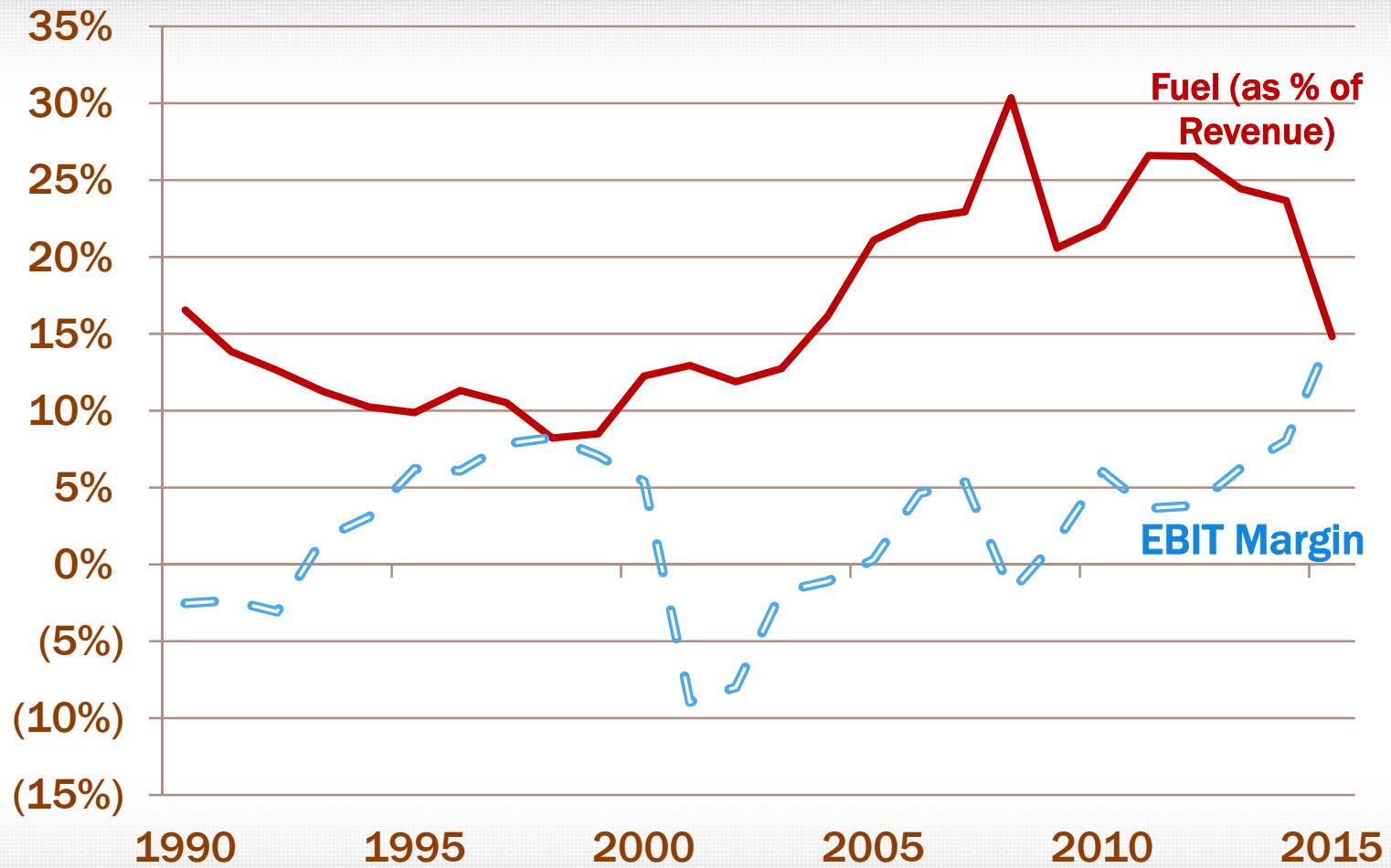
Jet Fuel Instability

Jet Fuel % of Revenue



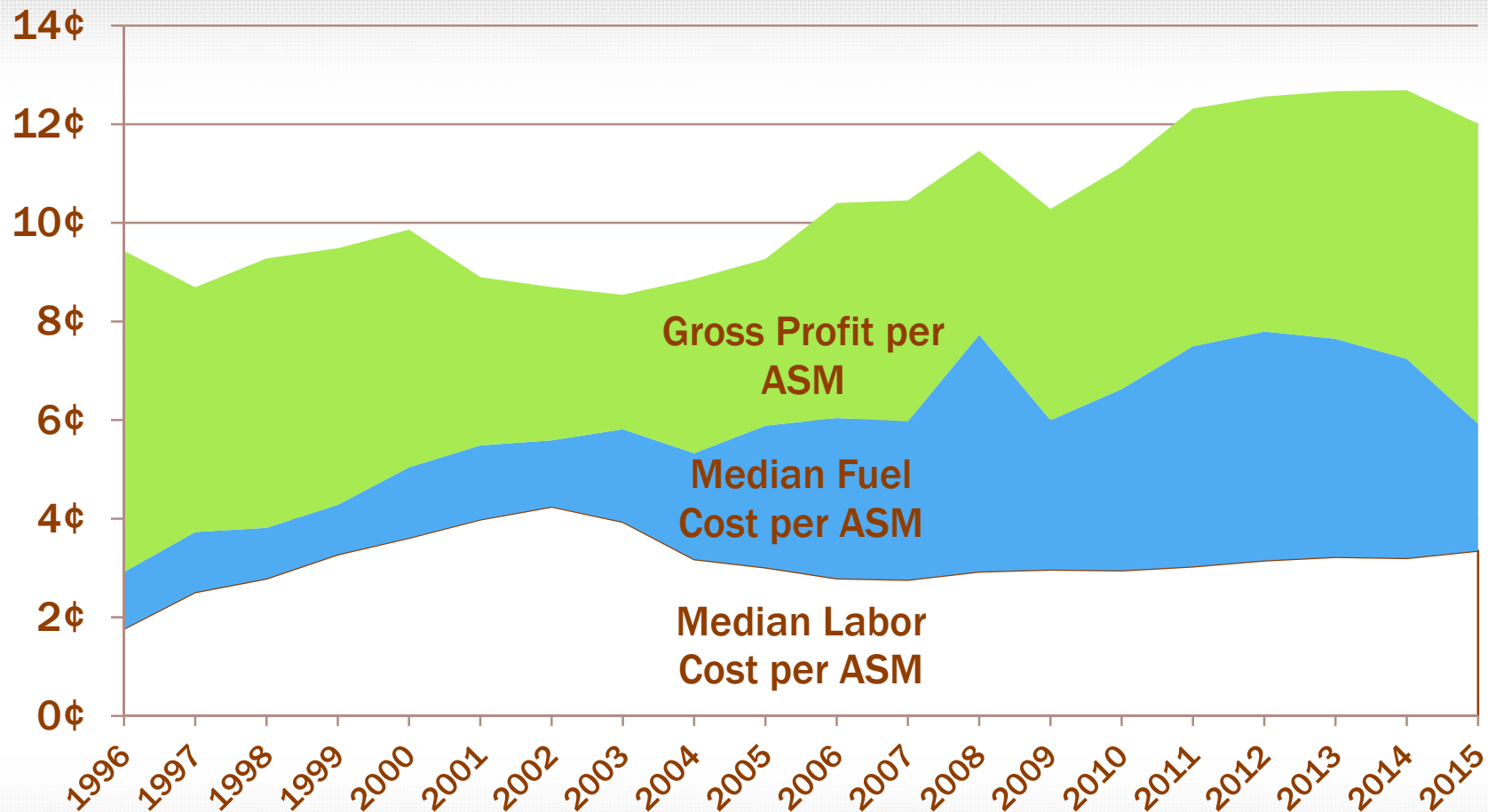
Jet Fuel's Impact on Profitability

source: BTS Transtats Schedules P-1.2 and P-5.2 (U.S. Airlines)



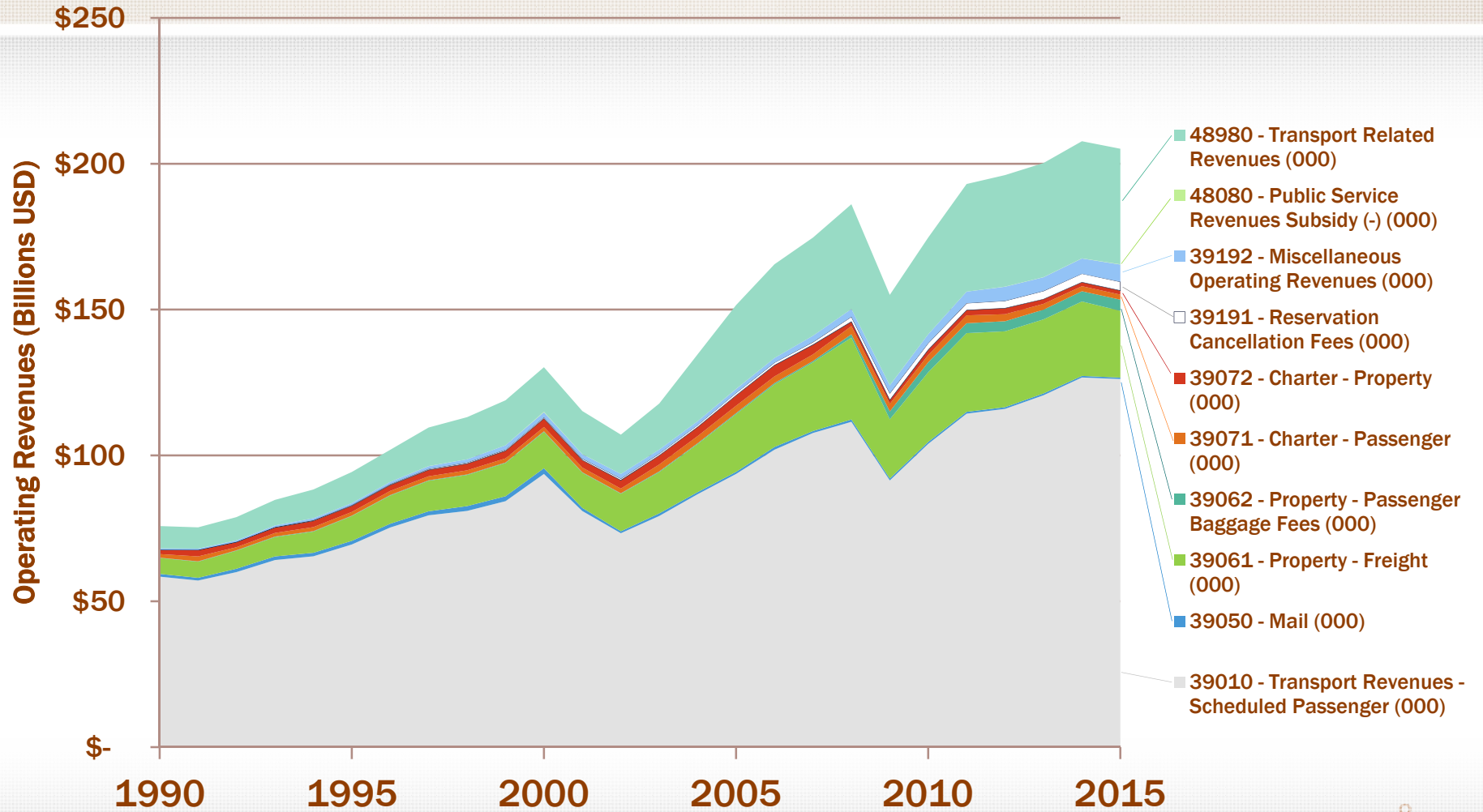
Components of ASM Financials

ASM = Available Seat Miles (no. seats available X no. miles)



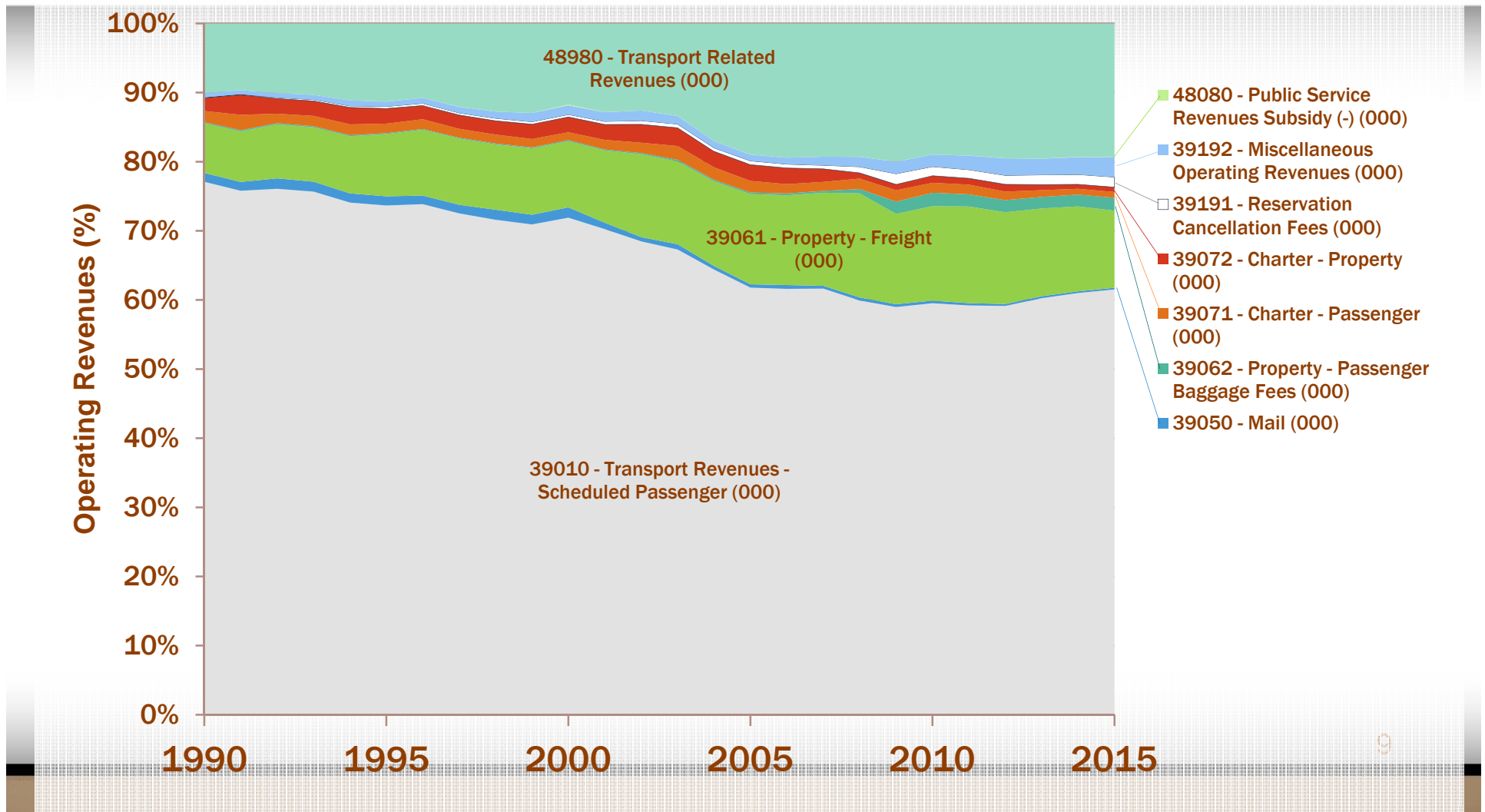
Operating Revenue Breakout

source: BTS Transtats Schedule P-1.2 (U.S. Airlines > \$20 MM revenue)



Operating Revenue Breakout

source: BTS Transtats Schedule P-1.2 (U.S. Airlines > \$20 MM revenue)

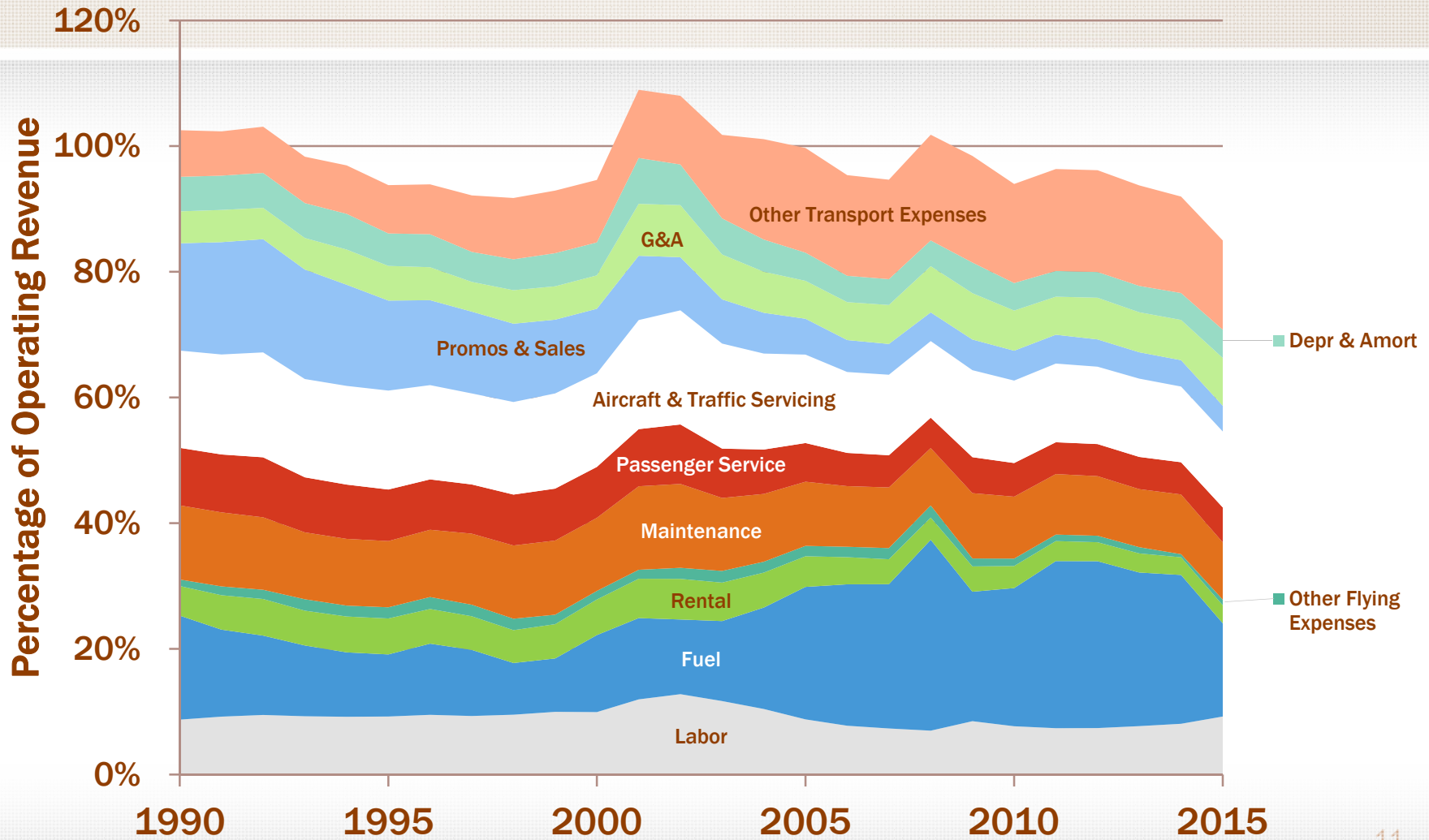


“Ancillary” Revenue

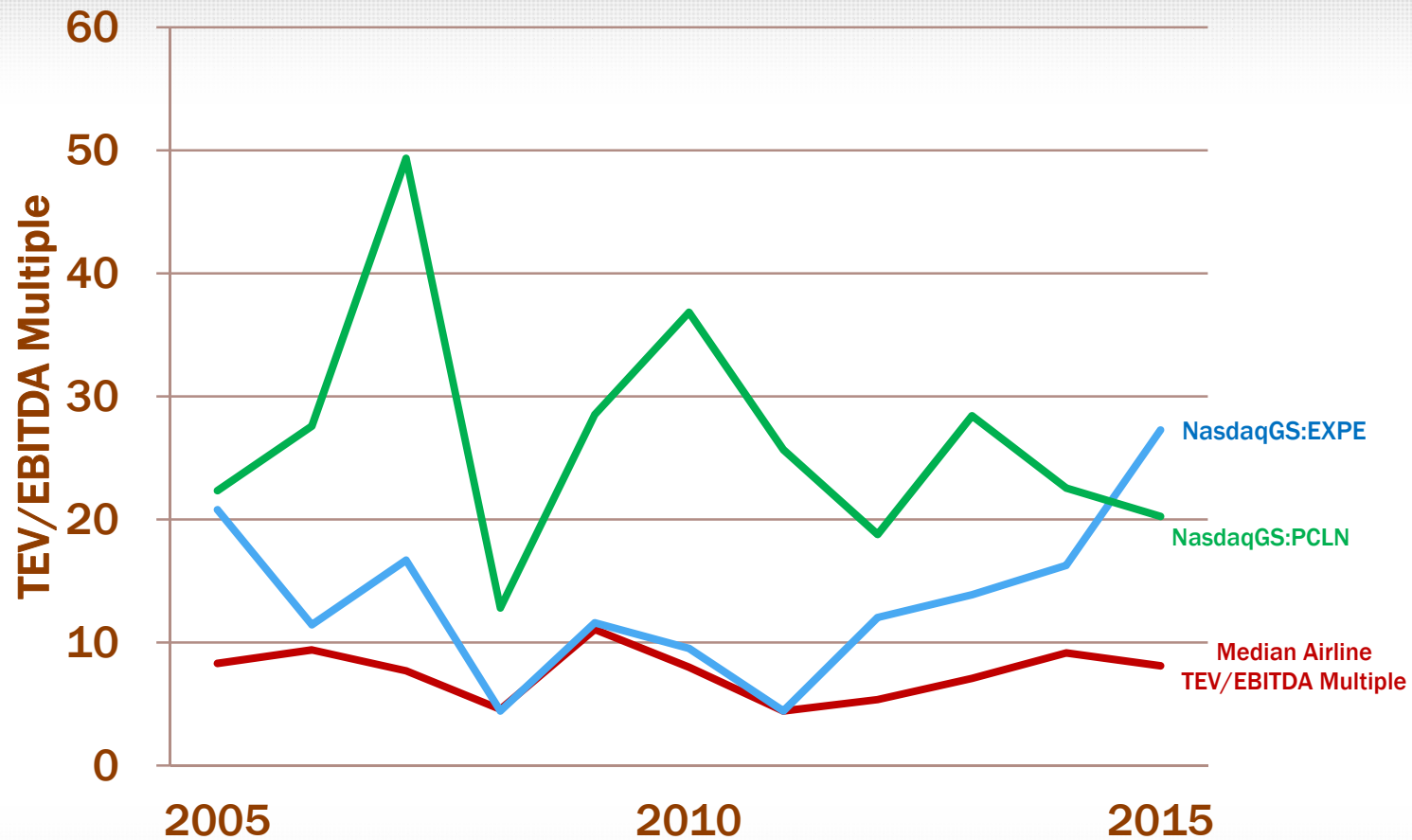
- **Baggage & Cancellation Fees**
- **Transport Related Revenues**
 - Revenues generated from code-share operations
 - On-board sales of food, drink, pillows, blankets, entertainment, or any other ancillary items
 - Revenues generated from gift-shop sales, restaurant sales, fuel sales, rental revenues, maintenance conducted for other carriers, etc.

Operating Expense Breakout

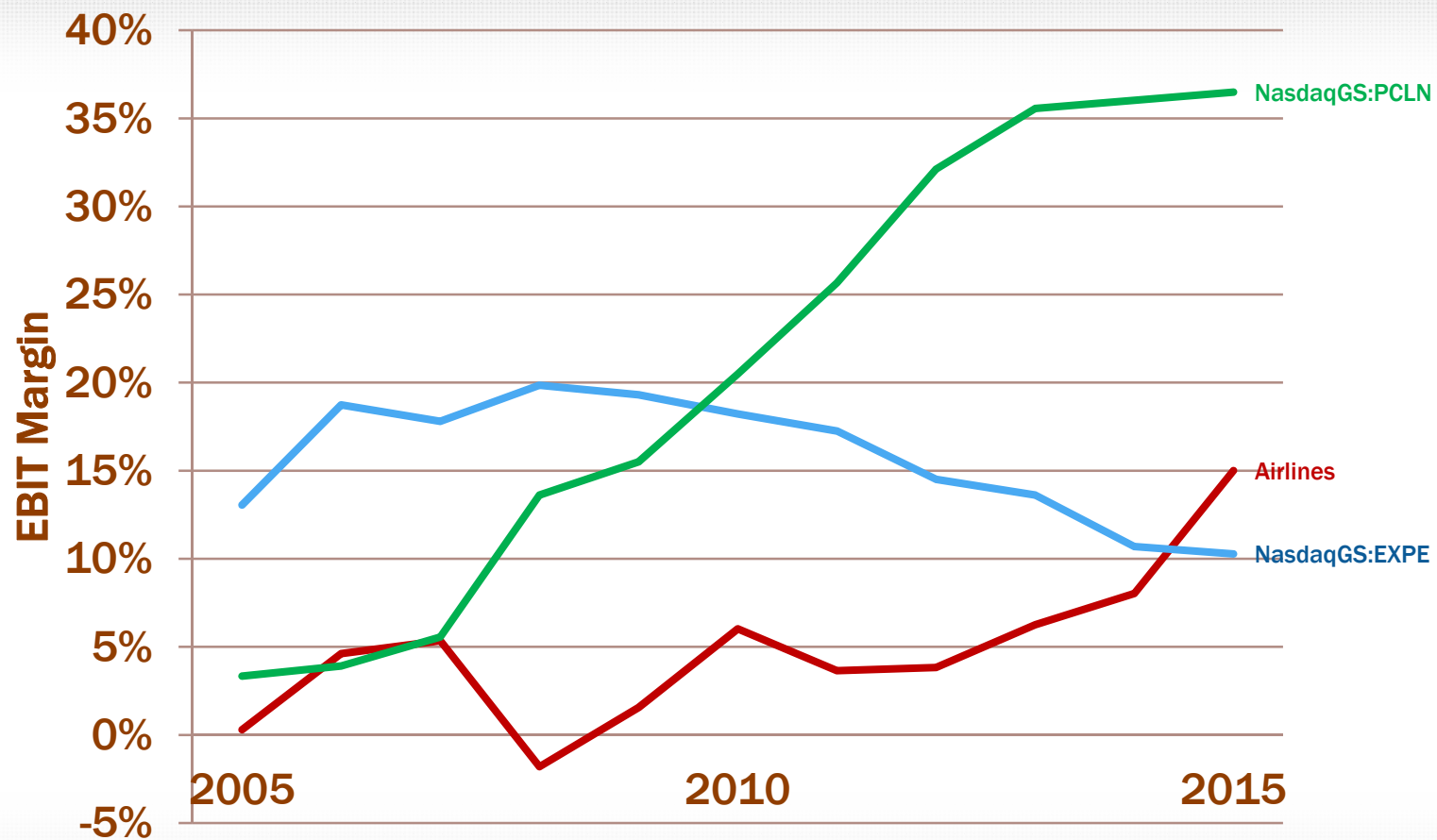
source: BTS Transtats Schedules P-1.2 and P-5.2 (U.S. Airlines)



Airline Multiples vs Travel Sites



Airline Profitability vs Travel Sites



The Valuation of Flight Equipment



Georgia

Lots of Counties In Georgia

Rank	Number of Counties	State
1	254	Texas
2	159	Georgia
3	133	Virginia
4	120	Kentucky
5	115	Missouri
6	105	Kansas
7	102	Illinois
8	100	North Carolina
9	99	Iowa
10	95	Tennessee



Flight Equipment Companies

Flight Equipment Companies fall into the categories of

1. Passenger Carriers

2. Freight Carriers

(charter companies are not valued centrally)



Market Guides

Flight Equipment is valued using Market Guides. Two leading guides in the airline industry are:

1. AVITAS
2. Airliner Pricing Guide



Aircraft Assumptions

The current values for new and very young aircraft take into account the fact that they are just starting their maintenance cycle. For a mature aircraft, values are based on the following assumptions:

- It was manufactured in the second quarter of the year shown for 2015 and prior years of manufacture. Aircraft manufactured in 2016 are assumed new as of the first quarter.
- It is in average physical condition.
- Its utilization is comparable to industry averages for its type and age.

Aircraft Assumptions

- The overhaul status of the airframe, engines, landing gear and other major time/cycle limited components is the equivalent of half-life/half-time (or benefiting from above average condition if new or nearly new); however this may not be the case for aircraft near the end of their economic life.
- Its specification status is comparable to that most common for an aircraft of its type and vintage.
- It is in compliance with all Airworthiness Directives.
- It is in standard industry configuration.

Aircraft Assumptions

- It is in service under the certificate of a major airworthiness authority.
- Its technical documentation and records are in good order with back-to-birth traceability and acceptable to the major airworthiness authorities.
- There is no history of accident or incident damage.

Methodology

- Valuation methodology includes both human and computer elements.
- Market followed on a daily basis in monitoring trends, transactions, prices, aircraft supply and demand and other value determinants.
- Utilizes a proprietary computer model which uses a series of algorithms developed from thousands of market transactions over the years to describe current and future value behaviors of aircraft under varying competitive and market circumstances.

Methodology

- Blends both the computer's forecast and the appraiser's judgment and knowledge of the marketplace in developing the opinion of aircraft values.
- Future value forecasting methodology also includes the use of in-house forecasts of factors that will influence the value of aircraft in the future, including demand for the movement of passengers and cargo, retirement of aircraft from the fleet, future deliveries of new aircraft, airways and airport congestion and the role that the aircraft types will play in airlines' fleets during the forecast period.

Annual Flight Equipment Valuation

- **31 Companies**
- **Total Value = \$68.9 billion**
- **Georgia FMV = \$1.3 billion**
- **Total Number of Aircraft Valued = 5,700**

Boeing 747-8 Intercontinental



The 747-8 Intercontinental (I), formally launched by Boeing in 2005 along with the 747-8 Freighter, also features a stretch in the fuselage length of 19 feet compared with the 747-400. This allows for an increase in accommodation for around 50 additional passengers in a typical three-class configuration. The design features new General Electric GENx engines, incorporates advanced technologies akin to those used in building the 787 and offers range of 8,000 nm. The aircraft first entered commercial service with Lufthansa in 2012. The 2012 list price is \$351.4 million.

Fleet at January 2013:

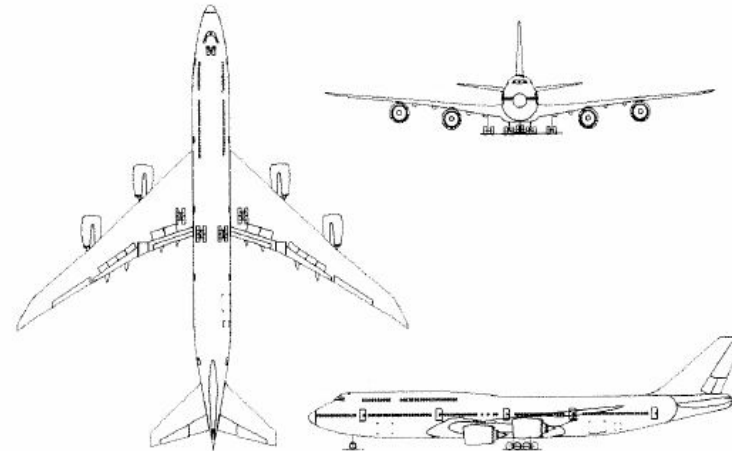
In Service: 10
 # of Airline Operators:..... 1
 Orders/Options/Stored:.....27/0/0

Geographic Distribution:

Africa/Middle East 2 Asia/Pacific..... 0
 Europe..... 6 Latin America/
 North America 1 Caribbean..... 1

Engines:

Types:..... GENx-2B67
 Number:..... GENx-2B (10)



Length: 250 ft 2 in (76.26 m)
Wing Span: 224 ft 7 in (68.49 m)
MTOW: 975,000 lbs (442,253 kg)
Range: 4,390 nm (8,130 km) with 295,200 lbs
 payload
Capacity: 30,312 cu ft
In Production: Since 2009

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Type/Model: **Boeing 747-8 Intercontinental**
 Engine Type: **GENx-2B67**



Year	Current Market Value	2013 Base Value	Future Base Values at 1.5% Inflation																			
			2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2011	135.6	135.6	125.0	114.5	104.6	97.1	90.5	84.4	78.8	73.5	68.6	64.0	59.7	55.6	51.6	47.9	44.2	40.7	37.2	33.9	30.7	27.6
2012	151.1	151.1	138.5	127.6	116.9	106.8	99.1	92.4	86.2	80.4	75.0	70.0	65.3	60.9	56.7	52.7	48.9	45.1	41.5	38.0	34.6	31.3
2013		163.0	149.4	137.5	126.5	116.0	106.0	98.8	92.2	86.0	80.2	74.9	69.9	65.2	60.7	56.5	52.5	48.6	44.9	41.2	37.7	34.3

The values reflect GENx-2B67 block 4 engines with higher SFC and nacelle drag resulting in a 2.1% block fuel penalty. We have therefore adjusted our value opinion with a negative \$8.0 million based on a fuel assumption of \$3.0/USG.

All values are expressed in millions of U.S. dollars. See the beginning of the BlueBook for an explanation of AVITAS's valuation assumptions and definitions.

Individual Aircraft Valuation

COMP LOOKUP	VALUE LOOKUP	COMPANY	AIRCRAFT TYPE	Engine	Year Built	Year Acq	Original Cost	Capital Expend.	Returned FM	DOR FM
DELTA AIR LINES INC/A32C/A320-2002001		DELTA AIR LINES INC	A320-200		2001	2008	36,570,288	79,376	12,160,000	12,160,000
DELTA AIR LINES INC/A32C/A320-2002001		DELTA AIR LINES INC	A320-200		2001	2008	36,779,777	78,949	12,160,000	12,160,000
DELTA AIR LINES INC/A32C/A320-2002002		DELTA AIR LINES INC	A320-200		2002	2008	37,120,310	76,800	13,360,000	13,360,000
DELTA AIR LINES INC/A32C/A320-2002002		DELTA AIR LINES INC	A320-200		2002	2008	37,083,728	70,000	13,360,000	13,360,000
DELTA AIR LINES INC/A32C/A320-2002003		DELTA AIR LINES INC	A320-200		2003	2008	37,942,302	76,800	14,640,000	14,640,000
DELTA AIR LINES INC/A32C/A320-2002003		DELTA AIR LINES INC	A320-200		2003	2008	38,072,868	76,383	14,640,000	14,640,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	92,032,203		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	92,145,111		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	91,903,553		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	93,511,448		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	92,362,007		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	92,436,461		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002004		DELTA AIR LINES INC	A330-200		2004	2008	91,959,650		34,240,000	34,240,000
DELTA AIR LINES INC/A33C/A330-2002006		DELTA AIR LINES INC	A330-200		2006	2008	92,201,720		39,840,000	39,840,000
DELTA AIR LINES INC/A33C/A330-2002006		DELTA AIR LINES INC	A330-200		2006	2008	94,751,120		39,840,000	39,840,000
DELTA AIR LINES INC/A33C/A330-2002006		DELTA AIR LINES INC	A330-200		2006	2008	93,980,933		39,840,000	39,840,000
DELTA AIR LINES INC/A33C/A330-2002006		DELTA AIR LINES INC	A330-200		2006	2008	95,271,360		39,840,000	39,840,000
DELTA AIR LINES INC/A33C/A330-3002003		DELTA AIR LINES INC	A330-300		2003	2008	117,443,421		37,440,000	37,440,000
DELTA AIR LINES INC/A33C/A330-3002003		DELTA AIR LINES INC	A330-300		2003	2008	114,028,599		37,440,000	37,440,000
DELTA AIR LINES INC/A33C/A330-3002003		DELTA AIR LINES INC	A330-300		2003	2008	111,775,879		37,440,000	37,440,000
DELTA AIR LINES INC/A33C/A330-3002003		DELTA AIR LINES INC	A330-300		2003	2008	114,181,722		37,440,000	37,440,000
DELTA AIR LINES INC/A33C/A330-3002003		DELTA AIR LINES INC	A330-300		2003	2008	114,814,338		37,440,000	37,440,000
DELTA AIR LINES INC/A33C/A330-3002004		DELTA AIR LINES INC	A330-300		2004	2008	113,687,377		40,240,000	40,240,000

Company Valuation Summary

COMPANY	AIRCRAFT TYPE	NUMBER OF AIRCRAFT	RETURNED TOTAL FMV	DOR TOTAL FMV	RETURNED AVG FMV	DOR AVG FMV	GEC PLANE
	METRO	25	9,785,714	9,500,000	391,429	380,000	
	METRO III	20	8,280,241	8,000,000	414,012	400,000	
AMERIFLIGHT INC Total			24,027,588	25,480,000			
CFF AIR INC	LEARJET 35A	2	1,660,000	1,600,000	830,000	800,000	1
CFF AIR INC Total			1,660,000	1,600,000			
COMPASS AIRLINES INC	EMBRAER 170	6	42,435,000	75,840,000	7,072,500	12,640,000	
	EMBRAER 175	36	296,400,000	478,400,000	8,233,333	13,288,889	
COMPASS AIRLINES INC Total			338,835,000	554,240,000			
DELTA AIR LINES INC	A319-100	57	593,760,000	593,760,000	10,416,842	10,416,842	2
	A320-200	69	413,360,000	413,360,000	5,990,725	5,990,725	2
	A330-200	11	399,040,000	399,040,000	36,276,364	36,276,364	
	A330-300	21	924,960,000	924,960,000	44,045,714	44,045,714	1
	B717-200	52	360,800,000	360,800,000	6,938,462	6,938,462	5

CLIENTS

Financial Institutions

BBAM Aviation Services, Banc One Capital Corp., Bank of America, The Bank of New York, Bayerische Hypo-und Vereinsbank AG, BCI Aircraft Leasing, BOC Aviation Credit, Suisse First Boston, Fleet Capital Leasing, Fuyo General Lease Co., Ltd., GATX Capital, GE Capital Aviation Services, GMAC, Grupo TACA, ICBC, ILFC, Industrial Bank of Japan, Lloyds Banking Group, MBIA, Merrill Lynch Capital Corp., Mitsubishi Trust & Banking Corp., Mitsui & Co. (USA), Montrose & Co., ORIX Aviation Systems, Pembroke Group, Royal Bank of Scotland, Showa Leasing Co., Ltd., Transamerica Business Credit, Tombo, US Bank, Wachovia, West LB

CLIENTS

Airlines / Operators

Aer Lingus, Aerolineas Argentinas SA, Air Canada, Air New Zealand, Alitalia, American Airlines, Inc., ANA, Atlas Air, British Airways, Continental Airlines, Delta Air Lines, Grupo TACA Hawaiian Airlines Iberia KLM Northwest Airlines Qantas Airways Ltd. Ryanair Southwest Thai Airways United Airlines Virgin Atlantic Airways

CLIENTS

Legal

Akin Gump Strauss Hauer & Feld; Andrews & Kurth; Chapman & Cutler LLP; Cleary Gotlieb; Clifford Chance; Clyde & Co.; Cohen Gettings PC; Greenberg Traurig LLP; Latham & Watkins; Milbank, Tweed, Hadley & McCloy; Morgan Lewis; Orrick Herrington & Sutcliffe; Palmer & Dodge; Pillsbury Winthrop LLP; Ropes & Gray; Skadden Arps; Vedder, Price, Kaufman & Kammholz; White & Case LLP

CLIENTS

Manufactures / MRO

Airbus, Boeing, Bombardier,
Embraer, GE, Israeli Aerospace
Industries, Pratt & Whitney

Unitary Valuation Approach

- **Intangibles**
- **Airline PE Ratio – This is the definition of stuck at the Gate!**
- **Fuel Cost**
- **Cost of Capital**
 - **Capital stack issues**
 - **Cost of Debt**

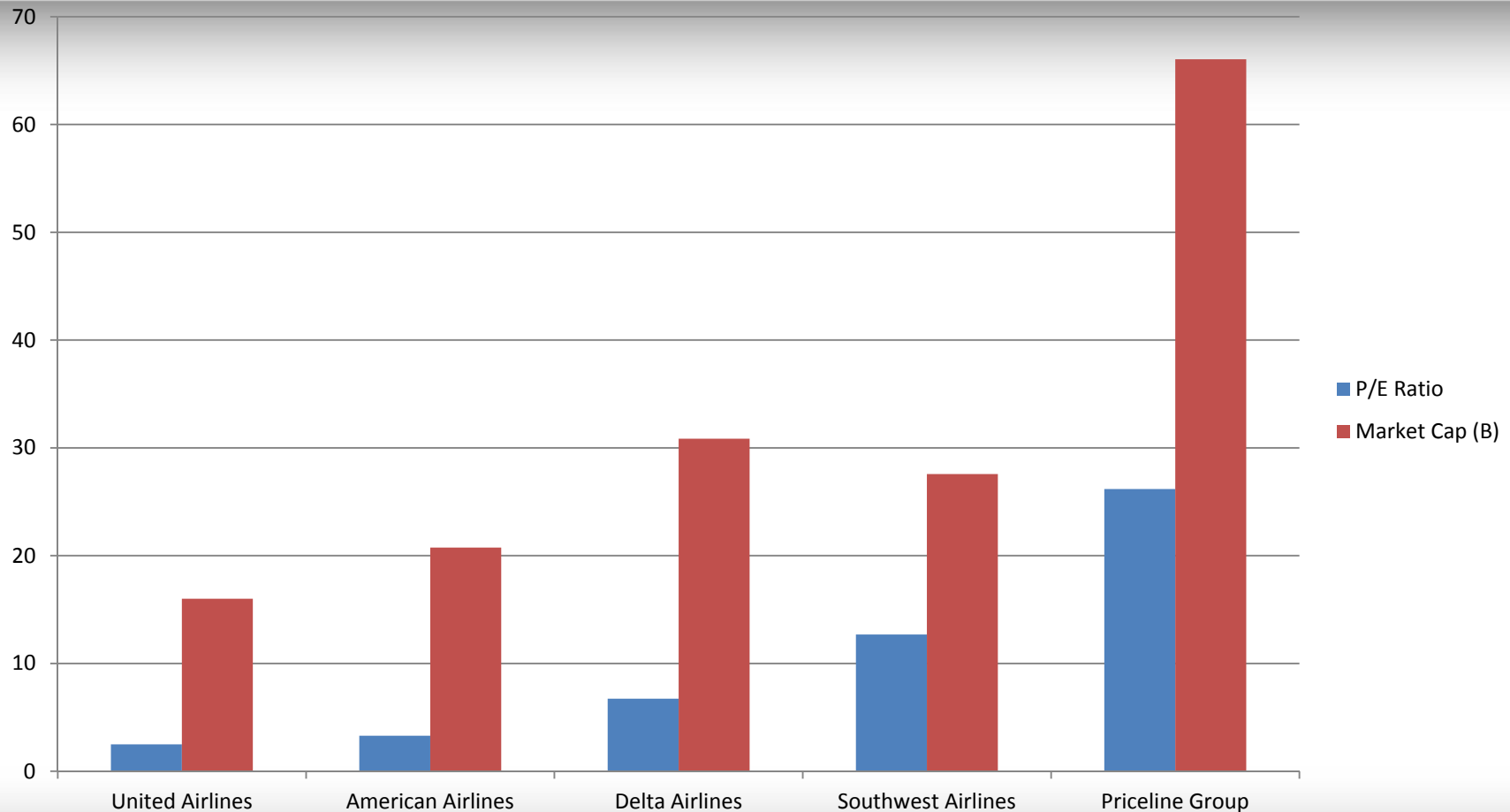
Intangibles

- **Agreement with banks on credit card programs have added billions in NOPAT to airlines bottom line**
 - American Airlines two card-issuing partners adds incrementally \$700M in pre-tax earnings (July 12, 2016 press release)
 - The combined contribution to NOPAT for the Big 4 airlines from the intangible component of credit card agreements exceeds \$3B annually
 - Based on the AA model of a two card-issuing partner, the benefit of CC agreements will likely grow in the future

Intangibles – cont'd

- **Other non-travel related revenues are increasing from referral fees for booking on:**
 - **Hotels**
 - **Car rental**
 - **Vacation Package**
 - **Merchandise**
 - **New Account and Referral Fees**
- **Determining the contributory value of other intangibles in the Unitary Approach**
 - **Gates**
 - **Routes**
 - **Slots**

Airline PE Ratio – This is the definition of stuck at the Gate!



Fuel Cost

- **The Big 4 airlines (SWA, Delta, AA and UAL) fuel facts**
 - In CY '15 – consumed 14.1B gallons of jet fuel
 - Between CY '14 and CY '15 fuel savings totaled \$15.7B
 - Hedging losses total over \$2.5B
 - Total after tax profits total \$17.6B
 - Continued profitability is a function of **LOW FUEL PRICES!**

Fuel Cost – cont'd

- **US Oil Production Facts (barrels per day)**
 - 2015 - 9.4M
 - 2016 - Forecasted Average 8.6M
 - May '16 vs June '16 declined by .2M
- **Rig Count**
 - '11 thru '14 - 1,855
 - 2015 - 978
 - 2016 - 478

Cost of Capital

- **Cost of Capital**
 - **Capital stack issues**
 - Treatment of operating leased aircraft
 - How to handle other operating property
 - Washington's Approach
 - Cost of debt for “taxable operating leased property”
 - **Cost of Debt**
 - **Difficulty of estimating the cost of debt**
 - Other than Southwest Airlines (BBB), all other carriers debt is rated low credit quality/junk status
 - BondsOnline no longer publishes the cost of debt for below investment grade transportation industry

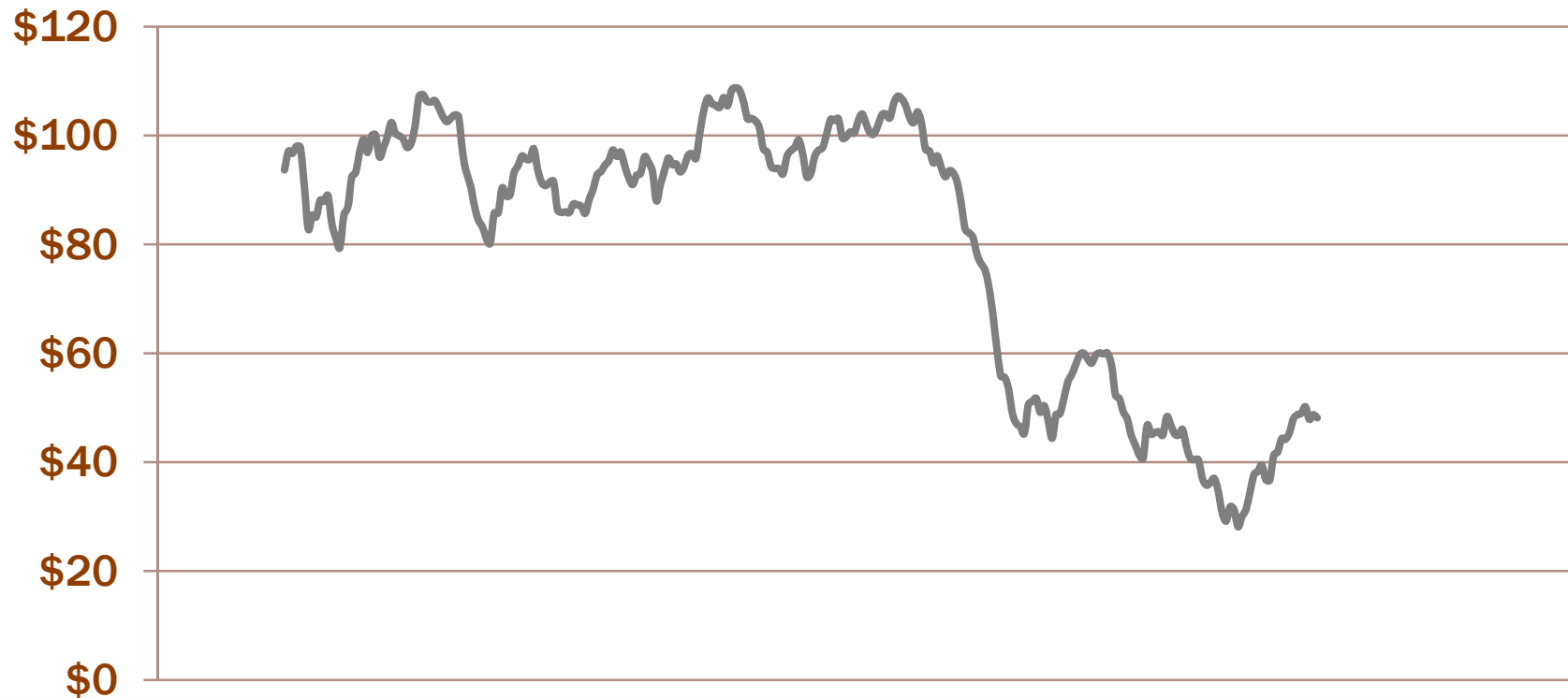
Valuation Considerations

- **Observations**
 - 2015 solid year for US airlines
 - RPK (RPM) growth
 - Capacity increases, record load factors
 - Aircraft are being used more efficiently
 - Fuel efficiency remains focus
 - Fleet renewal cycle underway
 - Demand for dedicated freighters and conversions is weak

VALUATION REVIEW

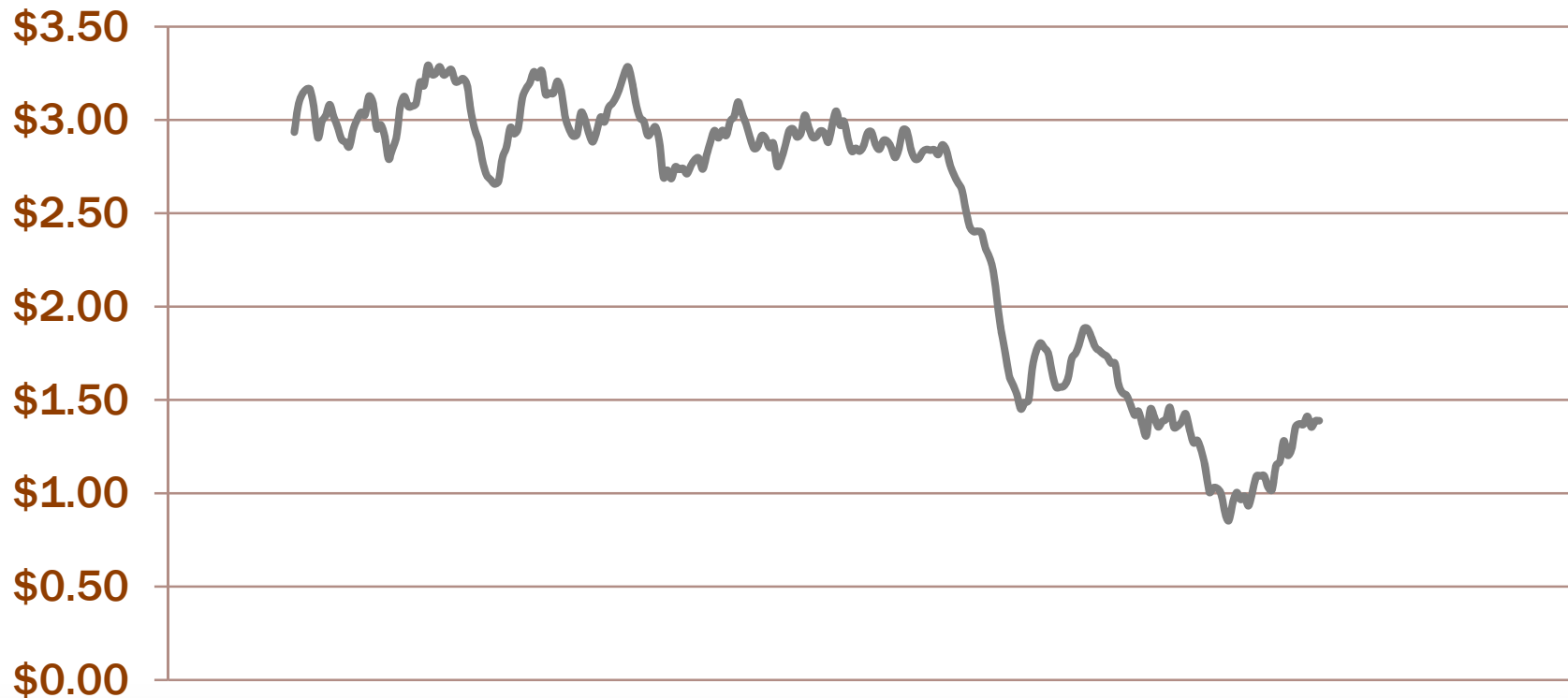
Valuation Reviews and Considerations

Crude Oil: WTI – Cushing \$ per bbl over last 5 years



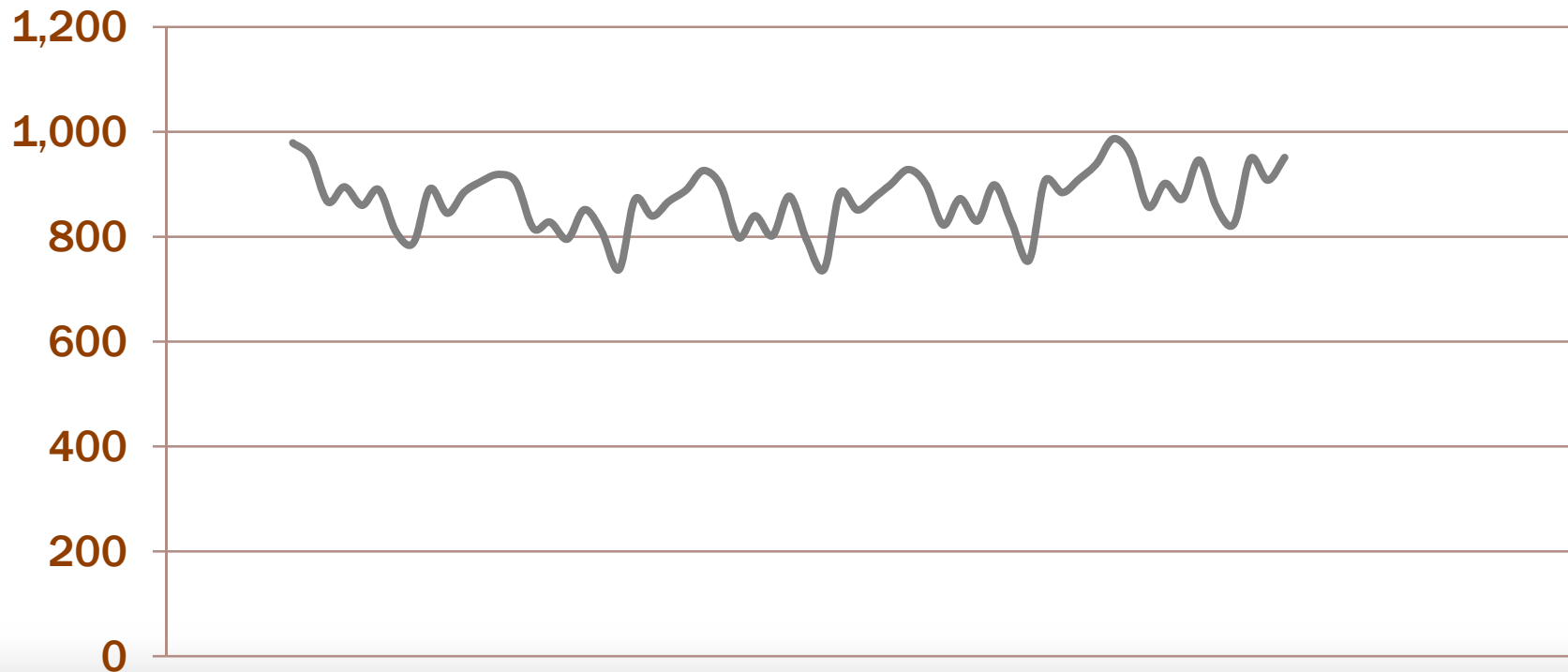
Valuation Reviews and Considerations

Jet Fuel: Gulf Coast – \$ per gal over last 5 years



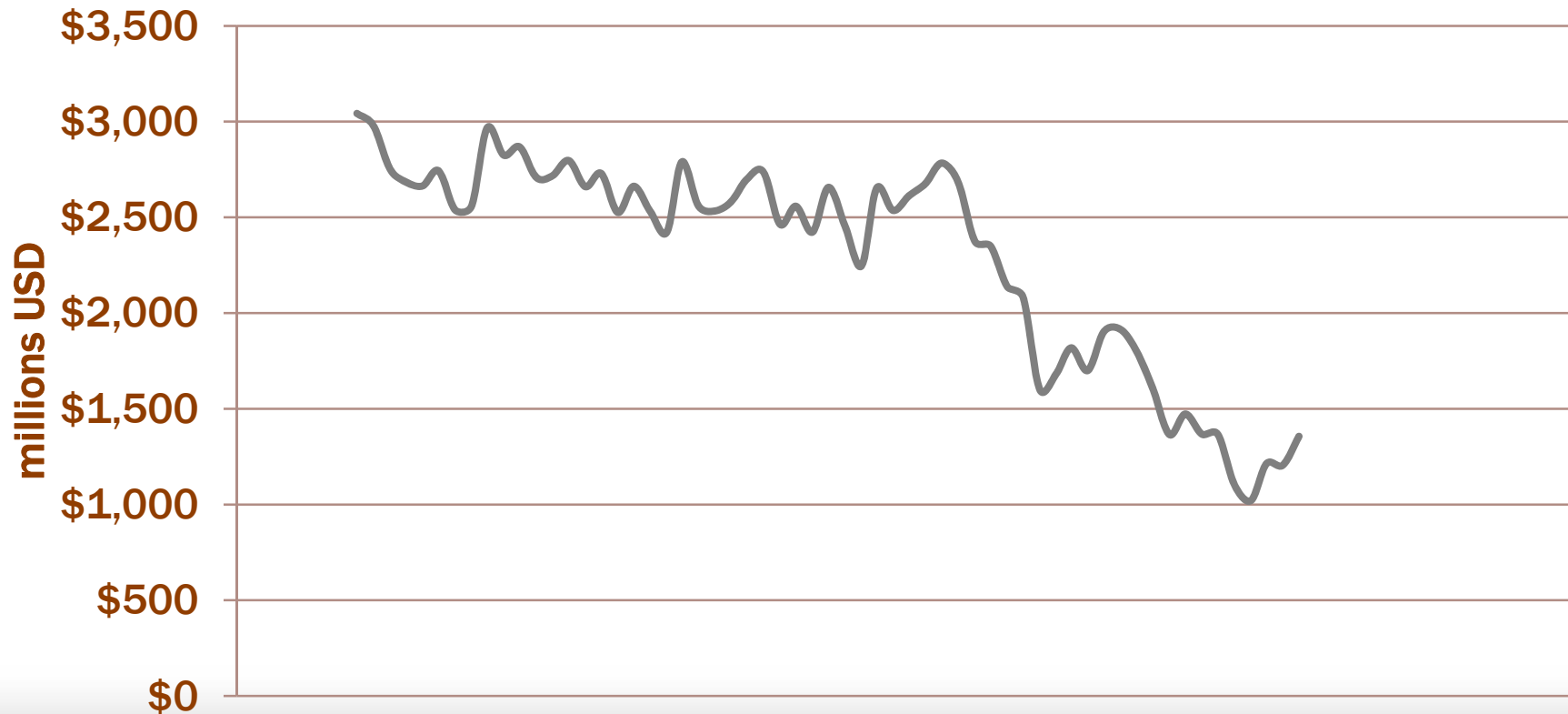
Valuation Reviews and Considerations

Jet Fuel: Domestic Consumption – millions of gallons over last 5 years



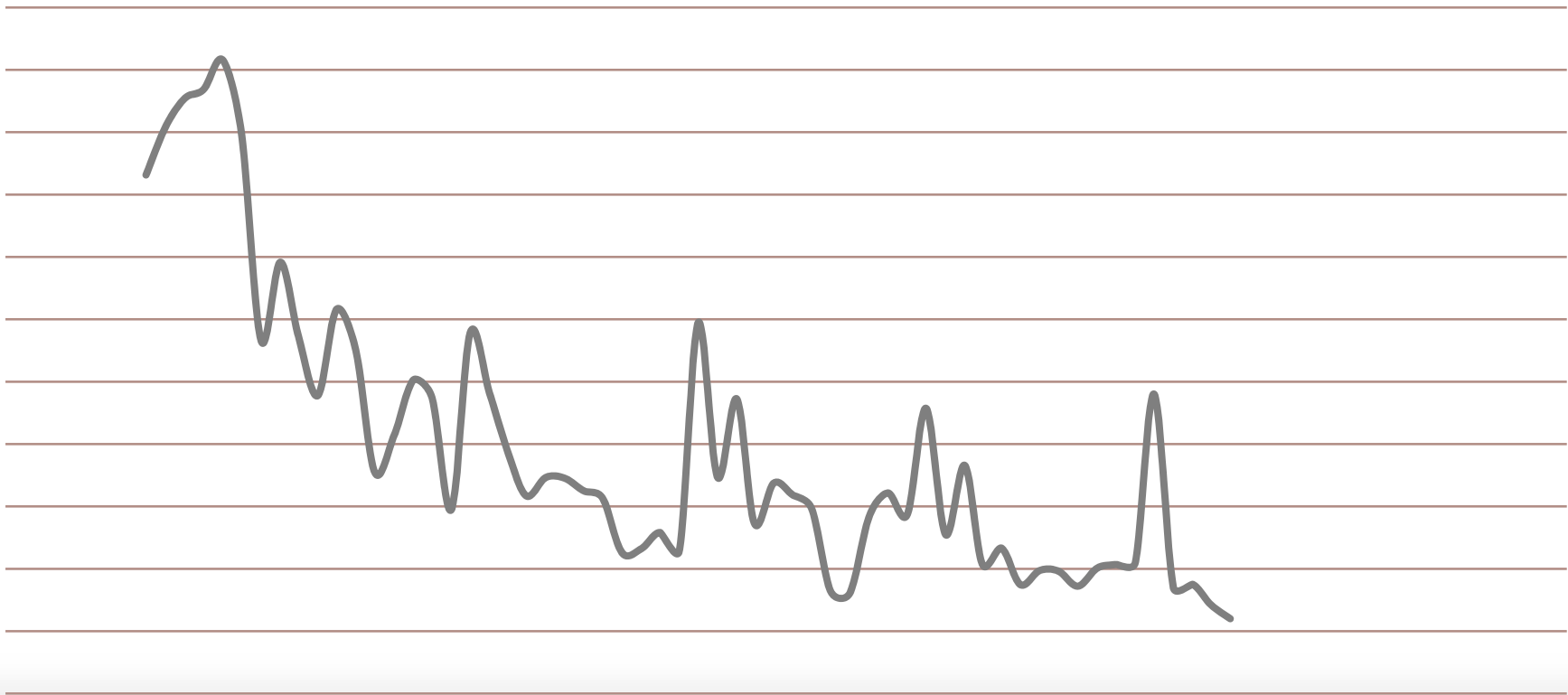
Valuation Reviews and Considerations

Jet Fuel: Domestic Cost – dollars over last 5 years



Valuation Reviews and Considerations

Jet Fuel: Consumption per ASM over last 5 years



Valuation Considerations

- **Observations**

- Record backlogs at Airbus and Boeing

- Record orders

- Airlines fleet replacements

- New aircraft

- B787; A-350-XWB; A320neo; 737-MAX; C919; MC-21

Valuation Considerations

- **Pricing guide considerations**
 - Fleet greentime vs/ mid-life assumption
 - Aircraft specific nuances and value drivers
 - Feet discounts
 - Timing lag

Questions

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