

The Pilot Profession: Supply, Pay, and a Look Ahead to the Next Contract Cycle



Presented by Captain Hank Ketchum, Chairman
Economic, Financial Analysis and Industry Research Committee

March 2018

SOUTHWEST AIRLINES PILOTS ASSOCIATION

- **SWAPA has been the “voice” for the Pilots of Southwest Airlines for 40 years.**
- **Headquartered in Dallas, we are an independent Association representing 9,200+ Pilots for the nation’s largest domestic airline.**
- **Economic, Financial Analysis and Industry Research Committee (EFAIRC):**
 - **Comprised of four pilot members with extensive backgrounds in financial analysis, aviation data, and airline research.**
 - **Conducts in-depth research in support of the SWAPA Executives, Board of Directors, and the Negotiating Committee.**
 - **Meets regularly with SWA senior management, Wall Street analysts, and academic researchers.**
 - **Member of the MIT Global Airline Industry Consortium.**

The next negotiating cycle begins in 2020

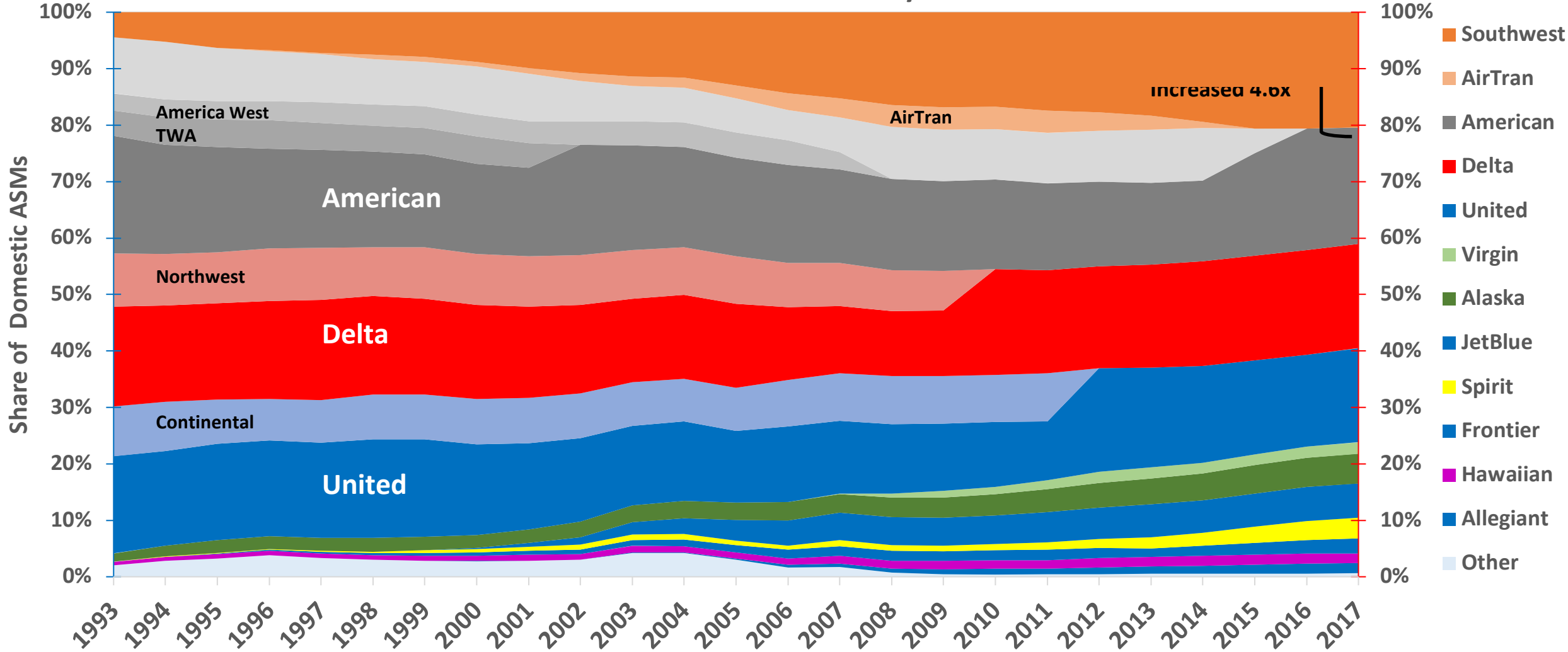
- **SWAPA's data driven and analytical approach to negotiations:**
 - **Financial Analytics: Weigh contract costs vs SWA profitability:**
 - Important to our membership that SWA remain profitable through the cycles
 - SWAPA will conduct a comprehensive review of:
 - SWA network performance
 - SWA financial performance:
 - Comparisons of SWA to industry peers
 - Positive impacts of tax reform
 - Fuel hedging results and oil market forecasts
 - Economic performance and GDP forecasts
 - **Polling: Assess extensive polling data from our membership**
 - **Marketplace: SWA must offer competitive pay and benefits to attract/retain the most talented pilots in the industry**
 - Pilot supply will likely be a factor
 - Evaluate results attained by AAL, DAL, and UAL at the bargaining table in 2019
 - Lack of a wide-body career path and a lengthy 10-year upgrade increases expectations for higher pay and stronger work rules

Today's presentation

- Strong industry financials
- Pilot marketplace
- Historical study of pilot pay covering 25 years
 - Have today's pay rates kept pace with inflation going back to 1994?
 - As a member of the "Big 4", have SWA pilots closed the pay gap?
 - Industry financials, past to present
 - Impacts of bankruptcies, restructuring, and consolidation
 - Pilot unit costs and seats per trip ("gauge")
 - Current state of pilot pay heading into the next negotiating cycle
 - Conclusions from the study

Southwest has grown from niche carrier to Big 4 in last 25 years

Share of Domestic Mainline Market by ASMs 1993-2017

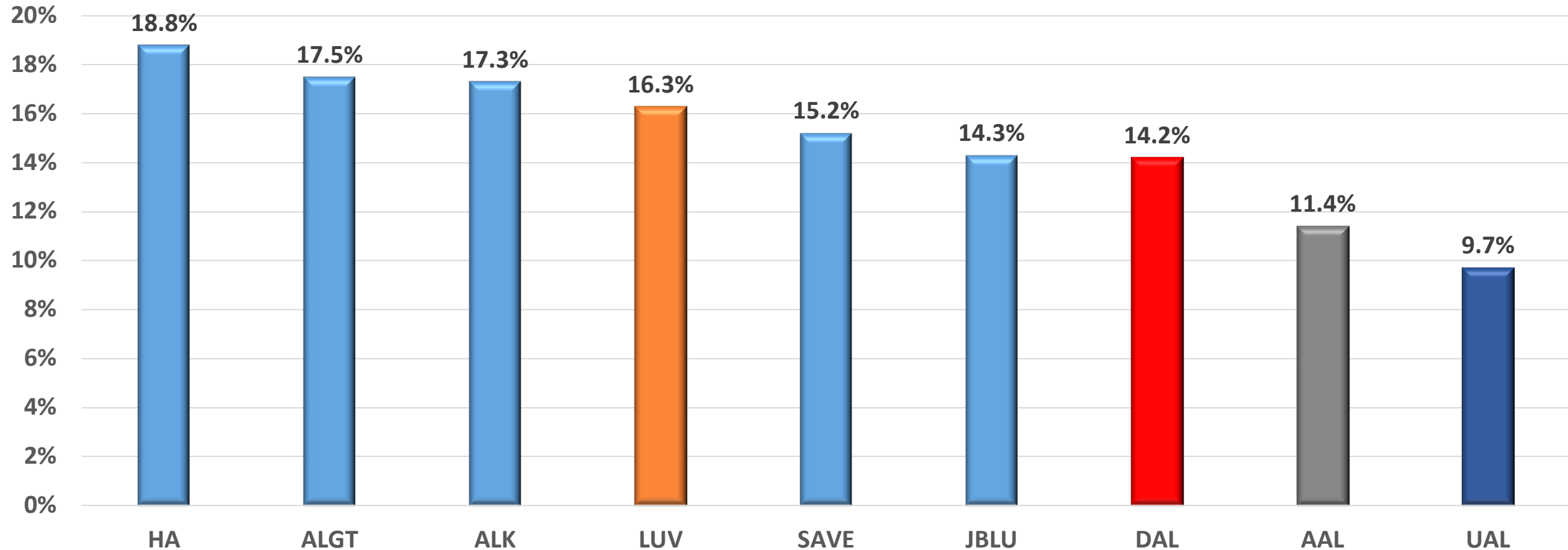


Note: Market share based on ASMs for non-regional US airlines. Other category includes AQ, DH, JW, KW, PN, QD, QQ, SM, SY, TZ, and X9.

Sources: DOT Form 41, Diio Mi

LUV's operating margin advantage vs. network legacy carriers

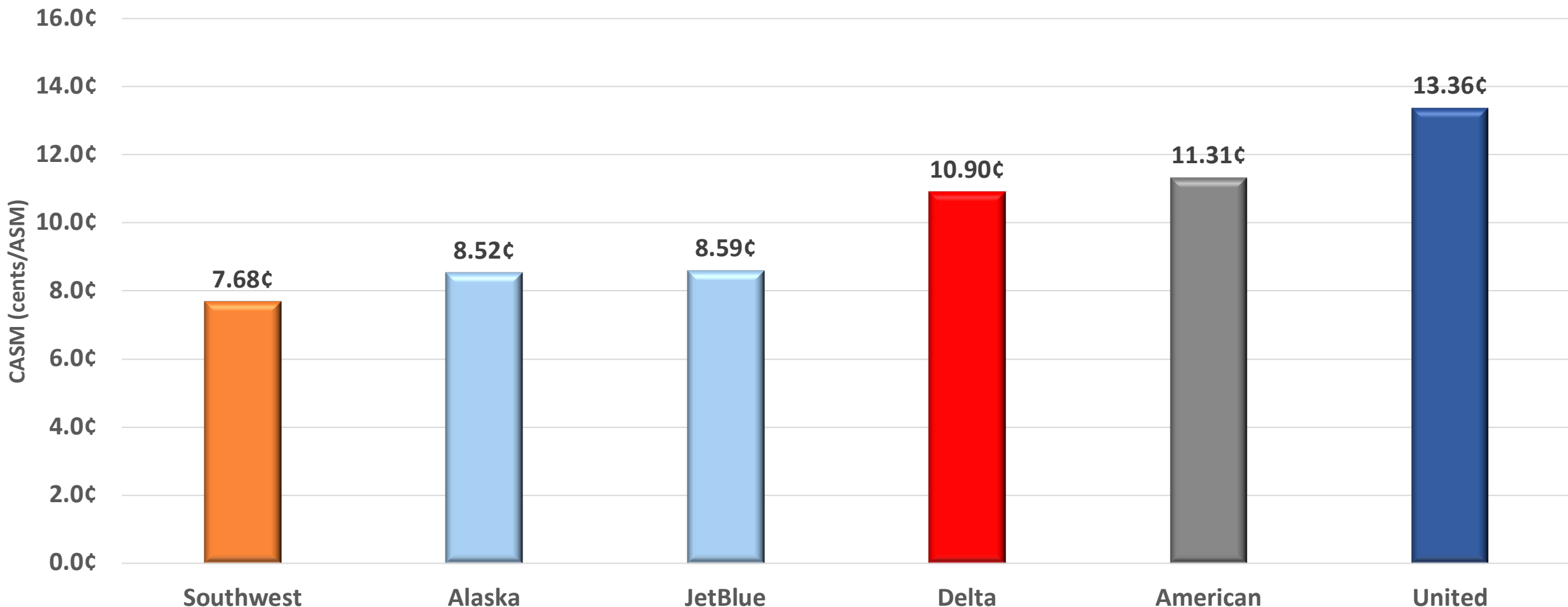
Full Year 2017, Industry Operating Margins (non-GAAP, ex-special items)



Sources: Earnings press releases, SEC filings, and SWAPA analysis

SWA has lowest SLA CASM-ex vs. network and hybrid/LCC carriers

2017 CASM (ex-fuel & special items), stage length adjusted



Notes: Carrier data are 'mainline'. Stage length adjusted to 1,000 miles. DL stage length calculated from Q4 2016 – Q3 2017 data, DAL and UAL excludes third-party business expenses.

Sources: 2017 earnings releases, DOT Form 41; Diio Mi



Industry Pilot demand

- **We have entered an era of unprecedented demand for Pilots:**
 - Strong economy
 - Financially healthy airlines
 - Fleet growth
 - Historically high retirements
- **Supply of Pilots is becoming more limited:**
 - Regulatory change (1500-hour First Officer rule)
 - High cost of civilian training
 - Military pilots not as plentiful as in past

Sources: RAND Corporation, Air Transport Pilot Supply and Demand, 2015; “Shrinking Pool of Future Pilots Keeps Major Airlines on Edge” Bloomberg June 29 2016; UND study 2015

Industry Pilot demand

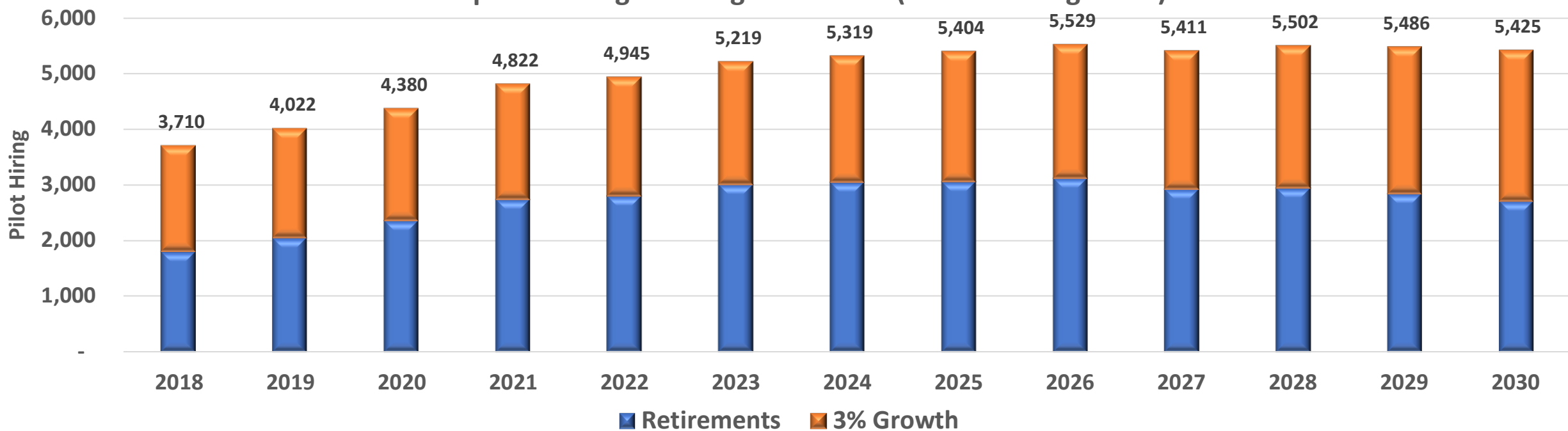
- **Regional Airlines**
 - 15 largest regionals employ approximately 19,000 with a 10-15% attrition rate annually.
 - Carriers offering signing/retention bonuses of \$7,500 to \$50,000 and quality of life enhancements.
 - Certain regional airlines offer defined pathways to major partner.
- **Military**
 - USAF trains 1,000 pilots a year; looking to increase to 1,600.
 - In 2017, USAF declared a "pilot crisis," estimating it was short 2,000 pilots.
 - USAF and USN have proposed increased bonuses to stem attrition.

Sources: RAND Corporation, Air Transport Pilot Supply and Demand, 2015; USAF press releases

Industry Pilot demand

- **Current and future pilot marketplace:**
 - Eight largest airlines will retire more than 35,000 pilots by 2030.
 - Major airlines have an estimated total hiring need of 3,000-5,000 annually.
 - Total mainline hiring, assuming modest growth rates, could exceed 65,000 by 2030.

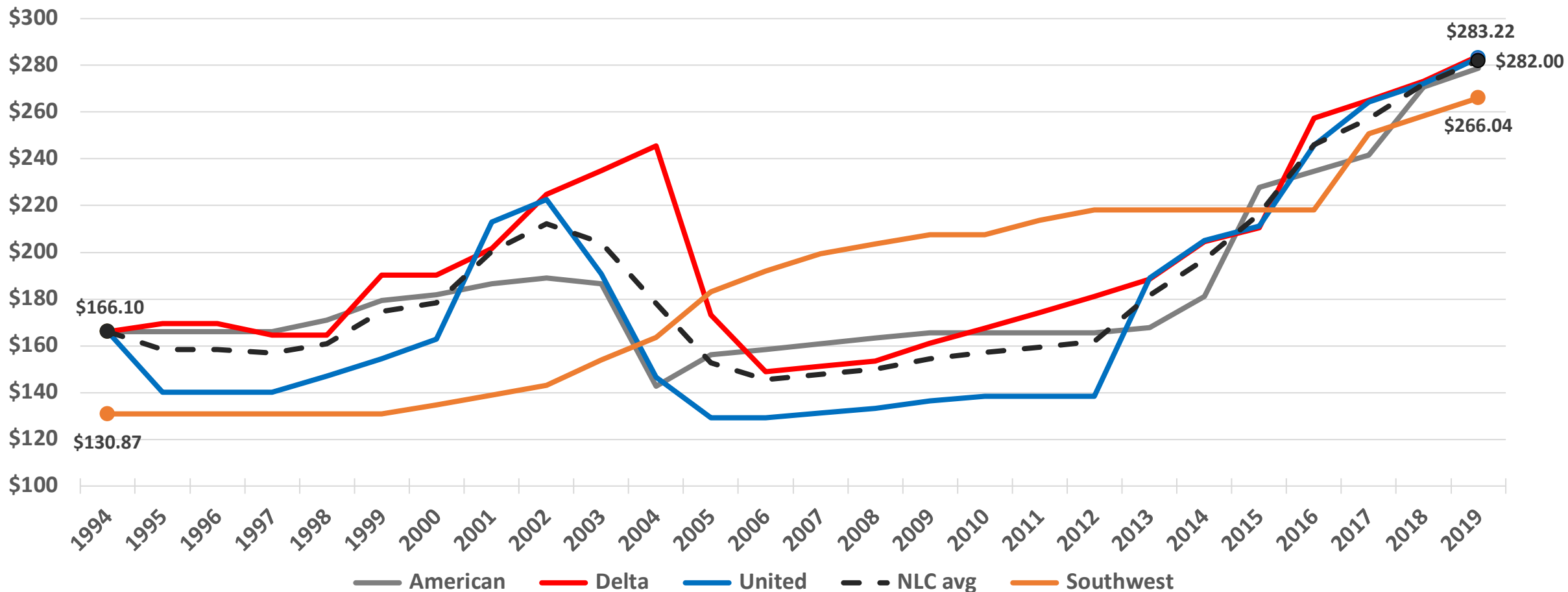
Anticipated Hiring at 8 Largest Carriers (assumes 3% growth)



Note: Data includes: ALK, AAL, DAL, JBLU, LUV, UAL, FDX, UPS

Sources: Airline pilot seniority lists, SWAPA analysis

Narrow-body Hourly Pay Rates, TOS Captain (1994-2019)



Notes: Wages are for representative narrow-body aircraft selected for pay analysis on Jan 1 of each year. AAL: MD-80 (1994-1998) then B737-800 (1999-2019), DAL: B727 (1994-1998) then B737-800 (1999-2019), UAL: B727 (1994-1998), A320 (1999-2012), then B737-800 (2013-2019), SWA: B737-300 (1994-2000), B737-700 (2001-2011), B737-800 (2012-2019). Pay rates are not adjusted for inflation.

Sources: SWAPA CBAs, SWAPA 30 Year History publication, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis

Historical pilot pay study

- 25-year review of narrow-body pay rates at the “Big 4” vs inflation adjusted 1994 NLC rates
 - How do rates today compare to hourly pay at the NLC’s in 1994 (inflation adjusted), a period of lower operating margins and industry profitability?
 - How did pilot pay perform in each year during the 25-year period compared to the benchmark used in the study (benchmark: 1994 NLC inflation adjusted rates)?
 - As the largest domestic carrier and a member of the “Big 4”, have SWA pilots closed the wage gap with their peers at the NLC’s?

How we approached the analysis

- Why start with 1994?
 - 25-year history with last raises being awarded in 2019 under current CBA's for AAL, DAL and UAL
 - Sustained look at inflationary impacts and how pilot narrow-body pay performed during a “career” cycle
 - AAL, DAL, and UAL had nearly identical rates (within two cents) on 1/1/94, creating an ideal starting point for comparative purposes:

	American	Delta	United	Southwest
Equipment	MD-80	B727-200	B727-200	B737-300
Seats	139	146	147	137
TOS Captain Hourly Pay Rate	\$166.12	\$166.10	\$166.10	\$130.87

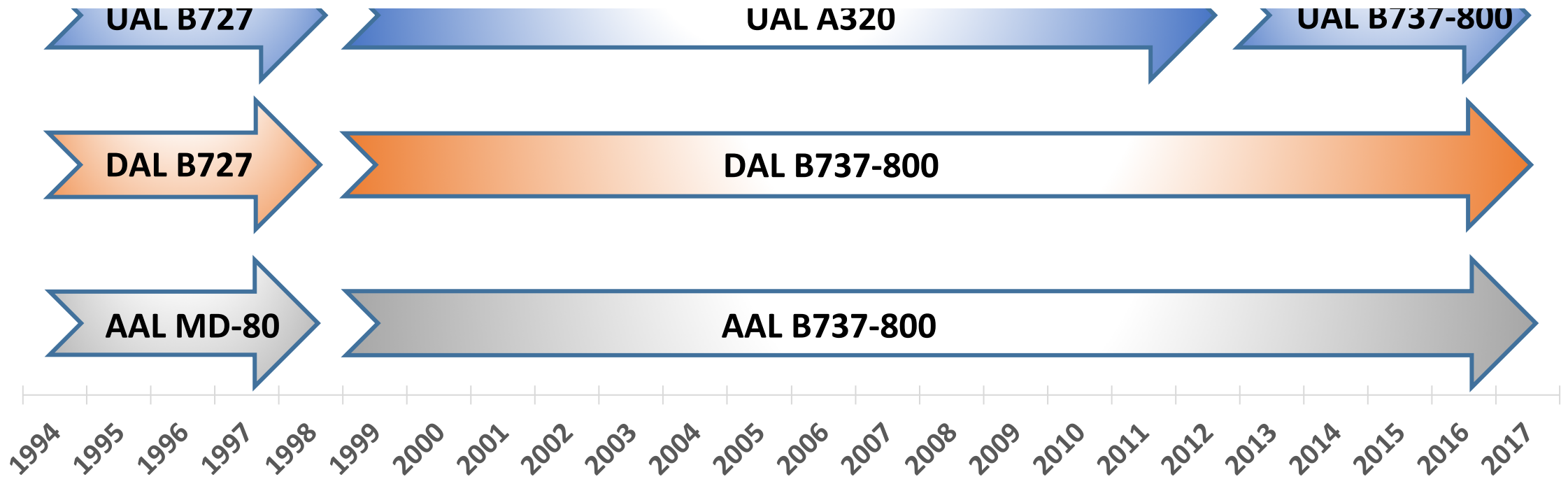
Sources: APA, DALPA, UALPA, SWAPA CBAs

How we approached the analysis

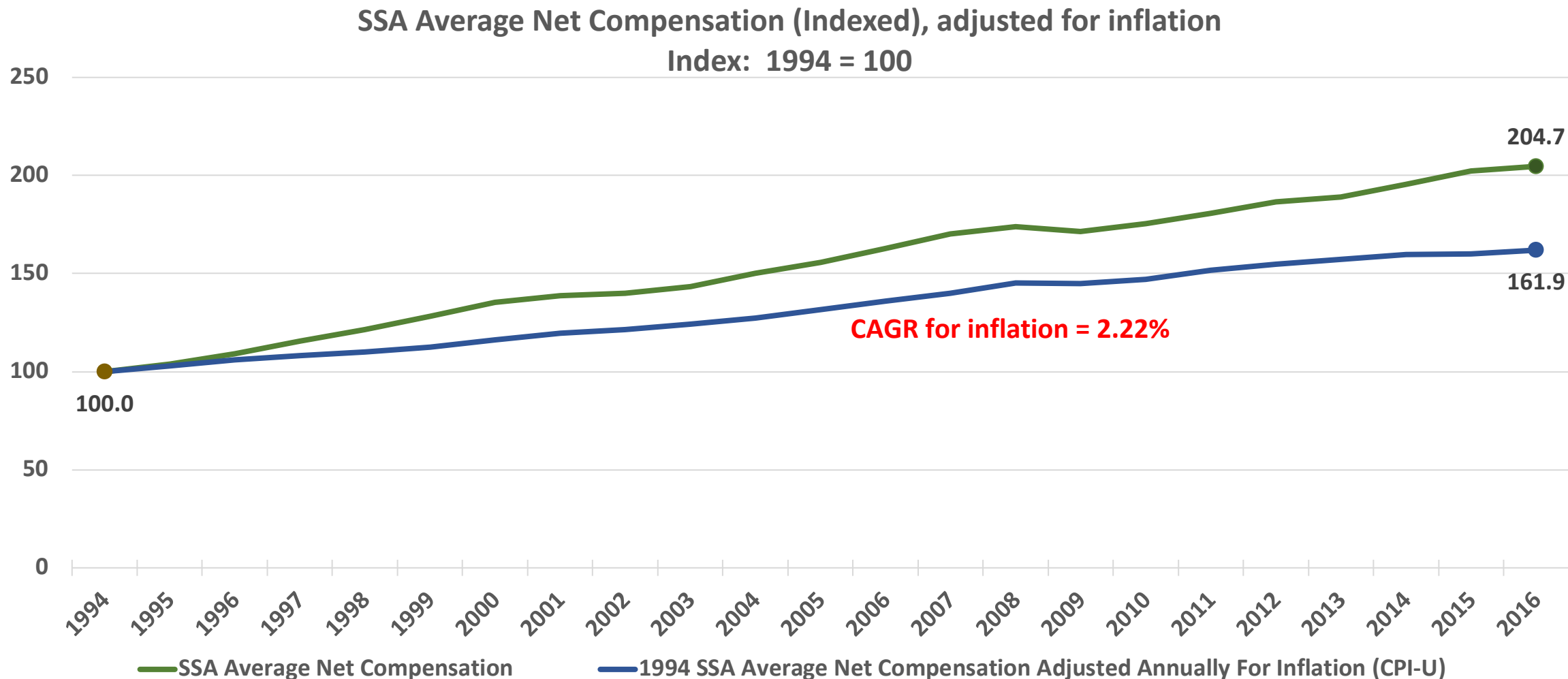
- Analyzed hourly narrow-body pay rates only using a given airline's predecessor aircraft to the B737-800, a staple in today's modern fleets.
- Did not include varied forms of alternative compensation which distort the core hourly pay rate analysis:
 - Profit sharing
 - Incentives
 - Bonuses, stock options, or ESOP plans
 - Overrides
 - International, ETOPS, red-eye, etc.
 - Wide-body career path with increased pay
- Pay rates, dates, and monthly hours:
 - Used hourly pay rates in effect on January 1 each year for TOS Captain
 - SWA trip-for-pay (tfp) rates converted to hourly pay rates using 1.149:1
 - 82 paid hours per month used in calculations

Note: See Appendix: How we approached the analysis for a more detailed discussion.

Predecessor aircraft to the B737-800 used for hourly pay comparisons



US average net compensation growth index vs inflation, 1994-2016

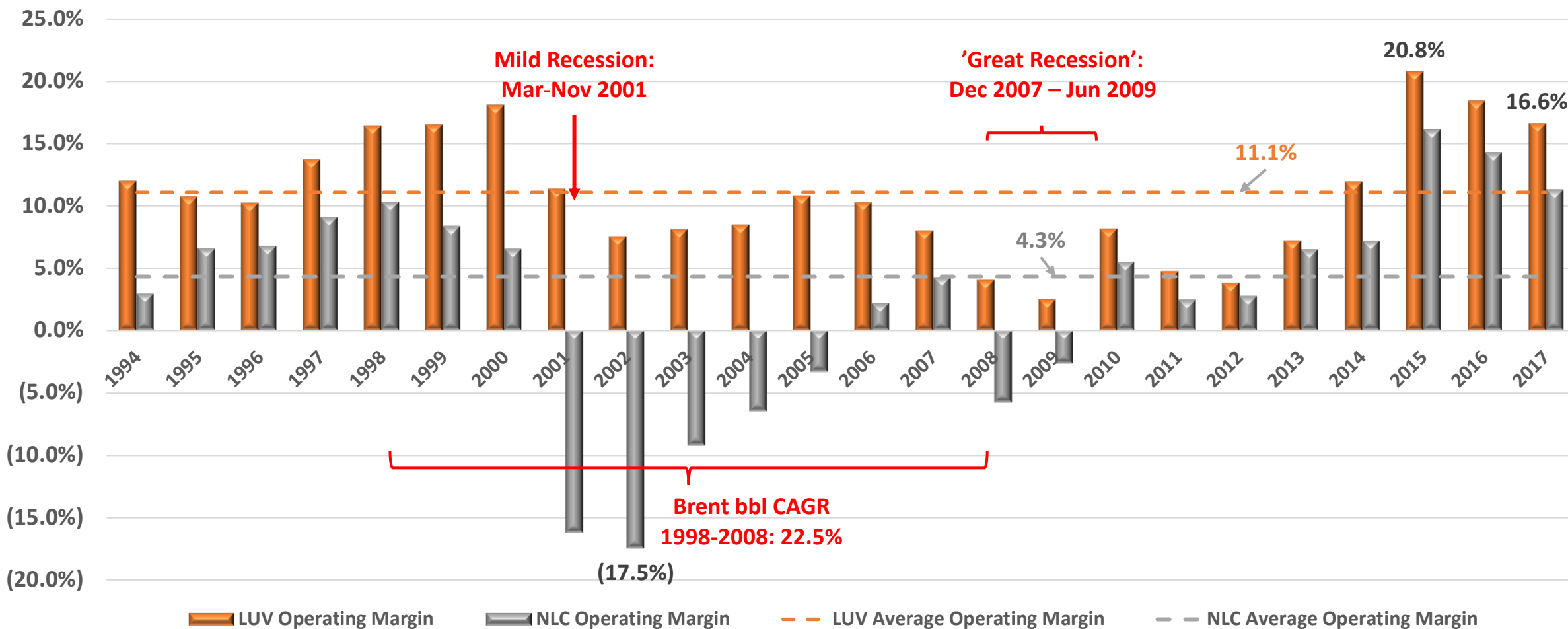


Note: Average U.S. Net Compensation (SSA term) CAGR exceeded the rate of inflation by 1.09% from 1994 through 2016.

Sources: SWAPA analysis. Core data used was sourced from the U.S. Social Security Administration website.

Operating margin – Southwest vs. NLCs

LUV vs NLCs (AAL/DAL/UAL): Annual Operating Margins (GAAP), 1994-2017



Note: Recession data from Federal Reserve Bank of St. Louis (FRED) – Economic Research
 Sources: DOT Form 41, Diio Mi, Form 10-K (2017), SWAPA analysis

Major events over last 25 years – American Airlines

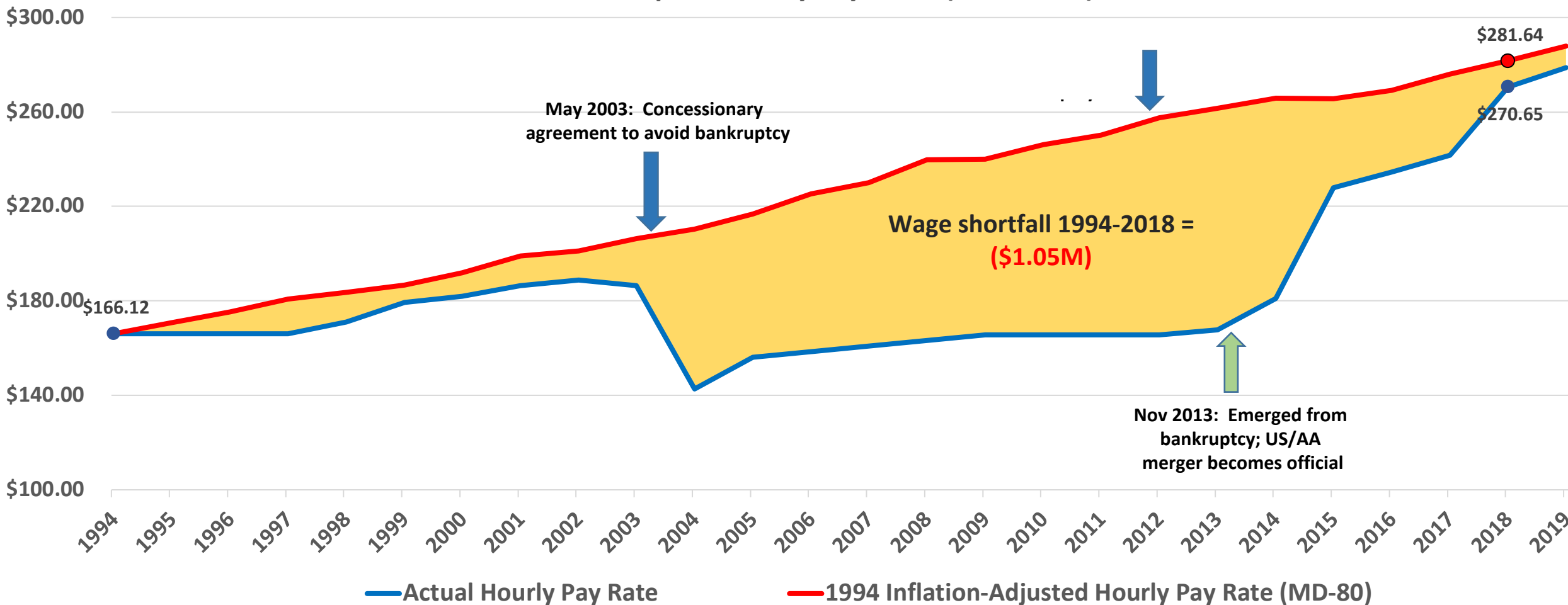
- **1994-2004**
 - Profitable 1995-2000
 - **Acquired Reno Air (1999), purchased TWA out of bankruptcy (2001).**
 - Mild recession followed by September 11th attacks culminated in greater than \$6 billion in operating losses. Negative operating margin of 20.9% in 2002.
 - APA pilot contract signed 1997, lasted until 2004, when wage and benefit concessions averaging 23.6% were implemented in return for remaining outside bankruptcy.
- **2005-2013**
 - Operating losses over \$3 billion in 2008/2009 and debt exceeding \$8 billion lead to bankruptcy in Nov 2011.
 - **In 2013, emerged from bankruptcy and combined with US Airways, creating the world's largest airline.**
 - Meaningful pay increases for the first time since concessionary agreement of 2003. Pilots received 13.5% equity stake in new company.
 - Pilot defined benefit plan frozen as part of negotiations in 2012.
- **2014-present**
 - Strong financial performance included consecutive years of operating profits greater than \$5 billion.
 - **JCBA signed in Jan 2015, incorporating all American and US Airways pilots. Included raises up to 38% over five years.**
 - In Apr 2017, American management offered mid-contract raises to make rates more competitive with DAL and UAL. Average raises equaled 7.0%-8.7% depending on aircraft and seniority.

Note: Reported financials are in accordance with GAAP.

Sources: SEC Filings, Allied Pilots Association, Aviation Information Resources, Inc, Bloomberg, Dallas Morning News, Los Angeles Times, New York Times, Wall Street Journal, Air Transport World, Aviation Daily, Career Pilot Magazine.

Narrow-body hourly pay rate analysis – American Airlines

AAL: TOS Captain Hourly Pay Rates (1994-2019)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix: Notes, note (1).
Sources: (Pay rates) APA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Major events over last 25 years – Delta Airlines

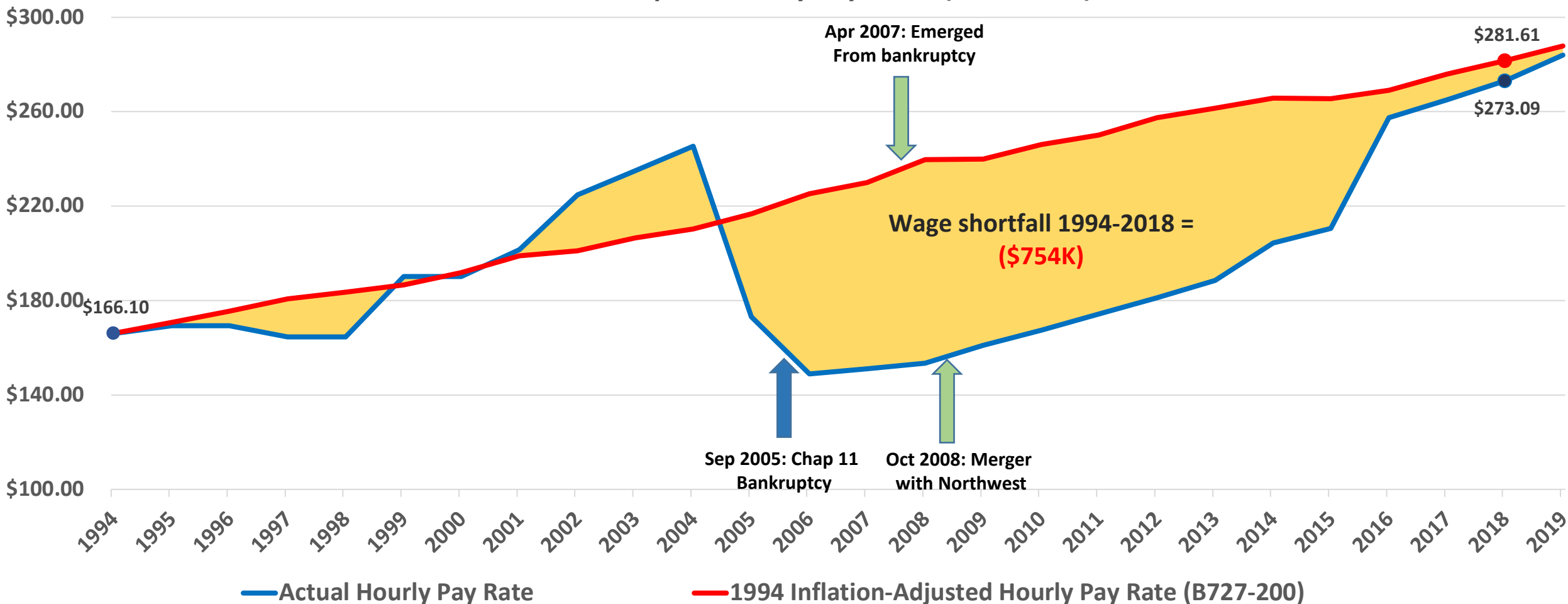
- **1994-2004**
 - Rebounded financially starting in 1995, posting record breaking financial performance through 2000.
 - **DALPA negotiated most lucrative pilot contract to date in 2001 (in nominal dollars).**
 - 9/11 and subsequent industry downturn lead to record losses and threat of bankruptcy. Pilot wages reductions of 32.5%.
- **2005-2013**
 - Filed for bankruptcy in 2005. Pilots defined benefit plan terminated and taken over by PBGC during bankruptcy.
 - Posted profits in 2006-2007 and emerged from bankruptcy in May 2007.
 - **Combined operations with Northwest Airlines in 2008.**
 - Both sets of pilots agreed on expedited JCBA and seniority list; agreement included 17% pay raises and a 5.88% equity stake in the newly merged company.
 - First full contract in 2012 added 18% additional pay raises and improved work rules.
- **2014-present**
 - Double digit operating margins since 2015 and over \$20 billion in operating profits since 2014.
 - Investment-grade corporate credit rating.
 - **New contract reached Dec 2016 after mediation. Pilots received 18% immediate pay raise and cumulative 28% by 2019.**

Note: Reported financials are in accordance with GAAP.

Sources: SEC Filings, Airline Pilots Association, Aviation Information Resources, Inc, Bloomberg, Dallas Morning News, Los Angeles Times, New York Times, Wall Street Journal, Air Transport World, Aviation Daily, Career Pilot Magazine.

Narrow-body hourly pay rate analysis – Delta Airlines

DAL: TOS Captain Hourly Pay Rates (1994-2019)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix: Notes, note (2).
 Sources: (Pay Rates): DALPA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Major events over last 25 years – United Airlines

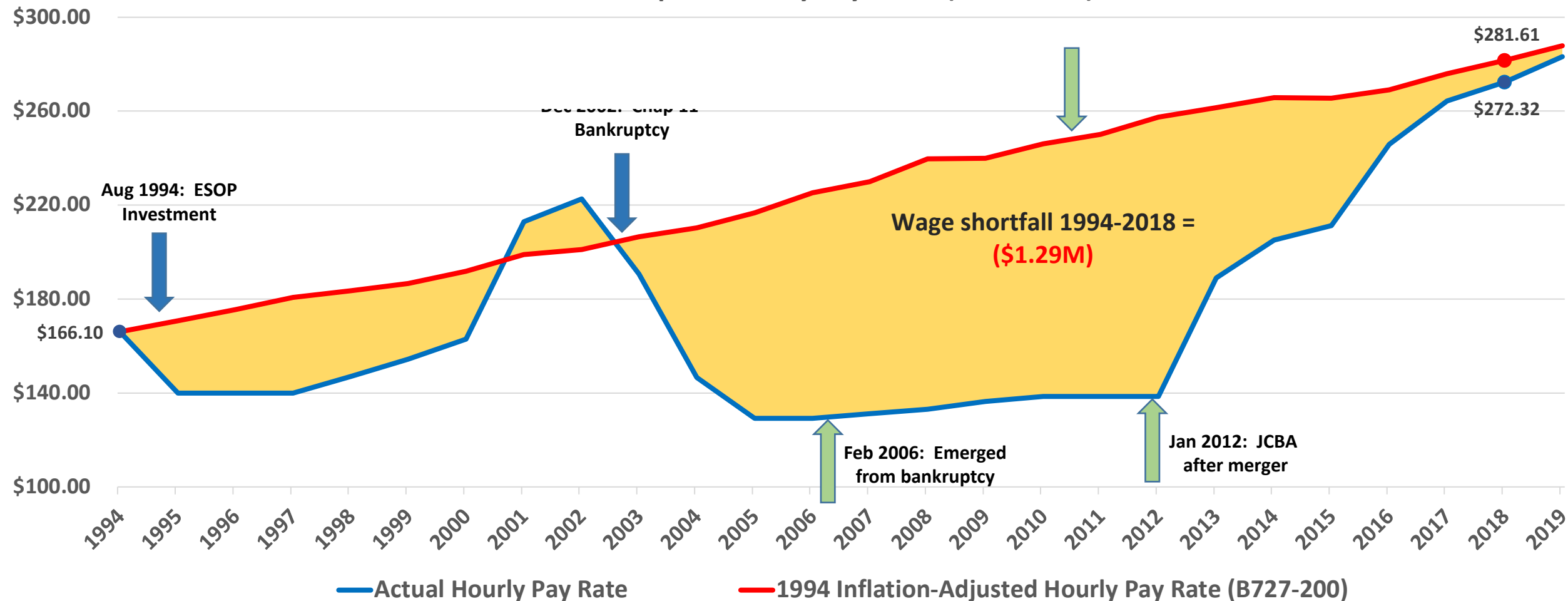
- **1994-2004**
 - Five profitable years leading up to 2001 with peak operating margin of 8.2% in 1998.
 - Groundbreaking Employee Stock Ownership Plan (ESOP) in 1994 with employees acquiring 55% of company. Pilots funded their portion with a 15.7% pay reduction.
 - Recession, traffic slowdown and 9/11 induced severe financial losses starting in 2001, filed for bankruptcy in 2002.
 - **Various concessionary agreements through 2004 results in 43% pay reduction.**
 - Pilots Defined Benefit Plan (A Plan) terminated during bankruptcy and taken over by PBGC.
- **2005-2013**
 - Exited bankruptcy in 2006. One of the longest and most complex in U.S. history.
 - After two years of profits, United posted a loss in 2008 amid higher oil prices and effects of Great Recession.
 - **After start and stop talks, consolidation with Continental Airlines completed in Sep 2010.**
 - JCBA signed Dec 2012, raises averaged 43% and included a \$400 million lump sum payout.
- **2014-present**
 - Profitable since 2014, yet still lags NLC group. Attempting to close the relative “margin gap” with AAL/DAL.
 - **Two-year contract extension in Jan 2016, receiving 13% immediate raise and yearly raises thereafter.**
 - After Dec 2016 DAL pilot deal, UAL contract provision offering “snap up” to DAL rates goes into effect.

Note: Reported financials are in accordance with GAAP.

Sources: SEC Filings, Airline Pilots Association, Aviation Information Resources, Inc, Bloomberg, Dallas Morning News, Los Angeles Times, New York Times, Wall Street Journal, Air Transport World, Aviation Daily, Career Pilot Magazine.

Narrow-body hourly pay rate analysis – United Airlines

UAL: TOS Captain Hourly Pay Rates (1994-2019)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix: Notes, note (3).
Sources: (Pay Rates) UALPA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Major events over last 25 years – Southwest Airlines

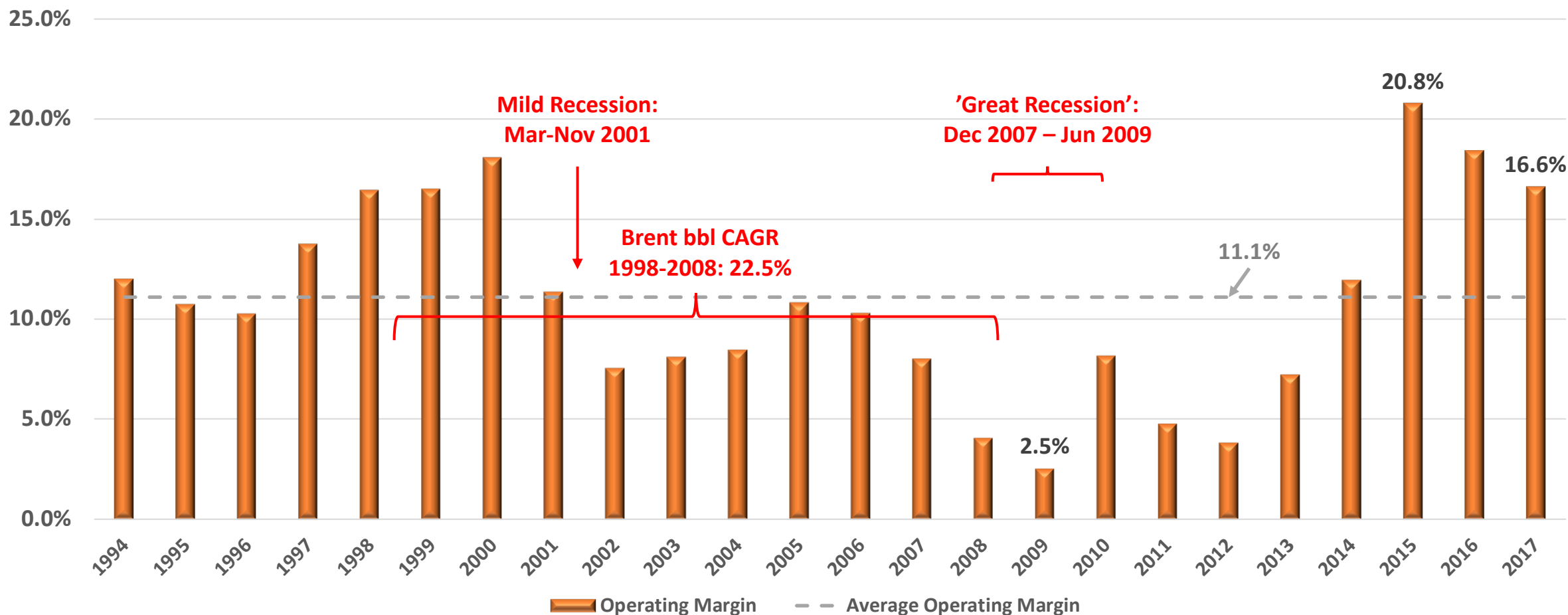
- **1994-2004**
 - **Pilots signed 10-year contract with a pay freeze for the first 5 years in return for increased growth and stock options.**
 - Aggressive fuel hedging contributed to profits during early 2000s.
- **2005-2013**
 - Pay raise in 2004, coupled with NLC concessionary contracts, made SWA pay rates industry leading starting in 2005.
 - Continued to post small profits through the Great Recession.
 - **Acquired AirTran in 2010, gaining slots in congested East Coast airports and international routes. Leased AirTran B-717s to Delta.**
- **2014-present**
 - AirTran consolidation completed in 2014.
 - Strong financials, with GAAP operating margins in excess of 16%.
 - Significant fuel hedge losses through 2017.
 - **After 4+ years of negotiating, pilots ratified contract in Nov 2016, providing a 15% immediate raise, first 401(k) NEC plan, and strengthened industry-leading scope provisions.**

Note: Reported financials are in accordance with GAAP.

Sources: SEC Filings, SWAPA CBAs, Aviation Information Resources, Inc, Bloomberg, Dallas Morning News, Los Angeles Times, New York Times, Wall Street Journal, Air Transport World, Aviation Daily, Career Pilot Magazine.

Operating margins – Southwest Airlines

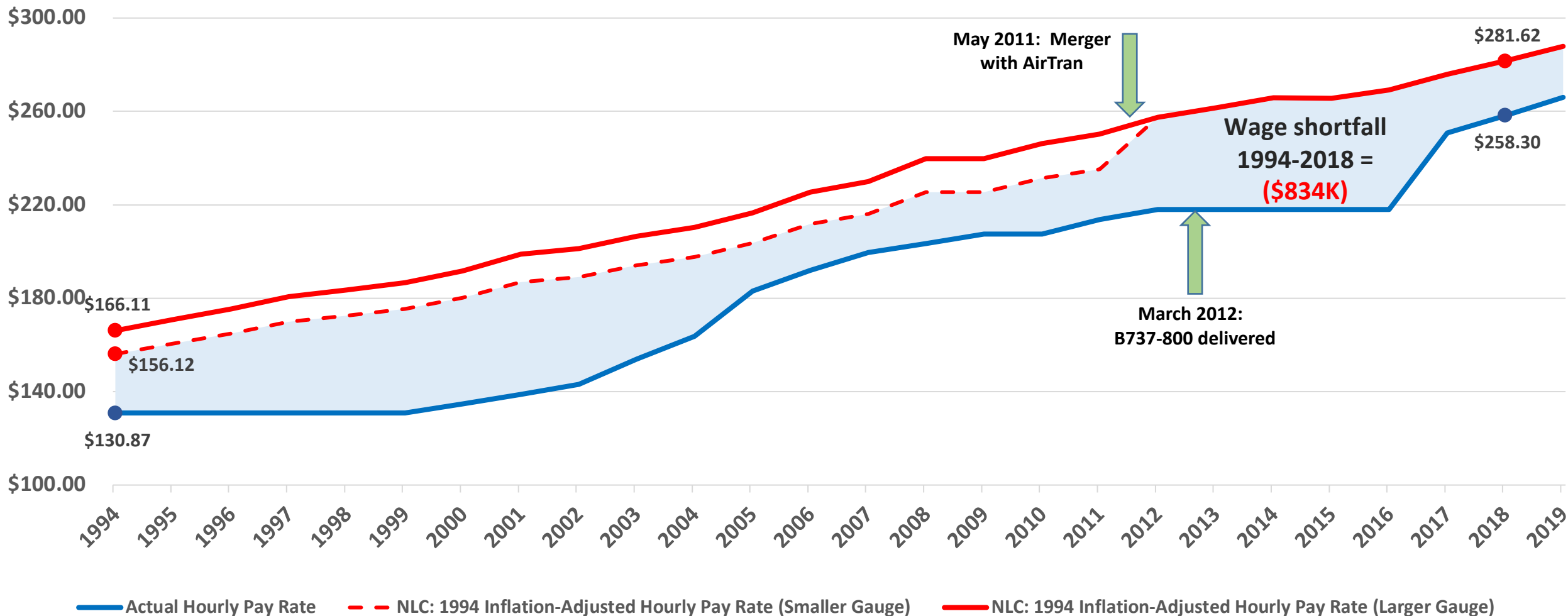
LUV: Annual Operating Margins (GAAP), 1994-2017



Note: Recession data from federal Reserve Bank of St. Louis (FRED) – Economic Research
 Sources: DOT Form 41, Diio Mi, Form 10-K (2017), SWAPA analysis

Narrow-body hourly pay rate analysis – Southwest vs. NLCs

SWA vs. NLCs: TOS Captain Hourly Pay Rates (1994-2019)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix: Notes, note (4).
 Sources: (Pay rates) SWAPA CBAs, SWAPA 30 Year History publication, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Summary worksheet – narrow-body block hour pay, TOS captain, 1994-2018

	American		Delta		United		Southwest*	
	"Nominal" Dollars	Constant "Real" 2018 Dollars	"Nominal" Dollars	Constant "Real" 2018 Dollars	"Nominal" Dollars	Constant "Real" 2018 Dollars	"Nominal" Dollars	Constant "Real" 2018 Dollars
1994: TOS Captain Hourly Pay Rate	\$166.12	\$281.64	\$166.10	\$281.61	\$166.10	\$281.61	\$130.87	\$221.88
"ACTUAL" wages: (82 paid hours/month) 1994-2018	\$4.45M	\$5.68M	\$4.75M	\$6.07M	\$4.22M	\$5.35M	\$4.45M	\$5.54M
"ILLUSTRATIVE" wages, (assumes annual inflation-based raises 1994 NLC rates): 1994-2018	\$5.50M	\$6.93M	\$5.50M	\$6.93M	\$5.51M	\$6.93M	\$5.28M	\$6.62M
Wage SHORTFALL: "Actual" Less "Illustrative": 1994-2018	(\$1.05M)	(\$1.25M)	(\$0.75M)	(\$0.86M)	(\$1.29M)	(\$1.58M)	(\$0.83M)	(\$1.08M)

Notes: Annual hourly rates shown as of January 1 each year. 1994 TOS Captain hourly pay rate: AAL MD-80, DAL/UAL B727, SWA B737-300. * For additional notes, see Appendix: Notes, notes (1) through (4).

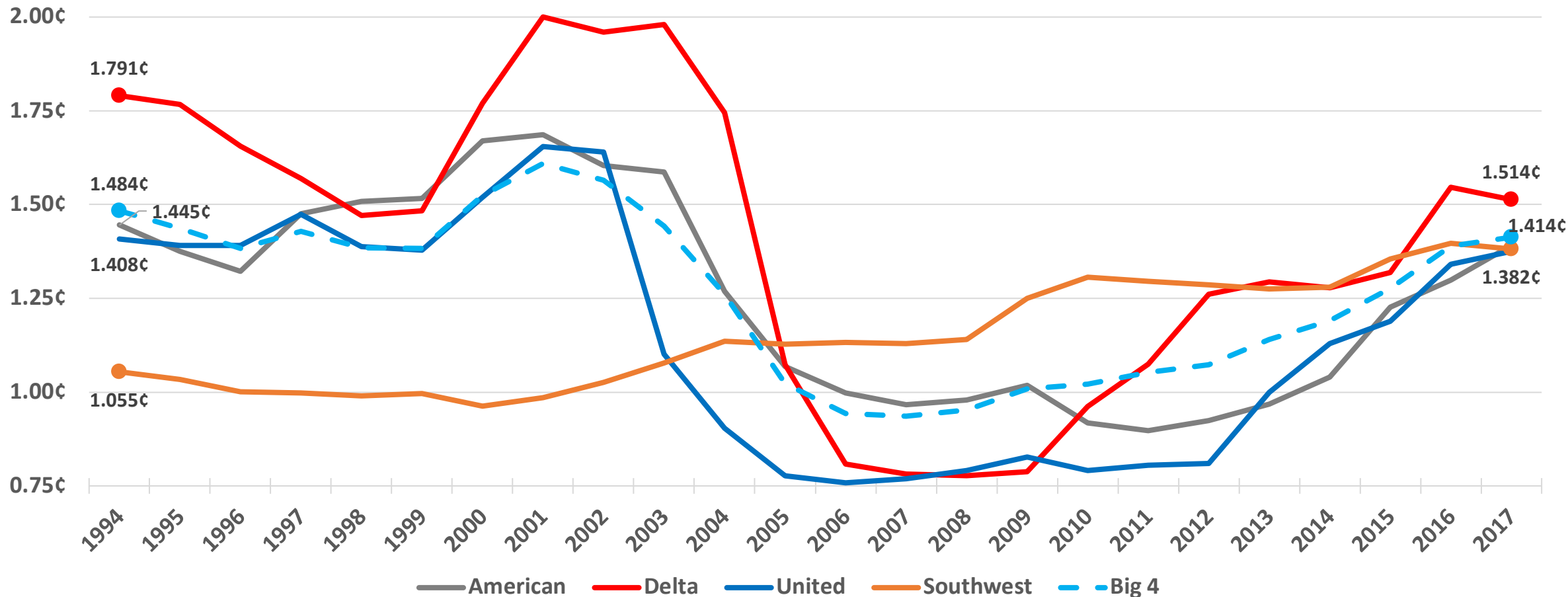
Sources: (Pay Rates) SWAPA CBAs, SWAPA 30 Year History publication, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Pilot 'wage' CASM defined

- **Pilot 'wage' CASM over the last 25 years**
 - Creates ability to analyze the wage component of pilot costs only, the subject of the study
 - **Defined as the sum of four DOT Form 41 accounts reported quarterly**
 - Form 41, Table 5.2, Flying Operations
 - Pilots & Copilots (51230),
 - Trainees & Instructors (51281)
 - Taxes-Payroll (51680)
 - And for B-727, Other (51240)
 - Divided by ASMs (as reported in Table T2)
 - **Does NOT include:**
 - Employee Benefits and Pensions (51570)
 - Personnel Expenses (51360) – per diem, hotel expenses, etc.
 - **We did NOT adjust for stage length**

Big 4 Pilot 'wage' CASM, 1994-2017

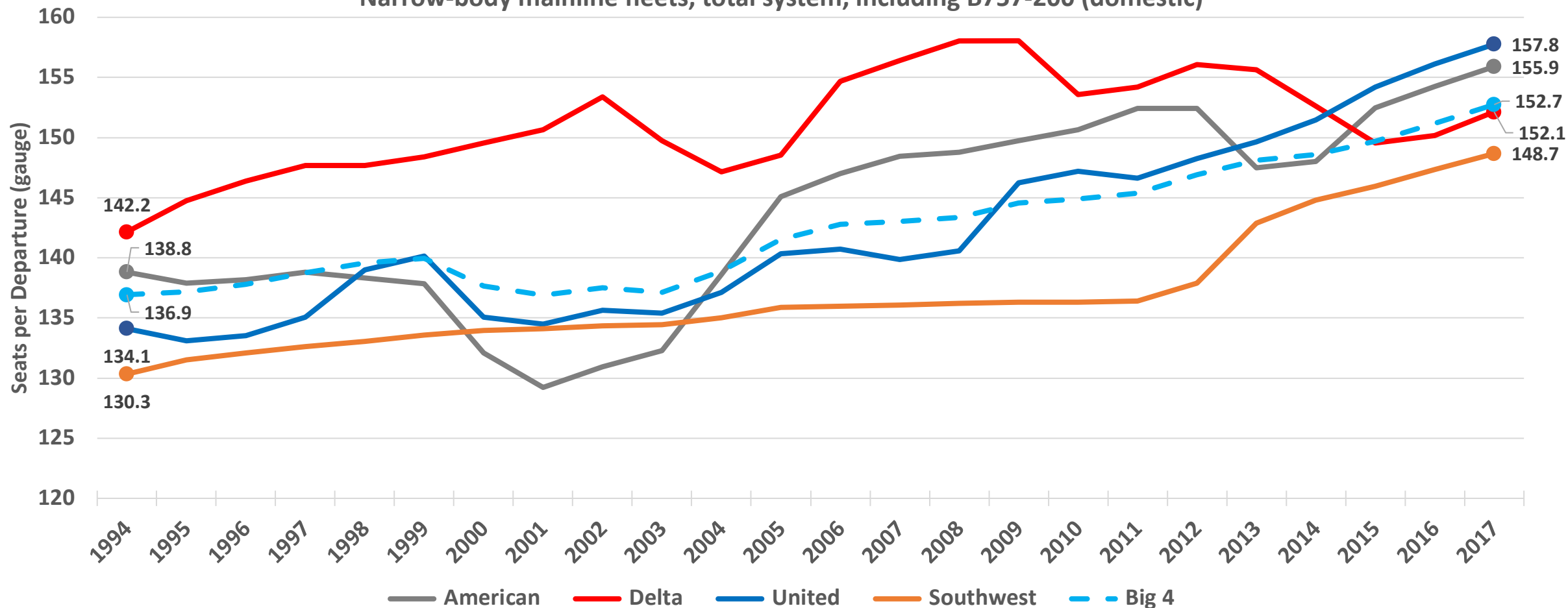
Big 4: Pilot "Wage" CASM – Inflation Adjusted (2018 constant dollars)
Narrow-body mainline fleets, total system, including B757-200 (domestic)



Note: "Wage" CASM includes Form 41, Table 5.2, Flying Operations, sub-accounts: Pilots & Copilots (51230), Other (51240) [for B727-200], Trainees & Instructors (51281), and Taxes-Payroll (51680). CASM is NOT stage-length adjusted. Inflation adjustment uses CPI-U (January 2018 constant dollars); 2017 data is through Q3. Included fleet types are non-regional jet, narrow-body aircraft, excluding B757-300. Sources: DOT Form 41, Diio Mi, SWAPA analysis

Growth of gauge, 1994-2017

Average Seats per Departure
Narrow-body mainline fleets, total system, including B757-200 (domestic)



Sources: DOT Form 41, Diio Mi, SWAPA analysis

Pilot 'wage' CASM vs. gauge

- Big 4 Pilot 'wage' CASM during a turbulent 25 years is 4.5% lower on an inflation-adjusted basis since 1994.
- Airline restructuring, consolidation, and resulting strong cash flows have led to fleet renewals and steady increases in gauge.
- Industry narrow-body seats per trip (gauge) have increased 11.5% since 1994.

Note: Mainline narrow-body fleets, excluding B757-300

Industry pay rate comparison - 2019

B737-800 TOS Captain Hourly Pay Rate Comparison (Rates as of 1/1/19)

Airline	Equipment	2019 rate	\$ behind Delta	% behind Delta	% raise to match Delta	Raise Date	Notes
Delta	B737-700/800	\$284.01				1/1	Delta has a higher B737-900 rate
United	B737-800	\$283.22	(\$0.79)	(0.3%)	0.3%	1/1	
American	B737-800	\$278.77	(\$5.24)	(1.8%)	1.9%	1/1	Group II rate
Southwest	B737-700/800	\$266.04	(\$17.97)	(6.3%)	6.8%	9/1	

Notes: Hourly rates shown do not include applicable ETOPS and/or international overrides. Used tfp-to-hourly rate conversion factor of 1.149 for SWA rates.

Sources: Airline CBAs

Pay rate overview vs. inflation

	American	Delta	United	Southwest ¹	Inflationary Rates
2019 B737-800, TOS Captain, Hourly Pay Rate (Actual)	\$278.77	\$284.01	\$283.22	\$266.04	
1994 NLC Equivalent Inflation-Adjusted Rate To 2019 (Est.) ²	\$287.90	\$287.87	\$287.87	\$287.88	
2019 Actual Rate vs 1994 Equivalent Rate Deficit	(\$9.13)	(\$3.86)	(\$4.65)	(\$21.84)	
2019 Additional Rate Increase Required To Reach 1994 NLC Equivalent Rate	3.3%	1.4%	1.6%	8.2%	

Contract Amendable Dates	1/1/2020	12/31/2019	2/1/2019	9/1/2020	
Early Opener	1/1/2019	1/1/2019	270 Days	3/1/2020	
Last Raise Date	1/1/2019	1/1/2019	1/1/2019	9/1/2020	

CPI-U CAGR Jan 1994 thru Jan 2018 (24 Years)					2.2%
50 Year CPI-U CAGR (Jan 1968 thru Jan 2018)					4.0%

Note: 1. *SWA tfp rates converted using a tfp-to-hourly rate conversion factor of 1.149:1.

2. Applied the 24 year CPI-U CAGR of 2.22% to the period 1/1/18 to 1/1/19 to derive the 2019 equivalent inflation adjusted rate.

Sources: Airline CBAs and SWAPA analysis

Conclusions from 25-year historical pilot pay study

- Pilots at the NLCs encountered significant reductions in “real income” due to wages falling below the 1994 inflation-adjusted rate for a sustained period.
- Pay rates at the NLCs are close to reaching the 1994 inflation-adjusted rate, but earnings shortfalls remain from the past.
- Southwest is the largest domestic airline and generates the strongest margins of the “Big 4”. SWA’s pilot wage gap has narrowed compared to the NLC’s 1994 inflation-adjusted rate, but still lags behind these three carriers and the benchmark used in the study.
- Southwest TOS Captain “actual” cumulative wages (using 82 hours per month) over the 25 year period were comparable to those at the NLCs, but a pay gap now exists as a result of pattern bargaining.
- Up-gauging of fleets has had a positive impact upon industry pilot unit costs.

Appendix



Economic, Financial Analysis and Industry Research Committee

March 2018

SOUTHWEST AIRLINES PILOTS ASSOCIATION

Appendix: How we approached the analysis

- **B737-800 rates are the current benchmark for SWAPA as the aircraft is a major component in each of the “Big 4” narrow-body fleets.**
- **Evaluated hourly pay rates for the predecessor aircraft which were replaced by and/or comparable to the B737-800.**
 - The B727 and MD-80 aircraft were the predecessors to the B737-800 & B737-MAX8 being used in today’s modern fleets.
 - The A320 is a comparable aircraft to the B737-800 and was used in the study when a carrier lacked the B737-800 in its fleet.
- **Seats per trip (“gauge”) have increased significantly with fleet renewal and growth during this decade as the industry has returned to profitability.**
 - The B737-800 has fueled the growth in “gauge” at SWA.

Appendix - How we approached the analysis

- Analyzed hourly narrow-body pay rates only as pay rates have a direct and consistent impact upon the income statement
 - Study focused squarely on “guaranteed” hourly pay
 - Profit sharing is variably dependent upon levels of profitability and “at risk” with different purposes and justifications
 - SWA’s profit sharing plan was implemented primarily as a retirement vehicle in lieu of DB or DC plans at Network Legacy Carriers
 - SWA had an insufficient 401(k) match which was supplemented by the profit sharing plan for many years
 - Incentives were not included in the study:
 - Bonuses
 - Stock options had results which varied greatly based upon population and investment decisions
 - ESOP plans (i.e. UAL)
 - Overrides were not included (i.e. international, ETOPS, red-eye, etc.)
 - Wide-body hourly pay rates and career progression were not evaluated as the study focused on narrow-body equipment

Appendix: How we approached the analysis

- **Wage vs. inflation calculation (NLCs):** Calculated the difference between actual hourly pay rates and the 1994 NLC rates adjusted annually for inflation to 2019
 - 1994 hourly pay rates (AAL: MD-80) and (DAL/UAL: B727) were adjusted for inflation each year using the CPI-U to include 2019 (used the CPI-U CAGR January 1994 - 2018 of 2.22% for January 2019).
 - For each year, we computed the difference between the actual hourly pay rate and the 1994 NLC inflation-adjusted rate (equipment dependent) and multiplied the result by 82 hours/month times 12 months.
 - Then we added the annual results to compute the cumulative wage differential for the 25-year period.
- **Wage vs inflation calculation (SWA):** Applied the same methodology utilized in the wage vs. inflation calculation (NLCs), with the following exceptions:
 - Step adjustments were applied to determine a wage vs. inflation result between SWA and the inflation-adjusted 1994 NLC rates. SWA had a negative wage gap to the NLCs in 1994, the starting year for the study, as the SWA rates were below the NLC average rates for the B737-300 (smaller gauge) and the B727/MD-80 (larger gauge).
 - Applied a “step” adjustment to determine the NLC inflation-adjusted rate due to the lack of a B737-800 equivalent aircraft 1994 thru 2011:
 - Step 1 (1994-2011, no B737-800 equivalent): Average 1994 AAL/DAL/UAL B737-300 inflation-adjusted hourly rate
 - Step 2 (2012-2019, B737-800 in SWA fleet): Average 1994 DAL/UAL B727 & AAL MD-80 inflation-adjusted hourly rate

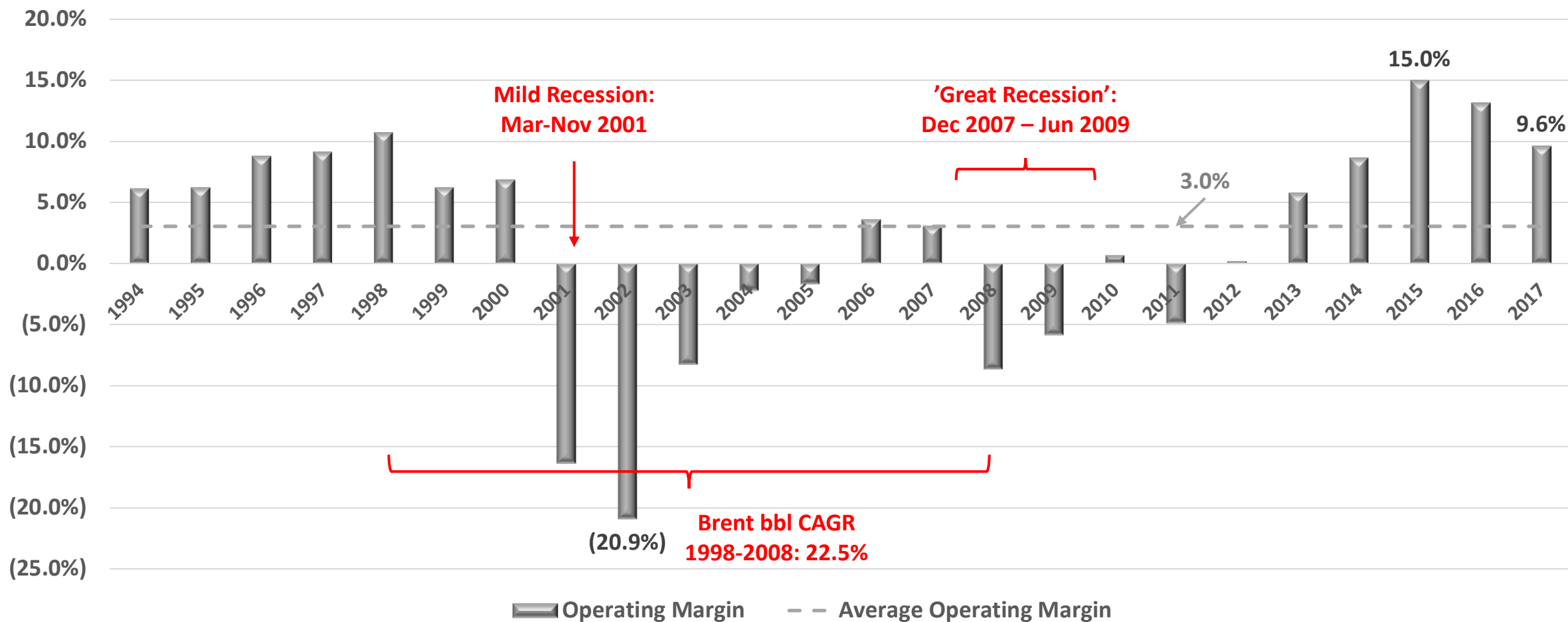
Appendix: Equipment and gauge, 1994

	American	Delta	United	Southwest
1994 Equipment	MD-80	B727	B727	B737-300
Seats per Trip, "Gauge" 1994 Equipment used in study	139	146	147	137
Seats per Trip, "Gauge" 1994: B737-300		126	126	137
Equipment Transitions over 25 Years	B737-800	B737-800	A320 to B737-800	B737-700 to B737-800
Seats per Trip, "Gauge" 2018: B737-800	160	160	165	175

Source: Diio Mi.

Appendix: Operating margins – American Airlines

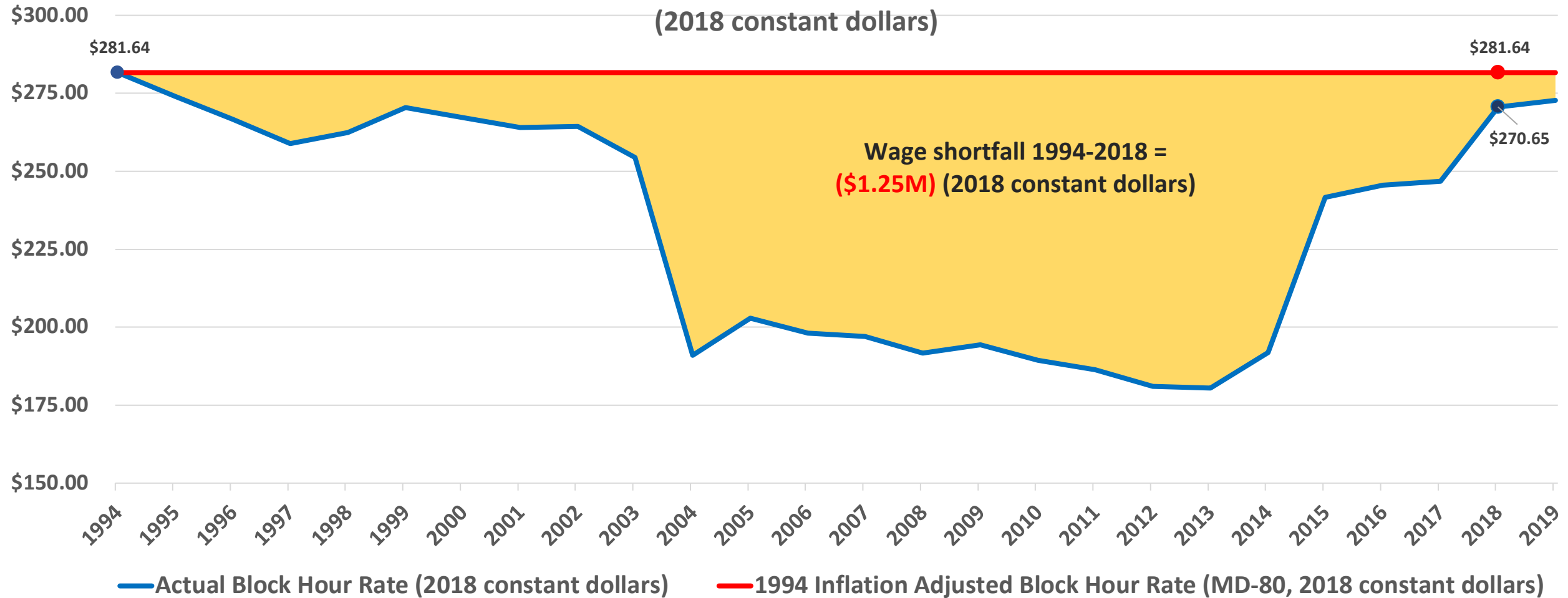
AAL: Annual Operating Margins (GAAP), 1994-2017



Note: Recession data from Federal Reserve Bank of St. Louis (FRED) – Economic Research
 Sources: DOT Form 41, Diio Mi, Form 10-K (2017), SWAPA analysis

Appendix: Narrow-body hourly pay rate analysis – American Airlines

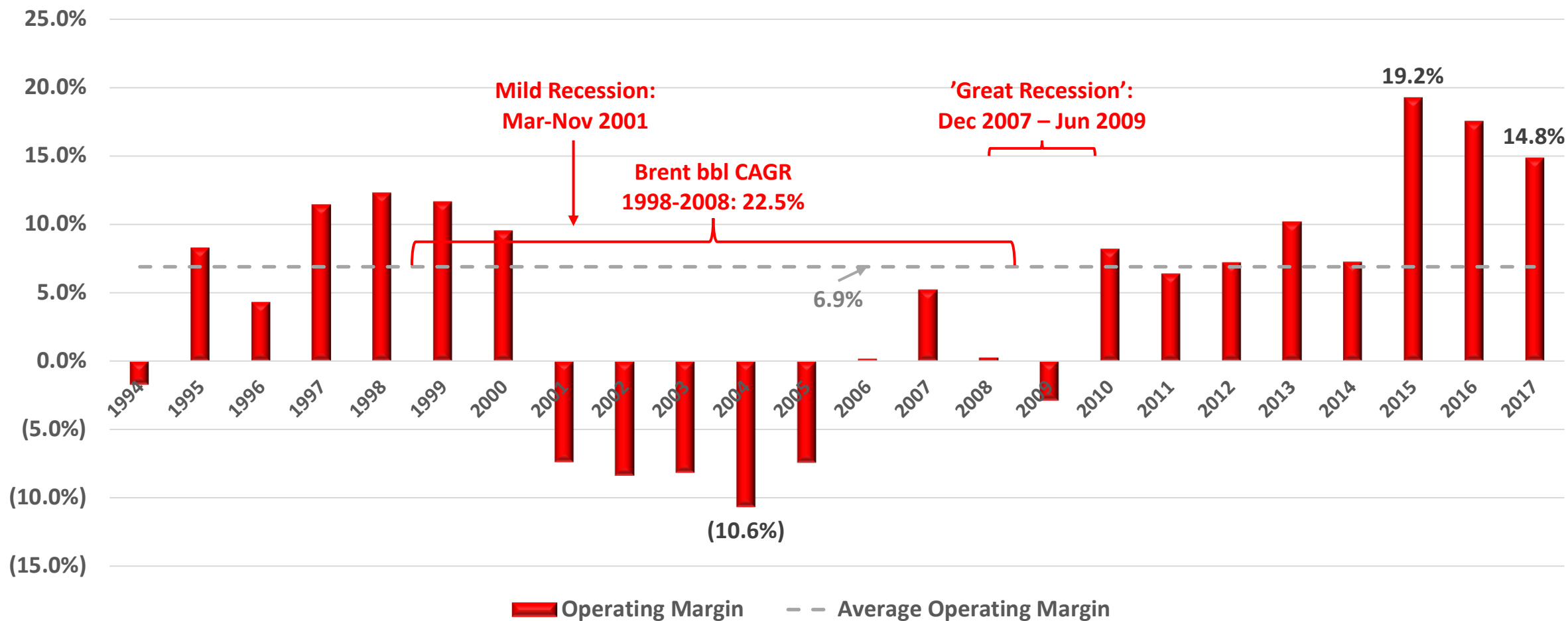
AAL: TOS Captain Hourly Pay Rates (1994-2019)
(2018 constant dollars)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix – Notes: note (1).
Sources: (Pay rates) APA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

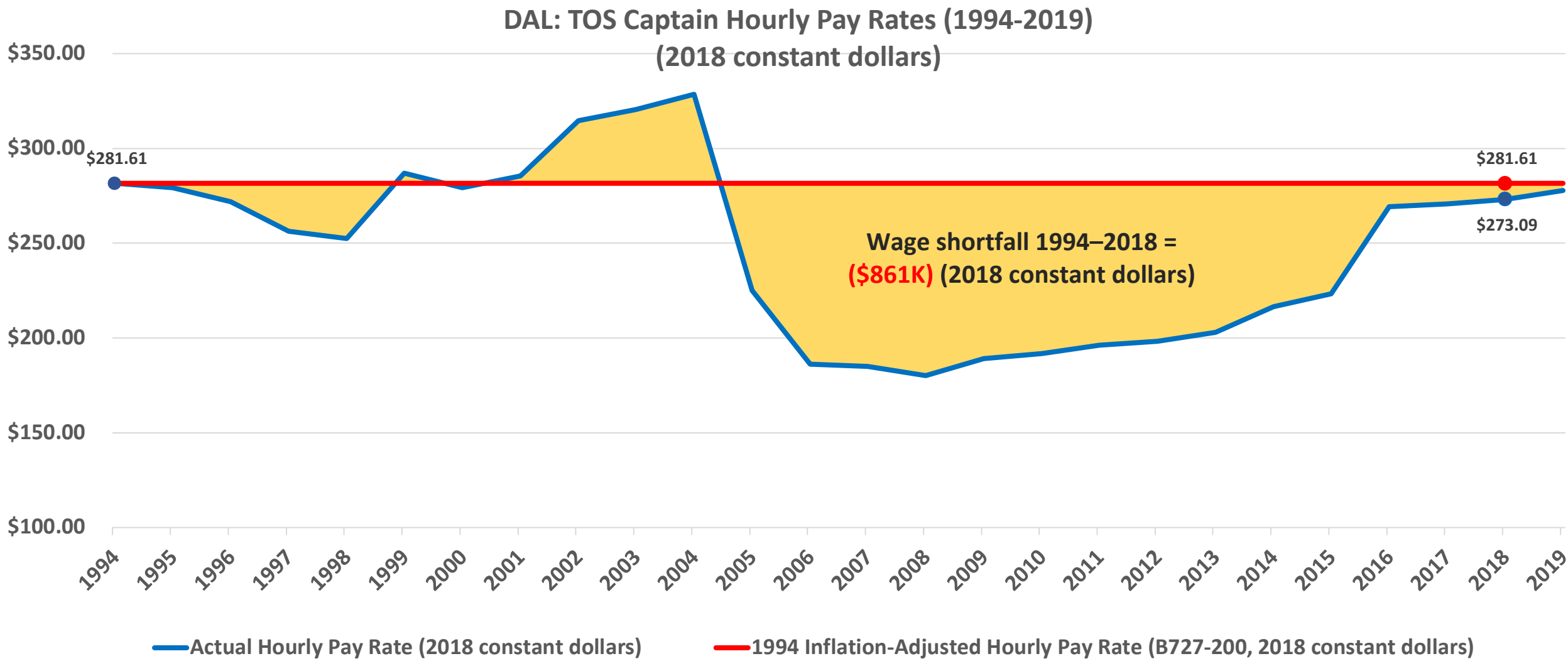
Appendix: Operating margins – Delta Airlines

DAL: Annual Operating Margins (GAAP), 1994-2017



Note: Recession data from Federal Reserve Bank of St. Louis (FRED) – Economic Research
 Sources: DOT Form 41, Diio Mi, Form 10-K (2017), SWAPA analysis

Appendix: Narrow-body hourly pay rate analysis – Delta Airlines

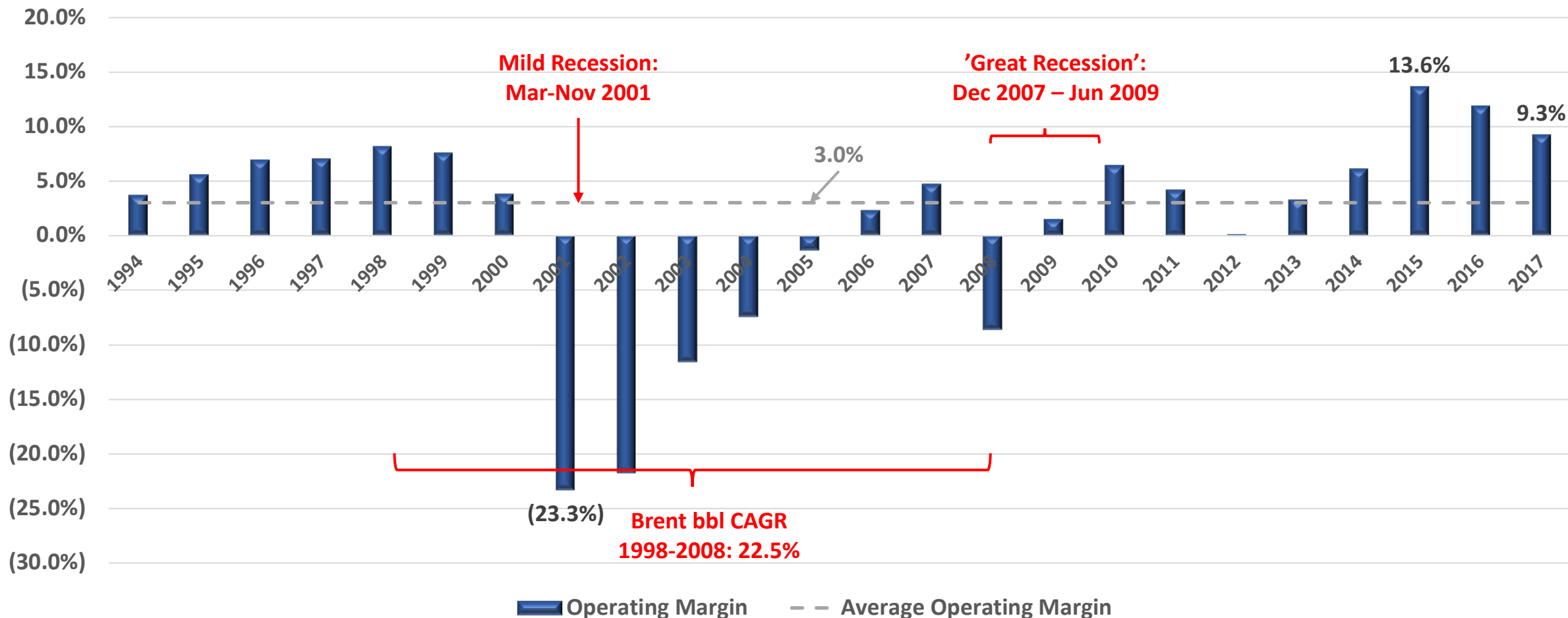


Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix – Notes: note (2).
 Sources: (Pay Rates): DALPA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.



Appendix: Operating margins – United Airlines

UAL: Annual Operating Margins (GAAP), 1994-2017

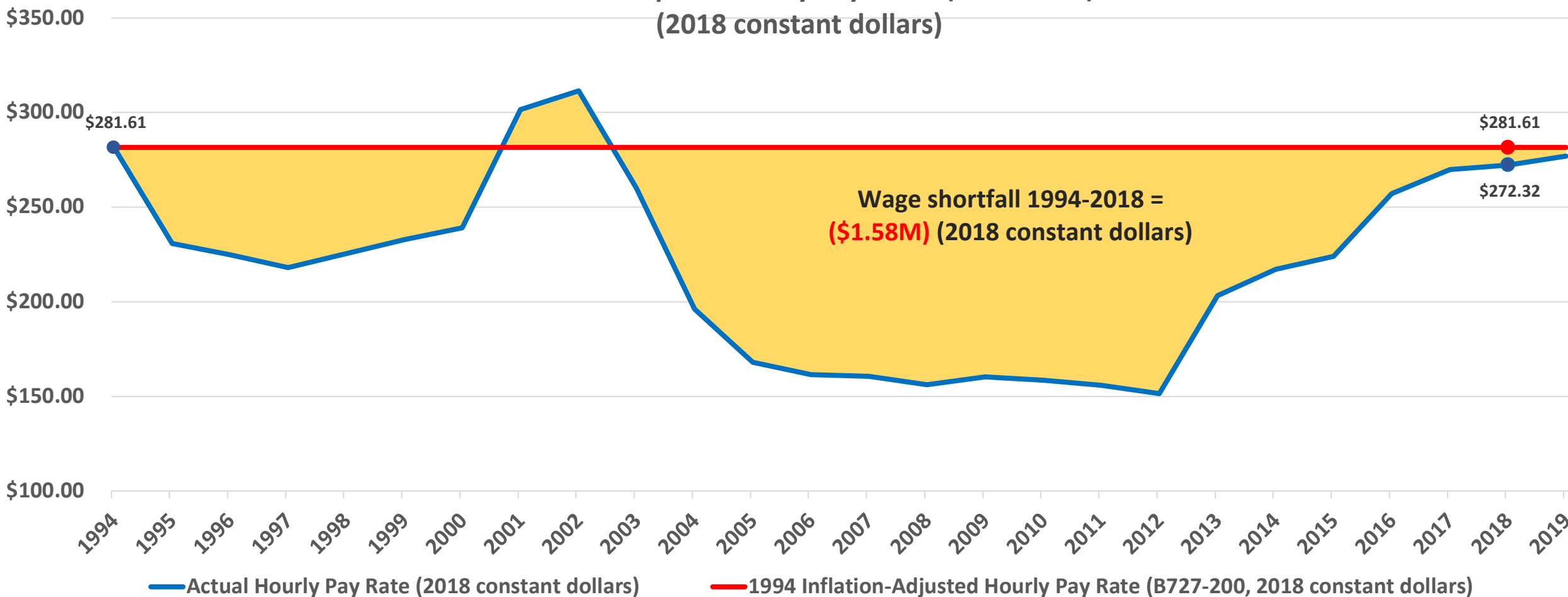


Note: Recession data from federal Reserve Bank of St. Louis (FRED) – Economic Research

Sources: DOT Form 41, Diio Mi, Form 10-K (2017), SWAPA analysis

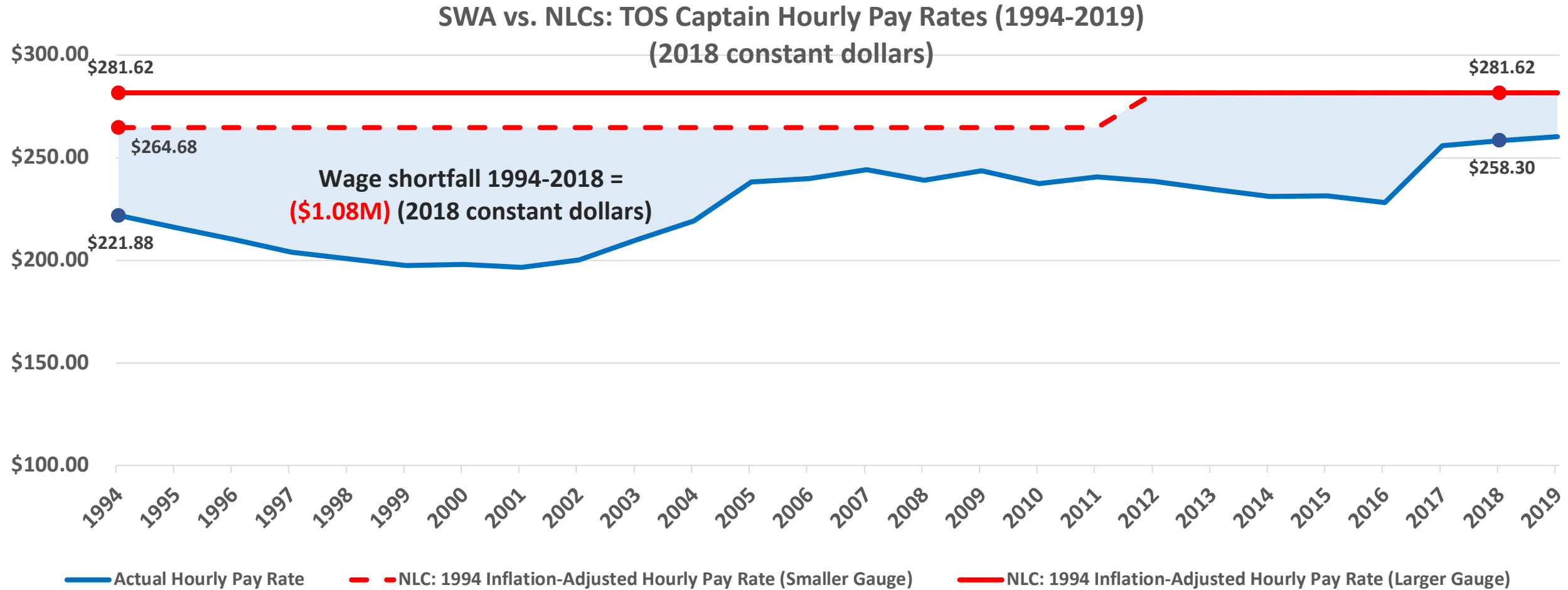
Appendix: Narrow-body hourly pay rate analysis – United Airlines

UAL: TOS Captain Hourly Pay Rates (1994-2019)
(2018 constant dollars)



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix – Notes: note (3).
Sources: (Pay Rates) UALPA CBAs, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Appendix: Narrow-body hourly pay rate analysis – Southwest vs. NLCs



Notes: Annual hourly rates shown as of January 1 each year. For additional notes, see Appendix: Notes, note (4).

Sources: (Pay rates) SWAPA CBAs, SWAPA 30 Year History publication, Aviation Information Resources Inc., Career Pilot Magazine, JJC LLC, and SWAPA analysis.

Appendix: Profit sharing, 2010-2017

- Profit sharing plans were not considered in our analysis since we analyzed hard pay rates only, not "at risk" compensation.
- The SWA profit sharing plan is a retirement plan and was the primary retirement vehicle for pilots for many years.
 - SWA Pilots received a sub-industry standard 401(k) match of 6.3% (1994), 7.3% (1995-2008), 7.8% (2009), and 9.3% (2010-2016). The average payout percentage for SWA profit sharing from 1994-2017 was 8.6%.
- As airlines returned to profitability in 2010, Pilots would have received the profit sharing payouts shown in the table below:

	American	Delta	United	Southwest
Total Profit Sharing, 2010-2017 (Nominal \$'s)	\$11,684	\$208,579	\$103,427	\$150,203

Notes: Profit sharing based on 82 hour/month for Pilots flying equipment represented in the pay study: AAL/DAL: B737-800, UAL: A320/B737-800, SWA: B737-700/800.

AAL had 1.5% profit sharing in 2013, but not received by Pilots as part of a negotiated settlement.

Source: SWAPA analysis

- **Note (1) Narrow-body hourly pay rate analysis – American Airlines (nominal and constant dollar charts)**
 - Inflation adjustments are applied to 1994 hourly pay rate for MD-80 (red line) and use CPI-U and 2019 inflation adjusted rate estimated using CPI-U CAGR (1994-2018) of 2.22%. Actual hourly pay rates (blue line): MD-80 (1994-1998) and B737-800 (1999-2019). Earnings “shortfall” calculated as difference between actual hourly rate (blue line, each year shown) and inflation adjusted 1994 MD-80 rate (red line, each year shown), multiplied by 82 hours per month times 12 months.
- **Note (2) Narrow-body hourly pay rate analysis – Delta Airlines (nominal and constant dollar charts)**
 - Inflation adjustments are applied to 1994 hourly pay rate for B727-200 (red line) and use CPI-U and 2019 inflation adjusted rate estimated using CPI-U CAGR (1994-2018) of 2.22%. Actual Hourly Pay Rates (blue line): B727-200 (1994-1998) and B737-800 (1999-2019). Earnings “shortfall” calculated as difference between actual hourly rate (blue line, each year shown), and inflation adjusted 1994 B727-200 rate (red line, each year shown), multiplied by 82 hours per month times 12 months.
- **Note (3) Narrow-body hourly pay rate analysis – United Airlines (nominal and constant dollar charts)**
 - Inflation adjustments are applied to 1994 hourly pay rate for B727-200 (red line) and use CPI-U and 2019 inflation adjusted rate estimated using CPI-U CAGR (1994-2018) of 2.22%. Actual Hourly Pay Rates (blue line): B727-200 (1994-1998), A320 (1999-2012), and B737-800 (2013–2019). Earnings “shortfall” calculated as difference between actual hourly rate (blue line, each year shown), and inflation adjusted 1994 B727-200 rate (red line, each year shown), multiplied by 82 hours per month times 12 months.
- **Note (4) Narrow-body hourly pay rate analysis – Southwest vs. NLC (nominal and constant dollar charts)**
 - Inflation adjustments are applied to 1994 hourly pay rate for average DAL/UAL B727-200 & AAL MD-80 (larger gauge, red line) and use CPI-U and 2019 inflation adjusted rate estimated using CPI-U CAGR (1994-2018) of 2.22%. Inflation adjustments are applied to 1994 hourly pay rate for average AAL/DAL/UAL B737-300 (smaller gauge, dashed red line). Actual Hourly Pay Rates (blue line): B737 (1994-2019). Wage shortfall calculated as difference between actual hourly rate (blue line, each year shown), and inflation adjusted 1994 average AAL/DAL/UAL B737-300 rate (dashed red line, 1994-2011) plus inflation adjusted 1994 average DAL/UAL B727-200 & AAL MD-80 (red line, 2012-2019, transitions in 2012 due to delivery of B737-800), multiplied by 82 hours per month times 12 months. SWA paid a ratification bonus (RB) in 2016. The study focused on hard hourly pay rates only. The impact of the RB would have resulted in a reduction of \$46,734 (current "nominal" dollars) and \$47,979 (constant "real" dollars) in the SWA wage shortfall had bonuses been considered. SWA trips-for-pay (tfp) converted to hourly pay using a 1.149 tfp-to-hourly pay conversion rate.

The Pilot Profession: Supply, Pay, and a Look Ahead To The Next Contract Cycle



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