



Hawaii tourism performance in the bigger macroeconomic picture

slides prepared for the Hawaii Chapters of the

Pacific Asia Travel Association
Travel & Tourism Research Association

Hawaii Prince Hotel Waikiki

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February 3, 2016



Outline

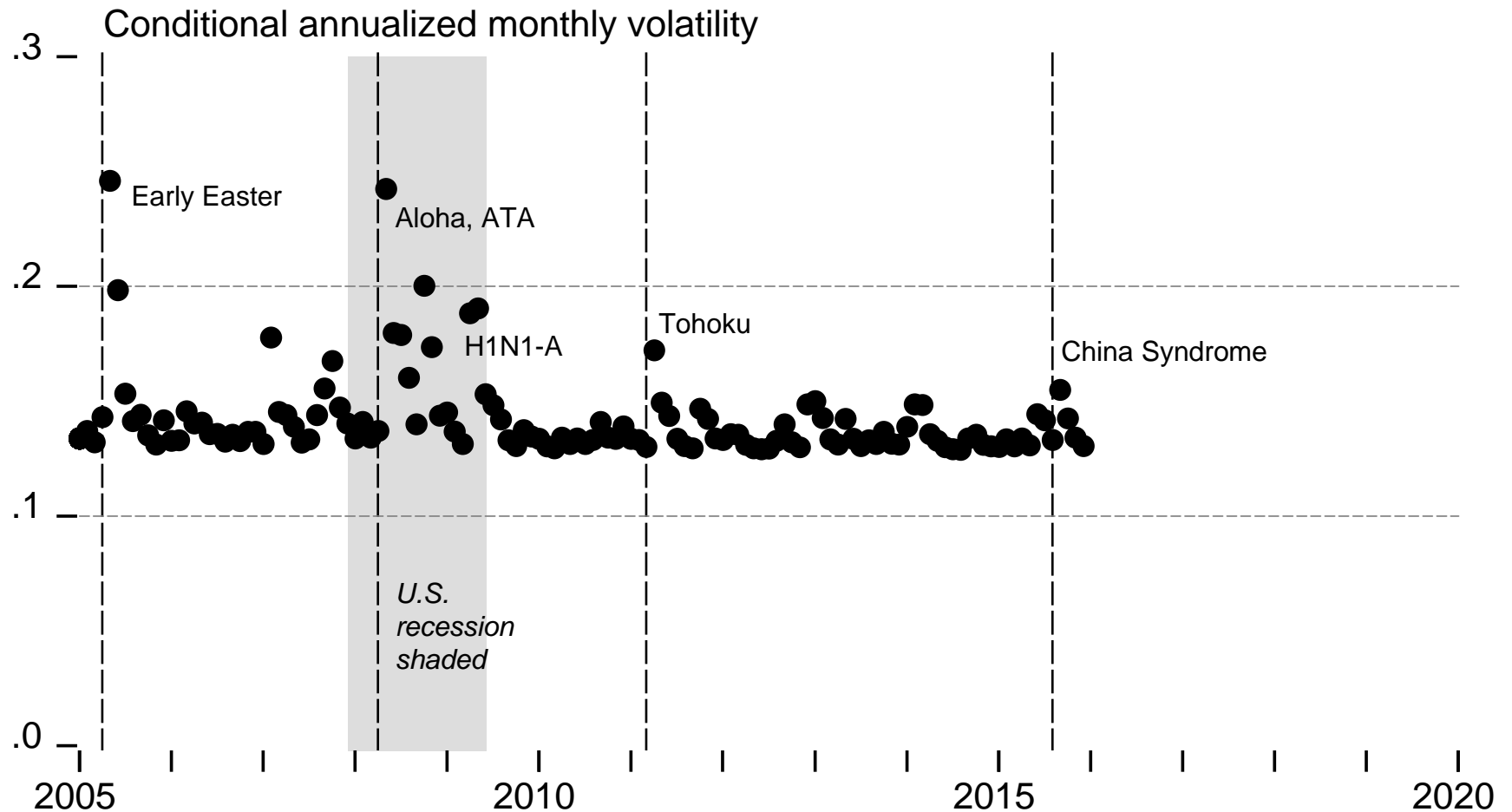
- Tourism as export performance: volatility, trends
- Supply-side factors
- Demand-side drivers



1. Performance

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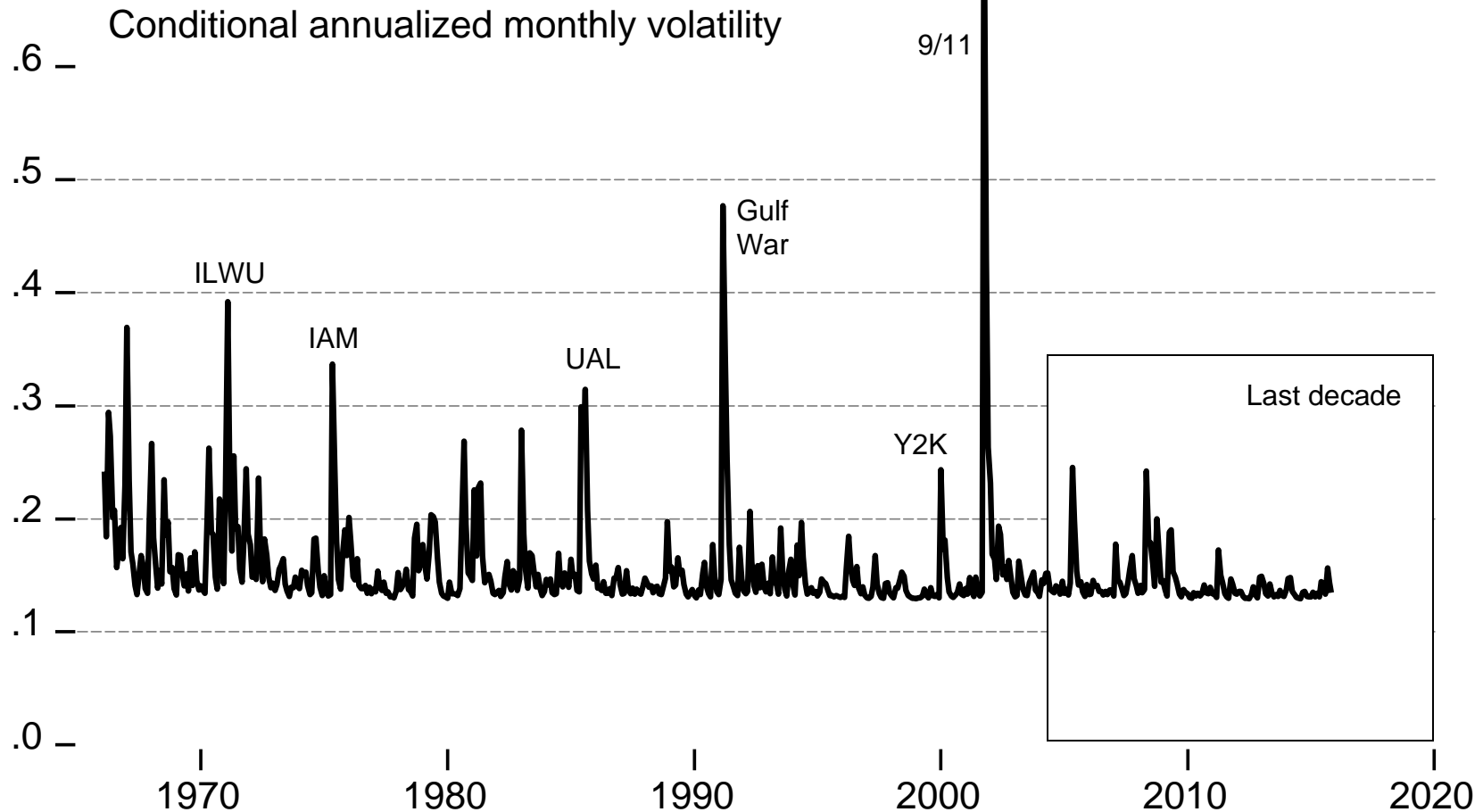
Conditional volatility of Hawaii visitor arrivals (monthly, annualized rates (i.e. 0.1 = 10%)); volatility shocks muted this recovery



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Sources: HTA, Hawaii DBEDT; seasonal adjustment, calculation of monthly annualized threshold autoregressive conditional heteroskedasticity standard deviations of total Hawaii visitor arrivals by TZ Economics

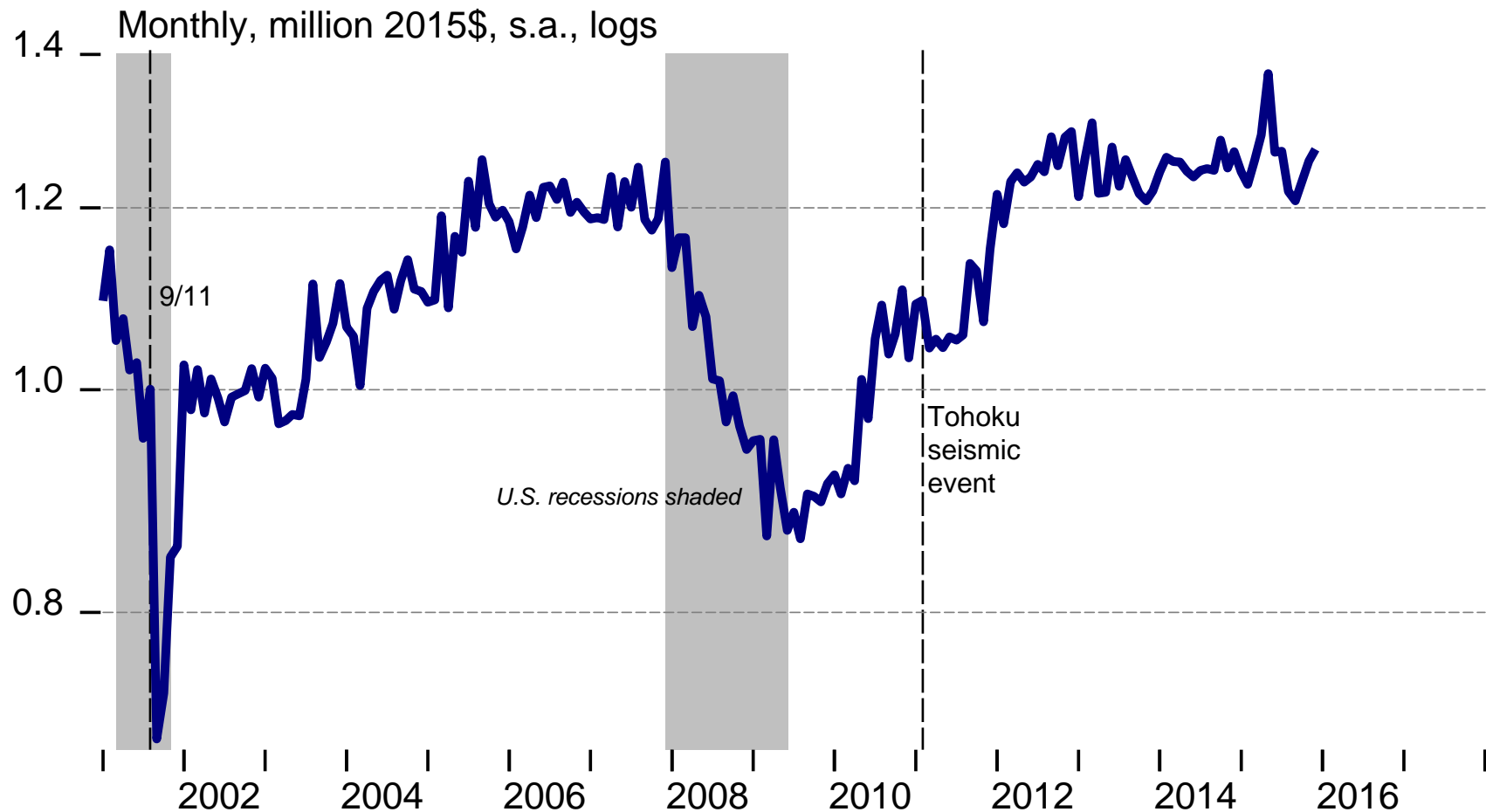
Current tourism performance notable since 9/11 for *lower volatility*



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Sources: HTA, Hawaii DBEDT; seasonal adjustment, calculation of monthly annualized threshold autoregressive conditional heteroskedasticity standard deviations of total Hawaii visitor arrivals by TZ Economics

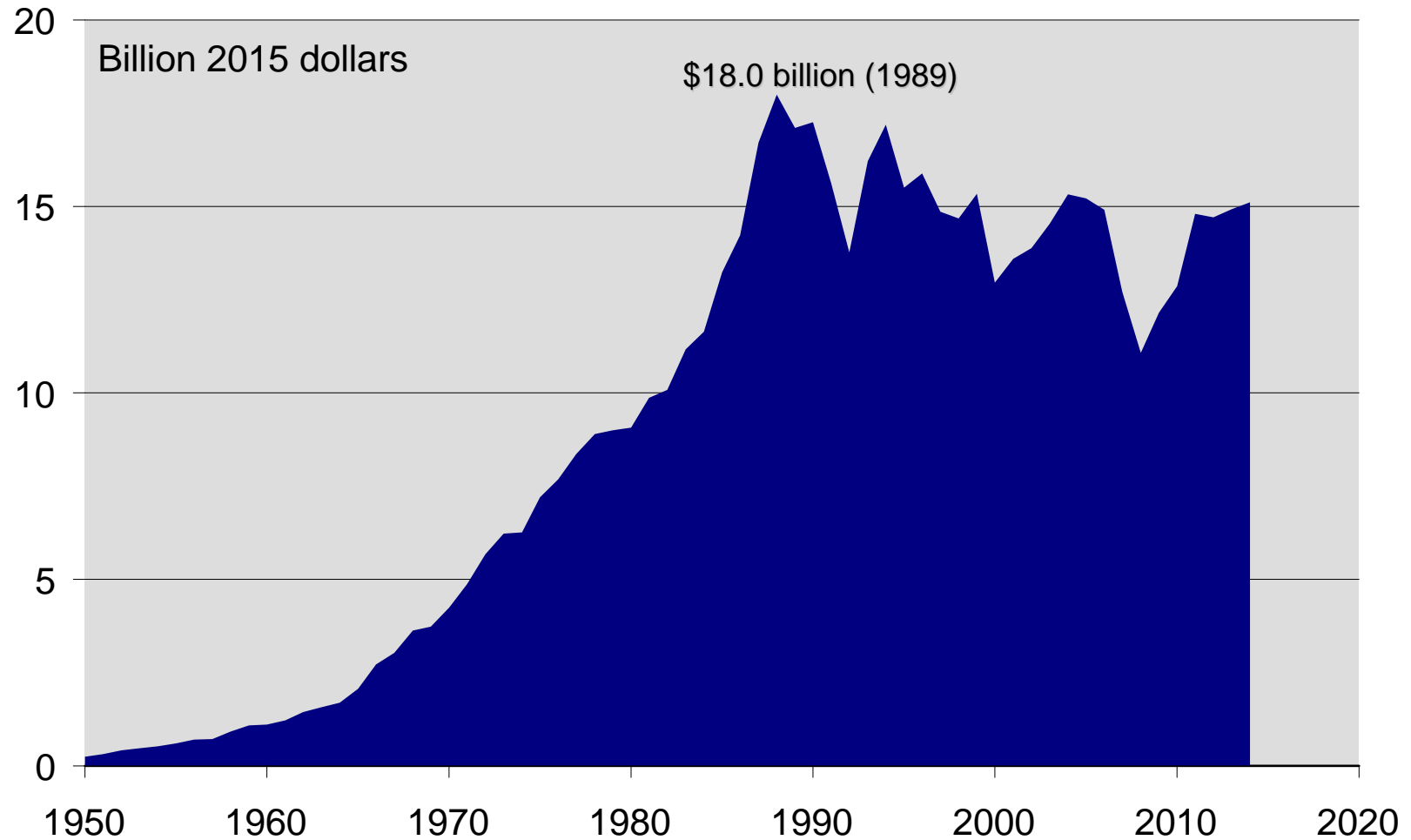
Real Hawaii tourism receipts flat: Oahu lodging utilization maxed, Neighbor Isles got seats, exchange rate erosion (strong dollar)



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Sources: "Total visitor expenditure" published by HTA, Hawaii DBEDT, Bureau of Labor Statistics; seasonal adjustment, deflation using core U.S. CPI-U by TZ Economics (excludes the impact of more volatile food and energy sources of consumer price inflation)

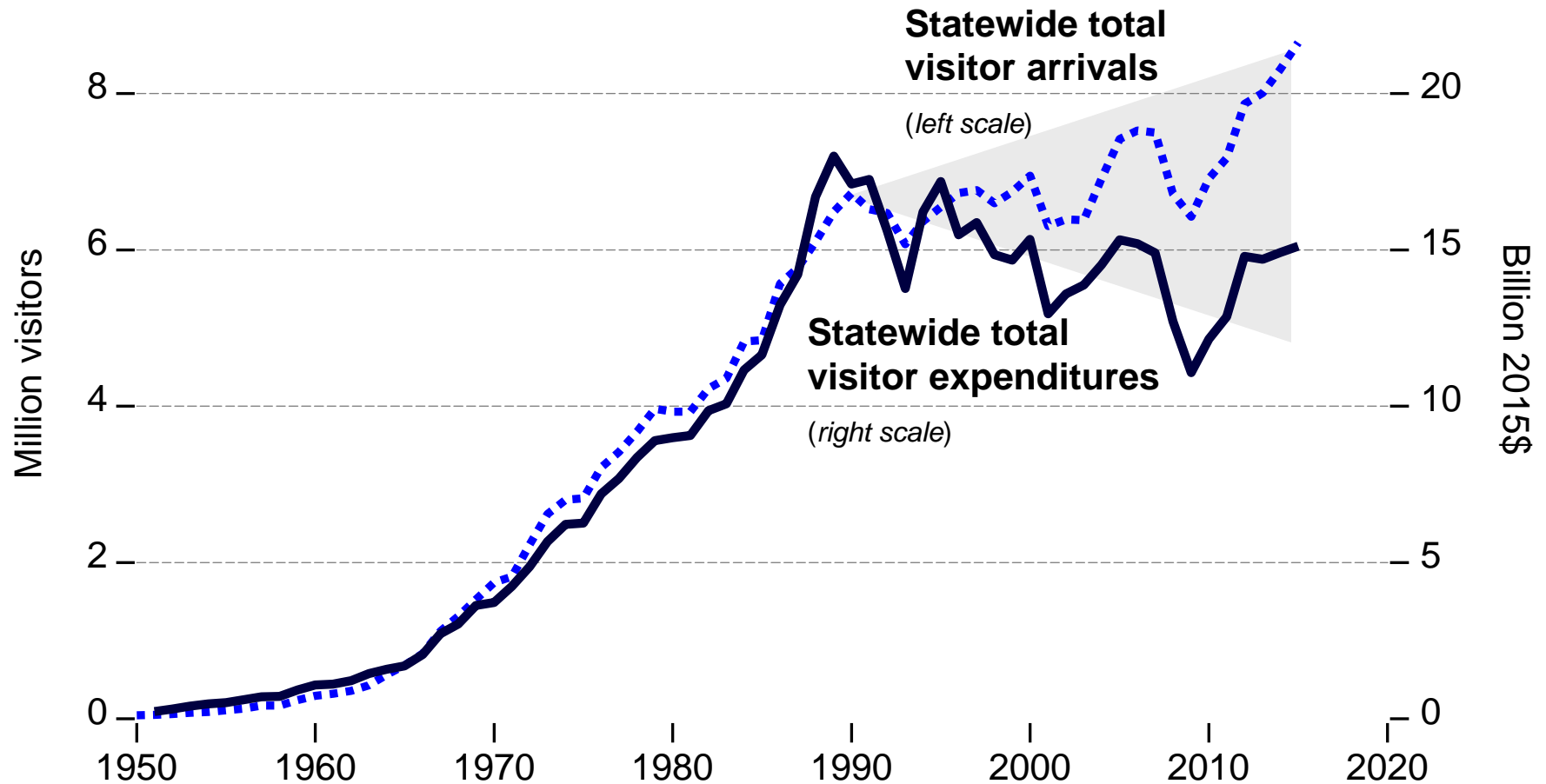
Real visitor expenditure (by air) 2015: \$15.1 billion; in Hawaii, “every year’s a record”



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Sources: Hawaii Tourism Authority, Hawaii DBEDT (visitor arrivals and expenditure estimates), Bureau of Labor Statistics (annual Honolulu consumer price index); deflation calculations by TZE

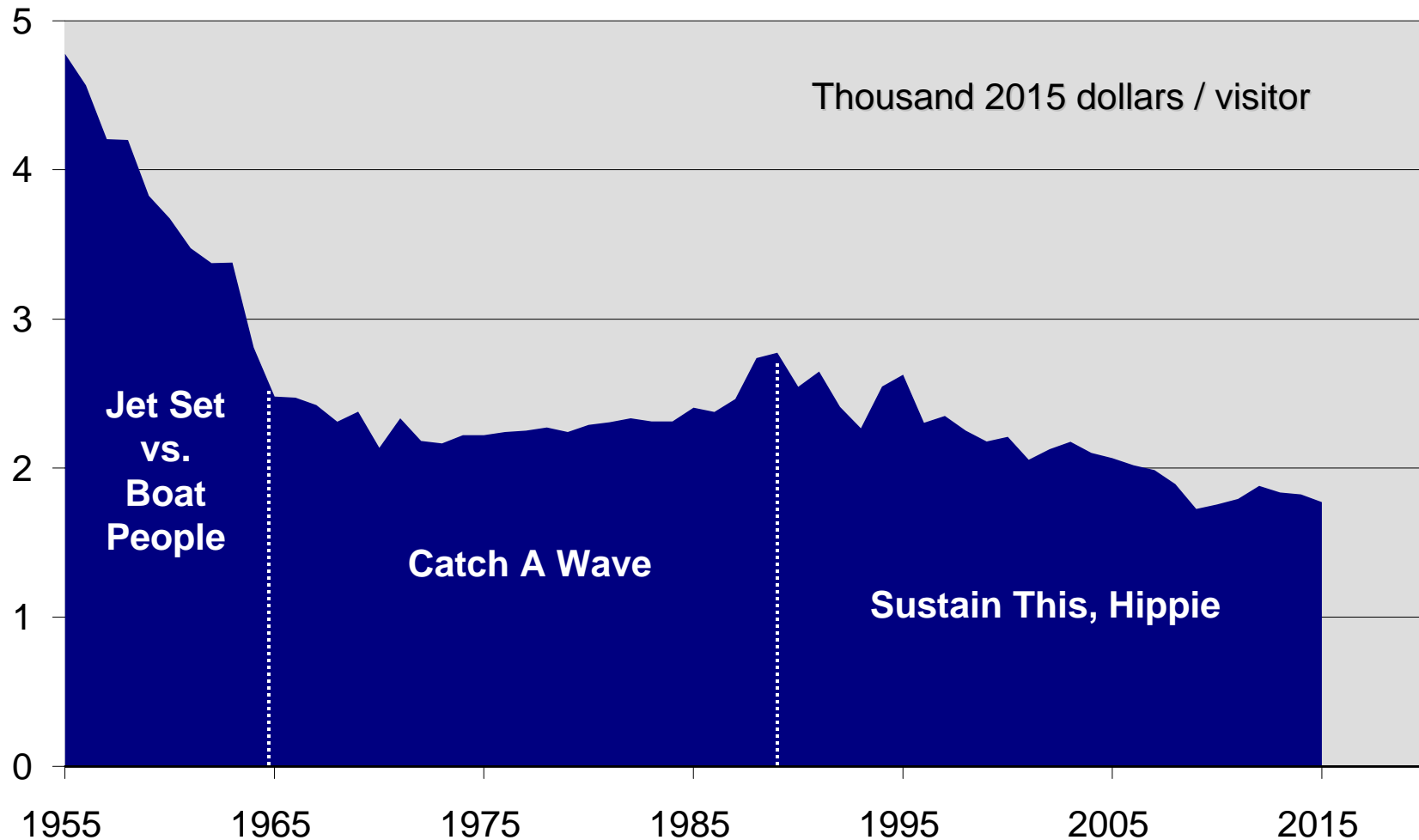
Strategic challenge to Hawaii tourism policy: “more visitors, not more dollars” (wait, what?)



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Sources: Hawaii Tourism Authority, Hawaii DBEDT (visitor arrivals and expenditure estimates), Bureau of Labor Statistics (annual Honolulu consumer price index); deflation calculations by TZE

Tourism Hawaii's export dilemma: operational, external costs are functions of *volume*, but yields per body are declining




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Sources: Hawaii Tourism Authority, Hawaii DBEDT, Bureau of Labor Statistics; deflation and yield calculations by TZE



Performance summary

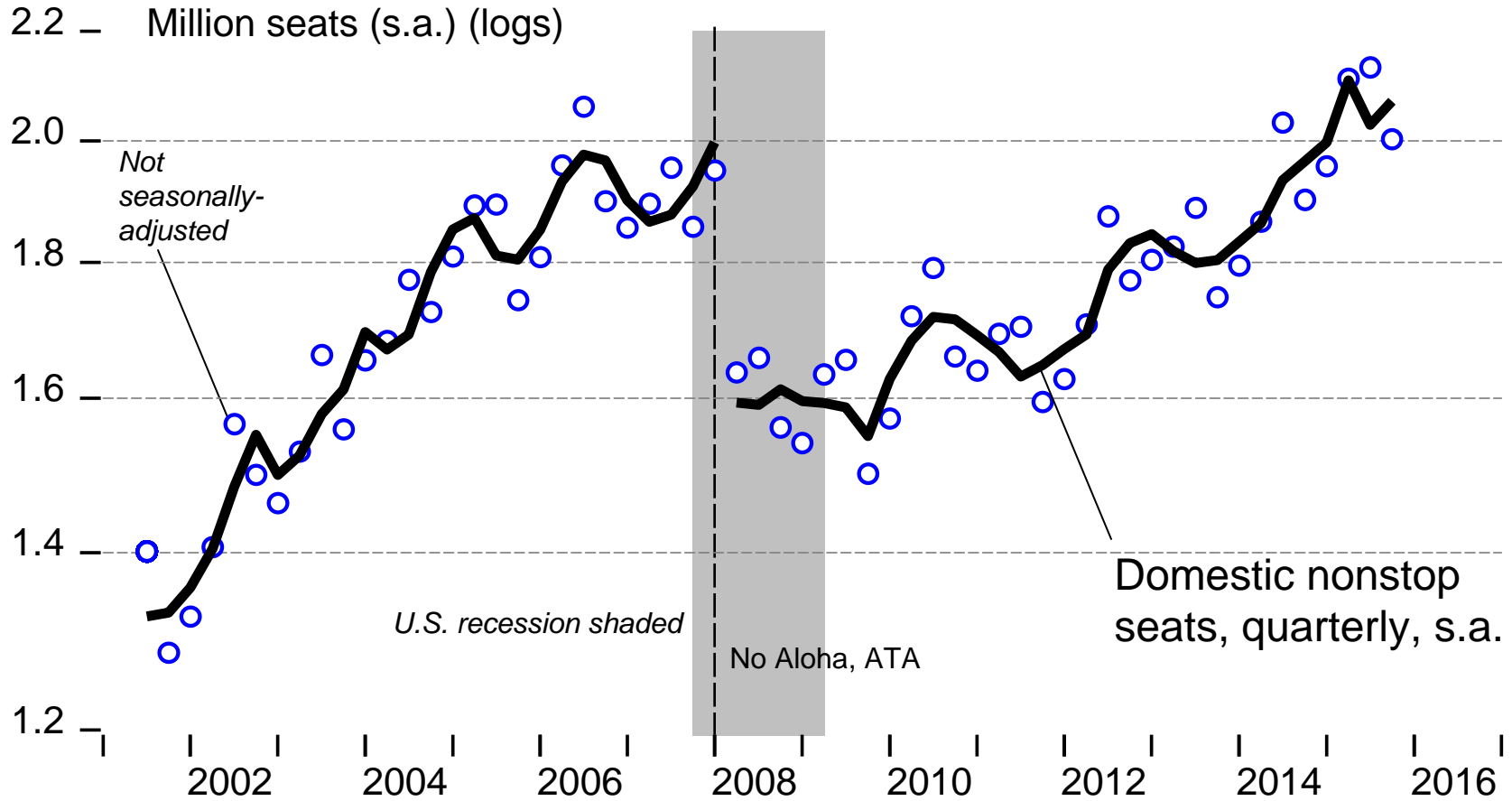
- Tourist arrivals less volatile than in late-20th century (if seasonal)
- Constant-dollar tourism receipts (exports) back to 2005 levels
- Since 1989, tourism is to Hawaii as oil now is to Russia, Venezuela
- Revenues per available body (REVPAB) (yields) have shrunk



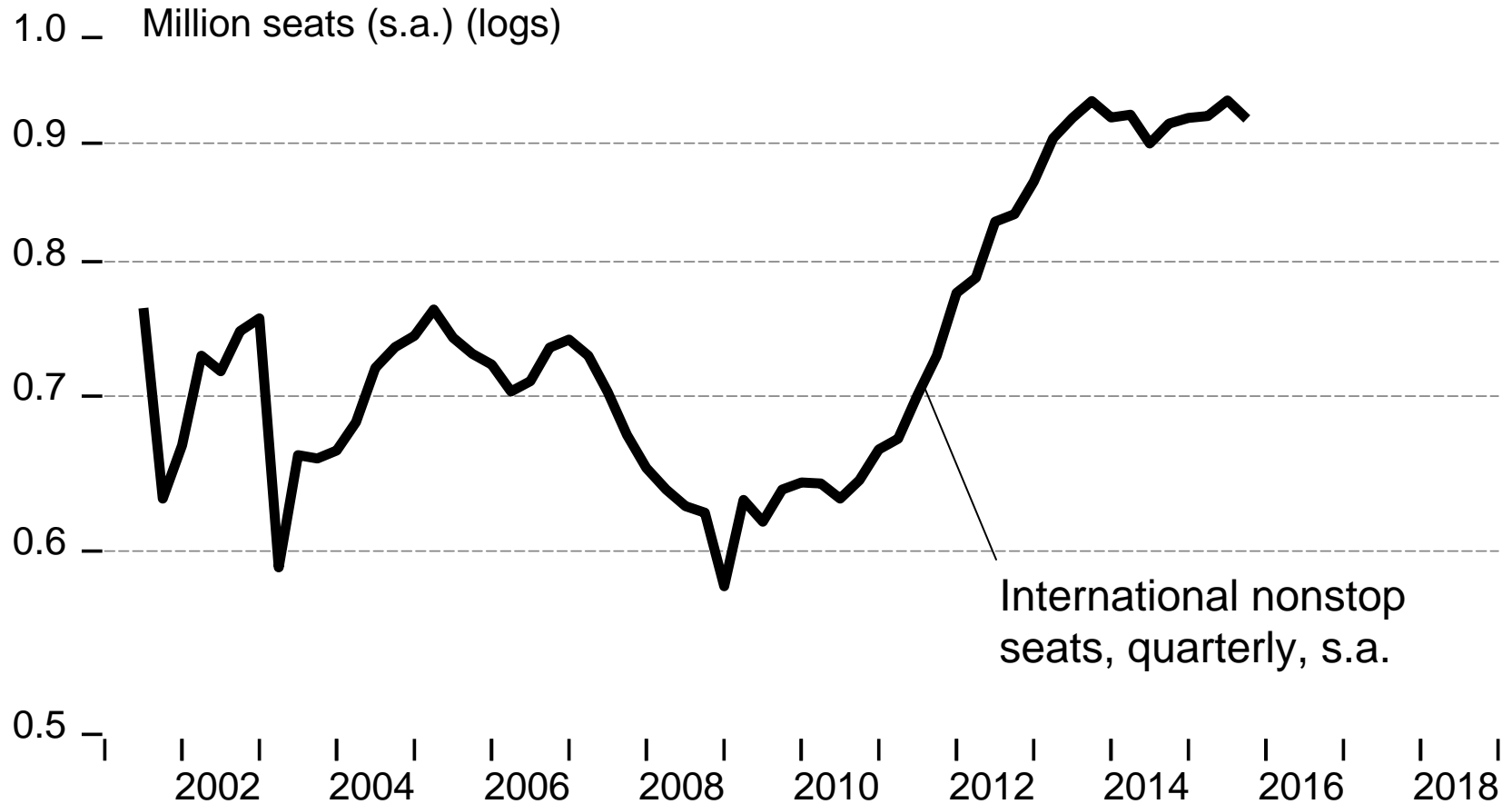
2. Supply-side factors

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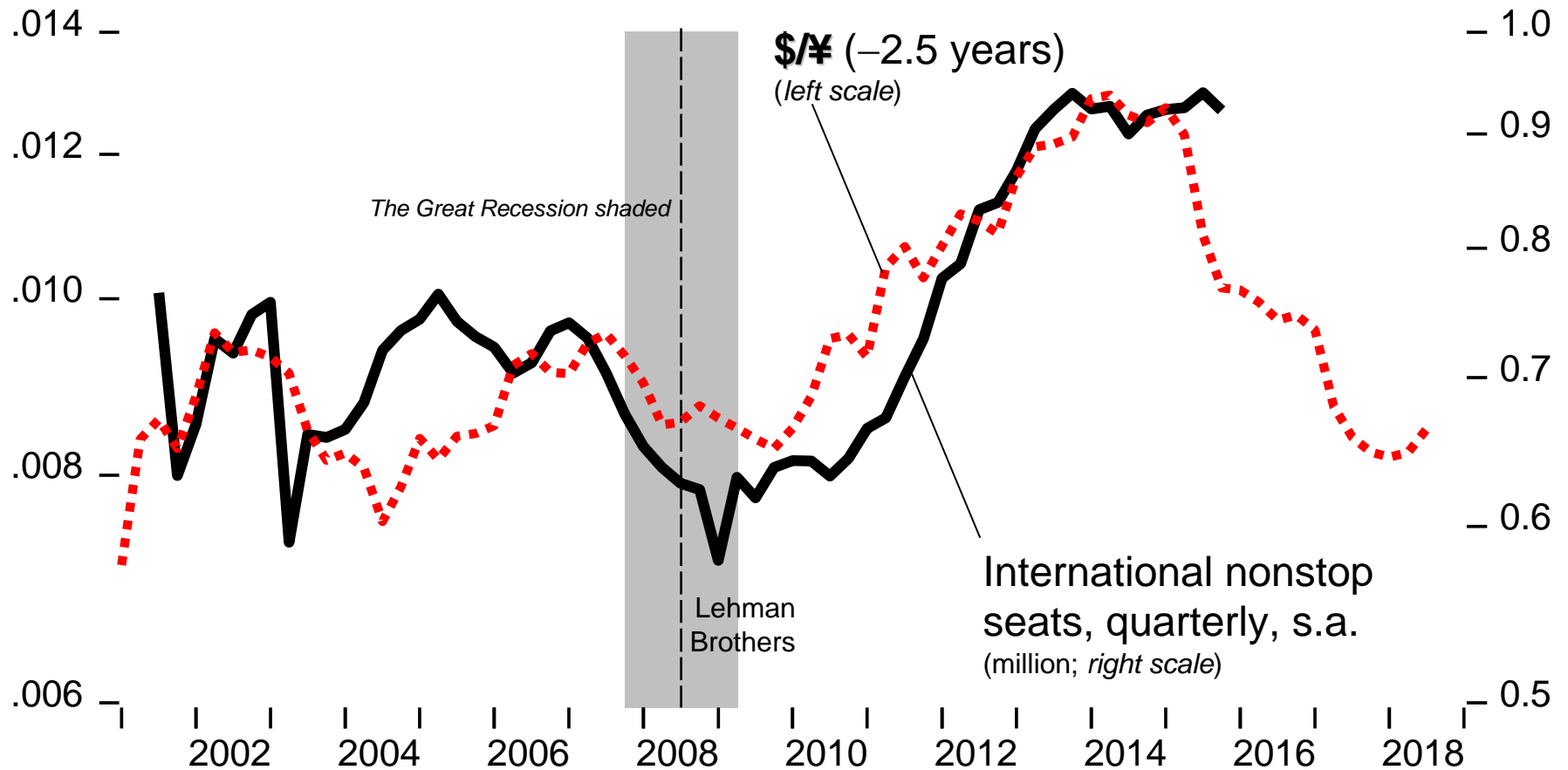
Constraint on domestic non-stop seats imposed by Aloha Airlines' departure in 2008 lifted with subsequent post-recession waves



International nonstop seats to Hawaii surged following Tohoku Seismic Event (2011) to find new markets, new level by 2013



International nonstop seats to Hawaii respond to changing value of Japanese yen (in US\$) with a 2.5-year lag; capacity decline coming?

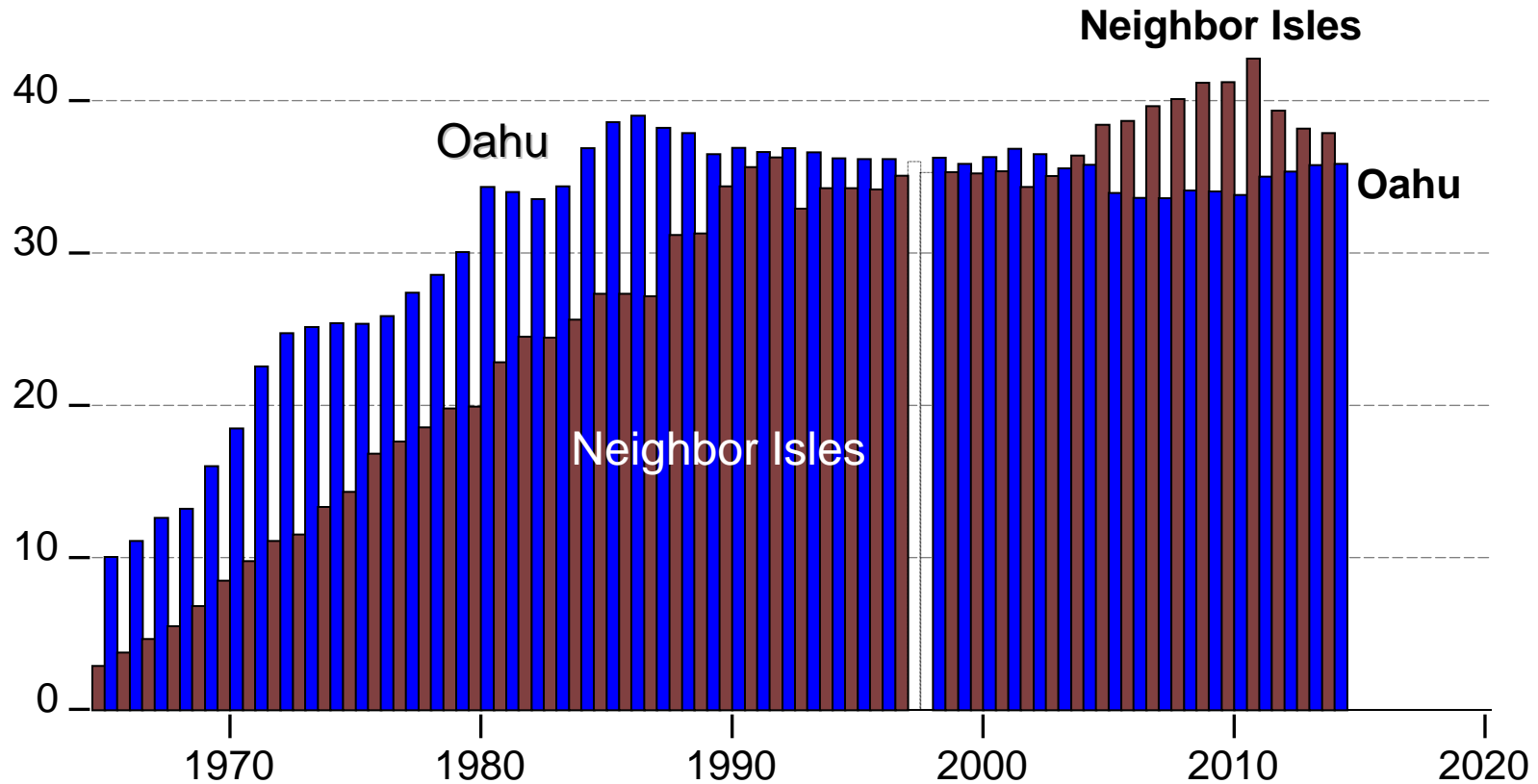


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Sources: Federal Reserve Bank of St. Louis, Hawaii DBEDT, Hawaii Tourism Authority; seasonal adjustment by TZE

Oahu visitor plant inventory (000 rooms): significantly lower than 30 years ago; Neighbor Isles churning units

Thousand rooms, annual data





Supply-side factors summary

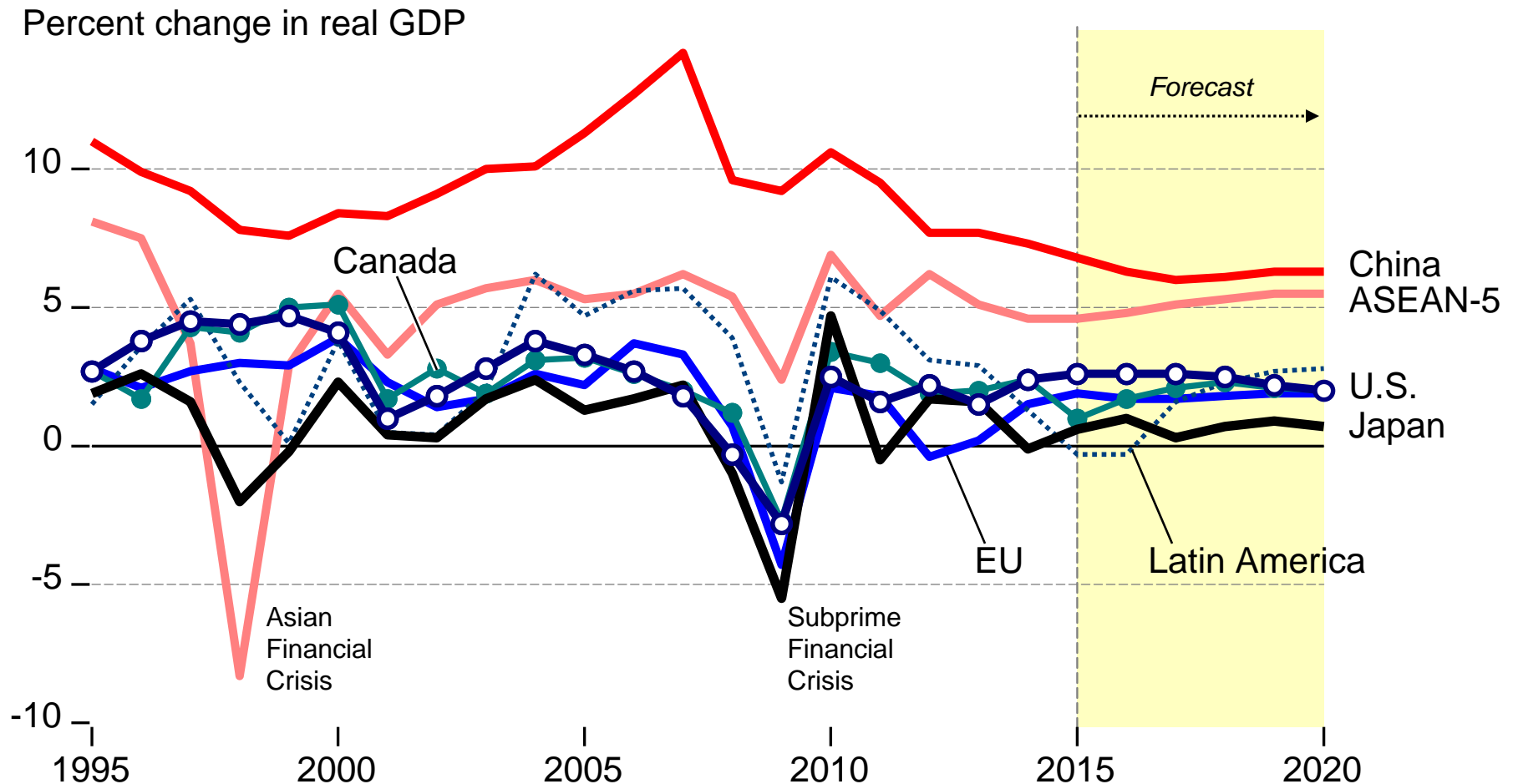
- Domestic non-stop lift: most recent surge favored Neighbor Isles
- International lift stopped expanding in 2013
- Strong dollar may pressure international lift downward (lags)
- Lodging inventory constraints support yields, securitization
- Trends: undocumented vacation rentals, “infiltration” (Kailukyo)



3. Demand-side drivers

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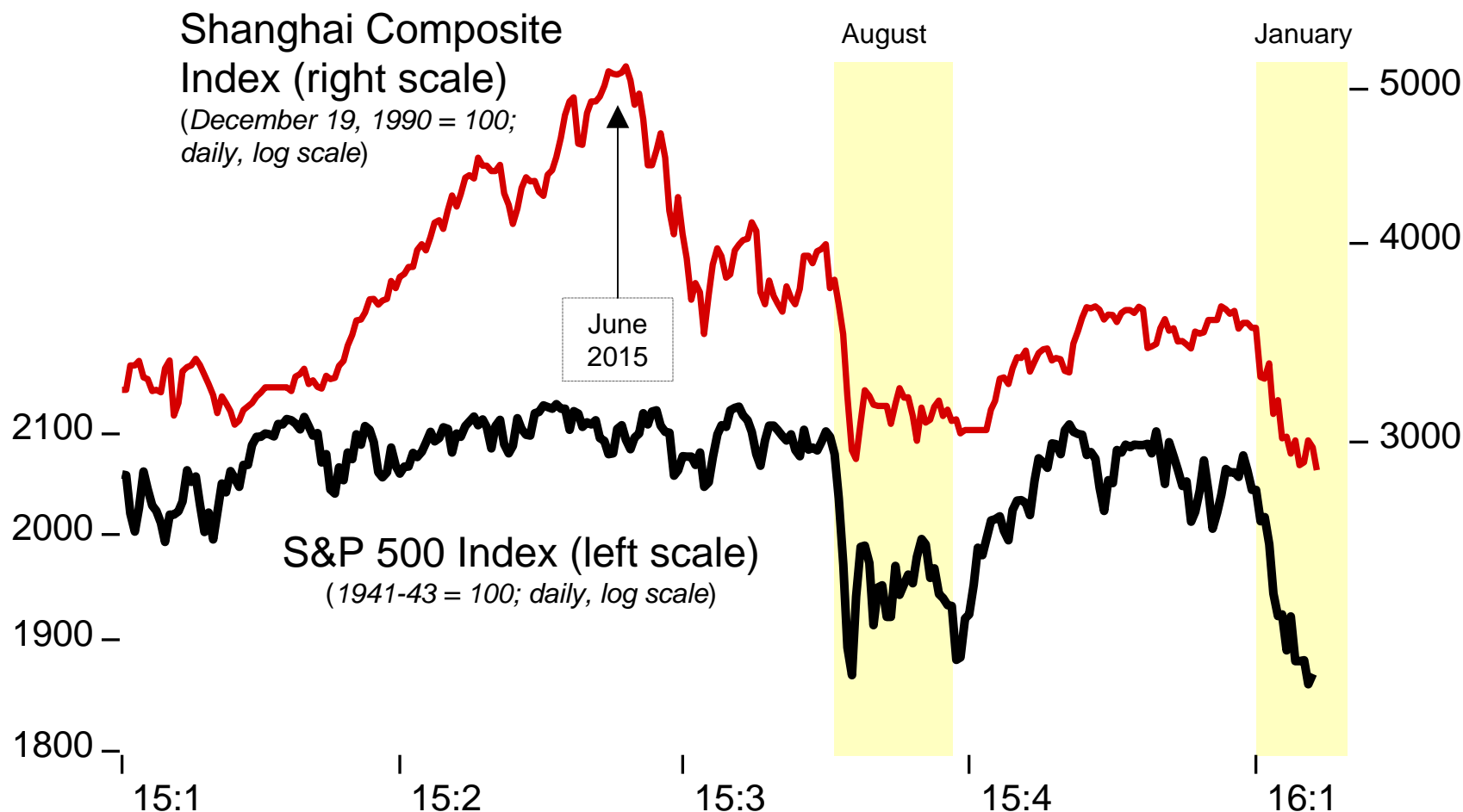
IMF real GDP growth forecasts: sustained U.S. growth; settling in China; ASEAN converging; Japan lingering; Canada regaining footing



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Sources: International Monetary Fund, International Financial Statistics and *World Economic Outlook: Subdued Demand, Diminished Prospects* (January 2016)
<http://www.imf.org/external/pubs/ft/weo/2016/update/01/>

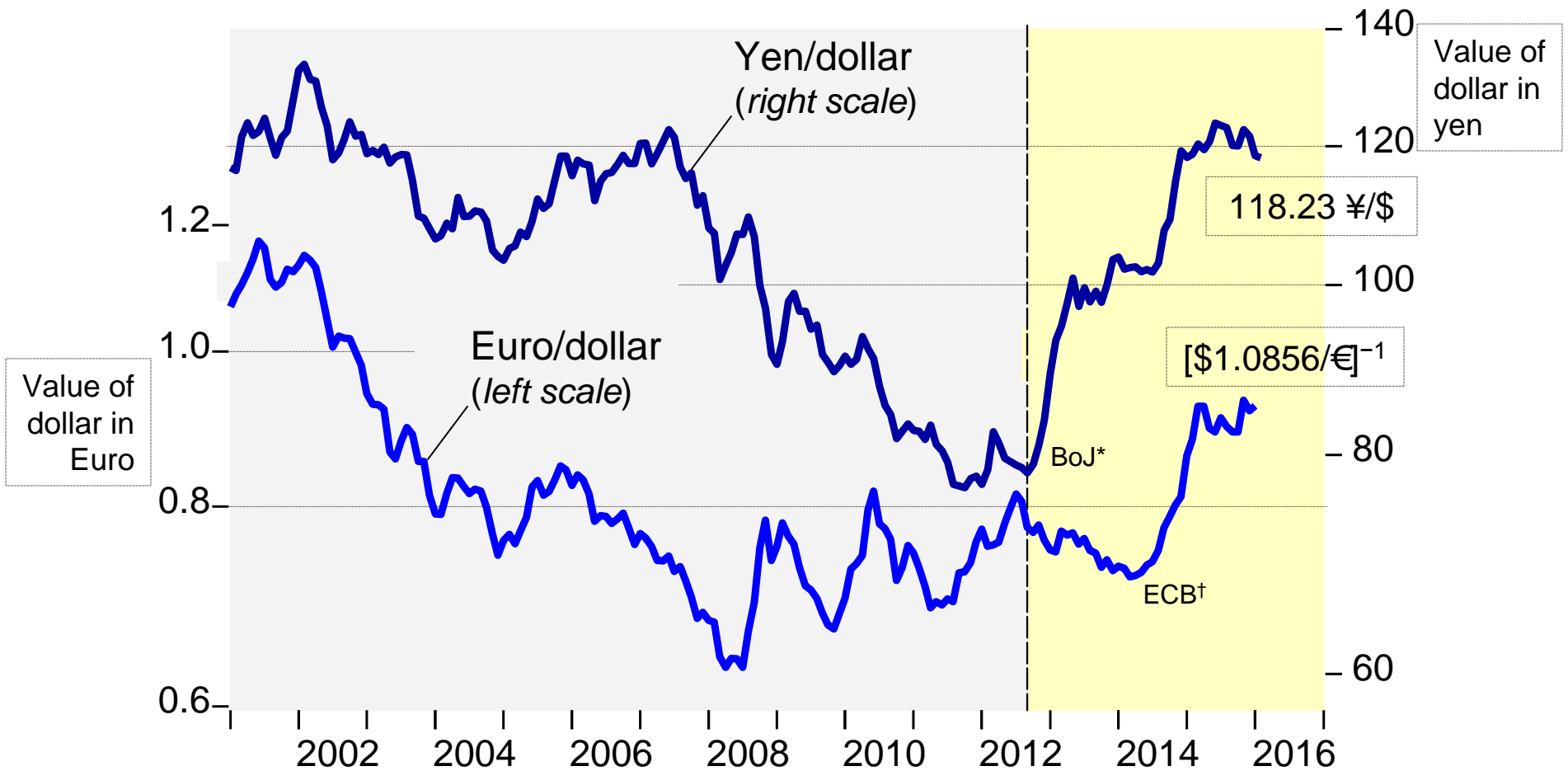
Stock market bubble unwinding in China became global shock in August 2015 when the yuan depreciated; New Year second shock



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Source: Yahoo Finance, Standard & Poor's, Federal Reserve Bank of St. Louis (<https://research.stlouisfed.org/fred2/series/SP500>) (daily to January 21, 2016)

Divergence: quantitative easing (QE) depreciated the yen and the Euro as U.S. concluded QE; fed funds lift-off confirms expectations



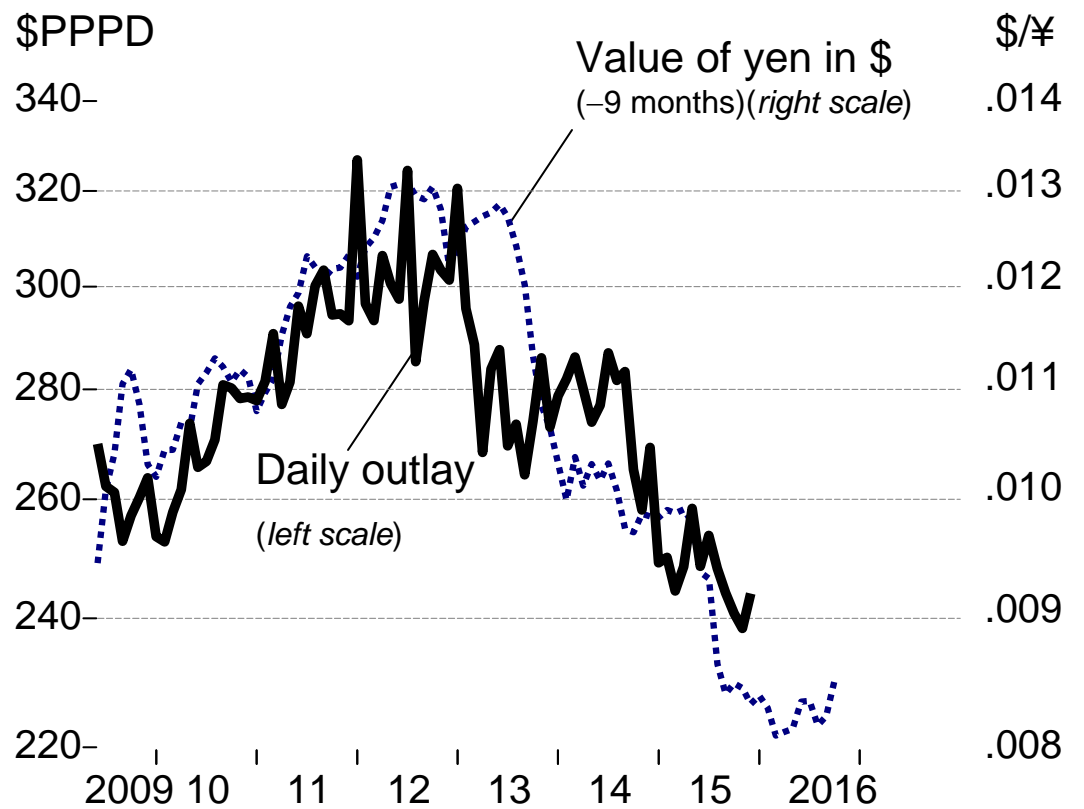
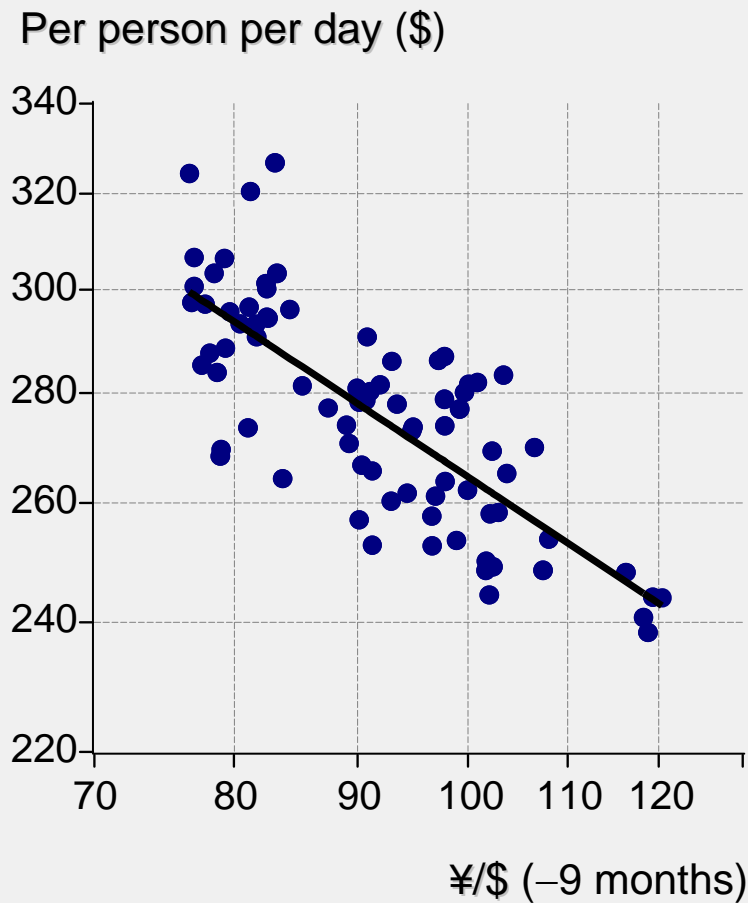
* Prime Minister Abe re-elected December 16, 2012, initiates "Abenomics," endorsing Quantitative Easing.

† QE widely anticipated in financial markets; announced by ECB President Draghi January 22, 2015.

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Source: Federal Reserve Bank of St. Louis; data through January 13, 2016 (prior monthly averages) (<http://research.stlouisfed.org/fred2/series/EXUSEU> and <http://research.stlouisfed.org/fred2/series/EXJPUS>); exchange rates noted are U.S. market close

Hawaii Japanese visitor per person/day expenditure and value of dollar (¥/\$) inversely related with 9-month lag

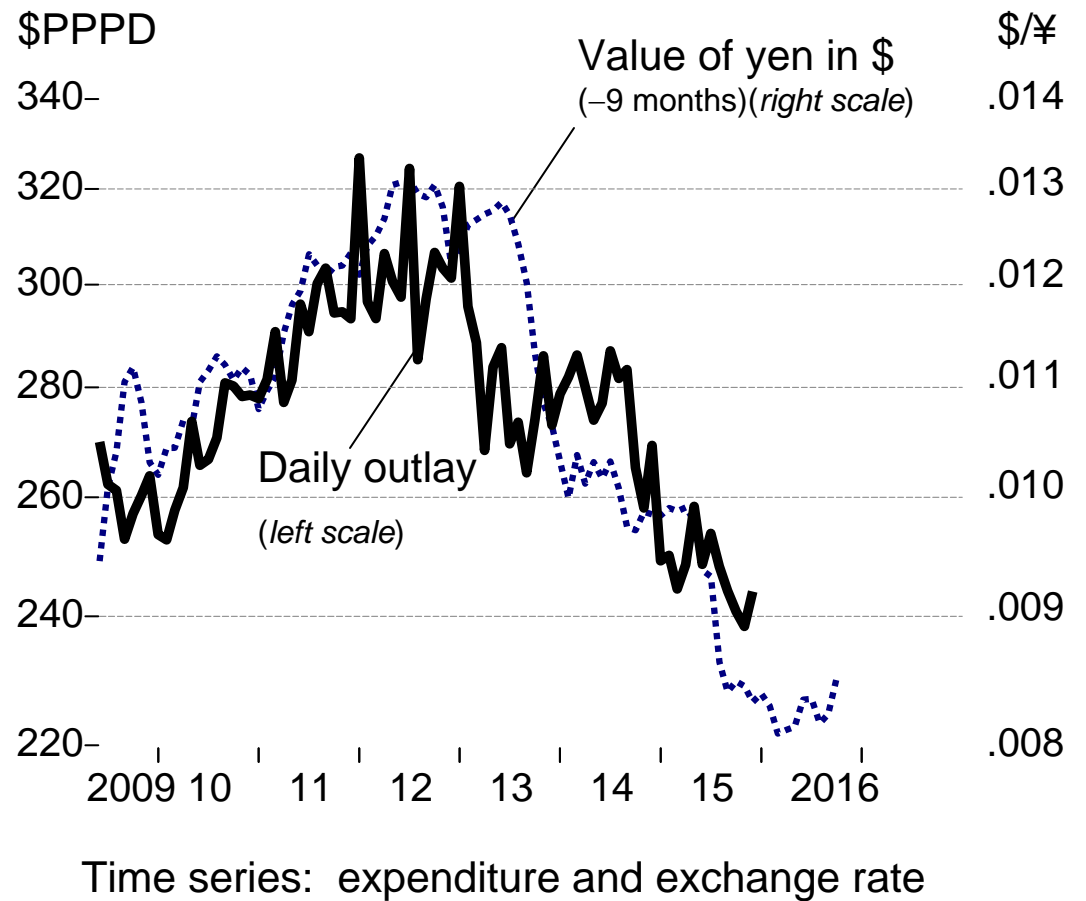
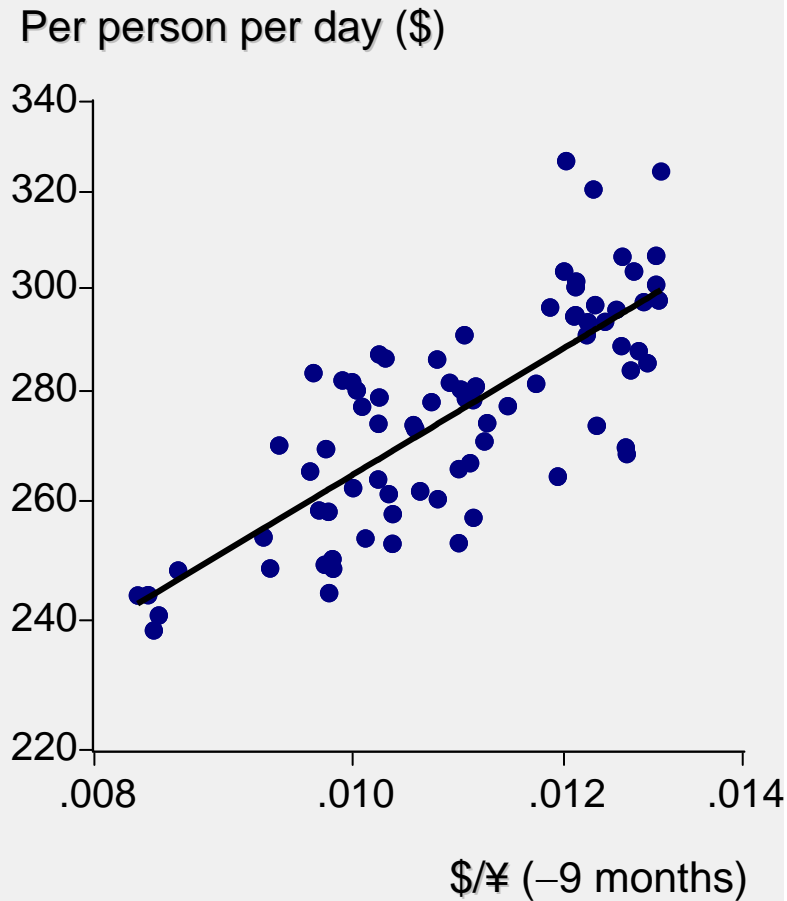


Time series: expenditure and exchange rate

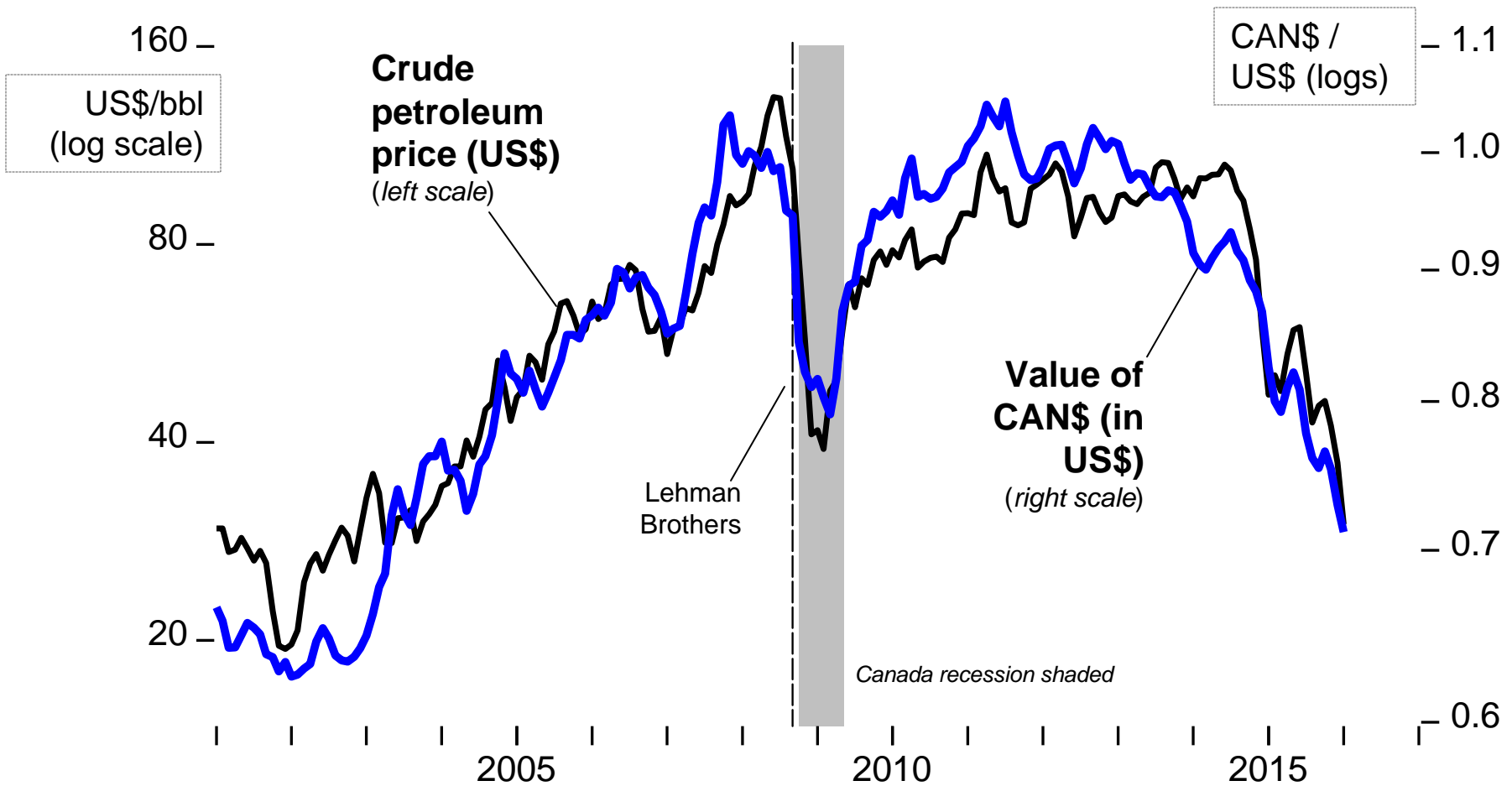
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Source: Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/series/EXJPUS>), Hawaii Tourism Authority, Hawaii DBEDT: monthly data 2009-2015, regression of natural logs of Japanese visitor expenditure per person per day on the exchange rate in yen/dollar lagged 9 months.

Hawaii Japanese visitor per person/day expenditure and value of yen (\$/¥) directly related with 9-month lag



Falling global oil prices: windfall for consumers, tough on producers (Canada, Dakotas) and on substitutes—sugar, maize (ethanol)

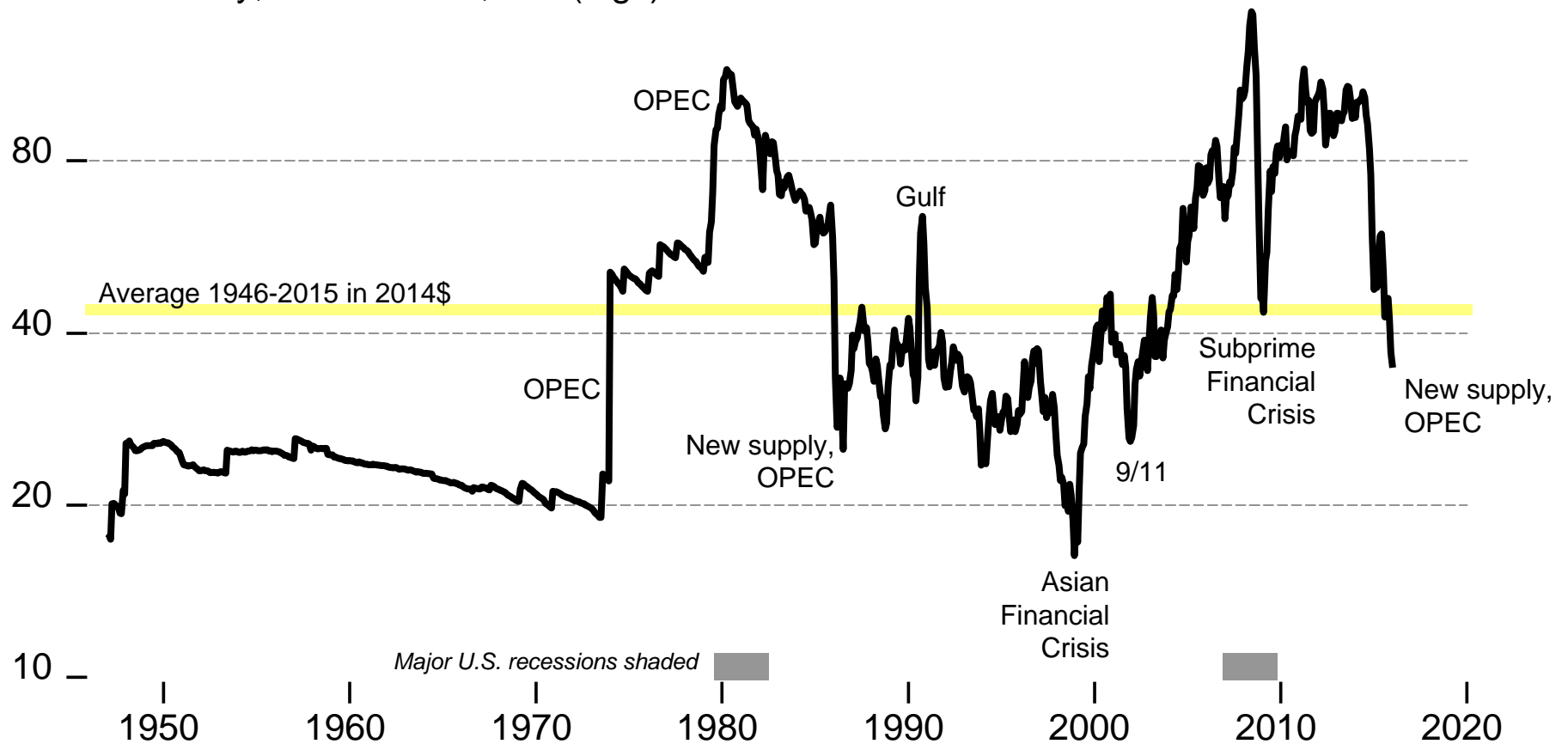


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Source: CD Howe Institute (https://www.cdhowe.org/pdf/Commentary_366.pdf), Federal Reserve Bank of St. Louis; data through December 2015 (monthly averages) and first two weeks of January 2016 (<http://research.stlouisfed.org/fred2/series/EXCAUS> and <http://research.stlouisfed.org/fred2/series/MCOILWTICO/>)

CPI-adjusted real crude petroleum price near inflation-adjusted average, \$43.90 (1947-2015): unwinding another supercycle?

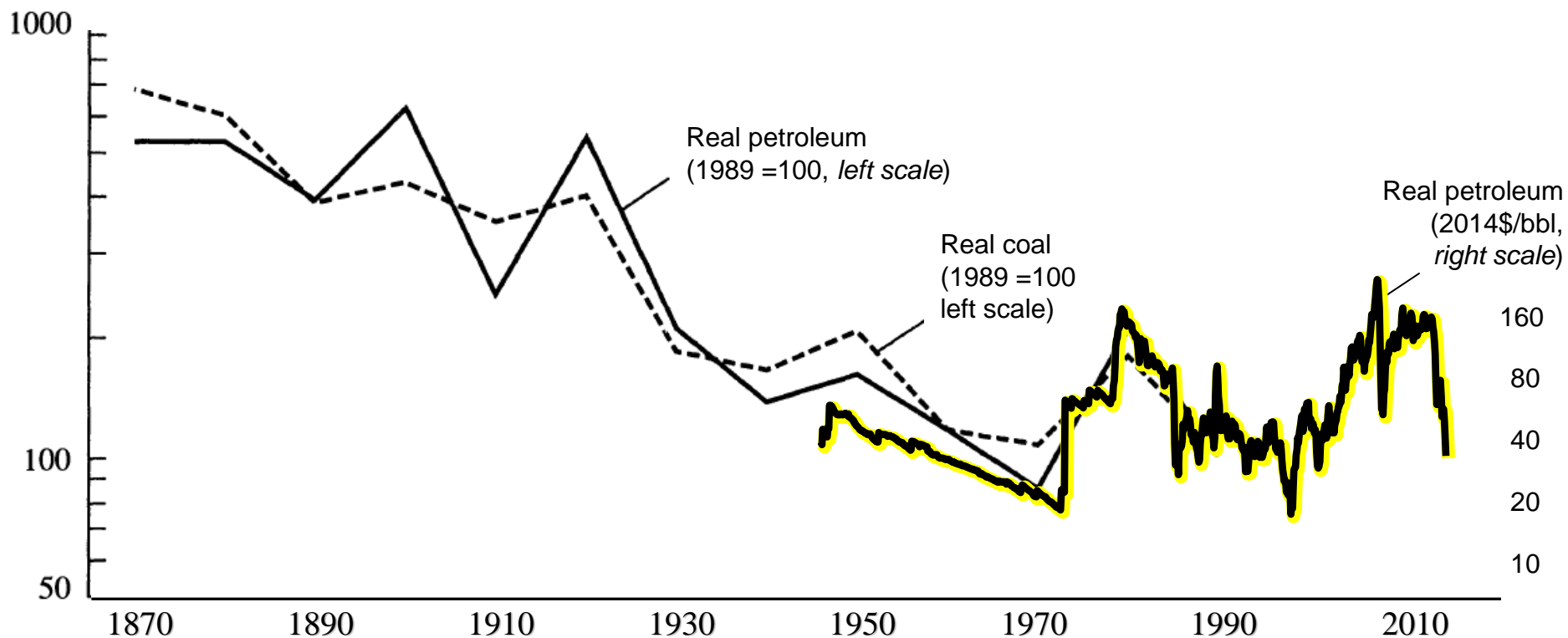
160 – Monthly, 2014\$/barrel, s.a. (logs)



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Sources: Federal Reserve Bank of St. Louis, Energy Information Administration, U.S. Department of Energy; monthly data through early-January 2016 combining West Texas Intermediate benchmark with earlier published crude prices, deflated using U.S. CPI-U

Real U.S. energy product prices, 1870-1989 by decade, monthly real oil prices 1947-2016(Jan), deflated with wages



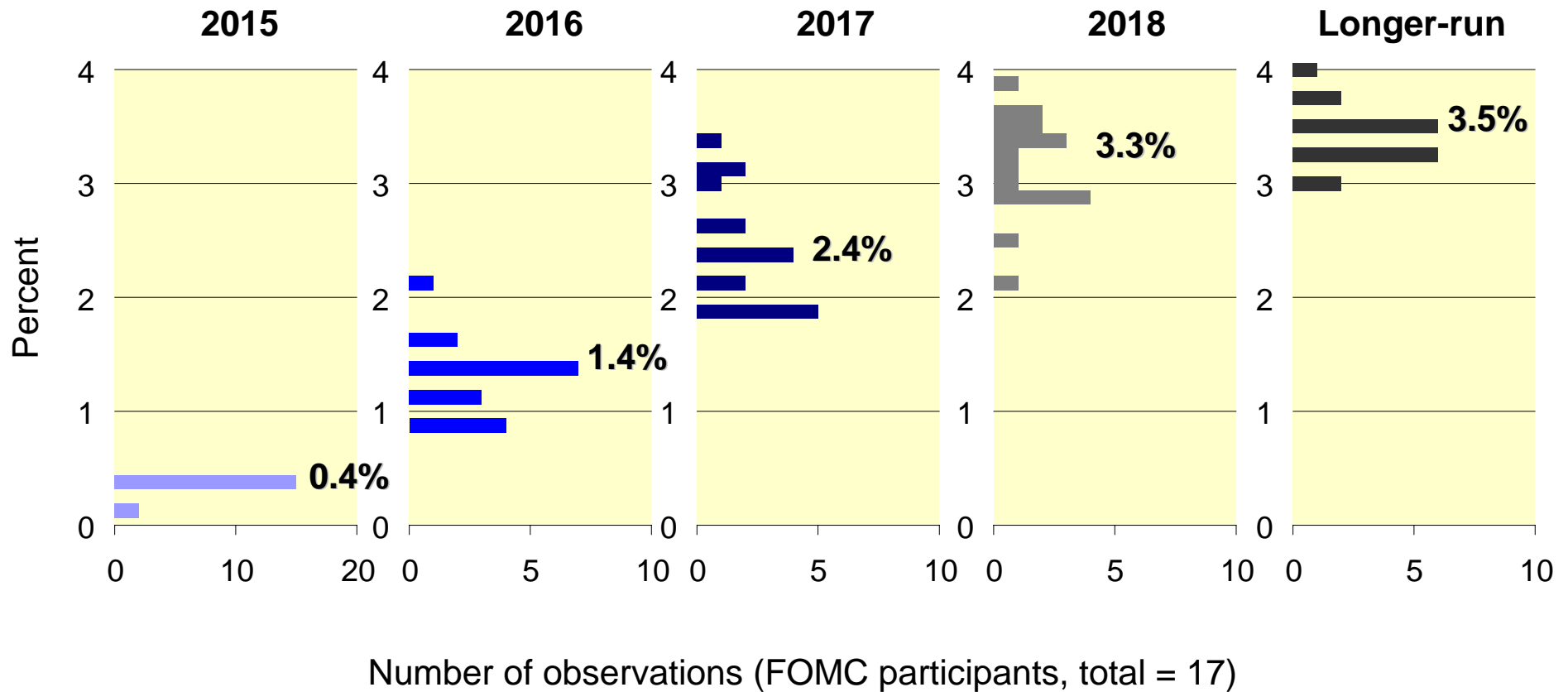
Decade graph source: "Calculations based on Manthy (1978, p. 11), *Statistical Abstract of the United States, 1991* (table 669, p. 408, and table 1221, p. 698); and U.S. Bureau of the Census (1975, pp. 165, 169-70). Real price is an index of the product price divided by an index of average hourly earnings in manufacturing." [Nordhaus, Stavins, Weitzman "Lethal Model 2" (1992)]

Monthly data: Federal Reserve Bank of St. Louis, Energy Information Administration, Bureau of Labor Statistics; monthly data through early-January 2016 combining West Texas Intermediate benchmark with earlier published crude prices, deflated using average hourly wages in good-producing industries

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Source: Figure 2. in William D. Nordhaus, Robert N. Stavins, Martin L. Weitzman, "Lethal Model 2: The Limits to Growth Revisited," *Brookings Papers on Economic Activity*, Vol. 1992, No. 2 (1992), pp. 1-59, over which graphic by this author is superimposed, to scale.

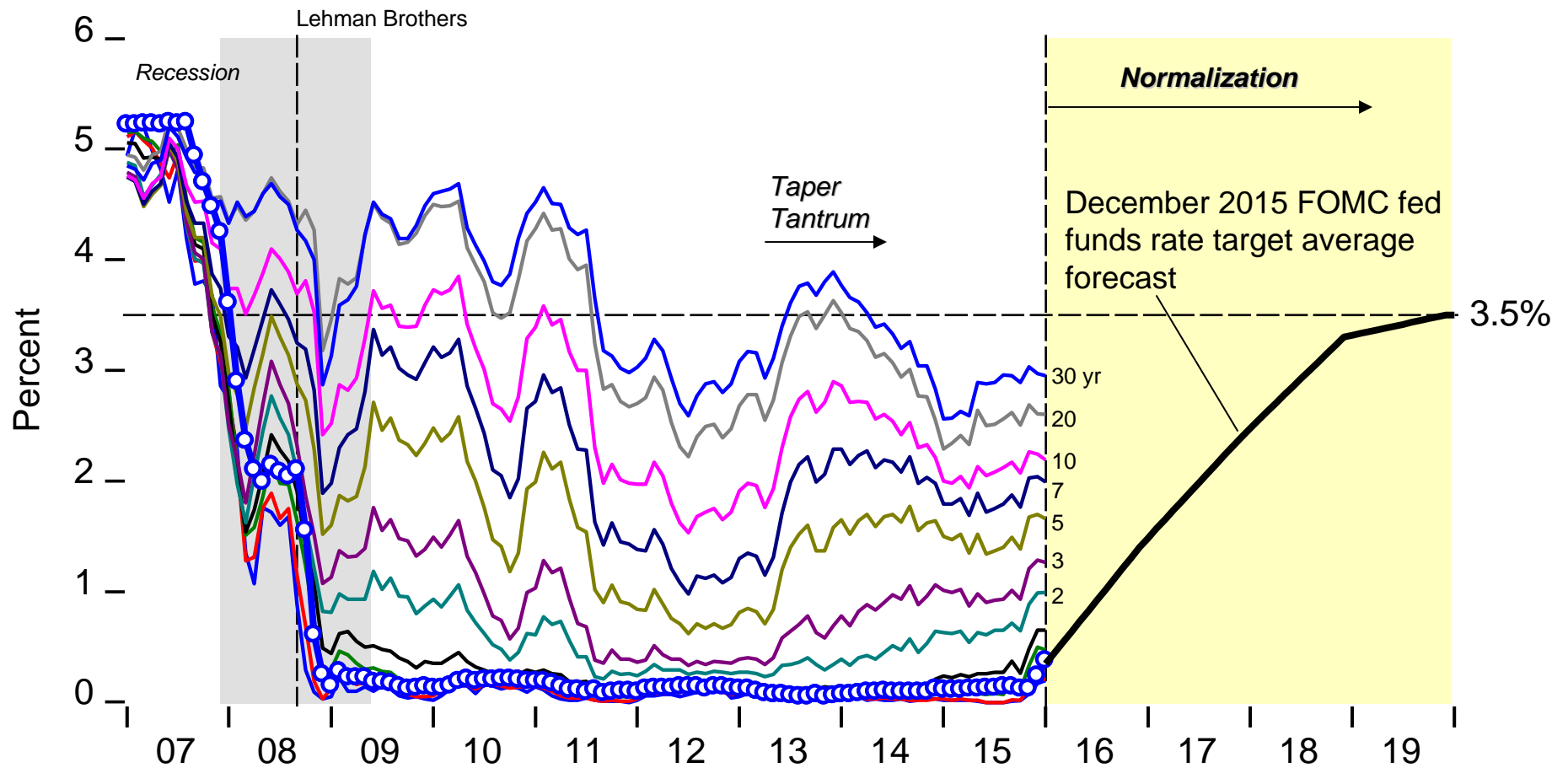
FOMC members' forecasts for fed funds target rates, and medians (December 16, 2015): light headwinds from interest rate normalization



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Source: Advance release of table 1 of the Summary of Economic Projections to be released with the FOMC minutes; interest rate intervals are in 1/8ths (<http://www.federalreserve.gov/monetarypolicy/fomcproptabl20151216.htm>).

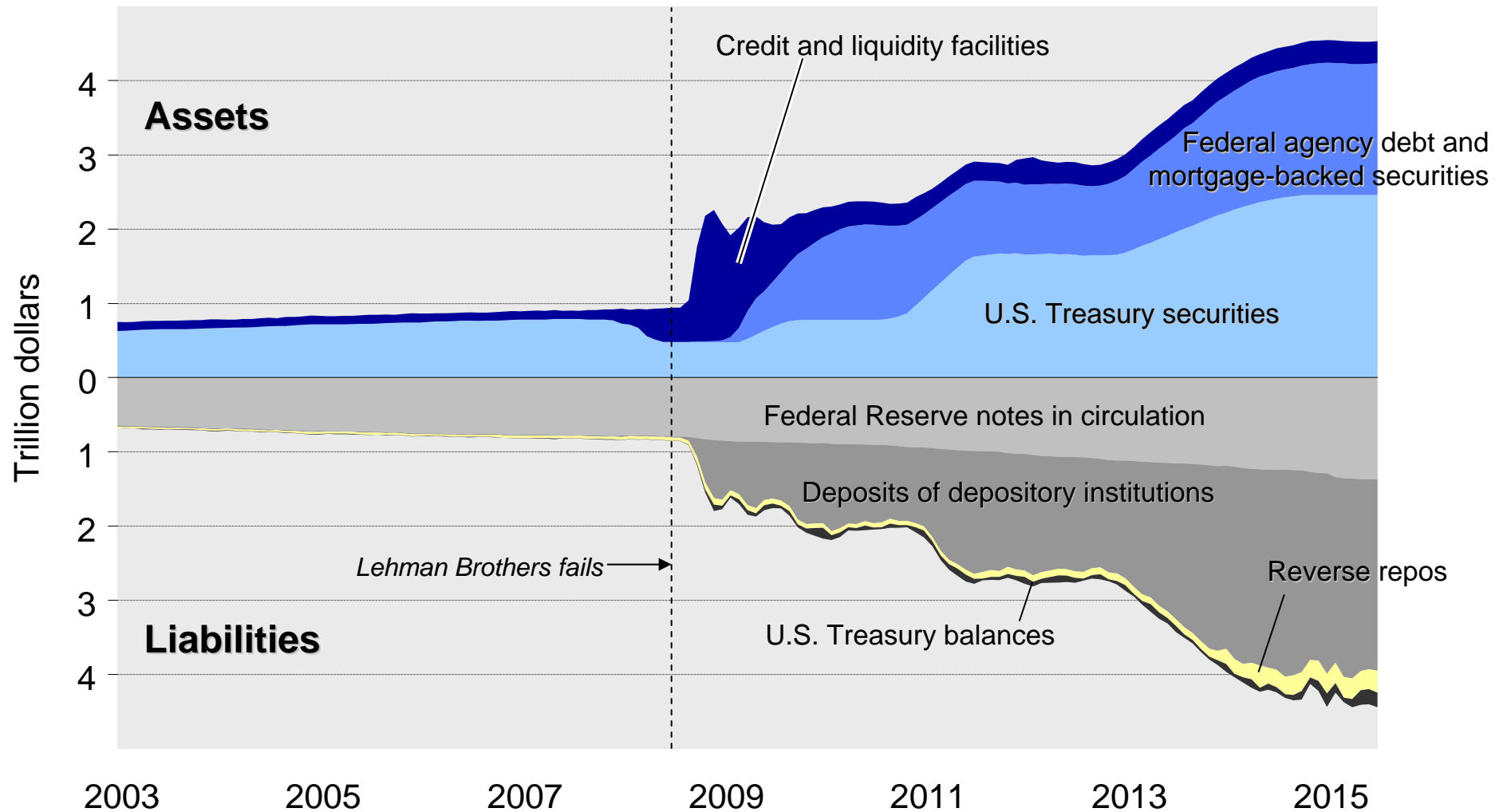
U.S. Treasury yields, fed funds normalization path implied by Federal Open Market Committee (FOMC) members' individual forecasts



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Source: Federal Reserve Board (H.15) and December 16, 2015 projections (<http://www.federalreserve.gov/monetarypolicy/fomcprojt20151216.htm>).

Federal Reserve assets, liabilities: as fed funds target rises, balance sheet eventually should shrink, maybe raising longer-run yields



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Sources: Monthly data for last Wednesday of the month from Federal Reserve Board (various, including Statistical Release H.4.1); compiled by TZE through January 16, 2016



Tourism and travel demand driver summary

- Real GDP outlook: China settling, Japan soft, U.S. growth good
- Global asset price volatility now weighing on investor confidence
- Strong dollar 1: divergent monetary policy (U.S. vs. everybody)
- Strong dollar 2: commodity surplus (US\$ is “measuring stick”*)
- Higher interest rates expected; only expectation *changes* matter
- Tourism headwinds; weak tailwind from low oil prices (via fares)

*Many commodities and their derivatives contracts are priced in U.S. dollars: a rising dollar lengthens the “measuring stick” by which commodities are valued, shrinking producers’ exports (terms of trade deterioration)

Mahalo!

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Appendix 1: fares and rates

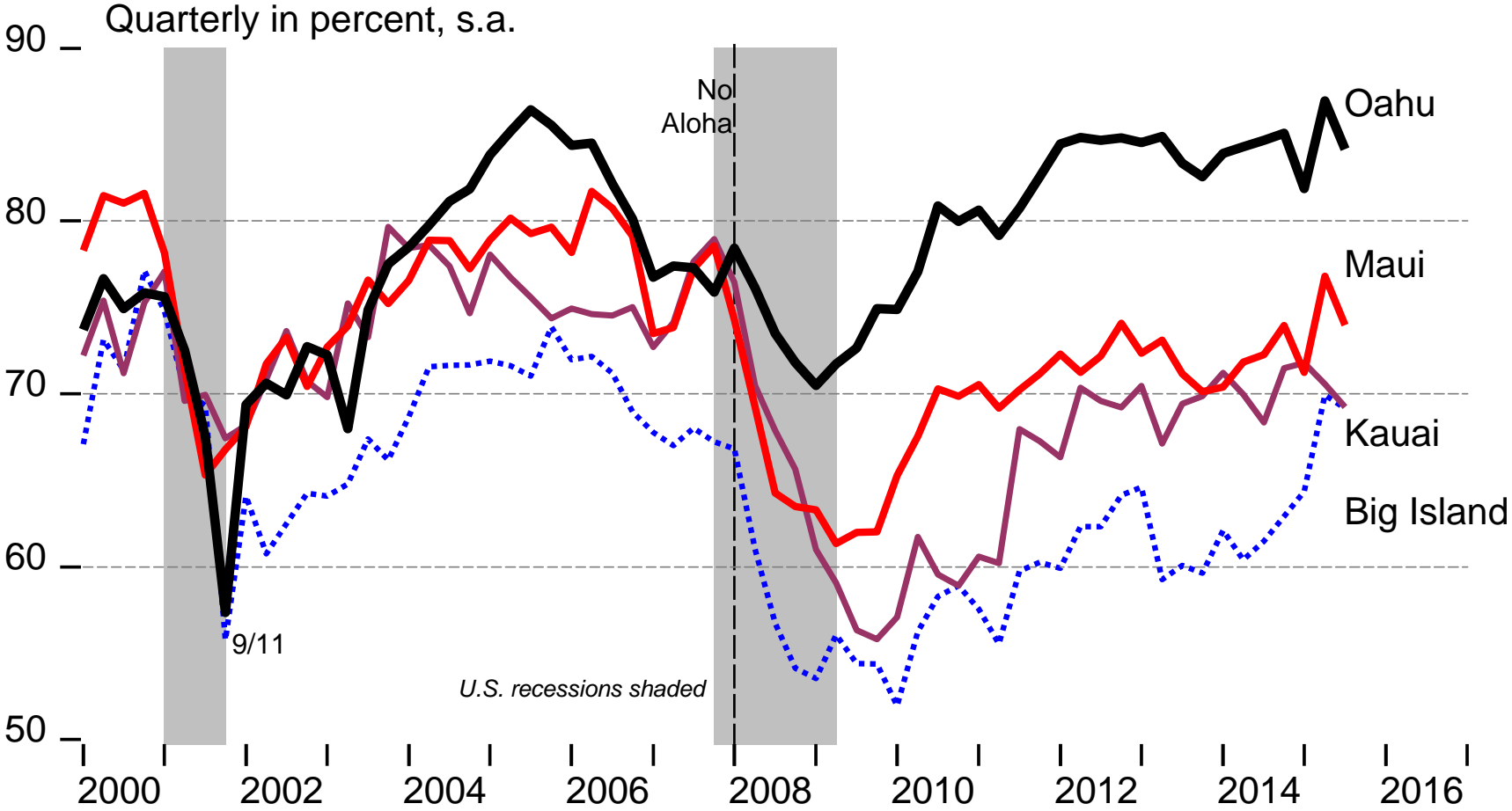
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Air Travel Price Index (ATPI): changes in airline ticket prices on identical routings, identical classes of service—Hawaii got pricey

Rank	Origin	Percent Change 1995-2011	Rank	Origin	Percent Change 1995-2011
1	Lihue (Kauai), HI	161.4	33	Sacramento, CA	42.5
2	Kona, HI	112.2	39	Santa Ana (Orange County), CA	38.2
3	Anchorage, AK	105.3	42	San Francisco, CA	37.7
4	Burbank / Glendale / Pasadena, CA	104.4	44	Los Angeles, CA	36.3
5	Long Island, NY	88.2	51	New York, NY/Newark, NJ	33.4
6	Honolulu, HI	75.6	55	Chicago, IL	31.7
7	Las Vegas, NV	72.9	56	Dallas/Ft. Worth, TX	30.8
8	Long Beach, CA	70.1		ATPI for All U.S.	27.7
9	Oakland, CA	67.1	66	Portland, OR	24.4
12	Salt Lake City, UT	60.0	67	Seattle/Tacoma, WA	24.3
16	Kahului (Maui), HI	53.1	74	Washington, DC	22.2
18	Phoenix, AZ	50.9	76	Minneapolis/St. Paul, MN	19.1
21	San Diego, CA	49.4	77	Boston, MA	18.9
27	San Jose, CA	46.2	85	Denver, CO	7.5



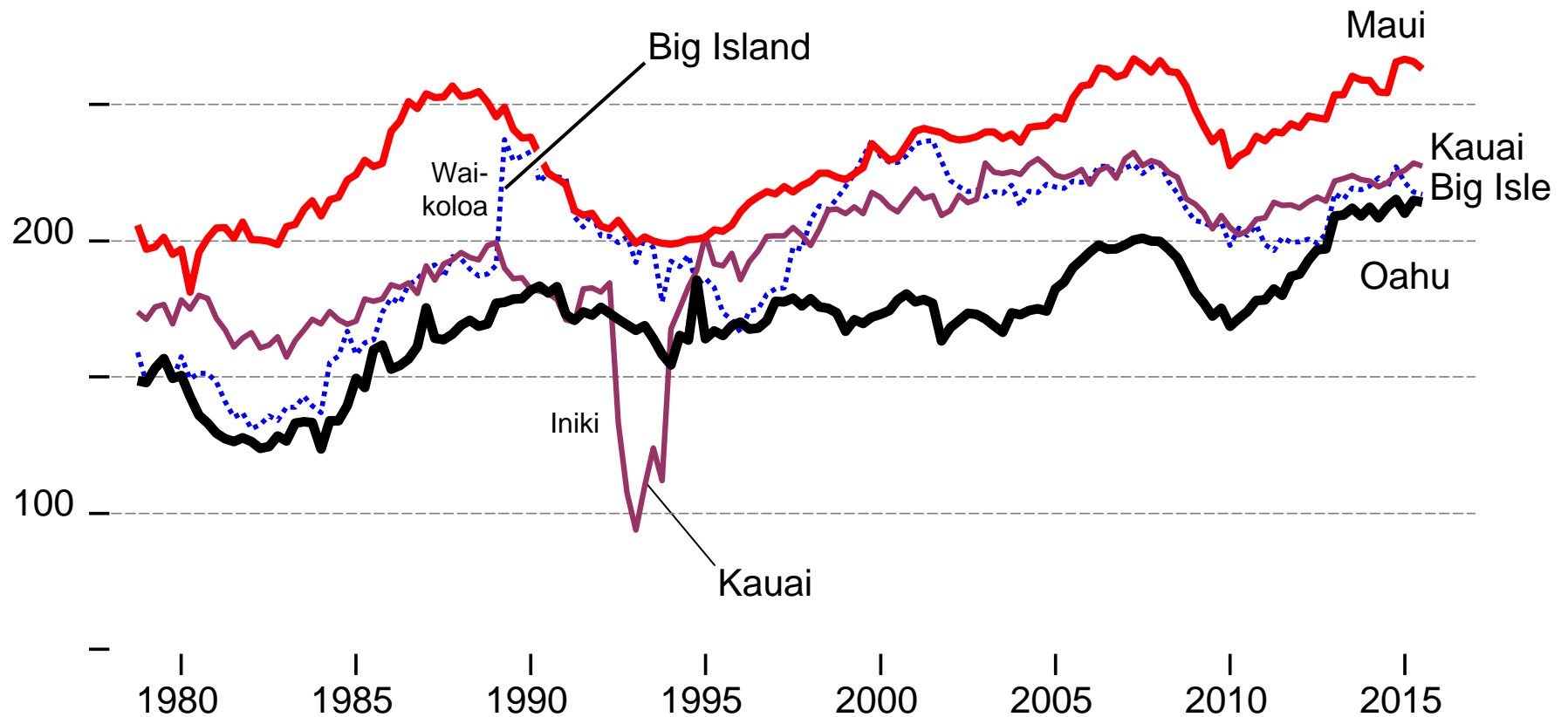
Hotel occupancy rates maxed on Oahu Neighbor Isles more “room” to rise



Sources: Hospitality Advisors LLC, Hawaii DBEDT, UHERO (quarterly data through 2015Q3); seasonal adjustment by TZ Economics

Real average daily room rates (inflation-adjusted): Maui versus everybody else

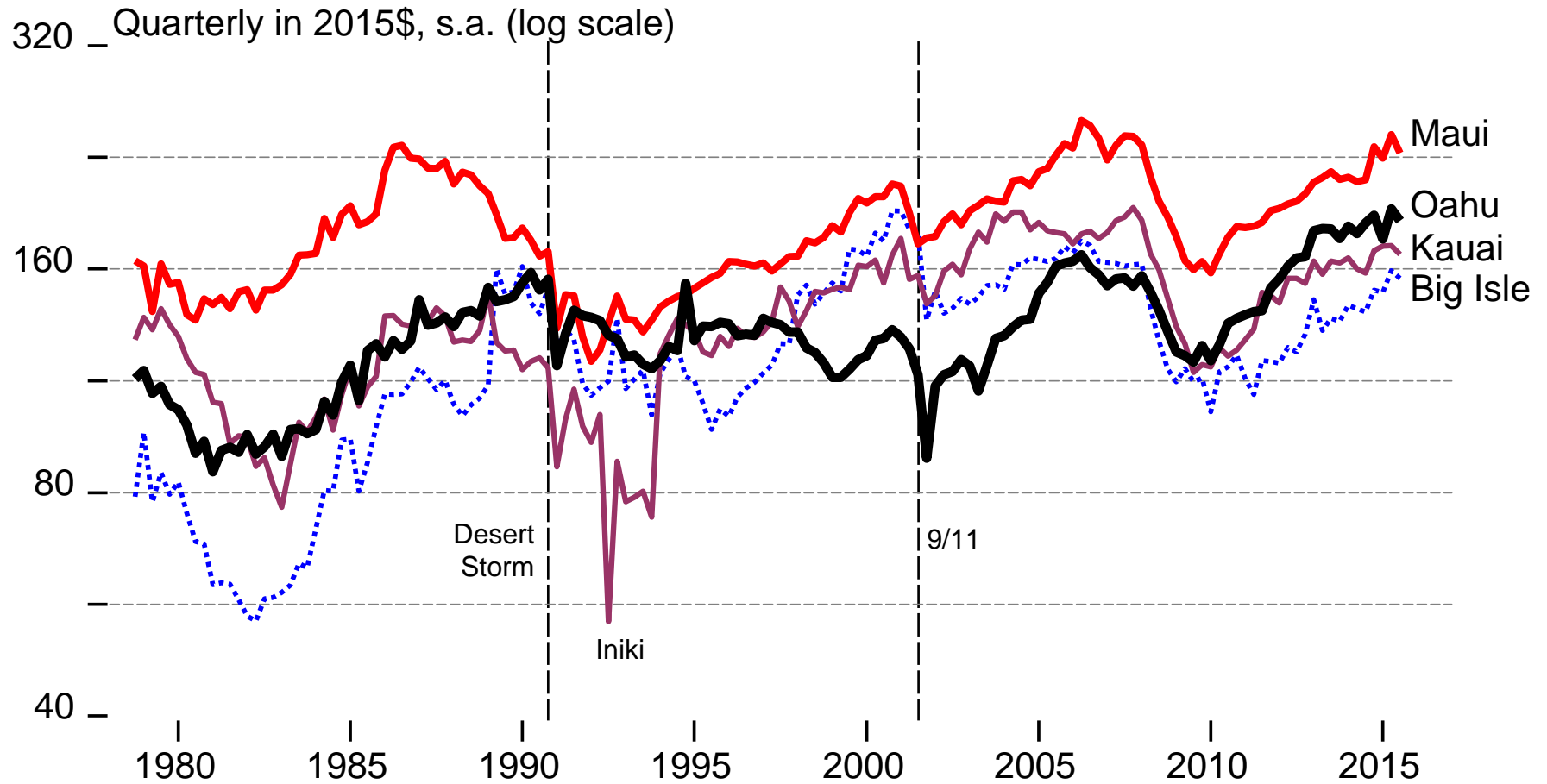
400 _ Quarterly in 2015\$, s.a. (log scale)



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Sources: PKF Hawaii, Hospitality Advisors LLC, Hawaii DBEDT, UHERO (quarterly data through 2015Q3); seasonal adjustment and deflation using quarterly Honolulu CPI-U interpolated from semi-annual data by TZ Economics

Real revenue per available room (yields) strengthening across the islands



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Sources: PKF Hawaii, Hospitality Advisors LLC, Hawaii DBEDT, UHERO (quarterly data through 2015Q3); seasonal adjustment and deflation using quarterly Honolulu CPI-U interpolated from semi-annual data by TZ Economics