

Oahu housing: extending economic expansion?

slides prepared for a presentation to the

Distinctive Homes Hawaii, Honolulu HomeLoans,
Old Republic Title & Escrow of Hawaii

Mid-Year Real Estate Review

Waialae Country Club

by Paul H. Brewbaker, Ph.D.
TZ Economics, Kailua, Hawaii
July 31, 2014



Framing the outlook: if the economy is growing, then why haven't General Fund Revenues?

1. Near-term: extending the current economic expansion
 - The recession ended in June 2009, the expansion now is five years old
 - Average expansion duration, post-1982: eight years (longest: ten (1990s))
2. Hawaii still growing, but several sectors experienced “sudden stop” in 2013
3. Long-term: relieving capacity constraints
 - Population growth slowed, but homebuilding still inadequate
 - Tourism footprint hasn't changed in two decades
4. Challenge: will investors bet on Hawaii's future if tourism is capacity-constrained and federal government is shrinking?

U.S. economic cycles: five years of expansion, past the halfway point?

Duration of economic expansions and contractions
from NBER troughs to peaks and back again

<i>in months</i>	Expansions			Contractions		
	Mean	Median	Max	Mean	Median	Max
1857-1928	25.5	22	46	20.5	18	65 *
1929-1982	46.2	39	106 **	13.8	11	43 †
1983-2010	95.0	92	120 •	11.3	8	18 ^Δ

*The Panic (Oct. 1873 - Mar. 1879)

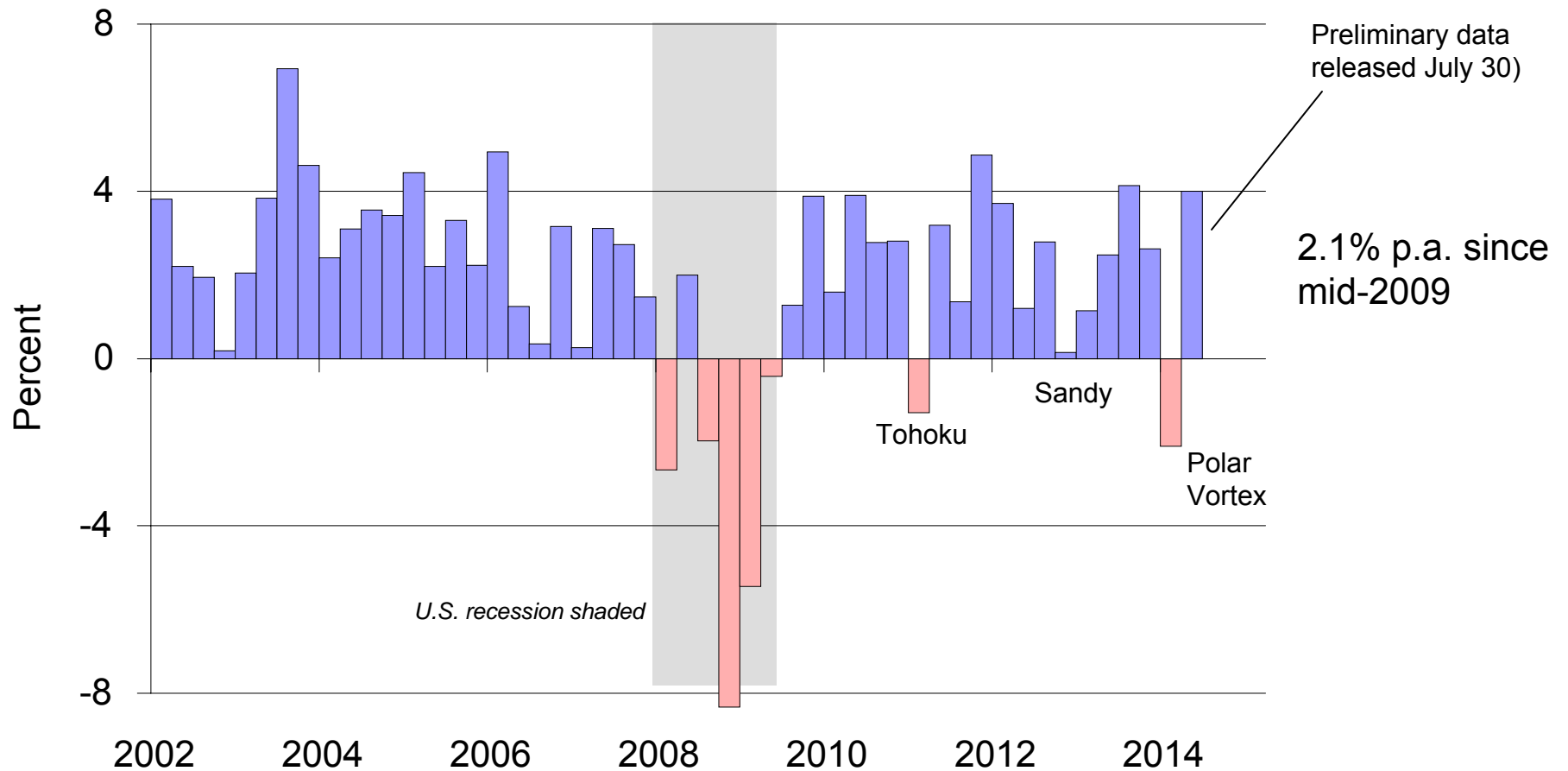
†The Great Depression (Aug. 1929 - Mar. 1933)

**Camelot (Feb. 1961 - Dec. 1969)

•dot.com (Mar. 1991 - Mar. 2001)

^ΔThe Great Recession (Dec. 2007 - Jun. 2009)

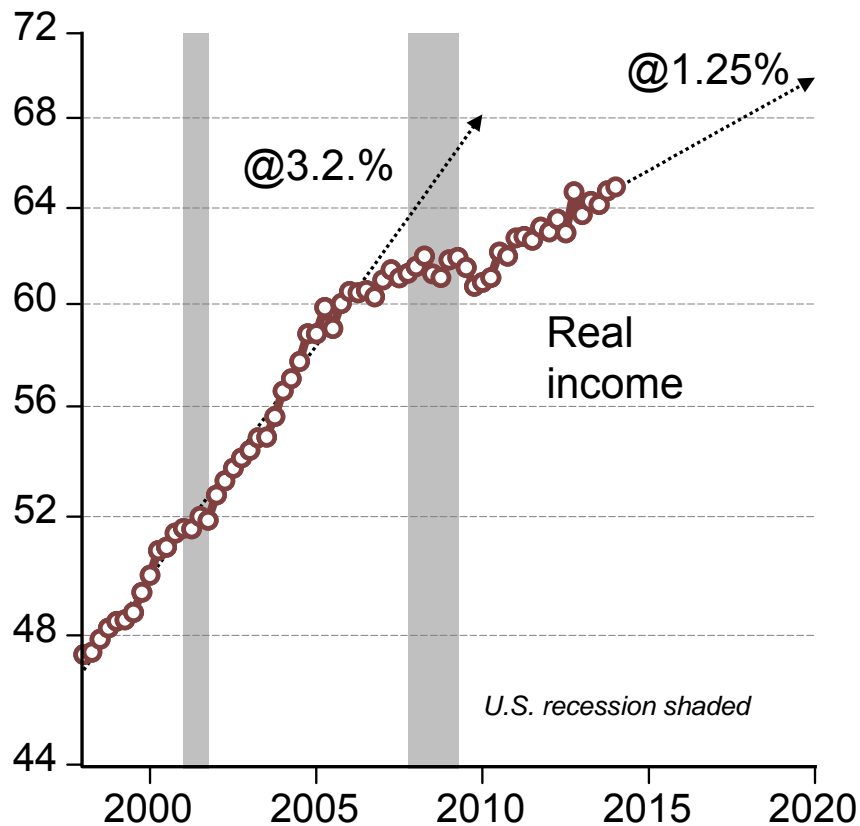
U.S. real GDP growth through mid-2014



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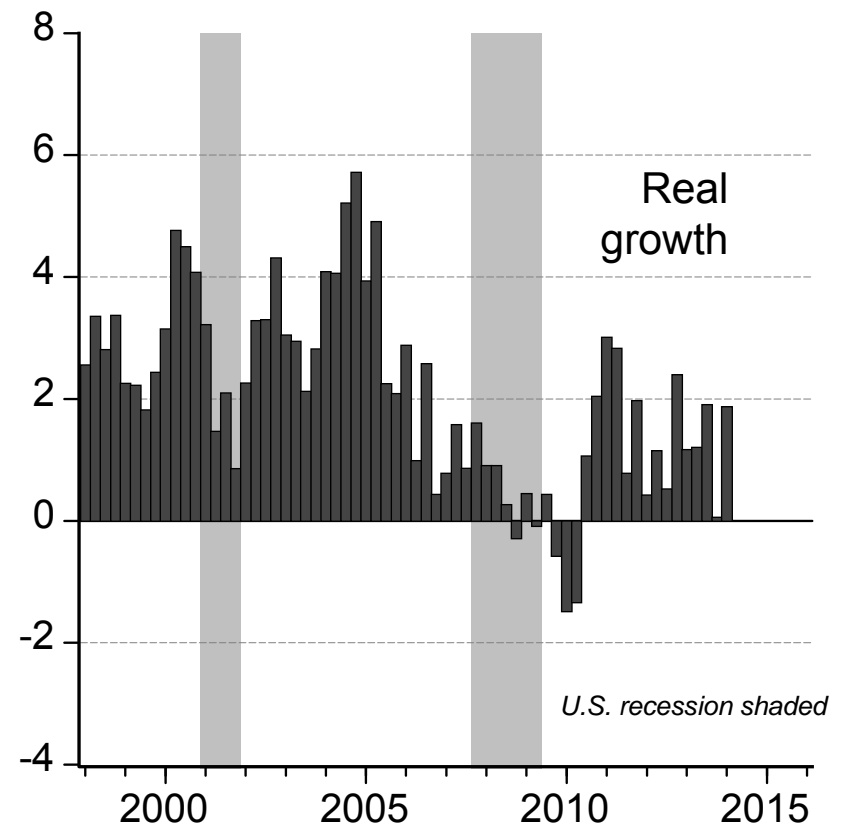
Hawaii quarterly real personal income—short of the 2-3% growth rates forecast by DBEDT, UHERO

Billion 2013\$ (s.a., logs)



Annualized real growth rates are based on trend regressions 1998:1-2005:1 and 2010:3-2014:1

Percent change, y-o-y



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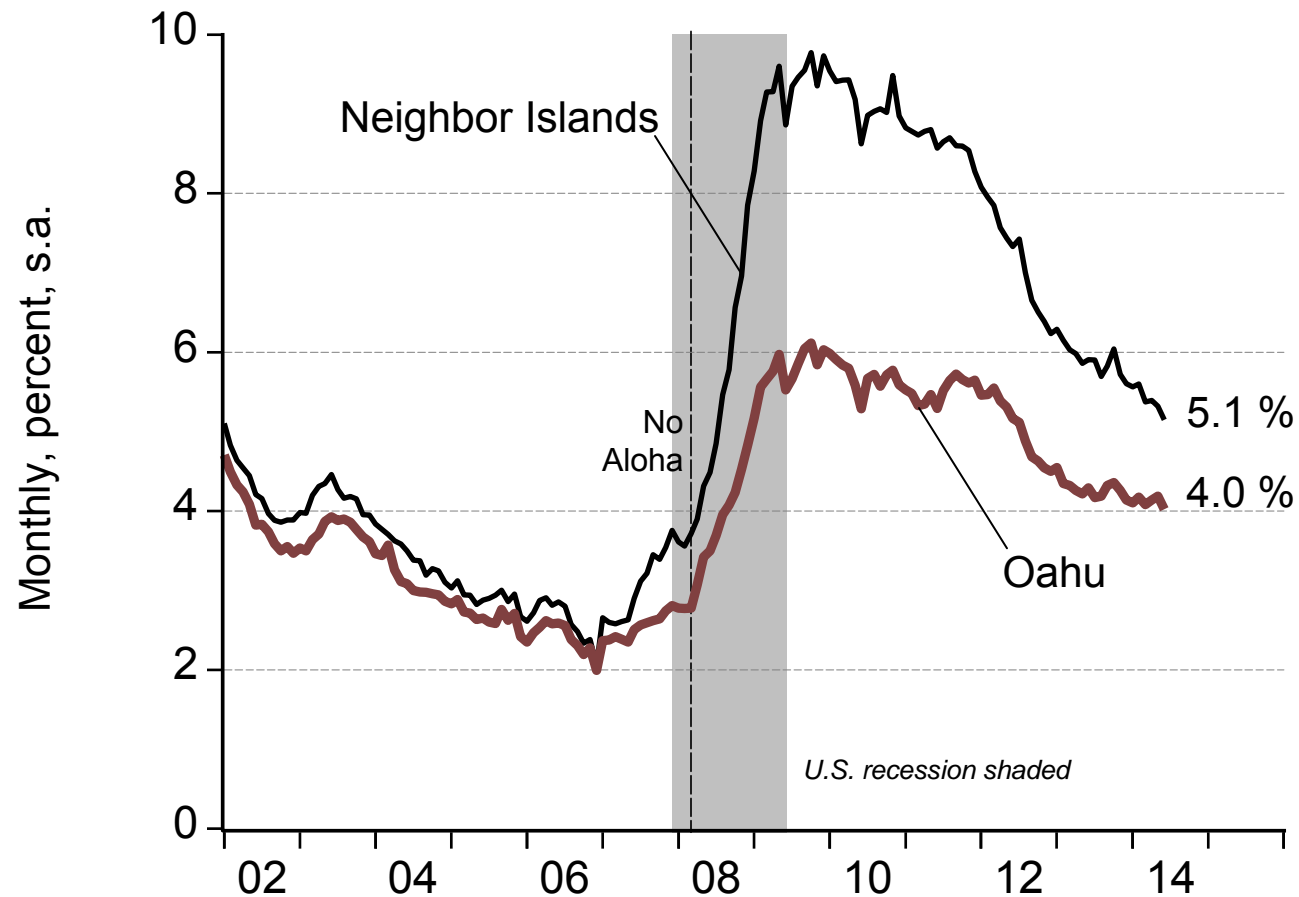
Source: BEA, BLS; deflation and seasonal adjustment by TZ Economics; for forecasts see Hawaii DBEDT (May 8, 2014) and UHERO (May 23, 2014) (<http://dbedt.hawaii.gov/economic/qser/outlook-economy/> and <http://www.uhero.hawaii.edu/assets/14Q2CountyForecast-PublicSummary.pdf>)



Employment trends to characterize the expansion

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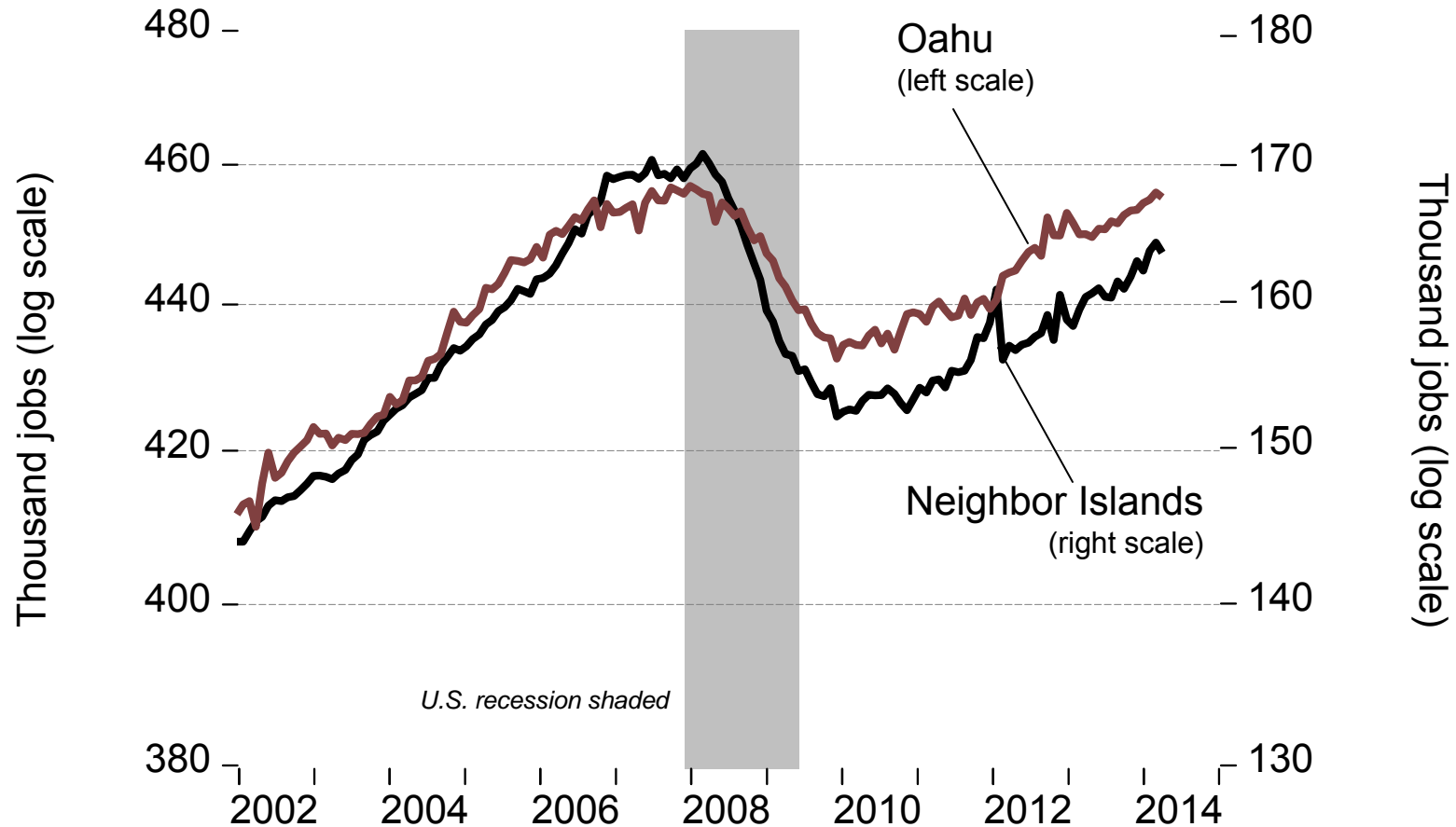
Hawaii unemployment rates starting to settle?



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Source: Data through June 2014(P) from Hawaii DLIR, DBEDT; seasonal adjustment by TZ Economics

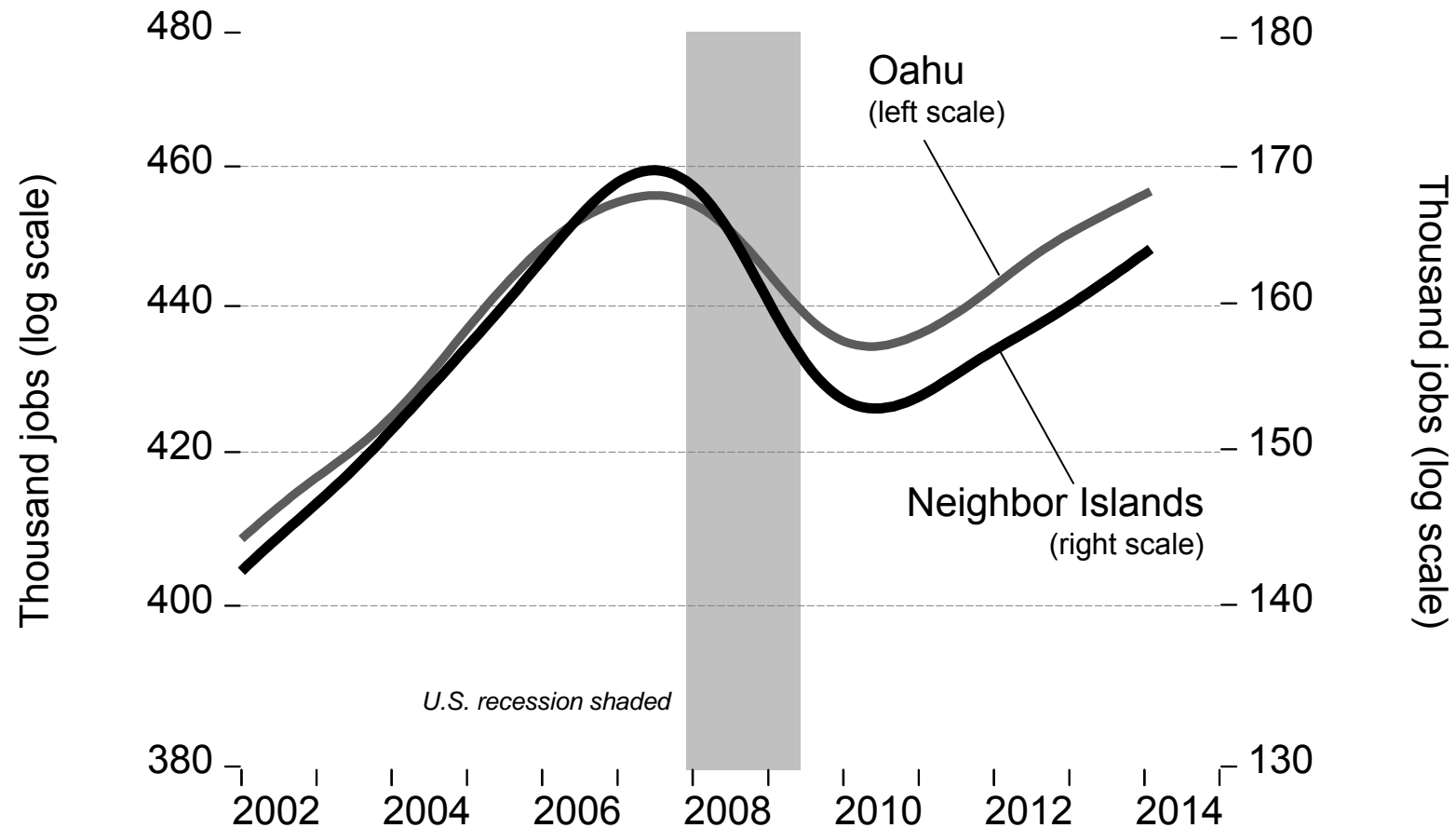
Oahu and Neighbor Isle non-agricultural job counts: parallel recovery, somewhat asynchronous



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Source: Hawaii DLIR, DBEDT; seasonal adjustment, trend extractions using Hodrick-Prescott filter by TZ Economics

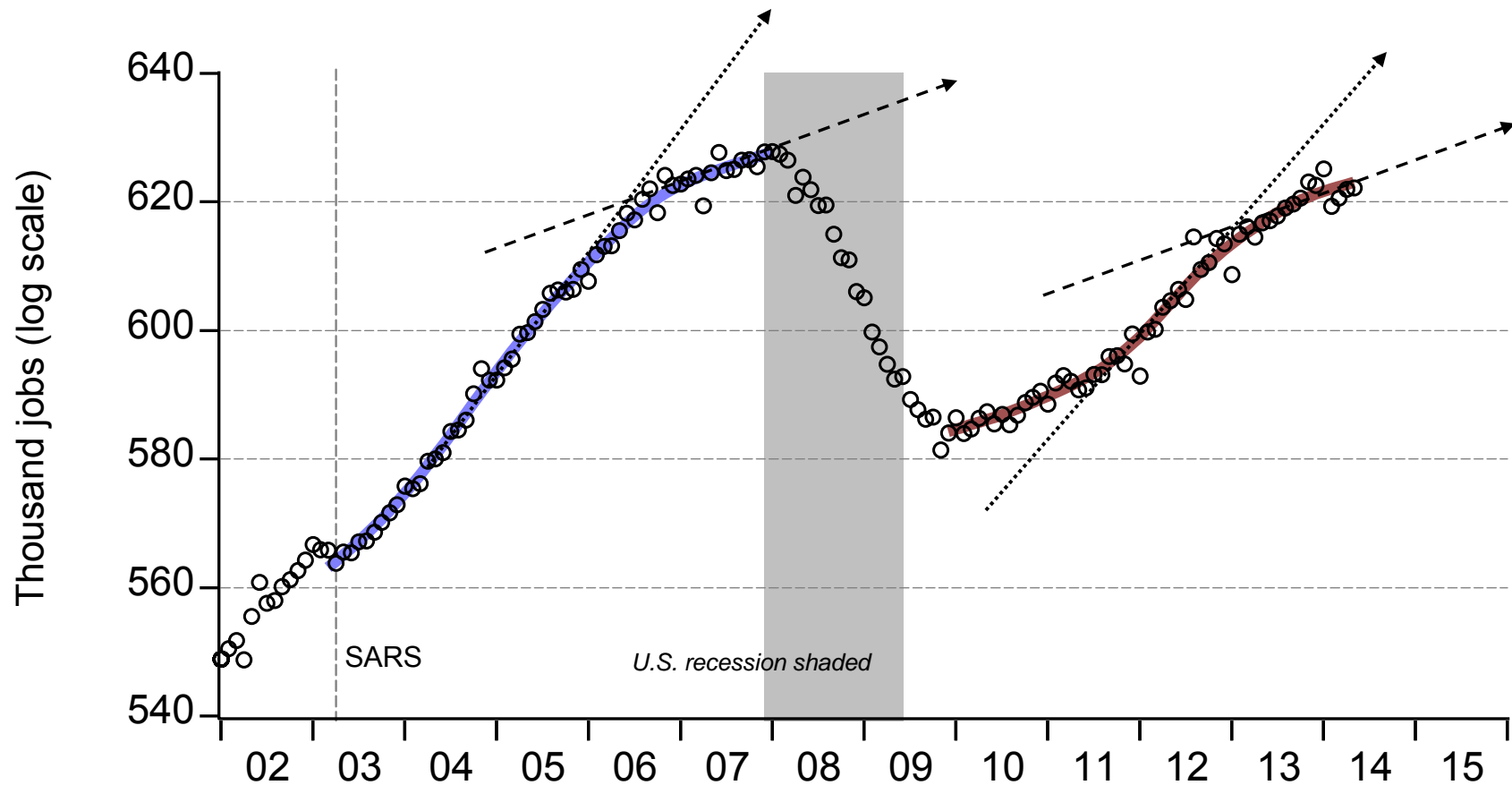
Trend components of non-agricultural job counts: Oahu was leading, is it decelerating?



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Source: Hawaii DLIR, DBEDT; seasonal adjustment, trend extractions using Hodrick-Prescott filter by TZ Economics

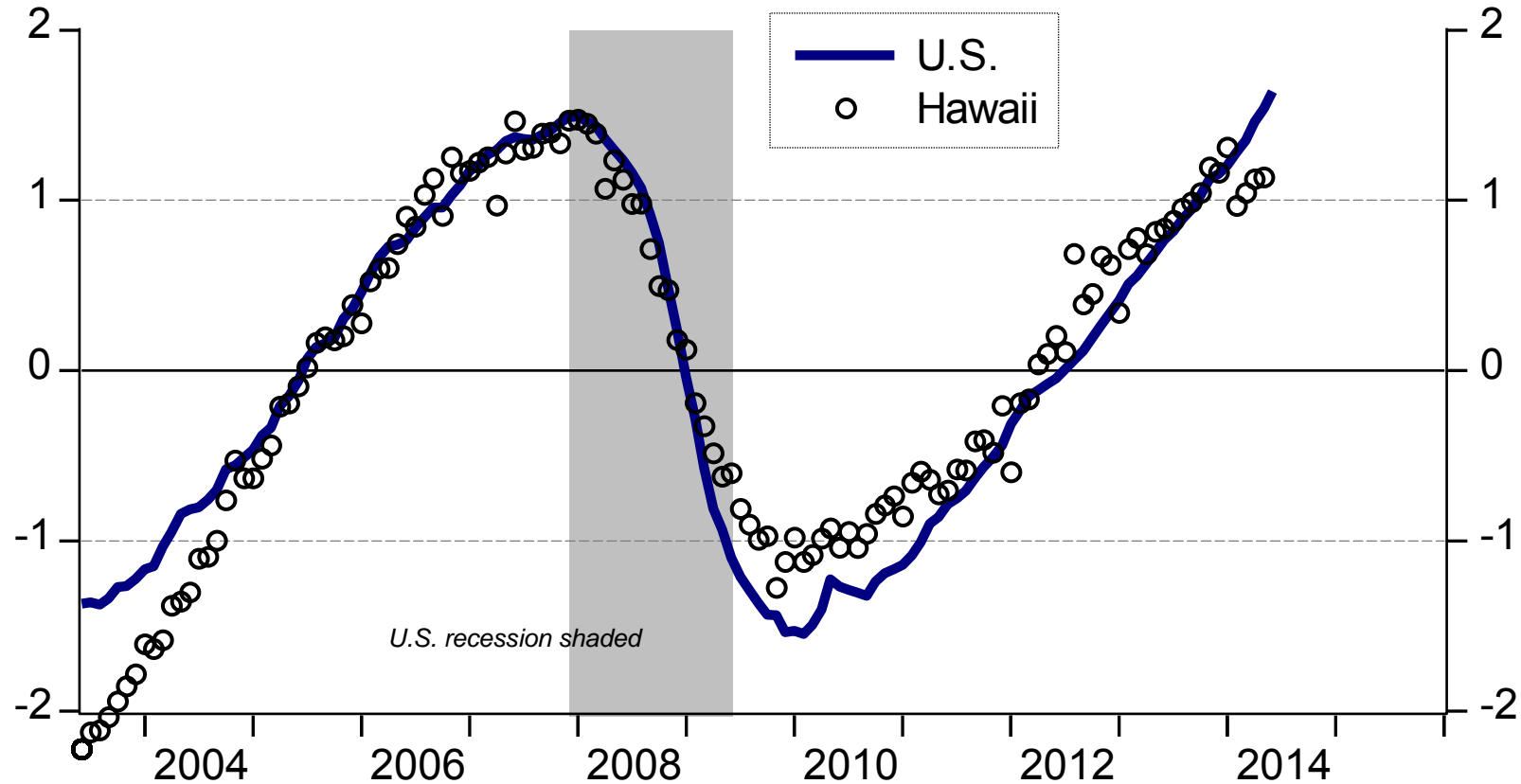
Non-agricultural payroll employment in Hawaii: statewide *deceleration* of job growth since 2012



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Source: Hawaii DLIR, DBEDT; seasonal adjustment, trend extractions using Hodrick-Prescott filter by TZ Economics

Normalized employment trends: U.S. has grown faster, farther from a deeper trough; Hawaii bogged



Scales are standard deviations from means for the period June 2003 (i.e. post-SARS) through June 2014, for seasonally-adjusted payroll employment

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Source: Hawaii DLIR, DBEDT; seasonal adjustment, trend extractions using Hodrick-Prescott filter by TZ Economics



Recap macro conditions

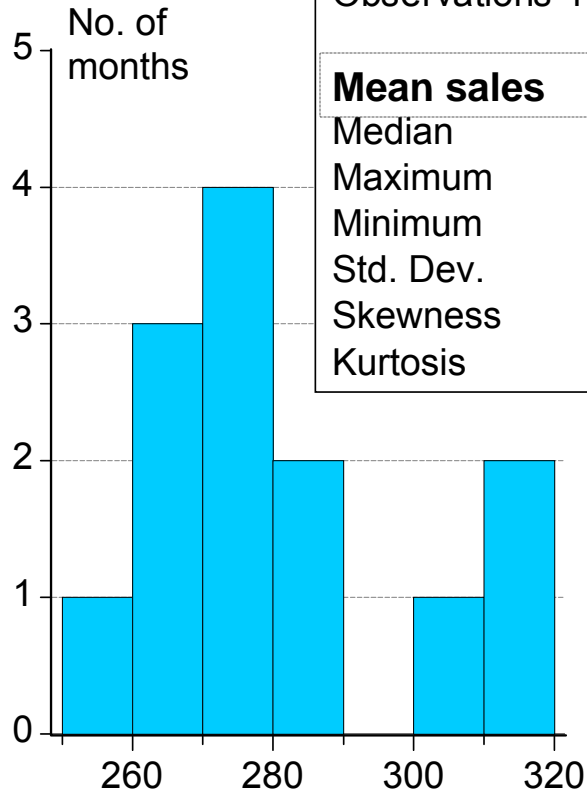
- Economy passed 5th anniversary of official end of U.S. recession in June
- Hawaii economic growth has proceeded slowly, 1-2% since 2009 (2-3% 2000s)
- Job growth has slowed recently, falling behind pace of mainland
- Economic growth forecasts predicated on housing-led second-half of expansion
 1. UHERO (May 2014)*: “Incremental [tourism] gains for 2014 will be slight. Beyond this year, available capacity will limit further visitor industry growth.”
 2. DBEDT (May 2014)‡: “Visitor expenditures are expected to increase 4.6 percent in 2016 and 4.5 percent in 2017.”
 3. UHERO (May 2014)*: “The construction expansion has proceeded further on Oahu..., but it is also poised to contribute growth momentum to all counties going forward.”
 4. DBEDT (June 2014)†: “Change the mindset from controlling growth to generating growth.”

*UHERO (May 23, 2014) (<http://www.uhero.hawaii.edu/assets/14Q2CountyForecast-PublicSummary.pdf>)

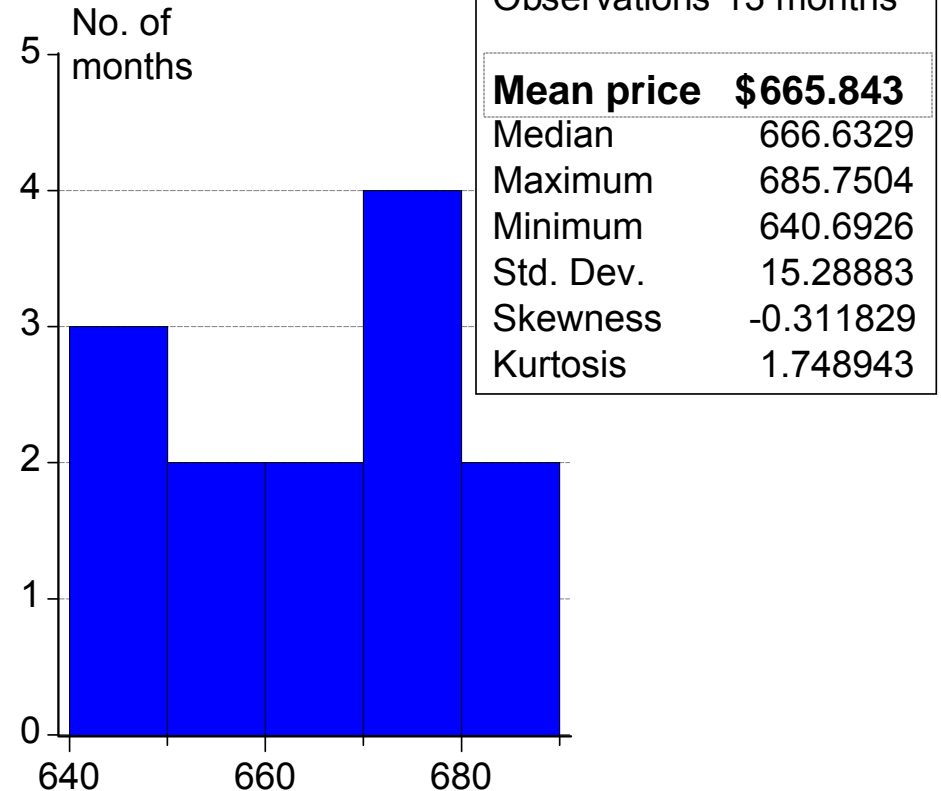
‡Hawaii DBEDT (May 8, 2014) (<http://dbedt.hawaii.gov/economic/qser/outlook-economy/>)

†Richard Lim, Director Hawaii DBEDT (June 20, 2014) “Hawaii’s Economic Future,” presentation to The Counselors of Real Estate

Last year's avg. single-family sales volumes, prices



Monthly volumes



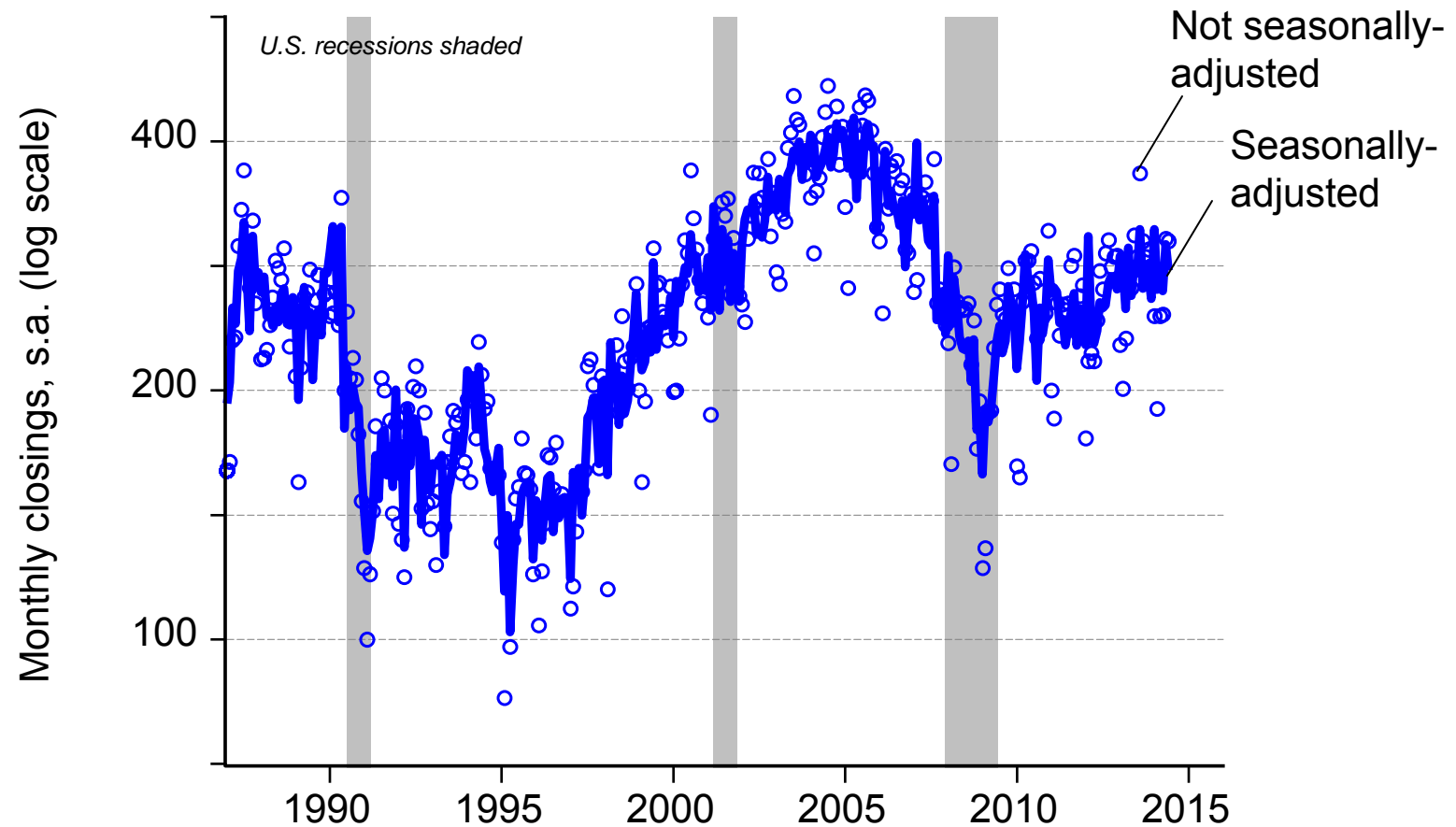
Prices (thousand \$)



Trends in Oahu existing home sales volumes

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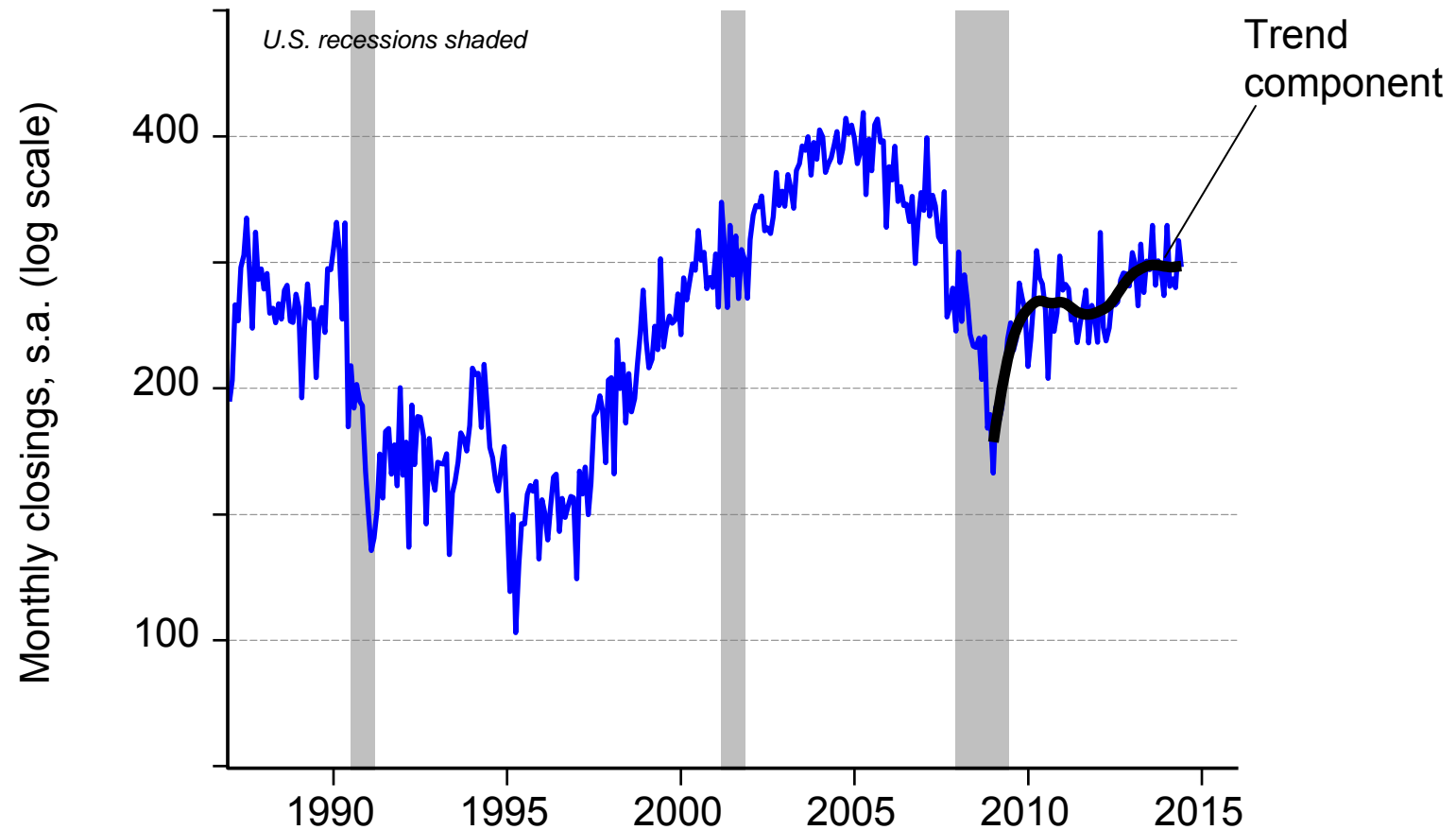
Oahu existing single-family home sales volumes



Slide copyright 2014 TZ Economics

Source: Honolulu Board of Realtors; seasonal adjustment by TZ Economics

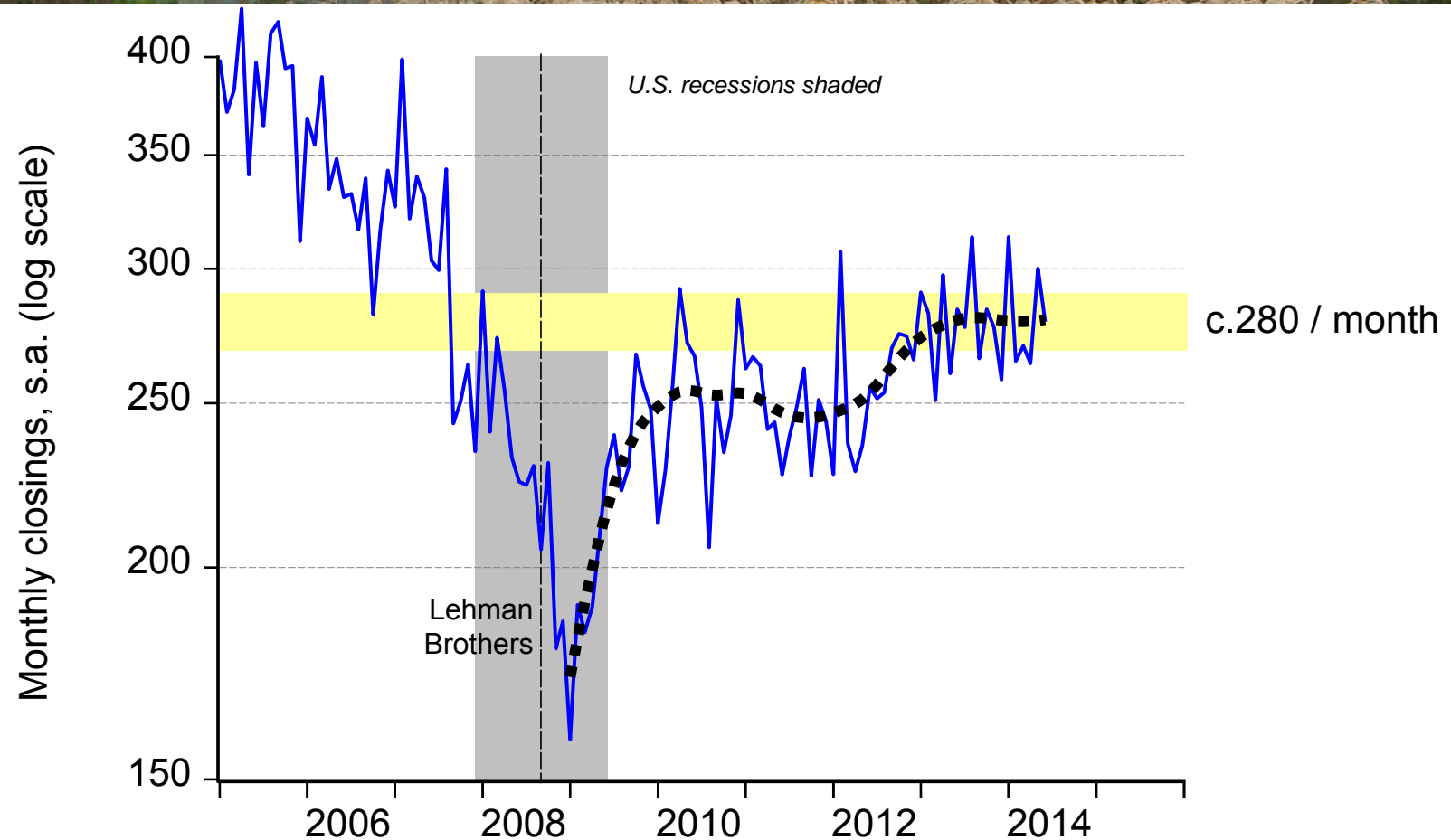
Oahu existing single-family home sales volumes



Slide copyright 2014 TZ Economics

Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

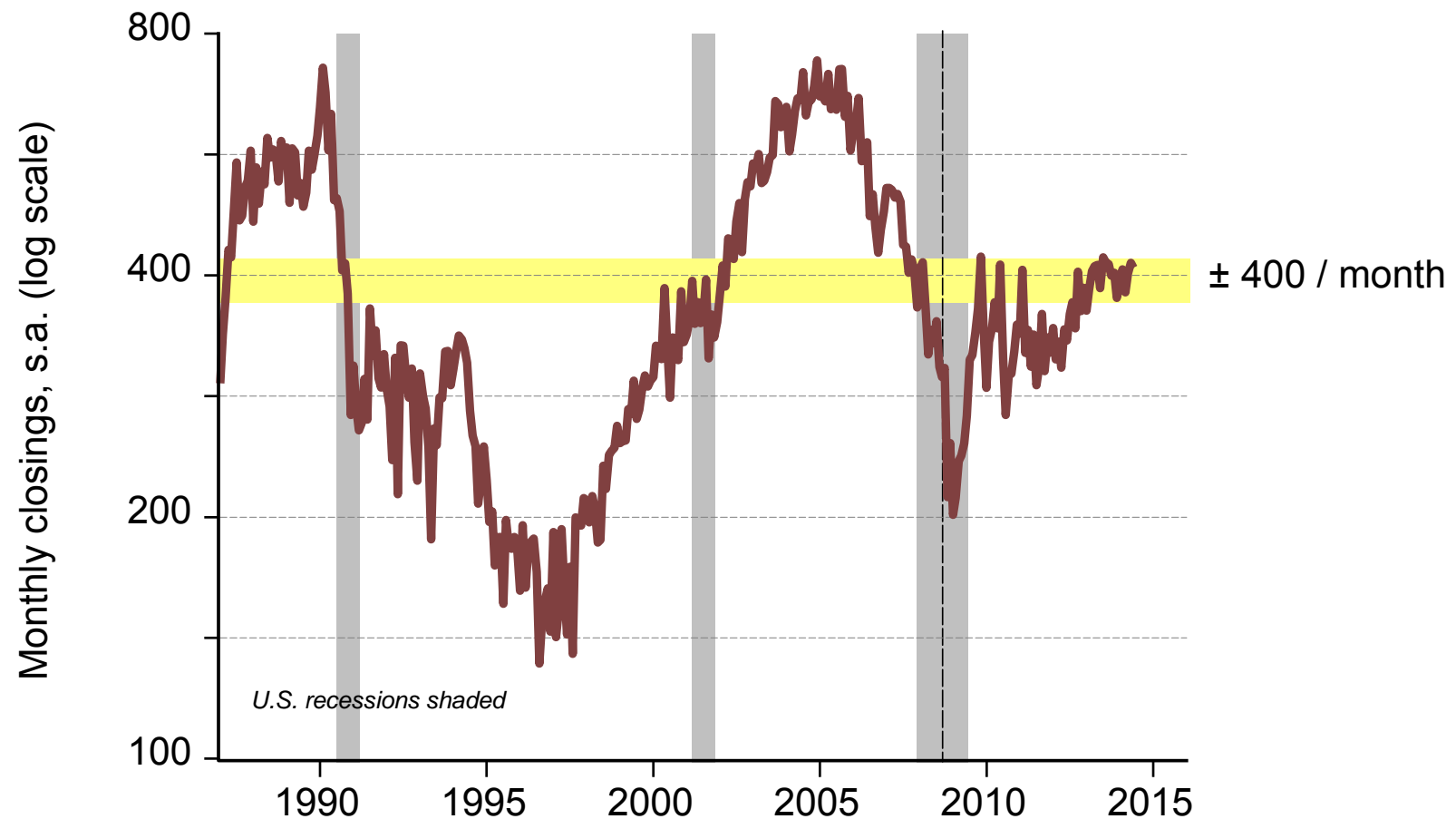
Single-family sales recovery has come in 2 stages— seasonally-adjusted sales flat since last summer



Slide copyright 2014 TZ Economics

Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

Oahu existing residential condominium sales: monthly trading volume around 400; prices to \$370k



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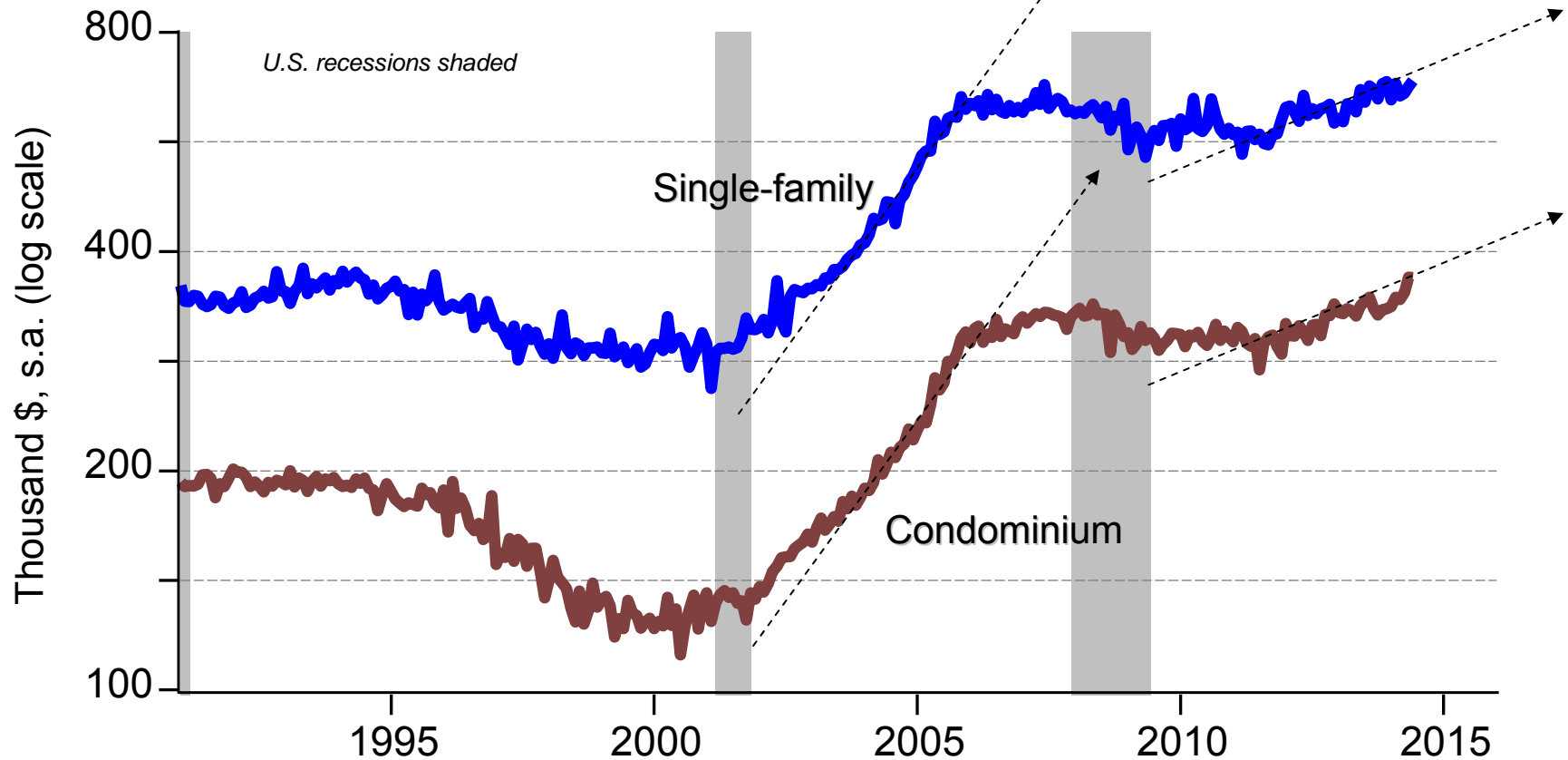
Source: Honolulu Board of Realtors; seasonal adjustment TZ Economics



Trends in Oahu existing home sales prices

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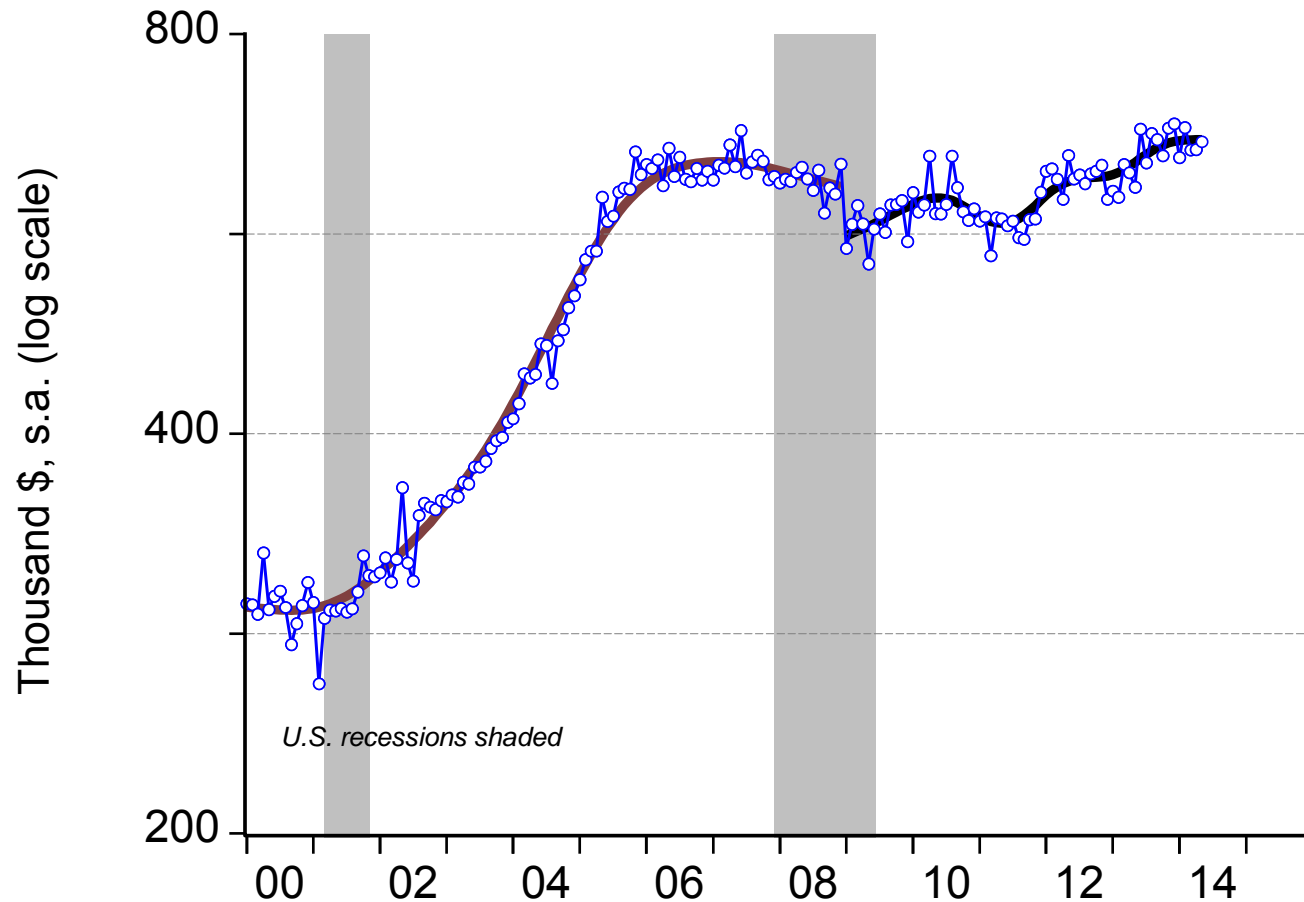
Oahu monthly existing home sales prices: this is not the 90s; this is not the housing bubble



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Sources: data through June 2014 from Honolulu board of Realtors; seasonal adjustment by TZ Economics

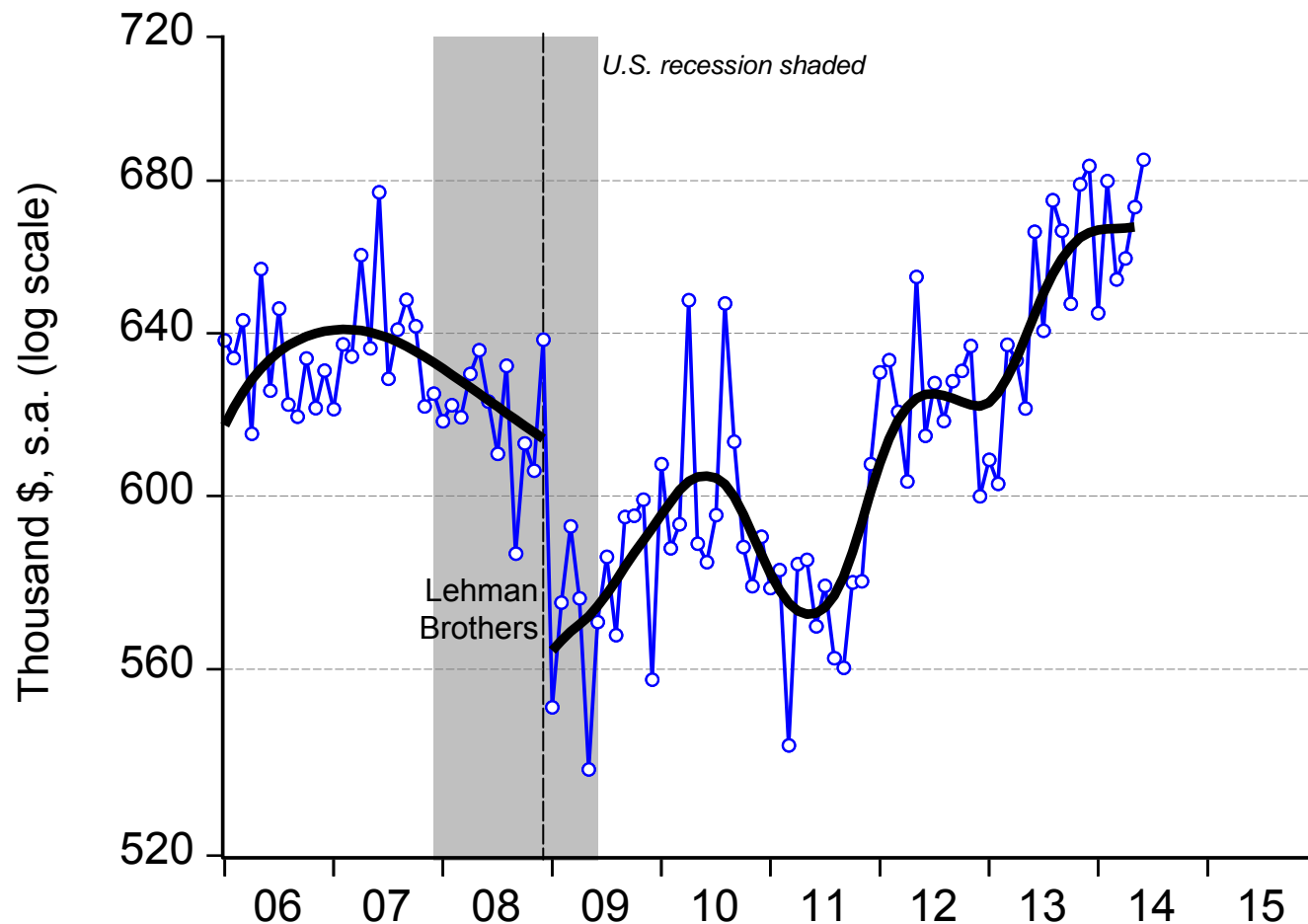
Oahu existing single-family home prices ratcheting upward slowly



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Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

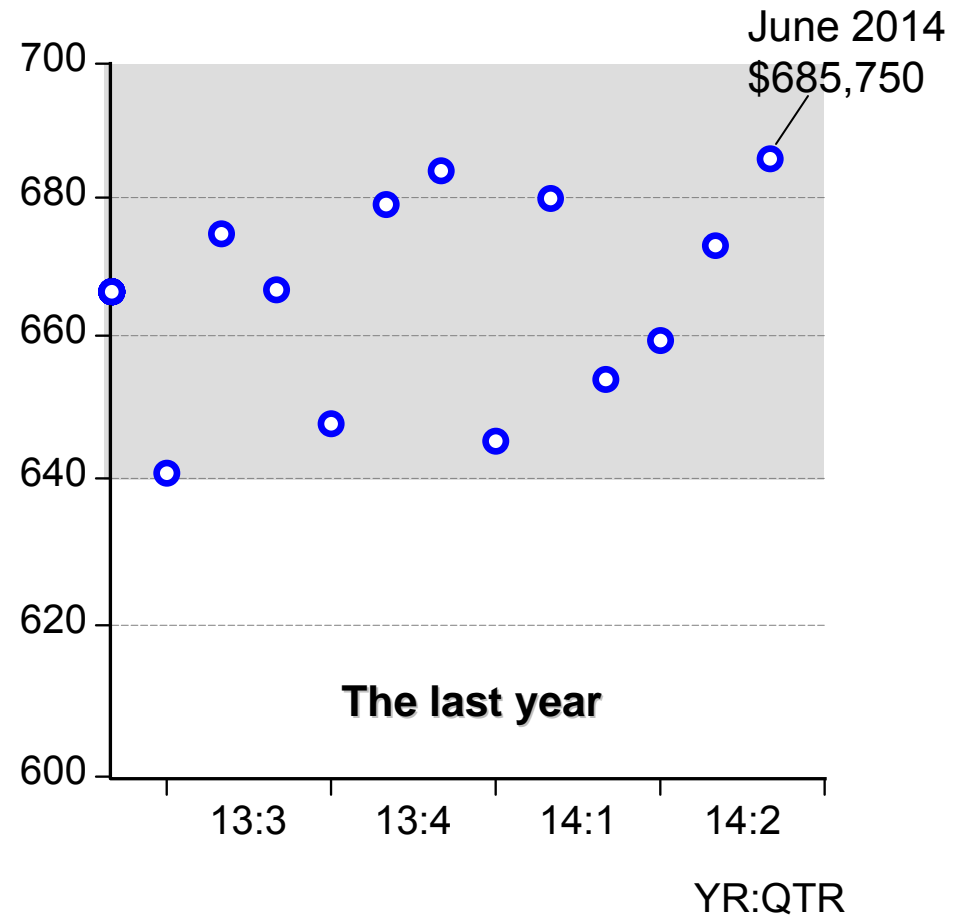
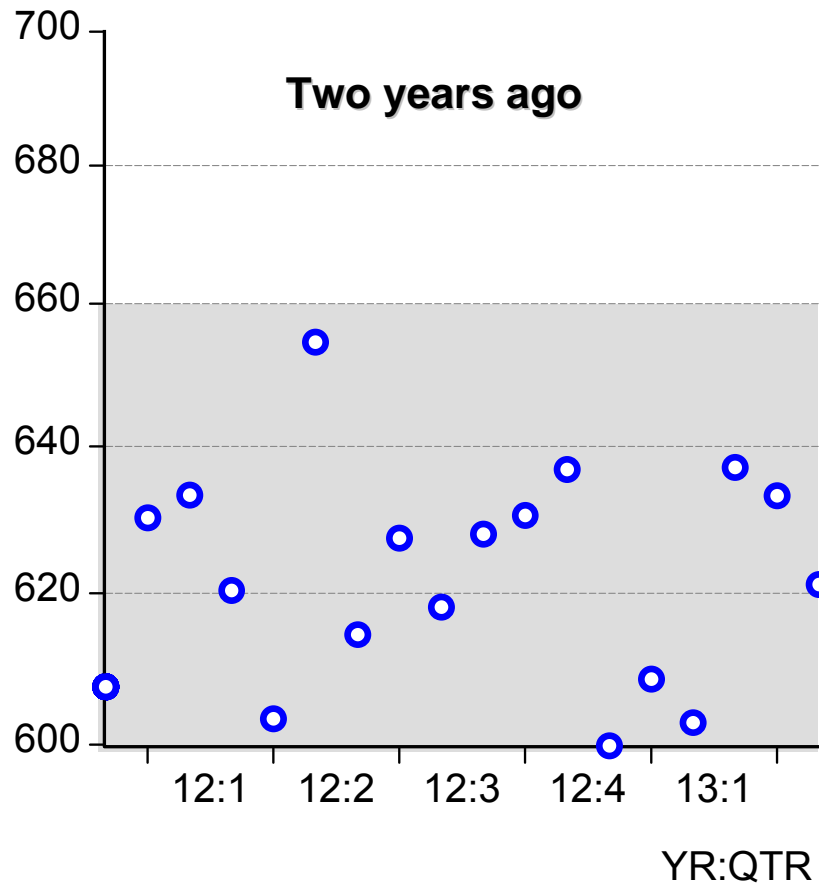
When \$700k isn't quite \$700k: seasonally-adjusted Oahu single-family home prices breaking out?



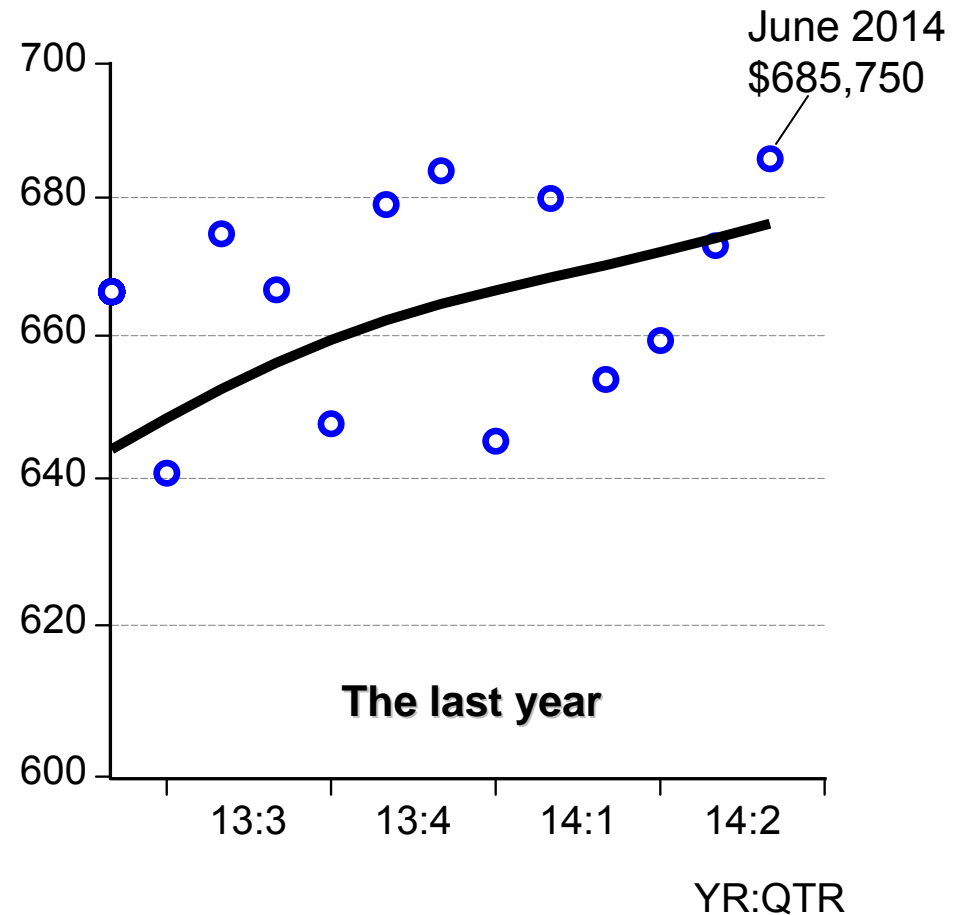
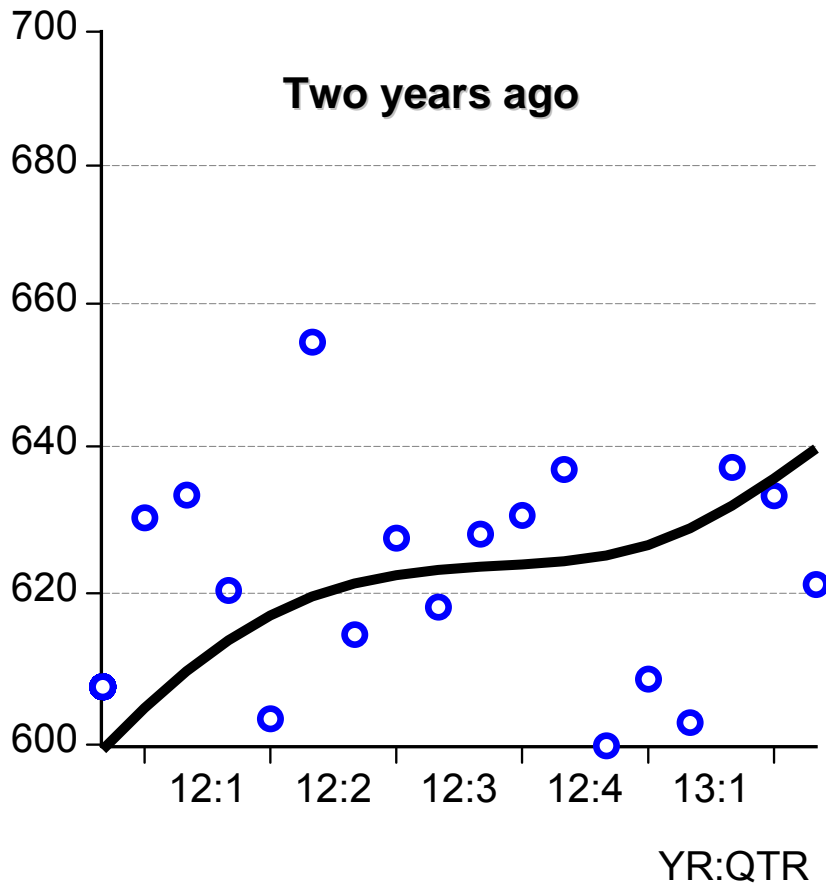
Slide copyright 2014 TZ Economics

Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

Two distinct levels for Oahu single-family home prices over the last two years (thousand \$, s.a.)



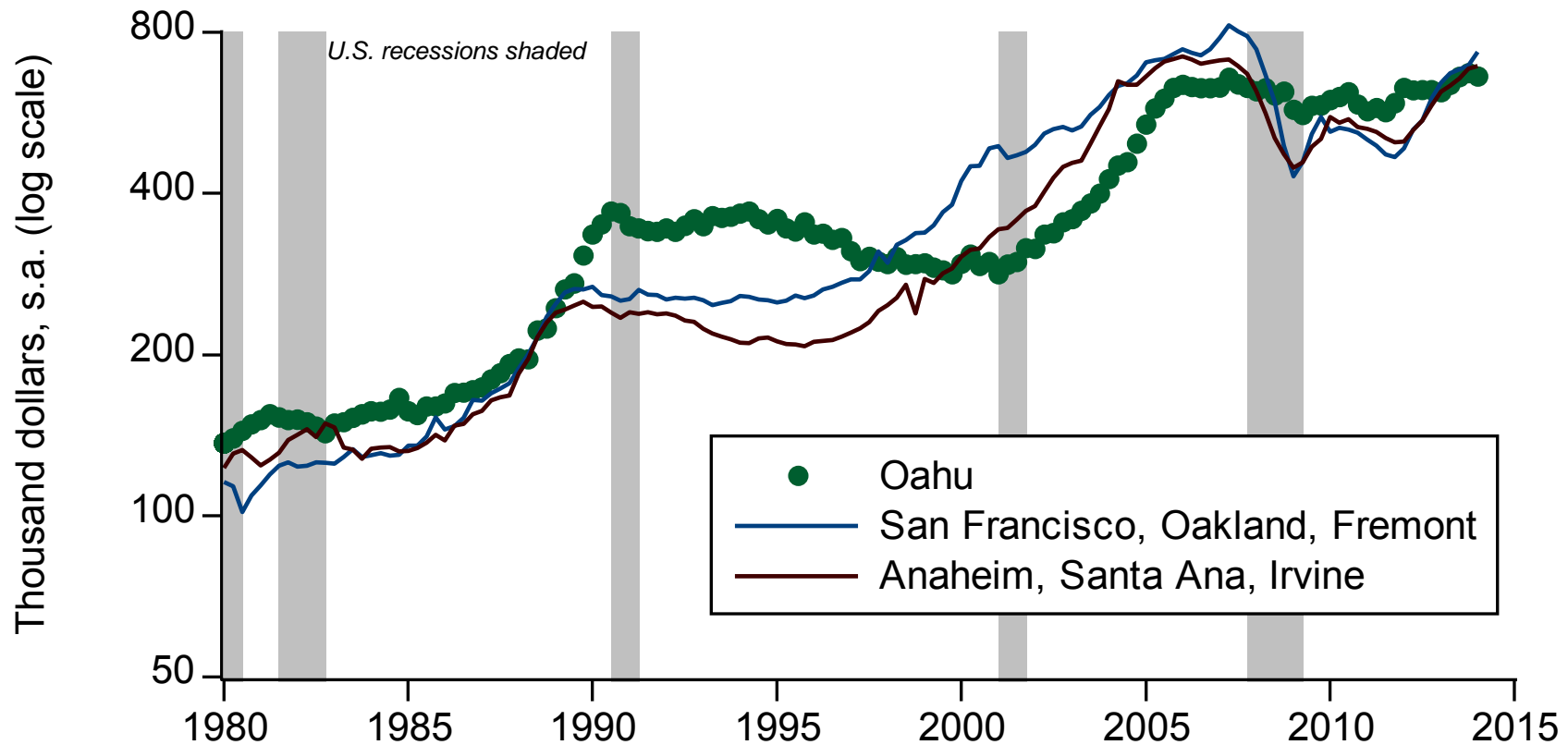
Two distinct levels for Oahu single-family home prices over the last two years (thousand \$, s.a.)



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Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

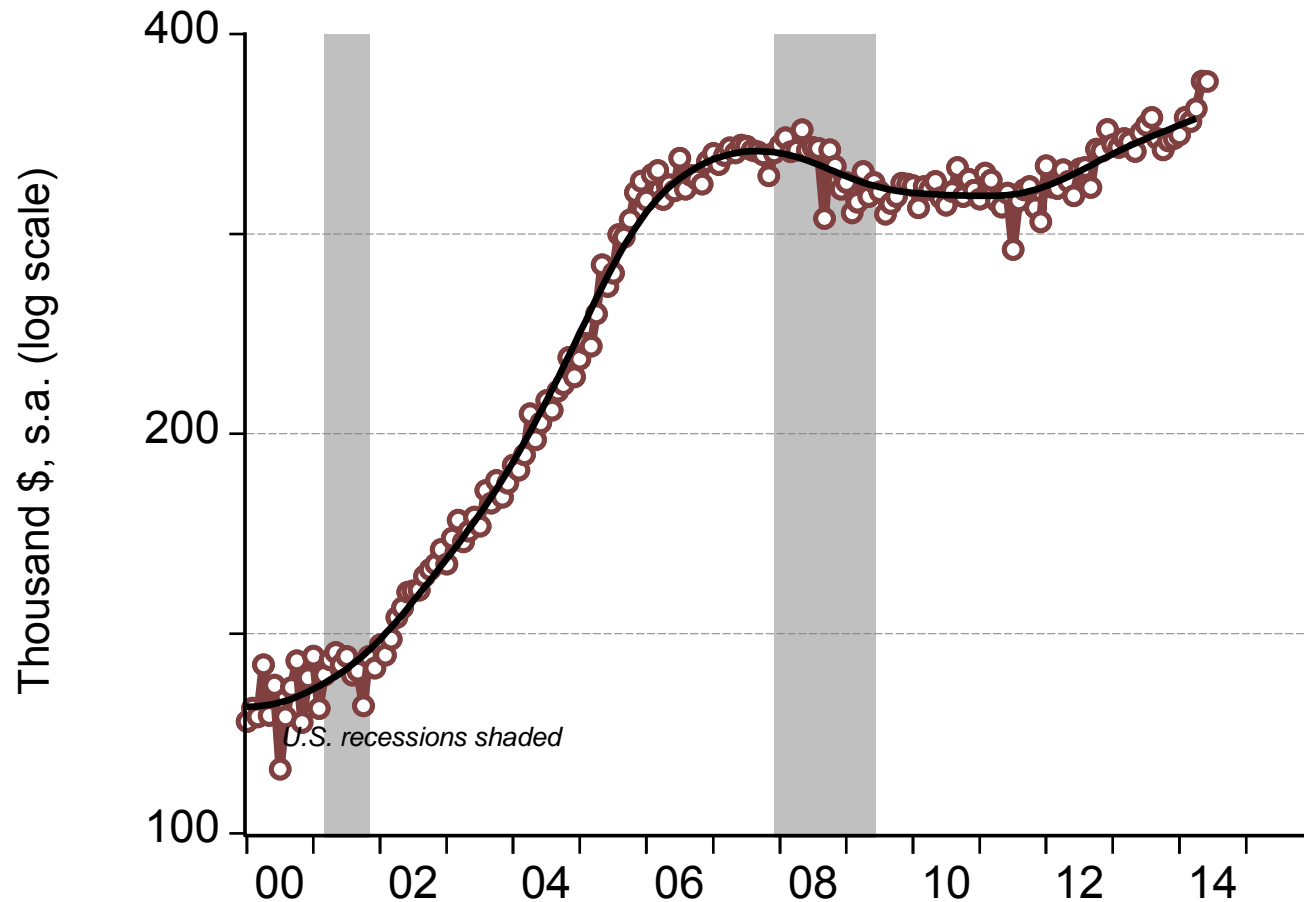
Quarterly existing single-family home sales prices: Oahu being outpaced by California rebound



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Sources: National Association of Realtors, Prudential Locations, UHERO, Honolulu Board of Realtors; seasonal adjustment by TZE

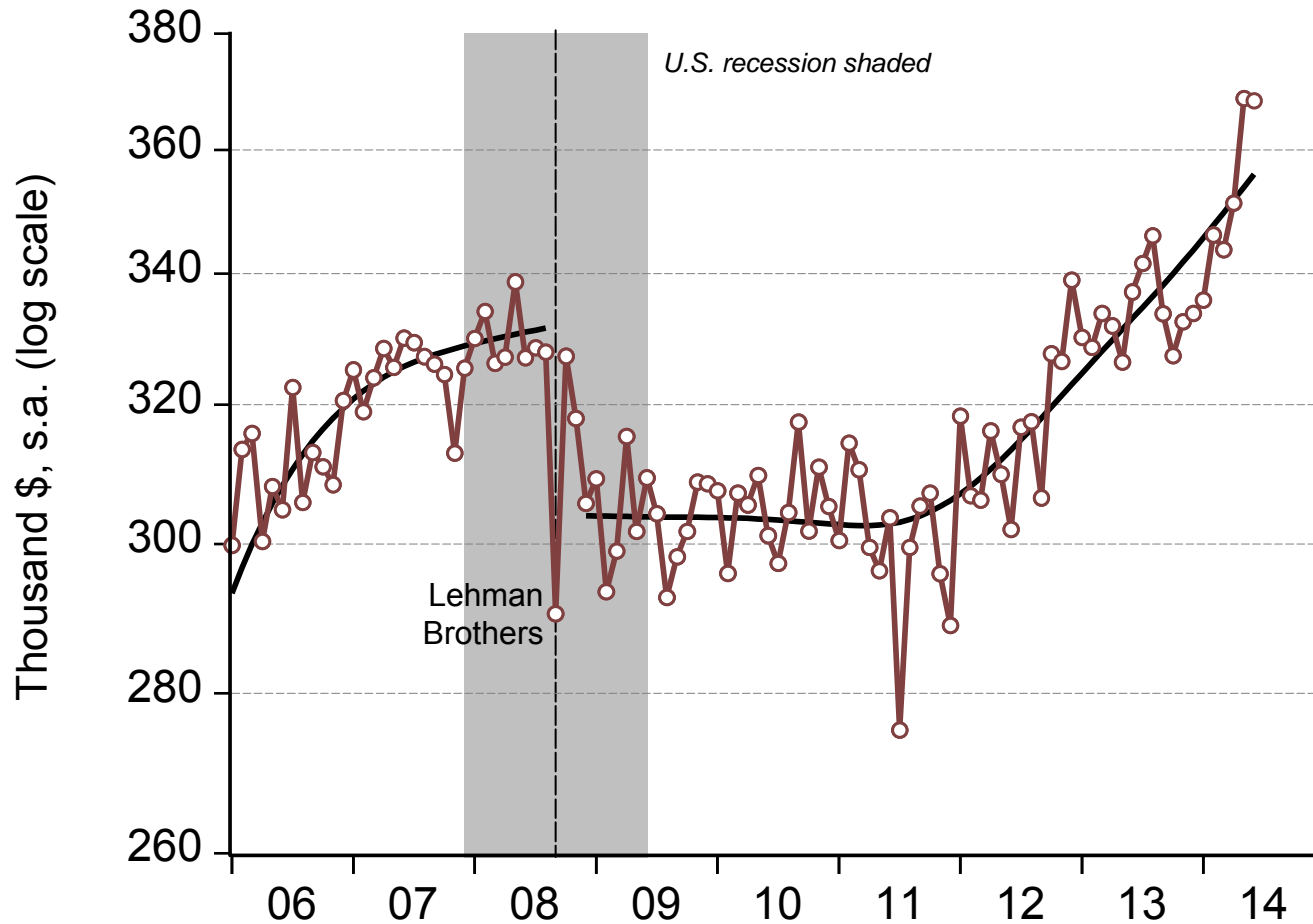
Oahu existing residential condominium prices exhibiting smoother appreciation



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Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics

Oahu condo prices pushing harder upward in the last 12 months (small pause in June)



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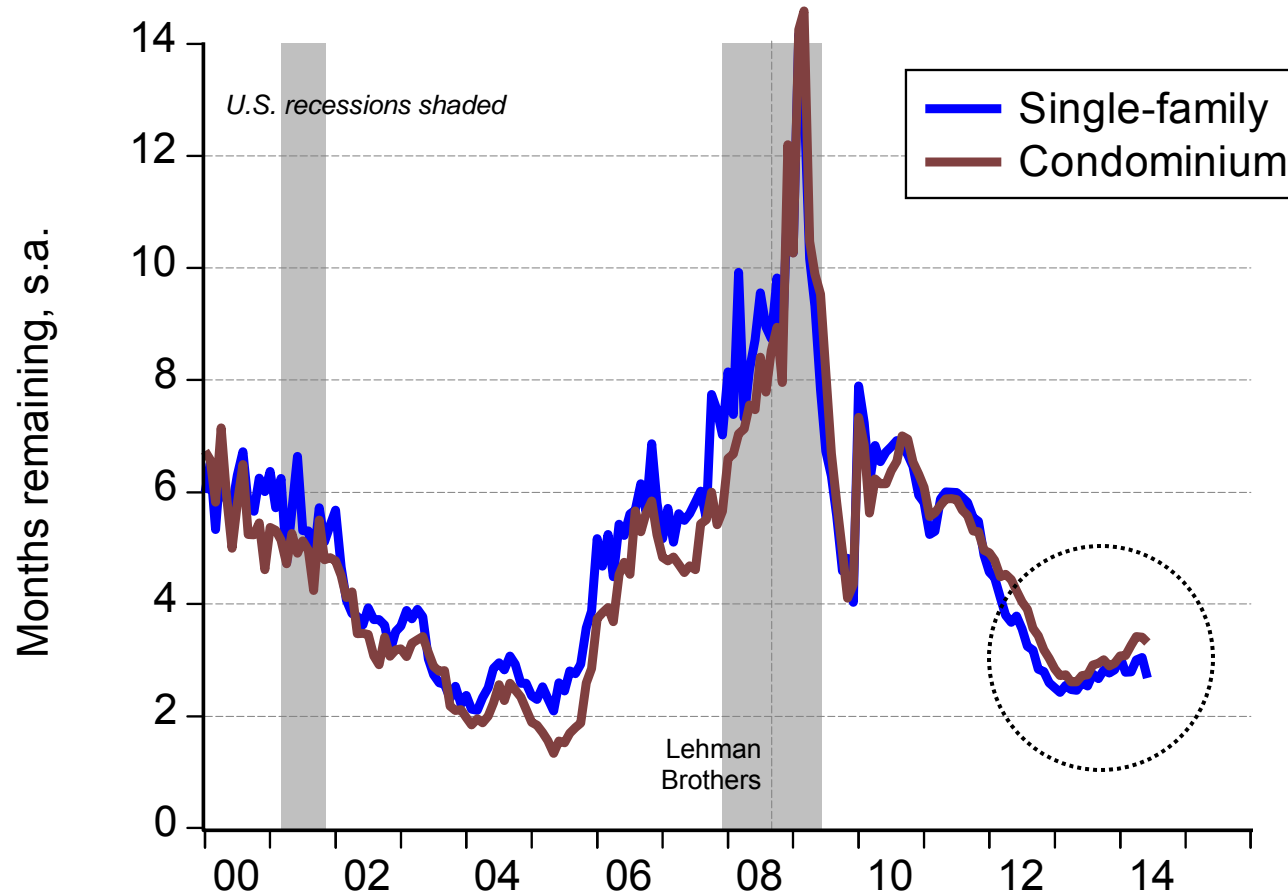
Source: Honolulu Board of Realtors; seasonal adjustment, trend extraction using Hodrick-Prescott filter by TZ Economics



Trends in Oahu existing home sales inventories

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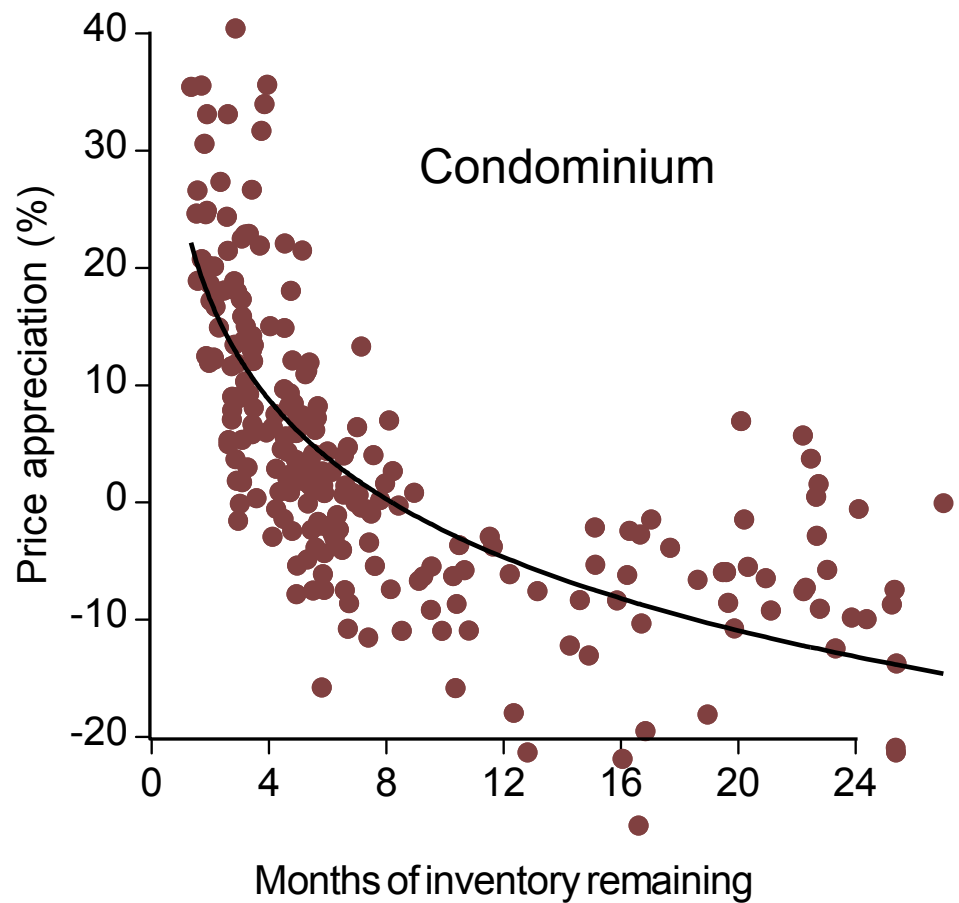
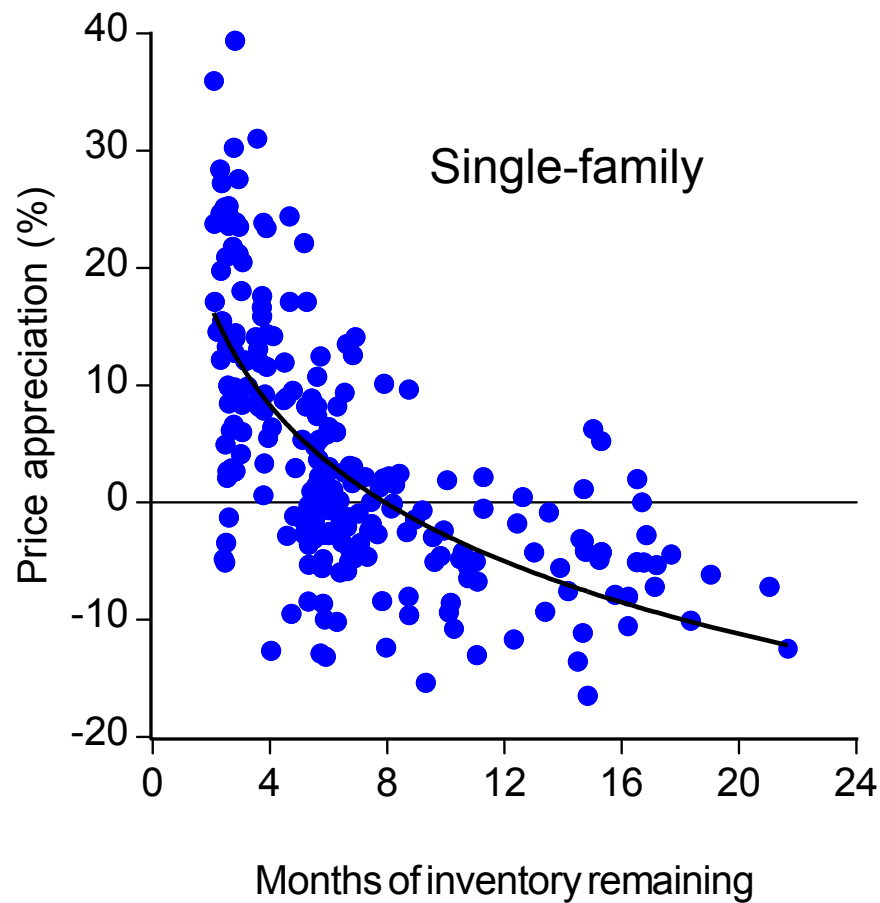
Oahu months of inventory remaining (inventory/sales ratio)



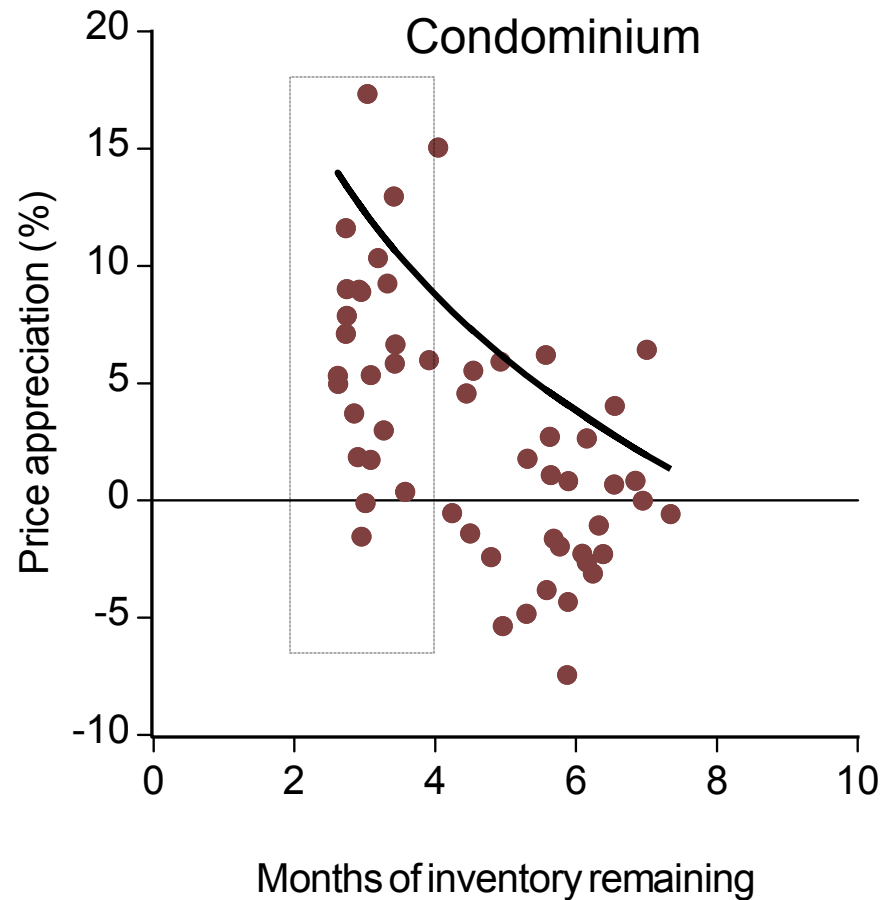
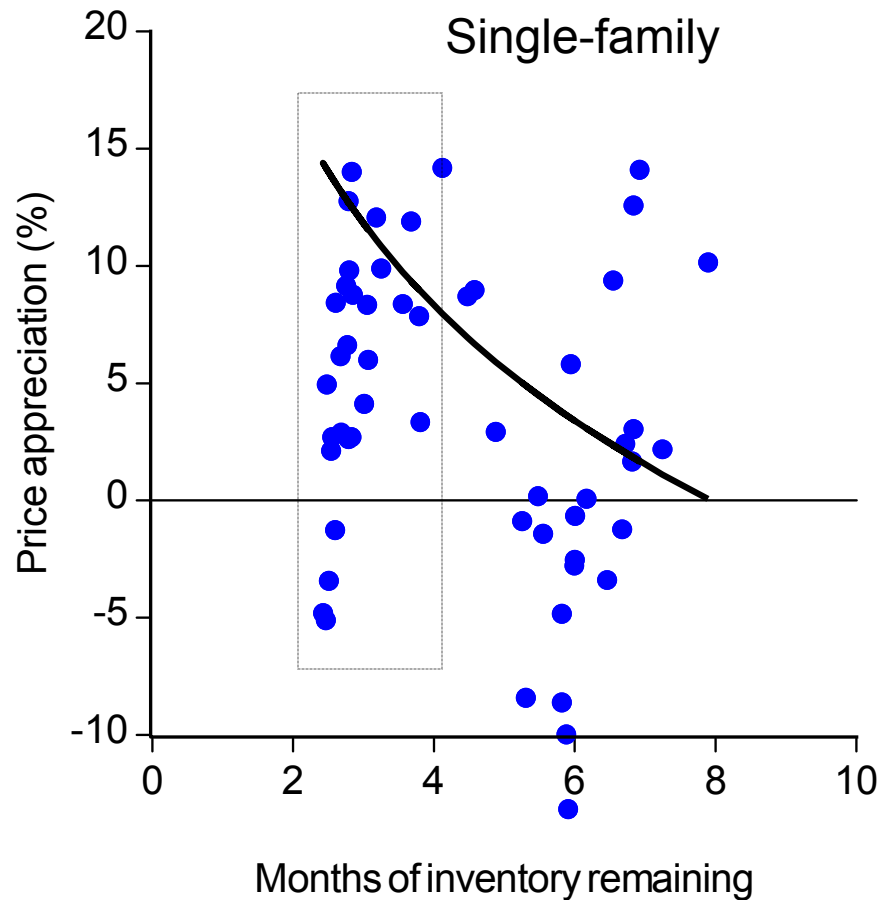
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Source: Data through June 2014 from Honolulu Board of Realtors; seasonal adjustment by TZE

Historical relationship (1994-2014): 10% appreciation with the current 3 months of inventory remaining




**Data since 2010: lower than predicted appreciation—
at 3 months' inventory, appreciation “below the line”**



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Source: Data through June 2014 from Honolulu Board of Realtors; regressions on seasonally-adjusted data by TZE



Recap Oahu housing market conditions

- Ratcheting upward, existing homes have settled into steady sales pace
- Approximately 280 single-family, 400 unit condominium monthly sales
- Condo prices have enjoyed more recent breakout than single-family prices
- Listings, absorption balanced; slower appreciation than in past with 3 months inventory remaining



Mysteries of monetary policy and interest rates

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QE1

Le Havre (1952)



QE2

Honolulu (1992)

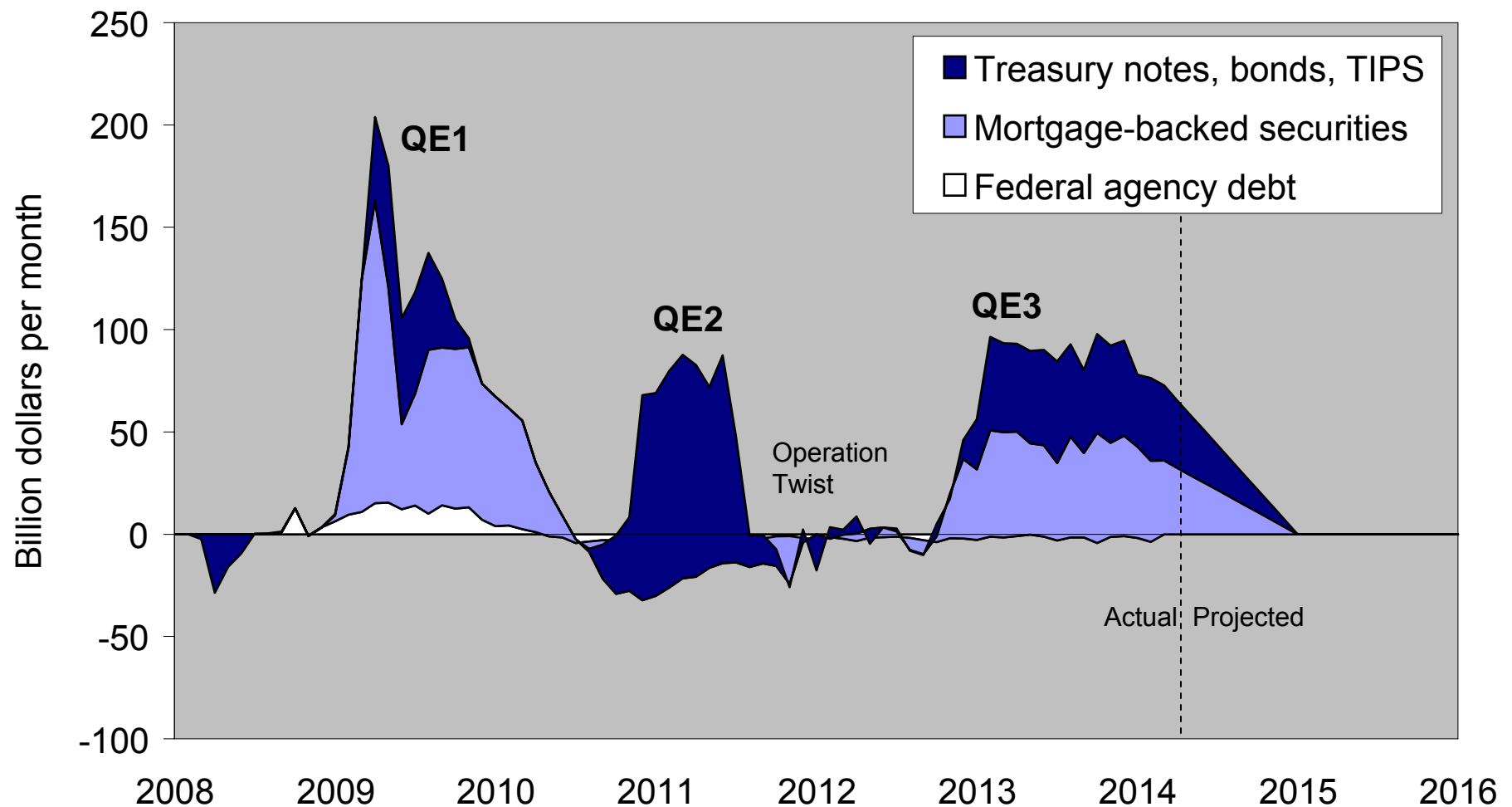


QE3

Honolulu (2014)



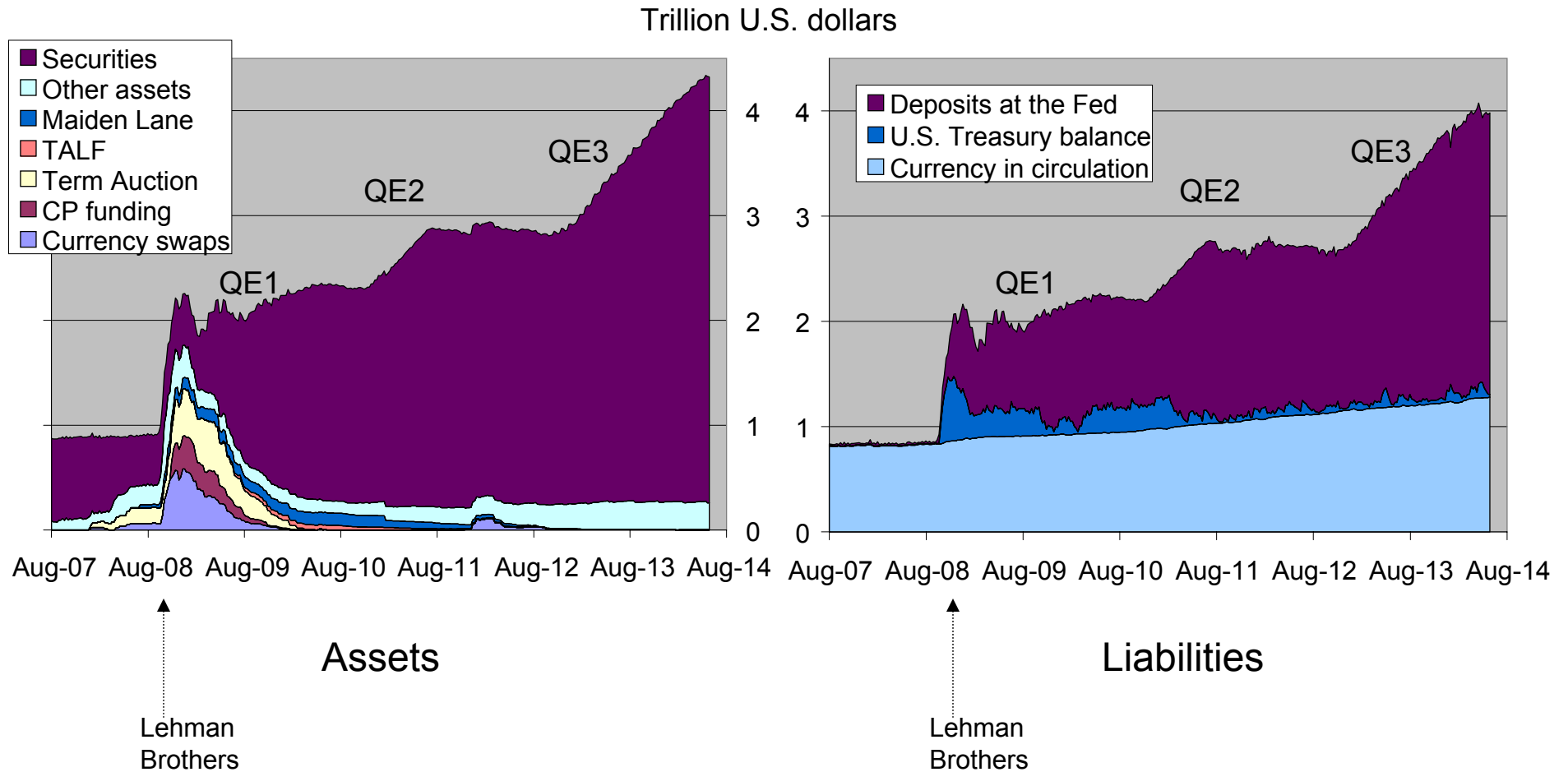
Federal Reserve securities holdings, monthly changes



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Source: Federal Reserve Board (H.4.1 Factors Affecting Reserve Balances of Depository Institutions); average monthly changes in U.S. Treasury notes and bonds (including TIPS), federal agency debt securities, and mortgage-backed securities (<http://www.federalreserve.gov/releases/h41/>)

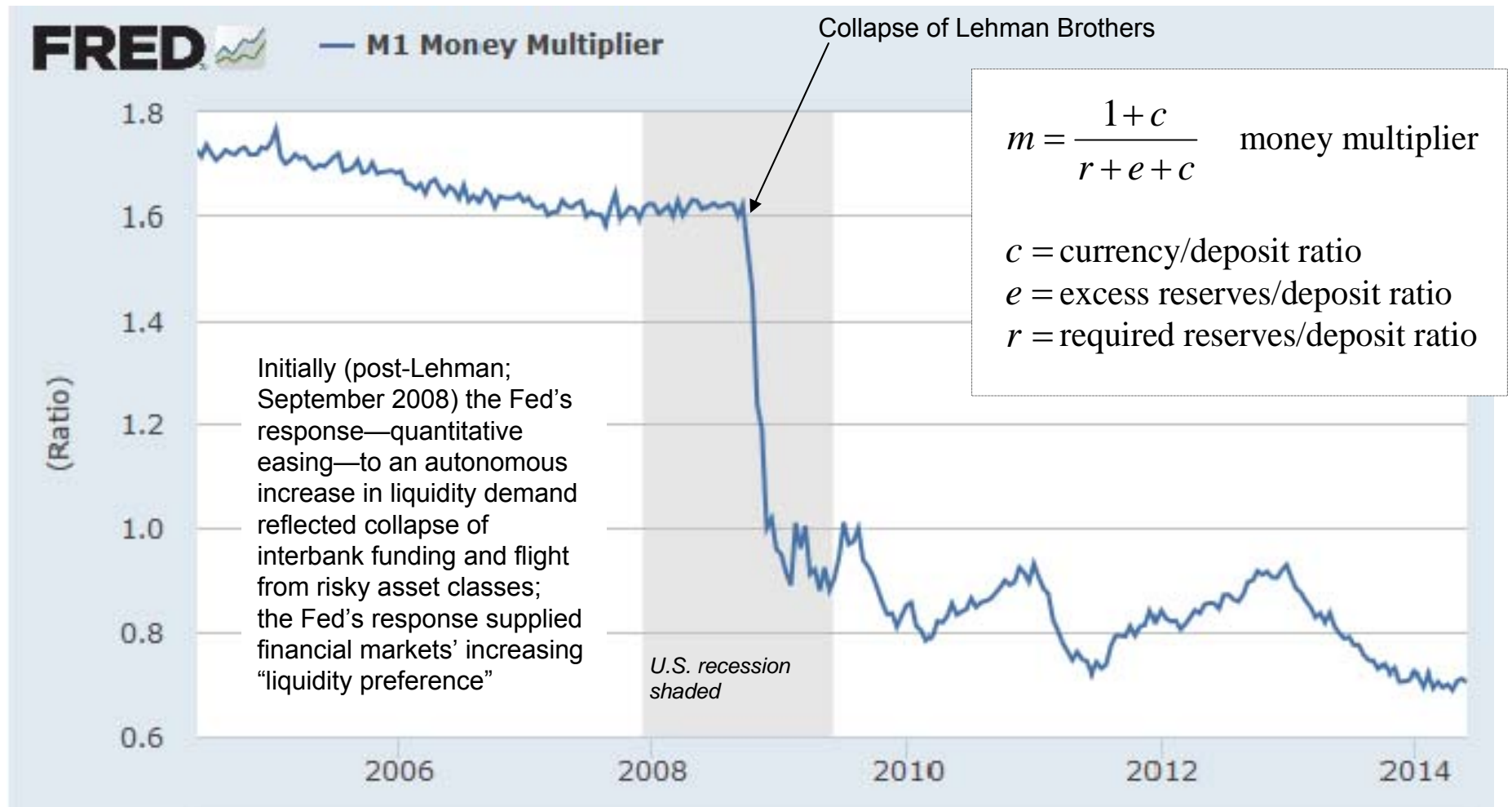
Federal Reserve balance sheet



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Source: Federal Reserve Board (http://www.federalreserve.gov/monetarypolicy/bst_recenttrends.htm)

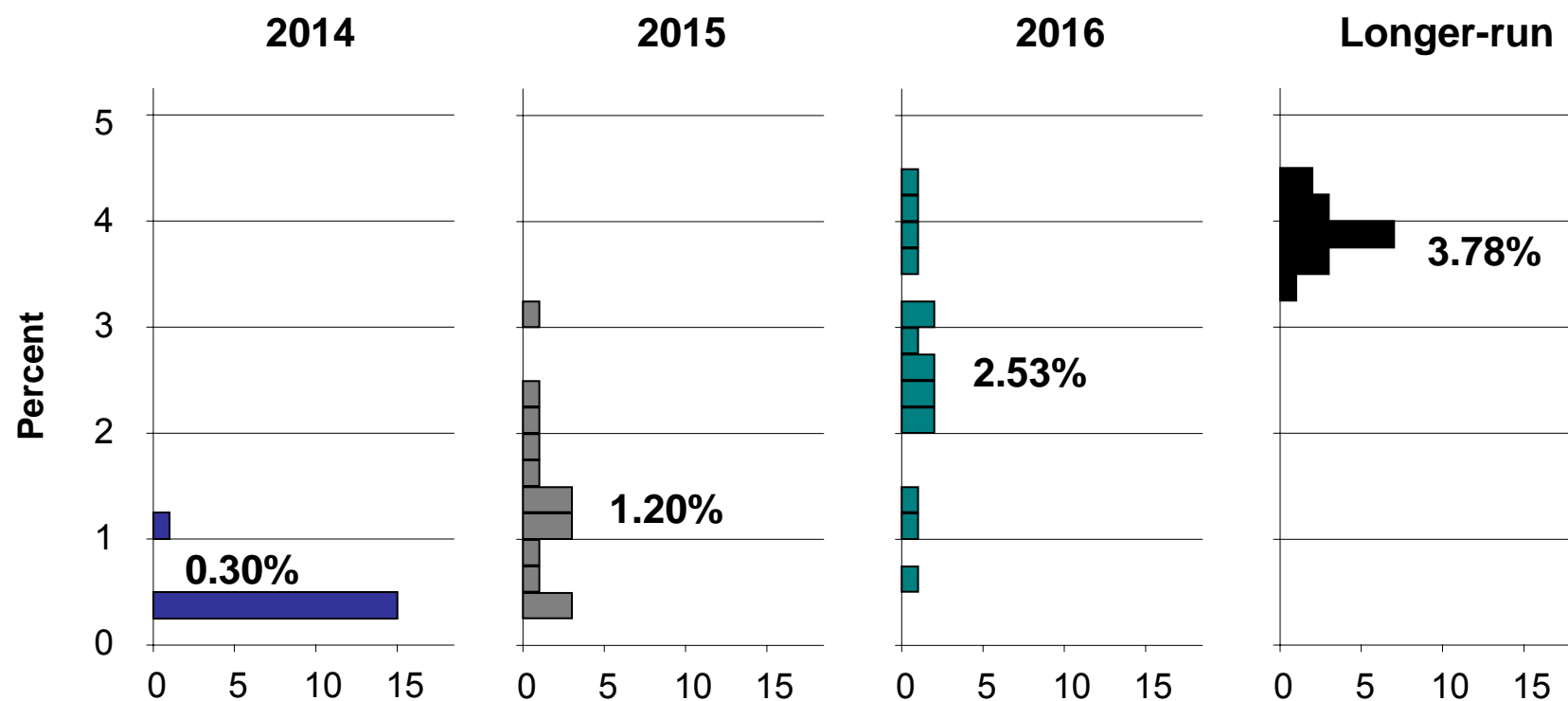
“Printing money?” Link from bank reserves to money stock—the multiplier—now *half* its starting value



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Source for graph: Federal Reserve Bank of St. Louis (<http://research.stlouisfed.org/fred2/series/MULT>)

FOMC forecasts for the fed funds target rate and weighted averages: June 18, 2014

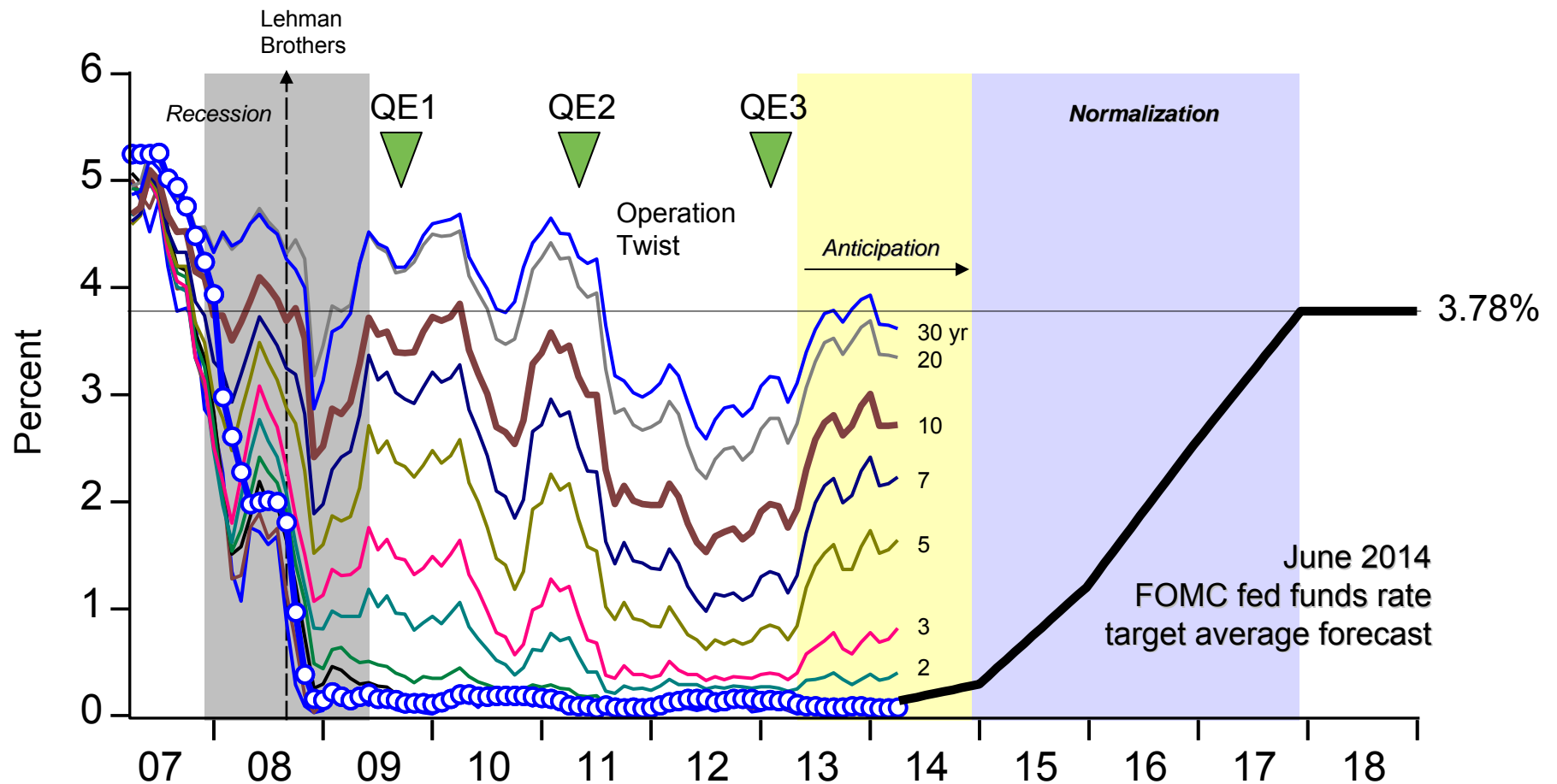


Number of observations (FOMC participants, total = 16)

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Source: Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy released with June 18, 2014 projections (<http://www.federalreserve.gov/monetarypolicy/files/fomcproptabl20140618.pdf>)

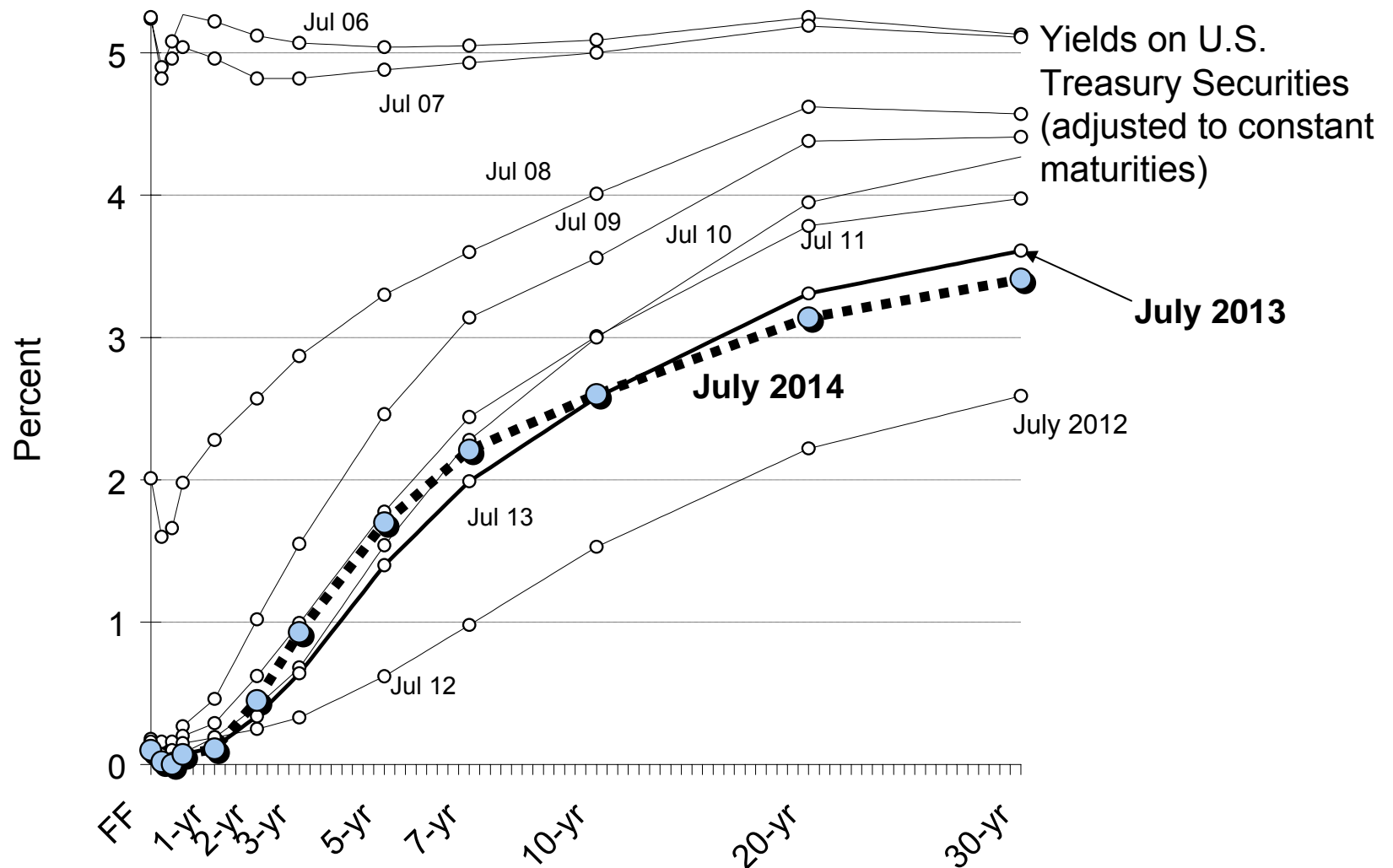
U.S. Treasury yields: interest rate normalization



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Source: Federal Reserve Board (H.15) and Chairman's FOMC Press Conference Projections Materials, June 18, 2014
<http://www.federalreserve.gov/monetarypolicy/files/fomcprojt20140618.pdf>

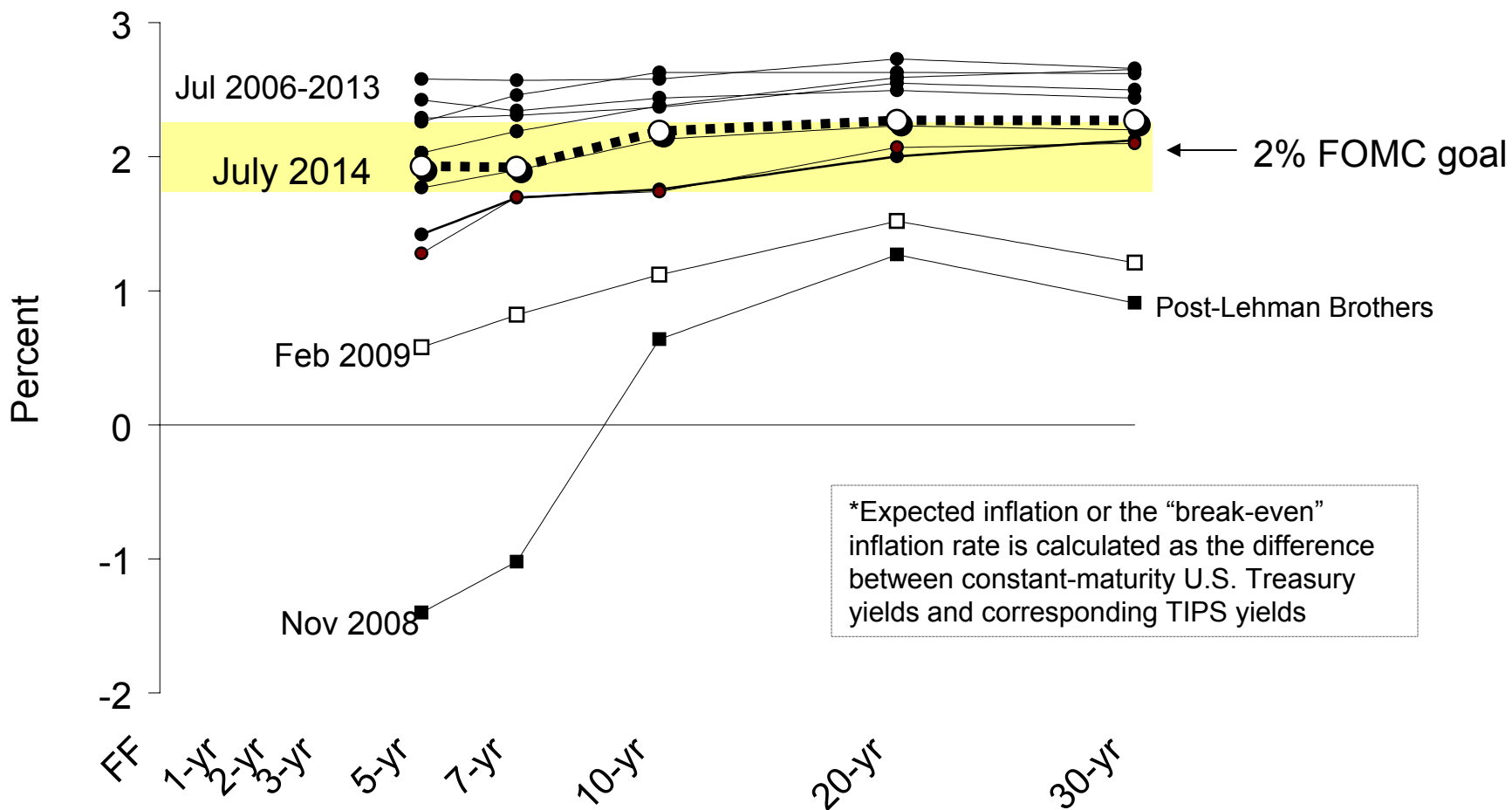
Approaching Fed monetary policy normalization: the yield curve is rotating—flattening



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Source: Federal Reserve Board (<http://www.federalreserve.gov/releases/h15/>)

Implied long-run inflation expectations well-anchored,* but keep your eyes on the 5-year break-even rate



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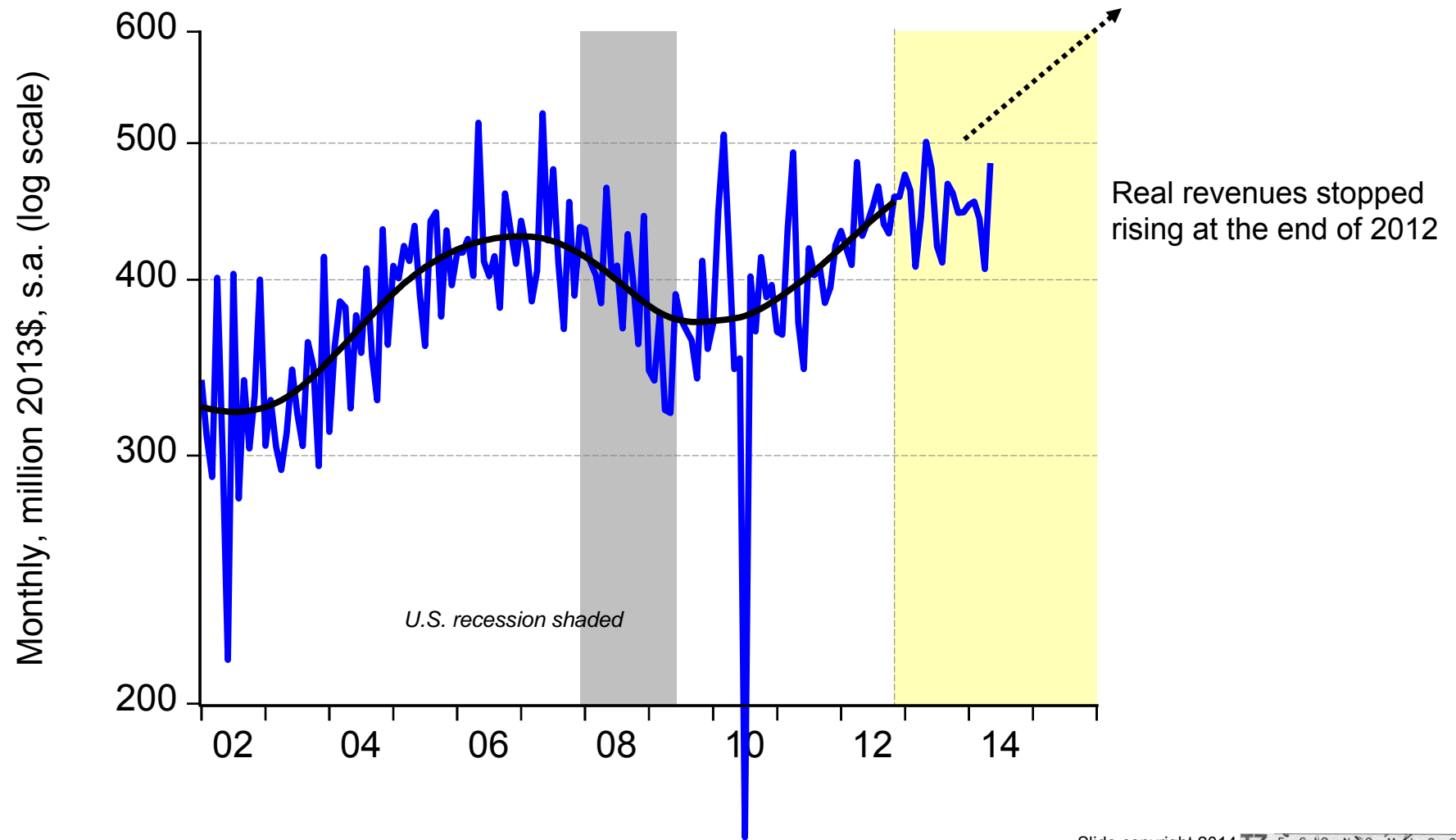
Source: Federal Reserve Board (<http://www.federalreserve.gov/releases/h15/>), calculations by TZE



How can the economy grow and taxes not grow? A mystery for the gubernatorial candidates

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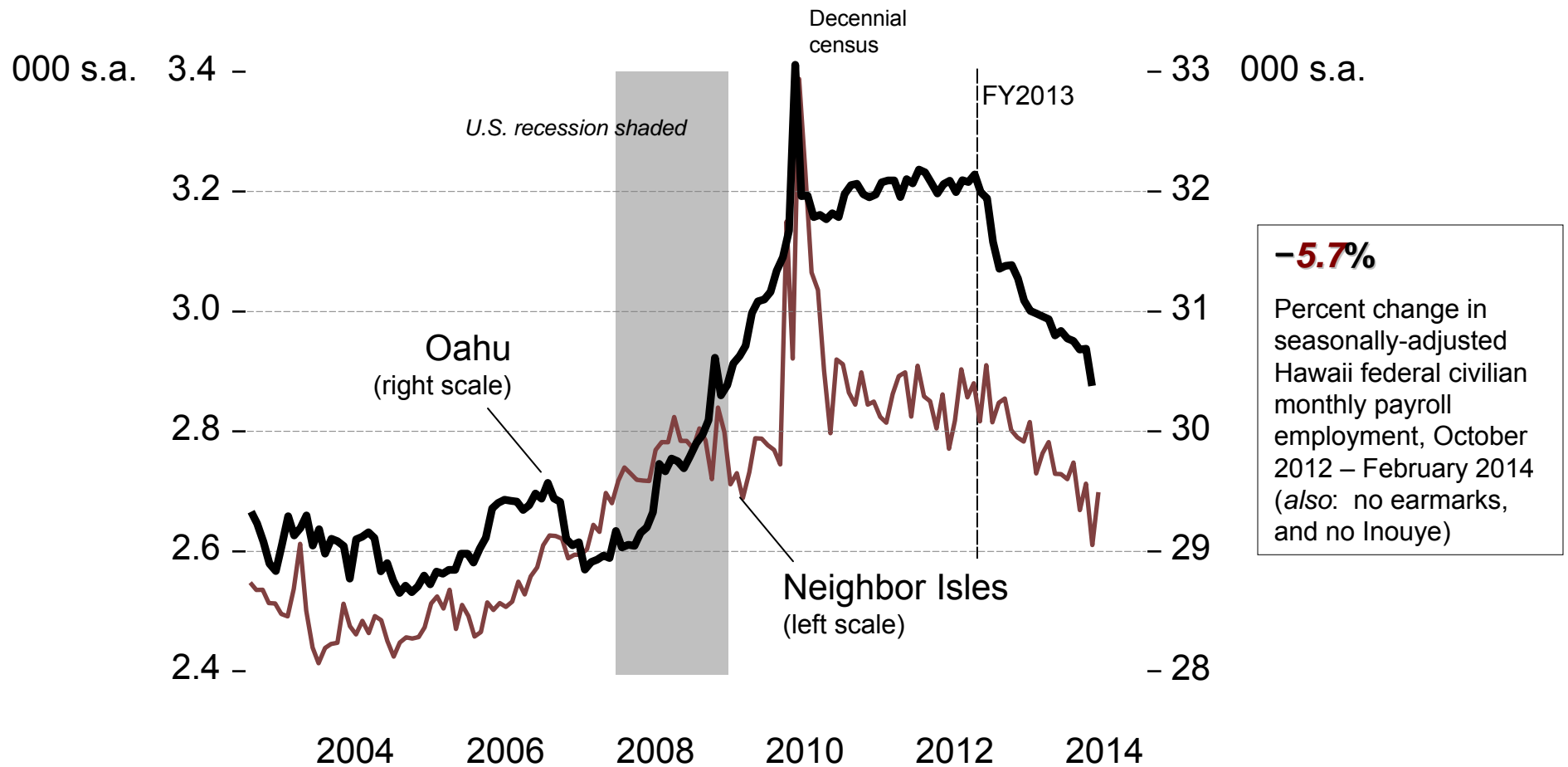
Sudden stop: Hawaii real General Fund tax revenue



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Source: Raw monthly data through May 2014 from Hawaii DoTAX; deflation using U.S. personal consumption expenditure deflator, seasonal adjustment using Census X-12 ARIMA filter, and trend extraction using Hodrick-Prescott filter through November 2012 by TZE

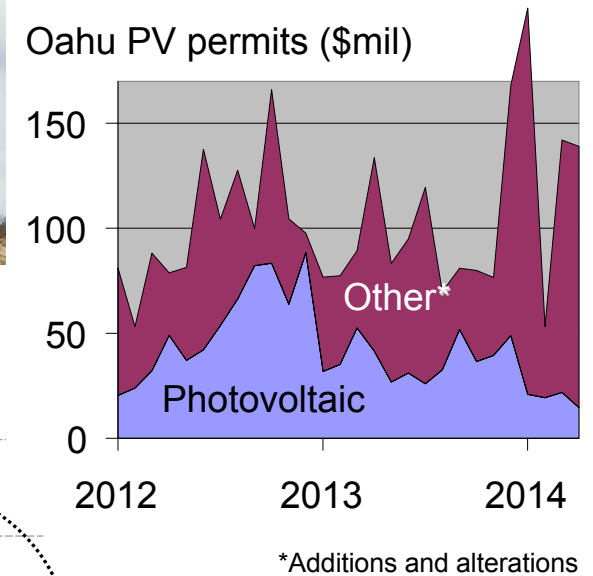
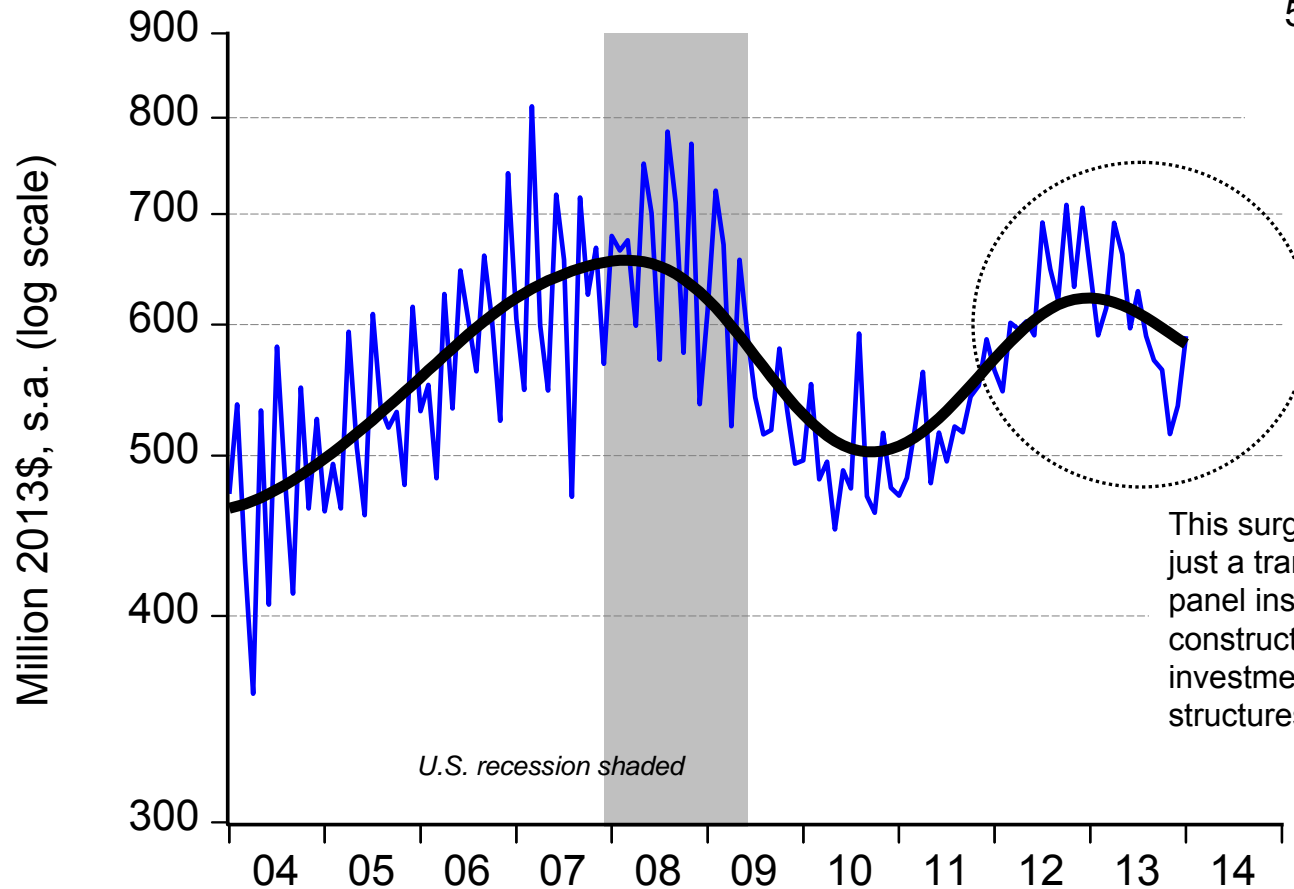
Hawaii civilian federal payroll employment dropped



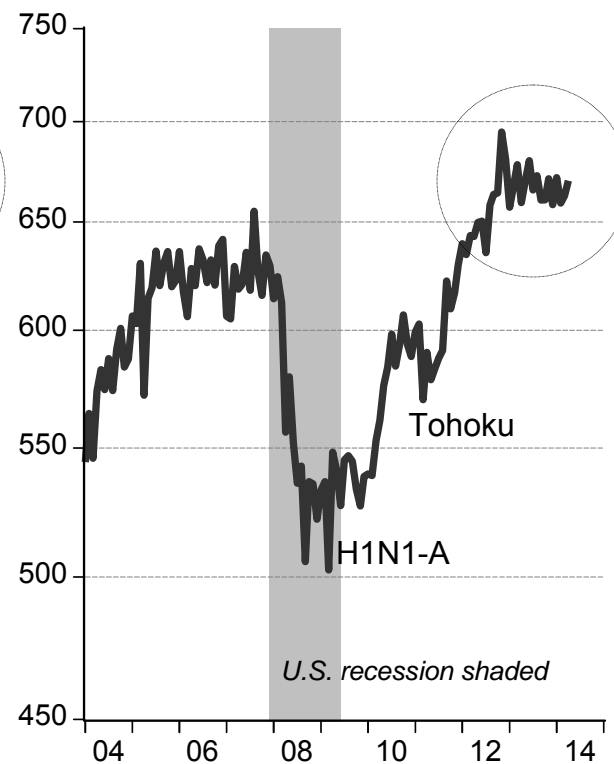
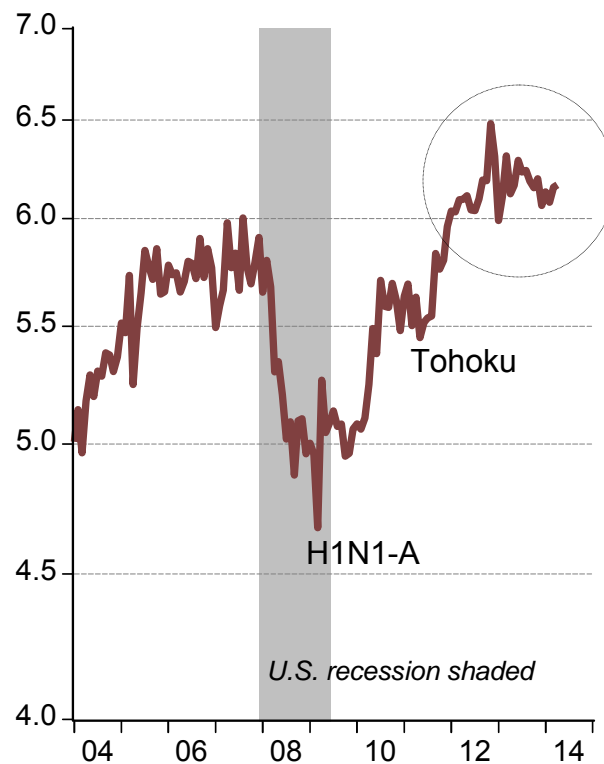
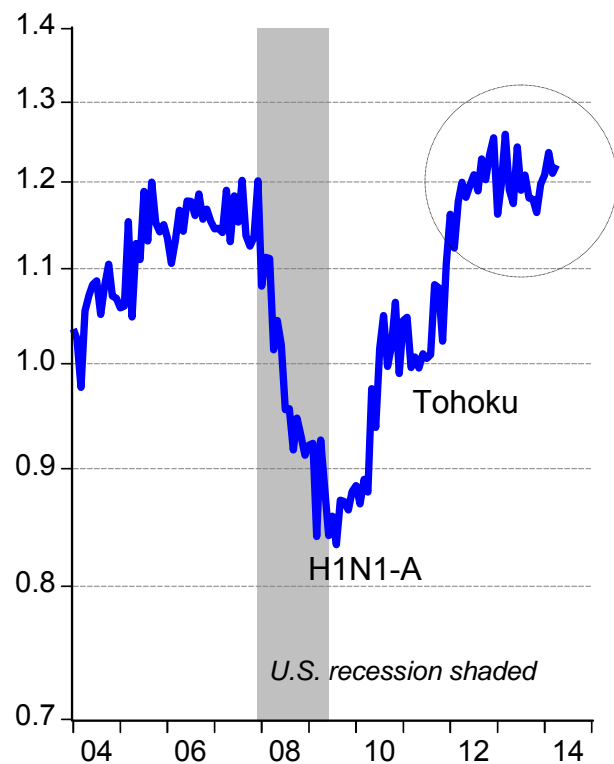
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Source: Hawaii DLIR, Hawaii DBEDT; monthly averages through May 2014, seasonal adjustment by TZE

Statewide real Hawaii contracting receipts *declining*



Recent revisions don't change sideways movement of recent tourism aggregates (all s.a., log scales)



Visitor expenditure
(billion 2013\$)

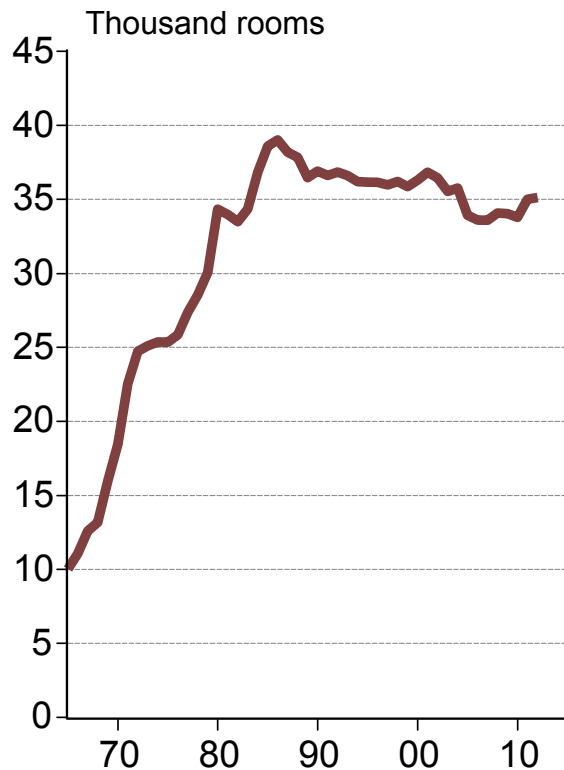
Visitor days
(million)

Visitor arrivals
(thousand)

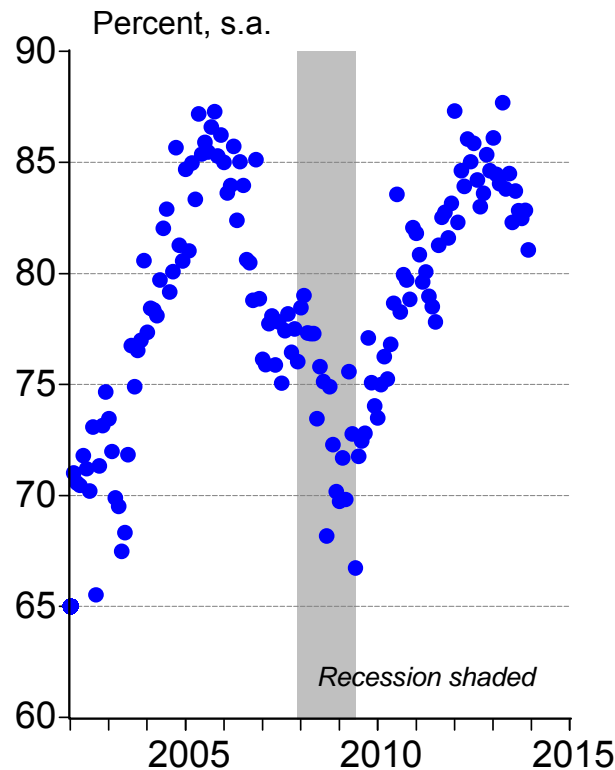
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Source: Hawaii Tourism Authority, Hawaii DBEDT, includes 2013-2014(Apr) revisions; seasonal adjustment and deflation by TZ Economics

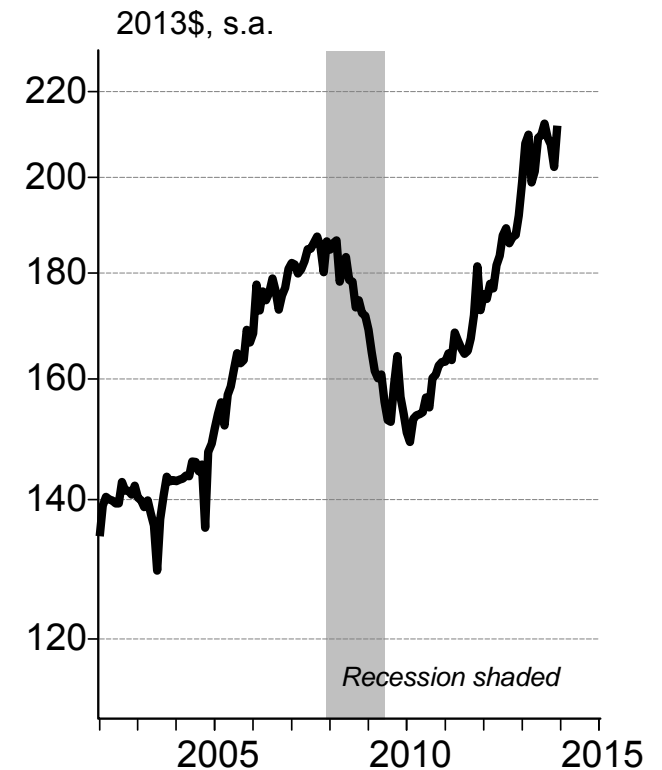
Oahu has no more lodging than 25 years ago—capacity is constrained—so, real room rates at all-time highs



Oahu visitor plant inventory
(including vacation rentals)



Oahu hotel occupancy

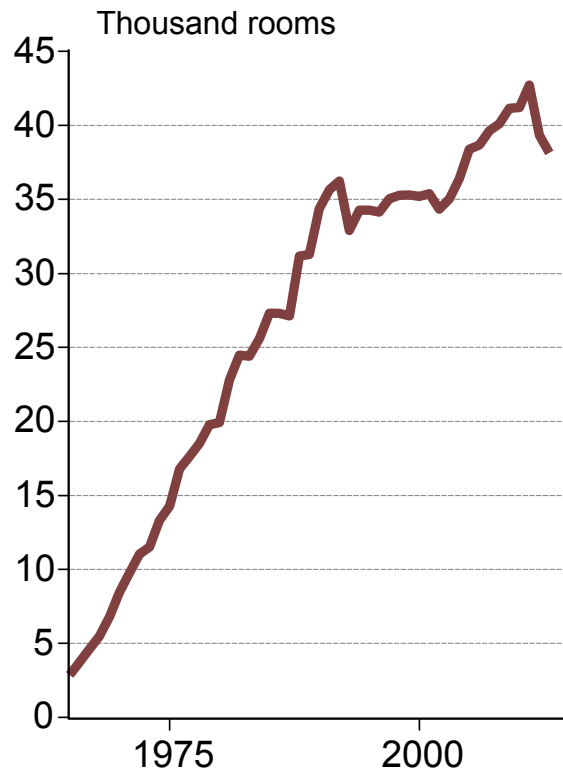


Oahu real average daily room rates

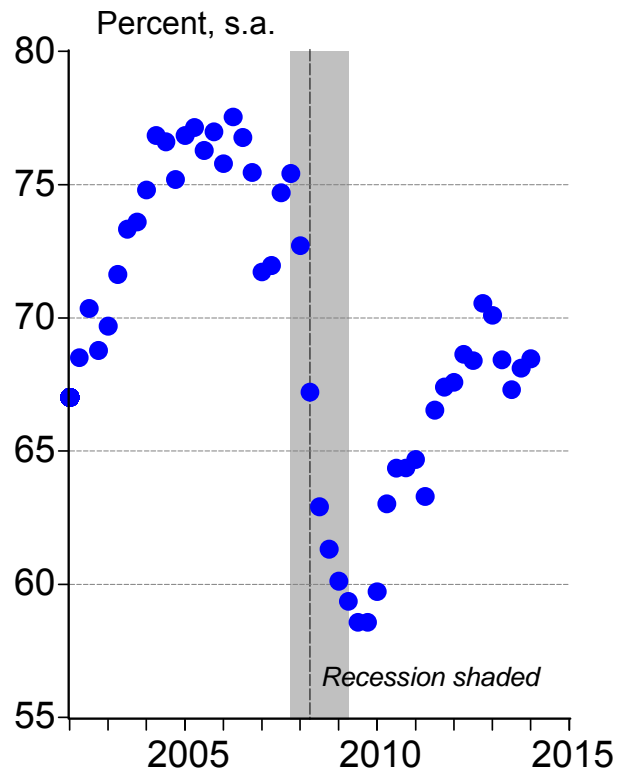
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Source: HTA, Hawaii DBEDT, Hospitality Advisors LLC, BLS; seasonal adjustment using Census X-12 ARIMA filter and deflation by TZE

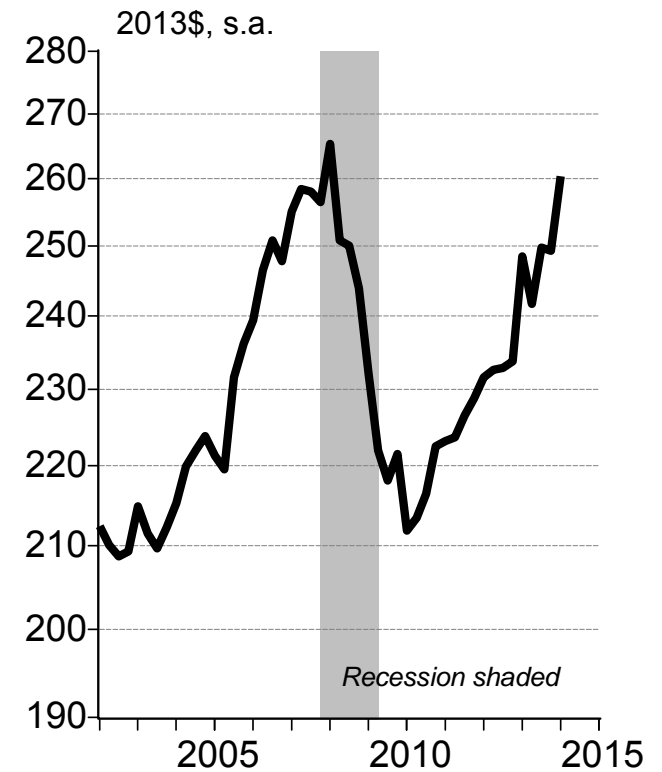
Neighbor Isle lodging has compressed—capacity is constrained—again, real room rates near highs



Neighbor Isle visitor
plant inventory
(including vacation rentals)



Neighbor Isle hotel
occupancy



Neighbor Isle real
average daily room rates

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Source: HTA, Hawaii DBEDT, Hospitality Advisors LLC, BLS; seasonal adjustment using Census X-12 ARIMA filter and deflation by TZE



Near-term economic recap

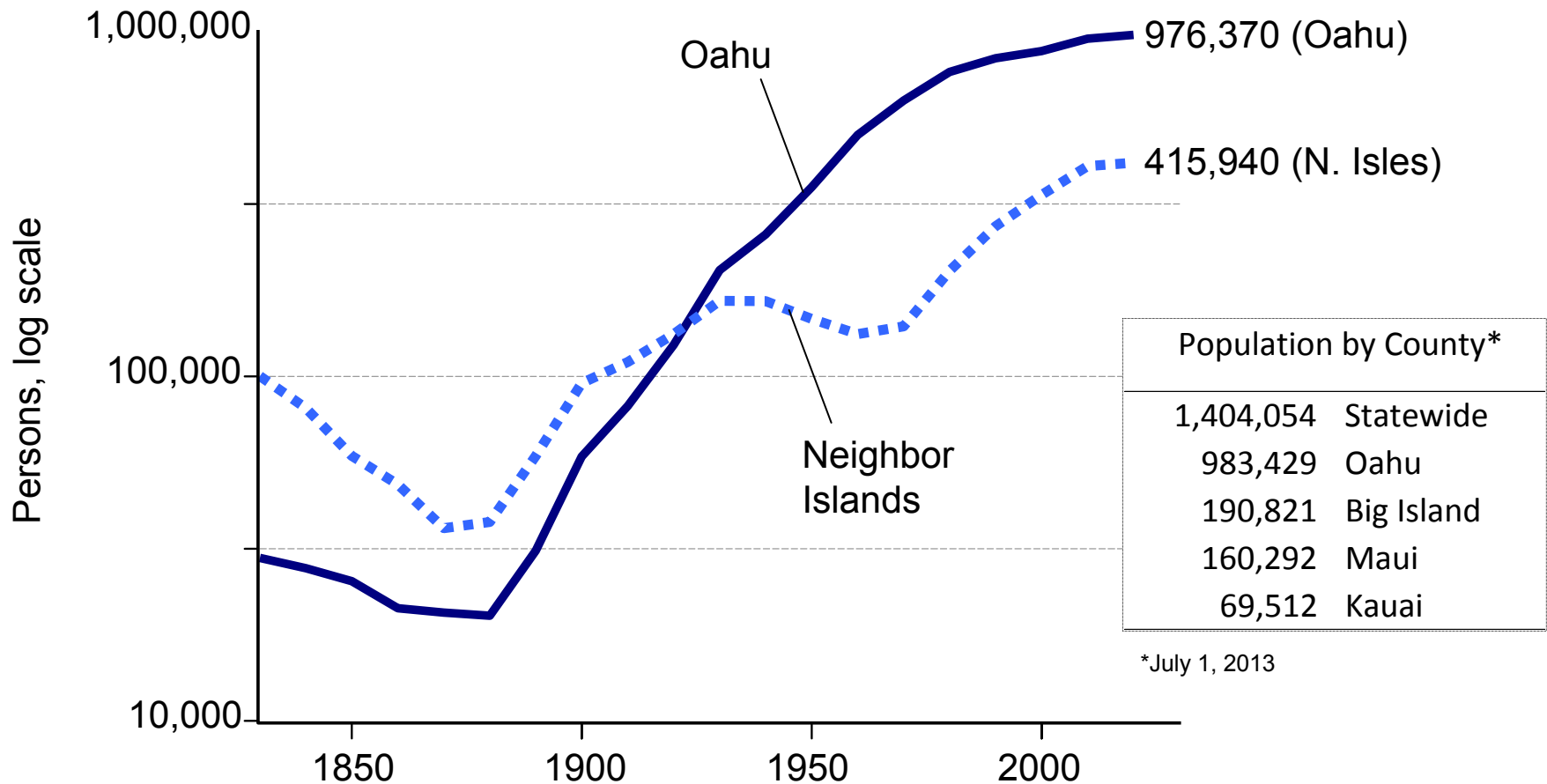
- DBEDT, UHERO forecasts for 2-3 percent real economic growth at odds with recent outcomes: no real state general fund revenue growth since 2012
- In 2013 Hawaii hit the Trifecta:
 1. Federal government down (civilian and defense are 15% of Hawaii GDP)
 2. Construction spending falling (mostly PV equipment, not buildings)
 3. Tourism no growth (another 15% of Hawaii GDP)
- Hawaii tourism supply-constrained, homebuilding suppressed, for 20+ years



Longer-run population and housing trends

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Is Hawaii population going to grow or are we done?

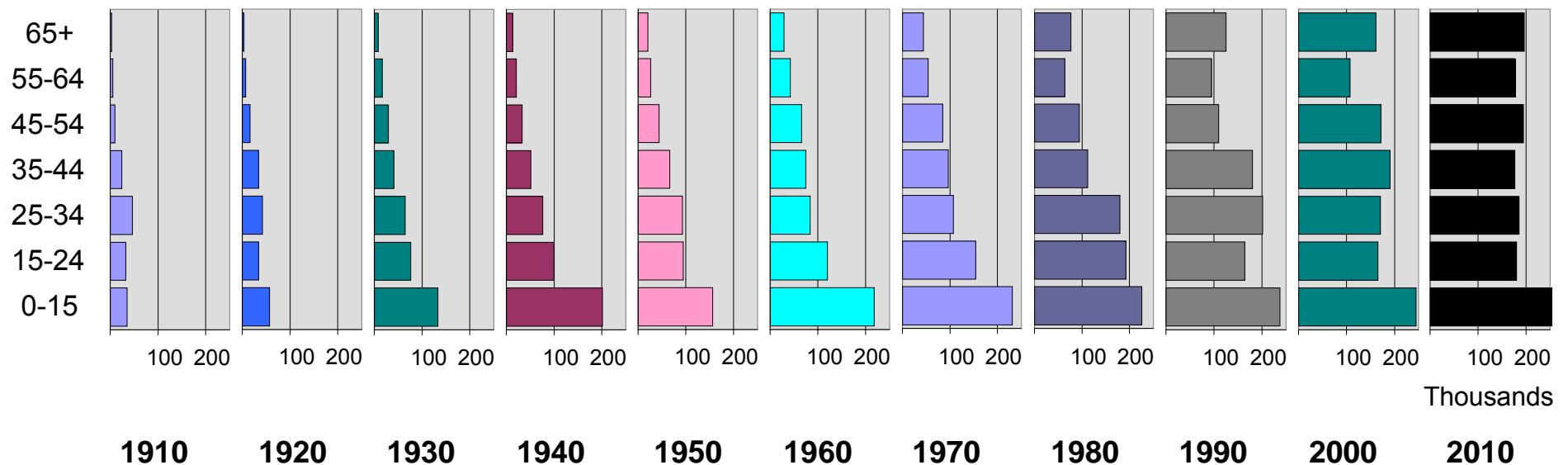


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Sources: Robert C. Schmitt, *Historical Statistics of Hawaii* (1976), University of Hawaii Press; Bureau of the Census, U.S. Department of Commerce; Hawaii DBEDT (http://files.hawaii.gov/dbedt/census/popestimate/2013_county_char_hi_file/2013_popest_sumtab.xls)

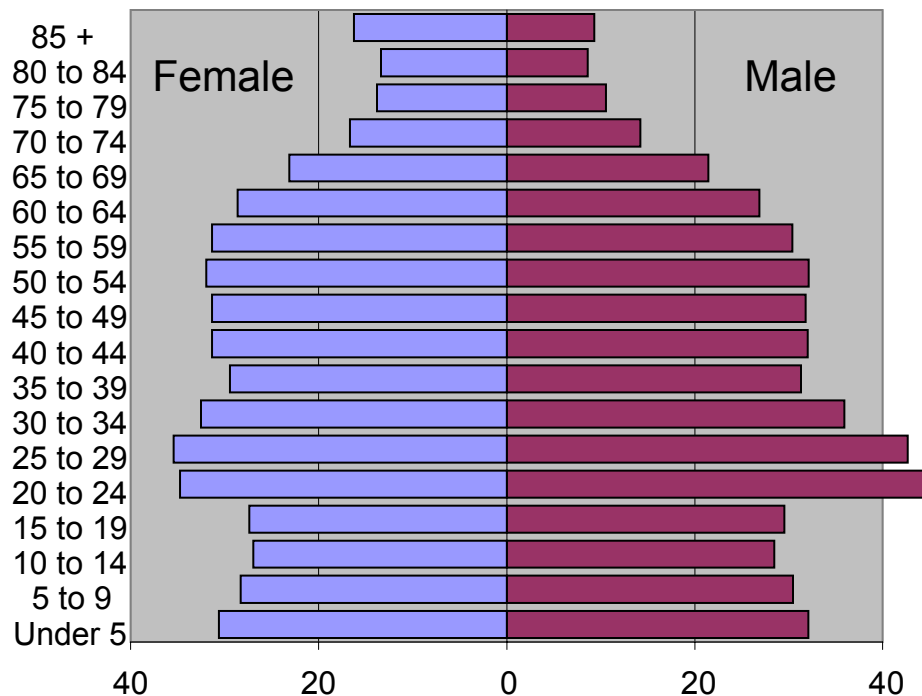
Hawaii's legacy of declining fertility + aging: more even distribution of population across cohorts

Hawaii population by age cohort



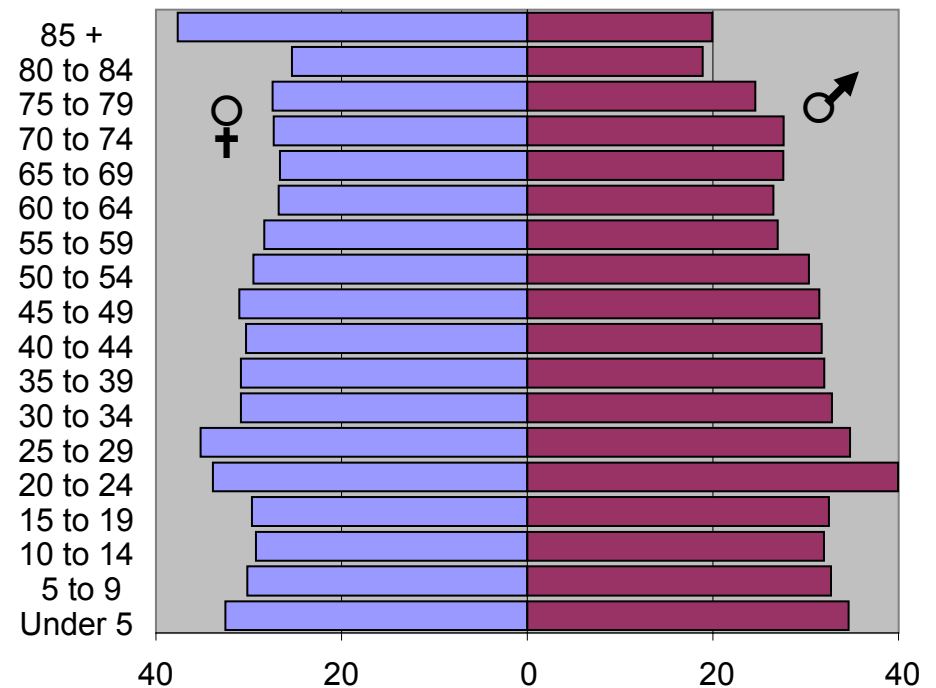
Oahu population by 5-year age cohort, 2012 → 2030: substantial expansion of elderly share

2012



Thousands by 5-year cohort

2030



Thousands by 5-year cohort

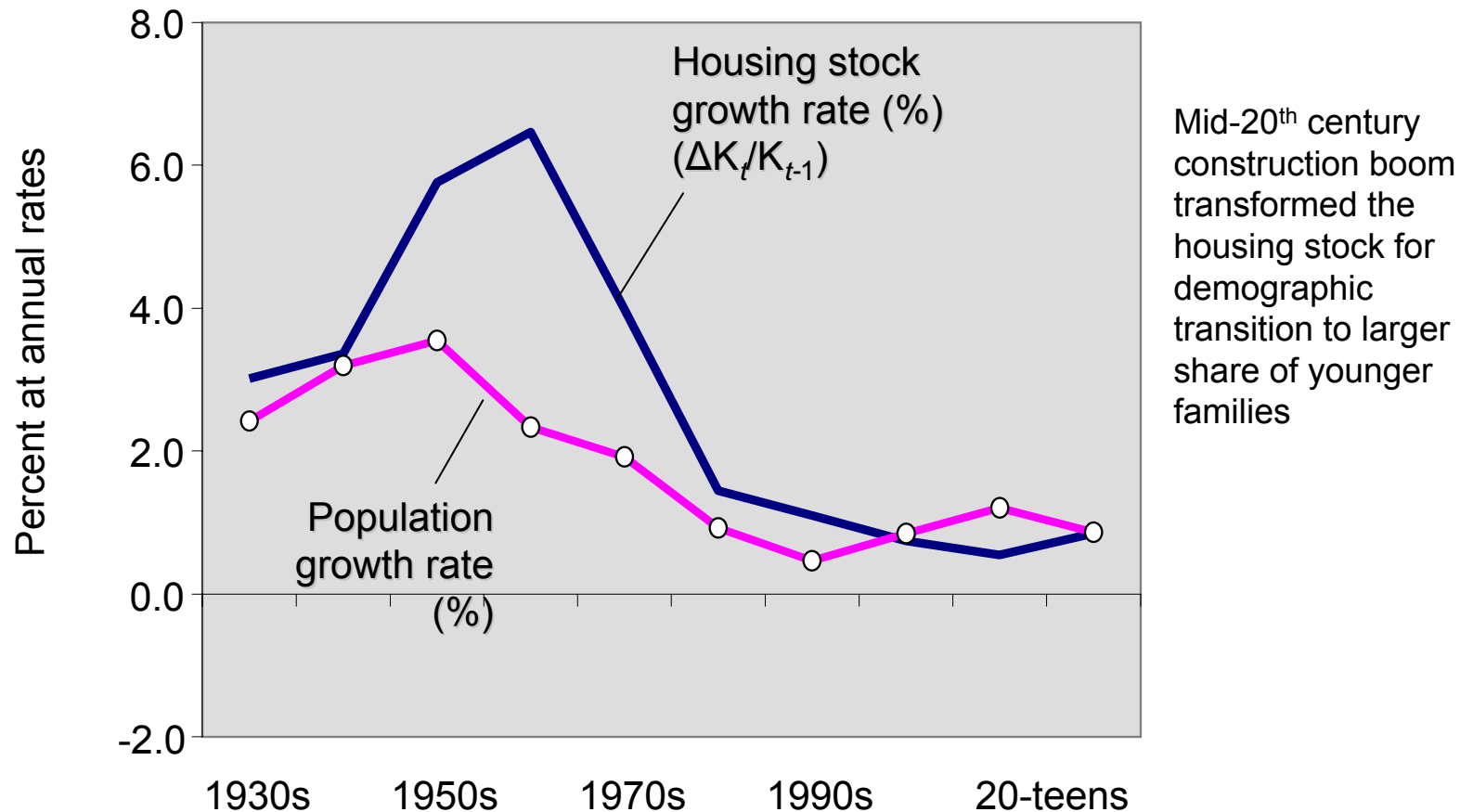
Hawaii actual and projected population growth rates by age group from 2010 through 2025

*(Growth rates in percent
or as noted)*

	Under 60	60+	Multiple
2010-2013 (actual)	0.4%	3.1	7.2x
2015-2025 (projected)	0.3	2.5	8.3x
2010-2025 (projected)	0.2	2.8	13.6x

Source: Hawaii DBEDT compilation from U.S. Census Bureau, Population Division, "Annual Estimates of the Resident Population by Single Year of Age and Sex Population for the United States, States, and Puerto Rico Commonwealth: April 1, 2010 to July 1, 2013 - Hawaii" (PEPSYASEX) (June 26, 2014) (<http://www.census.gov/popest/data/datasets.html>), Hawaii DBEDT (March 2012) *Population and Economic Projections for the State of Hawaii to 2040: DBEDT 2040 Series* (http://files.hawaii.gov/dbedt/economic/data_reports/2040-long-range-forecast/2040-long-range-forecast.pdf)

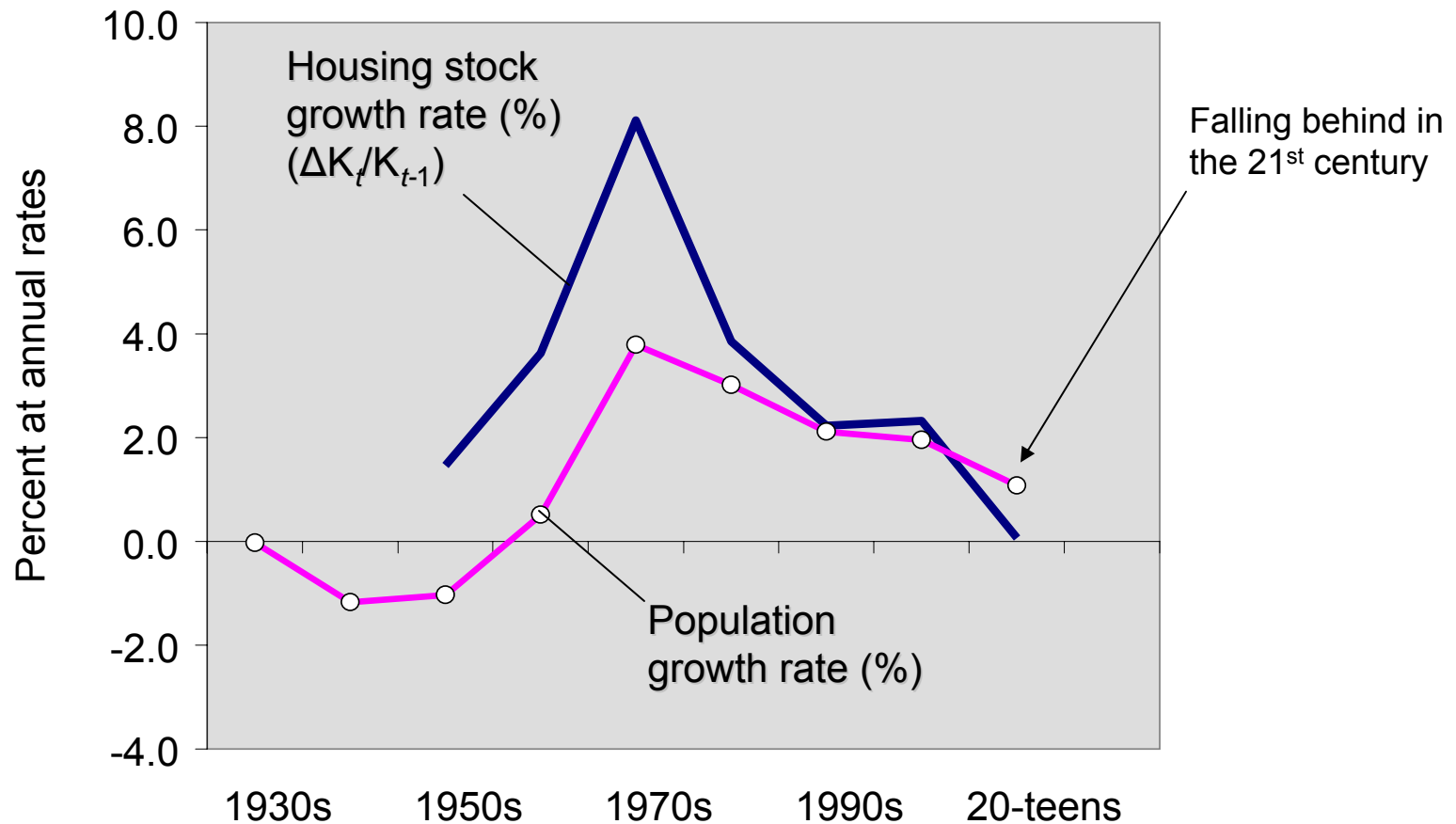
Oahu population growth rate in recent decades outstripped net new housing formation



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Source: U.S. Bureau of the Census, Hawaii DBEDT (various), Robert C. Schmitt *Historical Statistics of Hawaii* (1976) UH Press

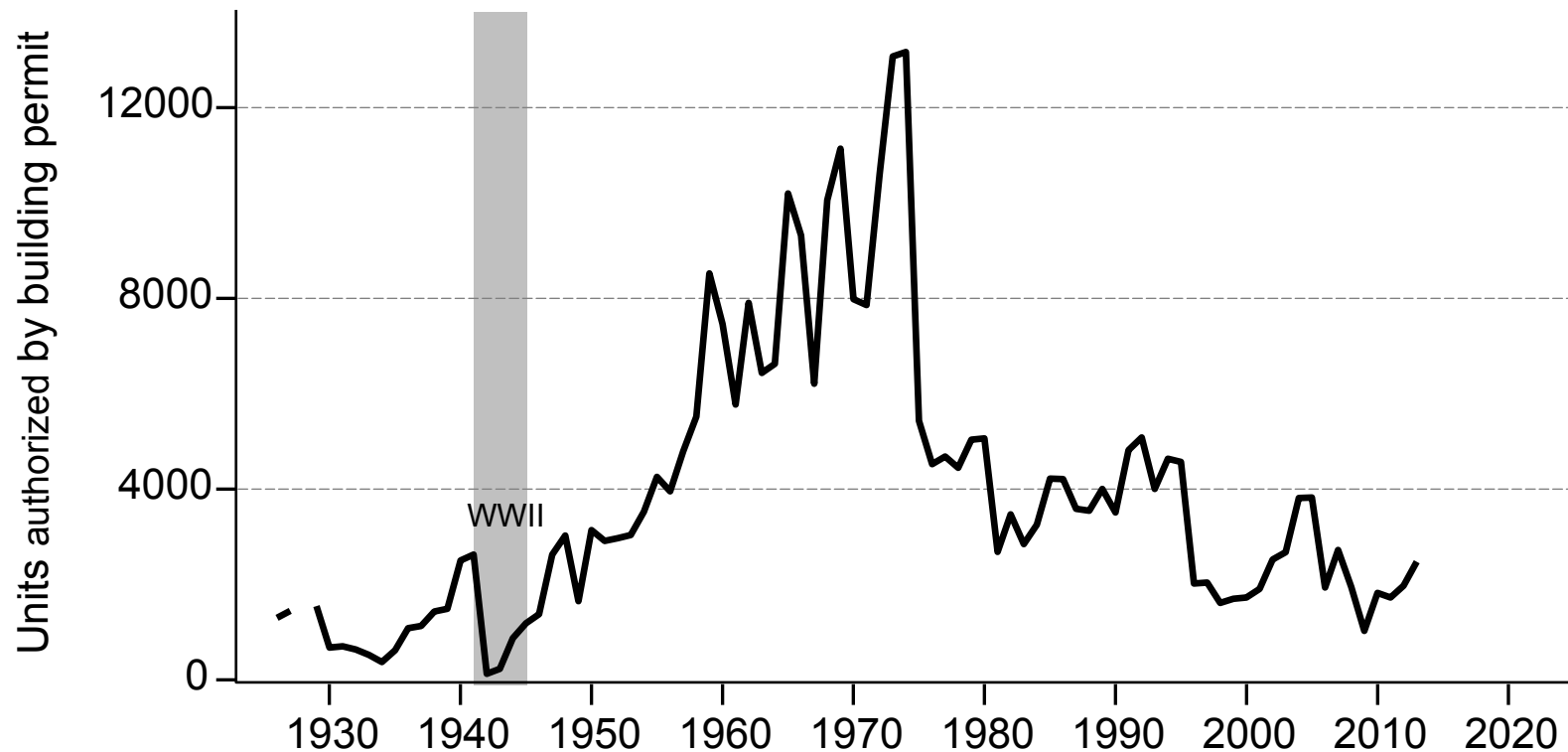
Neighbor Isles: population growth > housing formation



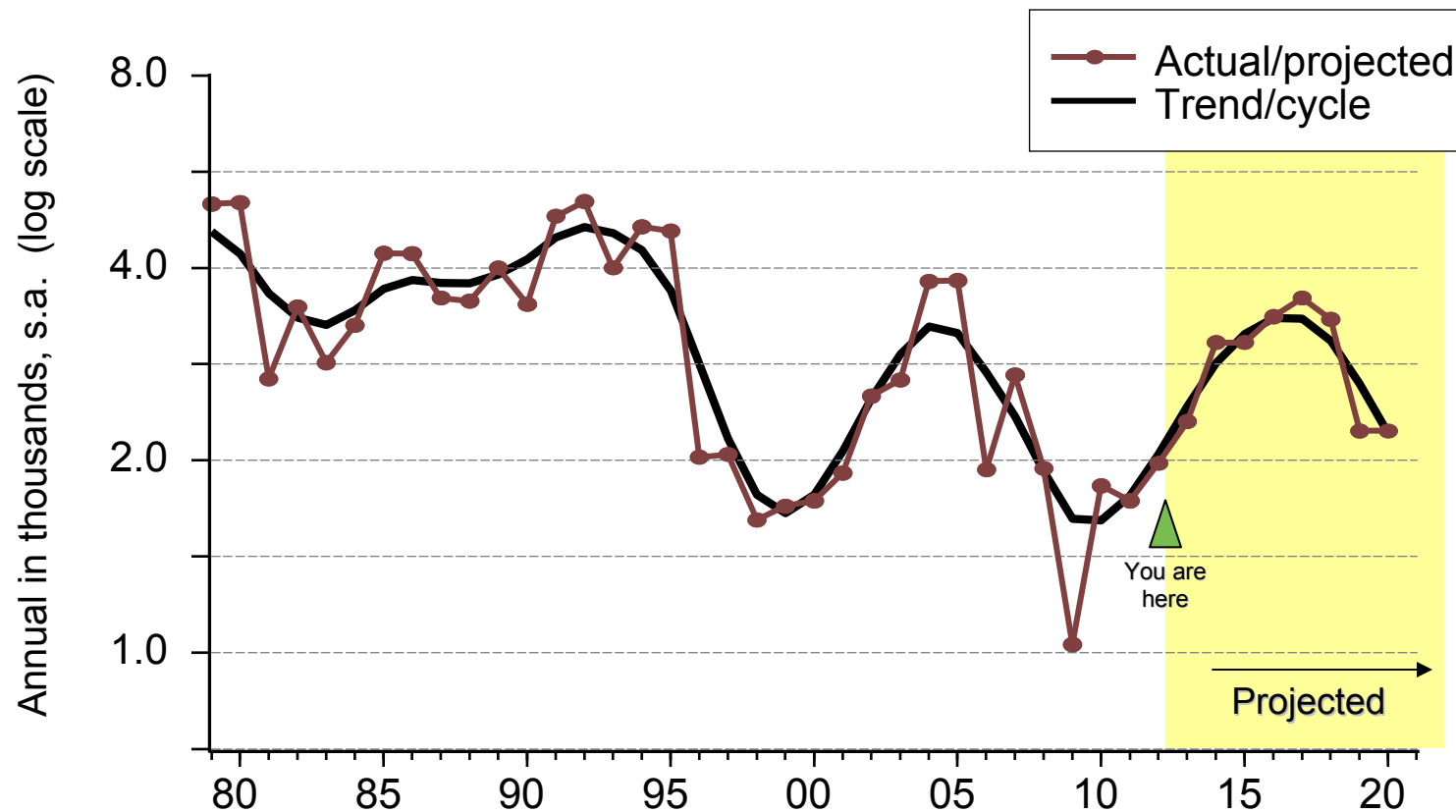
Slide copyright 2014 TZ E C VO N O M I C S

Sources: Robert C. Schmitt *Historical Statistics of Hawaii*, Hawaii DBEDT (http://dbedt.hawaii.gov/economic/county_report/), Bank of Hawaii *Annual Economic Report* (various), annual TZE data through 2012

Homebuilding on Oahu now recovering, but last five years' new units still lowest production since WWII



My residential construction forecast mid-2013: Oahu new housing units authorized by building permit

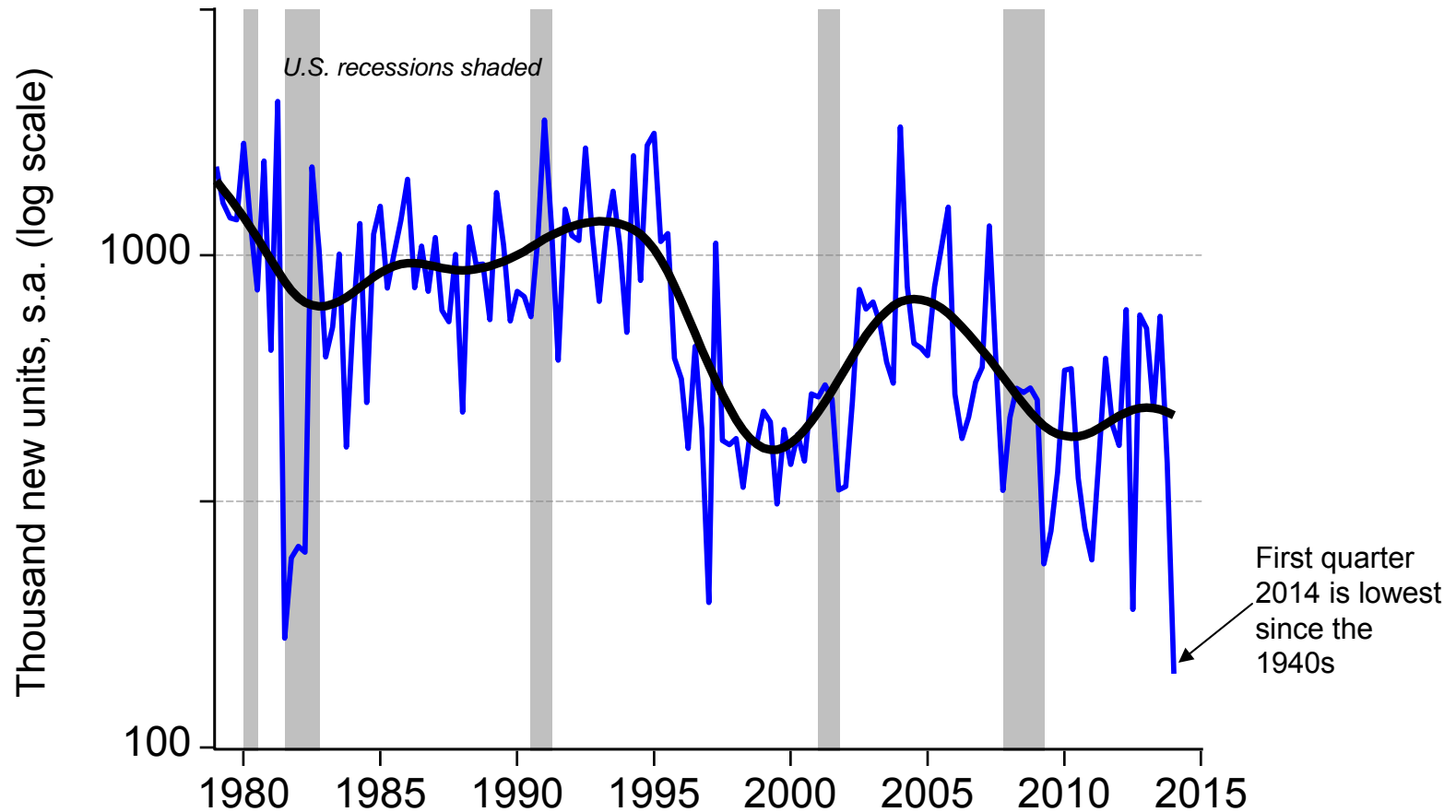


Projection assumes that existing home sales prices rise 15% annually 2014-2017 to approximately \$1 million (SF), \$530k (condo), long-term Treasury bond yields rise to 4% by 2015, production of 5,500 high-rise condominium units in Kakaako is completed but absorption reduces notional annual production amounts at Koa Ridge (300 units) and Ho'opili (500 units) by one-third in 2017 and two-thirds in 2018 at the end of a U.S. economic expansion of average duration for the post-1970s era (eight years)

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Sources: County building departments, Hawaii DBEDT, TZE database; trend extraction by TZE

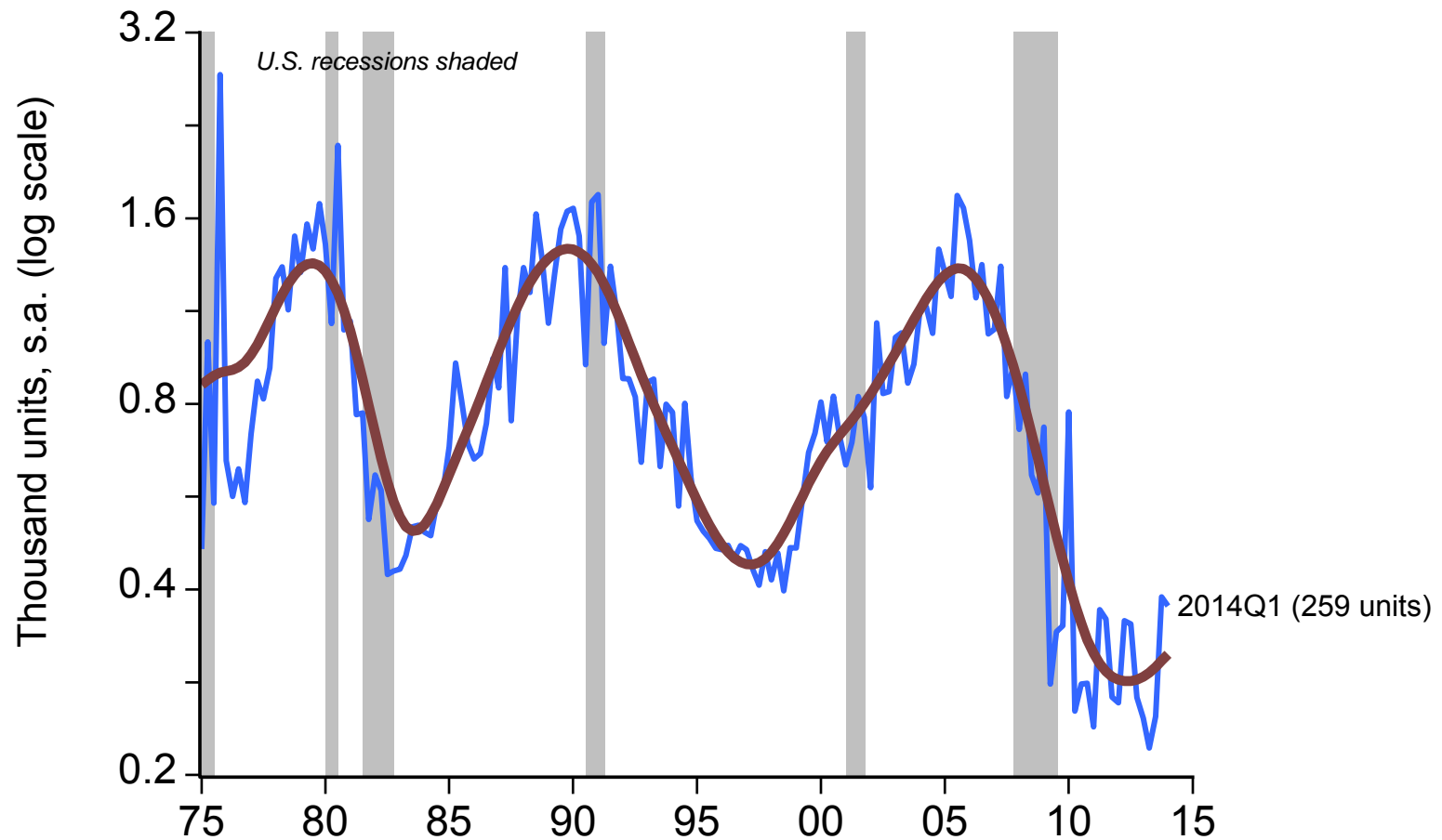
Reality: Oahu homebuilding upswing faltering



Slide copyright 2014 TZ E C VO N O M I C S

Sources: County building departments, Hawaii DBEDT, quarterly data through first quarter 2014; seasonal adjustment, trend extraction by TZE

Reality: Neighbor Island quarterly new housing units authorized by building permit also weak



Slide copyright 2014 TZ E C VO N O M I C S

Sources: Hawaii DBEDT (<http://dbedt.hawaii.gov/economic/qser/selected-county-tables>); seasonal adjustment and cycle/trend extraction by TZE



Summarizing

- Stop counting cranes, nobody even knows what “a lot” is, any more
 1. “So much” Oahu homebuilding only WWII was worse than the last five years
 2. New household formation has outstripped homebuilding for two decades
 3. There are fewer tourist lodging units on Oahu than twenty years ago
- Housing market conditions are balanced, but appreciation is less than expected
 1. Local economy hit the wall in 2013, home prices reflected momentum loss
 2. Installing PV or buying a diesel generator at Lowes is not construction
- Extending local economic expansion requires an investment resurgence
 1. New homebuilding should be leading, but it isn’t—not yet anyway
 2. Public infrastructure investment was *absolutely* larger 50 years ago
 3. Economic outlook is less robust than is widely perceived

Mahalo!

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Data LDEO-Columbia, NSF, NOAA
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Data SOEST/UHM

Google earth

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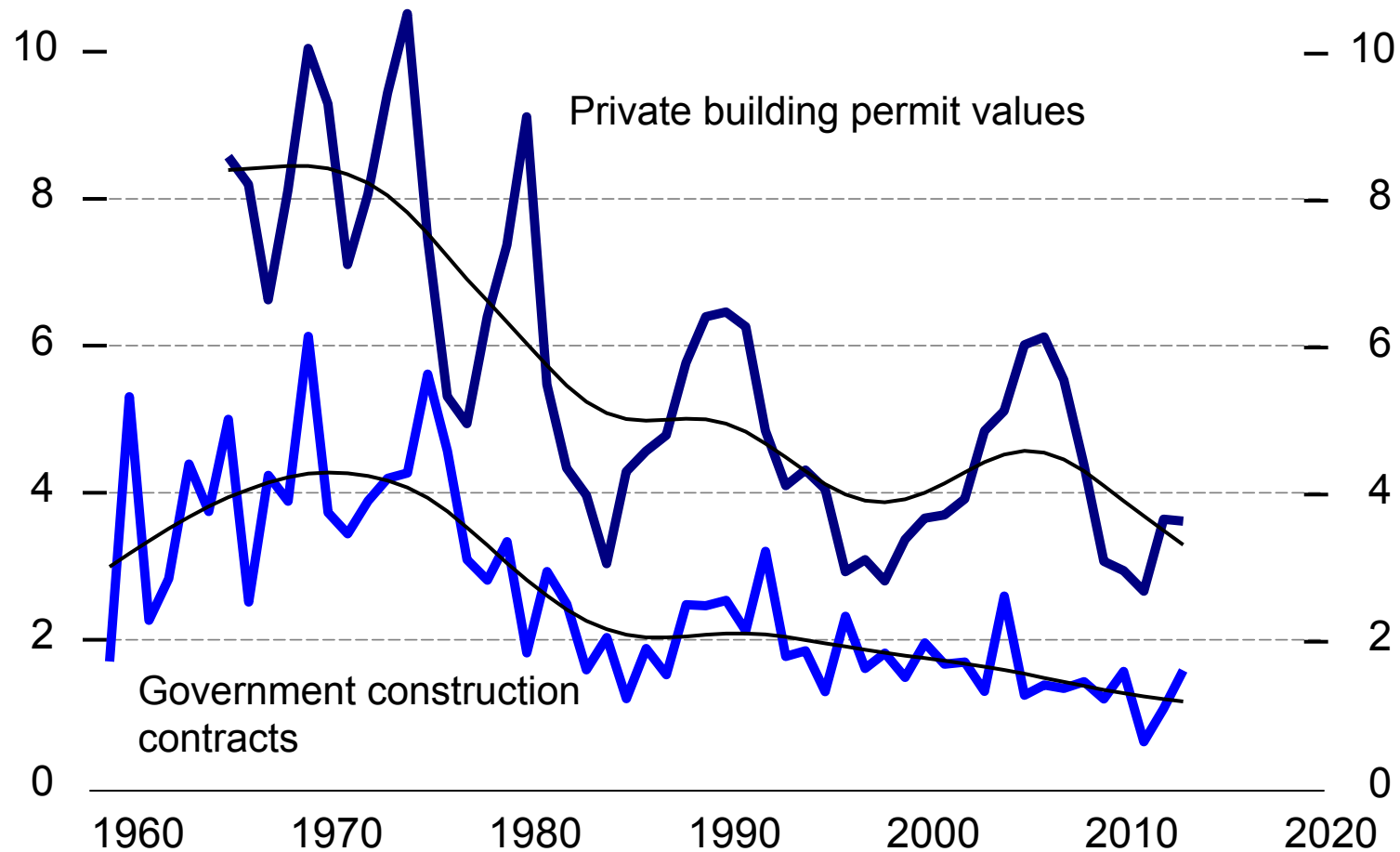
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Appendix 1. more construction details

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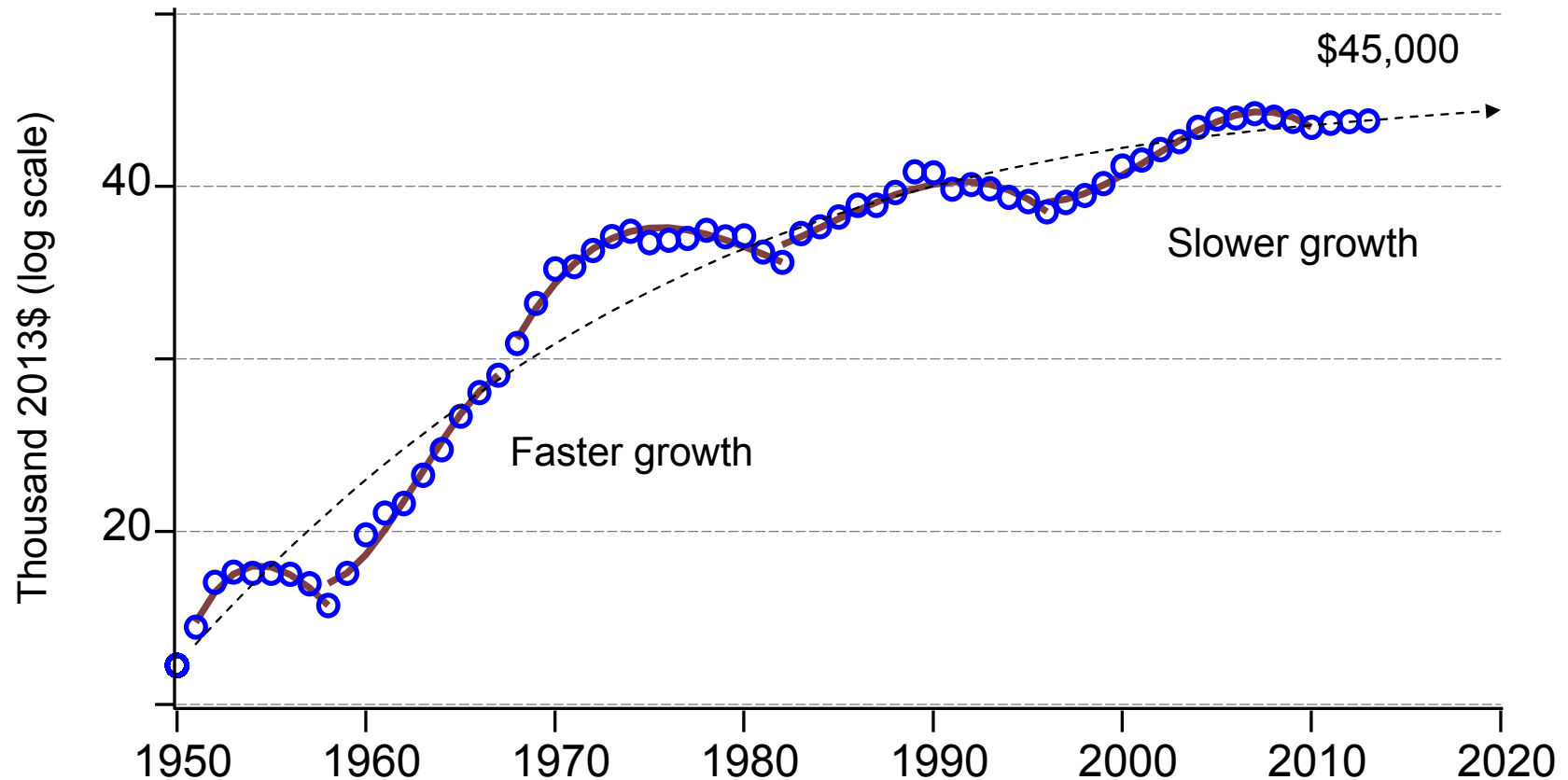
Falling incremental-capital ratios: annual private and public construction as a percent of Hawaii GDP



Slide copyright 2014 TZE E C VO N O M I C S

Source: TZE database, county building departments, Hawaii DBEDT, U.S. Bureau of the Census; deflation and trend/cycle extraction by TZE

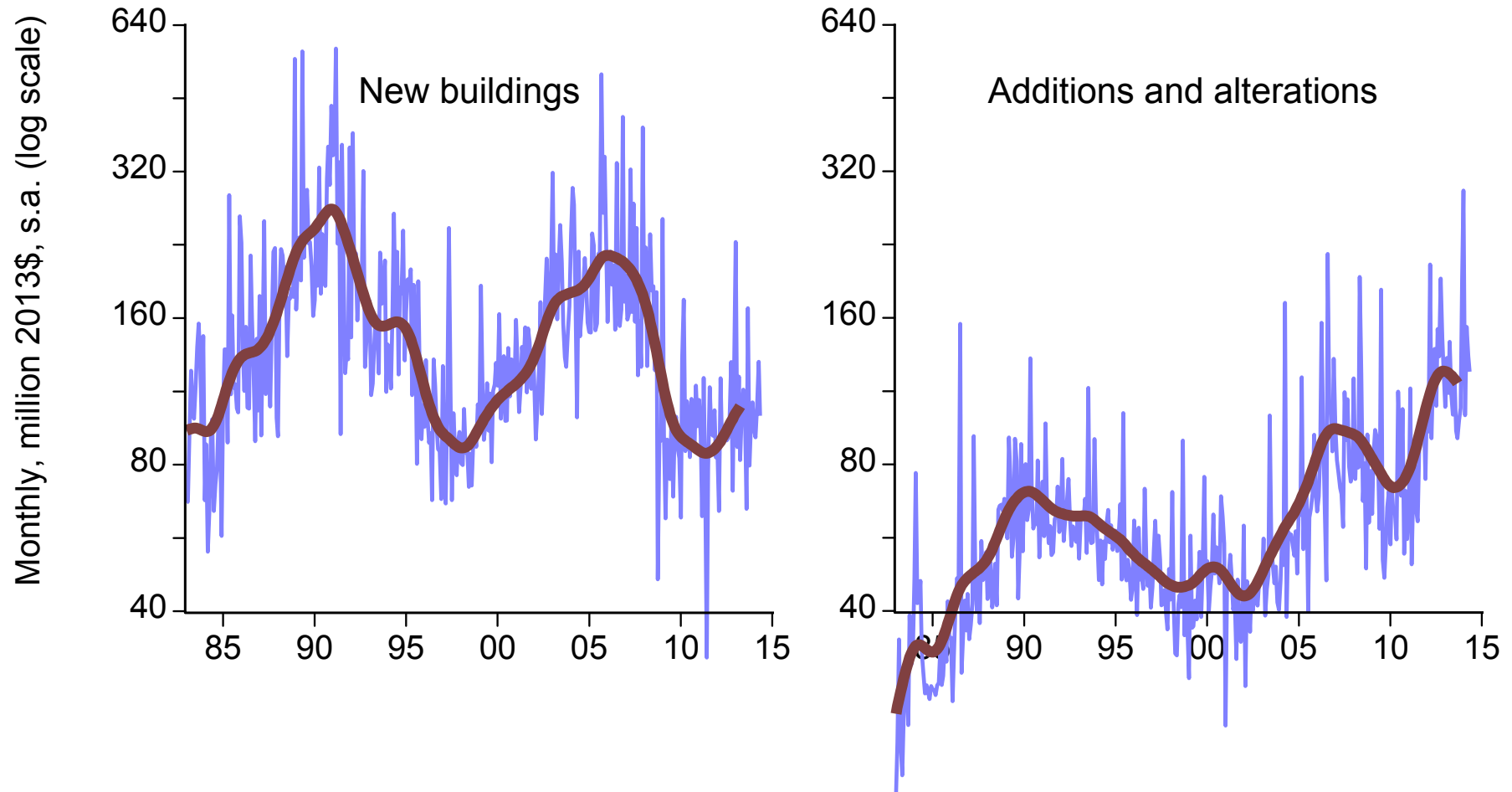
Hawaii real per capita personal income: decline in incremental-capital ratio matches growth slowdown



Slide copyright 2014 TZ E C VO N O M I C S

Source: BEA, BLS; deflation and interval trend regressions on natural logs of real per capita income by TZE

Real private building permit values: as economy slows, “building” shifts to renovations



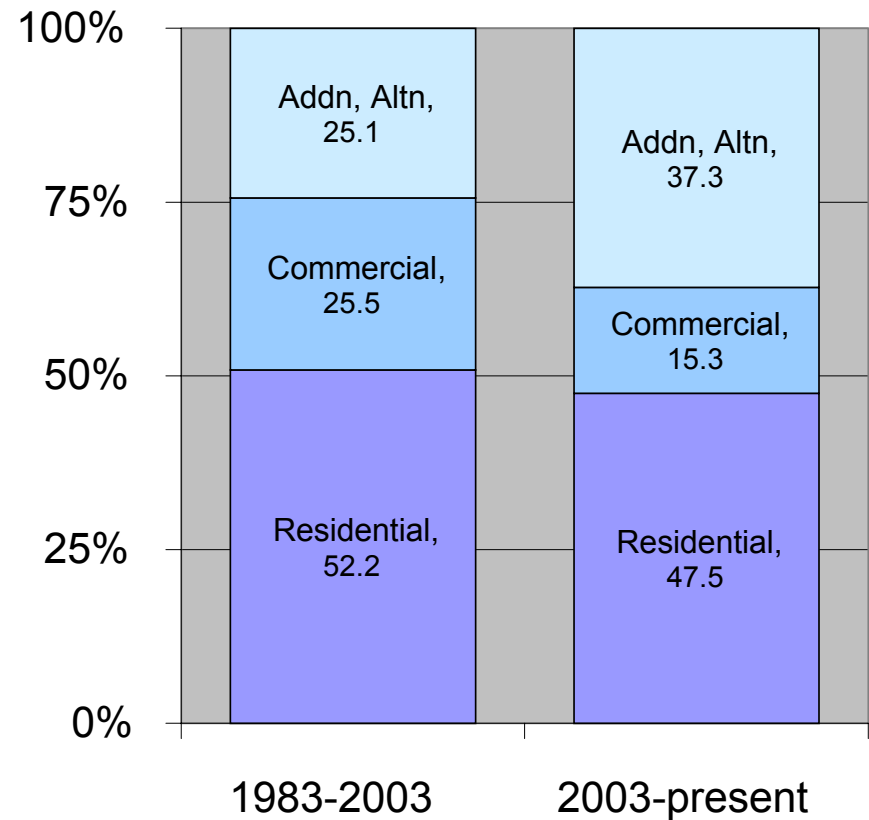
Slide copyright 2014 TZE E C VO N O M I C S

Sources: Hawaii DBEDT, TZE database, Census Bureau; seasonal adjustment, deflation, and trend extraction by TZE

Shifting shares of Hawaii private construction going from a high growth to a low growth economy

Shares of total private building permit estimated construction costs

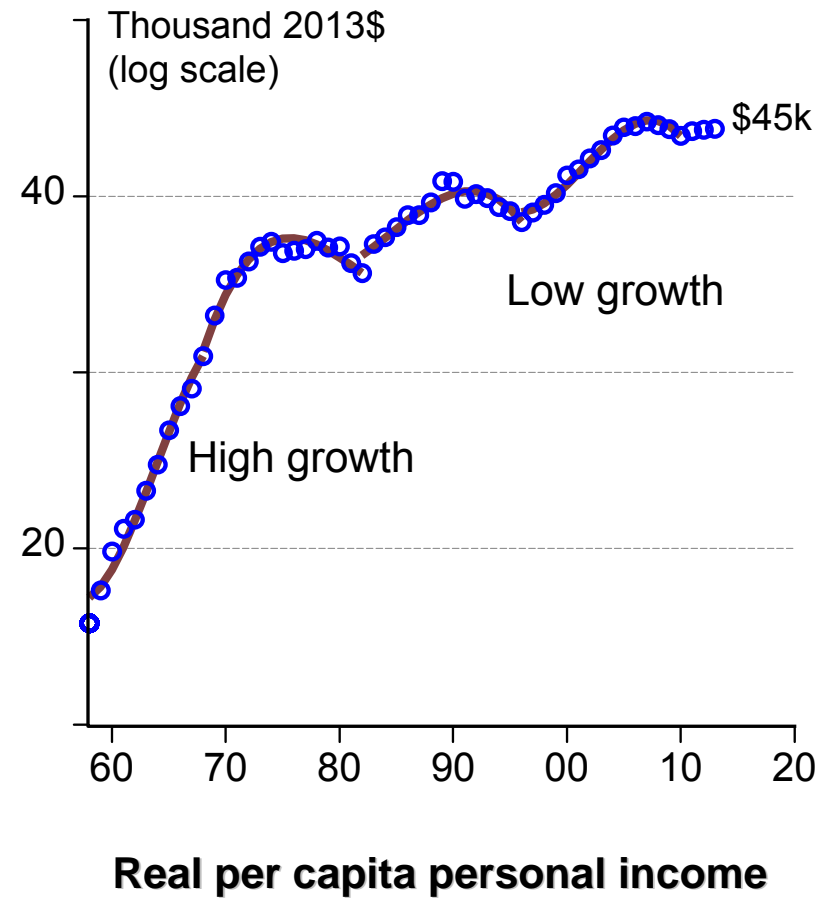
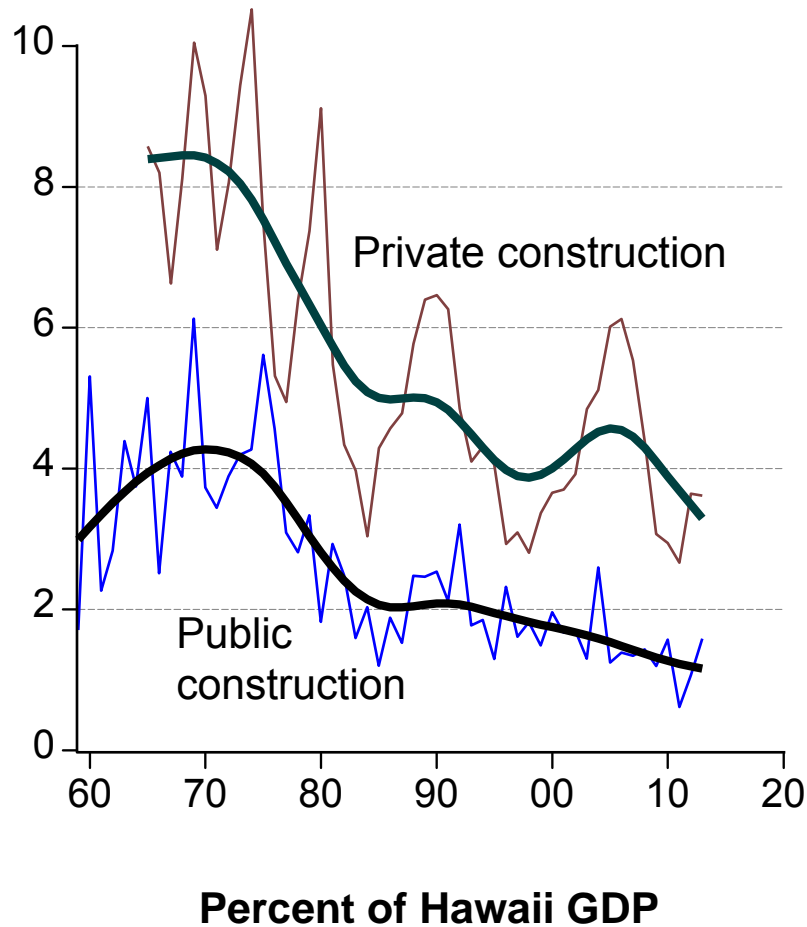
<i>% of total</i>	1983-2003	2003-present
Residential	52.2	47.5
Commercial	25.5	15.3
Additions, Alterations	25.1	37.3



Slide copyright 2014 TZE E C VO N O M I A C S

Source: TZE database, county building departments, Hawaii DBEDT, U.S. Bureau of the Census; share calculations by TZE

Going from a high growth to a low growth economy

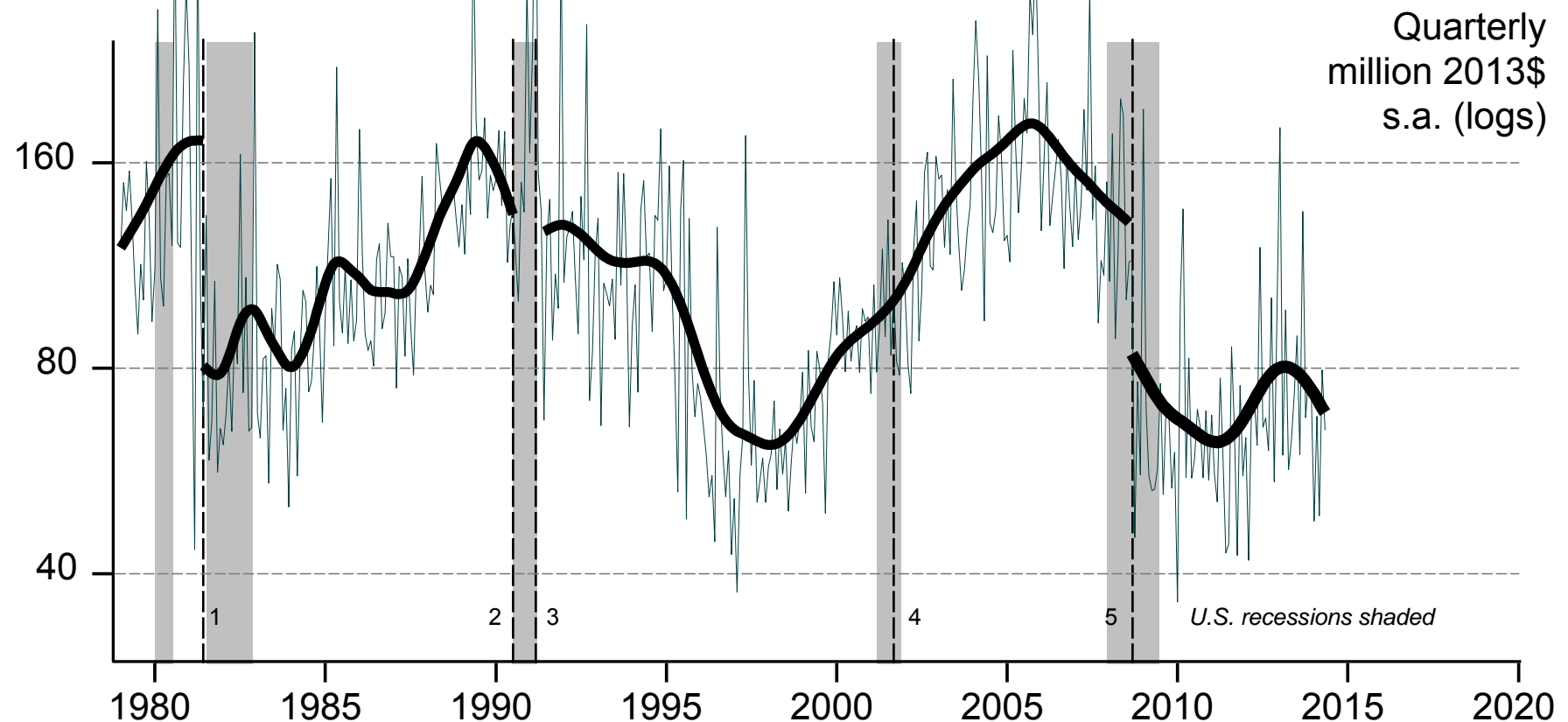


Slide copyright 2014 TZE ECONOMIC ANALYSIS

Sources: BEA, BLS, Bureau of the Census, TZE database, county building departments, Hawaii DBEDT; deflation and trend/cycle extraction by TZE; deflation and interval trend regressions on natural logs of real per capita income by TZE



Real Hawaii new residential building permit values

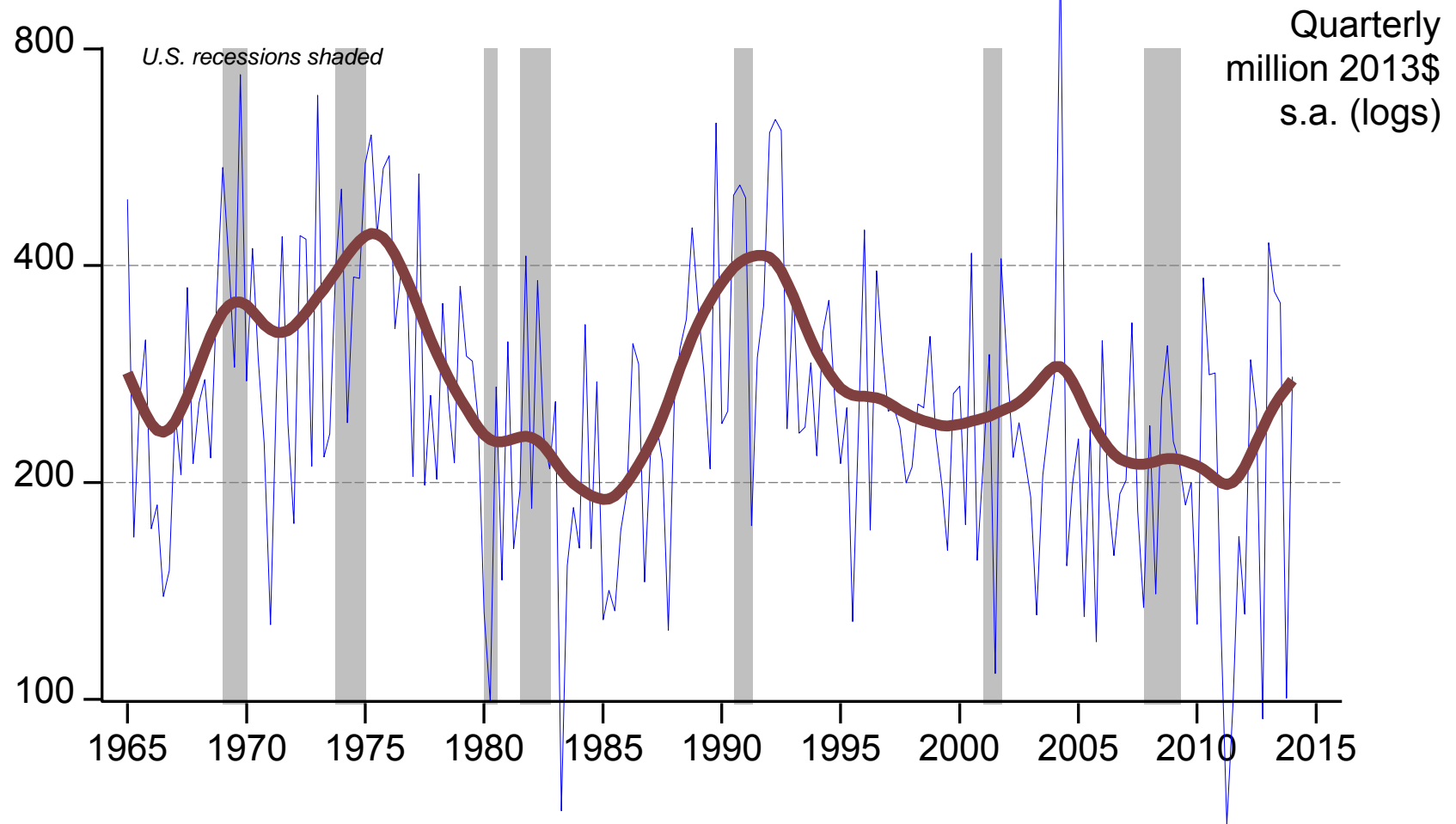


- 1 Volcker interest rate rise
- 2 Operation Desert Shield (HFDC initiates The Villages of Kapolei (<http://www.villagesofkapolei.com/wp-content/uploads/2011/02/ArticlesInc-3.pdf>))
- 3 Operation Desert Storm
- 4 9/11
- 5 Lehman Brothers collapse

Slide copyright 2014 TZE E C VO N O M I C S

Sources: Hawaii DBEDT, TZE database, Census Bureau; seasonal adjustment, deflation, and trend extraction by TZE

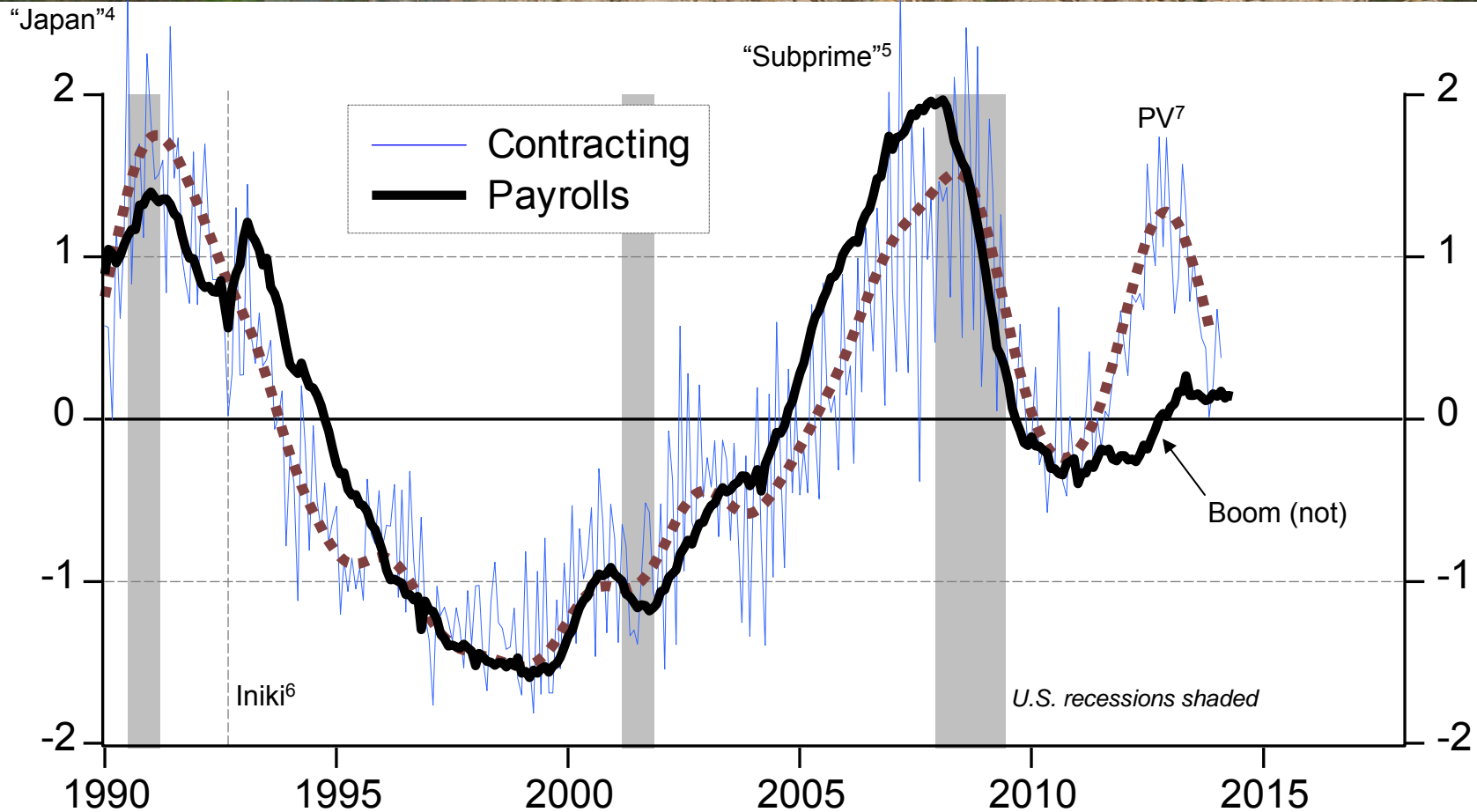
Combined federal, state, county government construction contracts



Slide copyright 2014 TZE E C VO N O M I C S

Sources: Hawaii DBEDT, TZE database, Census Bureau; seasonal adjustment, deflation, and trend extraction by TZE

Hawaii real construction spending¹ and jobs² (normalized)³: so far, no construction “boom”



Scales are standard deviations from the means for each time series in real terms, seasonally-adjusted, for the period January 1990 – latest data 2014

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Notes on next slide: contracting trend (dashed) is trend/cycle component from Hodrick-Prescott filter; sources are Hawaii Department of Taxation (contracting receipts), Hawaii DLIR, Hawaii DBEDT (payroll employment); seasonal adjustment, deflation by TZE



Notes to prior slide

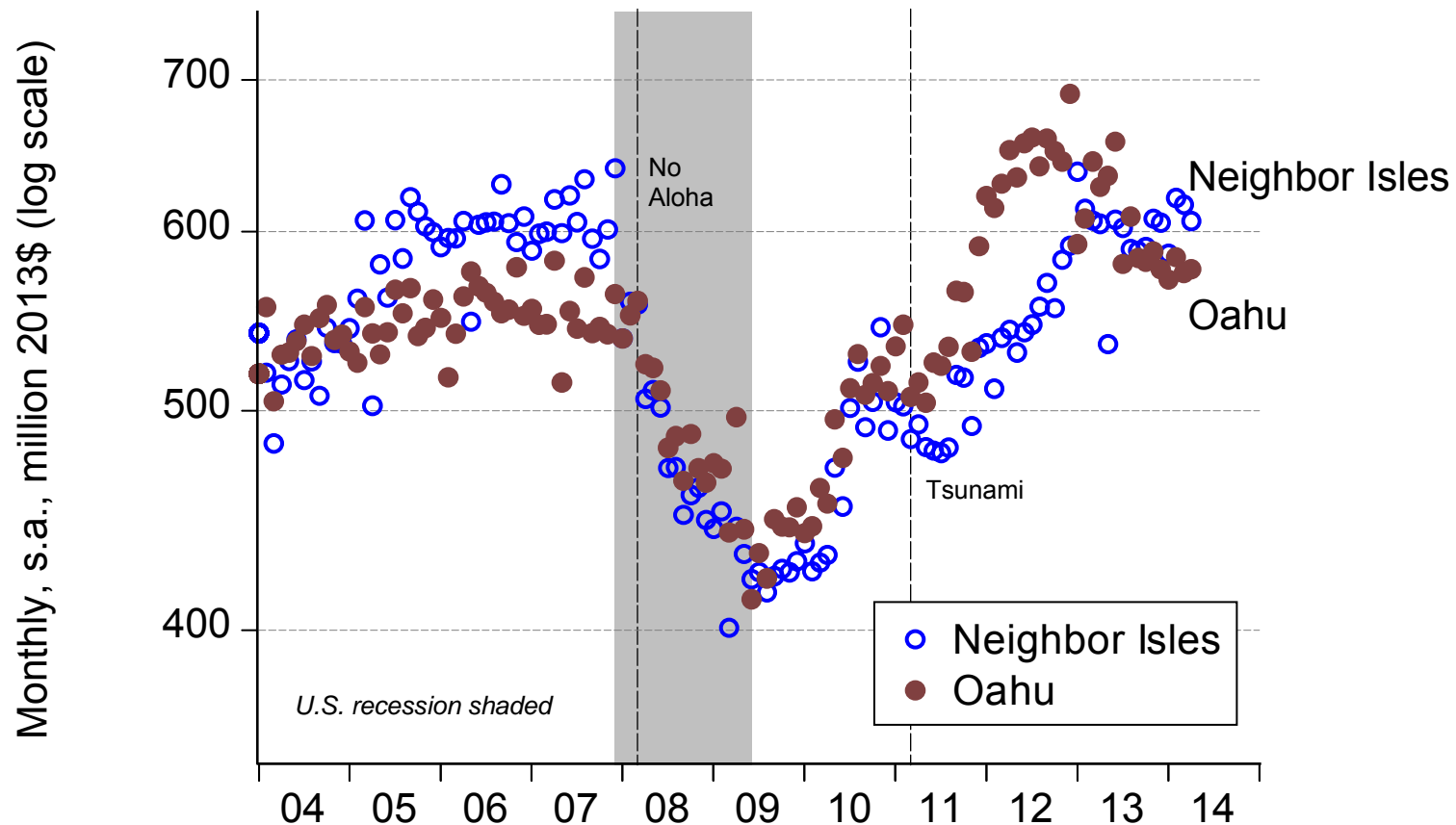
- ¹ General excise and use tax basis (Hawaii Department of Taxation) through February 2014, seasonally-adjusted, deflated using U.S. Census Bureau construction cost deflator (Fisher) for new single-family houses under construction.
- ² Payroll employment in natural resources, mining, and construction (NAICS basis) through May 2014, seasonally adjusted (in Hawaii mining is primarily quarrying).
- ³ Monthly data are normalized to period averages (scale is in standard deviations).
- ⁴ “Japan” denotes so-called Japan Bubble, a late-1980s/early-1990s period including construction of the last Class A high-rise office towers in Honolulu: contracting receipts rose more than +1.5 standard deviations because high-rise buildings are a relatively capital-intensive construction process (replicating floors approximately weekly); construction employment did not rise as much.
- ⁵ “Sub-prime” denotes so-called Sub-prime Bubble, an early-2000s period distinctive in the excess of employment growth relative to contracting receipts reflecting a military housing privatization initiative during which approximately 17,000 base housing units on Oahu were renovated under exemption from building permits and general excise tax liability (numbers roughly equal to the contemporaneous, cumulative net increase in Oahu’s private housing stock, 16,843 units, 2002-2008.)
- ⁶ Hurricane Iniki produced a temporary increase in construction employment, associated with disaster relief, recovery, and reconstruction, without a comparable increase in contracting receipts.
- ⁷ State residential photovoltaic panel installation tax credits, complementing federal tax credits, and rising crude petroleum and electricity costs stimulated an early-20-teens surge in photovoltaic *equipment* investment without a commensurate increase in employment associated with new building (buildings).



Appendix 2. more tourism details

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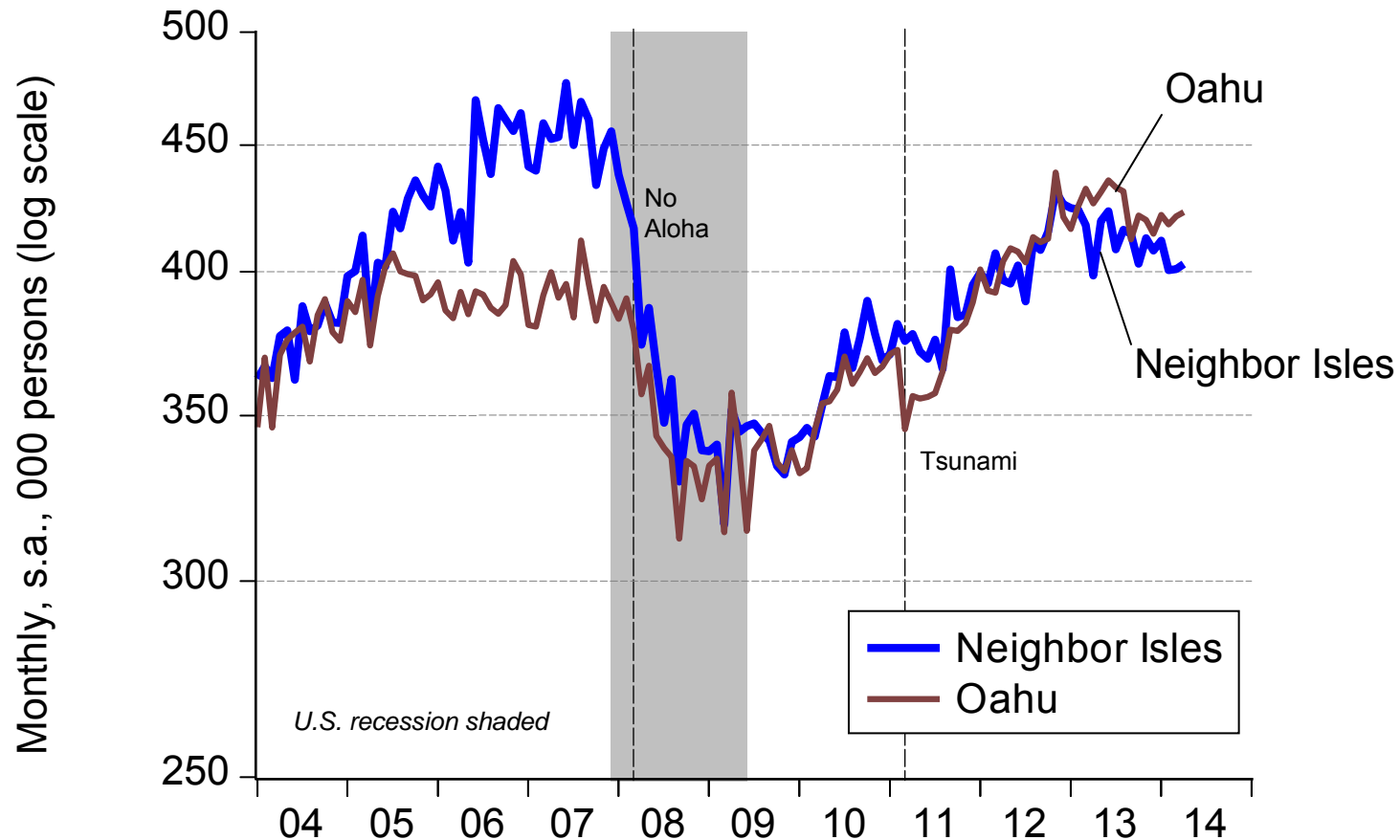
Real visitor expenditure stalled: Oahu was higher, now, with Neighbor Islands, match last cyclical peak



Slide copyright 2014 TZ Economics

Source: Hawaii Tourism Authority, Hawaii DBEDT; BEA, U.S. Department of Commerce; deflation, seasonal adjustment by TZ Economics

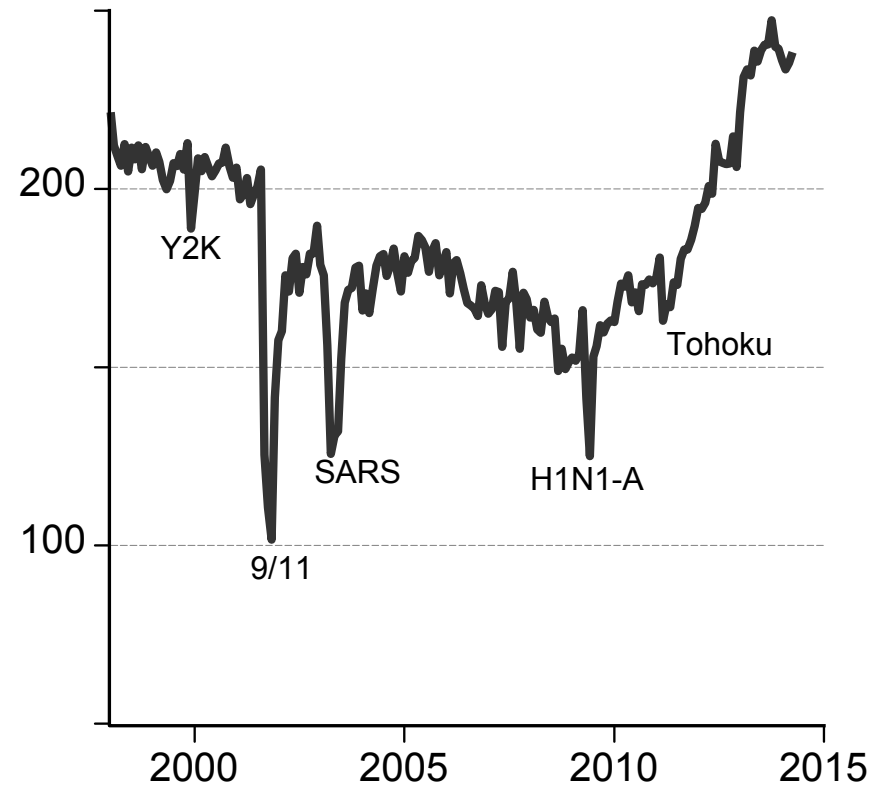
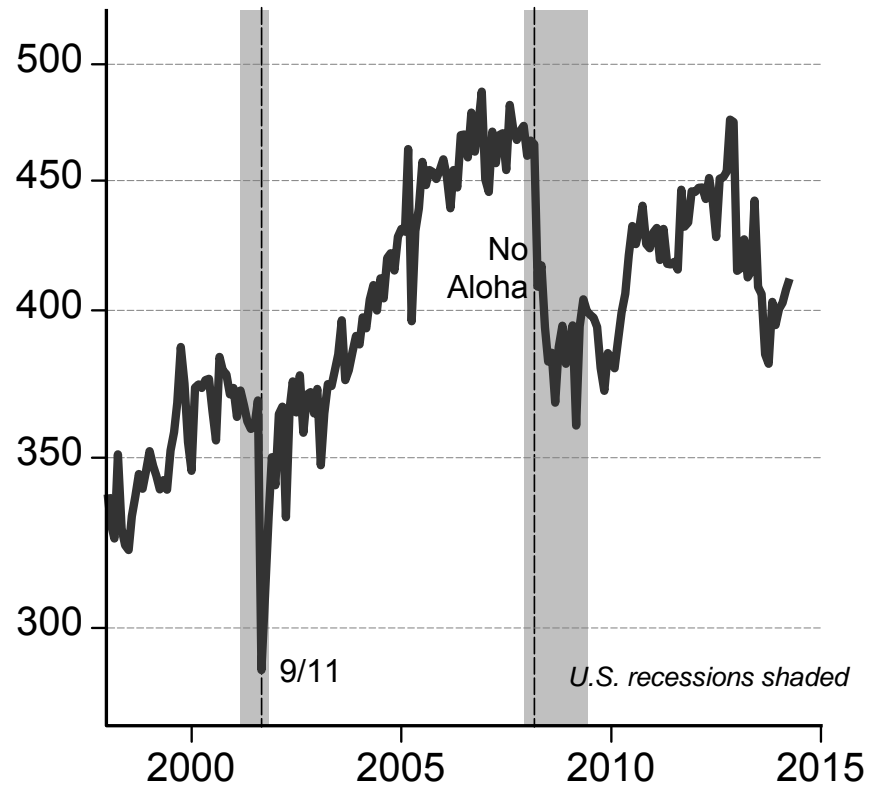
Total visitor arrivals stalled: Neighbor Islands lower, Oahu higher than last cyclical peak; both flat



Slide copyright 2014 TZ Economics

Source: Hawaii Tourism Authority, Hawaii DBEDT; BEA, U.S. Department of Commerce; deflation, seasonal adjustment by TZ Economics

Hawaii visitor arrivals, s.a., monthly, thousands: international and domestic offset; “musical chairs”

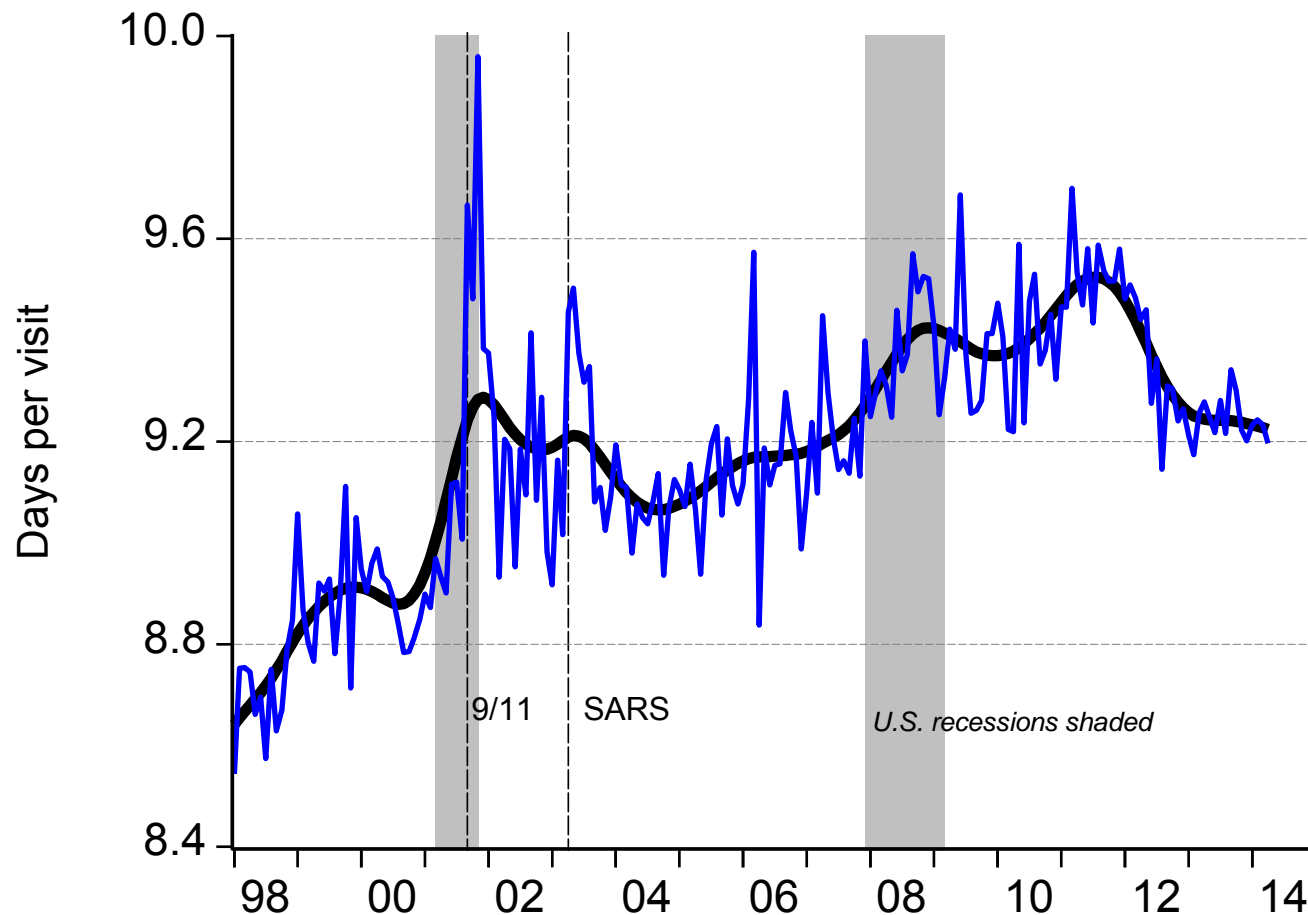


Both depicted on logarithmic scales

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Source: Hawaii Tourism Authority, Hawaii DBEDT, includes 2013-2014(Apr) revisions; seasonal adjustment, trend extraction by TZ Economics

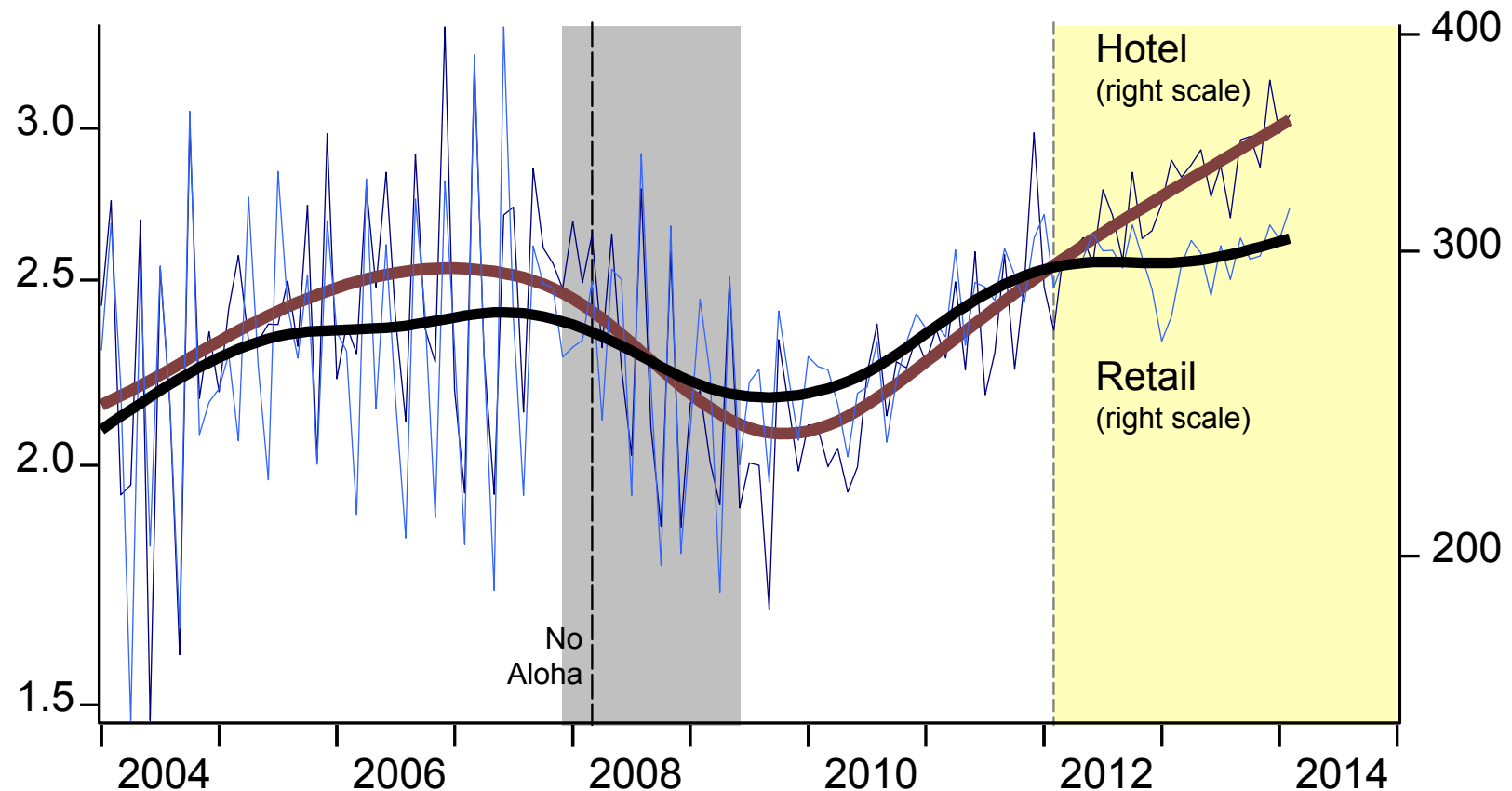
Visitor length of stay recently declined, via offsetting growth in international, decline in domestic arrivals



Slide copyright 2014 TZ Economics

Source: Hawaii Tourism Authority, Hawaii DBEDT, includes 2013-2014(Apr) revisions; seasonal adjustment, trend extraction by TZ Economics

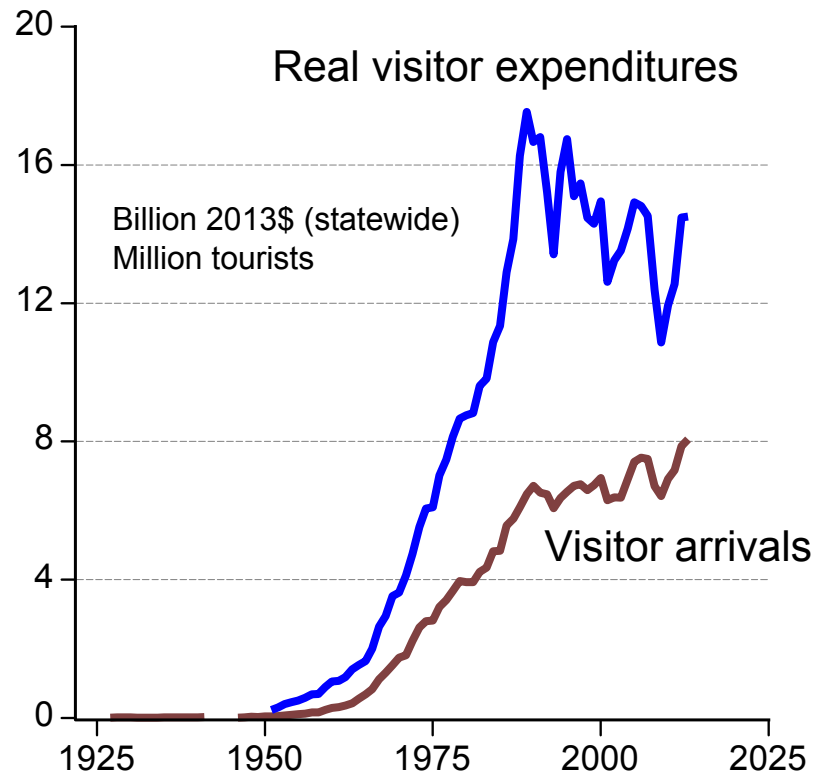
Hawaii real hotel and retail receipts: each cycle, as room rates rise, hotel rentals steal from retail



Slide copyright 2014 TZ Economics

Source: Hawaii Department of Taxation, BEA; seasonal adjustment, deflation using U.S. personal consumption expenditure deflator and trend extraction by TZ Economics

If tourism, defense, and construction are shrinking, in the longer-run (e.g. 25 years), what is growing?



Strategic (a.k.a. long-run) challenges for Hawaii

- You get 2% productivity growth simply by downloading apps and upgrading software
- In America—which in the 1940s had the Gini ratio of today's Belgium, but now has the Gini ratio of Haiti*—95% of income growth went to the top 1% of the income distribution, 2009-2013.
- Politics of NIMBY inhibits tourism's ability to expand its capacity—no export growth possible
- (Global lodging brands are delighted to exercise the market power gifted to them as a result)
- Who would invest in an economy that is shrinking its principal exports, tourism and federal military?

*The Gini ratio is a measure of income inequality



Some recent views from DBEDT and UHERO

- UHERO (May 2014)*: “Incremental [tourism] gains for 2014 will be slight. Beyond this year, available capacity will limit further visitor industry growth.”
- DBEDT (May 2014)‡: “Visitor arrivals are expected to increase 1.9 percent in 2016 and 1.8 percent in 2017. Visitor expenditures are expected to increase 4.6 percent in 2016 and 4.5 percent in 2017.”
- UHERO (May 2014)*: “The construction expansion has proceeded further on Oahu than the elsewhere in the state, but it is also poised to contribute growth momentum to all counties going forward.”
- DBEDT (June 2014)†: “Change the mindset from controlling growth to generating growth.”

Sounds good, but the last three are starting to sound increasingly implausible

*UHERO (May 23, 2014) (<http://www.uhero.hawaii.edu/assets/14Q2CountyForecast-PublicSummary.pdf>)

‡Hawaii DBEDT (May 8, 2014) (<http://dbedt.hawaii.gov/economic/qser/outlook-economy/>)

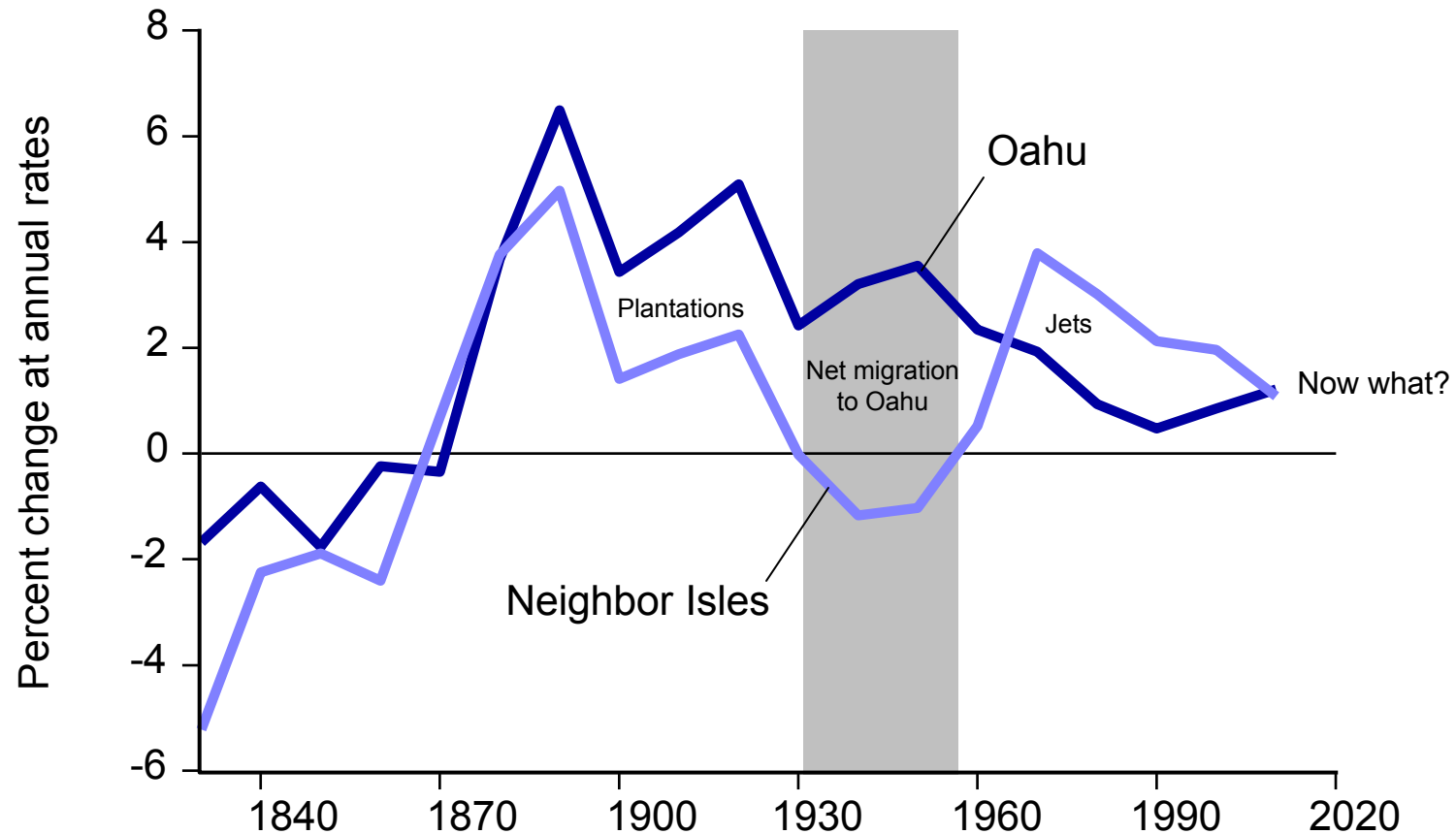
†Richard Lim, Director Hawaii DBEDT (June 20, 2014) “Hawaii’s Economic Future,” presentation to The Counselors of Real Estate

A wide landscape photograph showing a range of green mountains under a cloudy sky. In the foreground, there is a field of tall, dry, golden-brown grasses.

Appendix 3. urbanism and the services economy

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Oahu and Neighbor Island population growth rates over decades and the mid-20th century migration



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Source: U.S. Bureau of the Census, Hawaii DBEDT (various), Robert C. Schmitt *Historical Statistics of Hawaii* (1976) UH Press



Factors in Honolulu 20th century urbanization

- Early 20th century plantations: centers of employment, communities
 1. Co-location of mills, canneries, harbors; people walked to work
 2. Mechanization led plantations to become increasingly capital-intensive
- Mid-20th century Oahu population rose, Neighbor Islands *declined*
 1. Net migration from the Neighbor Islands *to* Oahu
 2. Affordable motor vehicles increased mobility ⇒ suburban spatial dispersion
- 1960s brought mass market tourism: statehood, commercial passenger jets
- After 1970s Hawaii embraced “limits to growth” and “capacity constraints”
 1. Recent ordinance bans building heights in excess of Walter Dodds’ FHB tower
 2. Proposed ordinance bans condominium conversions to timeshare (*securitization*)
 3. *De facto* cap on Oahu accommodations (10k (1965), 39k (1986), 35.75k (2013))



Demographic transition alters patterns of housing demand; urbanization buoying the services economy

- Fashionable to deride services as low-wage and presumptively less productive
- Reality is the opposite during the last twenty years—skilled services ascendant
- Rise of the service sector has reshaped economic and physical landscape*

Since the structural transformation shifts labor from high-productivity growth sectors to low-productivity growth sectors, Baumol (1967) feared that the economy was doomed to long-run stagnation. In our model this dismal prediction fails to materialize because it is exactly the structural transformation that makes the service sector concentrated enough for innovation to endogenously take off. This is consistent with the acceleration of services productivity growth in the mid-1990s, as well as with the increase in land rents and real wages around that period.

- Services spatially concentrated to the point that innovation and productivity growth took off after the mid-1990s
- Cities are where it's at



Agglomeration economies: “density is proximity”

- Agglomeration economies: one person’s productivity rises when near others
 1. Externality—productivity rises learning from or imitating a neighbor
 2. Internalized—supplier and customer co-locate to reduce transportation cost
- Explains urban density without appeal to external factors (ports, canneries)*

...the evidence suggests that these external factors are no longer that important. The older cities were generally built around harbors, and those harbors were significant, but there is no natural advantage that can explain Las Vegas...

- Mechanism is partly combinatoric: larger numbers of productive interactions are possible the more people are gathered in related occupational pursuits†

(e.g.) When research effort is applied, new ideas arise out of existing ideas in some kind of cumulative interactive process that intuitively has a very different feel from prospecting for petroleum. To me, the research process has a sort of pattern-fitting or combinatoric feel about it.