



Mid-cycle hiccups? Hawaii's economic expansion risks losing momentum

slides prepared for a joint informational briefing of the

**Senate Committee on Ways and Means
House Committee on Finance**

Hawaii State Capitol Auditorium

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TZ ECONOMICS

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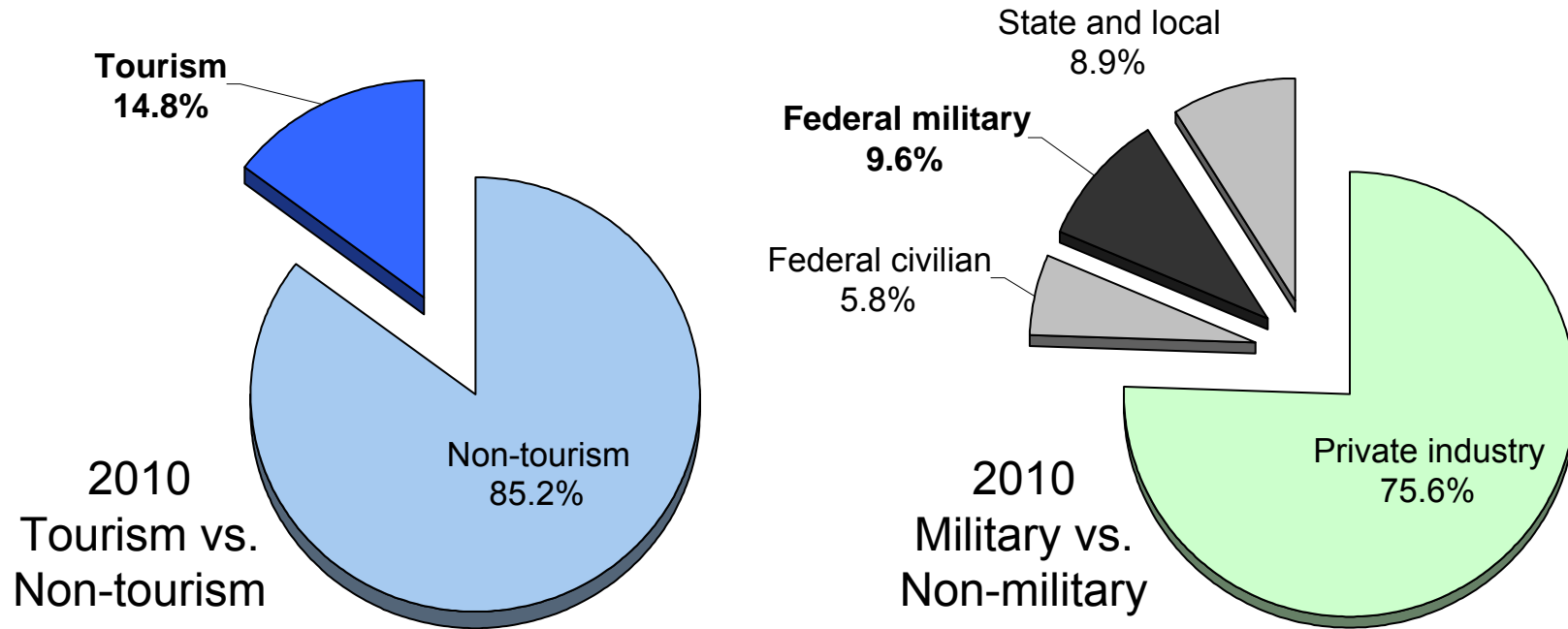


Outline and preface

Preface-three key points:

- Tourism share 15-20% of value-added (GDP)—what happens really matters
- Government share 25%: 10% military, 6% civilian, 9% state and local
- Average duration of post-1982 U.S. economic expansion is 8 years; this is year 5

Hawaii economic value-added (GDP) shares in tourism and military: *combined* approx. 25%



See also:

James Mak, 2005. "Tourism demand and output in the U.S. Tourism Satellite Accounts: 1998-2003," *Journal of Travel Research*, **44** (1), pp. 4-5
 Eugene Tian, James Mak, and PingSun Leung, "The direct and indirect contributions of tourism to regional GDP: Hawaii," *UHERO Working Paper No. 2011-5* (July 28, 2011) (http://www.uhero.hawaii.edu/assets/WP_2011-5.pdf)

DBEDT *State of Hawaii Data Book* (<http://hawaii.gov/dbedt/info/economic/databook/2010-individual/07/073410.xls>)

James Hosek, Aviva Litovitz, Adam C. Resnick, 2011 "How Much Does Military Spending Add to Hawaii's Economy?" *Rand Corporation Technical Report TR-996* (http://www.rand.org/pubs/technical_reports/TR996.html); note that this report incorrectly *doubles* the military share of Hawaii GDP to inflate its "association" with other industries using input-output multipliers, which is like doubling everything.

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Source for underlying data: Bureau of Economic Analysis, U.S. Department of Commerce, Hawaii DBEDT, Hawaii Tourism Authority; all calculations by TZE

U.S. economic expansions, contractions: odds are this expansion is half over

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)



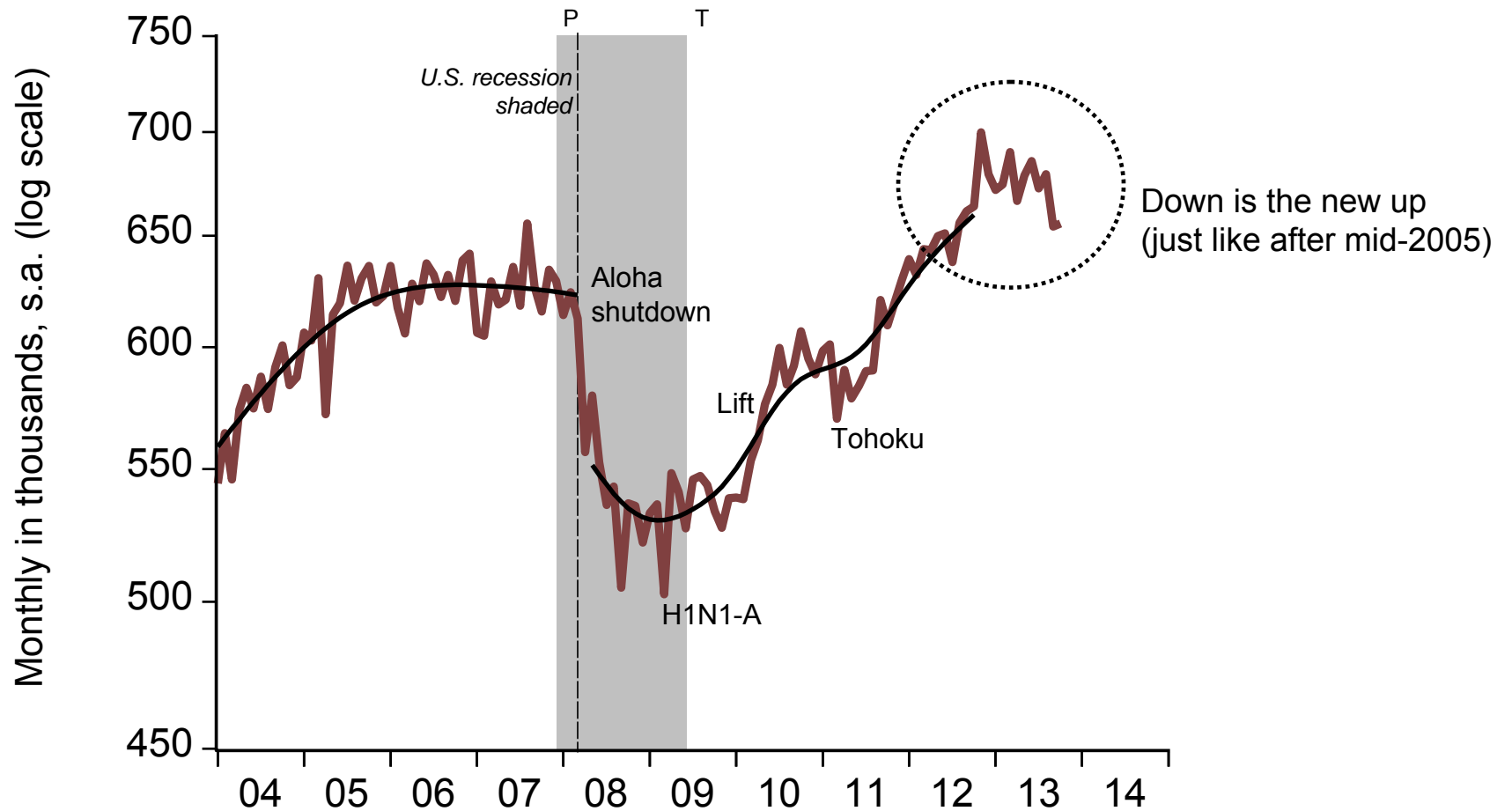
1. Tourism
2. Housing
3. Construction
4. Macroeconomic outlook



Hawaii tourism was *declining* during 2013

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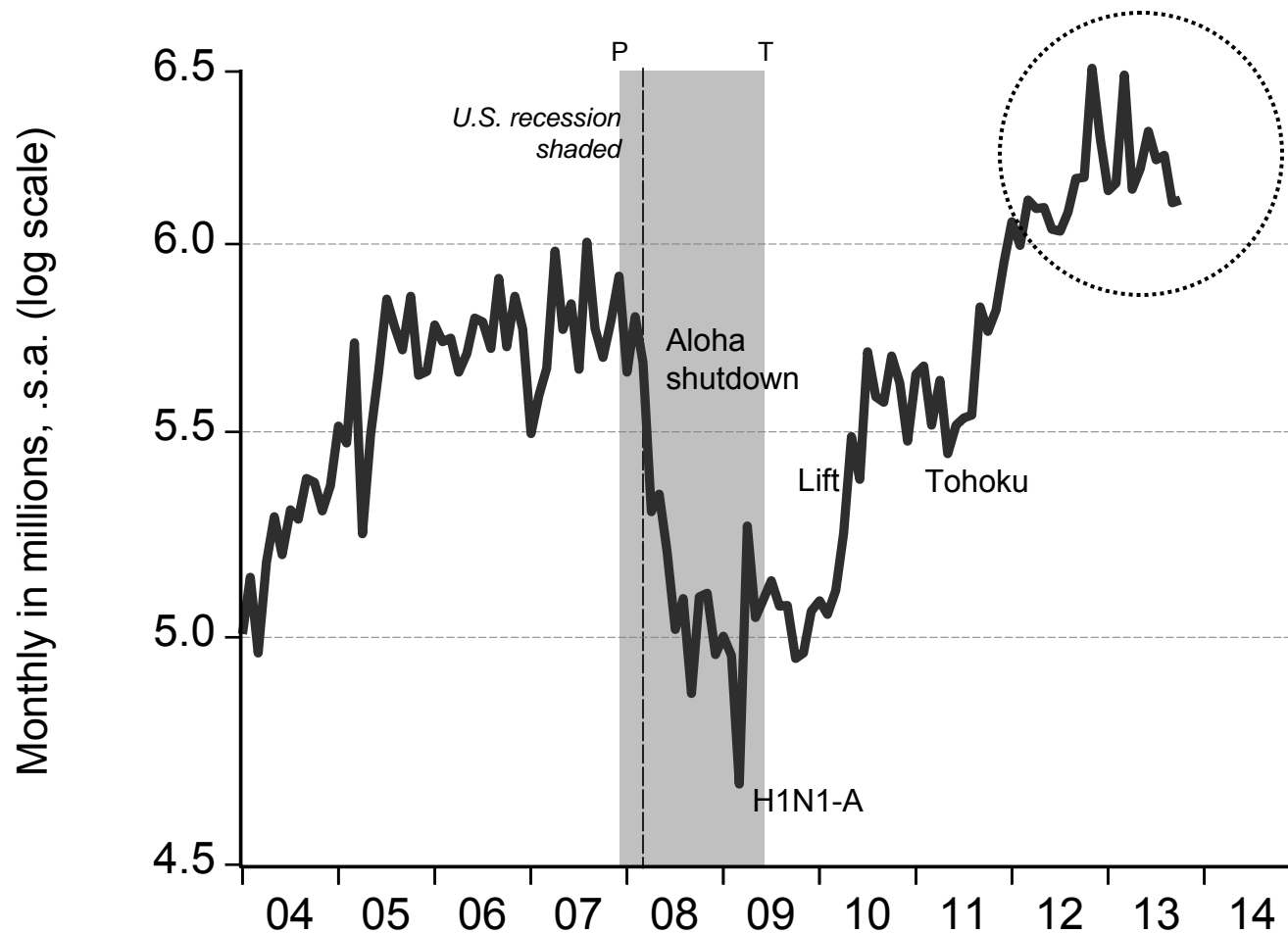
Seasonally-adjusted statewide visitor arrivals declined since late last year: demand or supply?



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Source: Raw monthly data through October 2013 from HTA, Hawaii DBEDT; seasonal adjustment using Census X-12 ARIMA filter by TZE

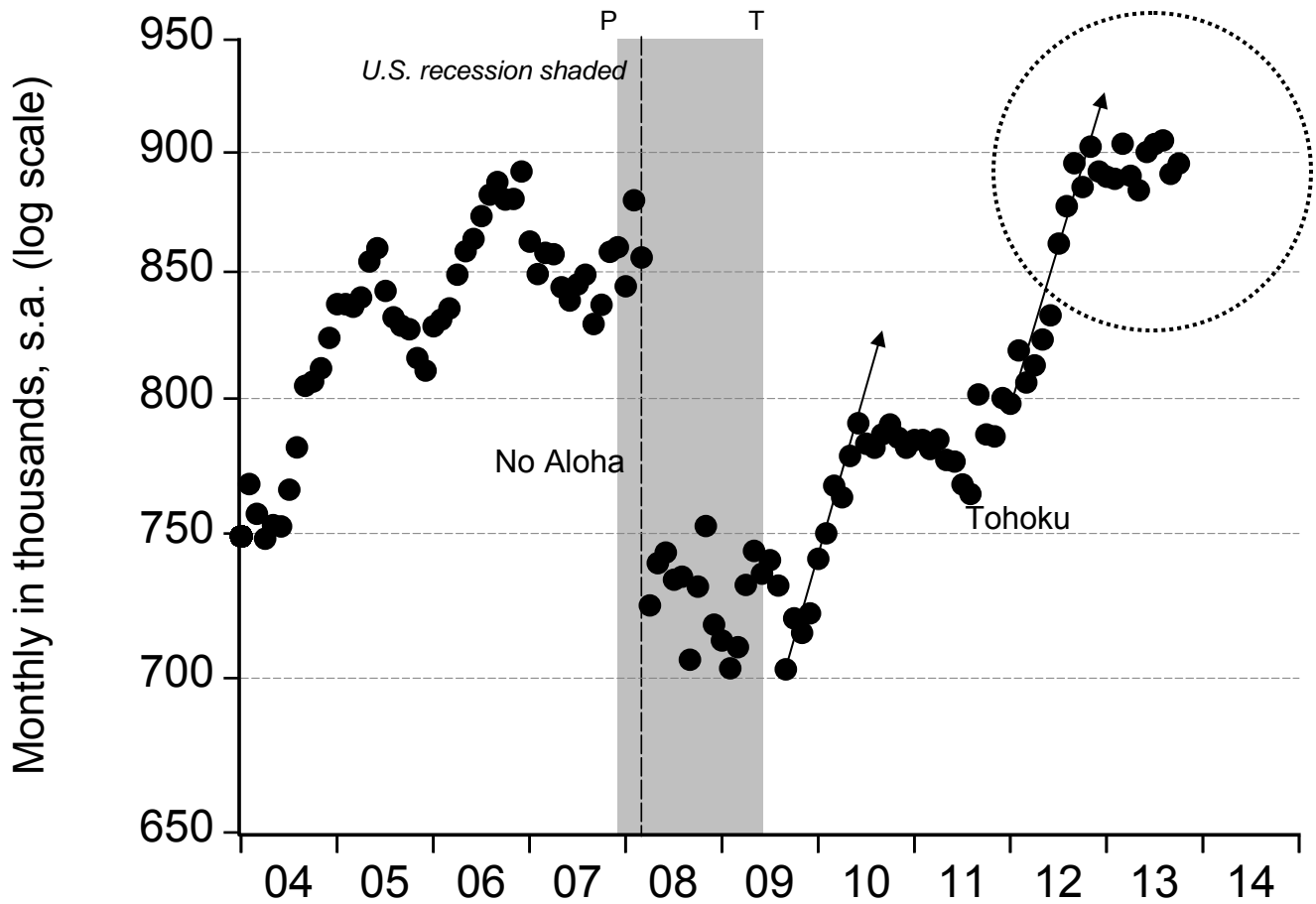
Statewide total visitor days (s.a.): growth stalled



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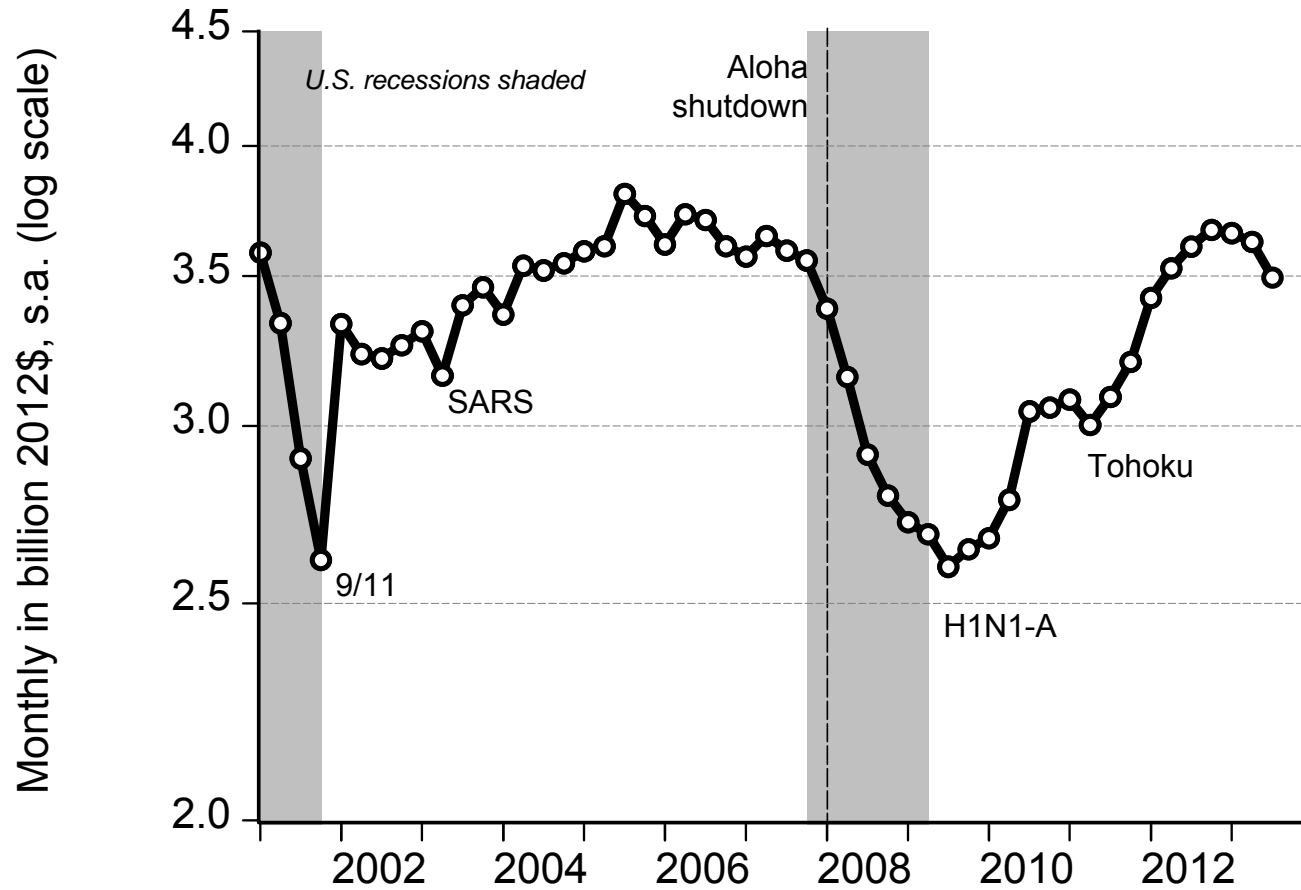
Source: Raw monthly data through October 2013 from HTA, Hawaii DBEDT; seasonal adjustment using Census X-12 ARIMA filter by TZE

Total seats to Hawaii through October 2013 (s.a.): after two pushes (2010, 2012) capacity flattened



Source: Data through October 2013 from HTA, Hawaii DBEDT; seasonal adjustment by TZE

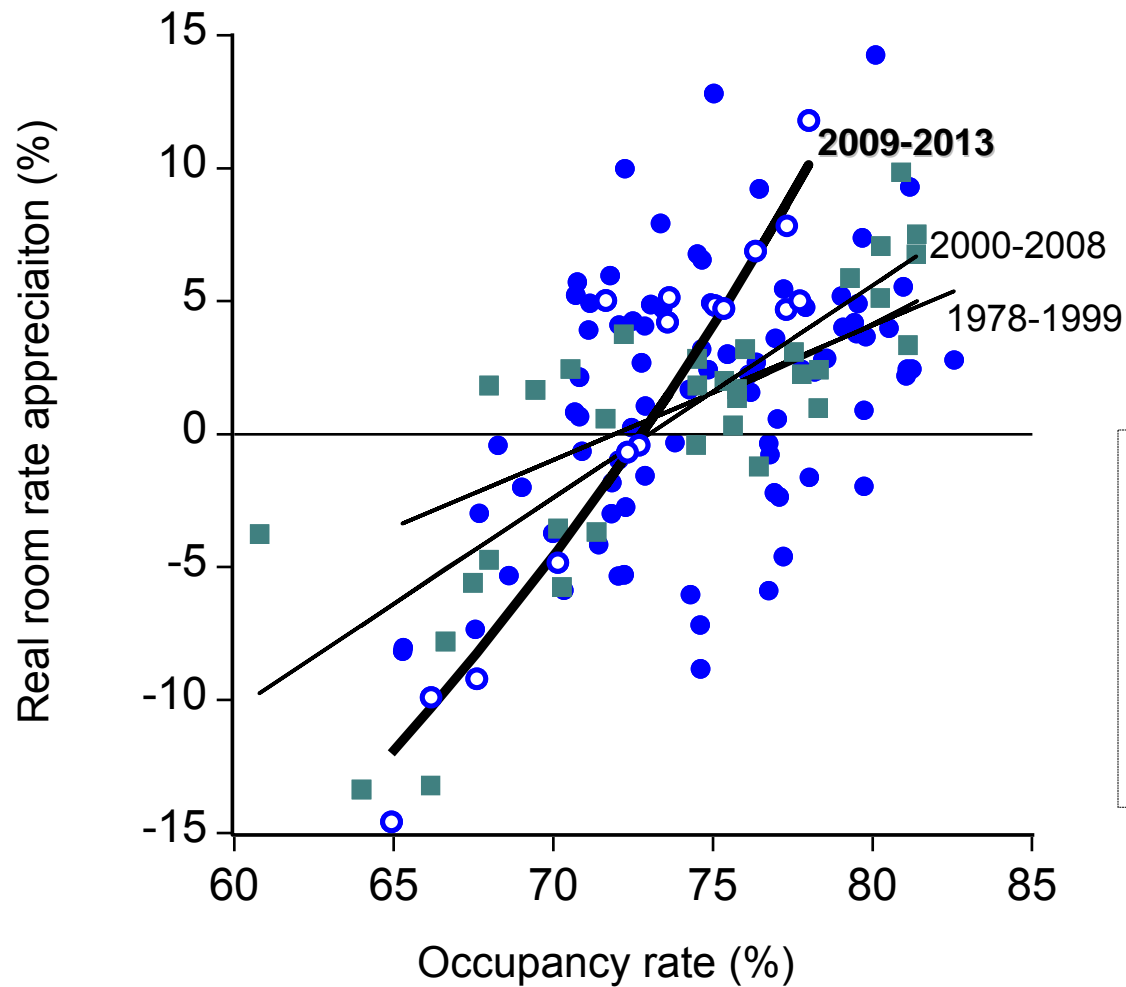
Real Hawaii visitor expenditure (s.a.) through 2013Q3



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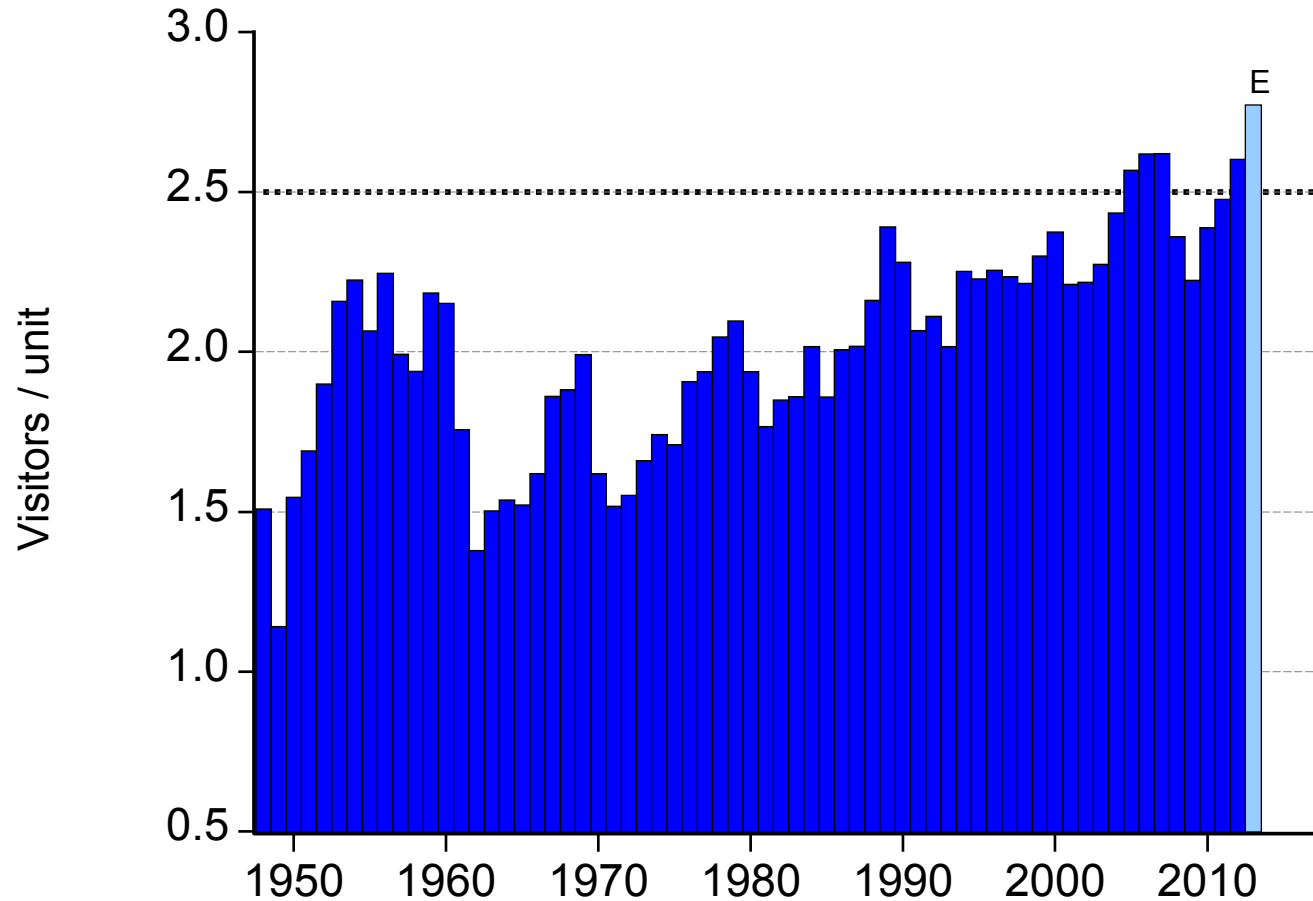
Sources: Hawaii Tourism Authority, Hawaii DBEDT, Bureau of Labor Statistics; deflation calculations by TZE

Relationship between hotel occupancy rate and real hotel room rate appreciation getting “steeper”



*Each tourism cycle, for a given rise in hotel occupancy, real room rates appreciate *faster* than before because *new* accommodation supply is constrained by regulatory barriers

Visitor days growing faster than capacity (more highly-utilized): past 2.5 visitors/room “sold out”



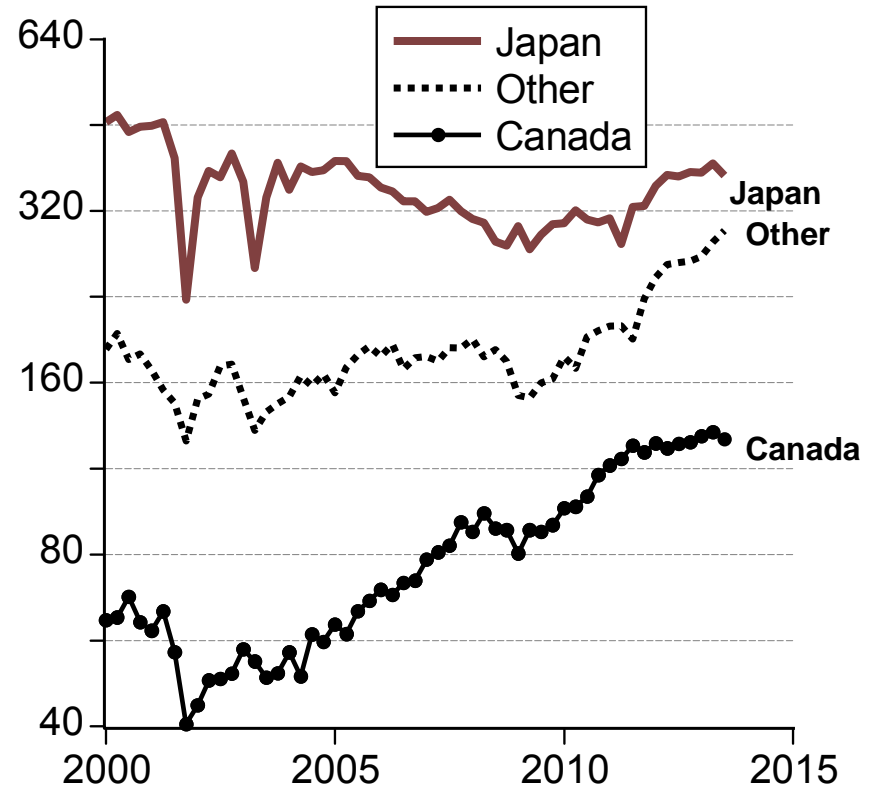
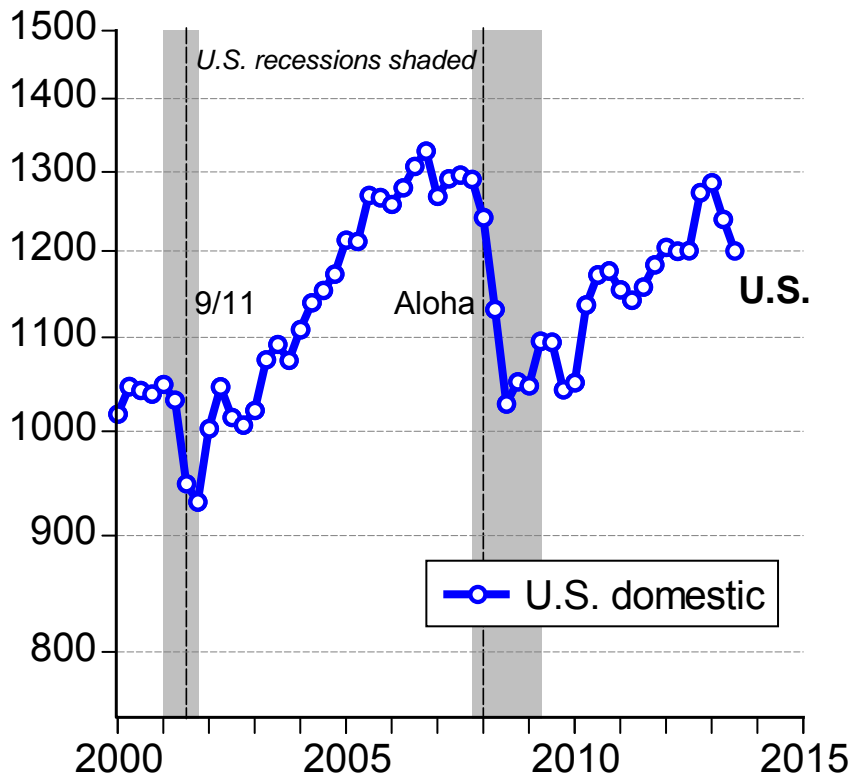
E estimated based on January-October 2013 data

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Sources: Hawaii Visitors Bureau, Hawaii Tourism, Authority Hawaii DBEDT; visitors/unit is calculated by dividing total visitor days by the previous year's visitor plant inventory, and dividing the resulting ratio by 365.25 (days/year), data are annual except for 2013 estimate (10-mos. data).

Musical chairs? Recent visitor arrivals (s.a.) losing ground *except* in “other foreign” category—new Asia

Quarterly in thousands, s.a. (log scales)



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Sources: Underlying data from Hawaii Tourism Authority, Hawaii DBEDT, data seasonally-adjusted and posted by UHERO (<http://uhero.prognos.com/TableR.aspx>).

1. Tourism

- Tourism leadership in “first half” now impaired by capacity constraint
- No more rooms \Rightarrow higher room rates at faster rates of increase
- Higher lodging expense reduces: (a) stay length; (b) non-lodging outlay/visitor; and (c) total real (inflation-adjusted) tourism export receipts
- Loss of momentum in U.S., Japan, Canada arrivals: probably not “demand”

2. Housing

3. Construction

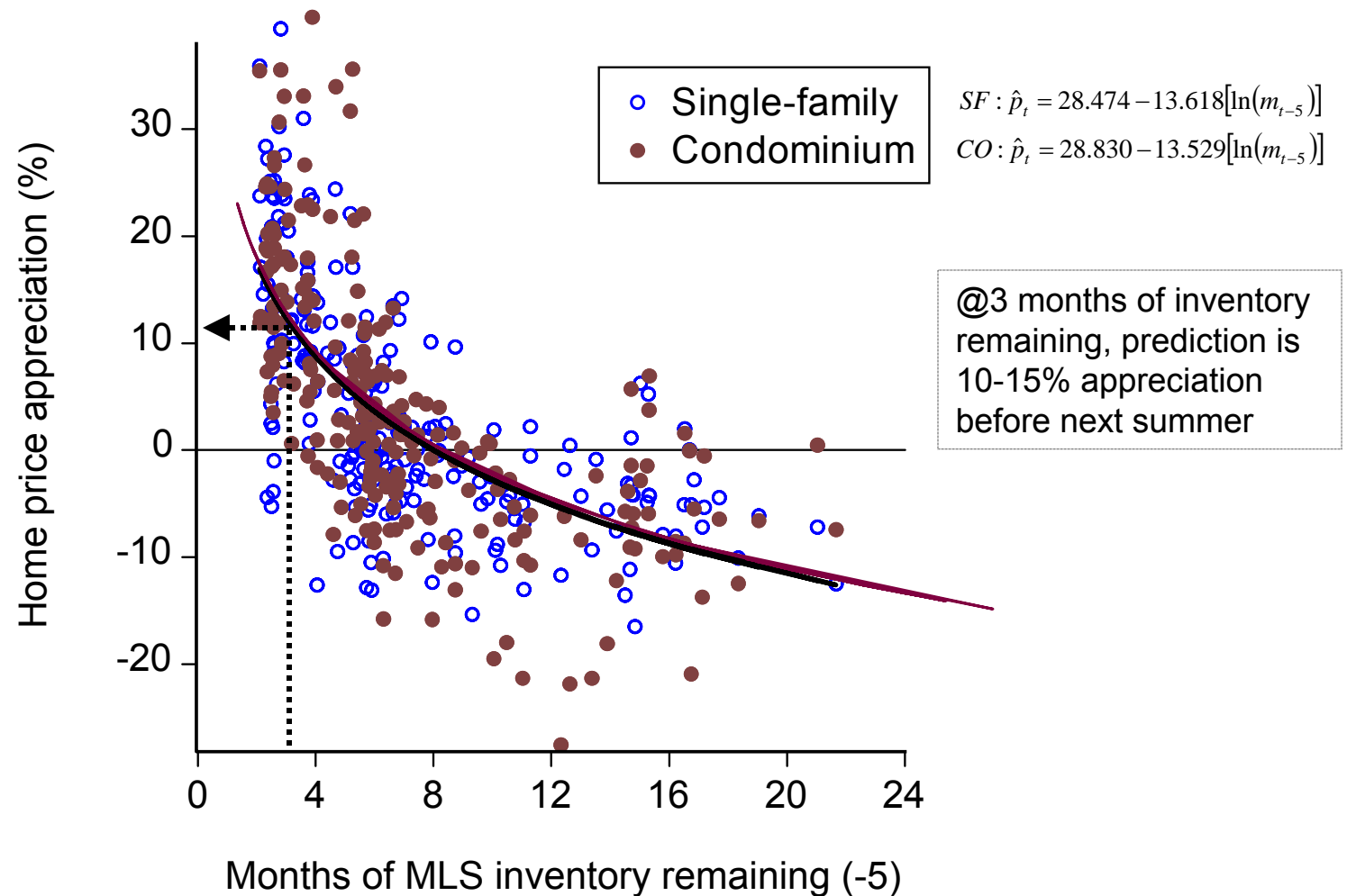
4. Macroeconomic outlook



**Housing trends: cyclical recovery hindered by
slow-moving regulatory process**

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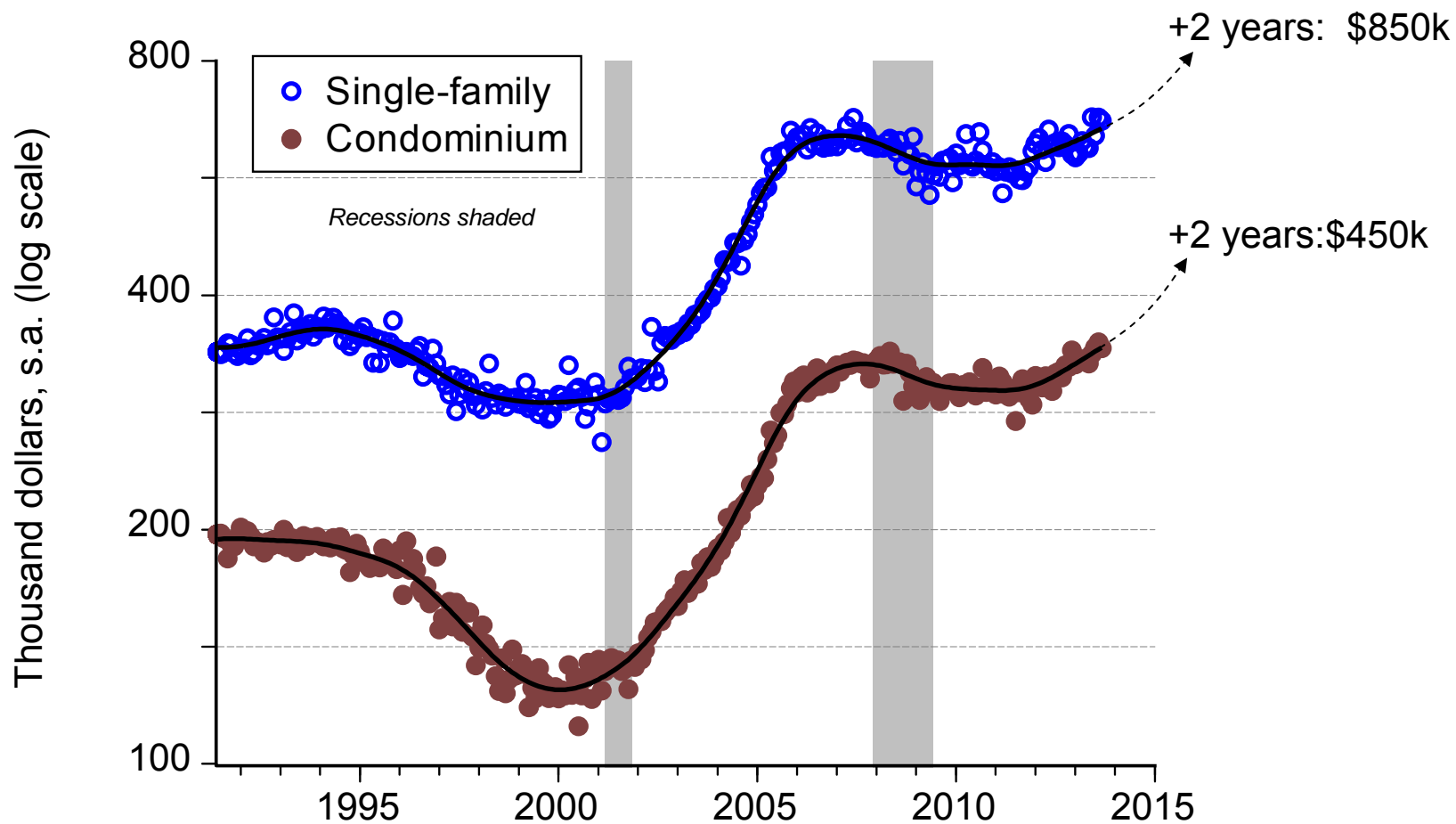
The (Mike) Sklarz Curve: Oahu home price appreciation, lagged inventory remaining 1994-2013



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Source: Honolulu Board of Realtors; seasonal adjustment, regressions on logs of months of inventory remaining by TZE; see Norm Miller and Mike Sklarz, "A Note on Leading Indicators of House Price Trends," *Journal of Real Estate Research* 1:1 (Fall 1986) pp. 99-109

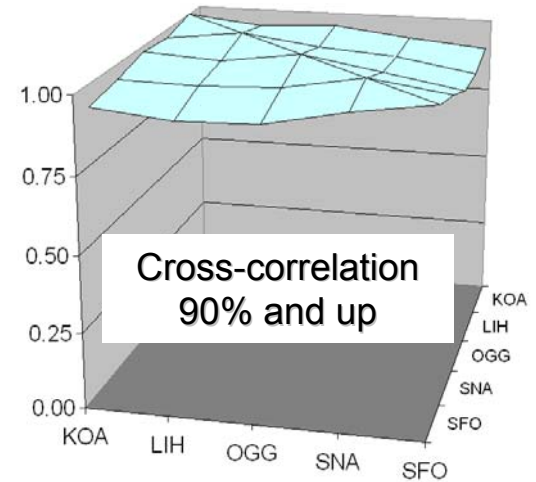
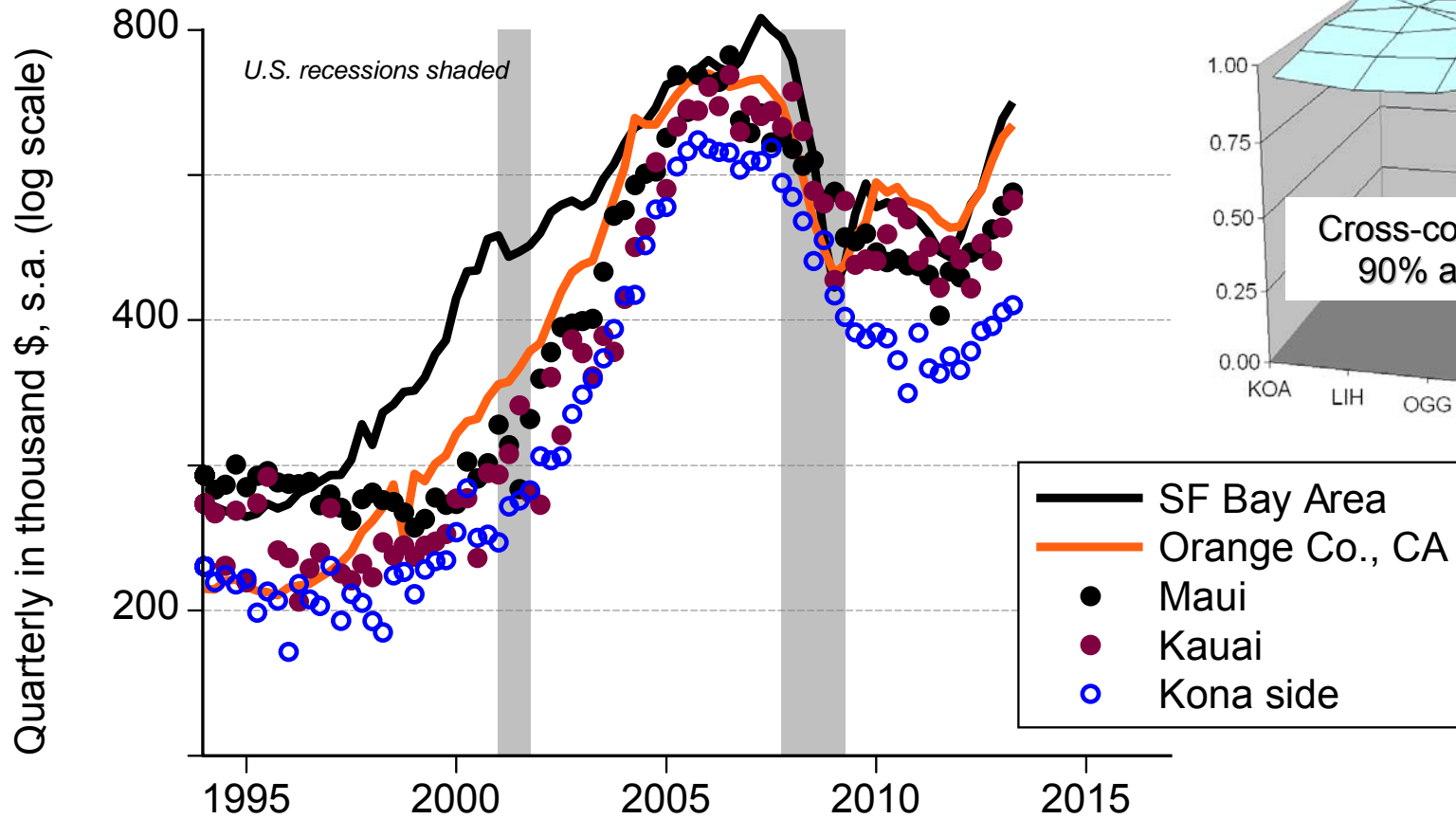
Monthly Oahu median existing home sales prices



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Source: Honolulu Board of Realtors (raw data through September 2013); seasonal adjustment using Census X-12 ARIMA filter by TZE

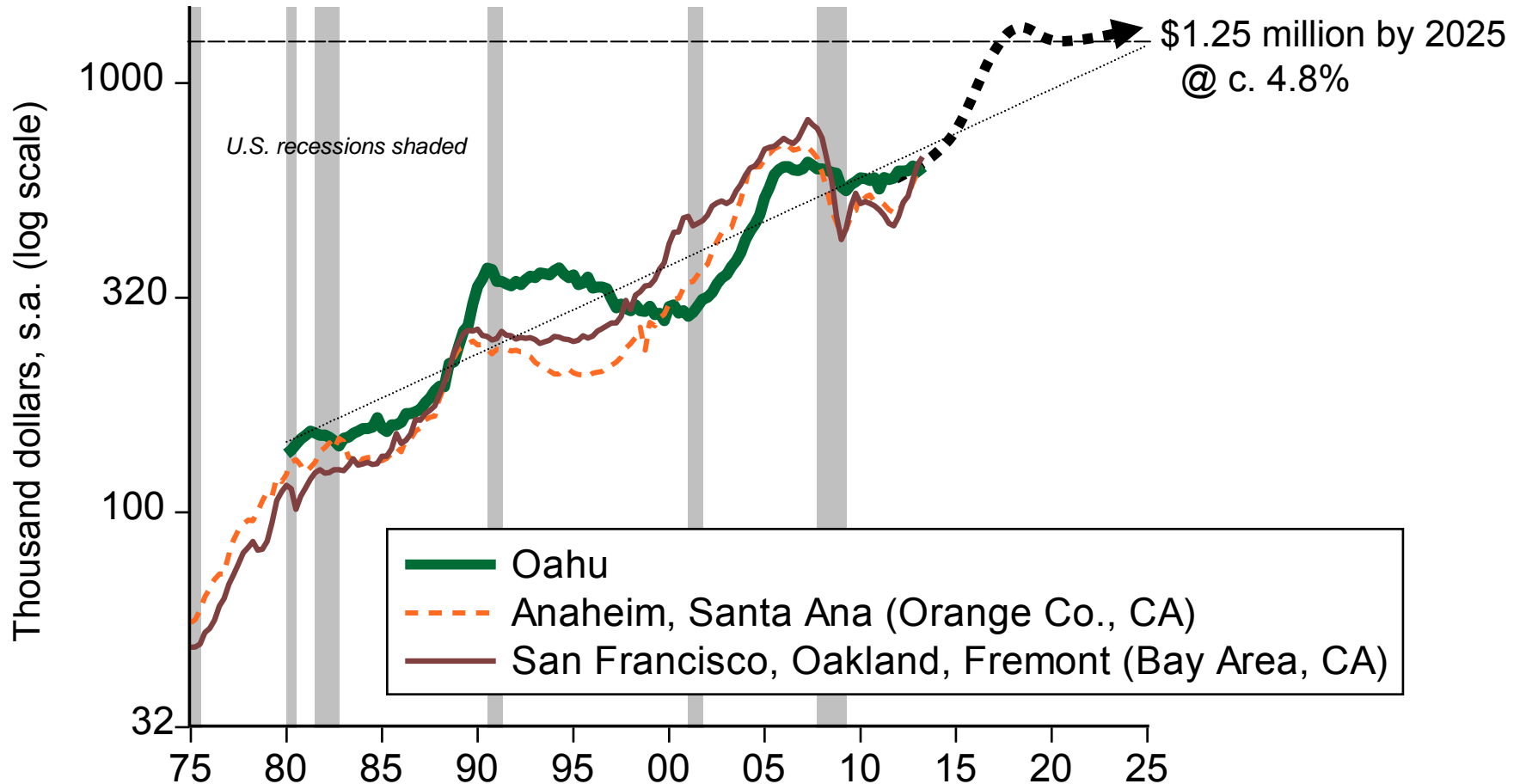
California, Neighbor Island existing single-family home median sales prices: strong co-movement



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Sources: Hawaii Information Service, Realtors Association of Maui, National Association of Realtors; seasonal adjustment by TZE

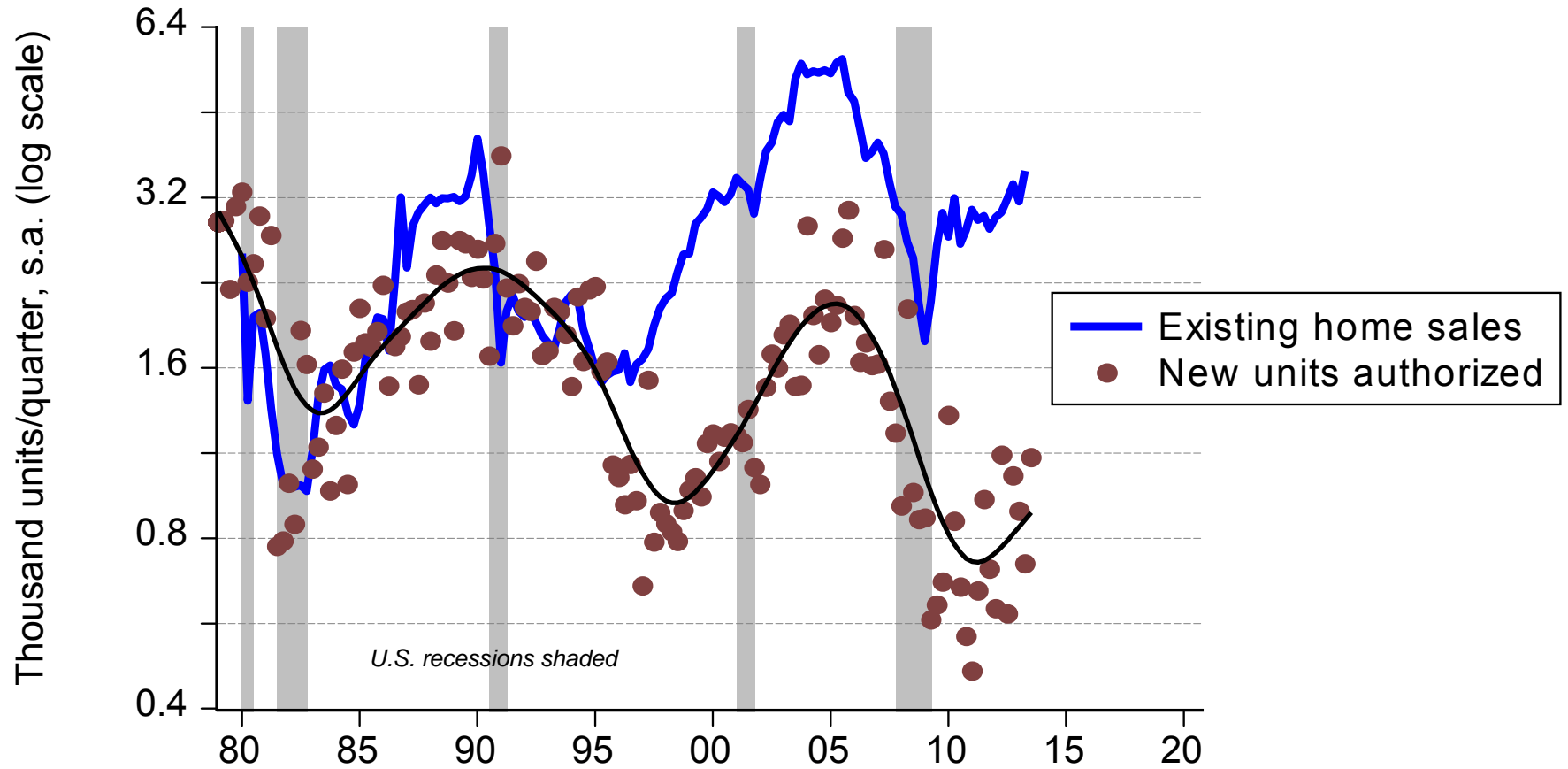
Median single-family existing home sales prices: replicating the *last* (early-2000s) price acceleration



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Sources: Honolulu Board of Realtors, National Association of Realtors. Prudential Locations, UHERO; seasonal adjustment by TZE; regression estimate of the natural logarithm of Oahu median home prices on a constant and time trend, 1980Q1-2013Q2

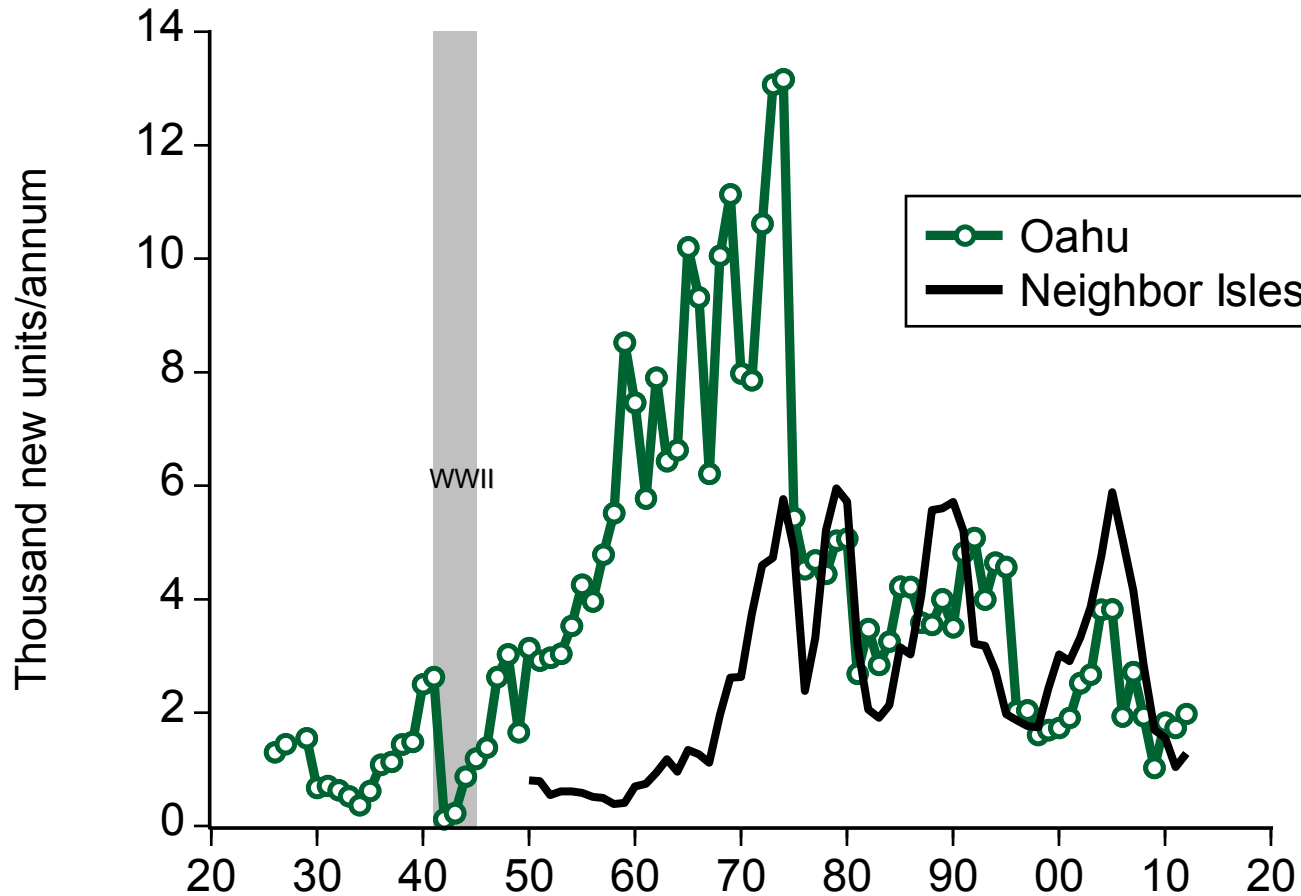
Hawaii existing home sales outpace new residential units permitted (especially slow Neighbor Isle recovery)



Slide copyright 2013 TZ Economics

Source: Prudential Locations, UHERO, County Building Departments, Hawaii DBEDT and TZ Economics; seasonal adjustment, trend extraction by TZE, housing unit authorization data through third quarter 2013, existing home sales through second quarter 2013

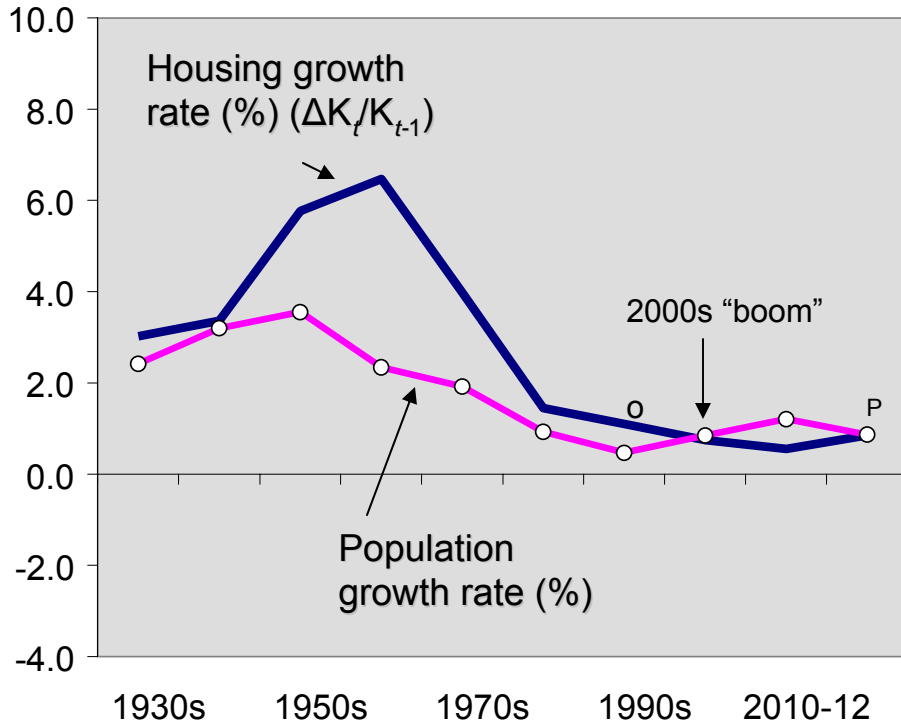
Annual new housing units authorized by building permit



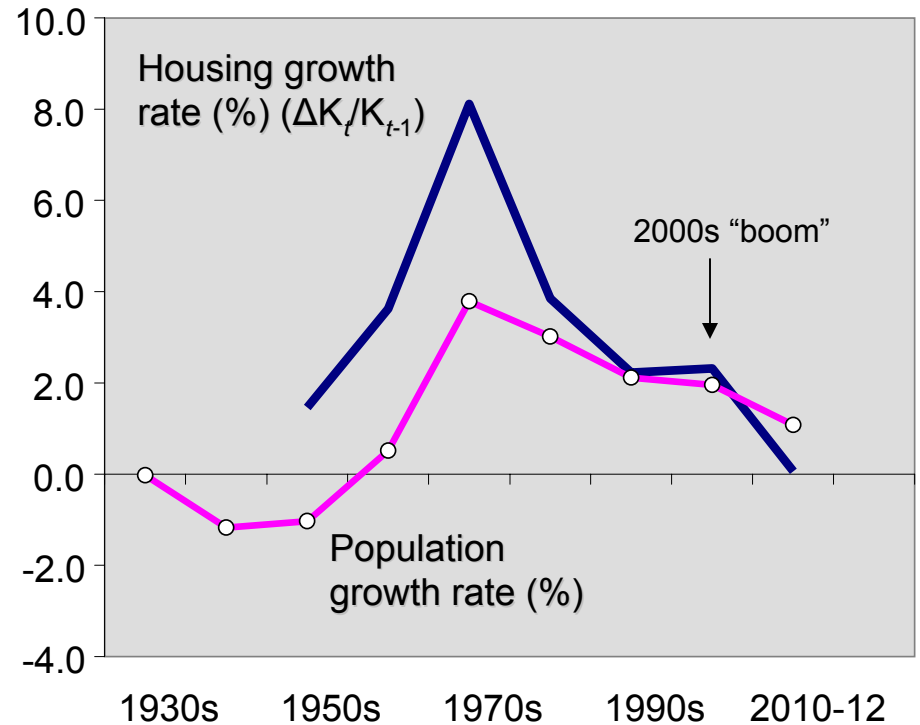
Slide copyright 2013 TZEconomics

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

Hawaii now: population growth > housing formation



Oahu



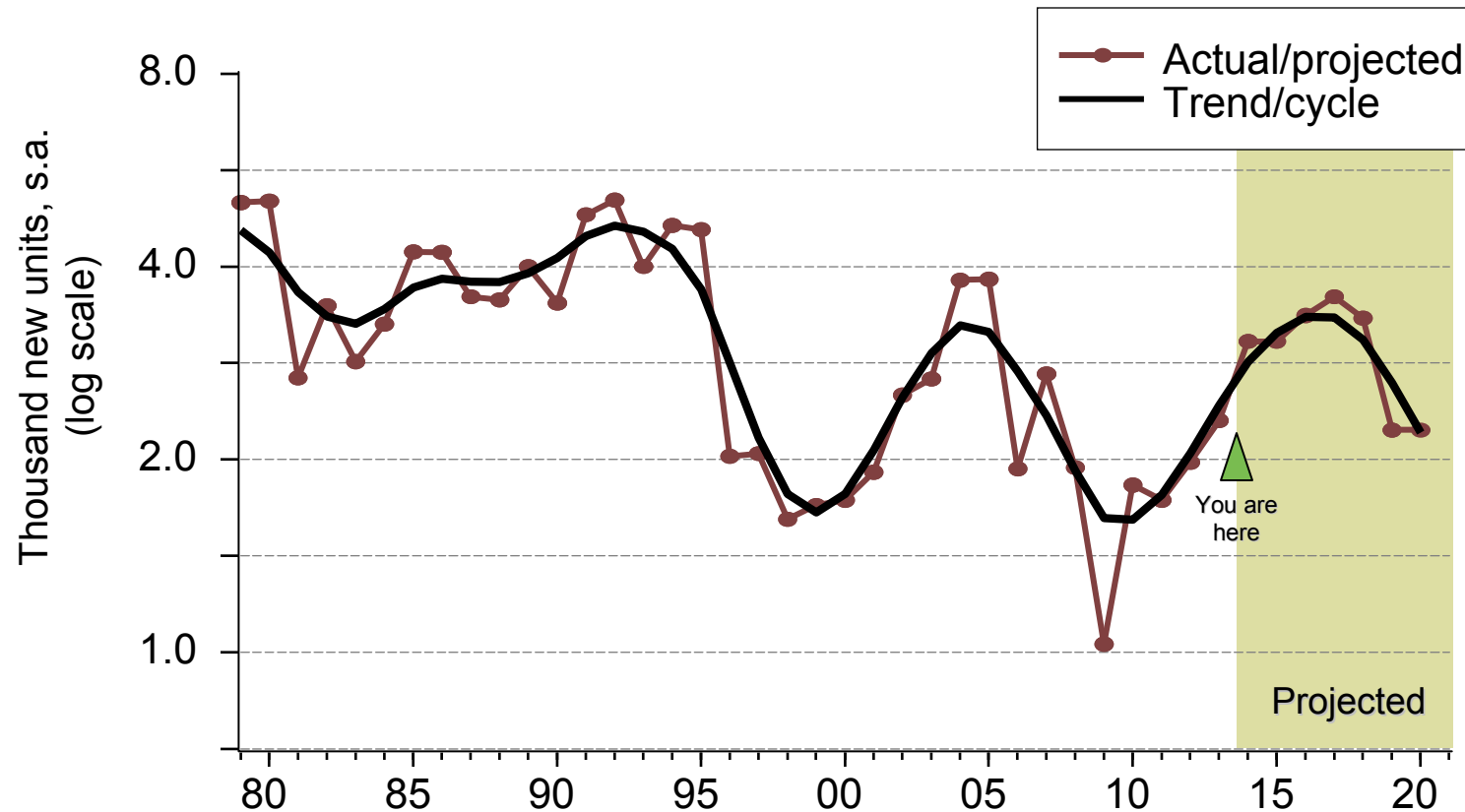
Neighbor Islands

^oMilitary downsizing (BRAC) ^PProjection to 2020 with Koa Ridge, Ho'opili, Kakaako; assumes housing cycle tapers after 2017 (next slide)

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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

Oahu annual new housing units authorized by building permit actual and projected for 20-teens



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)

1. Tourism

2. Housing

- Tight inventory: model predicts 10-15 percent appreciation in 2014
- Housing market fundamentals improving, demand outstripping supply
- Upswing will face headwinds: eroding affordability, rising interest rates
- Production constraints limit homebuilding to *less than* population growth
- (Regulatory, geographic constraints *amplify* valuation cycle in housing)

3. Construction

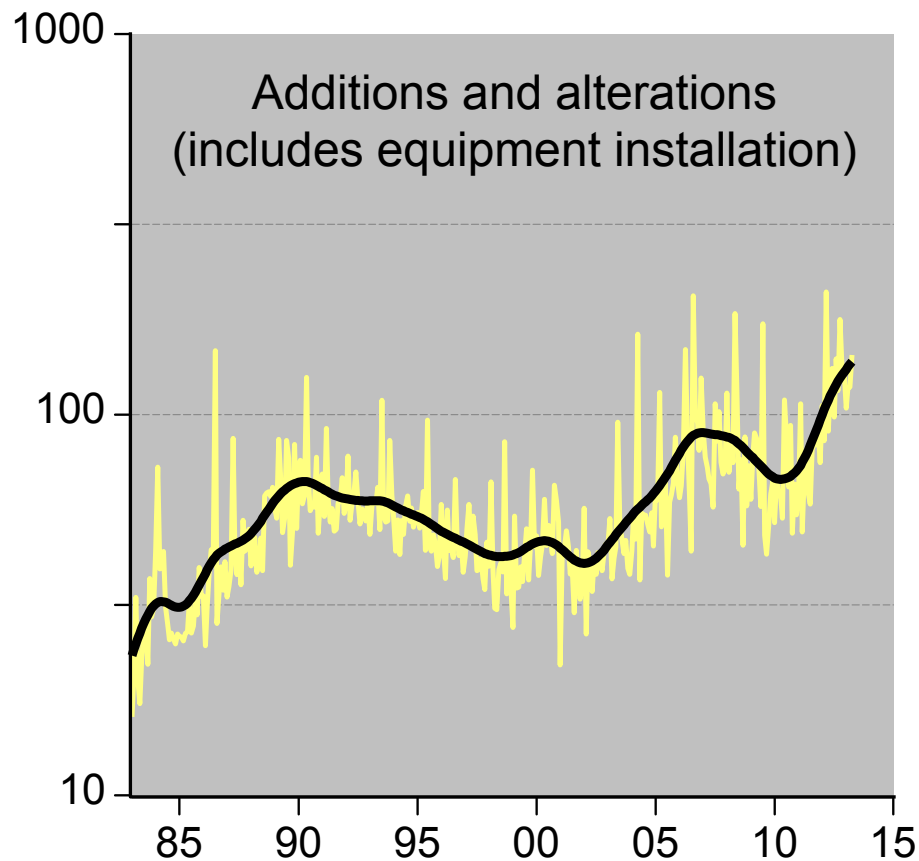
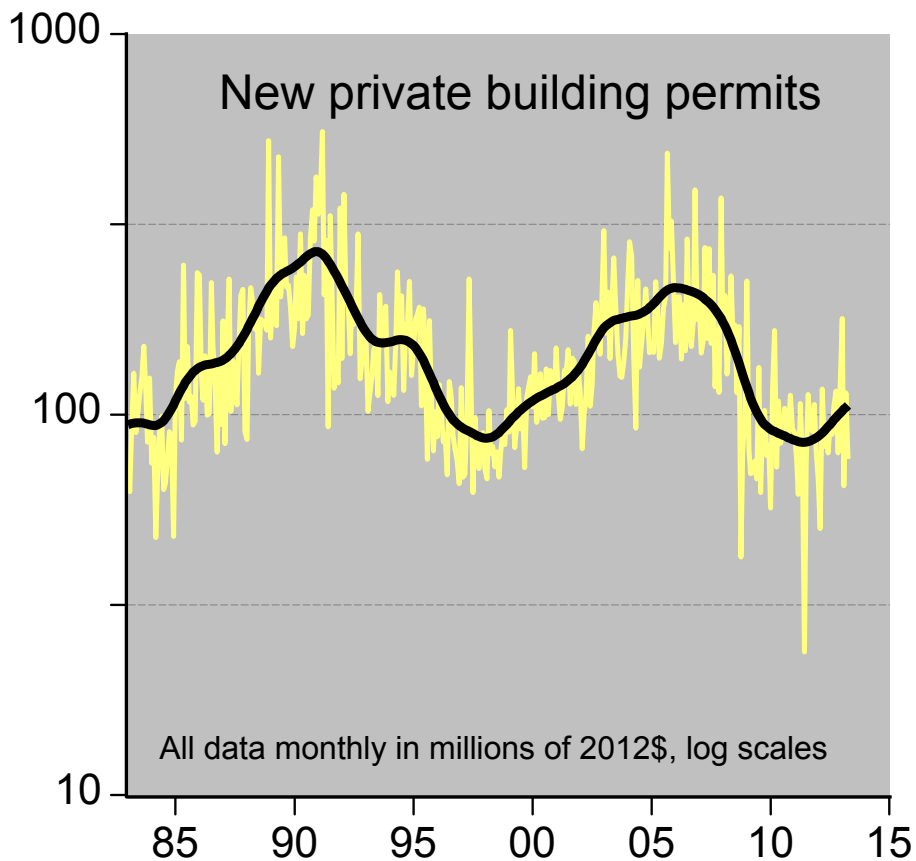
4. Macroeconomic outlook



Construction: head fake—PV panels are not buildings

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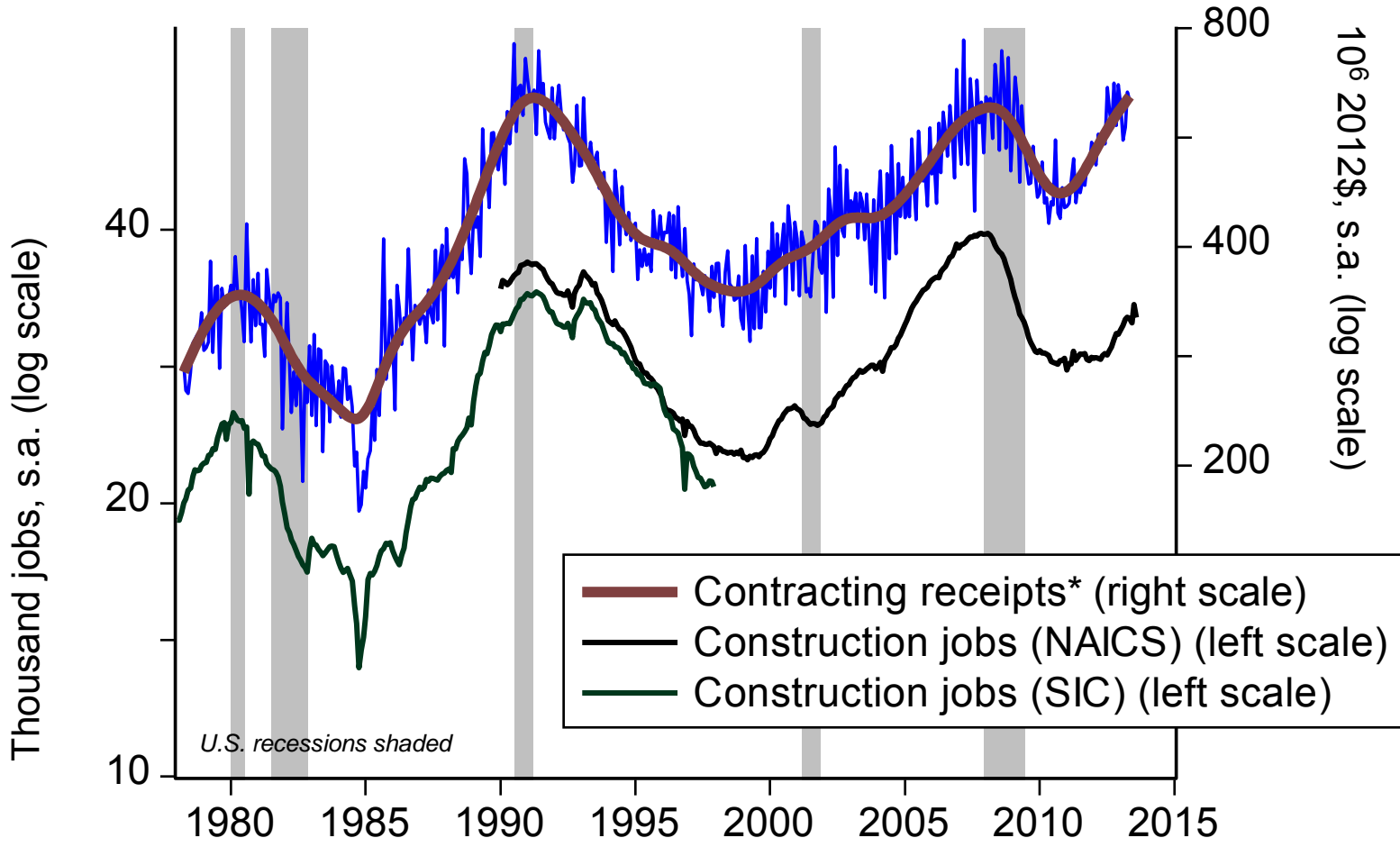
Recent growth of Hawaii real private building permits dominated by *equipment** (PV), not new structures



*Building permits are required for installation of photovoltaic equipment, but investment (gross capital formation) customarily distinguishes structures from equipment and software—buying a diesel generator for hurricane preparedness may be a good idea but it's not building (the verb) a building (the noun), nor is the installation of rooftop photovoltaic panels

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Construction receipts and jobs correlate, but buying PV or a diesel generator is *equipment* investment

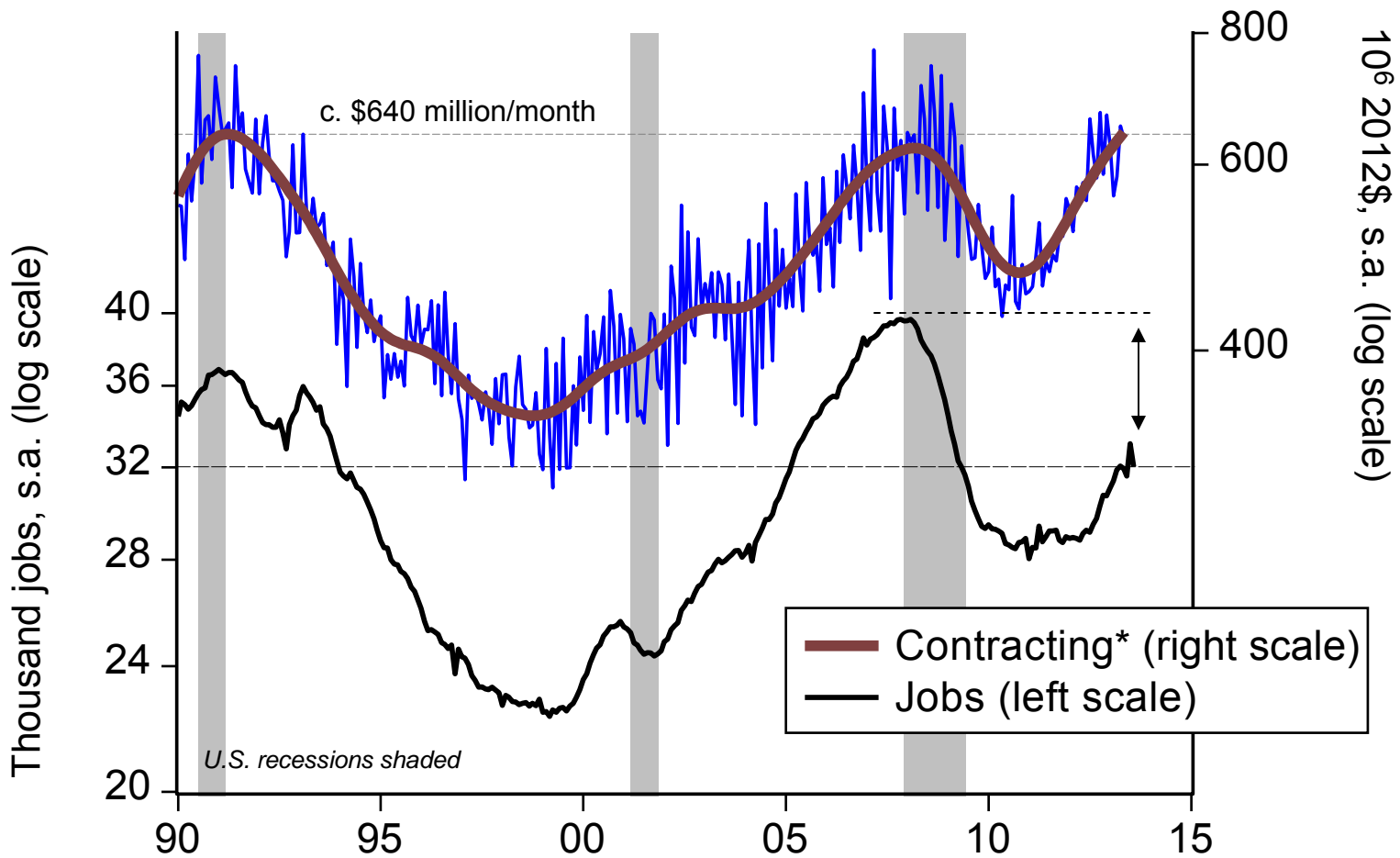


*Excludes military housing privatization which was tax-exempt

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Sources: Hawaii Department of Taxation, Hawaii DLIR and DBEDT, U.S. Bureau of the Census; seasonal adjustment, deflation and trend extraction by TZE, tax base data through May 2013, payroll employment data through August 2013

Construction jobs not keeping up with spending

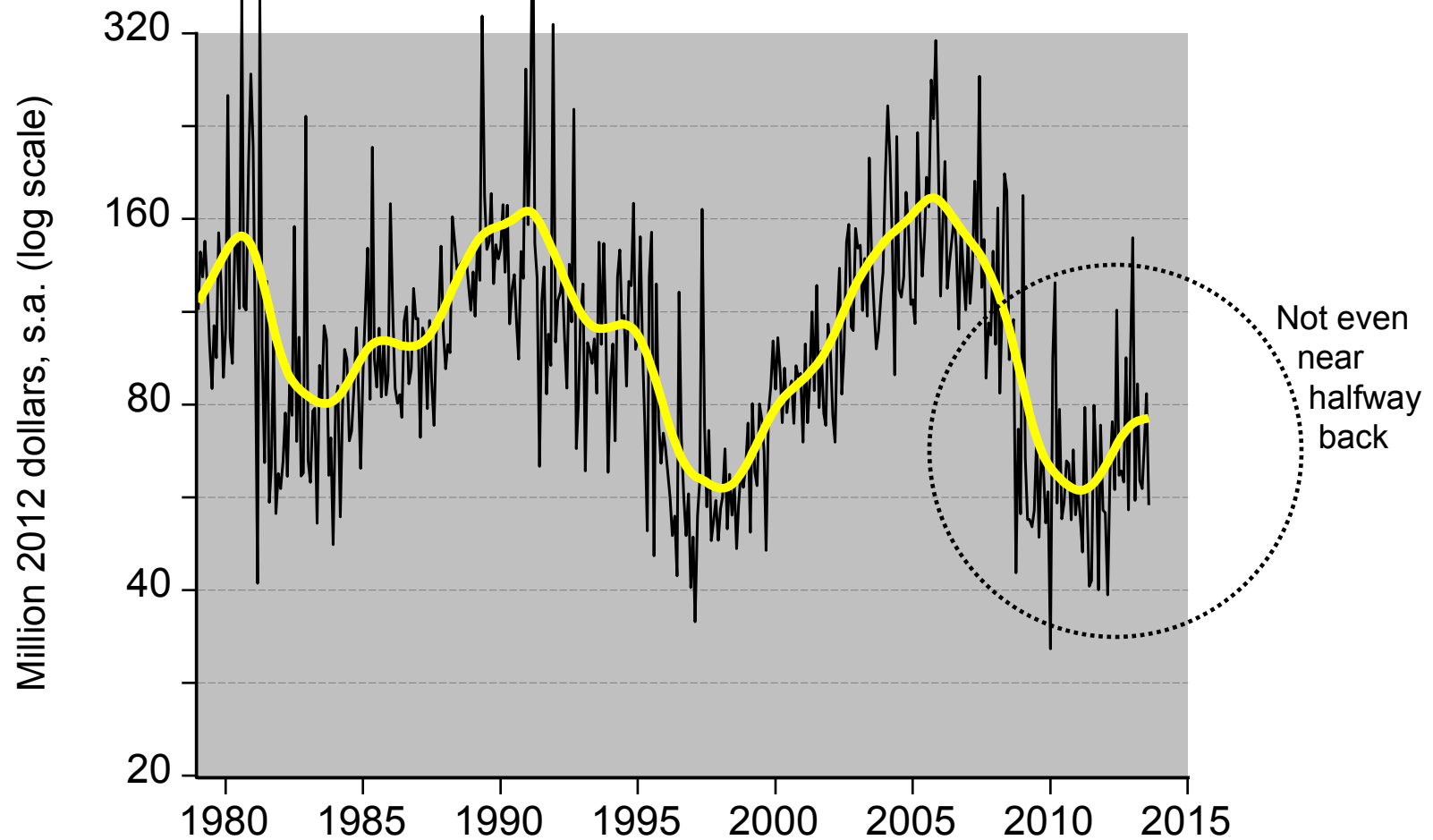


*Excludes military housing privatization which was tax-free

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Sources: Hawaii Department of Taxation, Hawaii DLIR and DBEDT, U.S. Bureau of the Census; seasonal adjustment, deflation and trend extraction by TZE, tax base data through May 2013, payroll employment data through August 2013

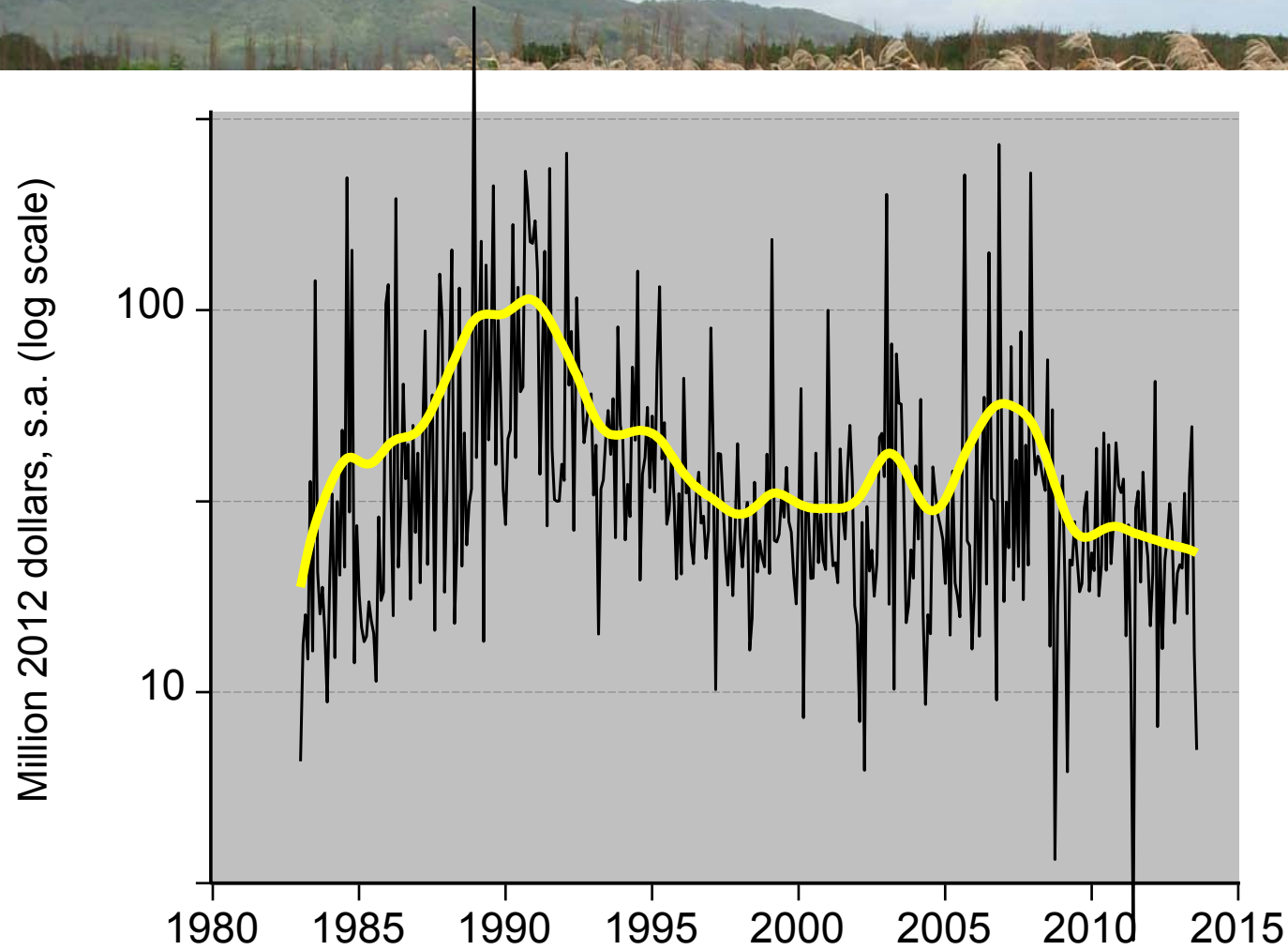
Real new residential building permits: lagging



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Sources: County building departments, Hawaii DBEDT, U.S. Bureau of the Census; seasonal adjustment, deflation and trend extraction by TZE monthly data through August 2013

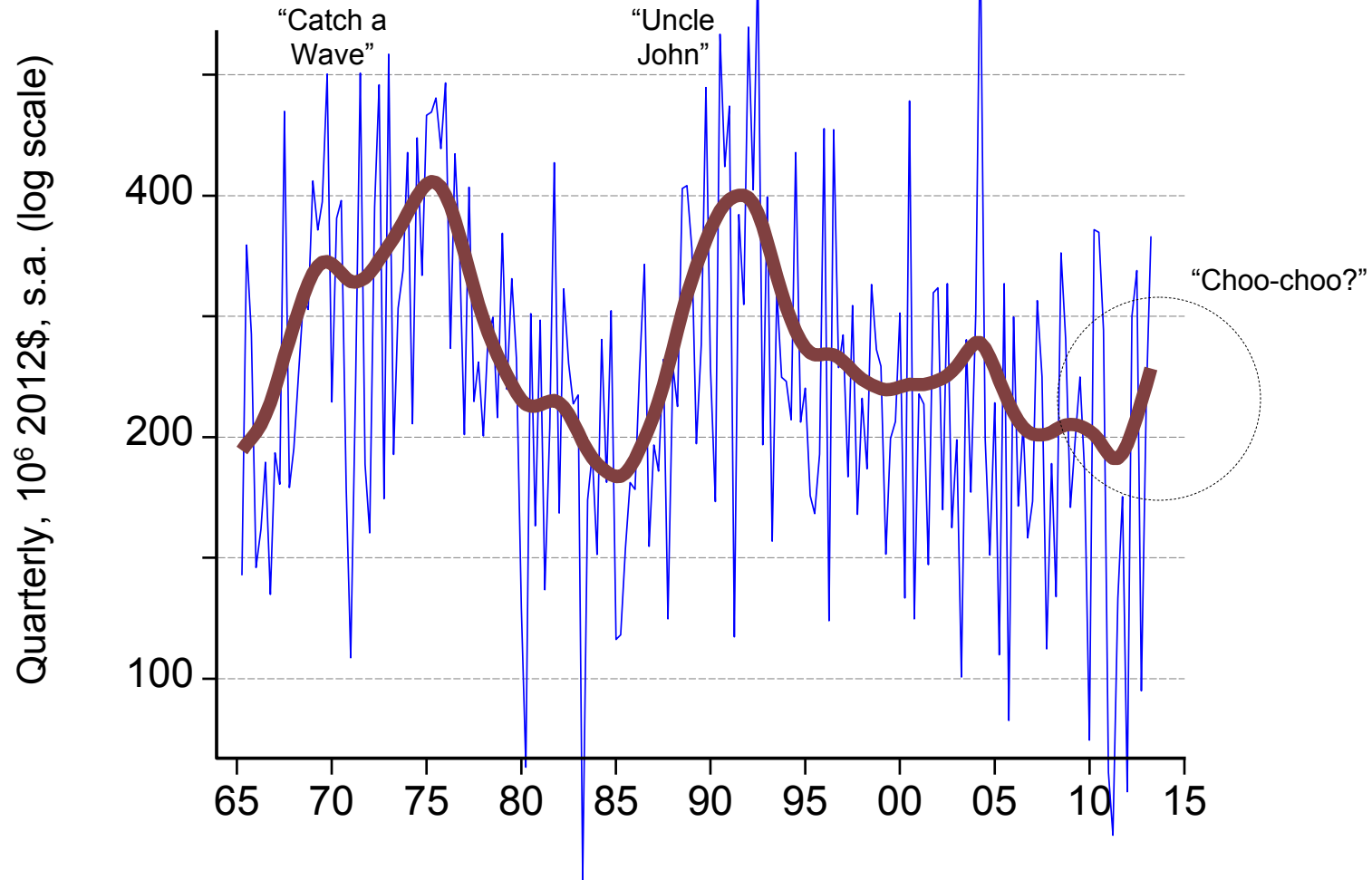
Real new commercial building permits: lagging worse



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Sources: County building departments, Hawaii DBEDT, U.S. Bureau of the Census; seasonal adjustment, deflation and trend extraction by TZE monthly data through August 2013

Quarterly real government construction contracts to mid-2013: signs of life or deferred maintenance?

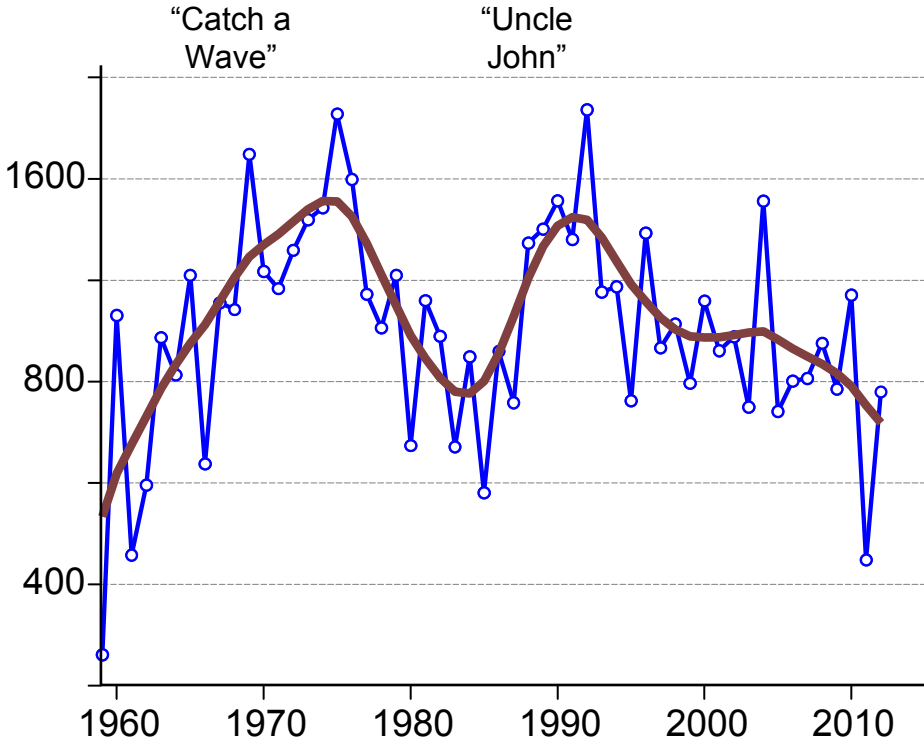


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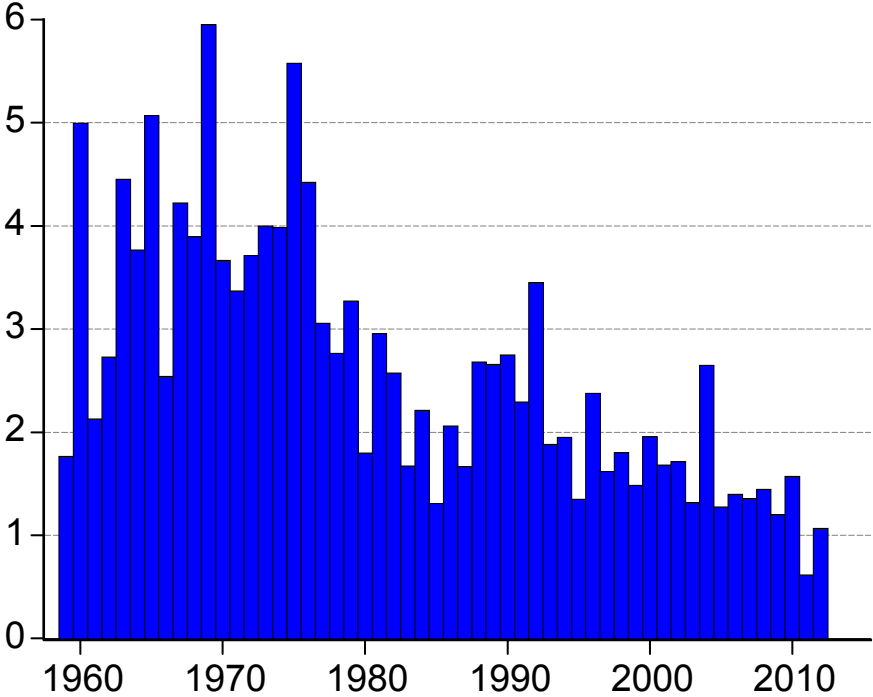
Sources: Bank of Hawaii (discontinued), Hawaii DBEDT, U.S. Bureau of the Census; seasonal adjustment, deflation and trend extraction by TZE quarterly data through second quarter 2013, combined federal, state and county government construction commitments



Annual real government construction in Hawaii, through 2012



Federal, state, county contracts*
(Million 2012 dollars)



Totals relative to Hawaii output
(percent of GDP)

*Excludes military housing privatization which is not public, duh



Outline

1. Halfway into the current economic expansion

2. Housing

3. Construction

- Recovery is partly a head fake: PV panels are *equipment*, not buildings*
- Construction of new *buildings* recovering less quickly; commercial not at all
- Homebuilding mired in acronymphobia (LUC, DPP, HCDA, HHFDC, DHHL...)
- *After* rising, public construction as % of GDP still *less than* fifty years ago

4. Macroeconomic outlook

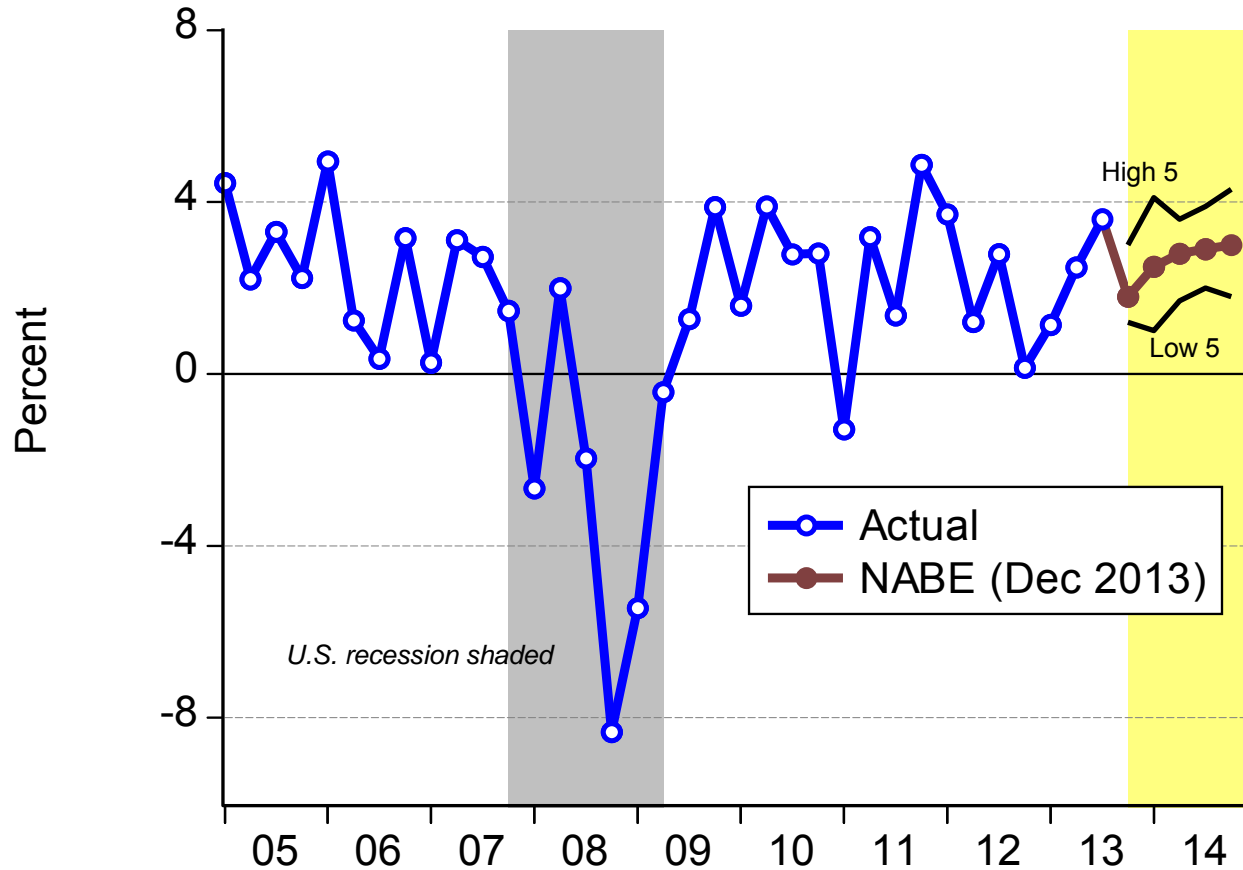
*As in “building permit,” the noun, not the verb



Macroeconomic outlook: growth with challenges

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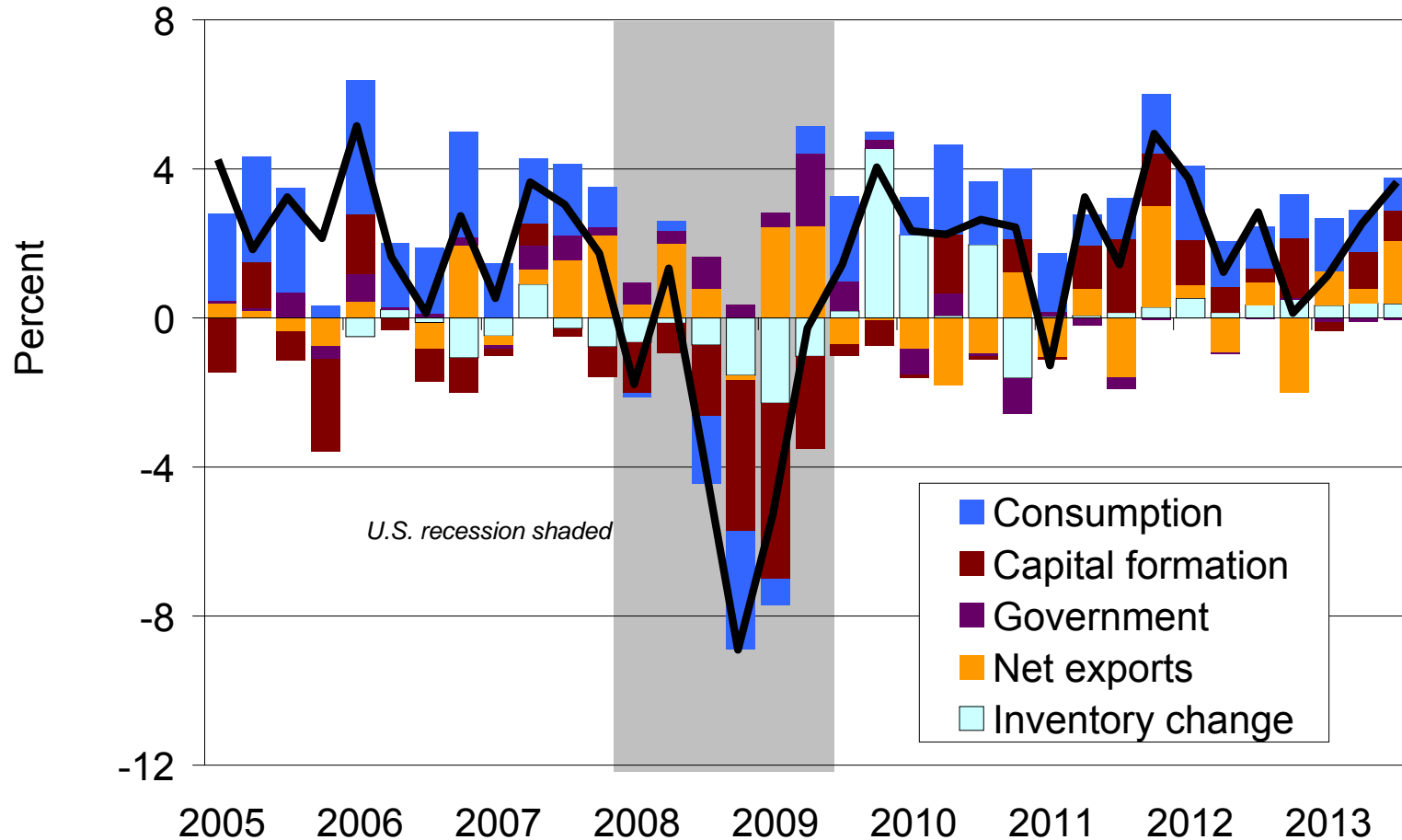
U.S. real GDP growth forecasts (December 2013): October federal shutdown masked strong third quarter



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Source: National Association for Business Economics, *NABE Forecasters Expect Uptick in Growth with Healthier Labor Market in 2014* (December 9, 2013)

Composition of U.S. real GDP since 2010: consumption-, investment-, and export-led growth



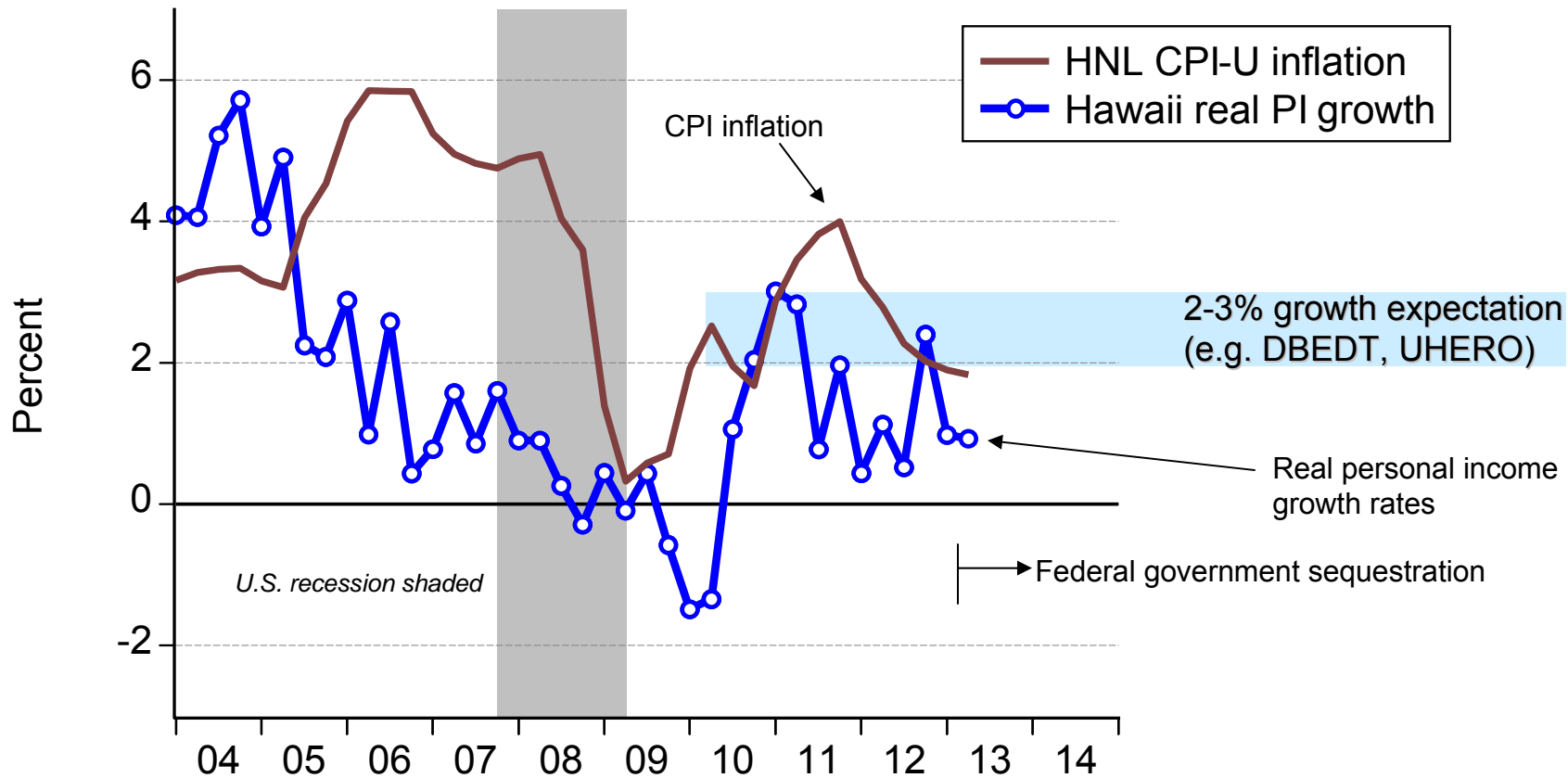
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Compound annual growth of real U.S. GDP government components highlight shifting sources of fiscal drag

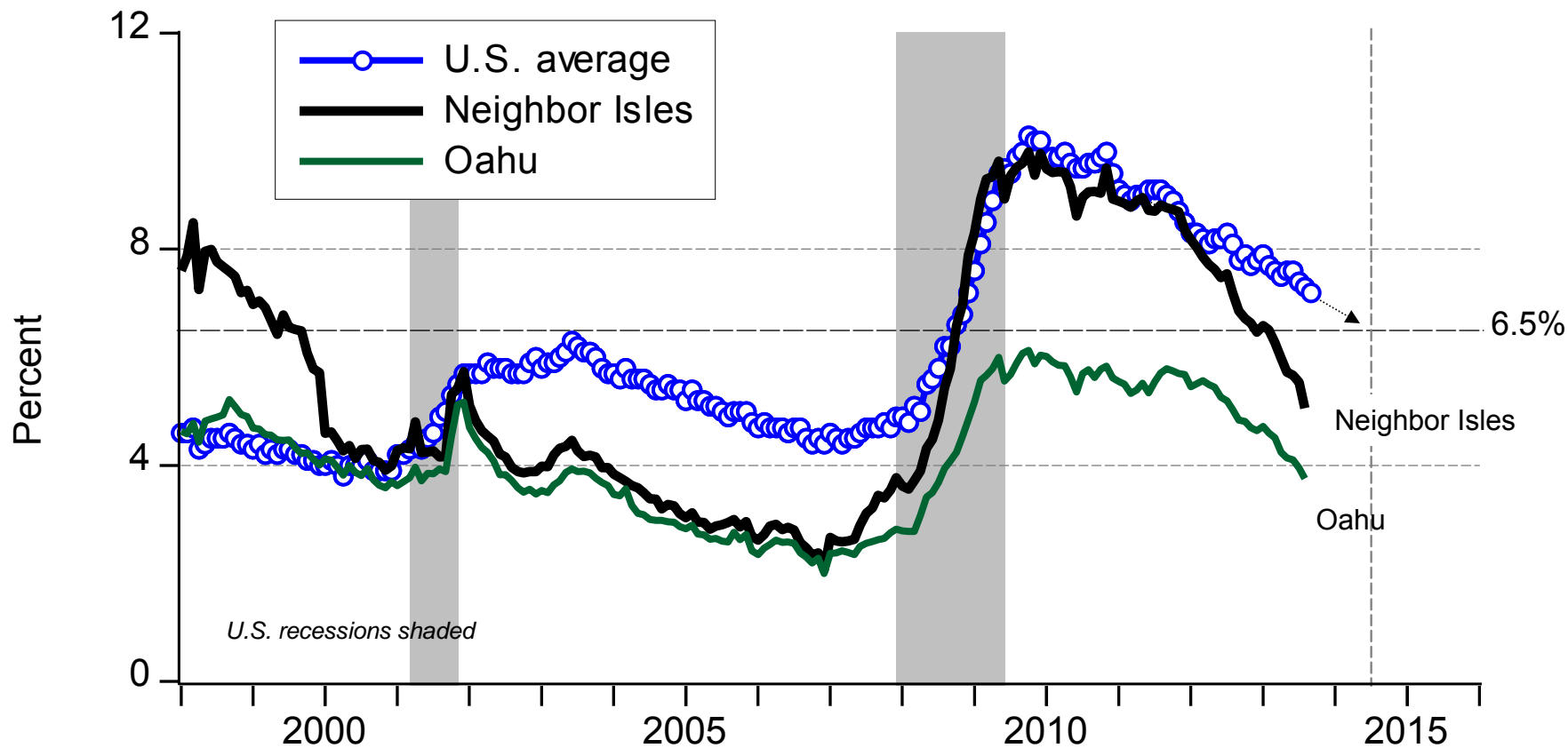
	Expansion to-date	First 2 years 09Q2-11Q2	Second 2 years 11Q2-13Q3
GDP	2.3	2.25	2.36
Government	-1.5	-1.5	-1.4
Federal	-1.1	1.1	-3.0
National defense	-2.1	0.8	-4.5
Nondefense	0.7	1.8	-0.3
State and local	-1.7	-3.3	-0.3

Hawaii math: 0.25 of economy (public sector) is growing -1.5% per annum
0.75 of economy (private sector) is growing $+3.5\%$
Overall economy grows 2.25%

Hawaii quarterly real personal income growth (puka) and contemporaneous Honolulu inflation rates (line)



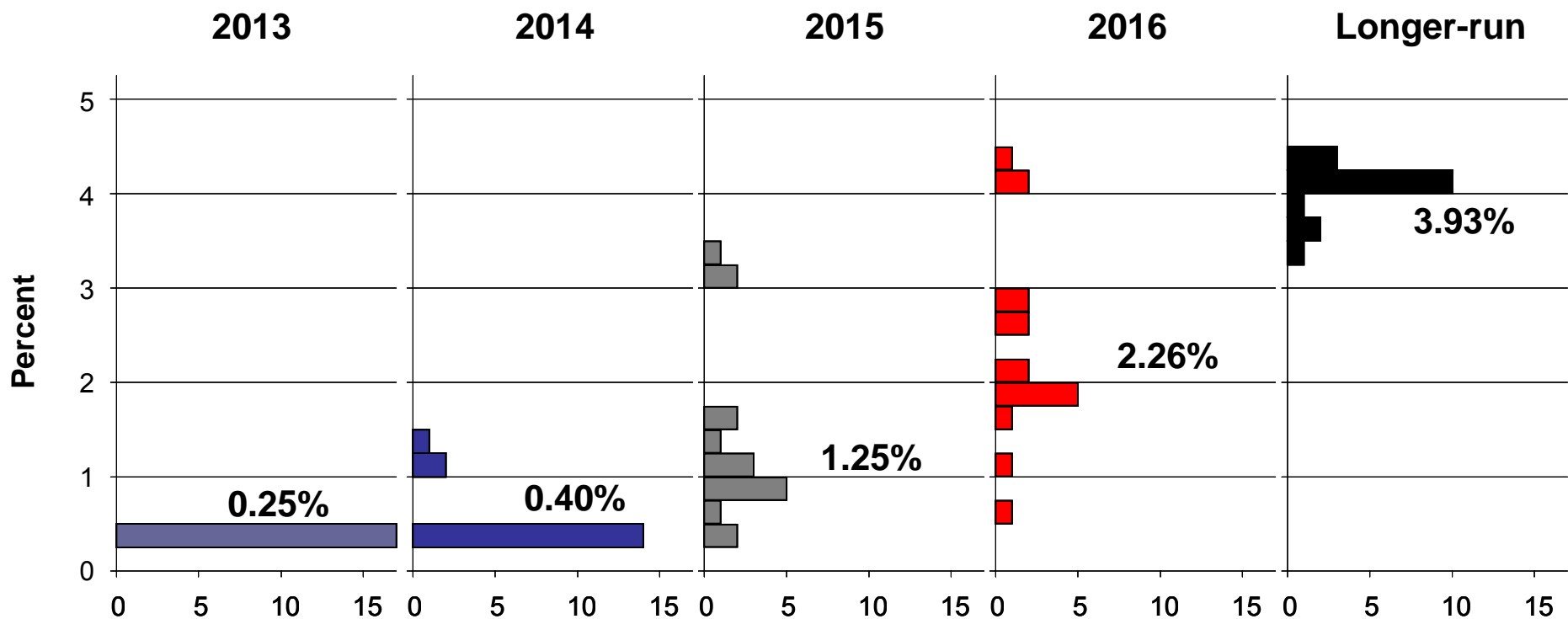
Hawaii and U.S. unemployment rates(s.a.): Fed threshold, 6.5%, before short-term rates rise



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Source: Bureau of Labor Statistics, U.S. Department of Labor, Hawaii DLIR and DBEDT; seasonal adjustment of Hawaii data by TZE; Hawaii data through August 2013, U.S. data include September 2013 (delayed) estimate.

Distributions of FOMC participant's forecasts for the fed funds target rate and weighted averages

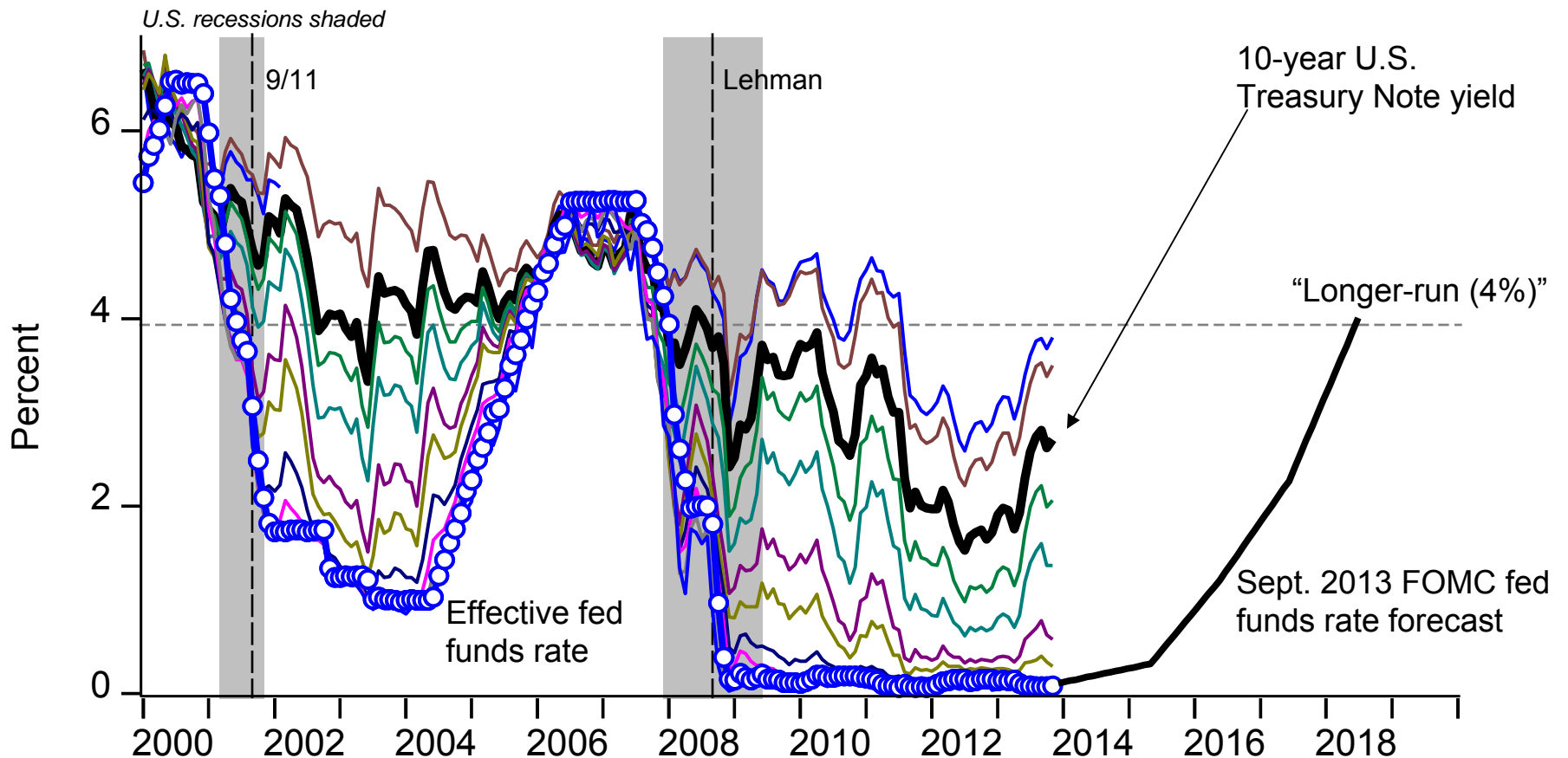


Number of observations (FOMC participants, total = 17)

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Source: Advance release of Figure 2 Overview of FOMC participants' assessments of appropriate monetary policy to be released with September 17-18, 2013 FOMC minutes (released September 18, 2013) (<http://www.federalreserve.gov/monetarypolicy/fomcproptabl20130918.htm>)

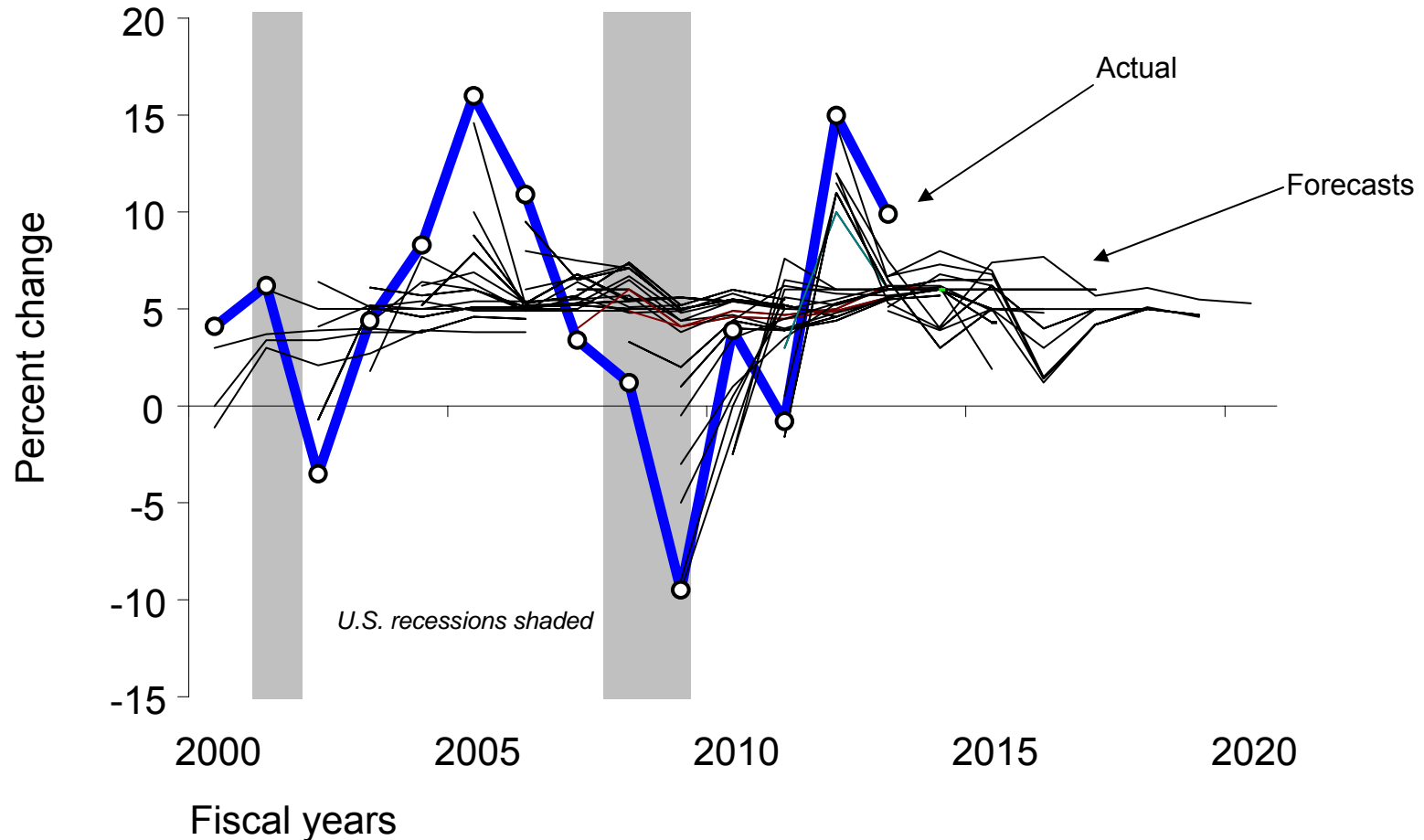
Treasury constant-maturity yields (term structure) and fed funds rate trajectory implied by the FOMC



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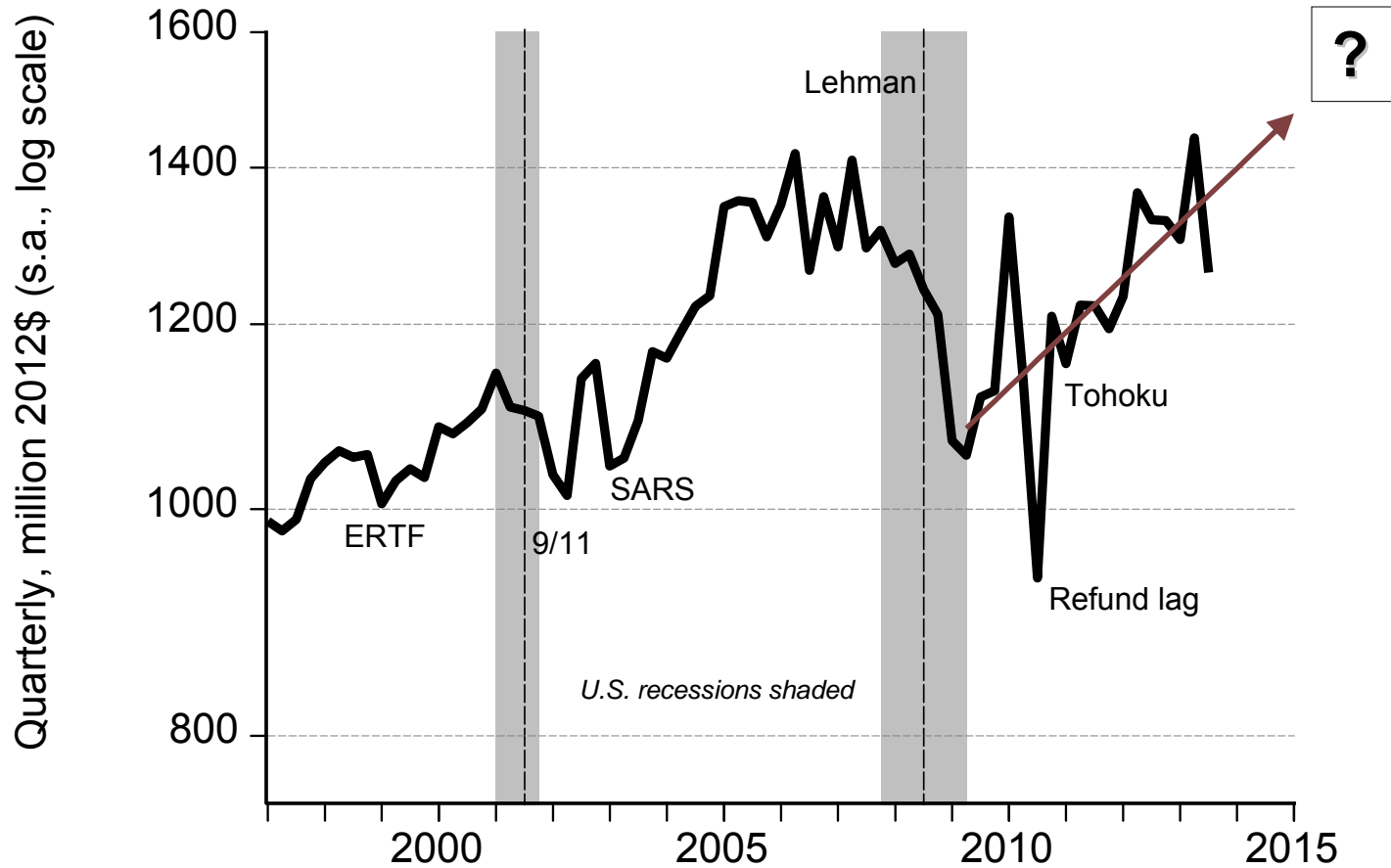
Source: H.15 and advance release of Figure 2 Overview of FOMC participants' assessments of appropriate monetary policy to be released with Sept. 17-18, 2013 FOMC minutes (released September 18, 2013) (<http://www.federalreserve.gov/monetarypolicy/fomcprojt20130918.htm>)

Hawaii Council on Revenues multi-year forecasts for nominal General Fund revenue growth since FY1999



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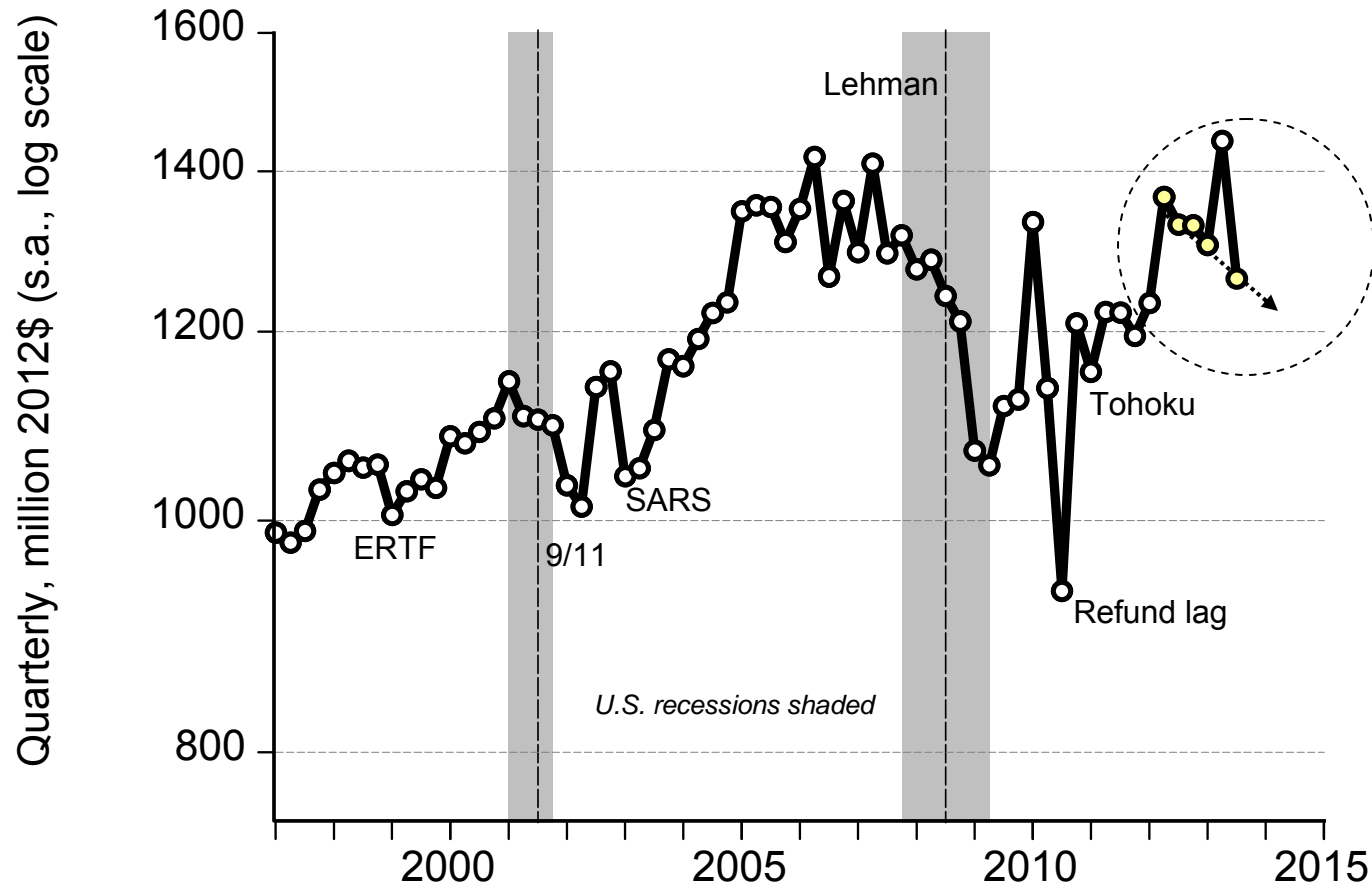
The \$6.4 billion dollar question: will real General Fund revenue exceed \$5.4 billion (12 mos. to 9/13)?



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Sources: Hawaii Department of Taxation, Hawaii Department of Business, Economic Development and Tourism, Bureau of Labor Statistics; seasonal adjustment and deflation by TZ Economics

Constant-dollar Hawaii general fund revenues actually have declined for 5 quarters recently (1 outlier)



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Sources: Hawaii Department of Taxation, Hawaii Department of Business, Economic Development and Tourism, Bureau of Labor Statistics; seasonal adjustment and deflation by TZ Economics



Outline

1. Halfway into the current economic expansion

2. Housing

3. Construction

4. Macroeconomic outlook

- U.S. real GDP growth forecast: 2% going to 3% (Hawaii too)
- Private sector growth despite fiscal drag, now from federal government
- Oil-driven inflation shocks were temporary; tighter labor markets coming
- Normalization of monetary policy will raise interest rates—more drag
- General fund revenues exceed forecast, boom *and* bust; position for latter

A scenic view of a tropical coastline. In the foreground, a rocky beach is covered with smooth, grey stones. A small stream of clear water flows from the left towards the center of the beach. To the left, several tall palm trees stand against a backdrop of a steep, green hillside. The ocean is a deep blue, with white waves breaking onto the shore. The sky is a clear, bright blue with a few wispy white clouds. The overall atmosphere is peaceful and tropical.

Mahalo!

Slides available from:

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Appendix: Phillips Curves, etc.



Mahalo!

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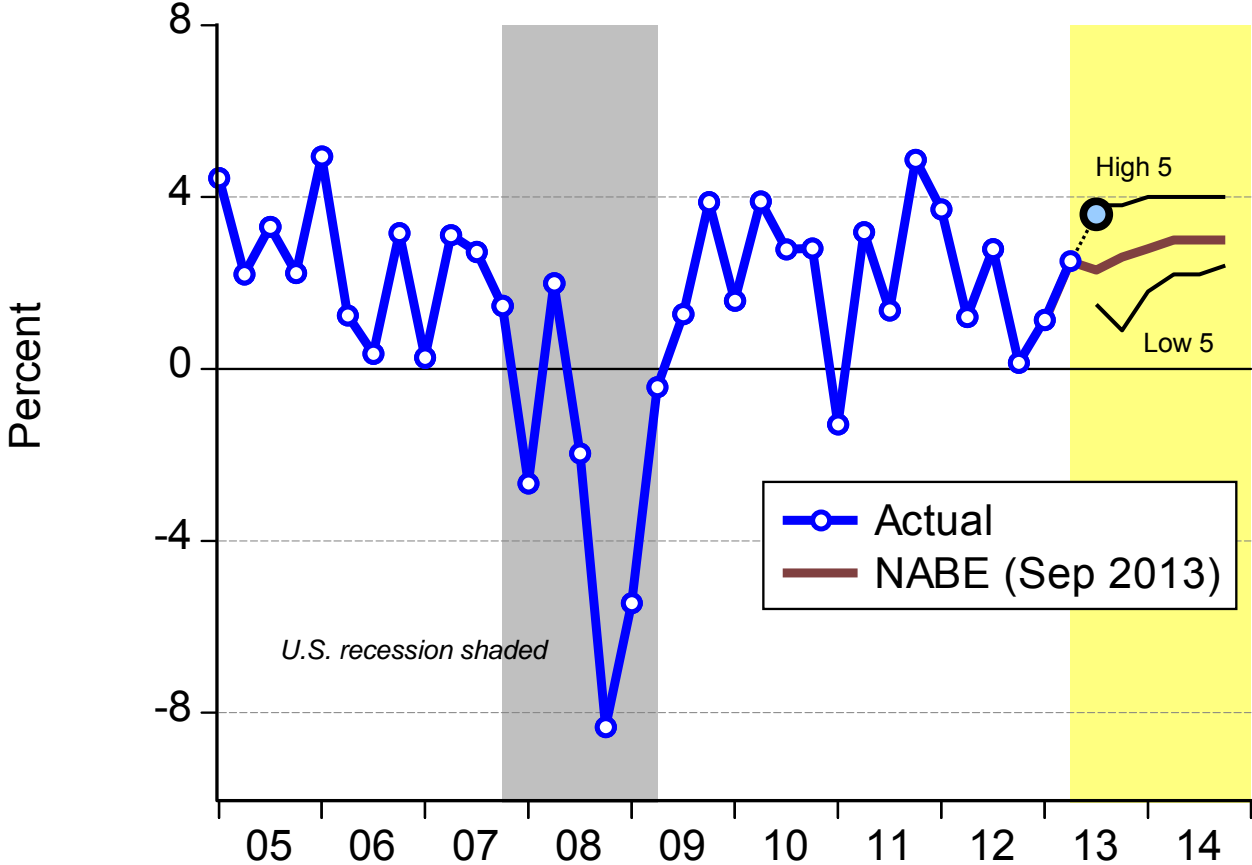
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Appendix 1: NABE September 2013 forecast

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U.S. real GDP growth forecasts (September 2013): actual third quarter growth closer to high end

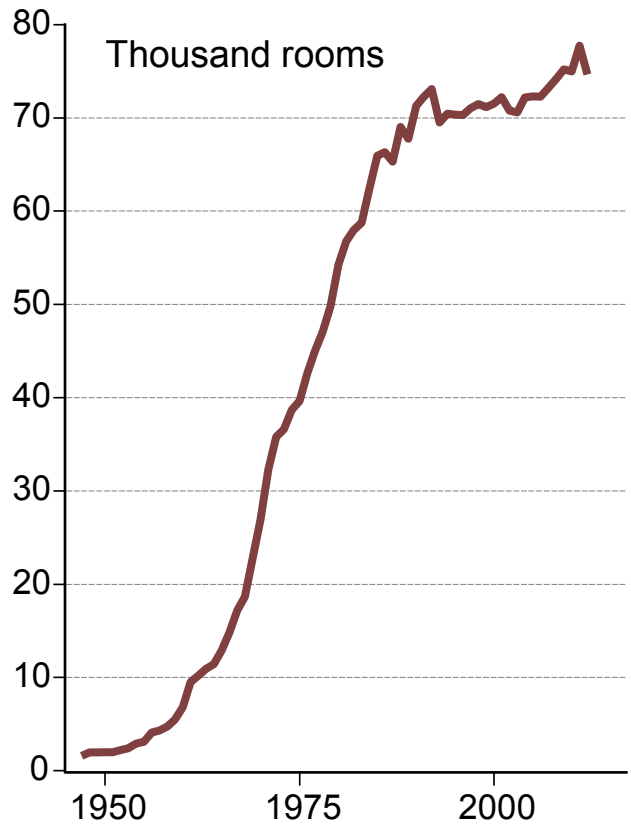




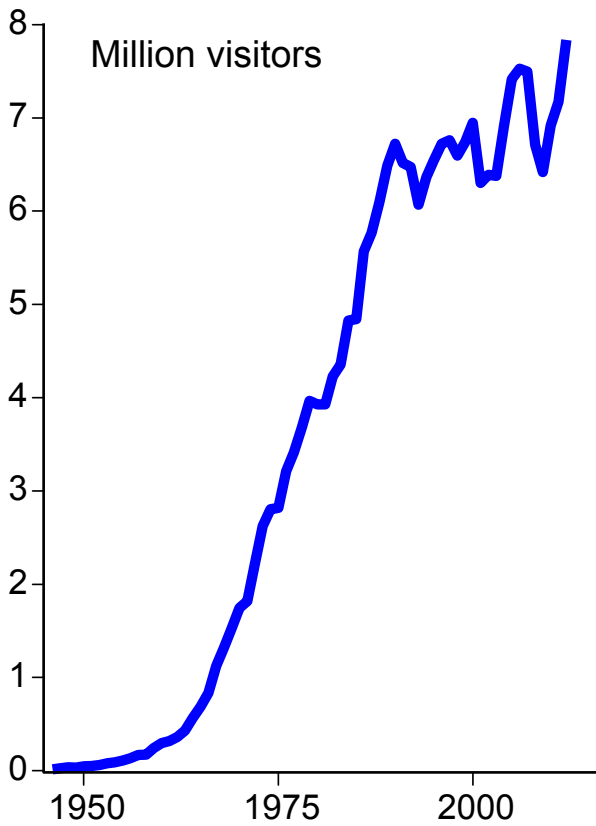
Appendix 2: Tourism has *not* grown since 1990

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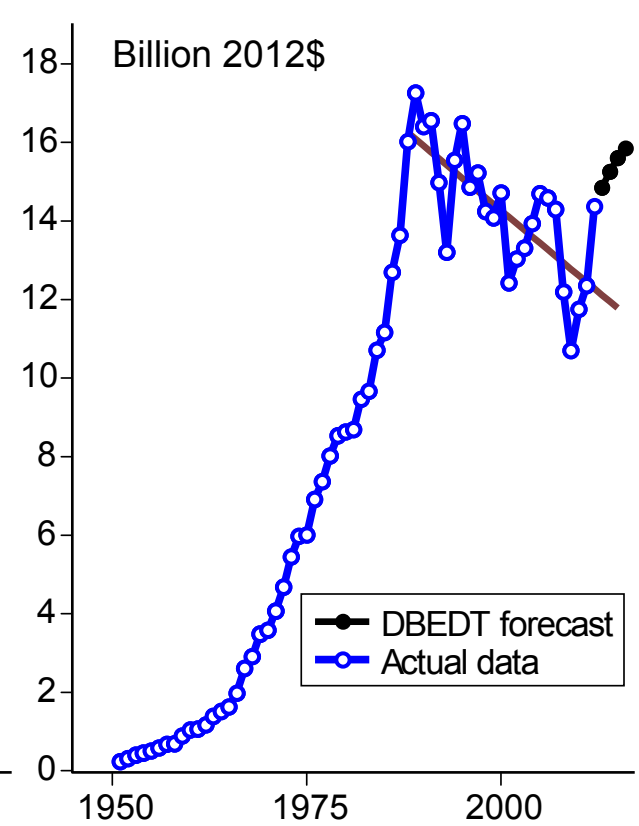
Tourism dilemma—higher volumes, *lower* receipts; binding constraint: 75k rooms (2012) vs. 73k (1992)



Tourist accommodations

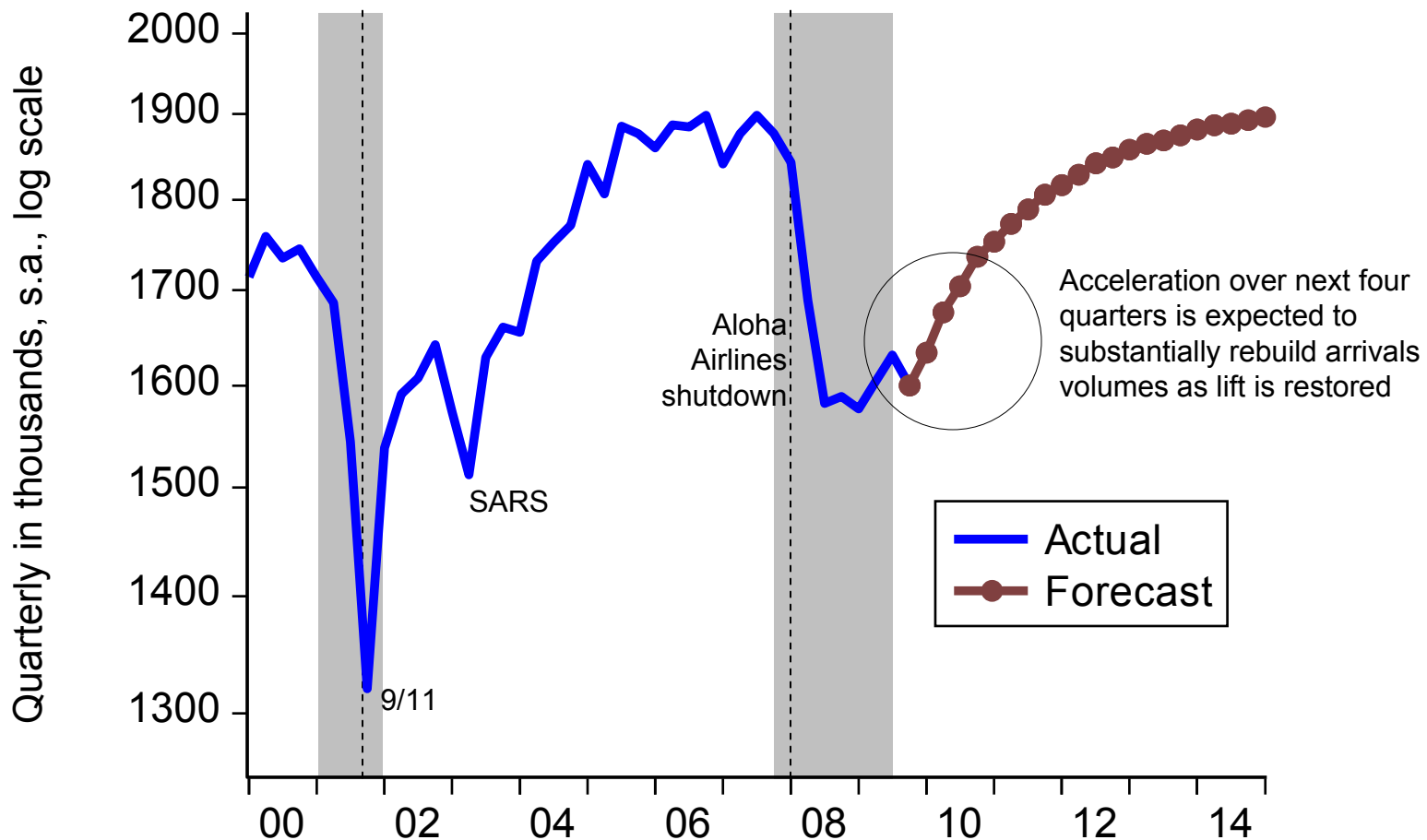


Tourist arrivals



Real tourism receipts

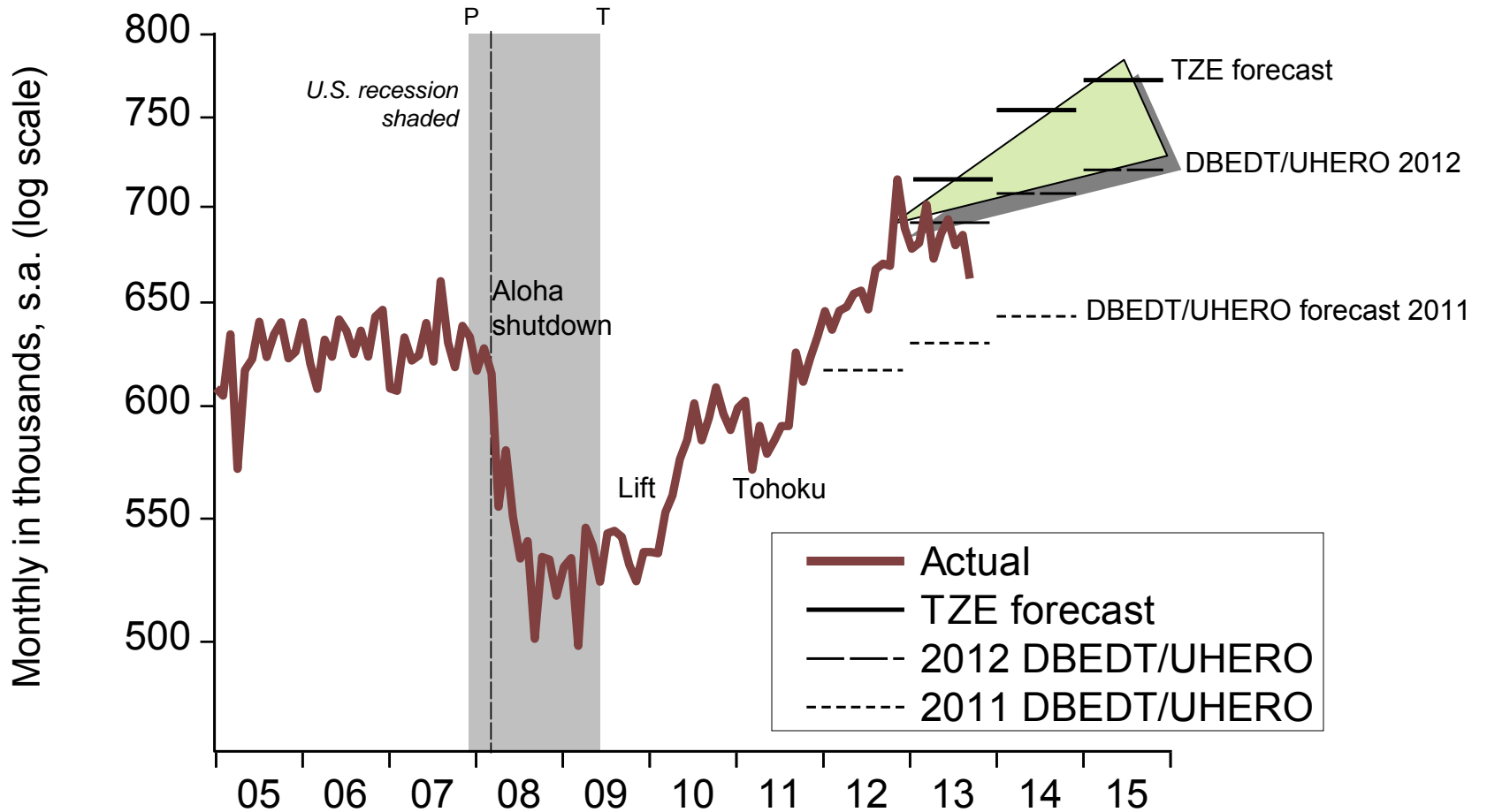
Older Hawaii tourism forecast (fall 2009): nobody believed it possible but visitor arrivals grew



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Source: Hawaii Tourism Authority, Hawaii DBEDT; seasonal adjustment and fall 2009 forecast by TZE (image modified slightly in 2013 to highlight Aloha Airlines shutdown instead of collapse of Lehman Brothers six months later)

2011 forecasts too low, 2012 too high (especially mine): failing to identify lodging capacity constraint



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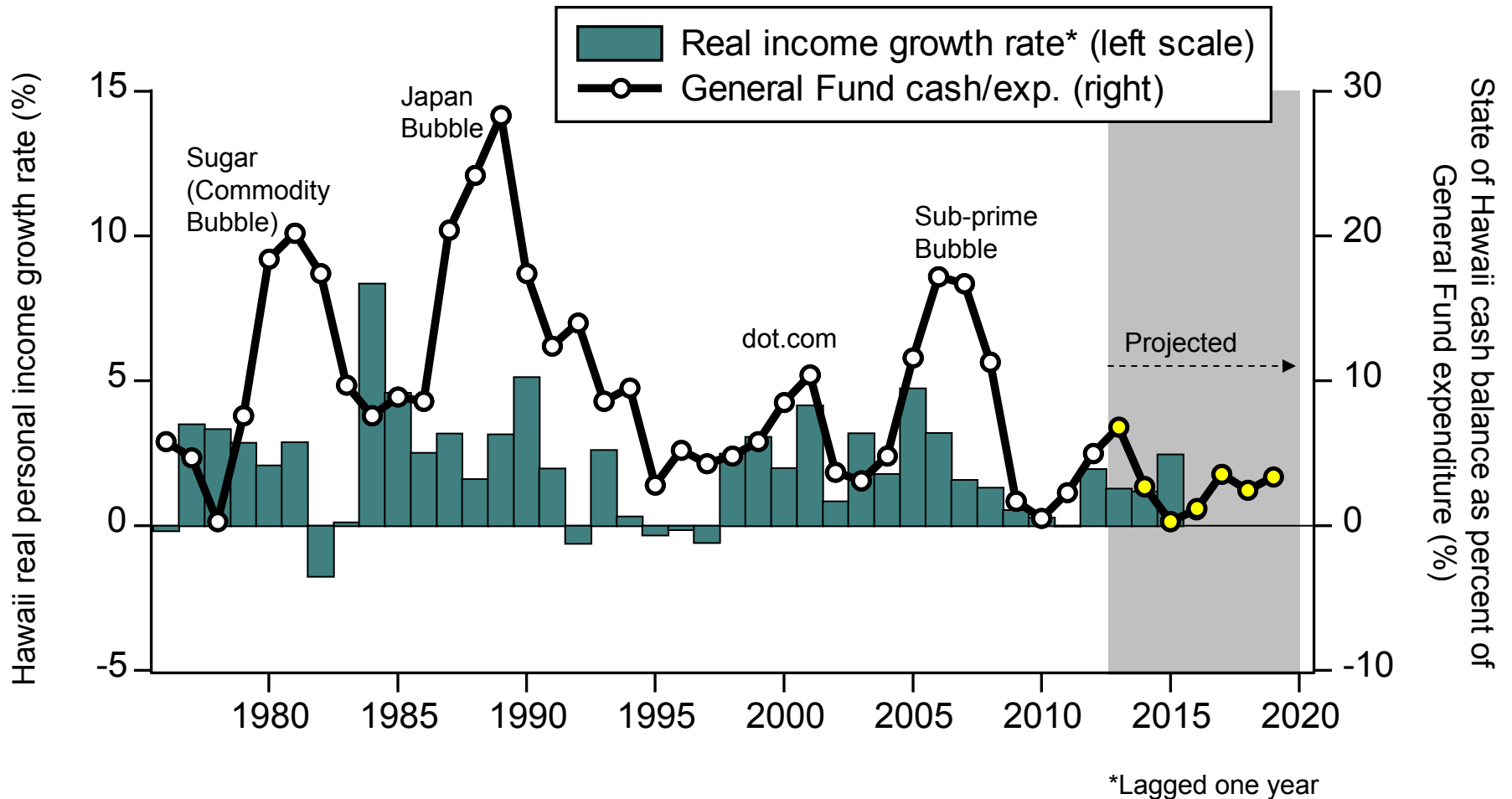
Source: Data through September 2013 from HTA, Hawaii DBEDT; forecasts from DBEDT and UHERO); seasonal adjustment (Census X-12 ARIMA filter) and forecast from trend components of tax revenue model for January 2013 HIPA conference by TZE



Appendix 3. State of Hawaii is *not* saving enough

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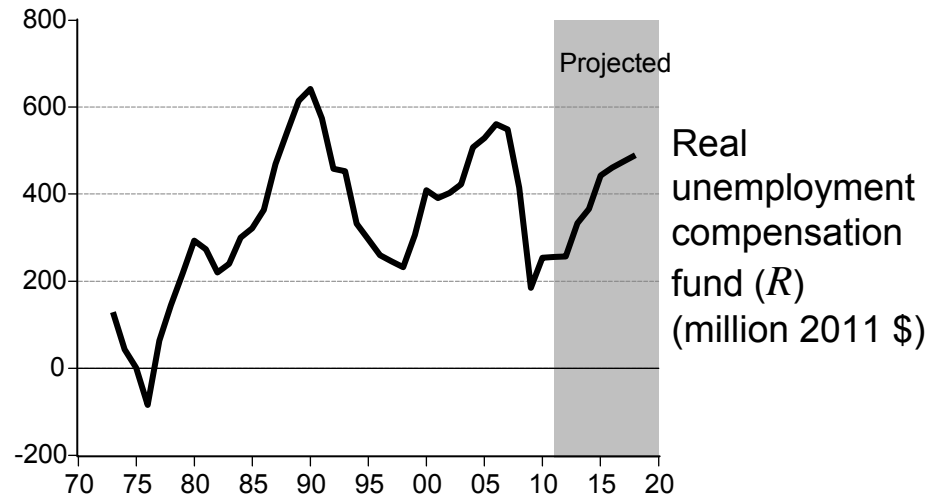
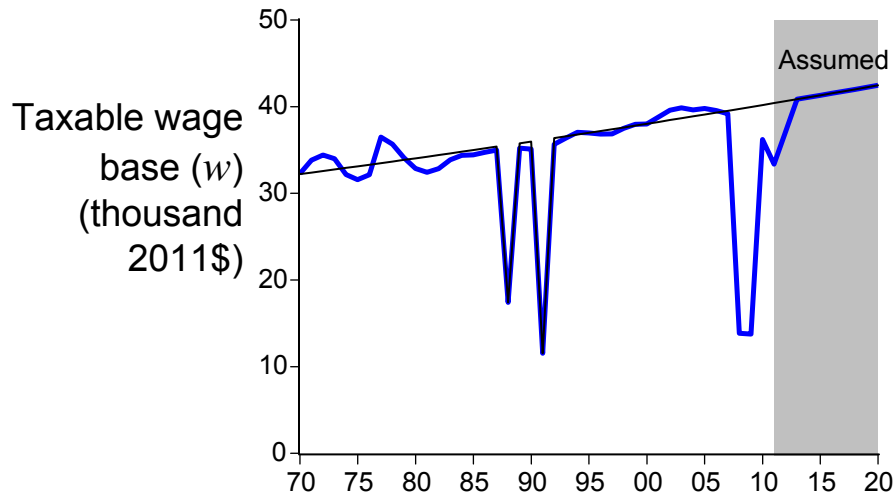
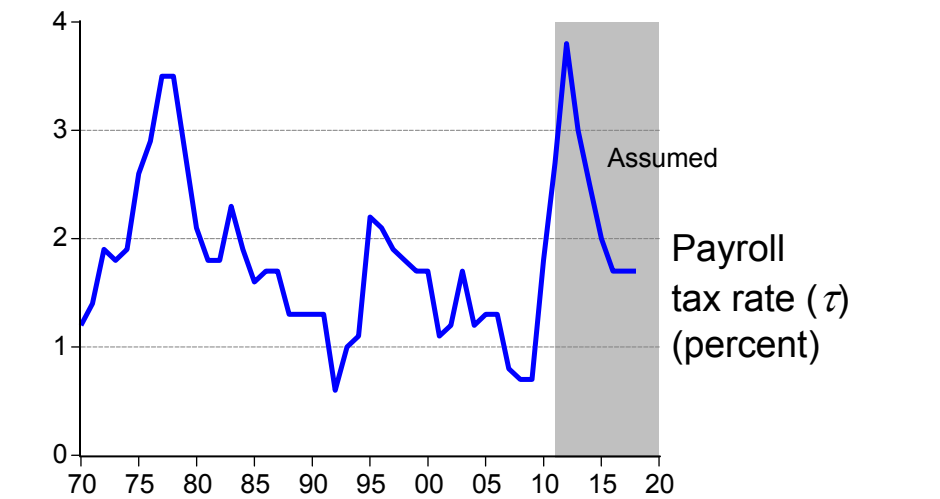
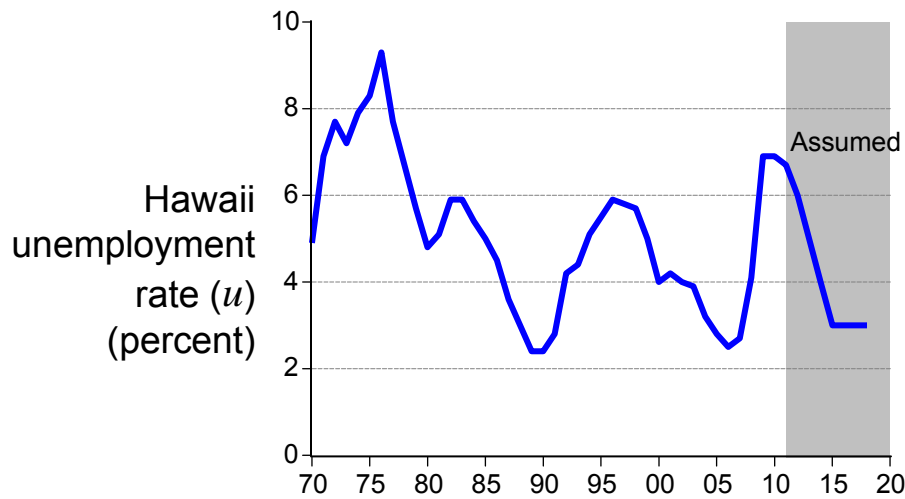
State cash balances historically provided deeper “insurance” coverage than during the last cycle



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Sources: BEA, BLS, Hawaii Tax Review Commission, Hawaii Dept. of B&F (December 17, 2012) (<http://budget.hawaii.gov/wp-content/uploads/2012/12/05.-State-Receipt-and-Revenue-Plans-FB13-15-PFP.pdf>), Hawaii DoTAX (http://www.state.hi.us/tax/cor/2013tpi10-31_with1104_Rpt2Gov.pdf)

Another fund: unemployment rate falls to 3%, wage base, tax rate revert to “normal”—adequate funding?



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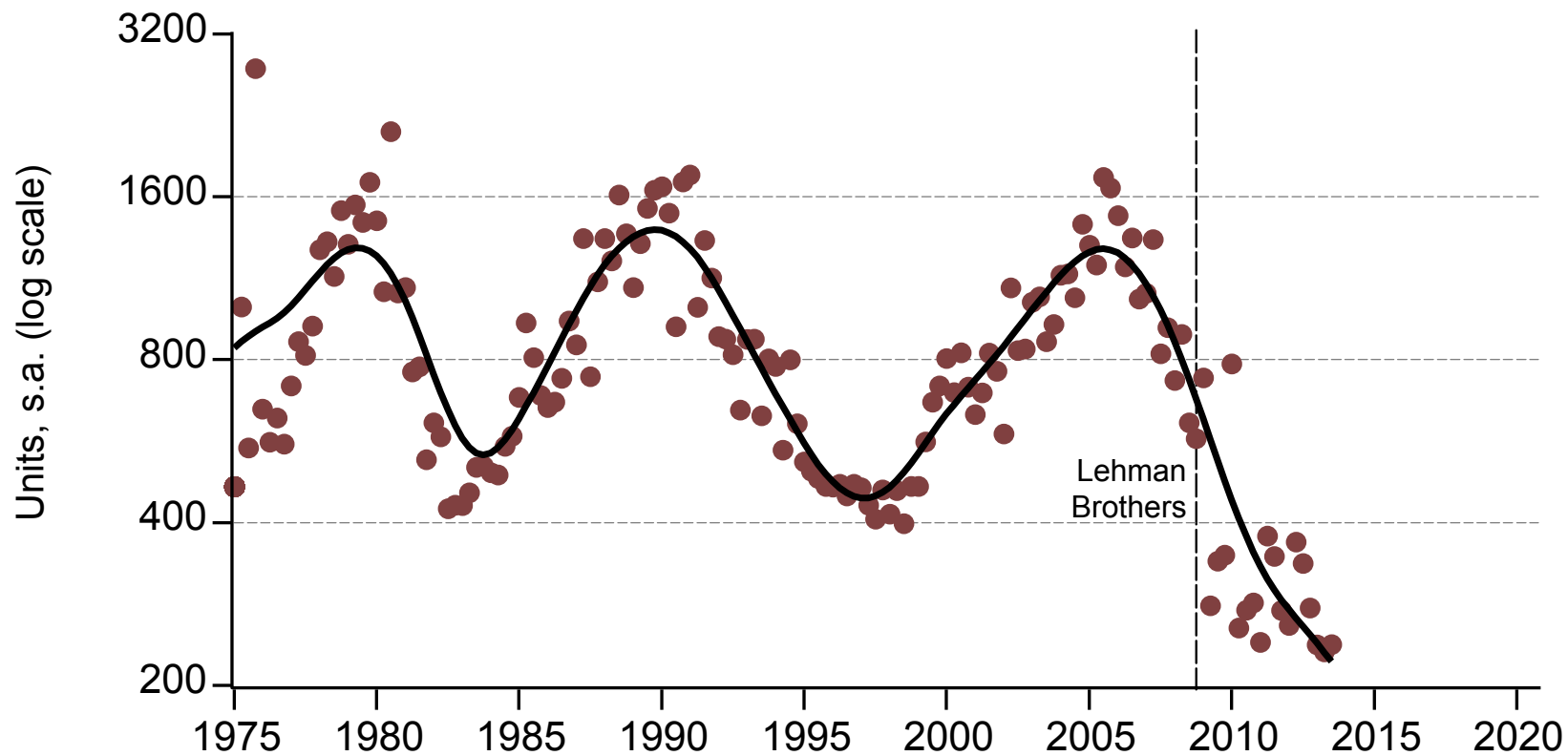
Source: Hawaii DLIR (special correspondence and <http://hawaii.gov/labor/reports/annual/2011-4/program/UTF%20FY2011.pdf>); deflation by TZE using Honolulu CPI-U; even aggressive restoration of funding parameters and a good economy may not rebuild the fund fast enough



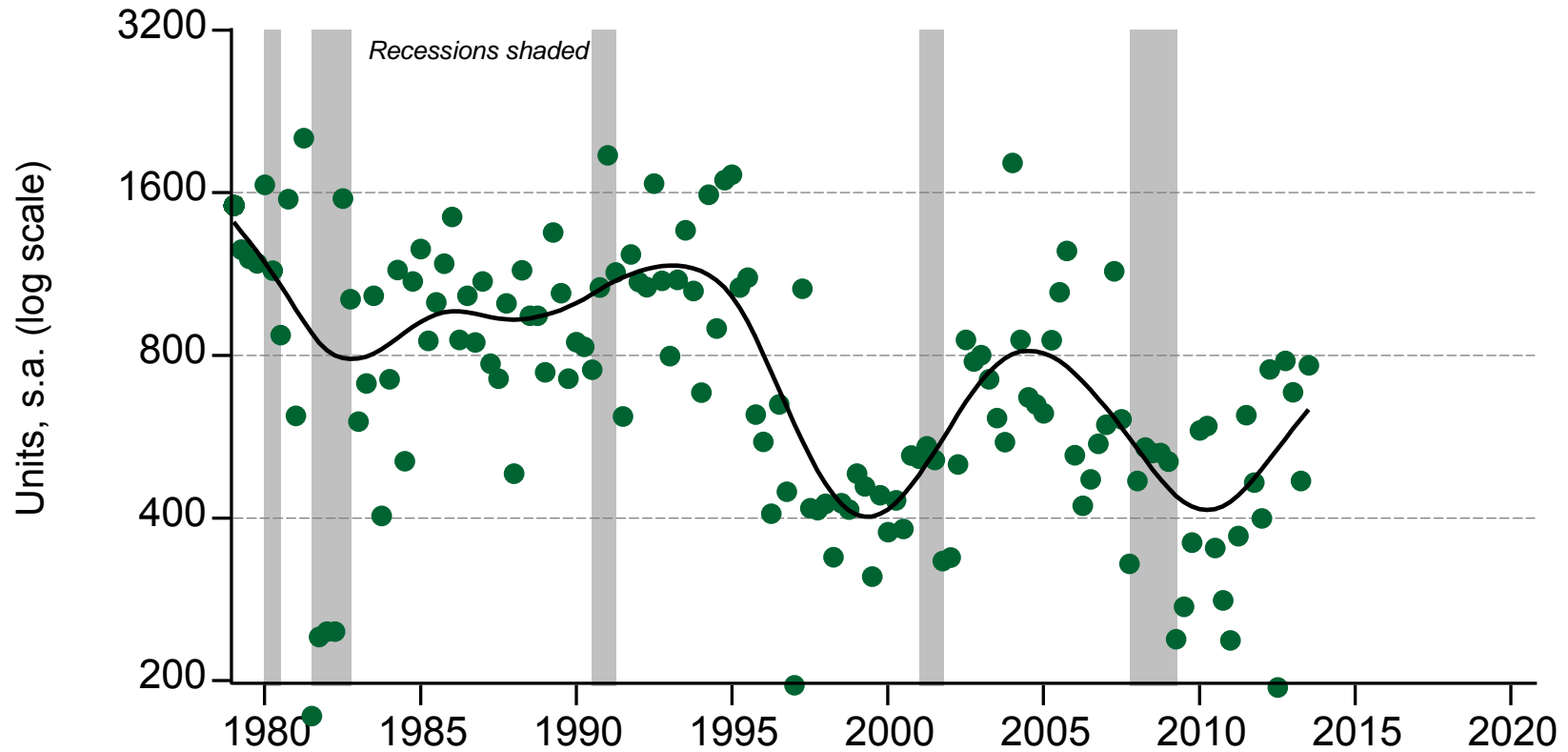
Appendix 4. Homebuilding really is *that* low

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Neighbor Island quarterly new housing units authorized by building permit: nothing but upside



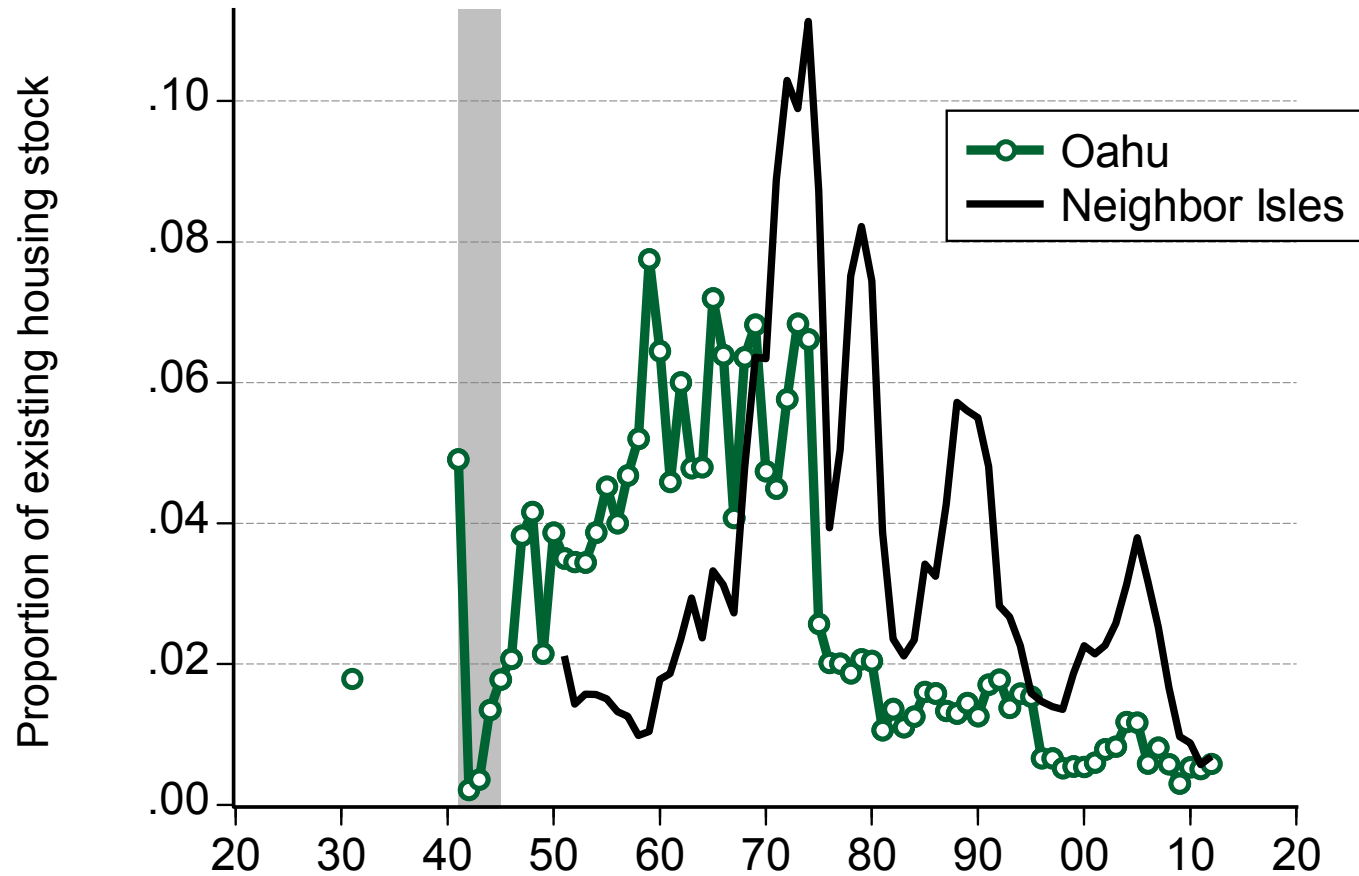
Oahu quarterly new housing units authorized by building permit: growth but fast enough?



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Sources: Honolulu City & County Department of Planning and Permitting, Hawaii DBEDT, quarterly TZE data through third quarter 2013; seasonal adjustment and trend extraction by TZE

New housing units as % of housing stock(-1)



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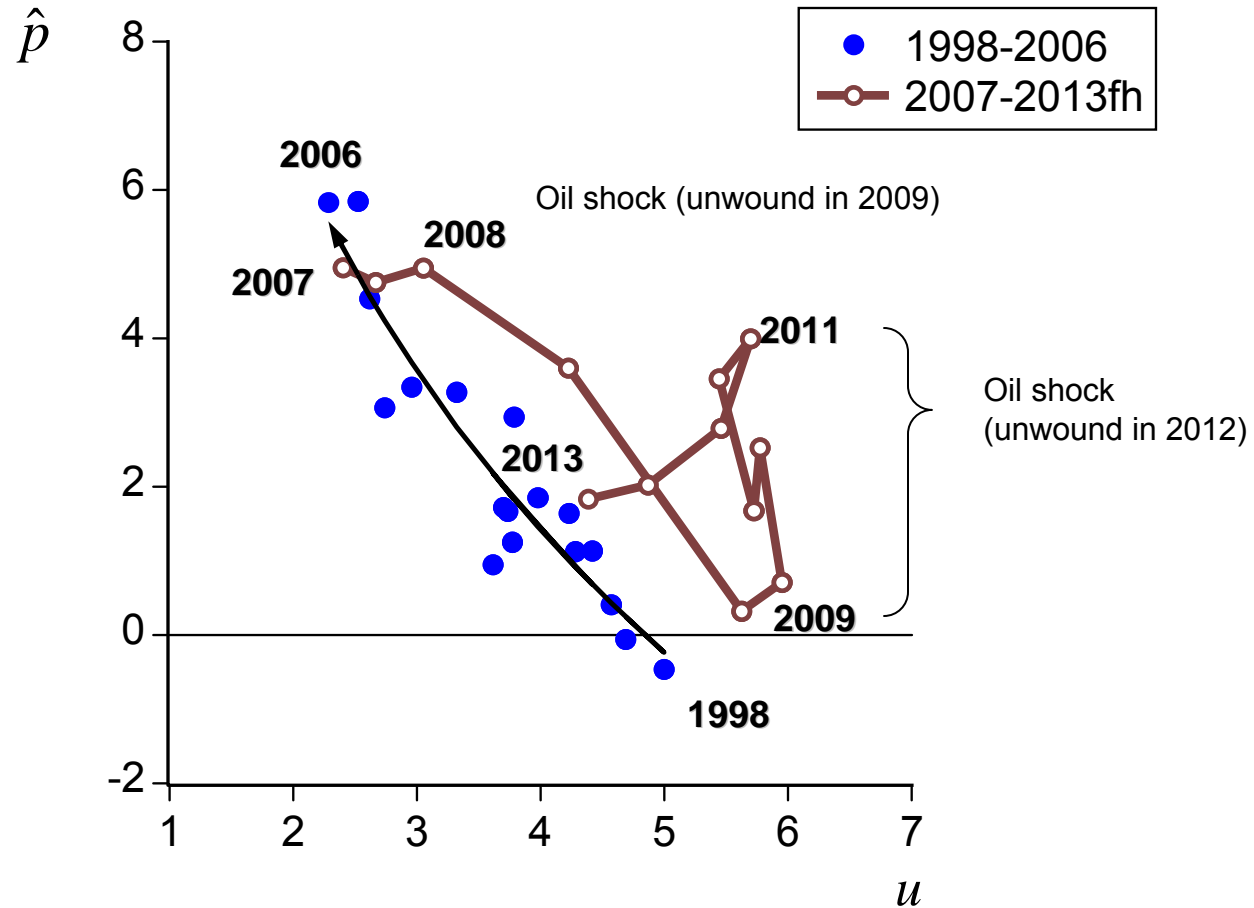
Sources: Robert C. Schmitt *Historical Statistics of Hawaii*, Hawaii DBEDT (http://dbedt.hawaii.gov/economic/county_report/), Bank of Hawaii *Annual Economic Report* (various); annual TZE data through 2012



Appendix 5: Honolulu Phillips Curves

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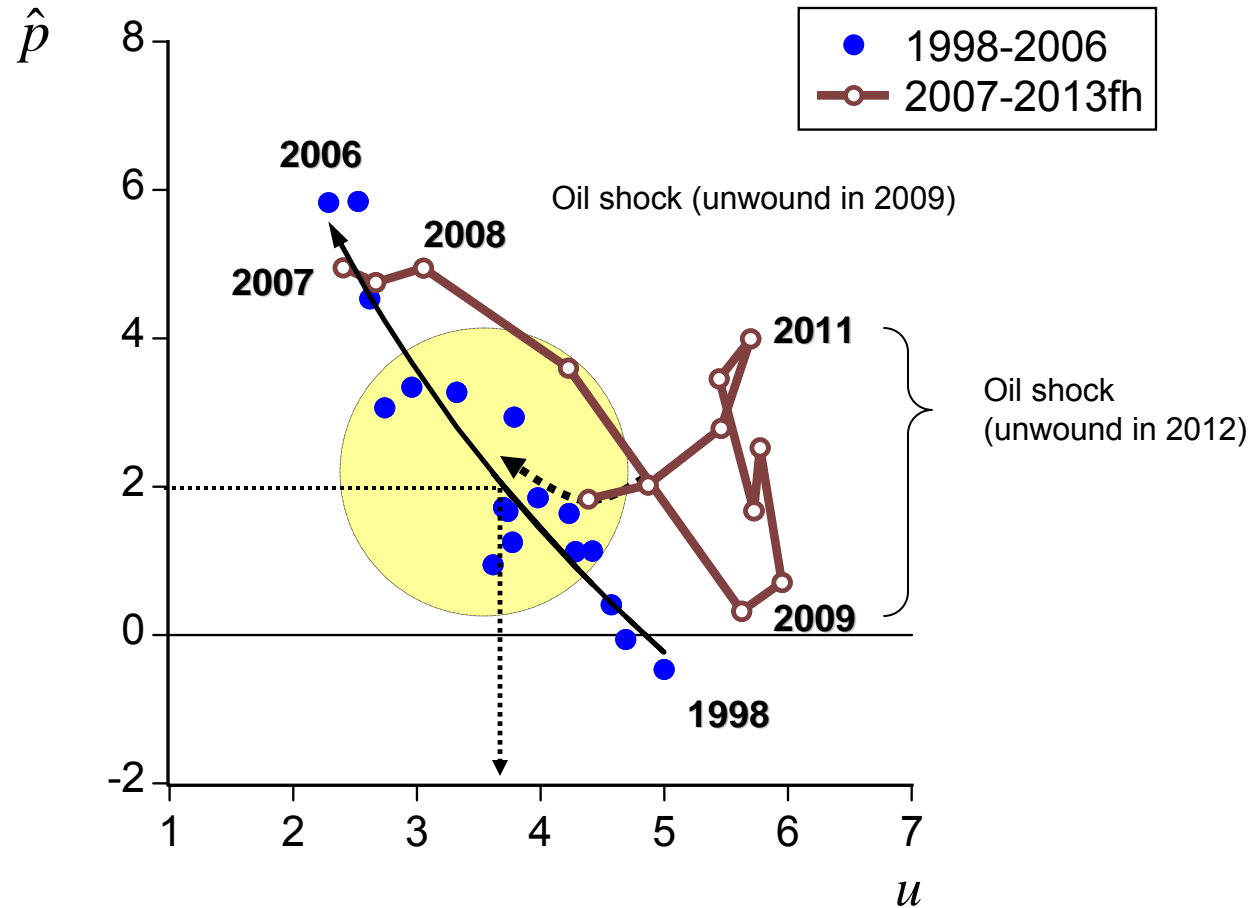
Honolulu inflation and unemployment since 2007: oil shocks (2008, 2010-11); into “The Zone” 2013



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Source: Bureau of Labor Statistics, U.S. Department of Labor, Hawaii DBEDT and DLIR; data through second half 2012, all calculations by TZE

Fed inflation goal (2%) defines LR equilibrium; Oahu housing cycle exerts “clockwise” tendency



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Source: Bureau of Labor Statistics, U.S. Department of Labor, Hawaii DBEDT and DLIR; data through second half 2012, all calculations by TZE