



A few aspects of Hawaii's recovery from the Great Recession

*Prepared for the 50th Anniversary of
Statehood Conference*
Hawaii Convention Center, August 21, 2009

by Paul H. Brewbaker, Ph.D.
Principal, TZ Economics
and Research Fellow, UHERO

WARNING: If the map of the U.S. in your elementary school does not look something like this, dude, it is not a correct depiction: Hawaii is *not* located in a cutout off the coast of Baja

© 2009 Europa Technologies
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

© 2009 Tele Atlas

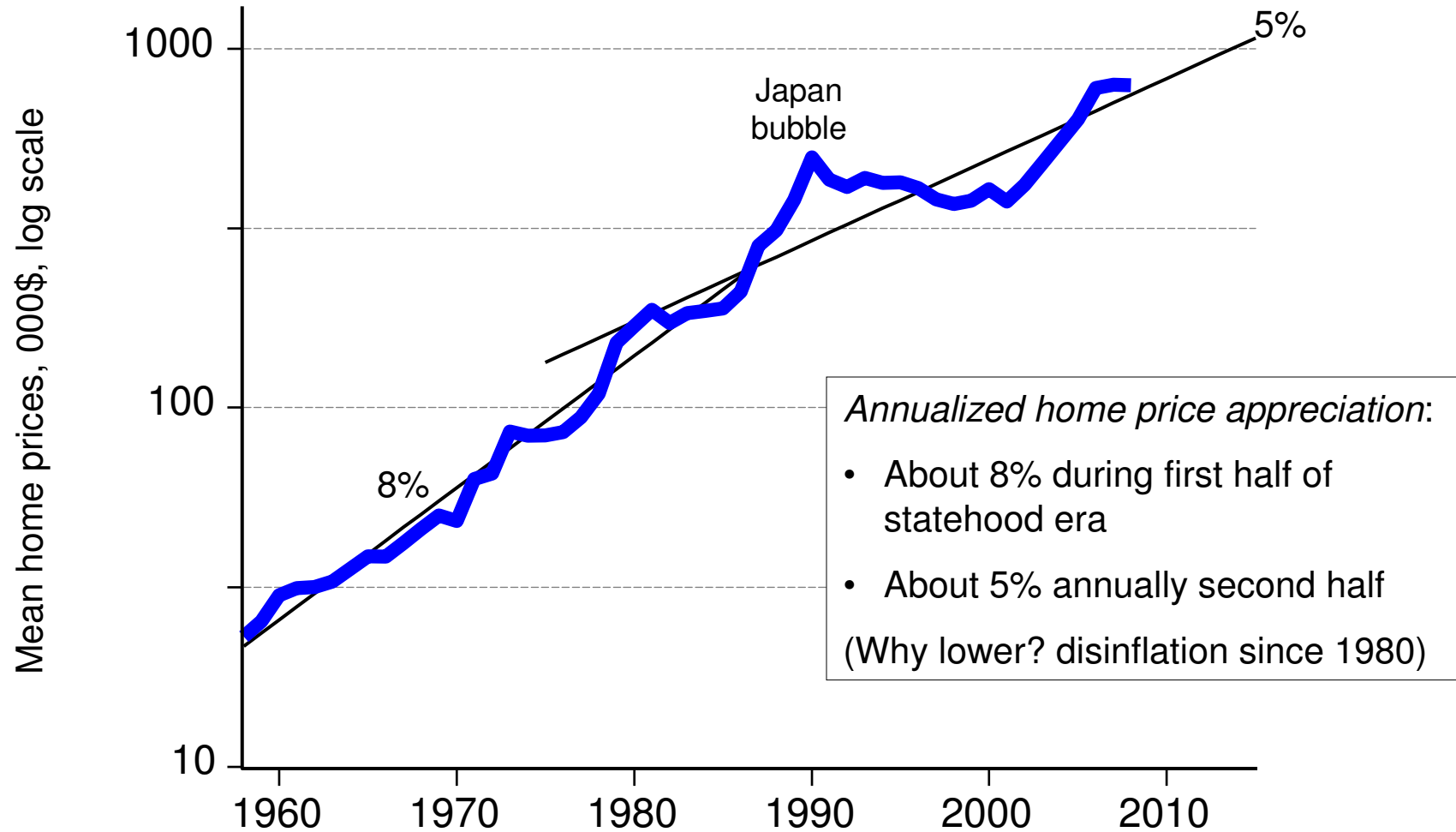
US Dept of State Geographer

41°14'36.84" N 132°20'34.32" W elev -12928 ft

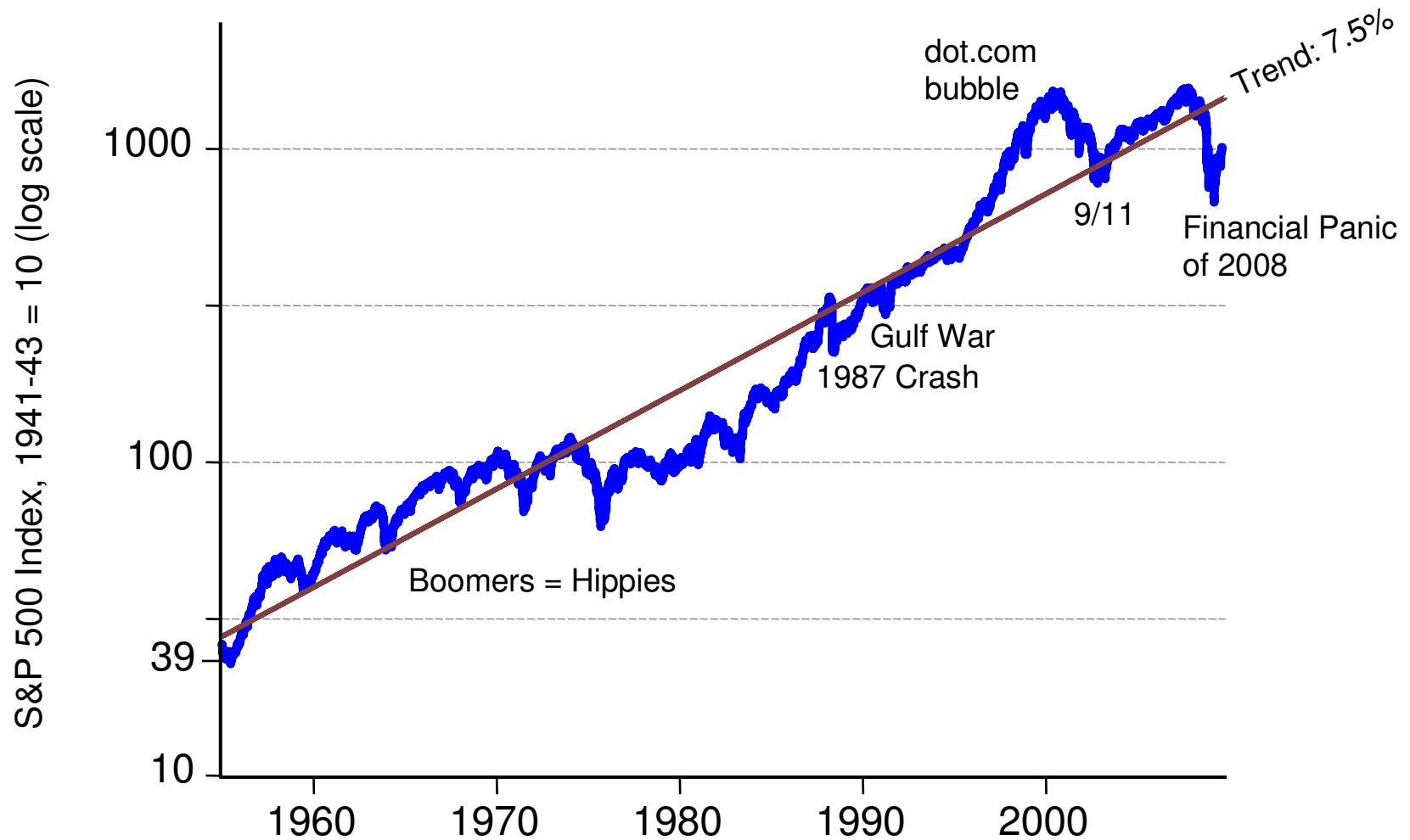
©2009 Google

Eye alt 4352.41 mi

Average Oahu single-family home prices did OK



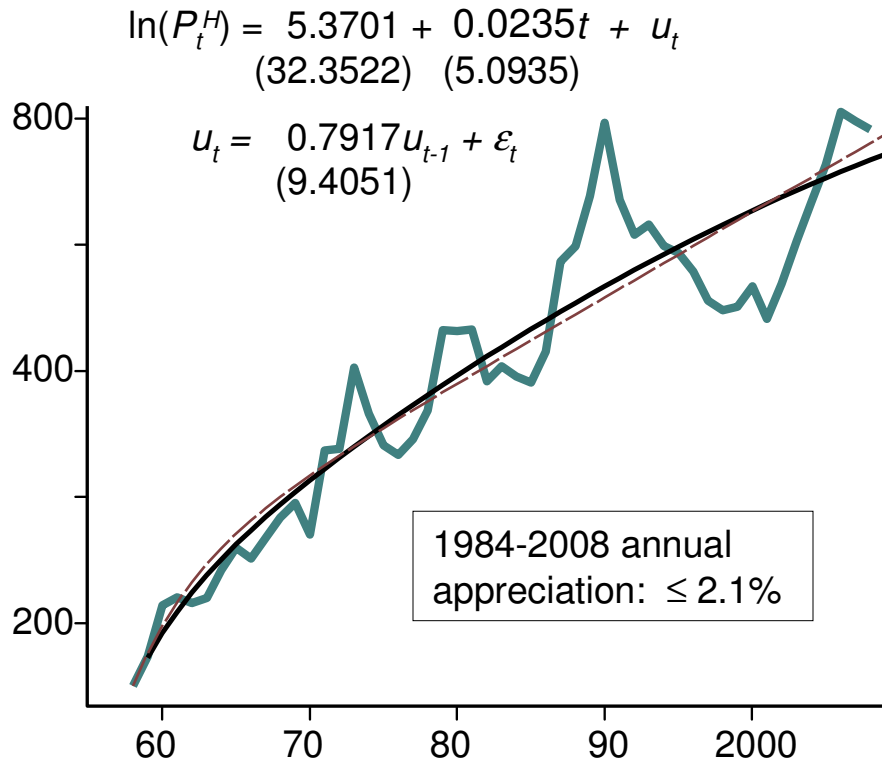
Buying the S&P 500 Index at statehood would have earned 6.75% per annum *including* last year's panic



Slide copyright TZ Economics

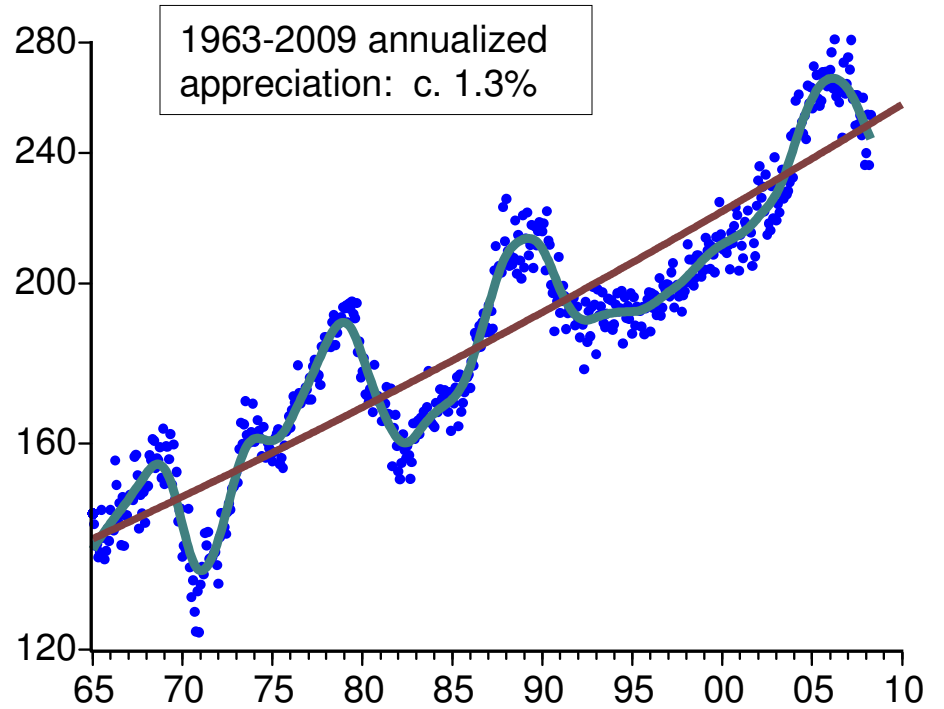
Source: Standard & Poor's; TZE regression of natural log of daily SPX on constant and time trend

Adjusted for inflation: asset-pricing bubbles?



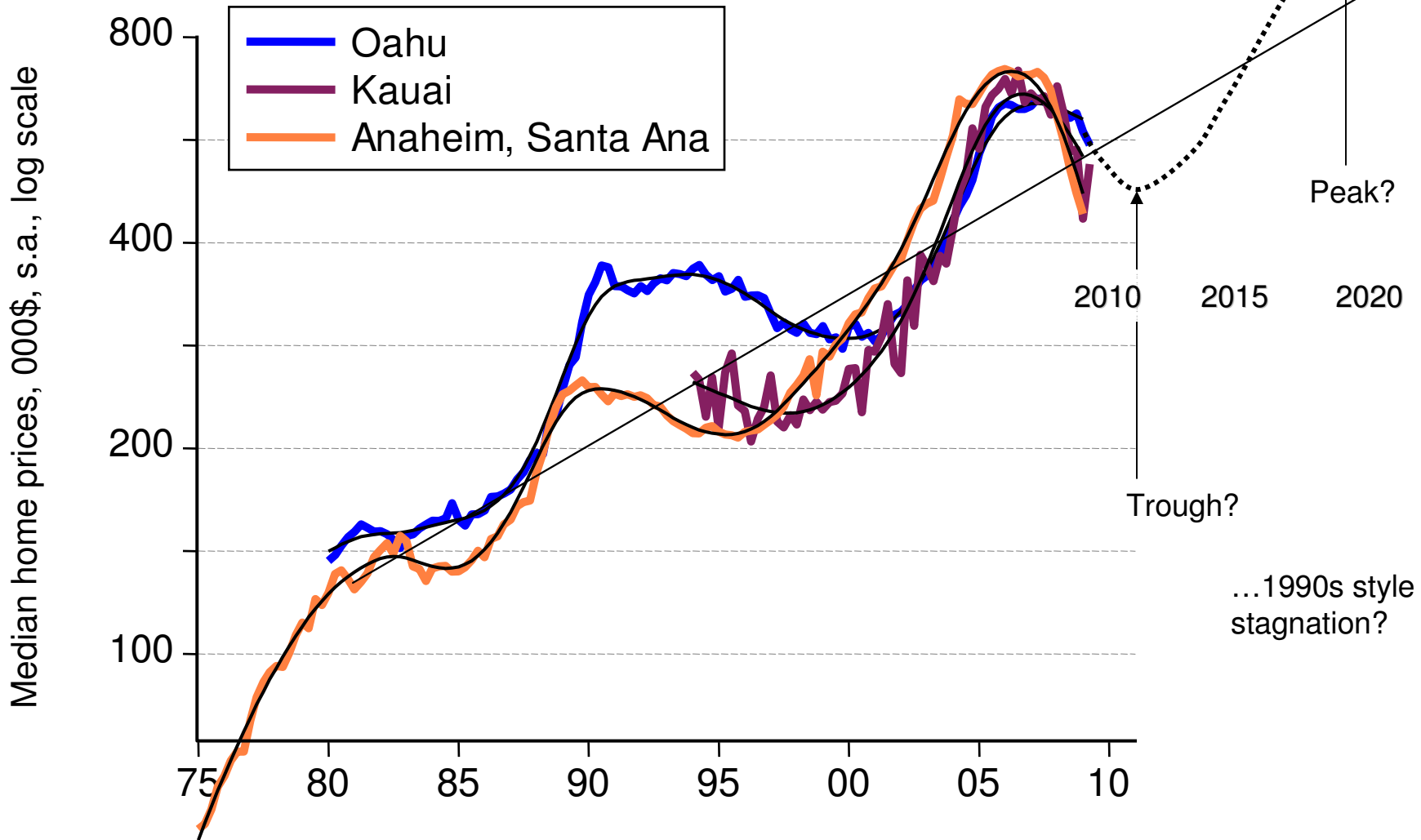
Mean Oahu real *existing* SF home prices

Hawaii could plausibly experience another housing “bubble” in the 20-teens



Median U.S. real *new* SF home prices

What might the cycle bring in the 20-teens?

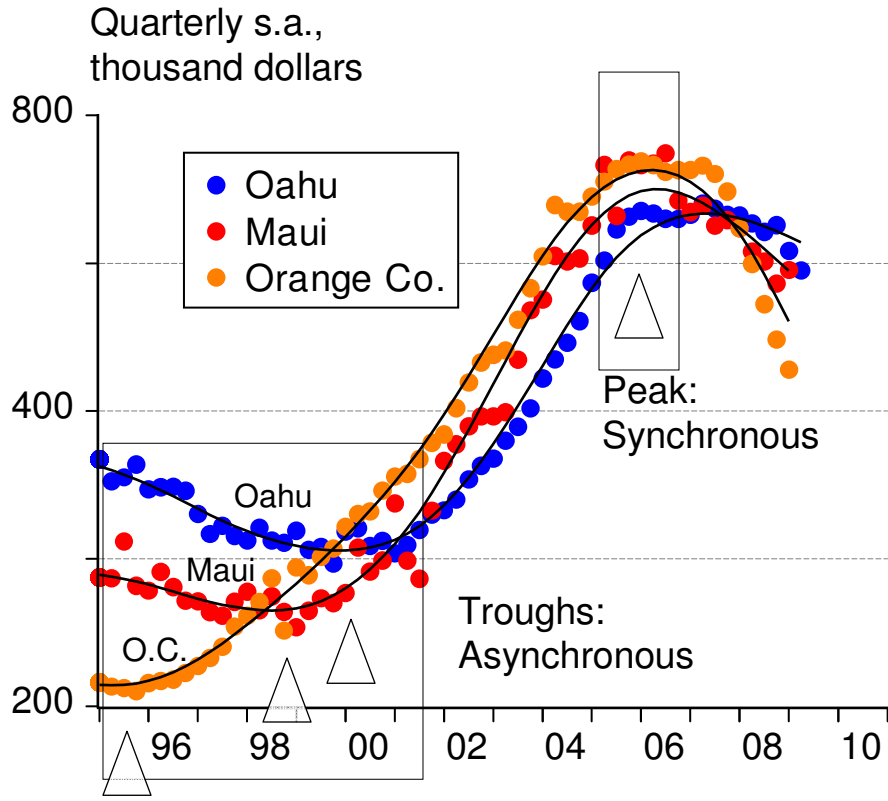


Slide copyright TZ Economics

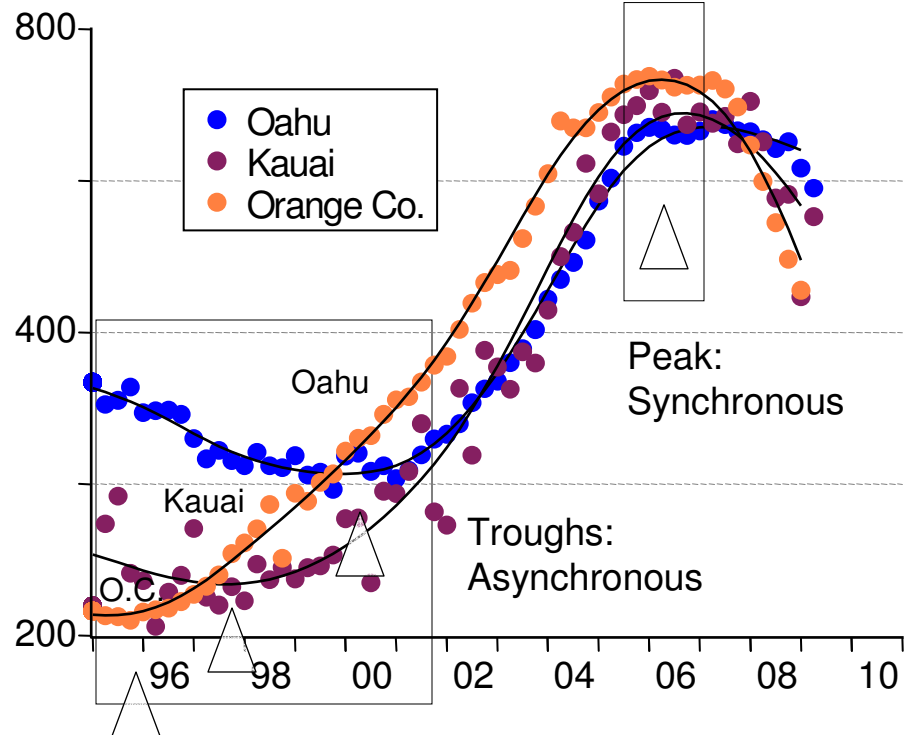
Sources: Honolulu Board of Realtors, Realtors Association of Maui, National Association of Realtors, Mike Sklarz, Prudential Locations; seasonal adjustment of Hawaii data by TZ Economics



Median home price movements now synchronous

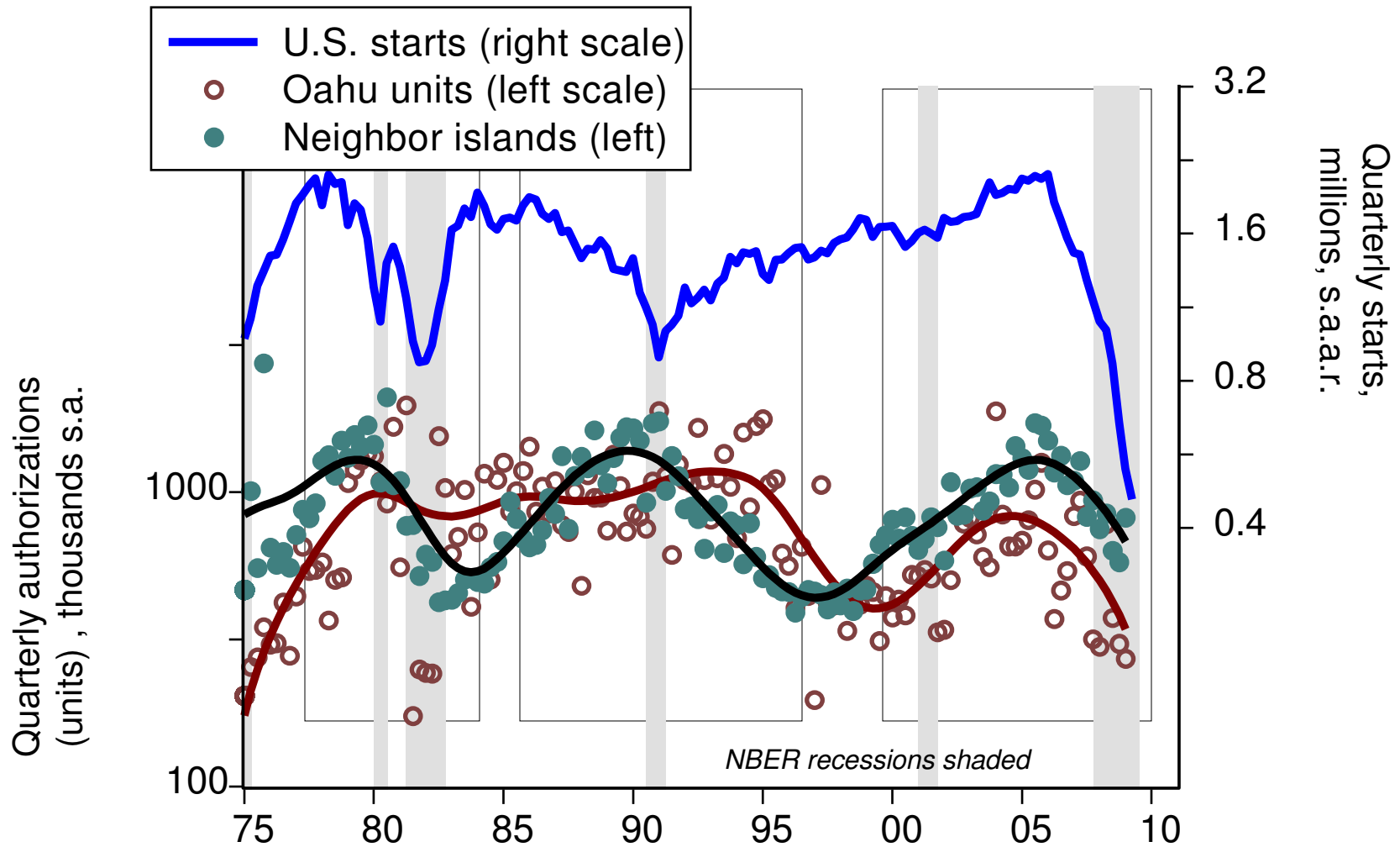


Comparing Maui



Comparing Kauai

New home construction synchronous in recent cycle



Slide copyright TZ Economics

Sources: Federal Reserve Bank of St. Louis, Bank of Hawaii, Hawaii DBEDT; calculations by TZE; log scales



Hawaii as a small open economy

- Trade, mobility, integration tend to equalize factor prices
- Arbitrage tends to equalize asset price movements
- Inflation rates within currency union equate over time
- House price appreciation fits somewhere between Treasury security yields, stock index returns
- 1-2 percent *real* appreciation + “dividend” (housing consumption)
- Context—productivity growth plus labor force growth implies:
 - 2.5-2.7 percent real GDP rates >2011 (FRB June 09)
 - 2.4 percent potential growth rate 2015-2019 (CBO Mar 2009)

Sources: Federal Reserve Board, Federal Open Market Committee, June 23-24, 2009 (<http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20090624.pdf>); CBO Director's blog, March 23, 2009 (<http://cboblog.cbo.gov/?p=220>)

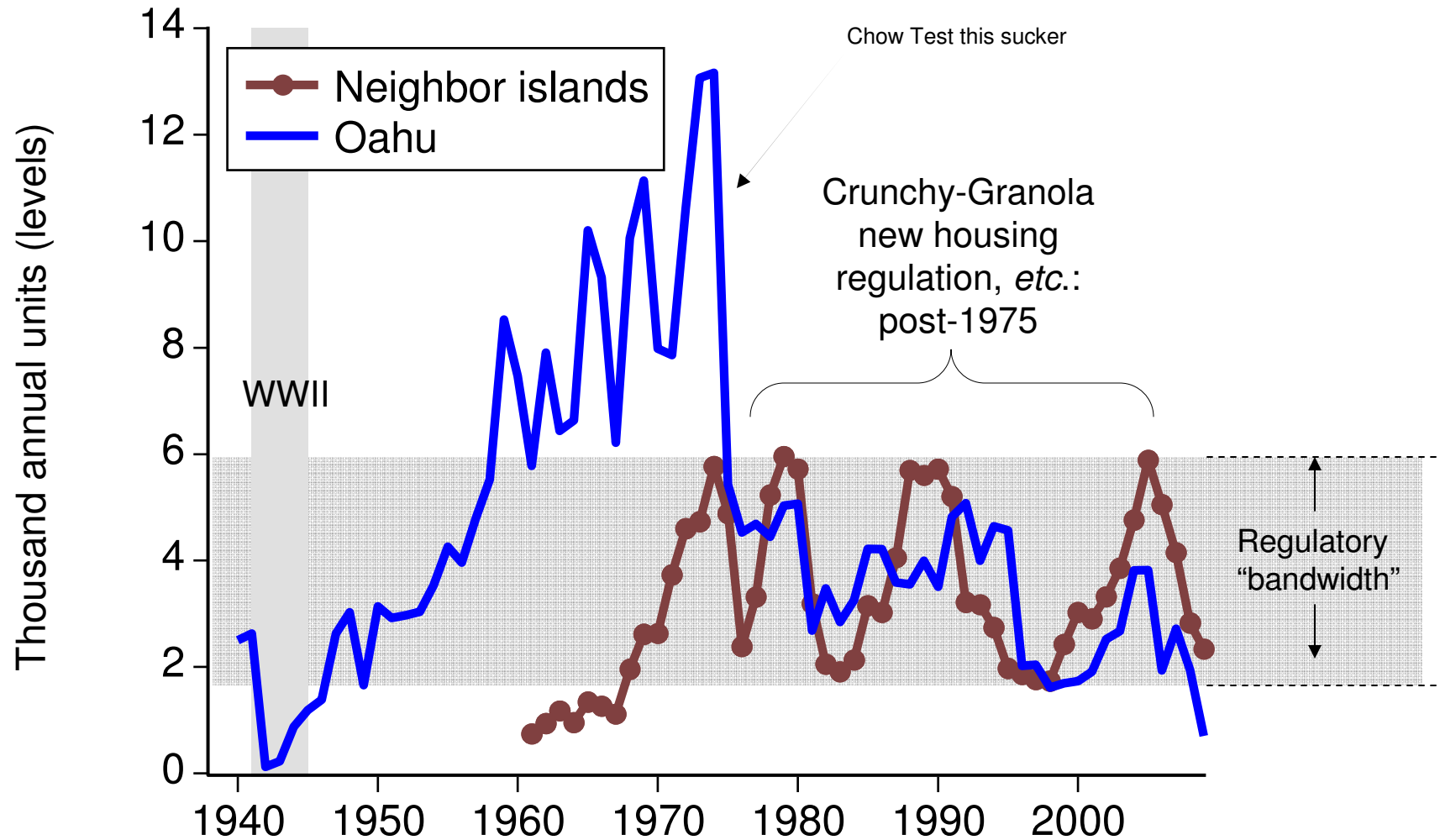


Globally-synchronized recession, recovery

- Distinctive characteristic of 2000s cycle: synchronicity

- A case for simultaneity of economic recovery, *except...*
 1. “Da ting stay all jam up” (technical expression)
 2. Public capital formation shortfall

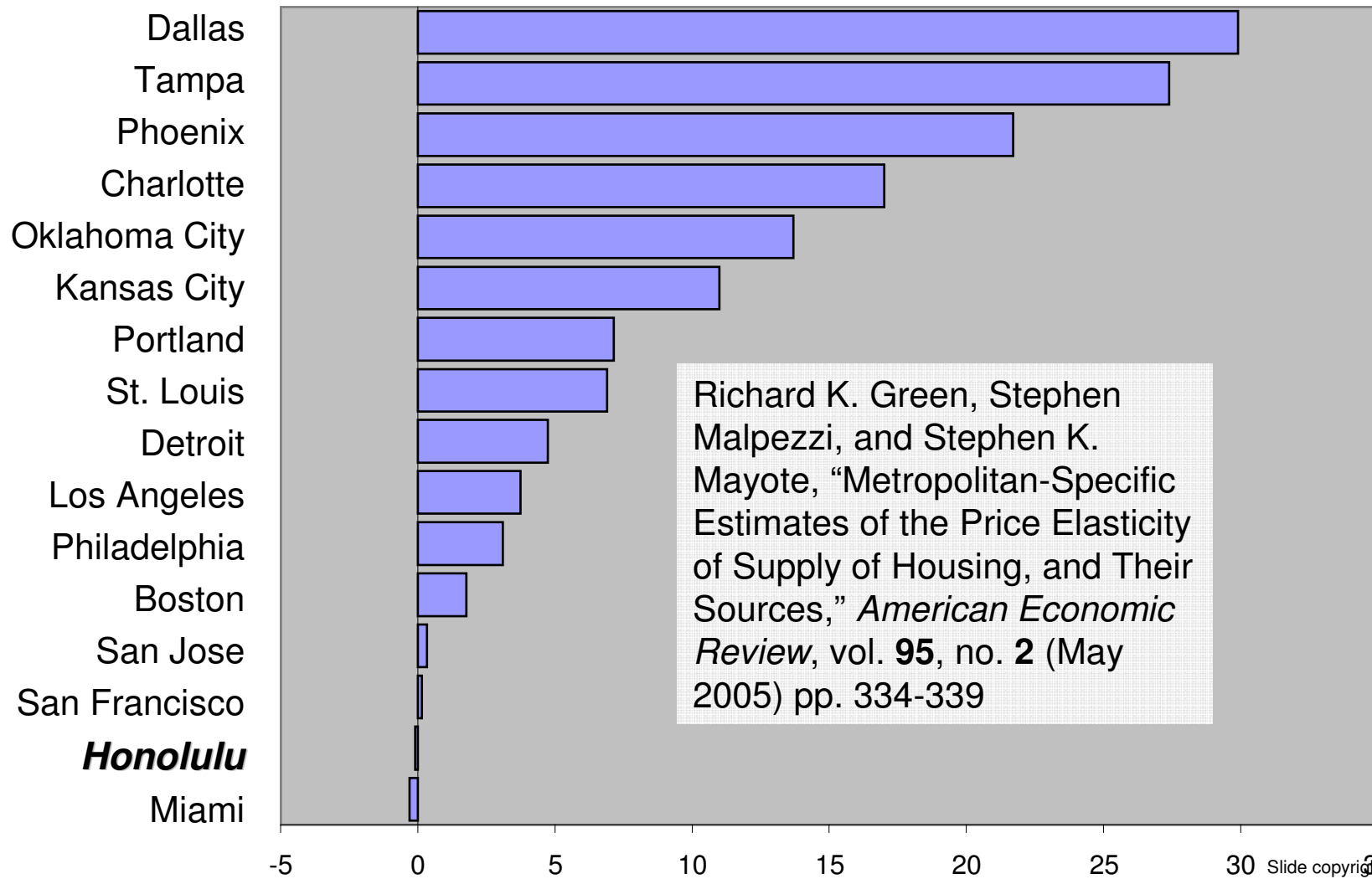
Housing units authorized by building permit grew until “growth management” arrived in the 1970s



Slide copyright TZ Economics

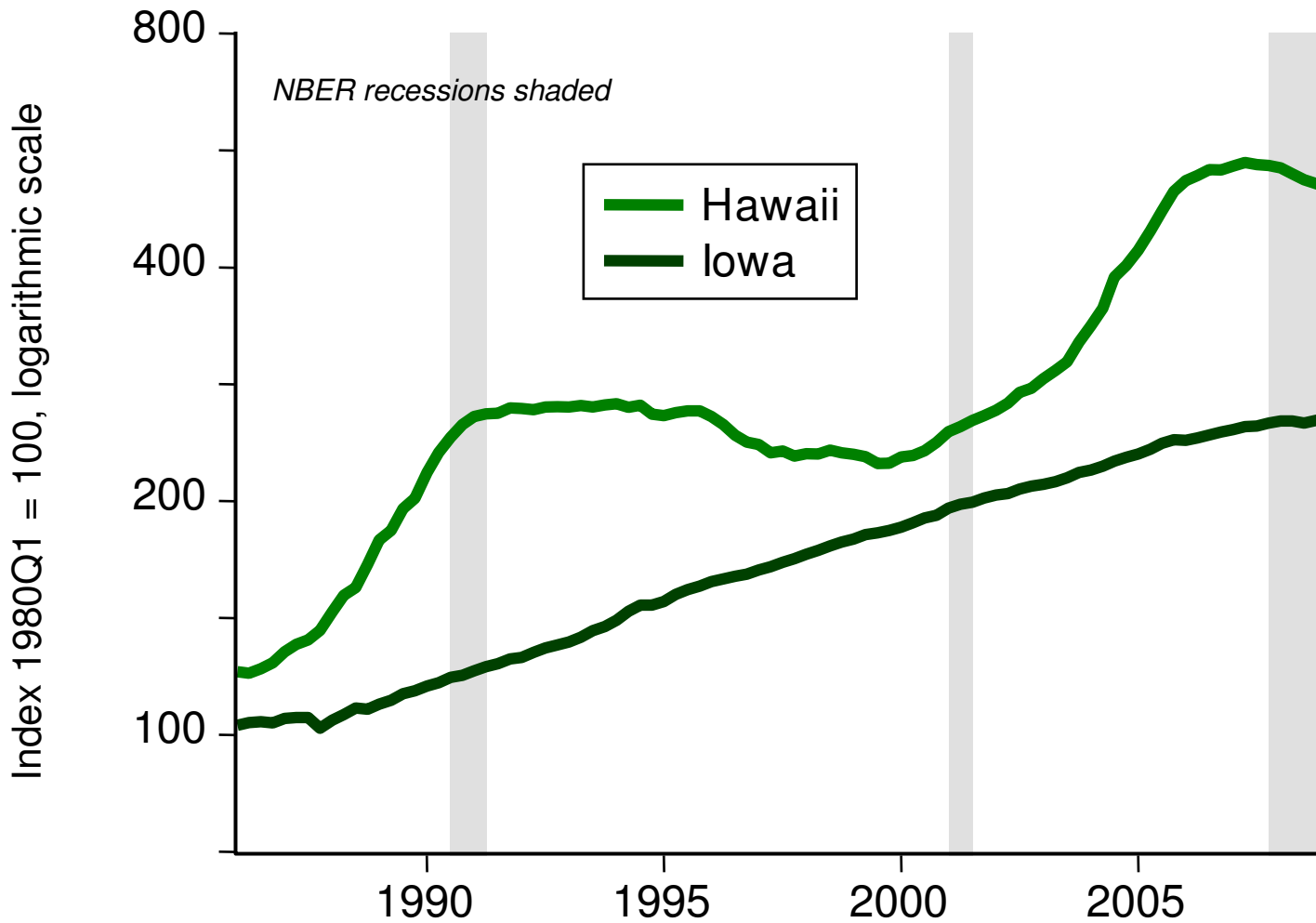
Source: Bank of Hawaii, Hawaii DBEDT; calculations by TZE inspired by Ricky Cassaday's wacky enthusiasm

Empirical estimates of housing supply “elasticity” rank Hawaii jurisdictions among the least accommodative



Source: *American Economic Review* Papers and Proceedings of the 117th Annual Meeting of the American Economic Association, Philadelphia, PA, January 7-9, 2005 (May 2005) “Regulation and the High Cost of Housing.”

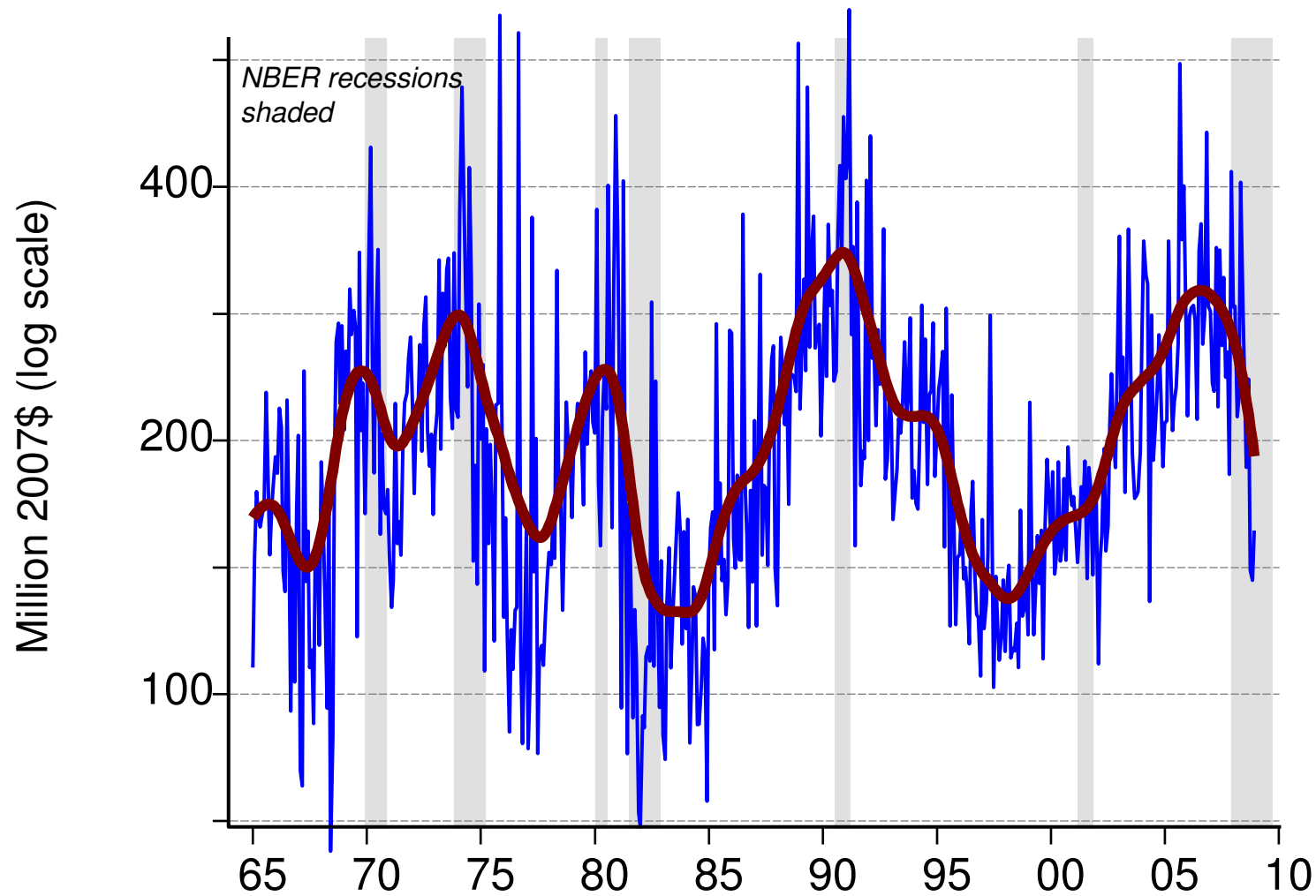
Absent geographic and regulatory scarcity: same-home price indexes less cyclical



Slide copyright TZ Economics

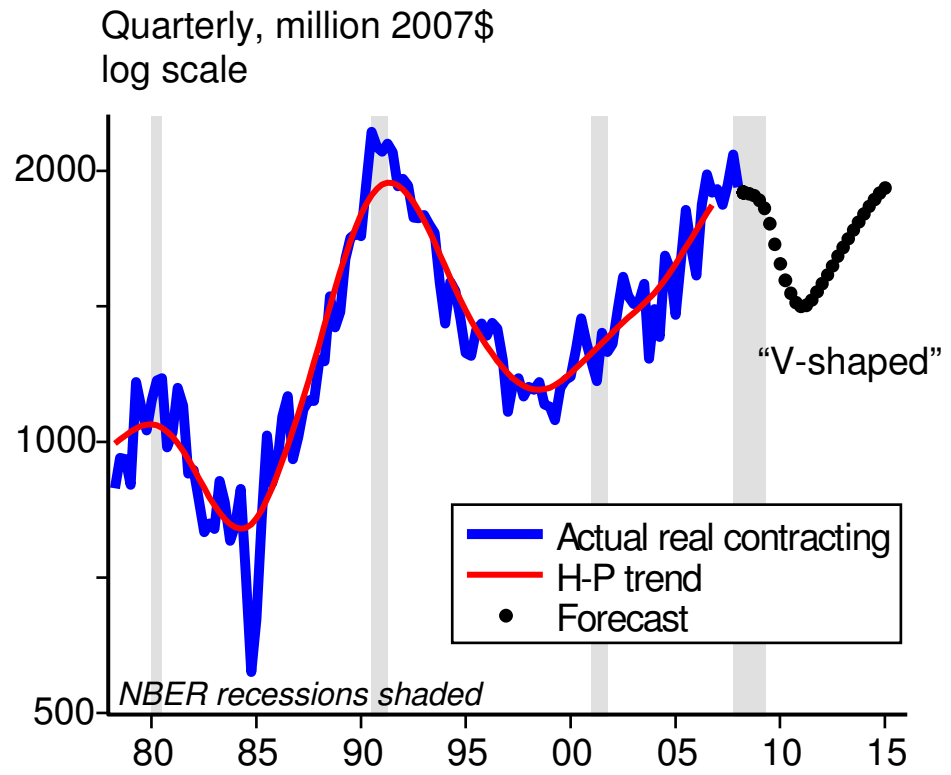
Source: Federal Housing Finance Agency "House Price Indexes" (<http://www.fhfa.gov/Default.aspx?Page=14>)

Real private building permit values, combined residential and nonresidential

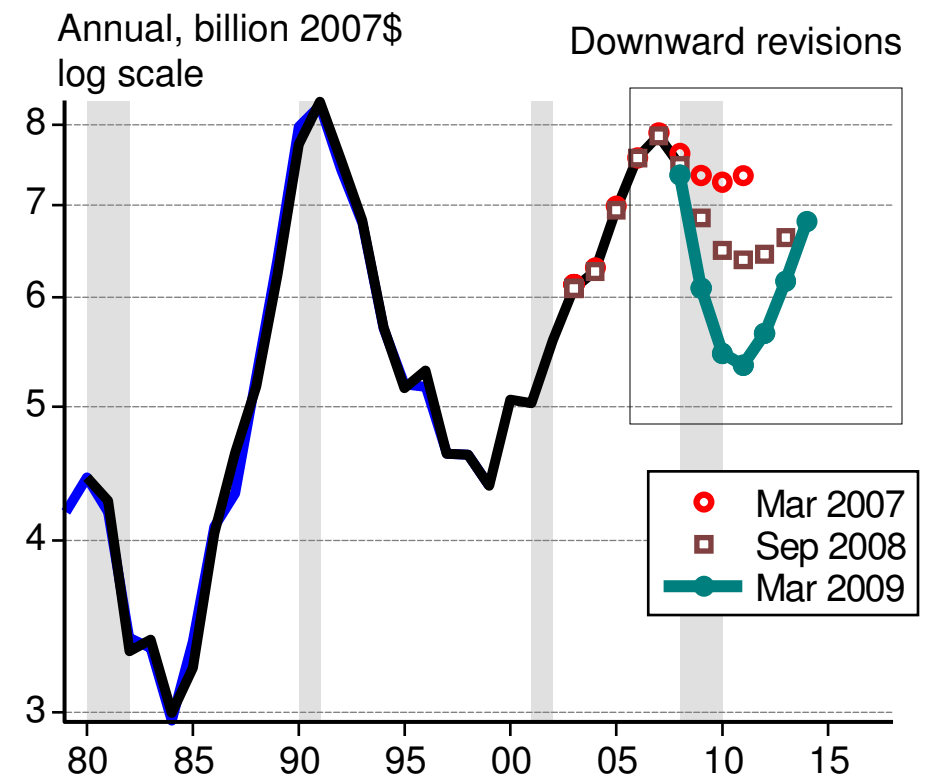


Slide copyright TZ Economics

Hawaii construction forecasts now anticipate a sharper drop (credit crunch), but a steeper rise as stimulus hits

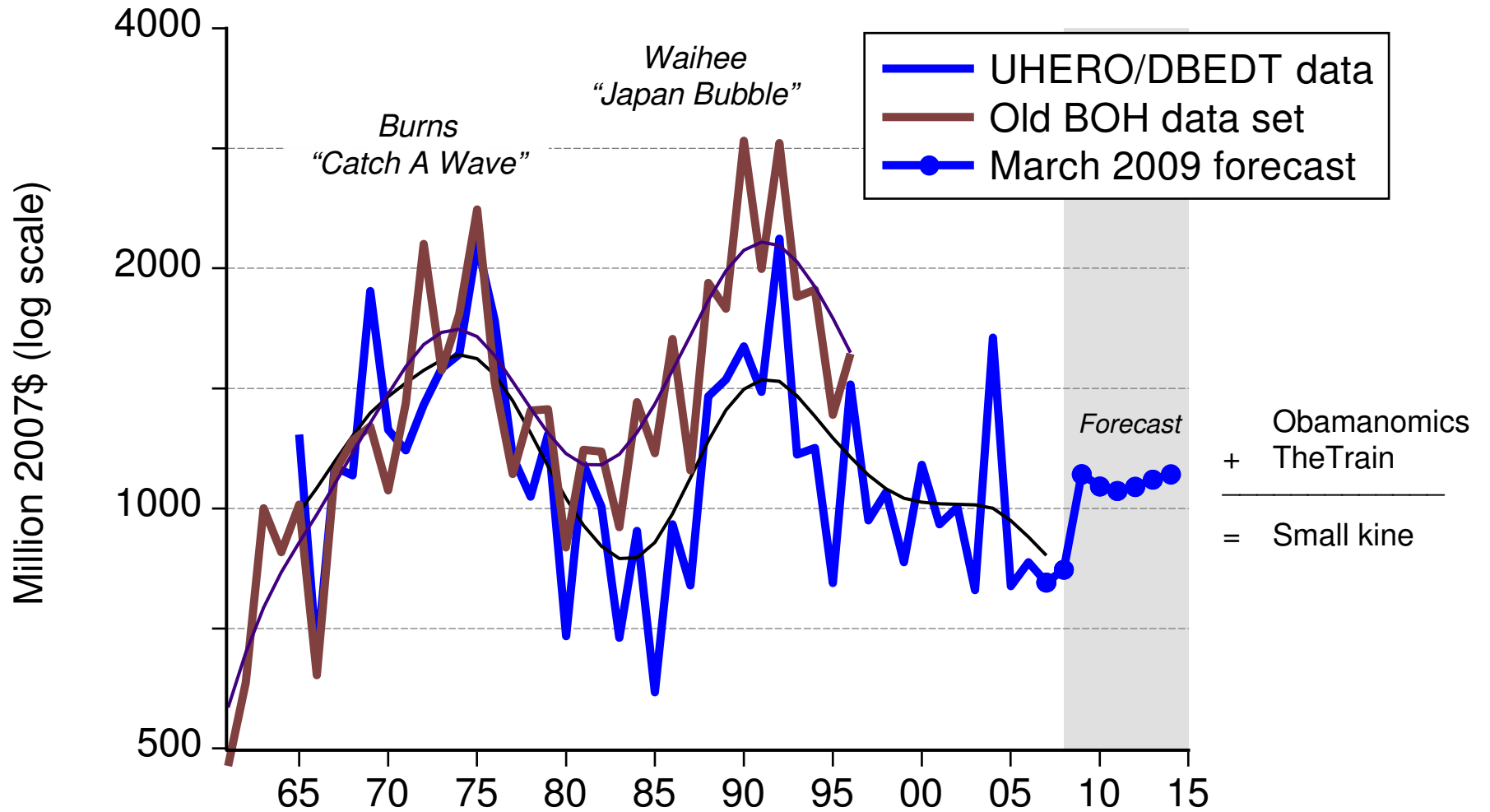


Brewbaker (COR) Jan 2009



UHERO Mar 2009

Public investment “stimulus” needs a...stimulus?



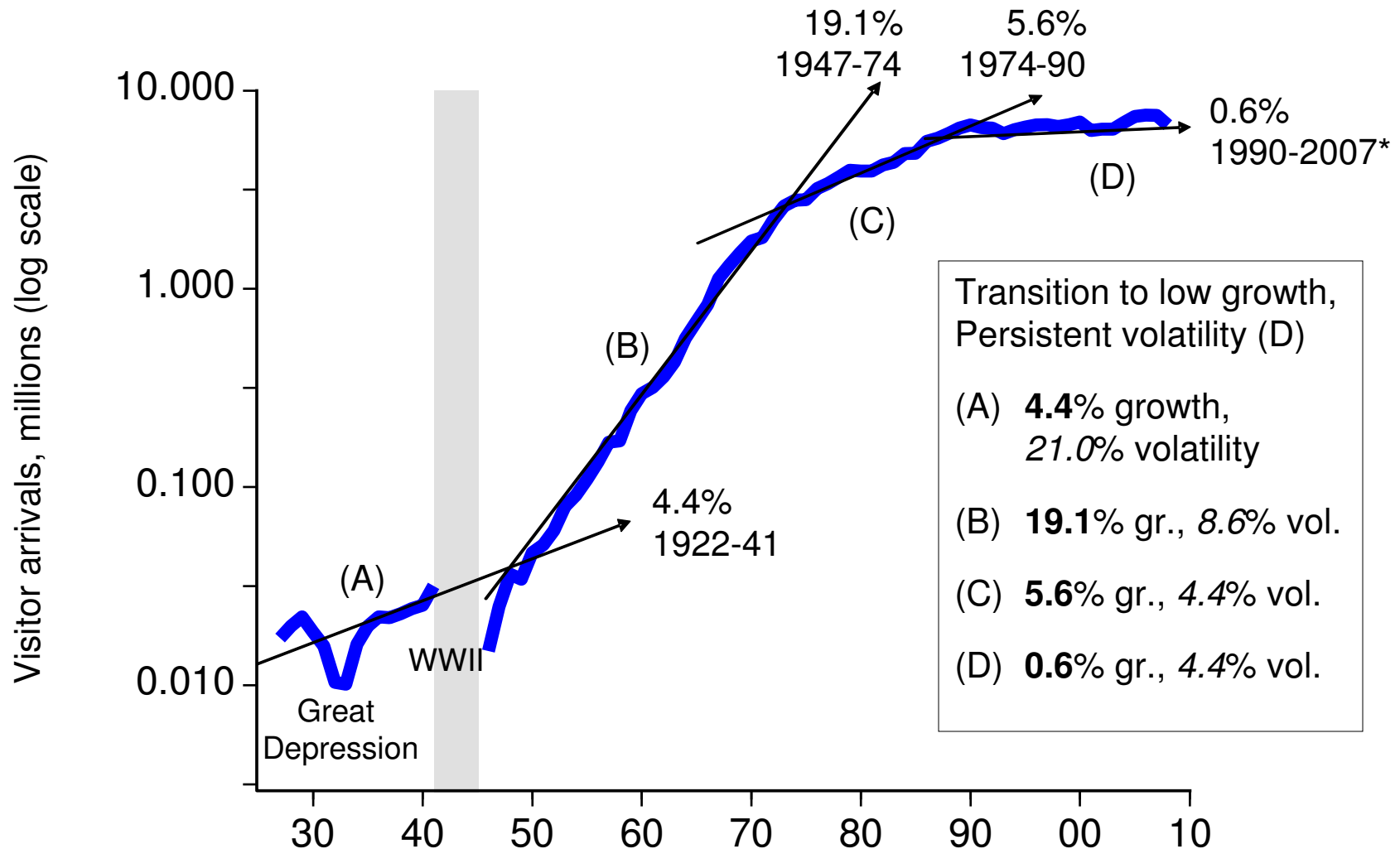
Slide copyright TZ Economics



Tourism: Hawaii's primary export (source of external income)

- High tourism growth during mid-20th century “discovery” period, to which statehood contributed
- More recent decades: *volatility* dominates over growth
- Partly a result of policy choice—“grow spending [sic] not bodies”
- Be careful what you wish for...

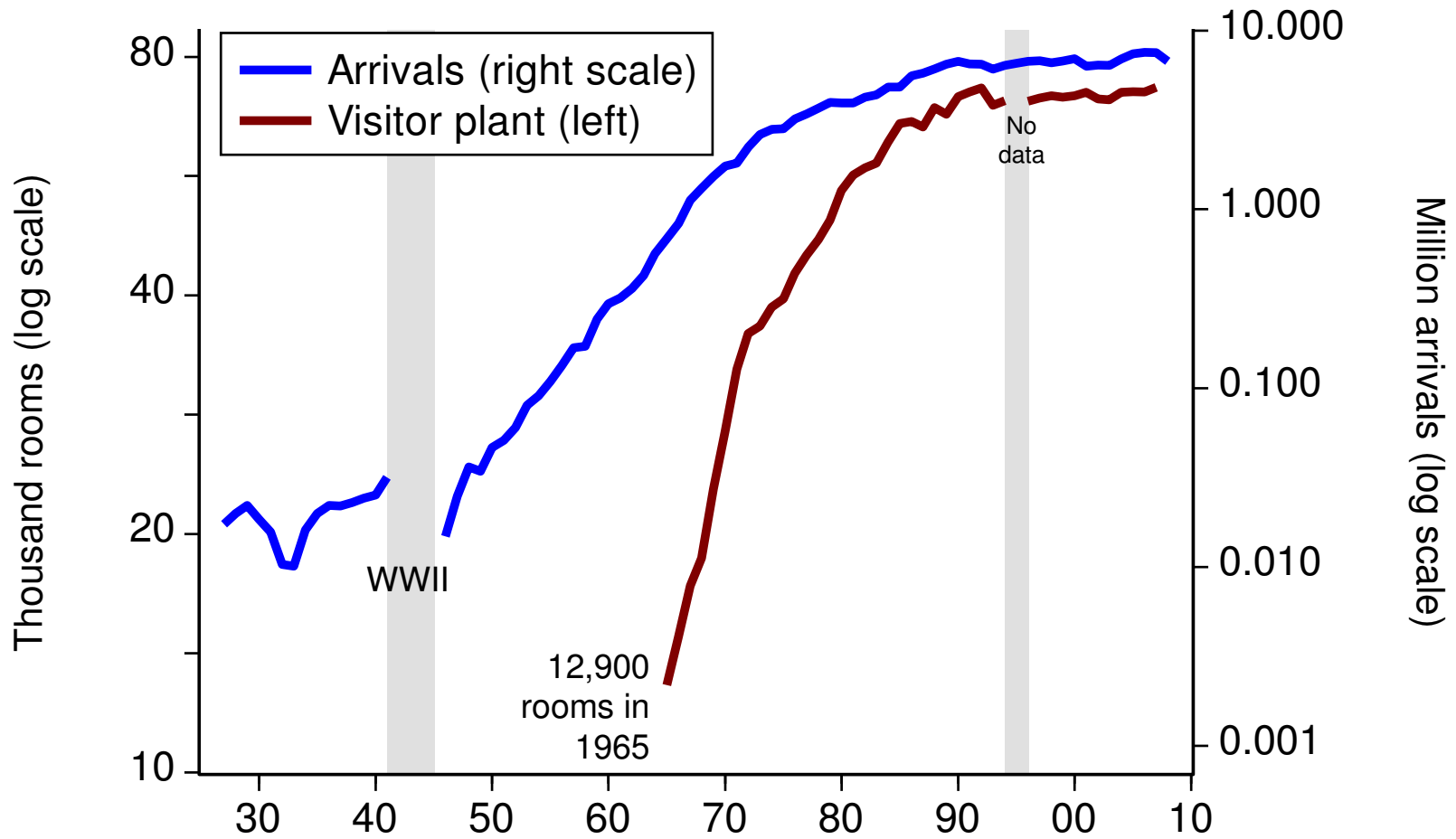
At statehood, Hawaii tourism was enjoying its highest risk-adjusted returns; today risk swamps growth



Slide copyright TZ Economics

Source: annual data Hawaii Visitors Bureau, Hawaii DBEDT; calculations by TZ Economics; *annualized growth rate 1990-2008 including the 2008-09 recession was -0.02 percent, volatility was 5.1 percent

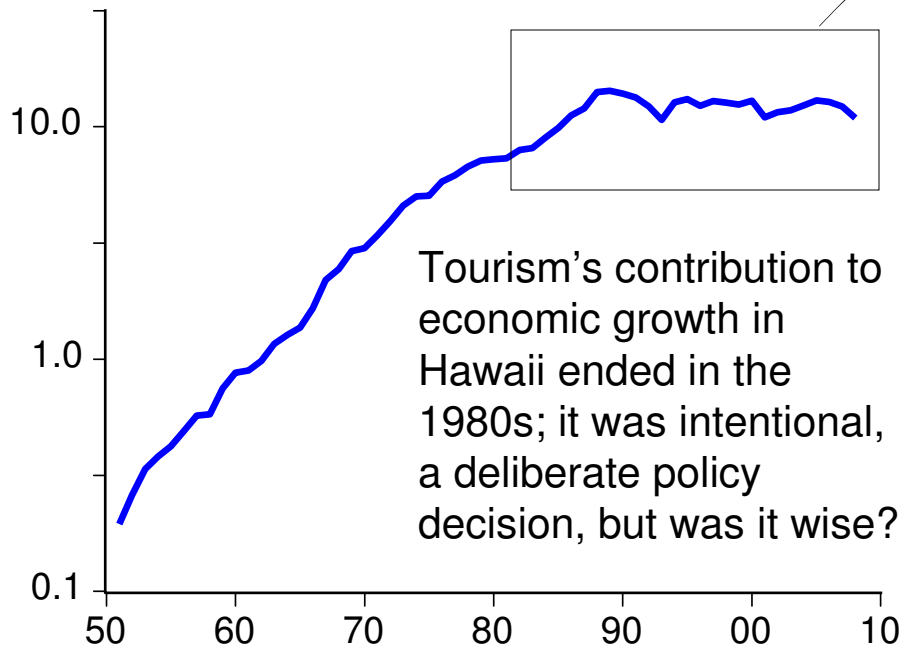
Volumes stopped growing when capacity did



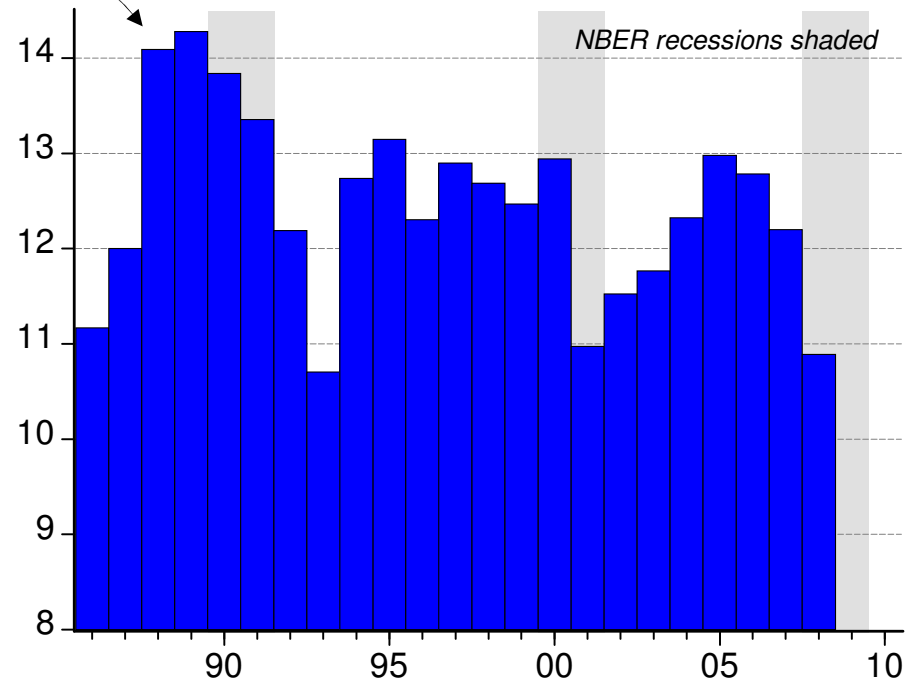
Slide copyright TZ Economics

Real (inflation-adjusted) visitor expenditure is lower than two decades ago, and peaked in the 1980s

Billion 2008\$, log scale

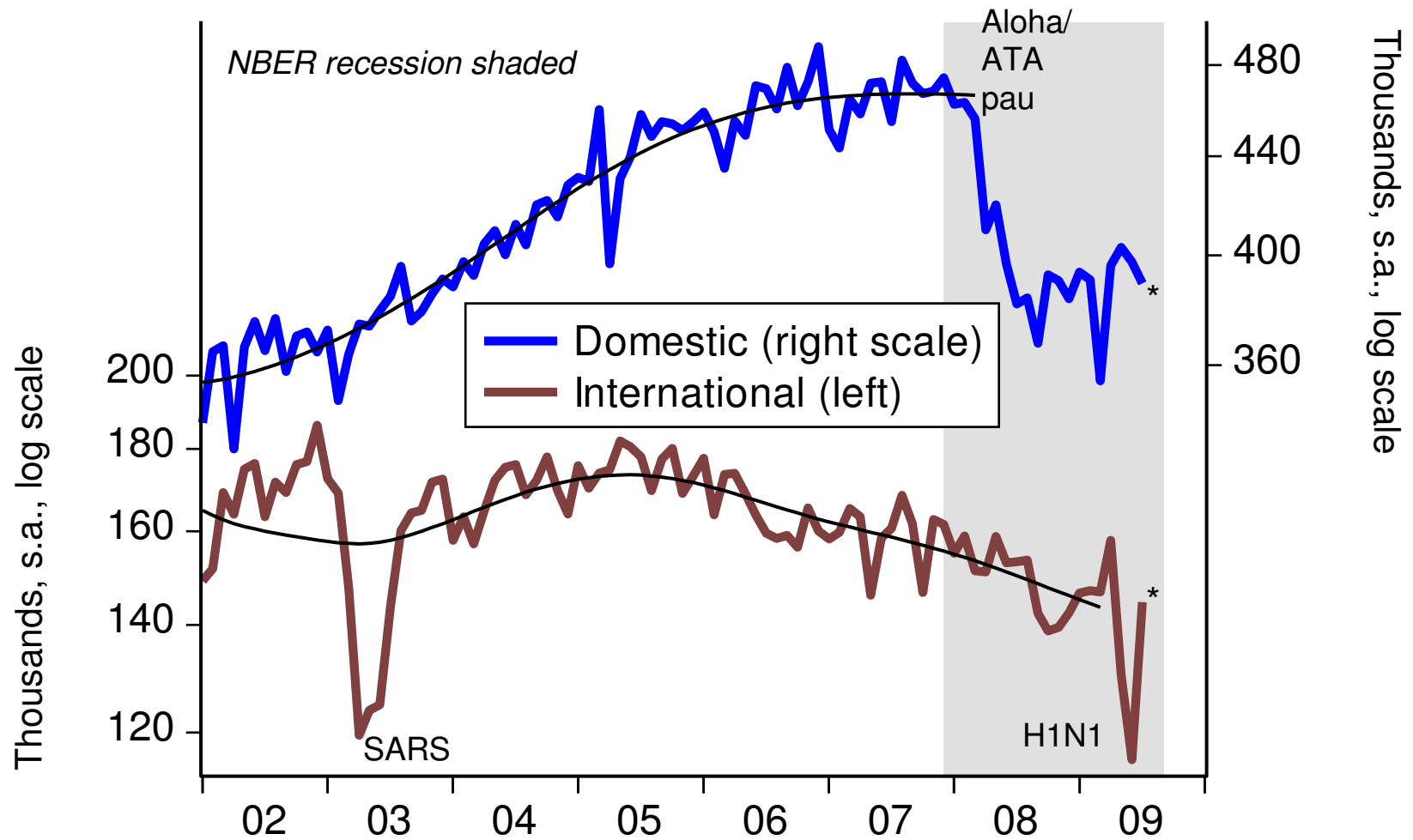


Real visitor expenditure
1951-2008 (log scale)



1986-2008 (level scale)
Dominant feature:
volatility, not growth

Visitor arrivals: stabilization precedes recovery



Slide copyright TZ Economics

Source: Monthly data DBEDT; seasonal adjustment by TZE; * July 2009 estimates based on daily passenger counts



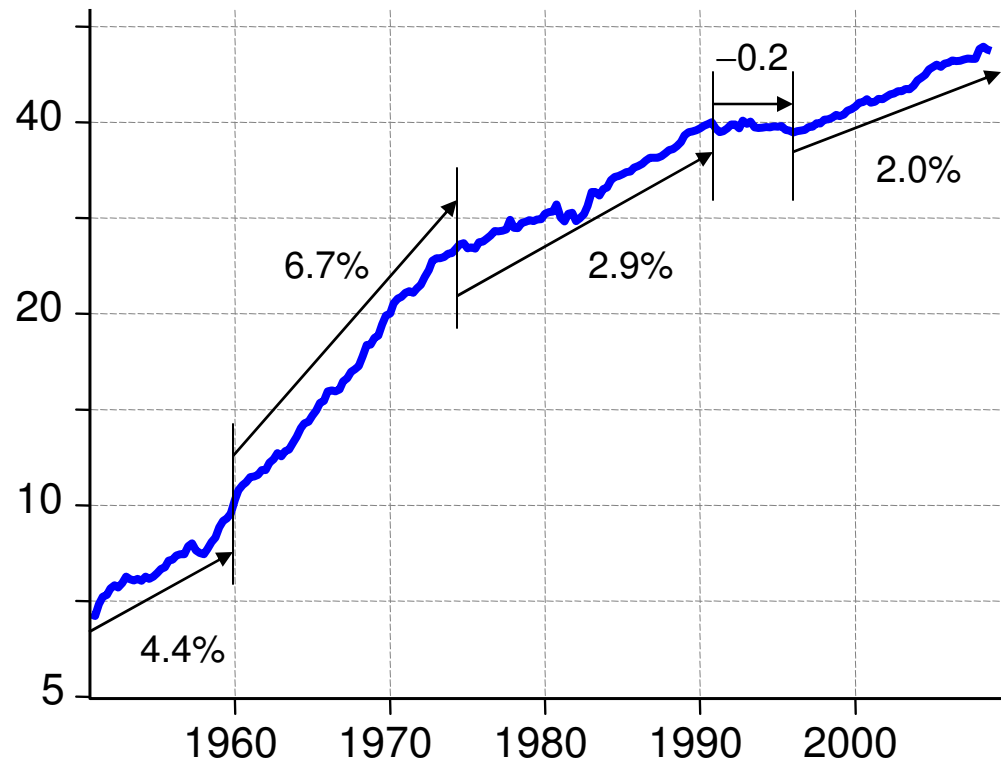
Economic outlook through 20-teens

- Asset prices will signal 20-teens investment-led expansion
- Near-term economic recovery should parallel U.S experience: from zero to 2-3 percent real output growth now through 2011 (Numerical details available at UHERO, DBEDT, and compilation at <https://boh.com/econ/>)
- Recovery: sluggish, uneven, not compelling—convergence to U.S. potential real GDP growth rate around 2.5 percent
- State long term projections <2 percent growth through 2035
- *Below* potential growth (*barely* productivity growth)
- Implication: somebody has to go, better you than me

Labor force plus productivity c. 2.5%

Hawaii real personal income (bil. 2008\$, log scale)

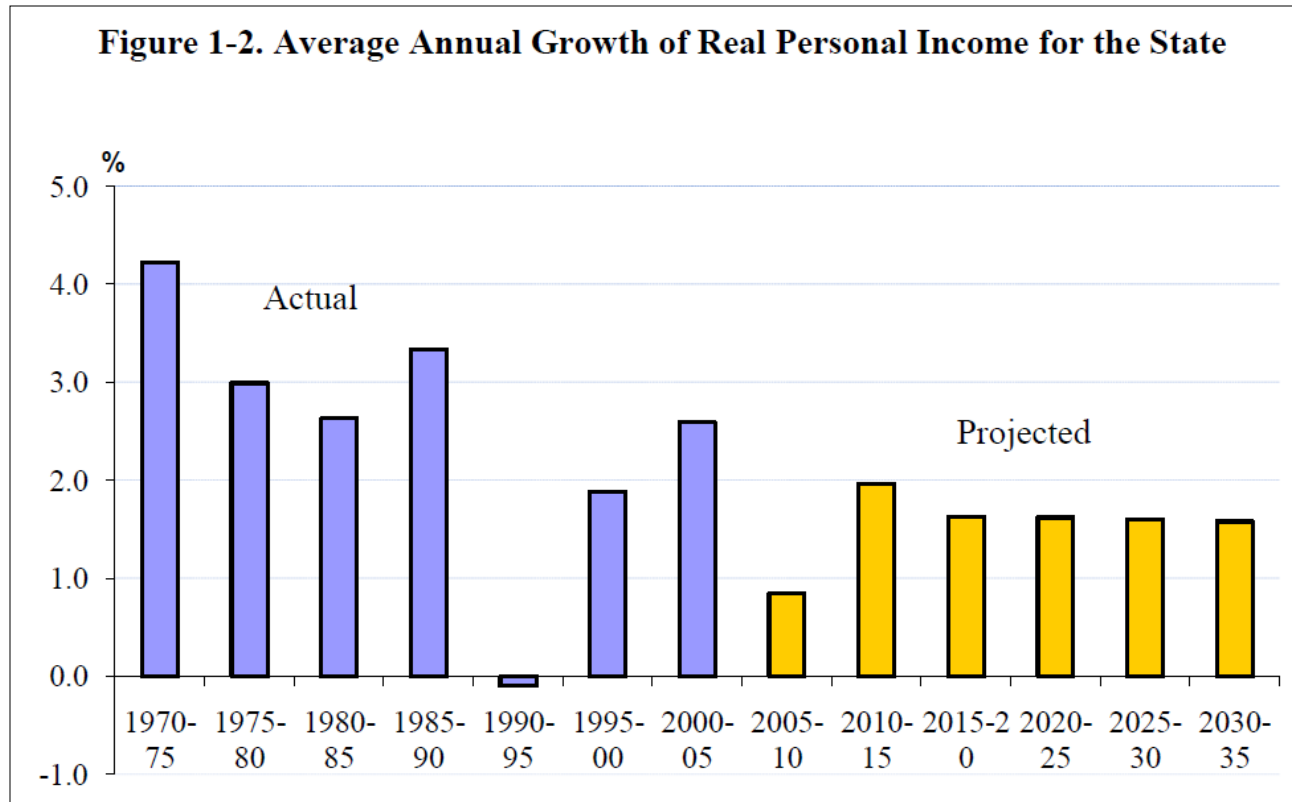
Demographic factors and regulatory policies have limited Hawaii real income growth since the 1970s to an upper bound slipping below the U.S. potential real GDP growth rate* (the sum of labor force growth and productivity growth)!



*A steady-state growth rate at which inflation is not accelerating, consistent with full employment; numerical estimate from CBO

State of Hawaii's latest 2035 projections

DBEDT's latest estimates



The arithmetic:

(a) 0.8-1.0%

Population and labor force growth through the year 2020

(b) 1.5-1.6%

Real personal income growth through 2020

Is Hawaii missing some part of the 1-2% productivity growth that might be feasible?

http://hawaii.gov/dbedt/info/economic/data_reports/2035LongRangeSeries/LRFreport_2035series_revised_Aug09.pdf

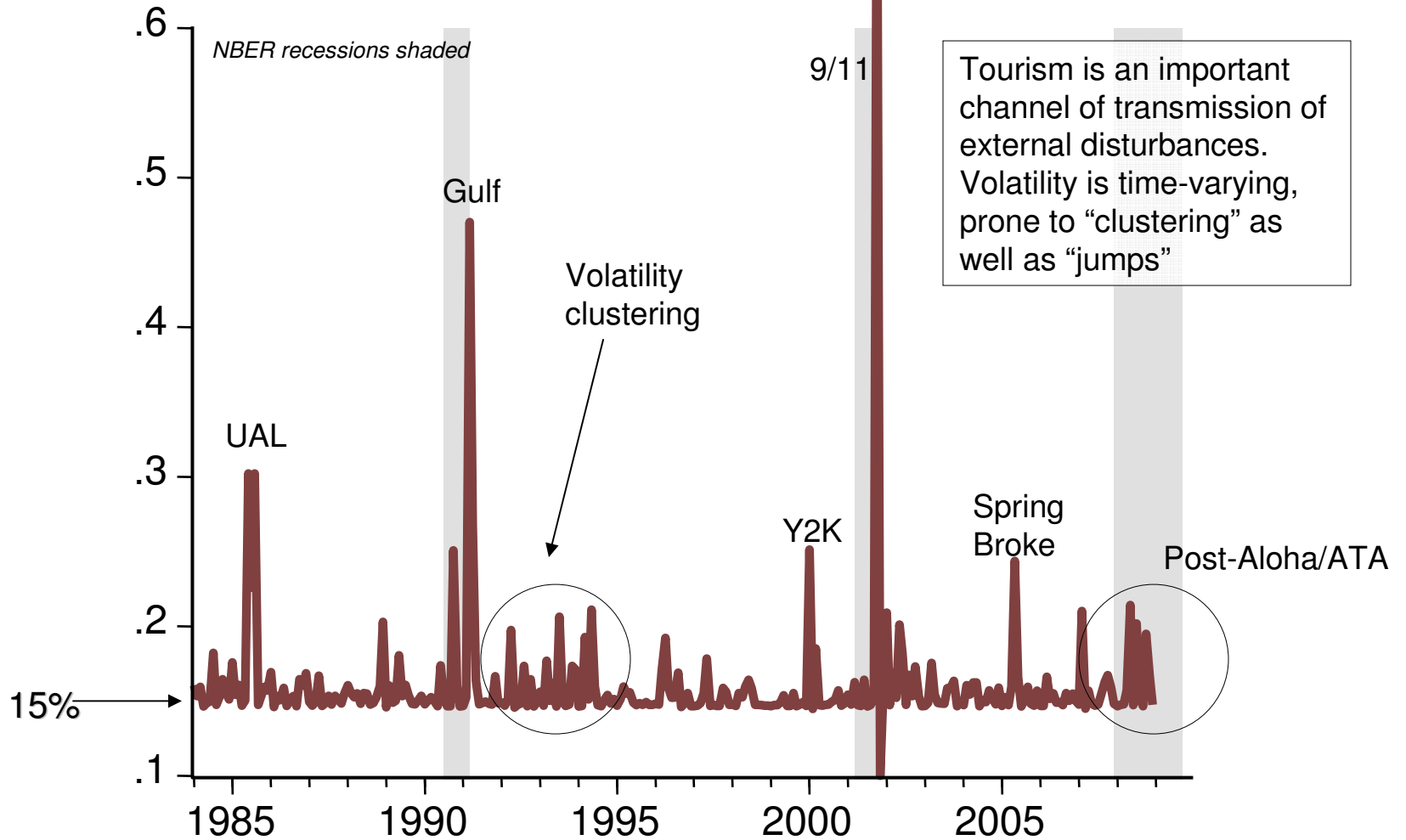
Slide copyright TZ Economics

Source: Hawaii DBEDT, "Population and Economic Projections for the State of Hawaii to 2035—Revised" (Aug 4, 2009)



- Responsible growth is not necessarily measurably low
- Low growth may not generate adequate social surplus for environmental, natural resource, cultural stewardship
- Absence of growth doesn't diminish exposure to risk, especially event risk “jumps”

Conditional arrivals volatility: last quarter-century

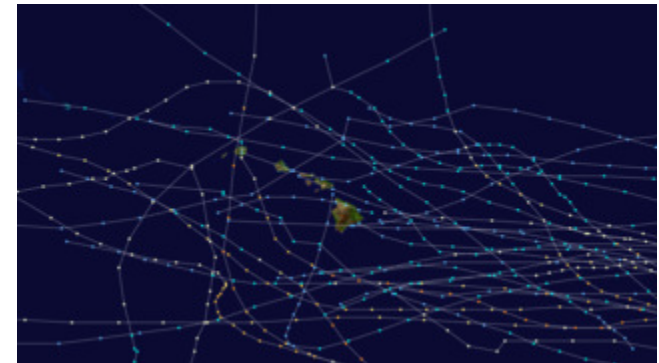
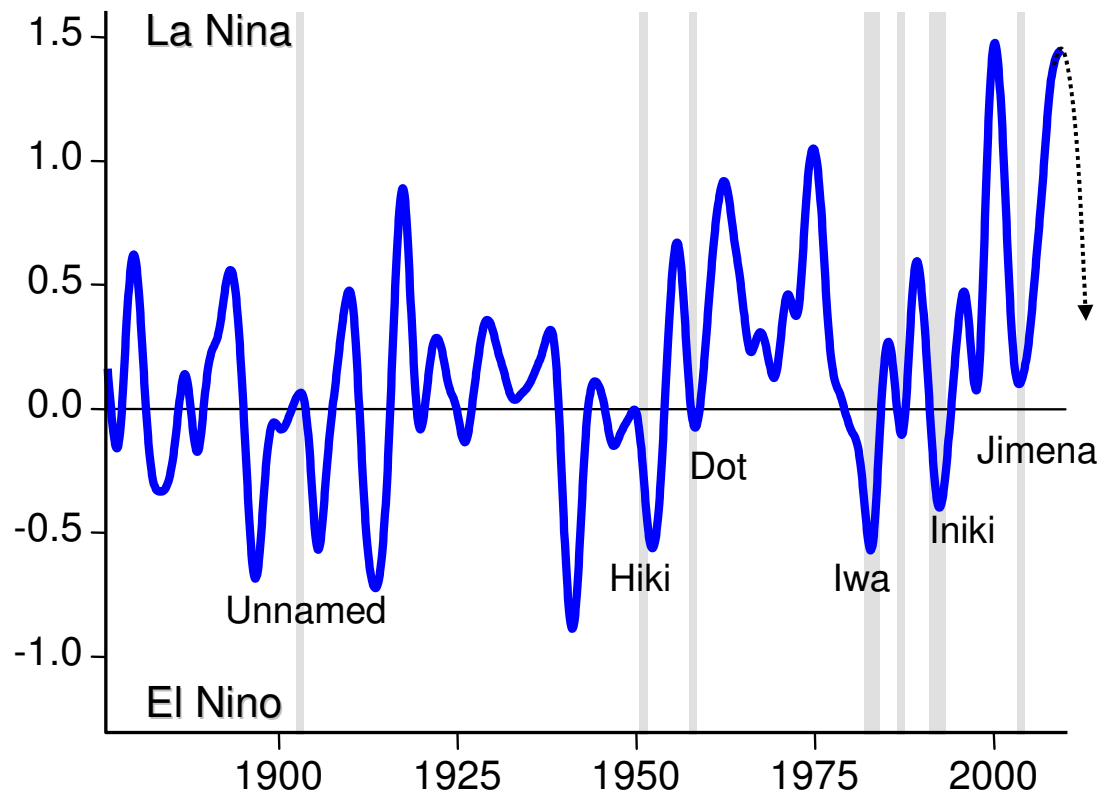


Slide copyright TZ Economics

Source: Underlying data Hawaii DBEDT; conditional annualized standard deviations in threshold autoregressive conditional heteroskedasticity model of monthly log change of seasonally-adjusted Hawaii visitor arrivals by TZE.

Standardized Southern Oscillation Index (SOI): Filtered trend estimates of long cycles

Benchmarked to 1880-1990 period (roughly)



Name	Year	Number of deaths
Iniki	1992	6
Estelle	1986	2
Uleki	1988	2
Hiki	1950	1
Iwa	1982	1
Eugene	1993	1 <i>missing</i>

Slide copyright TZ Economics

Sources: Wikipedia, NOAA, <http://www.cpc.ncep.noaa.gov/data/indices/soi>; Hodrick-Prescott (1997) filter application by TZE using recommended monthly tuning parameters in original paper



Volatility jumps and cycles

- “Black swans”: improbable, high-loss events (Poisson shocks)
- Cycles and shocks can be related—former “conditions” latter
- House price “bubble” precipitated a credit default risk acceleration, cascading into the liquidity risk event in investment banking that culminated in the current financial crisis
- Transitions from cool to warm phases in the El Nino / Southern Oscillation (ENSO) cycle may be associated with increased frequency and intensity of tropical cyclones in the Pacific Ocean

With low growth, will we be able to do anything about it?...



Pau