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

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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.
Average Oahu single-family home prices did OK

Mean home prices, 000$, log scale

Annualized home price appreciation:
- About 8% during first half of statehood era
- About 5% annually second half
(Why lower? disinflation since 1980)
Buying the S&P 500 Index at statehood would have earned 6.75% per annum *including* last year’s panic.

Source: Standard & Poor’s; TZE regression of natural log of daily SPX on constant and time trend
\[ \ln(P^H_t) = 5.3701 + 0.0235t + u_t \]
\[
(32.3522) \quad (5.0935)
\]
\[
u_t = 0.7917u_{t-1} + \varepsilon_t
\]
\[
(9.4051)
\]

1963-2009 annualized appreciation: c. 1.3%

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

Source: TZ Economics; deflation using the Honolulu and U.S. All-City CPI-U; thousand 2007 dollars, log scales
What might the cycle bring in the 20-teens?

Median home prices, 000$, s.a., log scale

- Oahu
- Kauai
- Anaheim, Santa Ana

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

Trough? Peak? …1990s style stagnation?
Median home price movements now synchronous

Sources: Honolulu Board of Realtors, Realtors Association of Maui, Hawaii Information Service/Kauai Board of Realtors, National Association of Realtors; seasonal adjustment of Hawaii data by TZ Economics
New home construction synchronous in recent cycle

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

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.


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

Real private building permit values, combined residential and nonresidential

Sources: Hawaii DBEDT, UHERO; TZ Economics
Hawaii construction forecasts now anticipate a sharper drop (credit crunch), but a steeper rise as stimulus hits.

Sources: UHERO; author’s calculations for Council on Revenues
Public investment “stimulus” needs a…stimulus?

Million 2007$ (log scale)

- Burns “Catch A Wave”
- Waihee “Japan Bubble”

Sources: Hawaii DBEDT, UHERO; 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

Visitor arrivals, millions (log scale)

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

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

Tourism’s contribution to economic growth in Hawaii ended in the 1980s; it was intentional, a deliberate policy decision, but was it wise?

Real visitor expenditure 1951-2008 (log scale)

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

Source: nominal data from Hawaii DBEDT; TZE calculations of constant-dollar estimates use Honolulu CPI-U
Visitor arrivals: stabilization precedes recovery

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

Source: Bureau of Economic Analysis, Congressional Budget Office; compound annual growth estimates by TZE
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?

- 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”
Tourism is an important channel of transmission of external disturbances. Volatility is time-varying, prone to “clustering” as well as “jumps”

*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)

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<th>Year</th>
<th>Number of deaths</th>
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<td>2</td>
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<tr>
<td>Uleki</td>
<td>1988</td>
<td>2</td>
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<tr>
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<td>1</td>
</tr>
<tr>
<td>Iwa</td>
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<td>1</td>
</tr>
<tr>
<td>Eugene</td>
<td>1993</td>
<td>1 missing</td>
</tr>
</tbody>
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“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?*...