Economic trends and surprises

prepared for the
Healthy Communities Hawaii panel discussion
Richards Street YWCA

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1. Hawaii real GDP growth has been slowing for almost three years
Hawaii quarterly real GDP growth: for the second time this decade, recent economic deceleration to a near-standstill in the late-2010s

Source: Bureau of Economic Analysis, U.S. Department of Commerce (https://www.bea.gov/data/gdp/gdp-state); growth calculations by TZE
2. Hawaii construction now is cycling down after cycling up in 2010s
Monthly Hawaii real private building permit value cycling downward for several years since 2015 within narrowing historical bandwidth

Monthly, million 2017$, s.a. (log scale)

Sources: County planning and building departments (various), Hawaii DBEDT (https://dbedt.hawaii.gov/economic/mei/), U.S. Bureau of the Census (https://www.census.gov/construction/cpi/); seasonal adjustment, deflation, and trend extraction using Hodrick-Prescott filter by TZE
Real Hawaii contracting receipts forecast to slip to below trend, $8-9 billion to $7.0-7.5 billion, in shallow extension of narrowing cycle.
3. Volcanoes and hurricanes

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De-trended, seasonally-adjusted Big Island Island visitor arrivals got hit by the Lower Puna/East Rift Eruption like 9/11 and No Aloha (Airlines)

Sources: Hawaii Tourism Authority, Hawaii DBEDT (http://dbedt.hawaii.gov/economic/mei/), seasonal adjustment using Census X-13 ARIMA filter, estimation and residual extraction from second-order polynomial trend on natural log of monthly visitor arrivals by TZ Economics
And so it begins? Big Island monthly unemployment rate through October 2018, six months after the Lower Puna/East Rift eruption

Monthly, percent of labor force, s.a.

- Bad Hair Decade
- Hurricane Iniki (Kauai)
- Gulf War
- 9/11
- SARS/Iraqnaphobia
- Aloha/ATA shutdowns
- Not The 1990s
- U.S. recession shaded

Build even more houses on a live volcano?

Climate change = sea level rise

Lake Ala Wai (2040)
My idea of an urban densification attractor (“TheTrain”)
4. Recent migration bodes ill for longer-term population growth trends
Neighbor Isle components of population change: natural increase (births less deaths), net international and net domestic migration

Oahu components of population change: natural increase (births less deaths), net international migration, and net domestic migration

Long-term per capita real income growth trend in Hawaii slower than nationwide, eroding relative values (Neighbor Isles equal “Louisiana”)

Appendix: negative externalities of recent vaccination fails

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Annual measles cases in the United States (thousands, 1950-2016; 120 cases in 2017; 142 cases to-date through October 6, 2018)

Sources: CDC, "Reported Cases and Deaths from Vaccine Preventable Diseases, United States, 1950-2013," (Sep. 2014) (http://vaccines.procon.org/sourcefiles/cdc-reported-cases-and-deaths-from-vaccine-preventable-diseases.pdf) and CDC “Measles Cases and Outbreaks” (https://www.cdc.gov/measles/cases-outbreaks.html)
2014 measles outbreak: 383 cases Ohio Amish, 125 from Disneyland
88 percent unvaccinated or unknown (genotype B3 (Philippines etc.))

Jennifer Zipprich, Kathleen Winter, Jill Hacker, Dongxiang Xia,
James Watt, Kathleen Harriman, “Measles Outbreak — California,
December 2014–February 2015,” CDC Morbidity and Mortality
Weekly Report (MMWR) (February 20, 2015) 64(06):153-154
(https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6406a5.htm)

Sources:  CDC, “Reported Cases and Deaths from Vaccine Preventable Diseases, United States, 1950-2013,” (Sep. 2014) (http://vaccines.procon.org/sourcefiles/cdc-reported-cases-and-deaths-from-vaccine-preventable-diseases.pdf) and CDC “Measles Cases and Outbreaks” (https://www.cdc.gov/measles/cases-outbreaks.html)
Annual mumps and German measles cases in U.S. (thousands, 1950-2018 (to date))

Since vaccination, mumps has dropped 99 percent, limiting outbreak size, duration, and spread, but risks are rising from noncompliance.

<table>
<thead>
<tr>
<th>State</th>
<th>Cases</th>
</tr>
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<tbody>
<tr>
<td>Hawaii</td>
<td>832</td>
</tr>
<tr>
<td>Washington</td>
<td>779</td>
</tr>
<tr>
<td>Arkansas</td>
<td>542</td>
</tr>
<tr>
<td>Texas</td>
<td>470</td>
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<tr>
<td>Missouri</td>
<td>437</td>
</tr>
<tr>
<td>New York (excl. NYC)</td>
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<tr>
<td>Illinois</td>
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<td>Pennsylvania</td>
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<tr>
<td>Colorado</td>
<td>116</td>
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<tr>
<td>Others combined</td>
<td>952</td>
</tr>
</tbody>
</table>

Mumps cases in 2017

Hawaii’s 2017-2018 Mumps outbreak recorded 1,067 cases with CDC (mostly vaccination fails), highest nationwide in total and incidence