

Economic trends and surprises

prepared for the

Healthy Communities Hawaii panel discussion

Richards Street YWCA

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TZ Economics, Kailua, Hawaii

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TZ E C O N O M I C S

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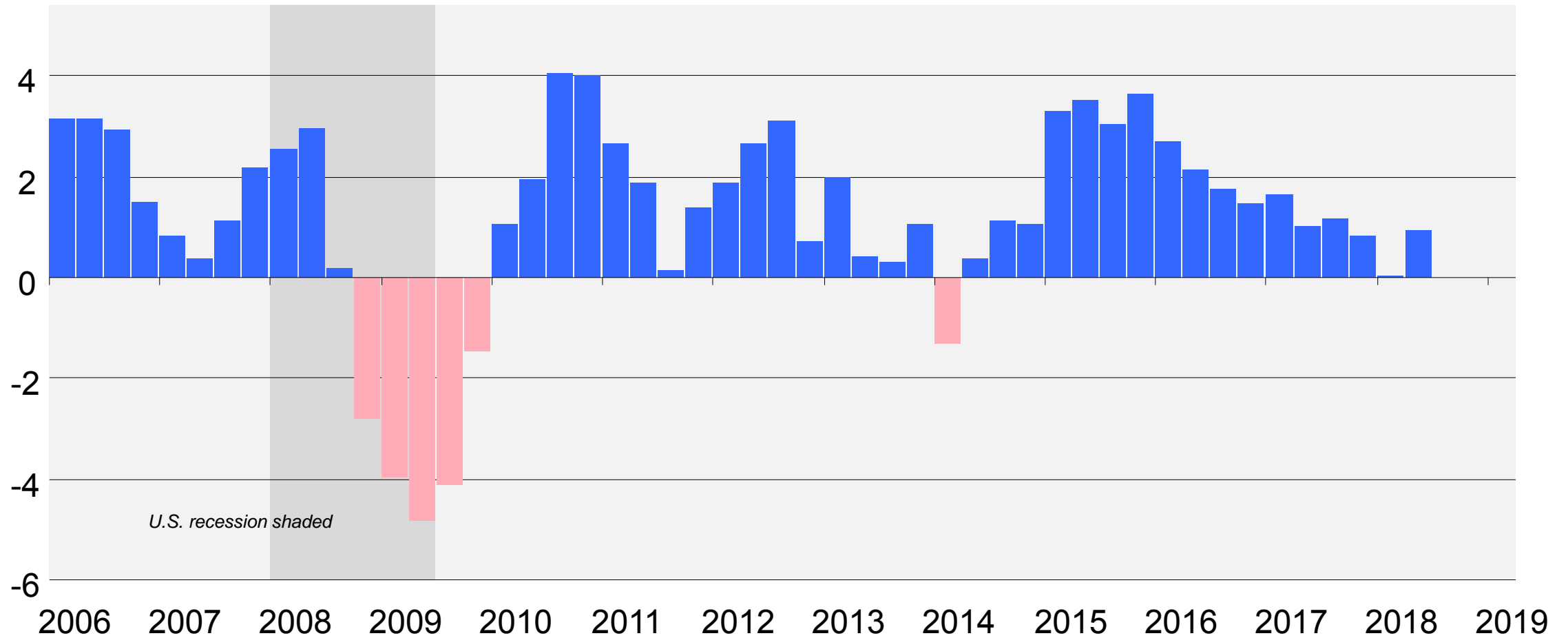


1. Hawaii real GDP growth has been slowing for almost three years

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Hawaii quarterly real GDP growth: for the second time this decade, recent economic deceleration to a near-standstill in the late-2010s

Percent change, year-over-year



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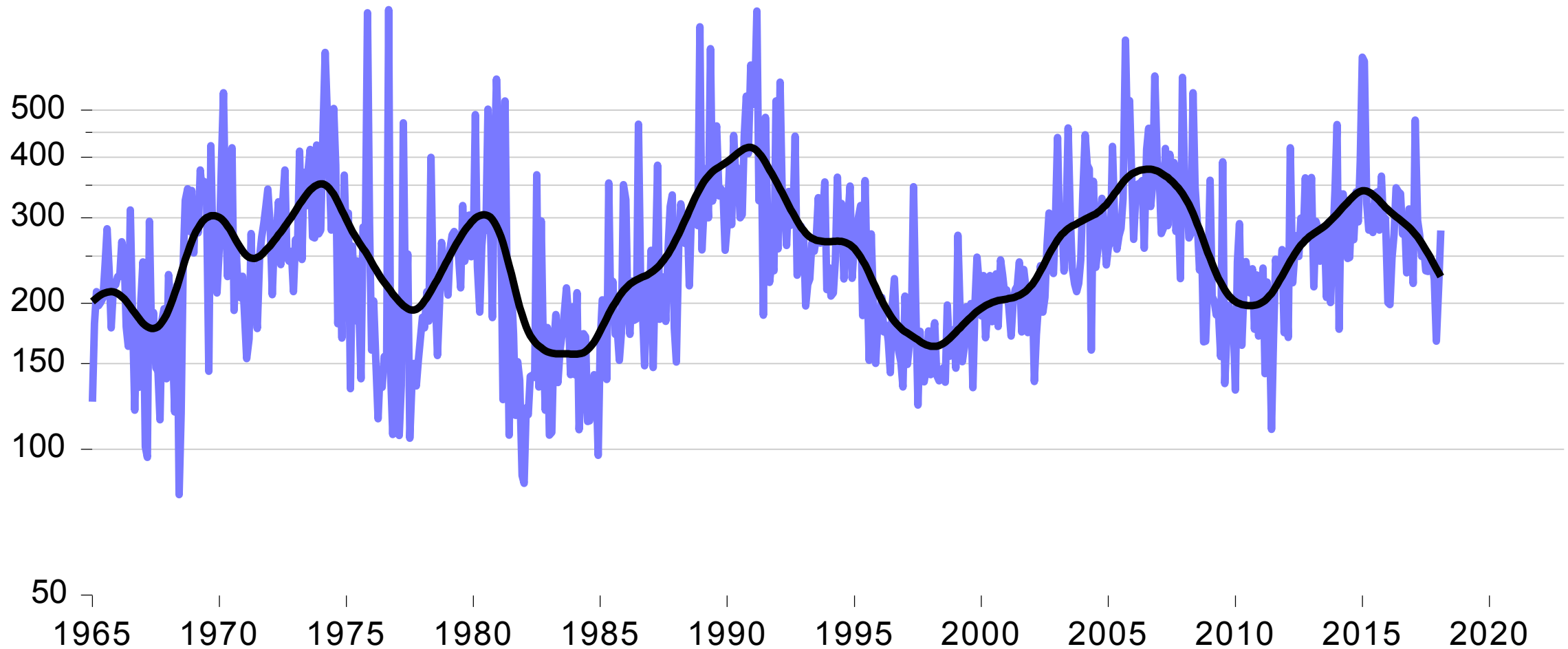


2. Hawaii construction now is cycling down after cycling up in 2010s

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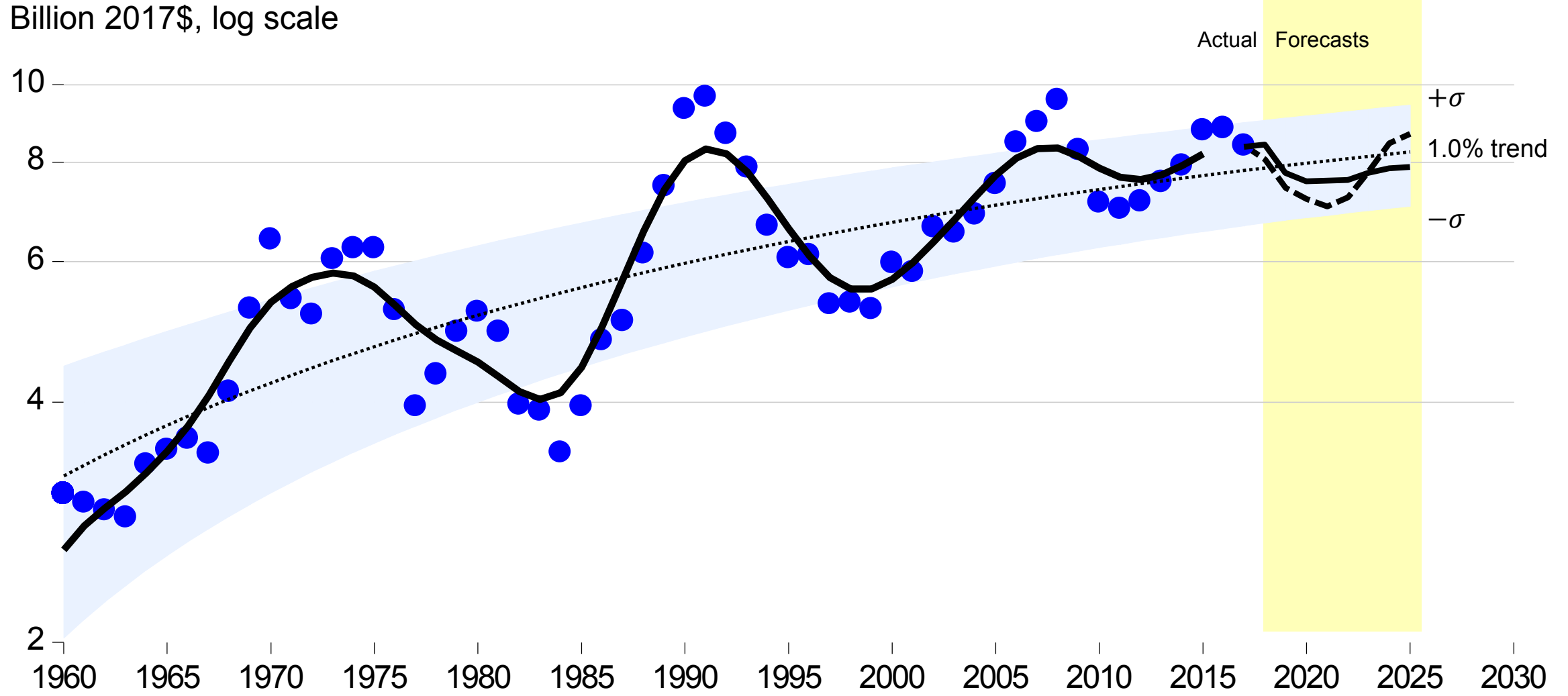
Monthly Hawaii real private building permit value cycling downward for several years since 2015 within narrowing historical bandwidth

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



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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



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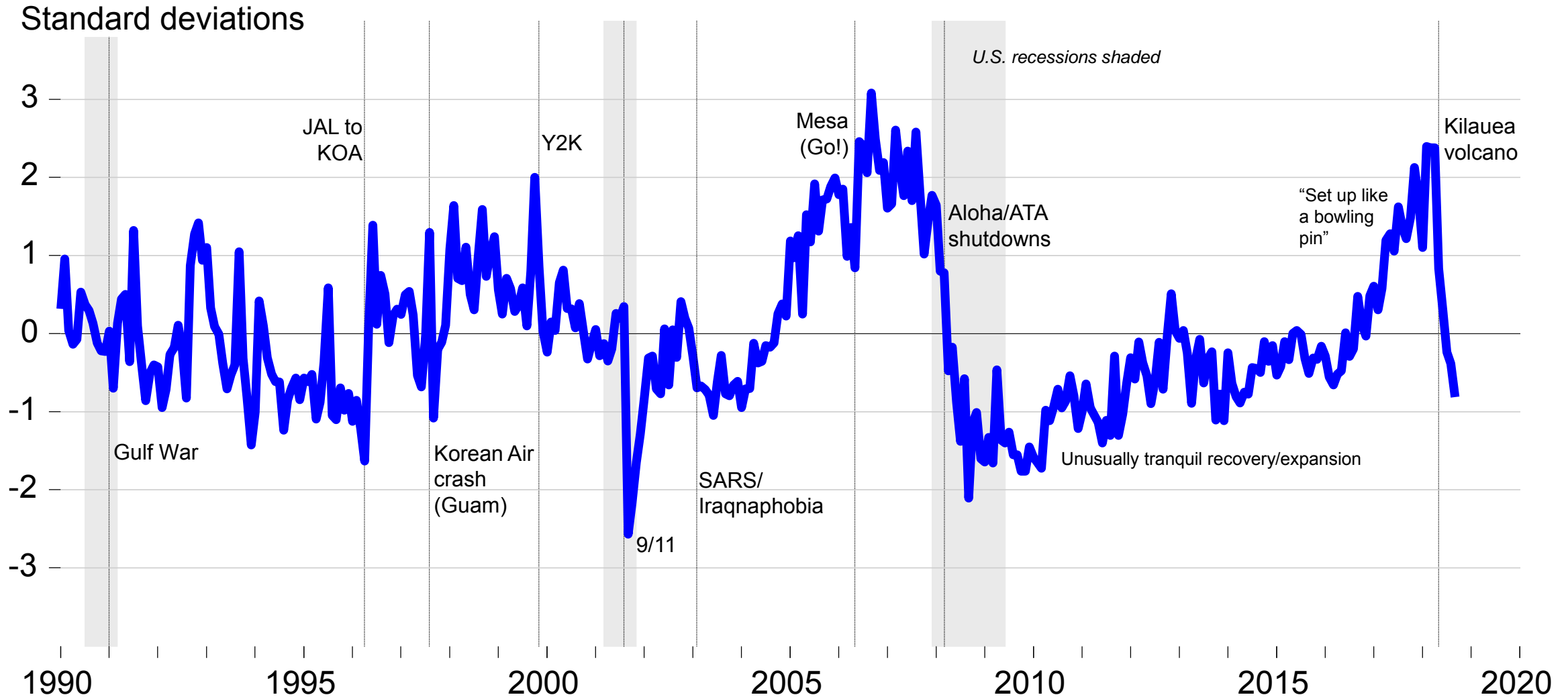
Sources: Hawaii Department of Taxation, U.S. Bureau of the Census, Bank of Hawaii (various) *Construction in Hawaii*; deflation, cycle extraction using Hodrick-Prescott filter, nonlinear trend regression, and November 2018 construction forecasts 2018-2021 for the Building Industry Association of Hawaii by TZ Economics



3. Volcanoes and hurricanes

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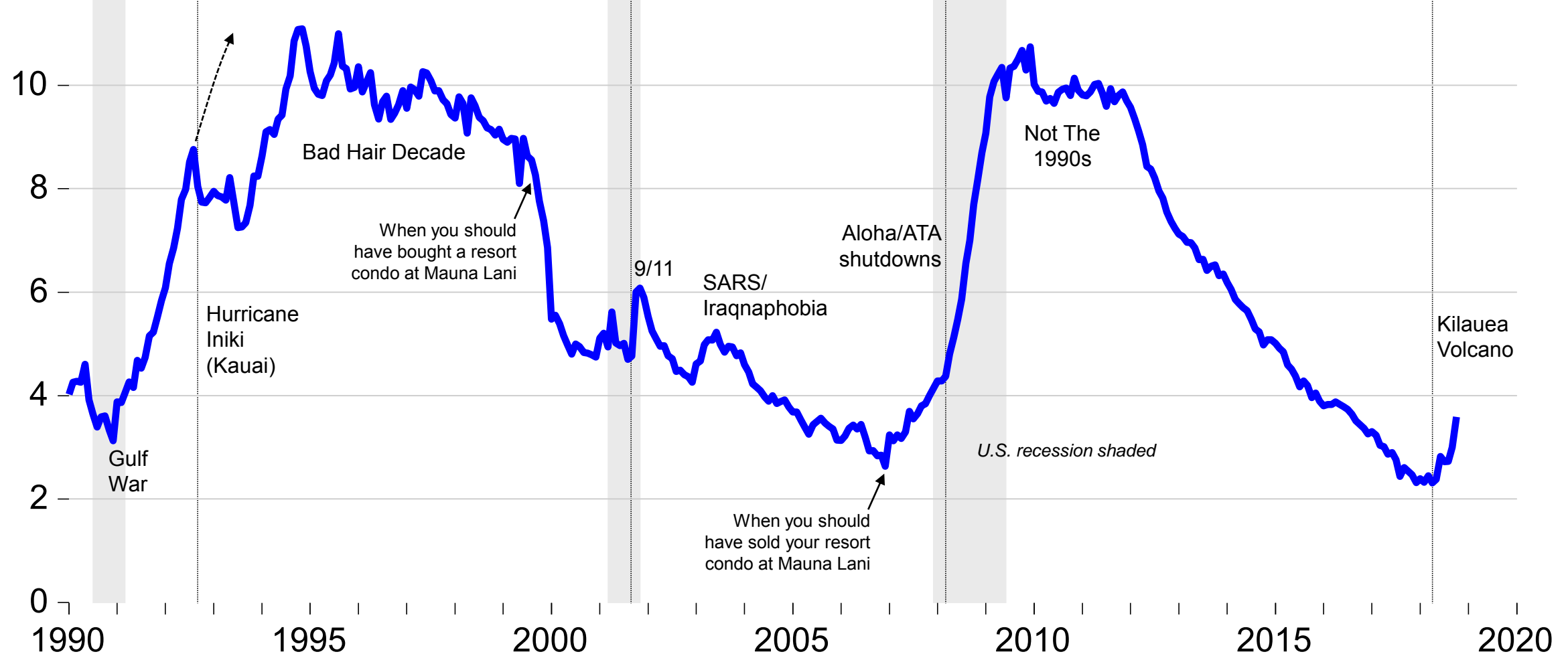
De-trended, seasonally-adjusted Big Island visitor arrivals got hit by the Lower Puna/East Rift Eruption like 9/11 and No Aloha (Airlines)



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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.

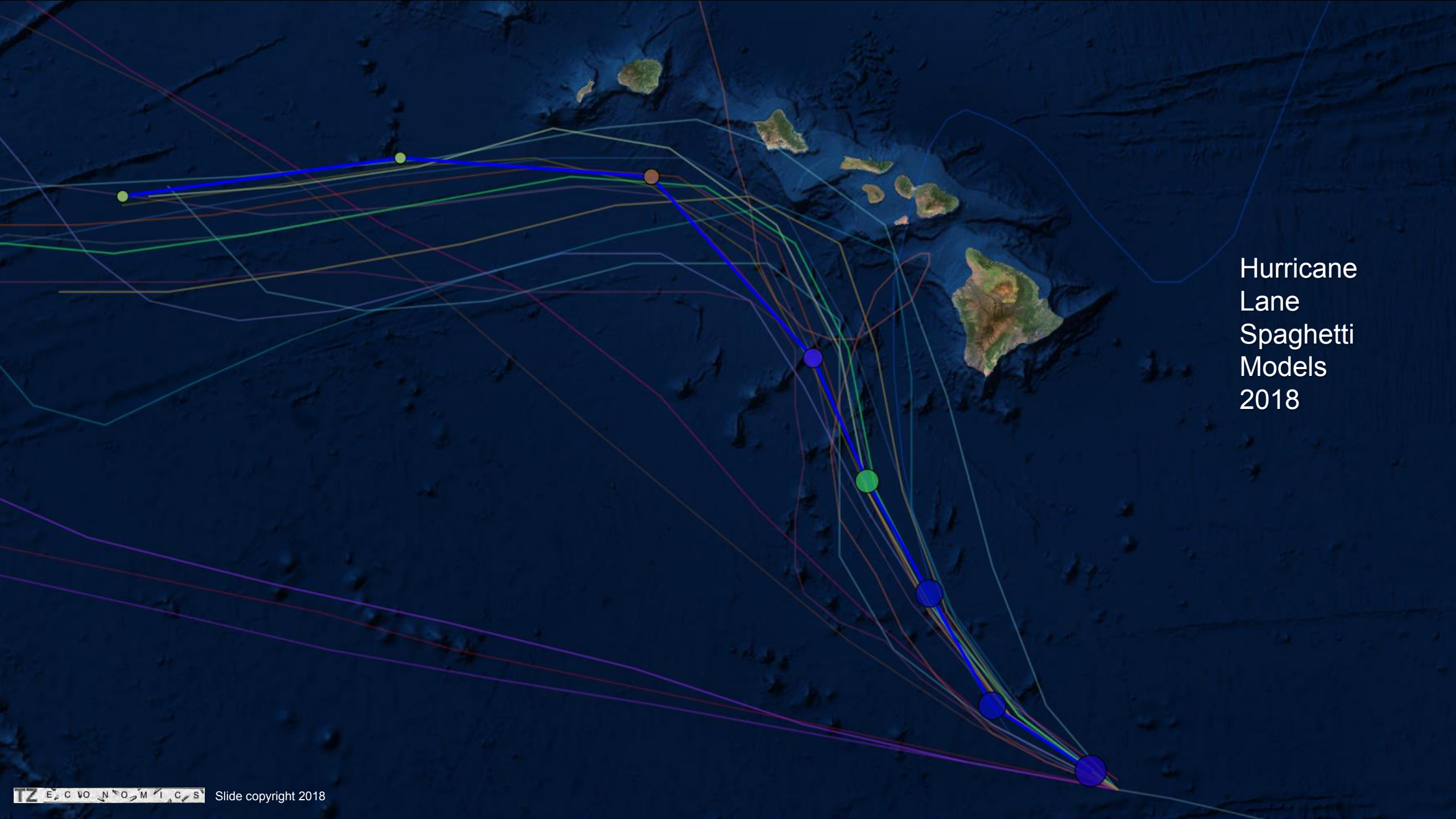


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Build even more houses
on a live volcano?



Hurricane
Lane
Spaghetti
Models
2018



Climate change = sea level rise

Lake Ala Wai (2040)

My idea of an urban densification attractor ("The Train")



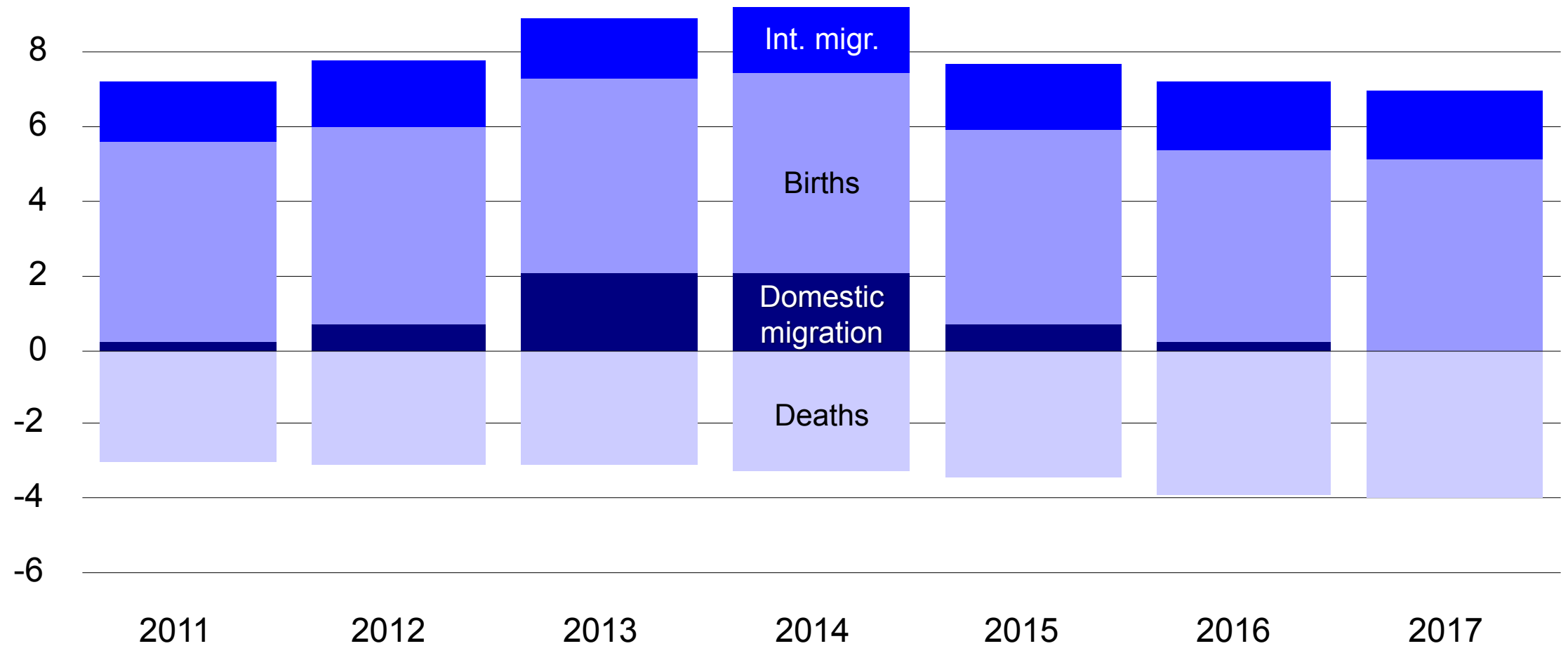


4. Recent migration bodes ill for longer-term population growth trends

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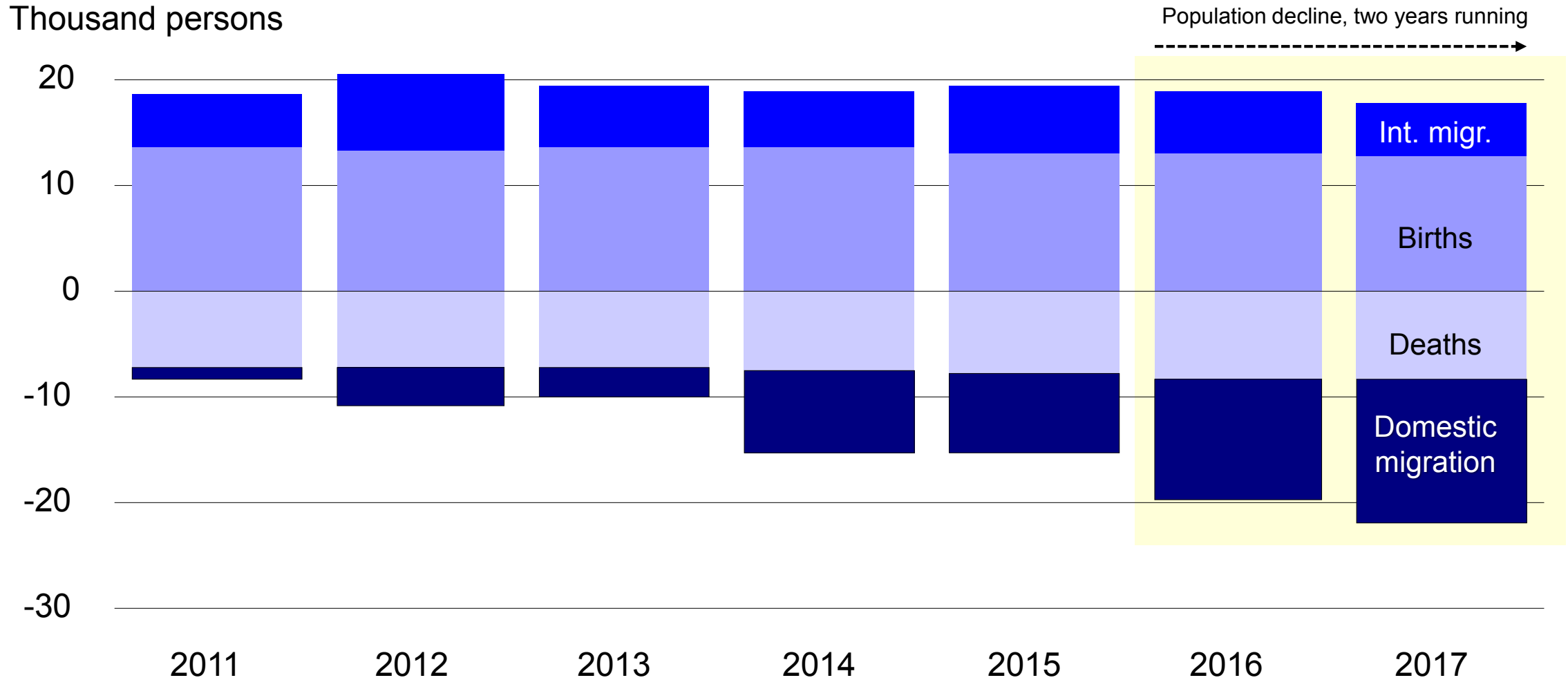
Neighbor Isle components of population change: natural increase (births less deaths), net international and net domestic migration

Thousand persons



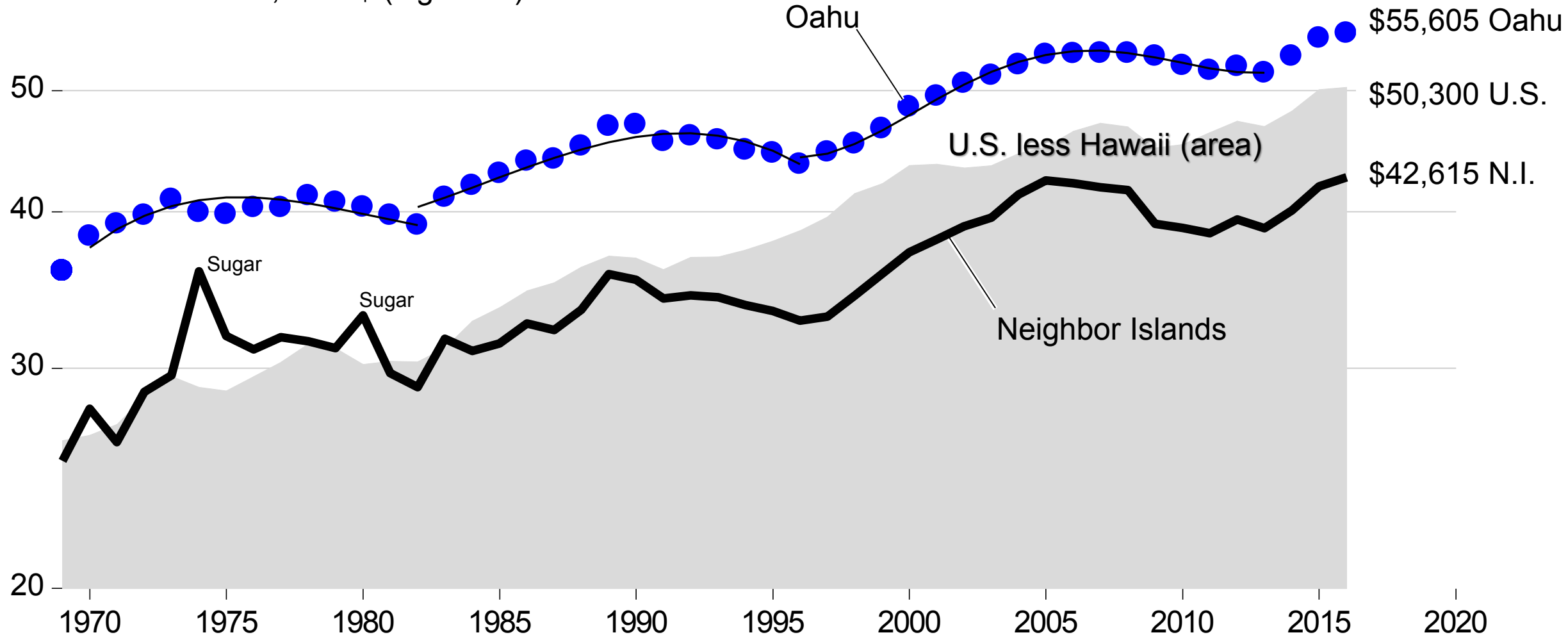
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Oahu components of population change: natural increase (births less deaths), net international migration, and net domestic migration



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

Thousand constant, 2017\$ (log scale)



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Pau

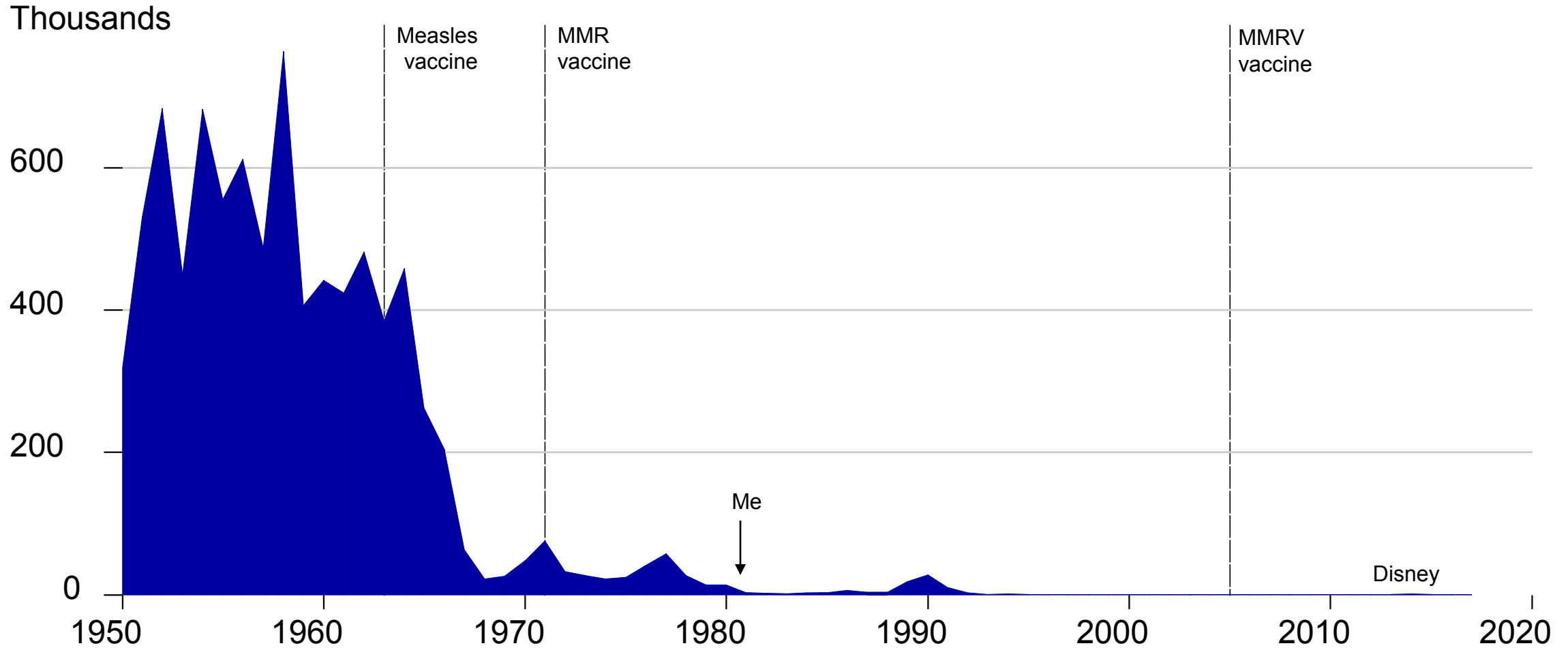




Appendix: negative externalities of recent vaccination fails

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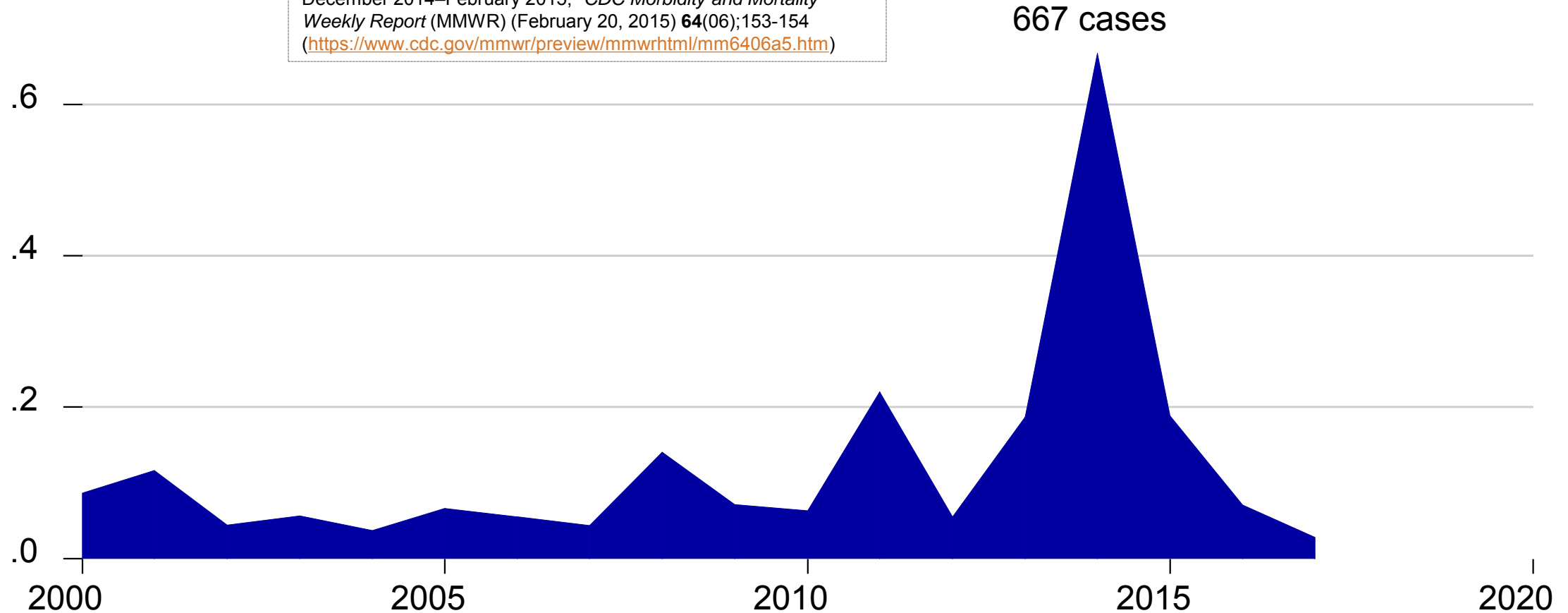
Annual measles cases in the United States (thousands, 1950-2016; 120 cases in 2017; 142 cases to-date through October 6, 2018)



2014 measles outbreak: 383 cases Ohio Amish, 125 from Disneyland 88 percent unvaccinated or unknown (genotype B3 (Philippines etc.))

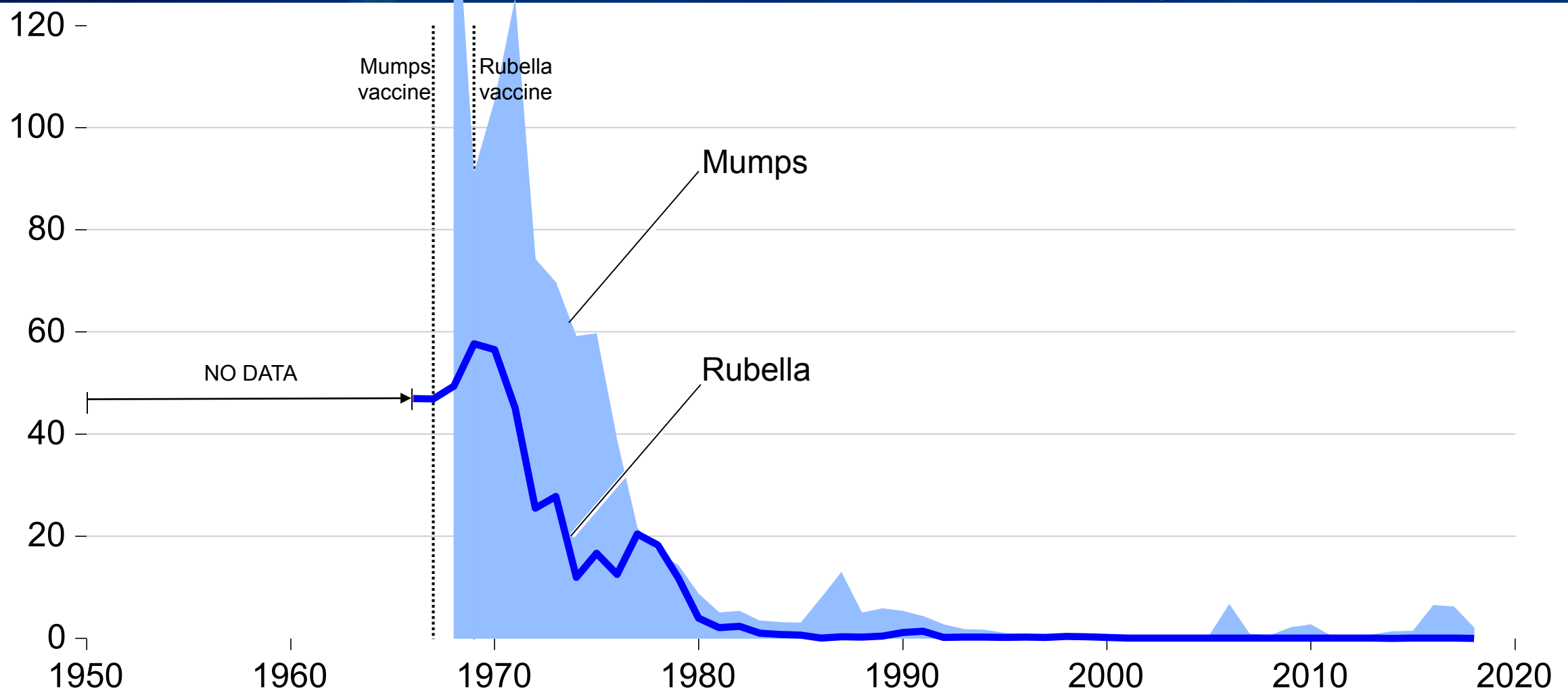
Thousand

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>)

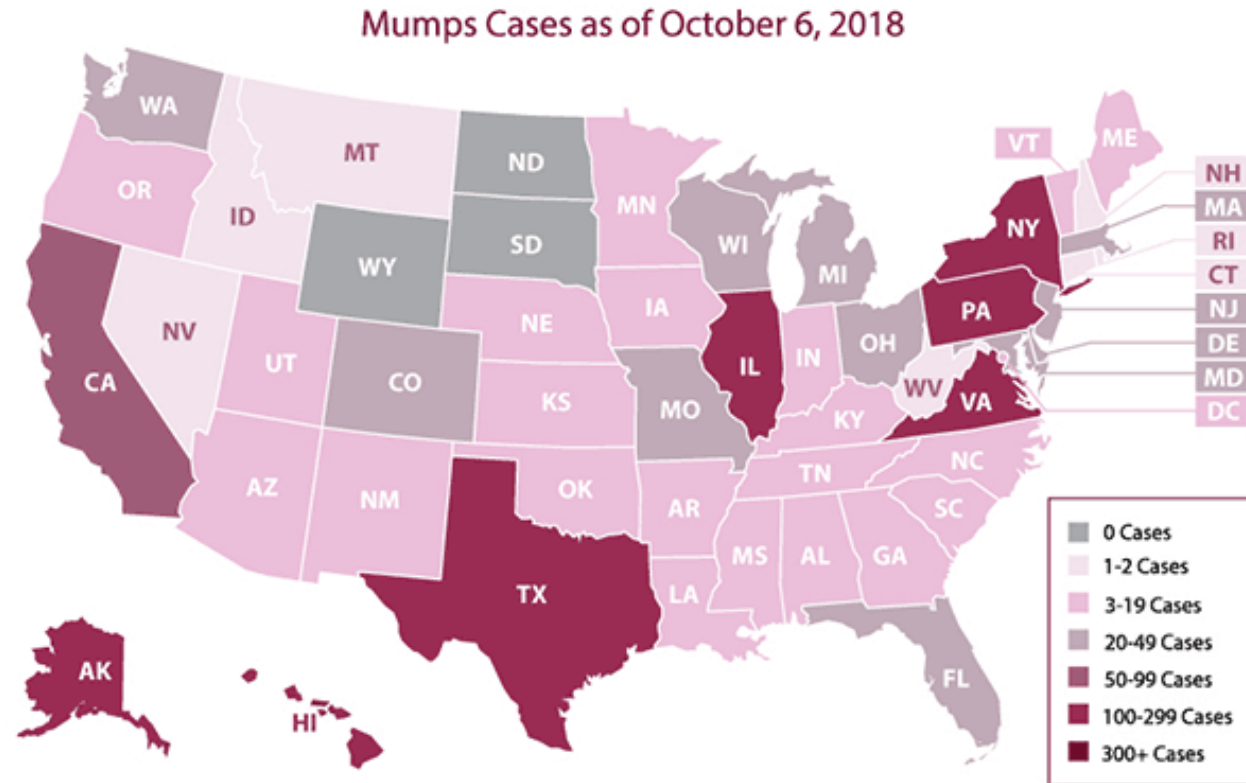
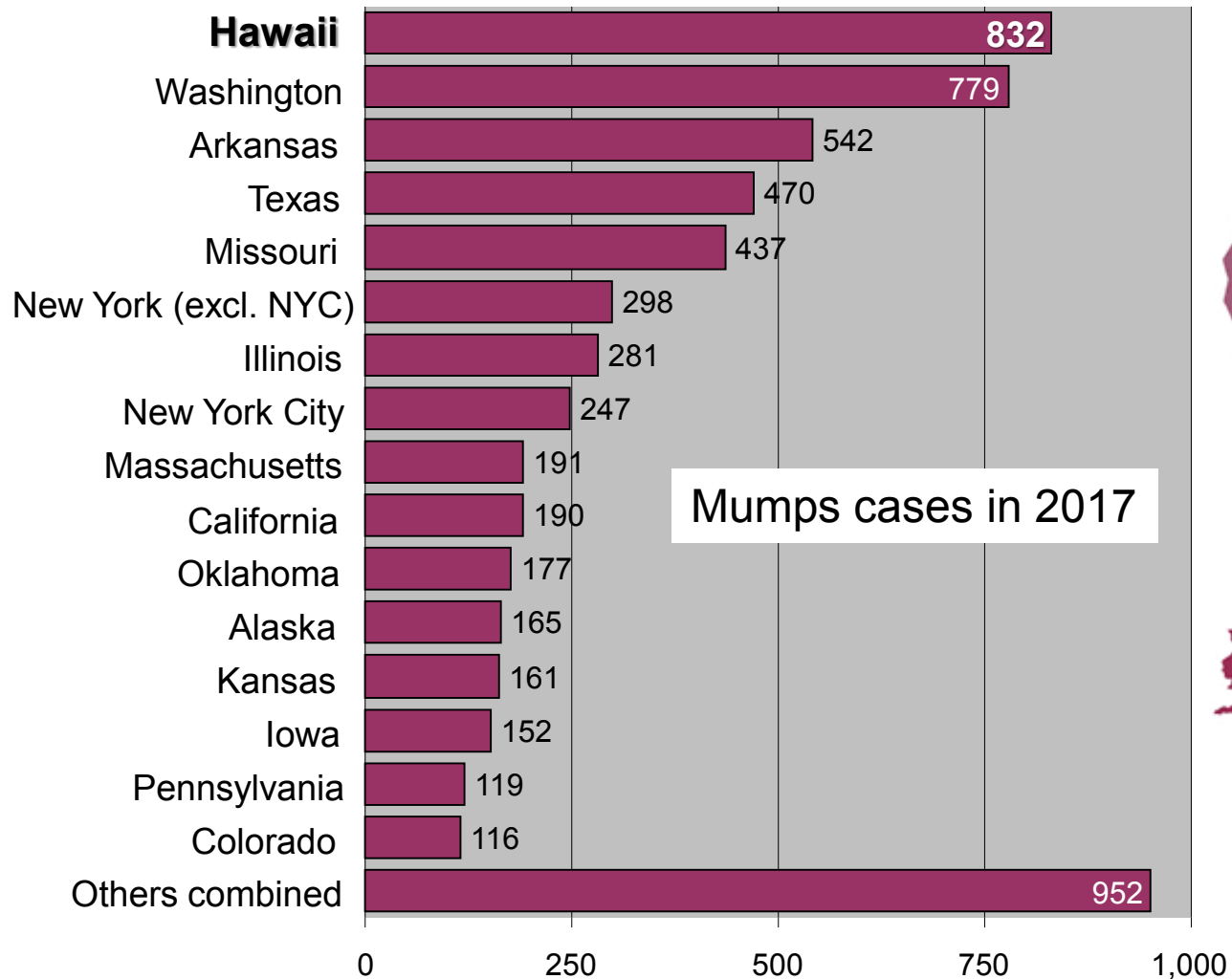


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Annual mumps and German measles cases in U.S. (thousands, 1950-2018 (to date))



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



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

