

Ward Village Block C-West redevelopment economic impacts

Presentation prepared for the

Hawaii Community Development Authority

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TZ Economics, Kailua, Hawaii

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EXHIBIT "W"

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Economic impacts of the Ward Village Block C-West redevelopment investment impulse by the Howard Hughes Corporation, 2018-2023

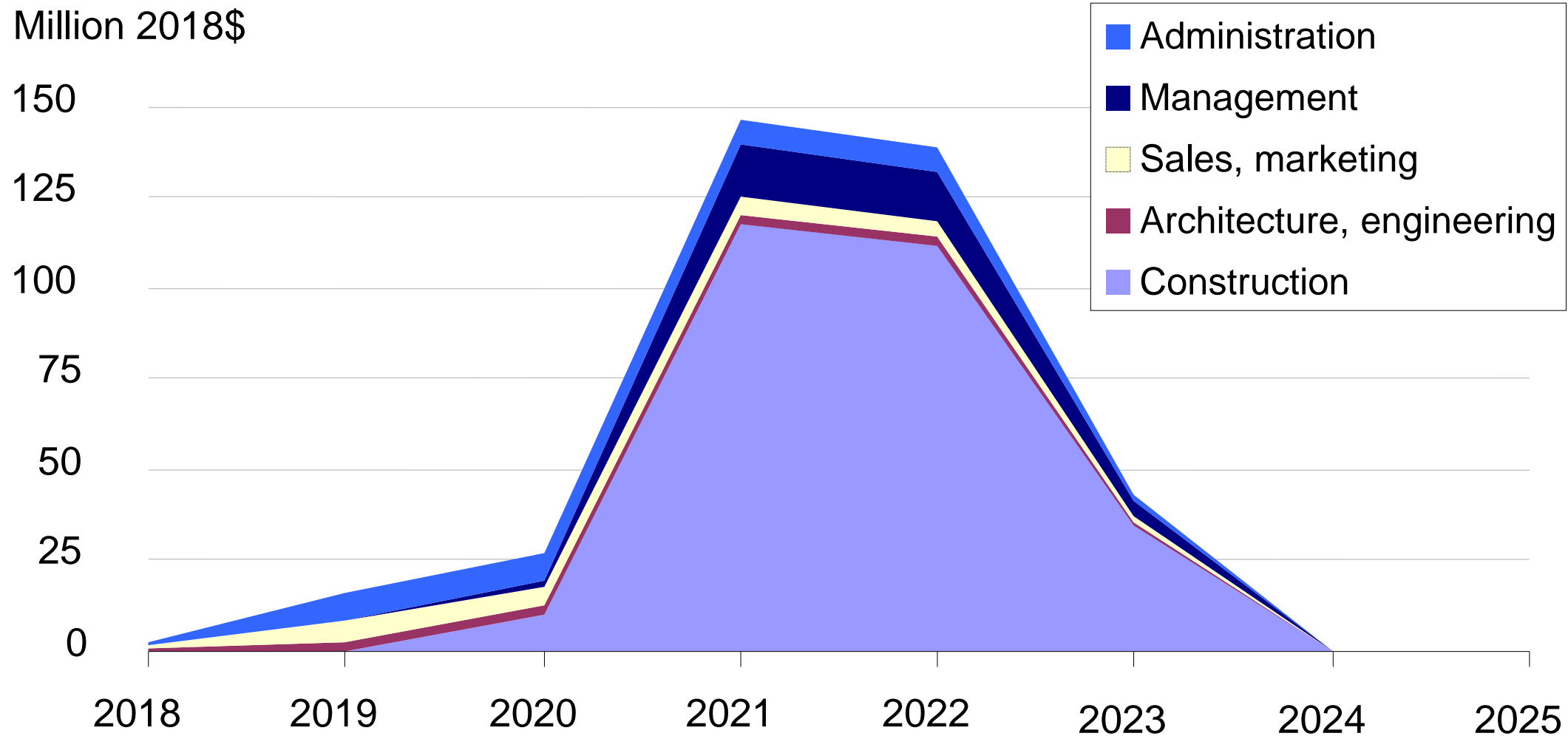
Total impacts	2018	2019	2020	2021	2022	2023	TOTAL
Output (mil 2018\$)	5.3	30.5	53.4	304.5	288.4	89.8	771.8
Earnings (mil 2018\$)	1.8	10.6	18.0	99.5	94.2	29.3	253.5
State taxes (mil 2018\$)	0.3	2.0	3.4	19.2	18.2	5.7	48.8
Jobs (number)	48	276	383	1,609	1,517	470	4,304

Outlays (mil 2018\$)	2018	2019	2020	2021	2022	2023	TOTAL
Construction	-	-	10.33	117.79	111.57	34.74	274.44
Architecture engineering prof.	0.50	2.89	2.76	2.62	2.49	0.77	12.04
Marketing	0.91	5.26	5.02	4.77	4.52	1.41	21.88
Development fee	-	-	1.24	14.14	13.39	4.17	32.93
Other indirect, relocation	1.38	7.96	7.60	7.22	6.84	2.13	33.12
Total outlays	2.79	16.12	26.95	146.54	138.80	43.22	374.42

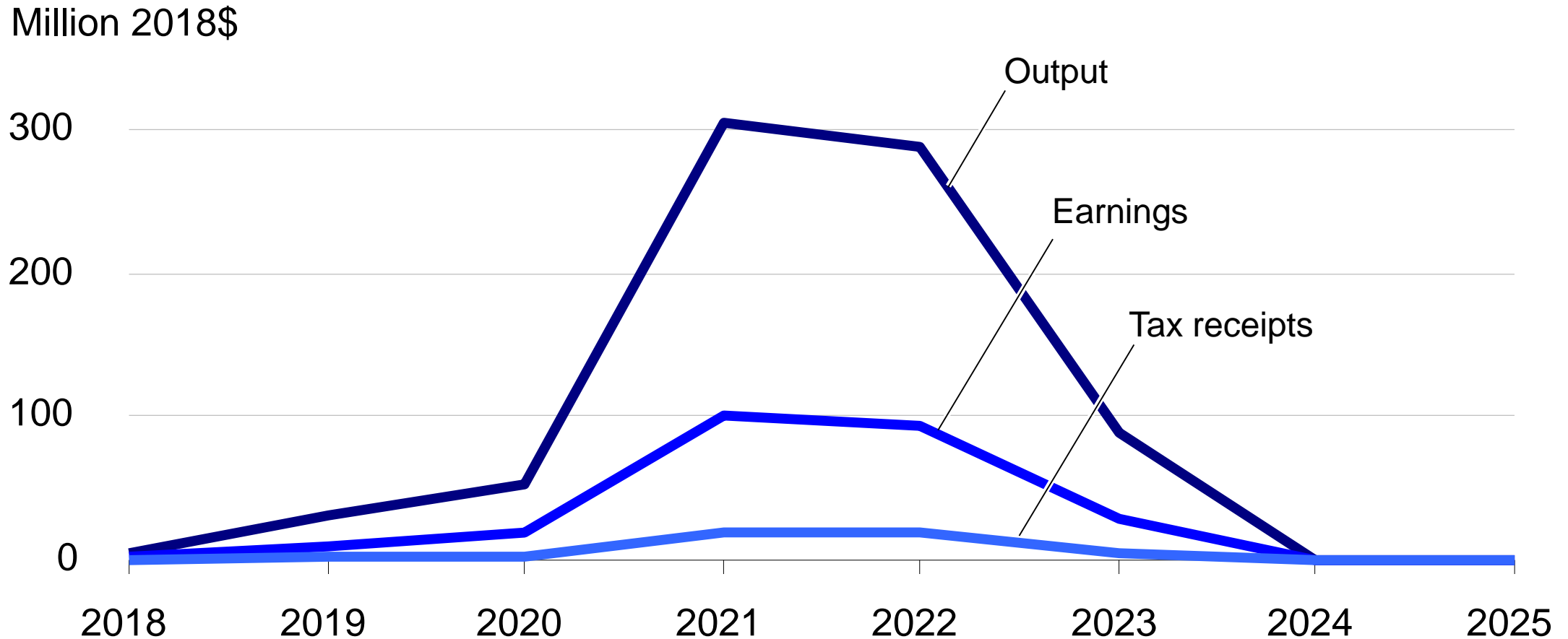
Note: All impacts estimated in constant, 2018 dollars in present values, or in job-years (one job for one year) taking into account the effects of labor-saving technological progress on productivity growth; total impacts include direct, indirect, and induced effects (via Type II multipliers).

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Ward Village Block-C West investment cumulatively comprises \$274 million in construction, \$100 million in other redevelopment outlays

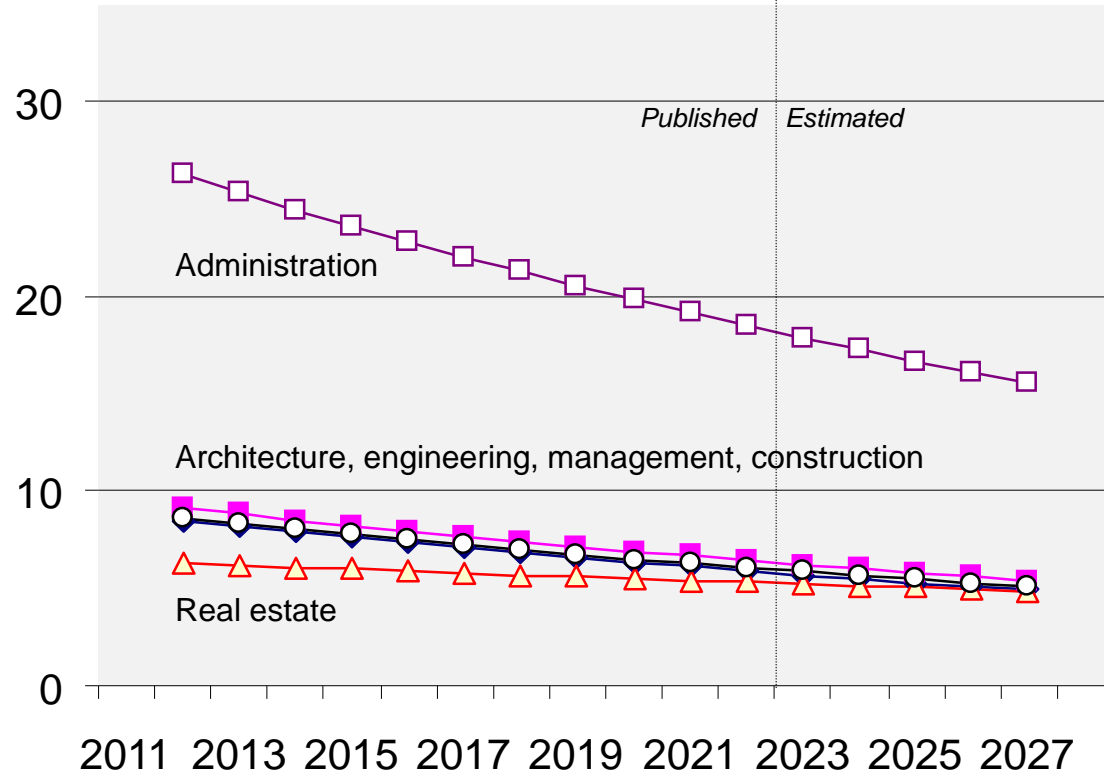


Block C-West real economic impacts include \$772 million in output, \$254 million in earnings, and \$49 million in State tax receipts



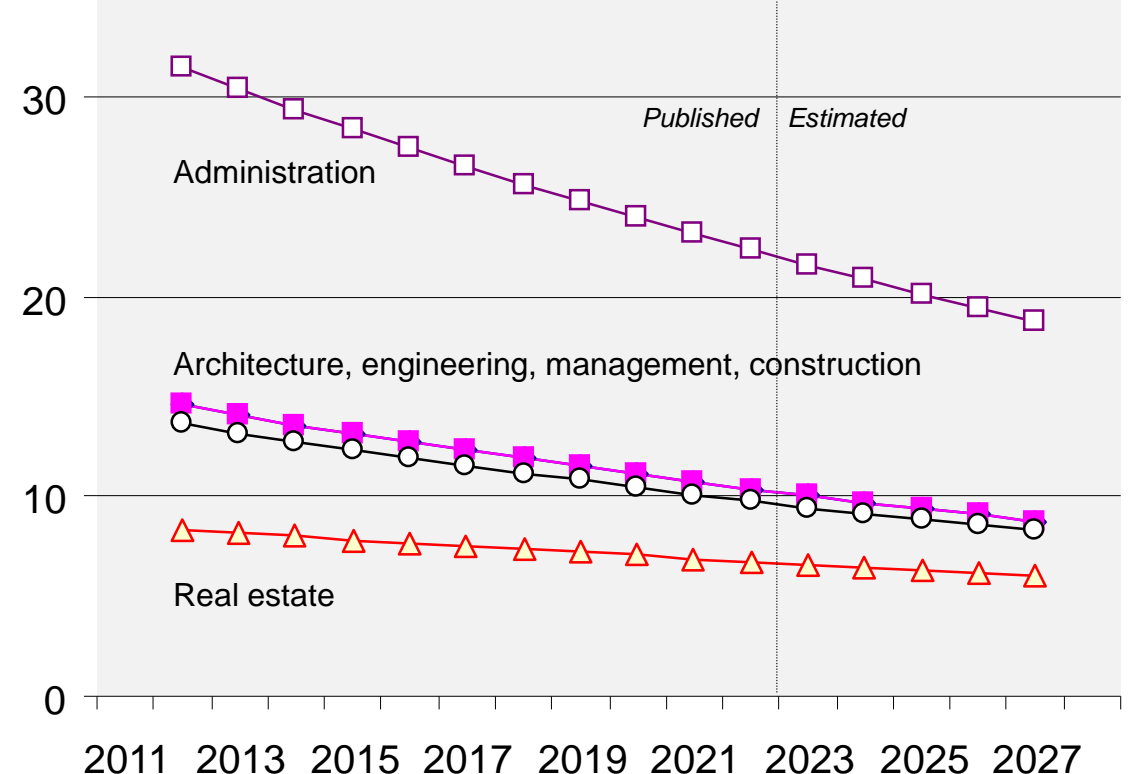
Labor-saving technological progress* raises productivity, implies fewer workers over time in each economic activity, declining jobs multipliers

Multiplier-linked jobs per million \$ outlay



Type I multipliers: direct effects

Multiplier-linked jobs per million \$ outlay



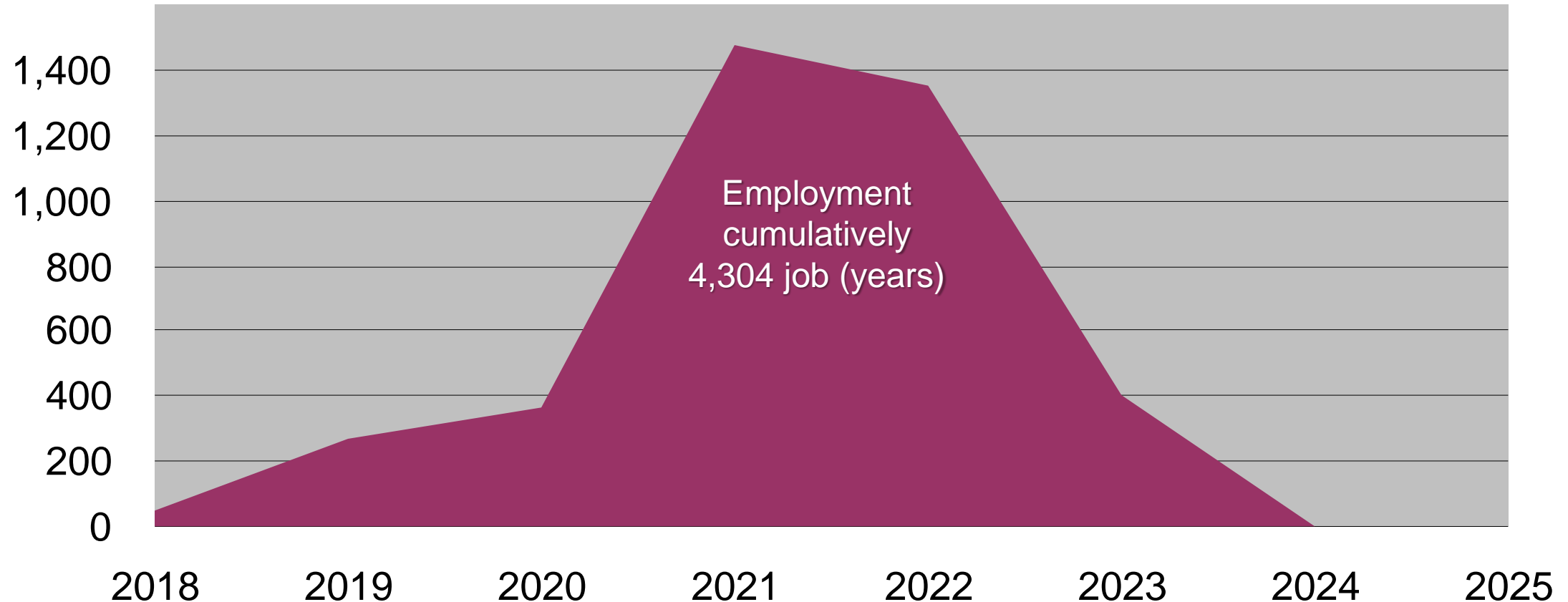
Type II multipliers: + indirect + induced effects

*Annualized labor requirement reductions from productivity growth: average 3.1%, median 3.4% rates (standard deviation is 0.6-0.8%)

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Block C-West employment impacts, incorporating the effects of labor-saving productivity growth, cumulate to an annual average 650 jobs

Employment (job-years)



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Economic impacts over 30 years comprise nearly \$300 million in output and more than \$70 million in property tax receipts

*Long-term cumulative impacts (present value; 30 years)**

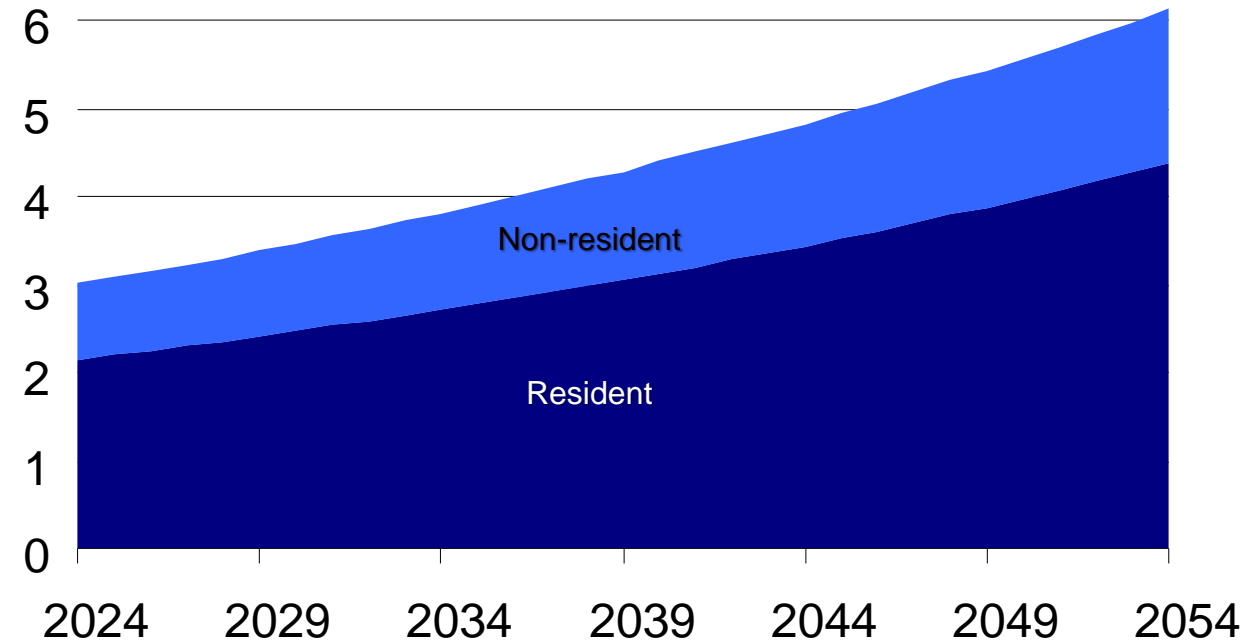
Maintenance and operations
(including multiplier impacts):

Output	296.4	mil 2018\$
Earnings	93.5	mil 2018\$
State tax	18.2	mil 2018\$
Annual jobs	29	number

* Present value @ 3% over 30 years with 2% price inflation and trend productivity growth, assuming that housing valuations match the long-term real rate of appreciation exhibited by the Federal Housing Finance Administration's All-Transactions index of Urban Honolulu housing valuations, 1977- 2019Q2, of 2.4% (after adjustment for Urban Hawaii inflation), assuming 0.765 resident property tax share.

Real City & County of Honolulu property tax receipts: \$72 million (present value @ 3%)*

Million 2018\$



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Block C-West redevelopment, Ward Village, macroeconomic context

- The key to sustaining the current economic expansion on Oahu is to maintain recent rates of homebuilding and investment in productive capacity generally
- Durability of the current expansion requires fulfillment of expectations of continued investment, as Oahu tourism's economic benefits have not grown in the mid-2010s
- Ward Village redevelopment was conceived *through* the business cycle into the next decade; risks will dampen expectations for future investment
- Block C-West redevelopment is part of a broader investment impulse peaking in the early 2020s, transforming Honolulu's spatially pivotal urban core, meeting 21st century resident housing needs.

Pau

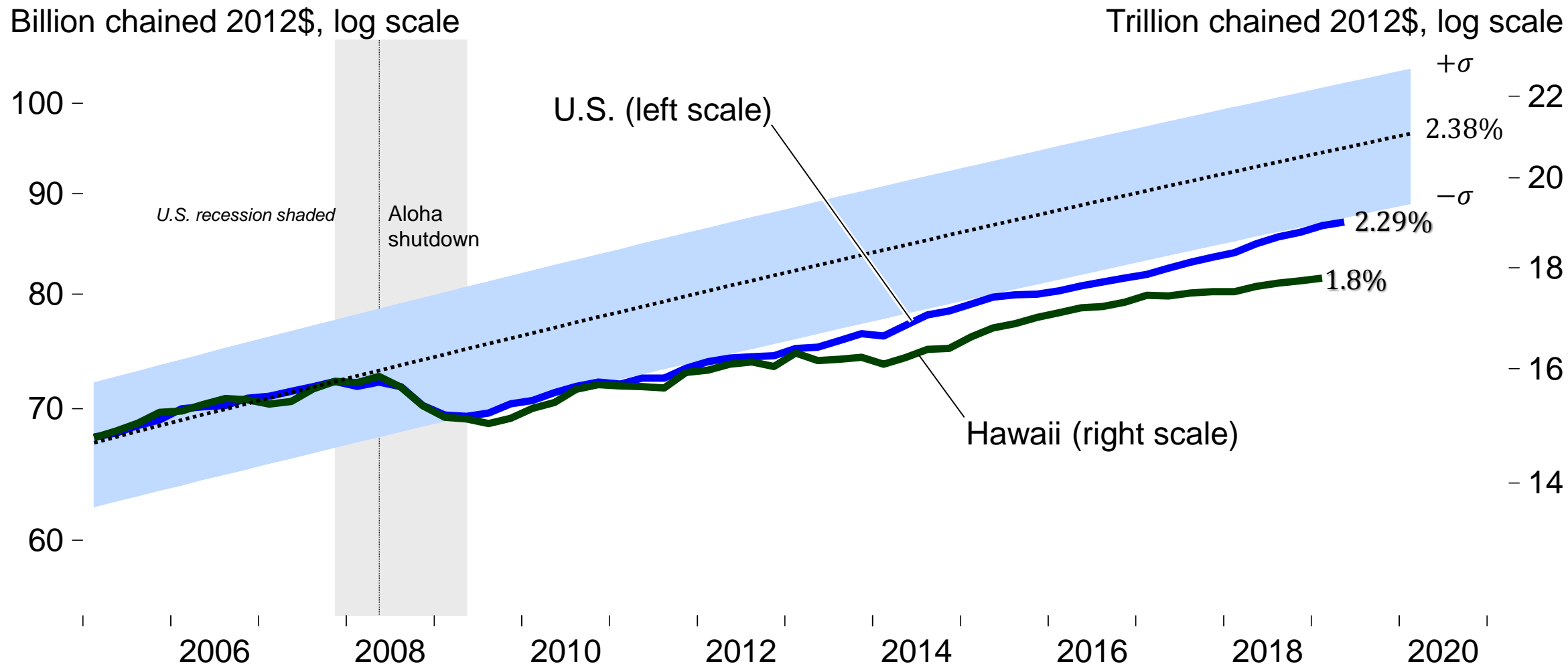




Appendix 1: macroeconomic context

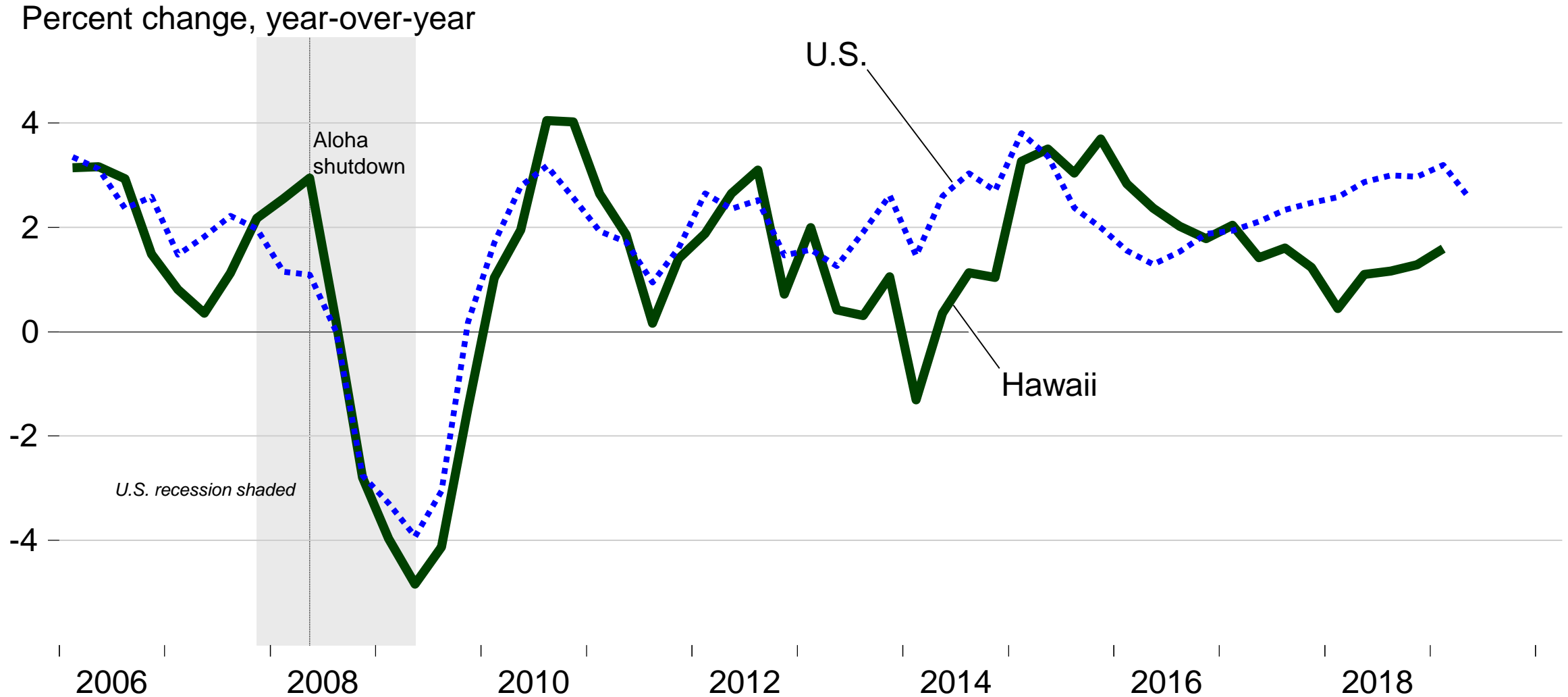
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Hawaii and U.S. structural break during the Great Recession; real Hawaii GDP has failed to keep pace with U.S. during 2010s expansion



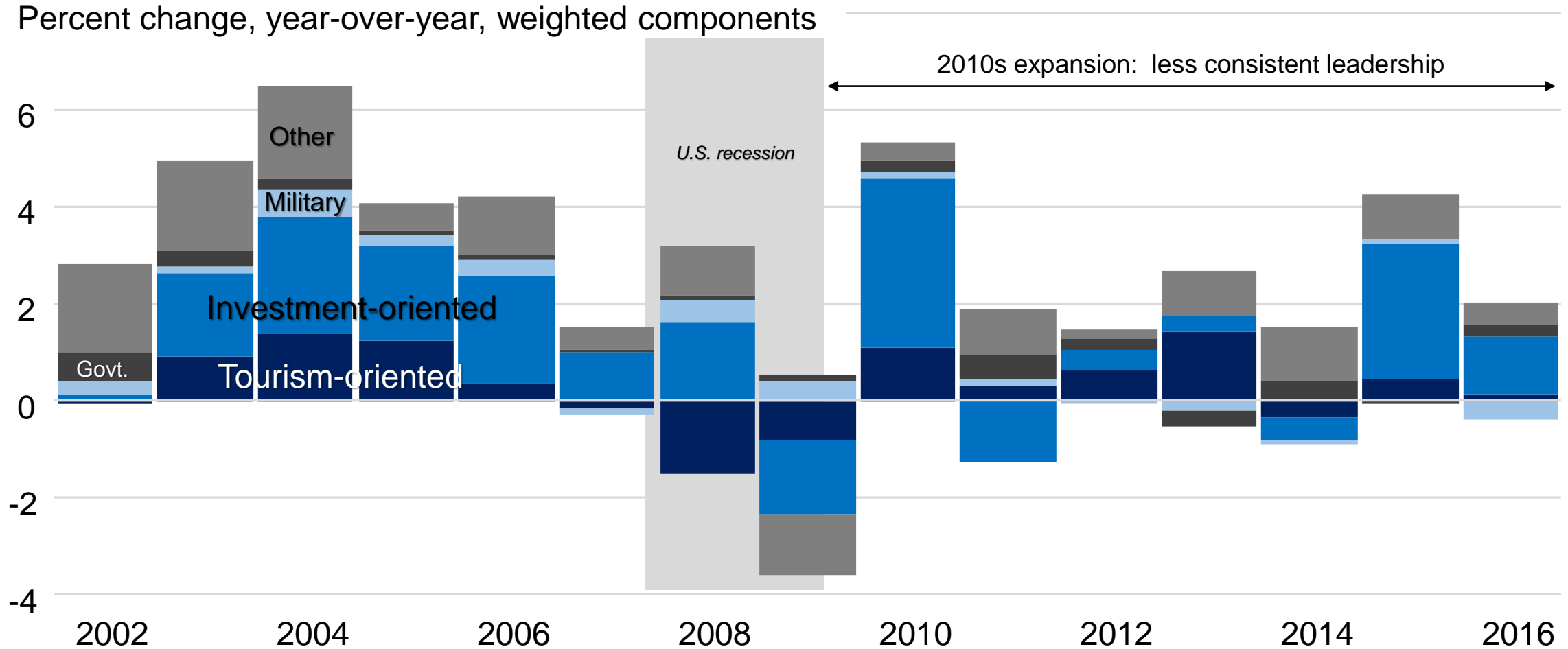
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Hawaii experienced structural break during the Great Recession, and real GDP has failed to keep pace with U.S. during 2010s recovery

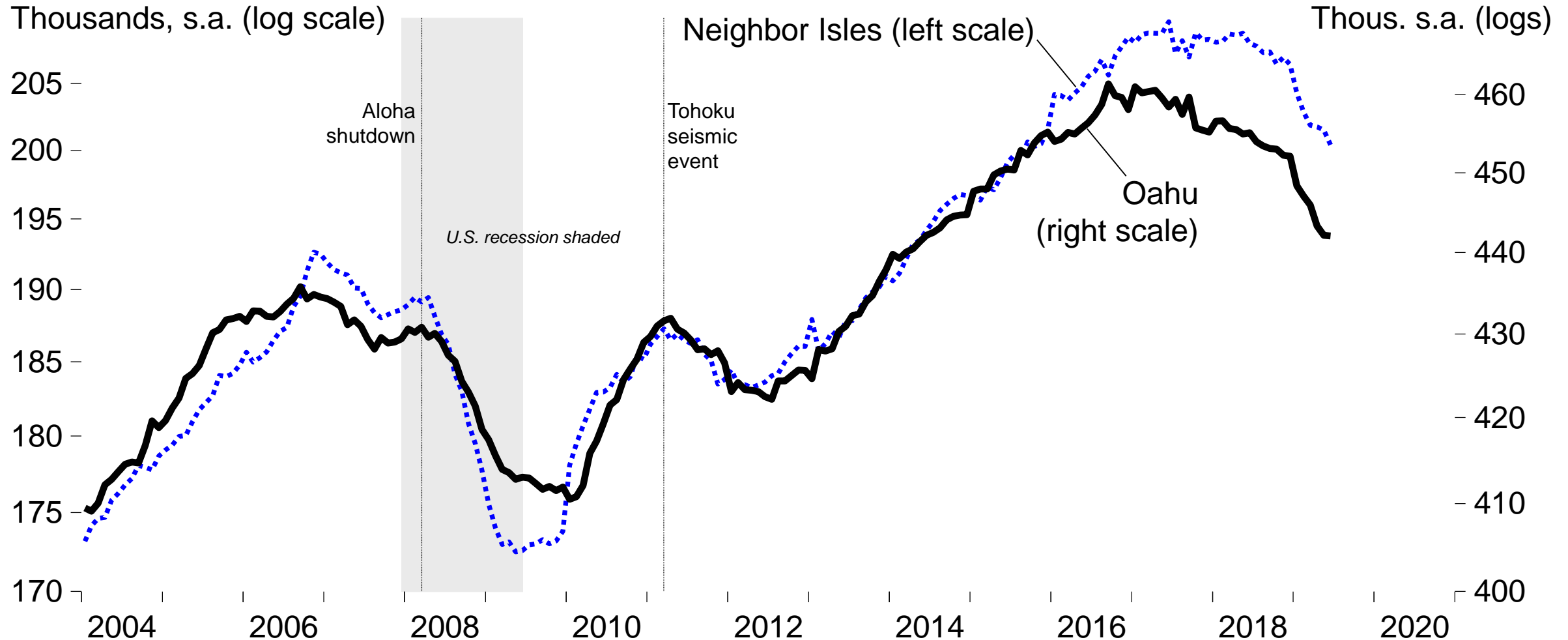


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Composition of Oahu real GDP growth in 2000s more synchronous with cycle, was less investment-oriented after 2008-2009 recession

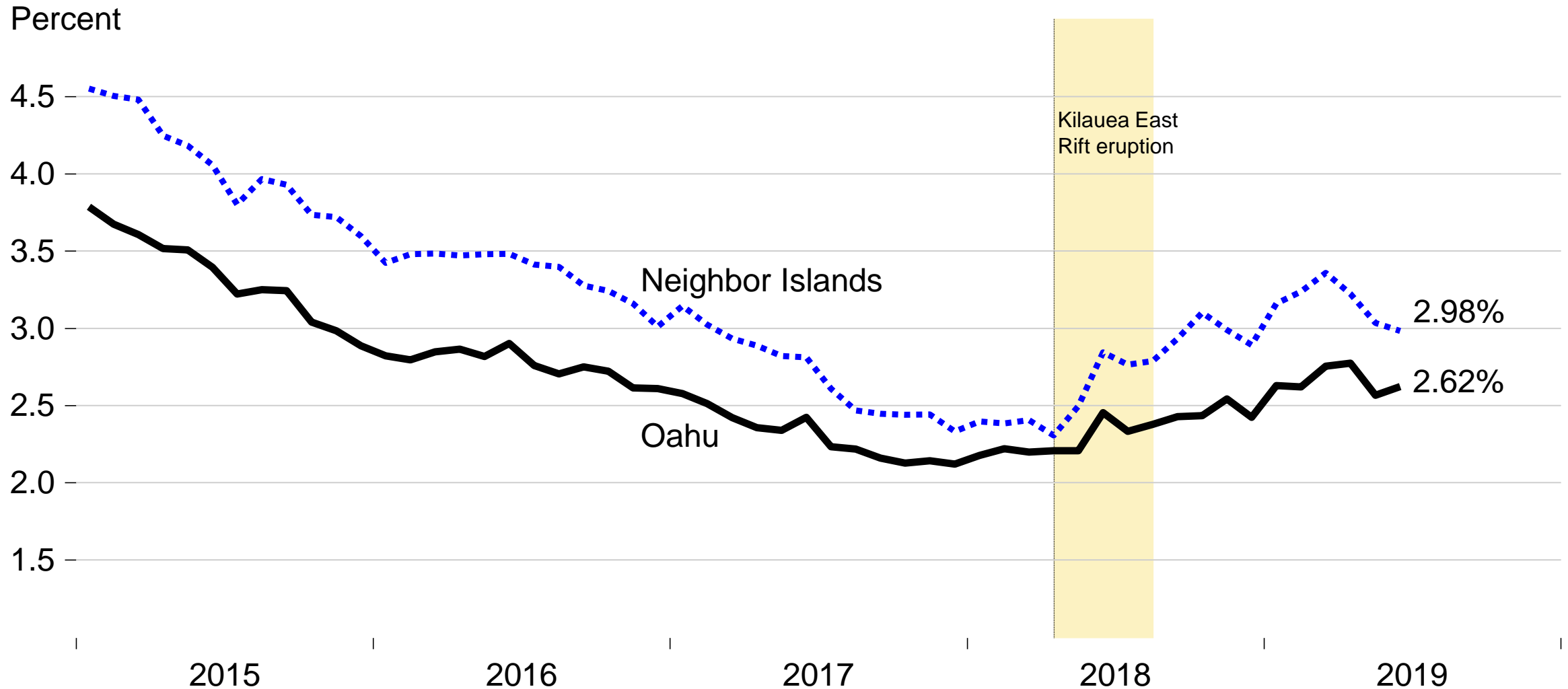


Statewide employment has been fading since 2016 (bet this is the first you've heard of it) and job growth is slowing (establishment surveys)



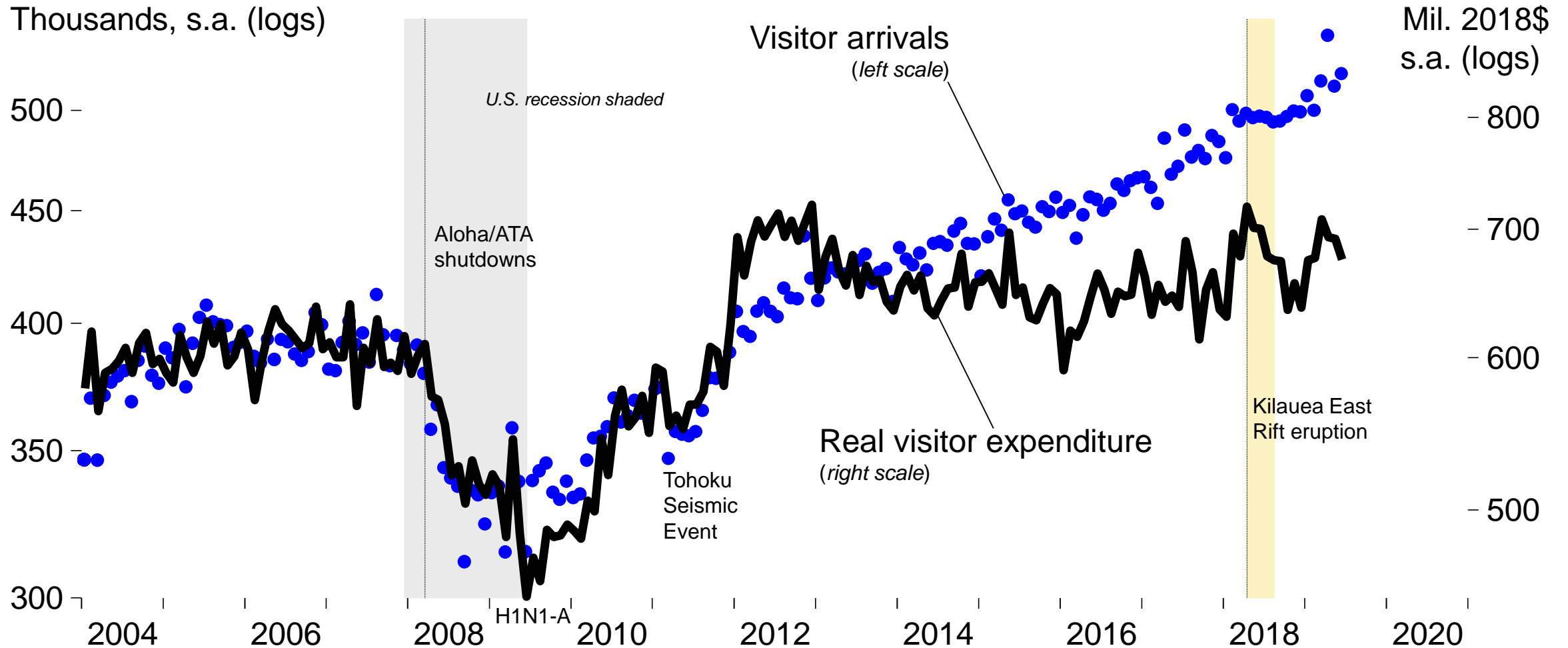
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Oahu unemployment rates began rising in late-2017, exacerbated on Neighbor Islands by natural disasters, rising after shocks were over



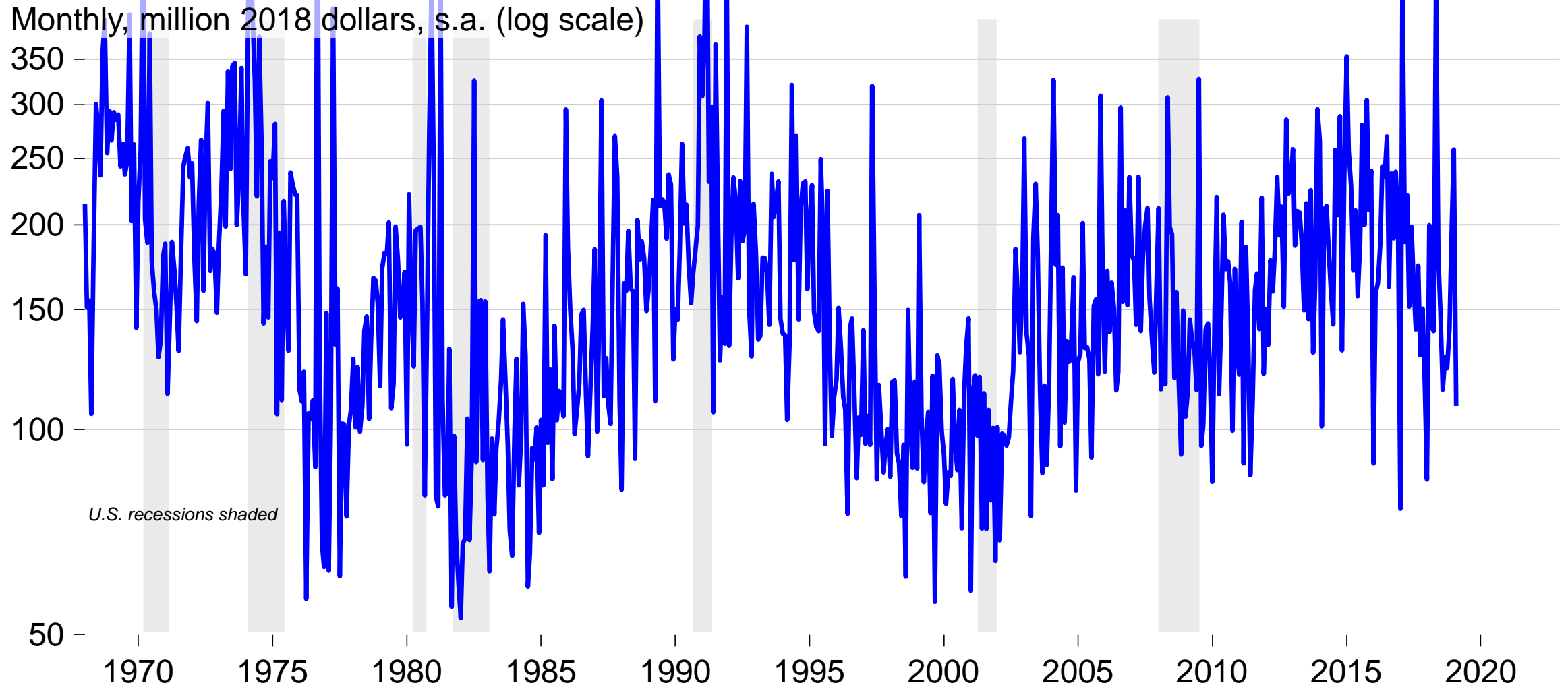
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Strong dollar, foreign visitors, sold-out hotels have limited Oahu real visitor expenditure from matching 2010s visitor arrivals growth



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Oahu real private building permits for the last half century, 1968-2018: the cyclical character of private construction shows through the data

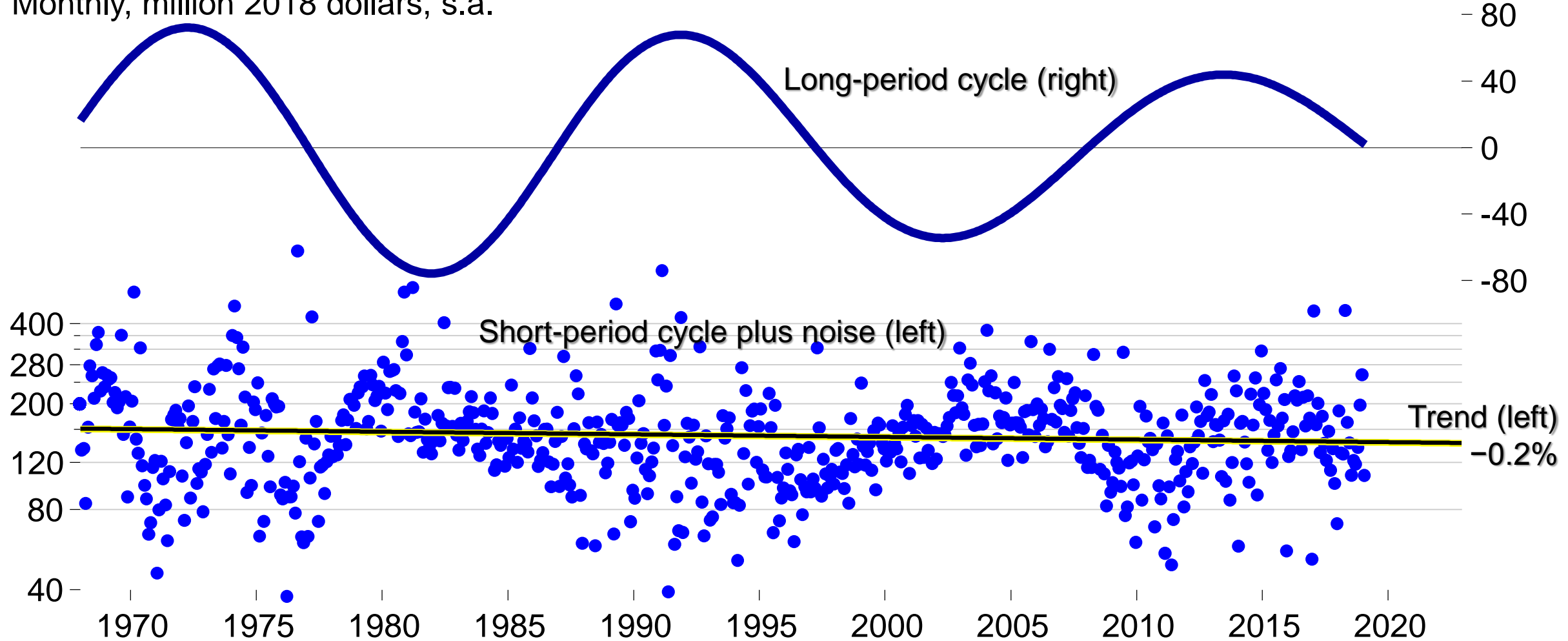


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Sources: Honolulu Department of Planning and Permitting, Hawaii DBEDT (http://files.hawaii.gov/dbedt/economic/data_reports/mei/), U.S. Bureau of the Census (<https://www.census.gov/construction/cpi/>); raw data through June 2019, seasonal adjustment, deflation by TZ Economics

Decomposing Oahu private construction: (a) long-period cycle (top); (b) noise with business cycle (bottom); (c) trend decline (bottom)

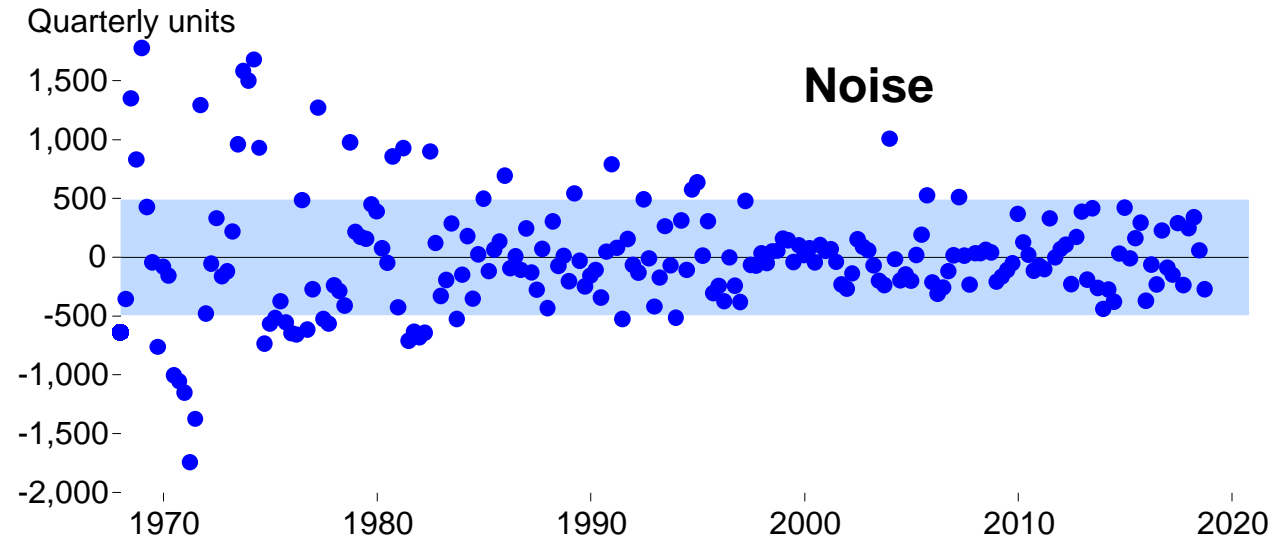
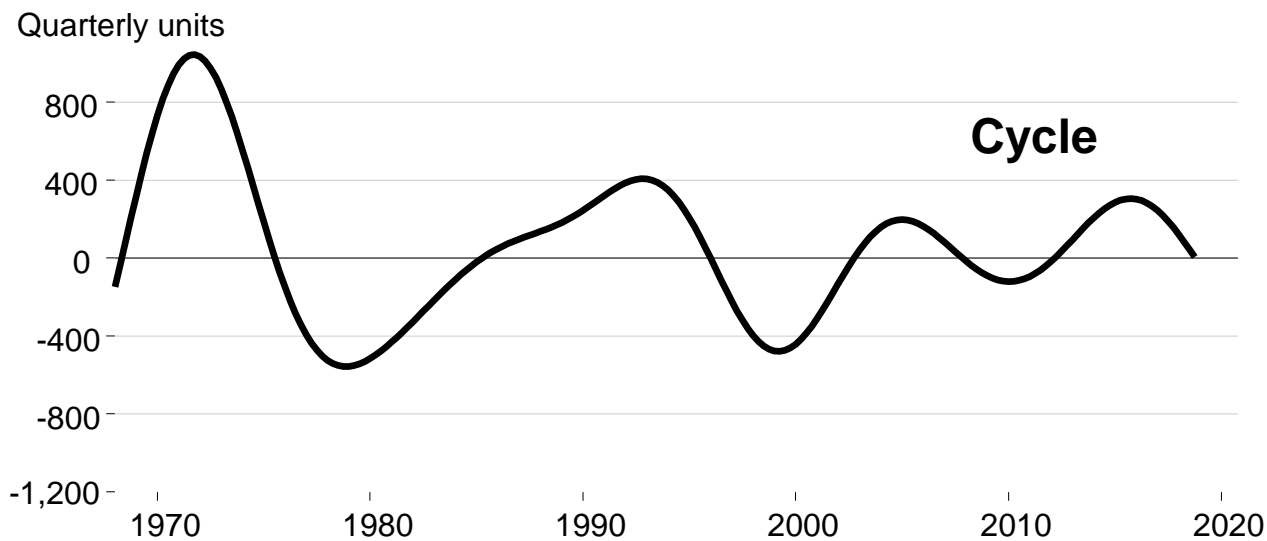
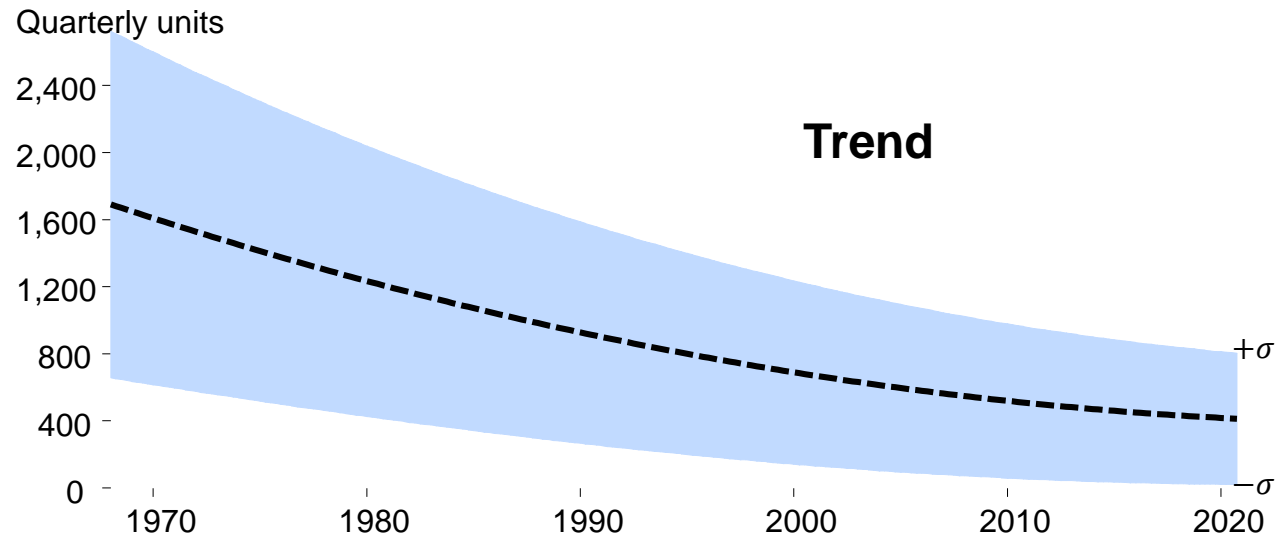
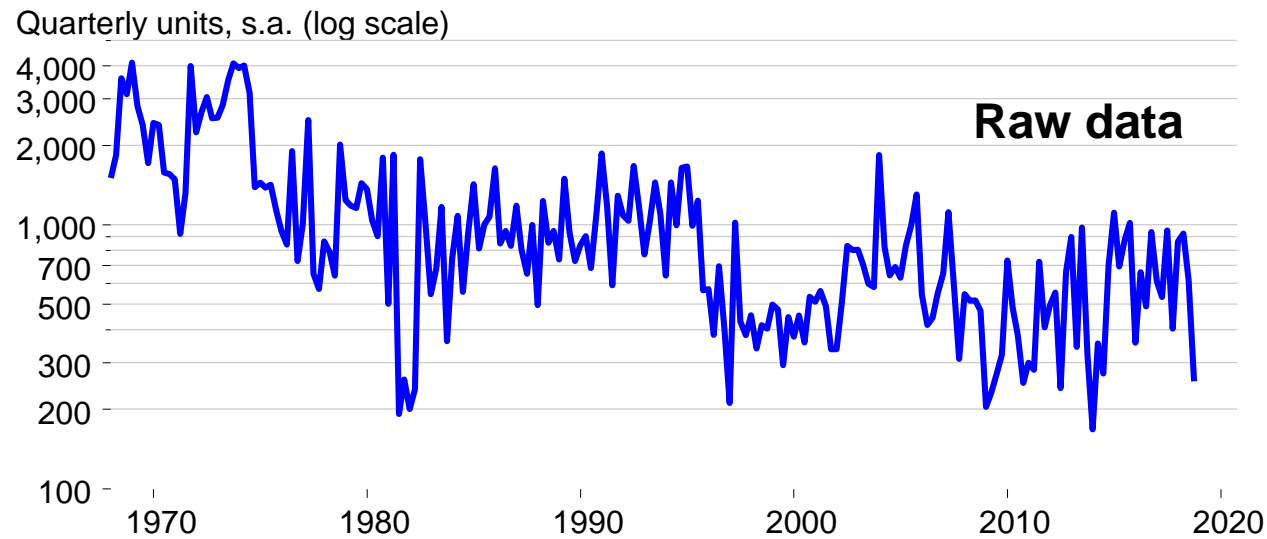
Monthly, million 2018 dollars, s.a.




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Sources: Honolulu DPP, Hawaii DBEDT (http://files.hawaii.gov/dbedt/economic/data_reports/mei/), U.S. Bureau of the Census (<https://www.census.gov/construction/cpi/>); seasonal adjustment, deflation, full sample asymmetric Christiano-Fitzgerald frequency filter, short:long frequencies at 120:360 months, assuming I(0); GARCH regression of log of non-cyclical component on a time trend by TZ Economics

Oahu new housing unit authorizations: probably another 2020s cycle



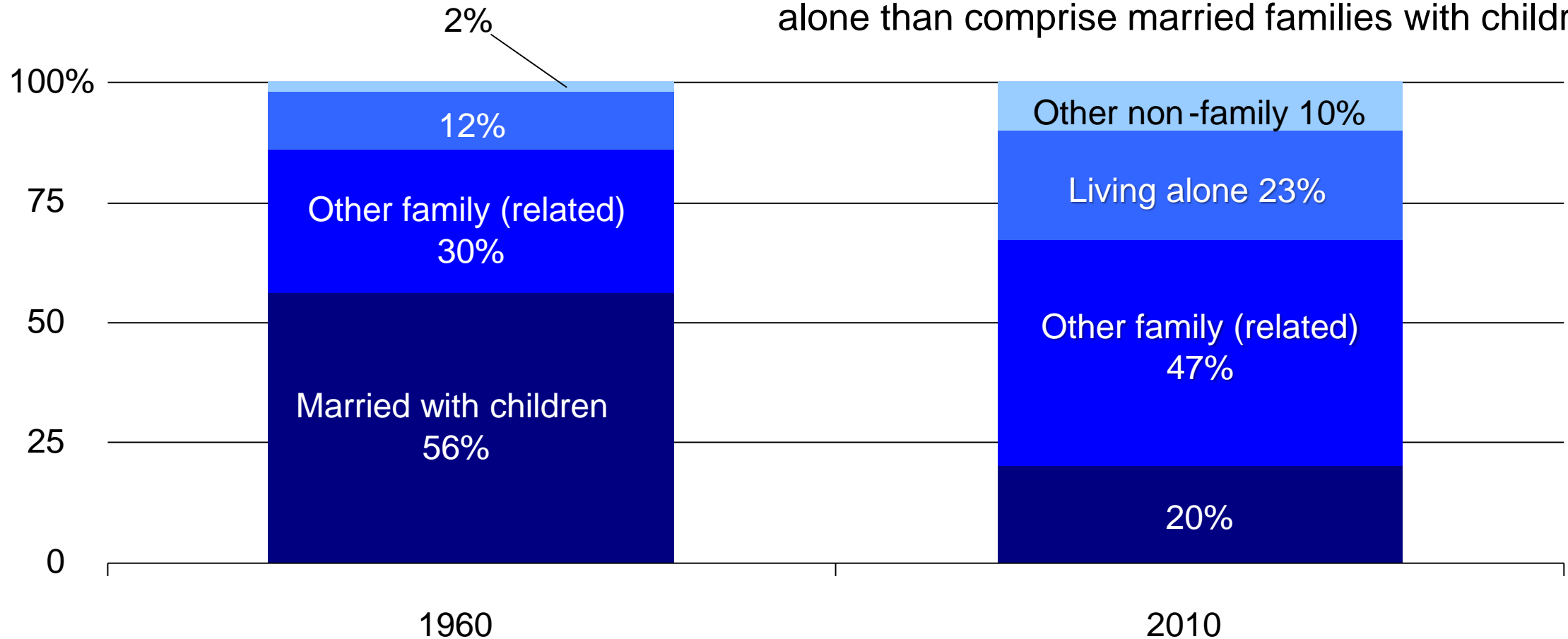


Appendix 2: Oahu housing need in the 2020s, not 1920s

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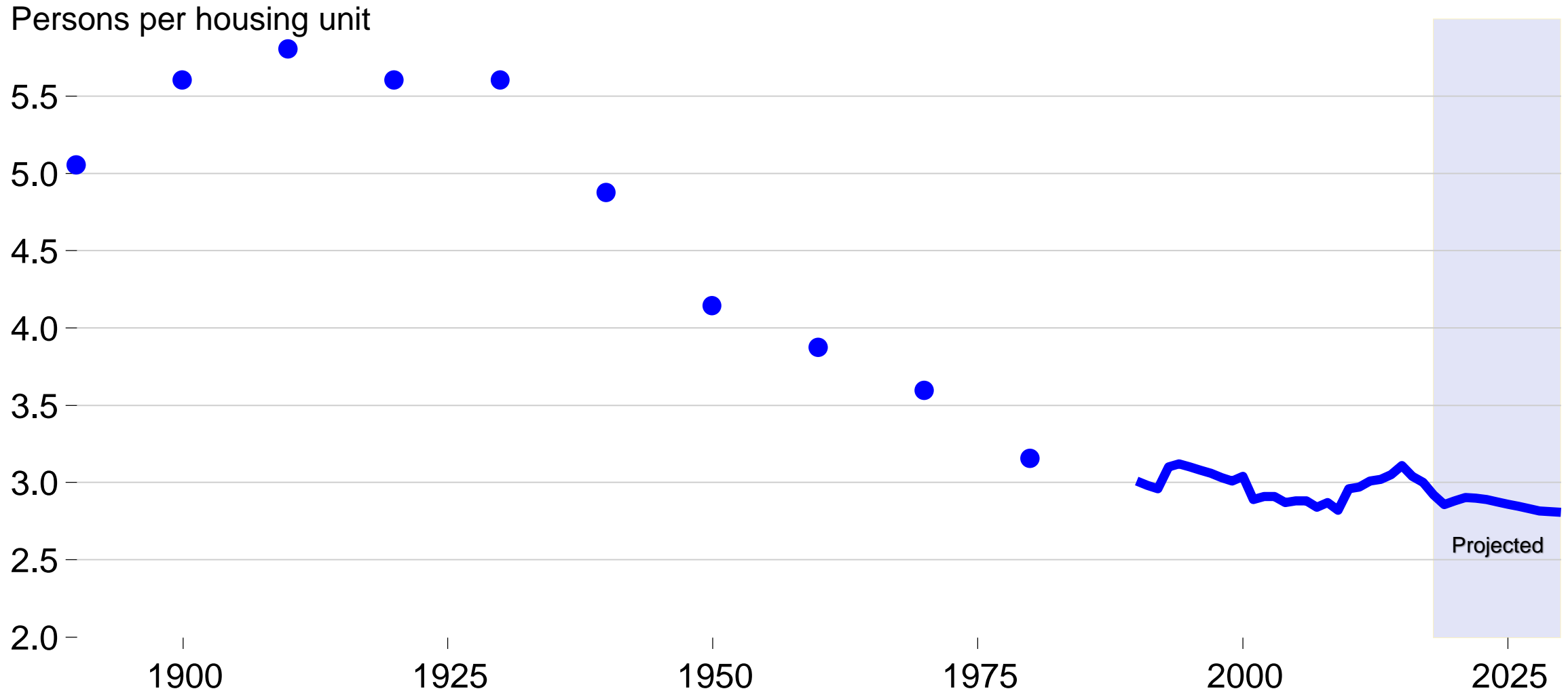
Composition of Hawaii household evolution since statehood implies different homebuilding needs—smaller, denser units, more per capita

More households today comprise persons living alone than comprise married families with children



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Average Hawaii household size fell, implies need for more units/person (cars/person *tripled* since 1960); ≥ 5 persons (1910s); ≤ 3 persons (2010s)



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Pau

1925

