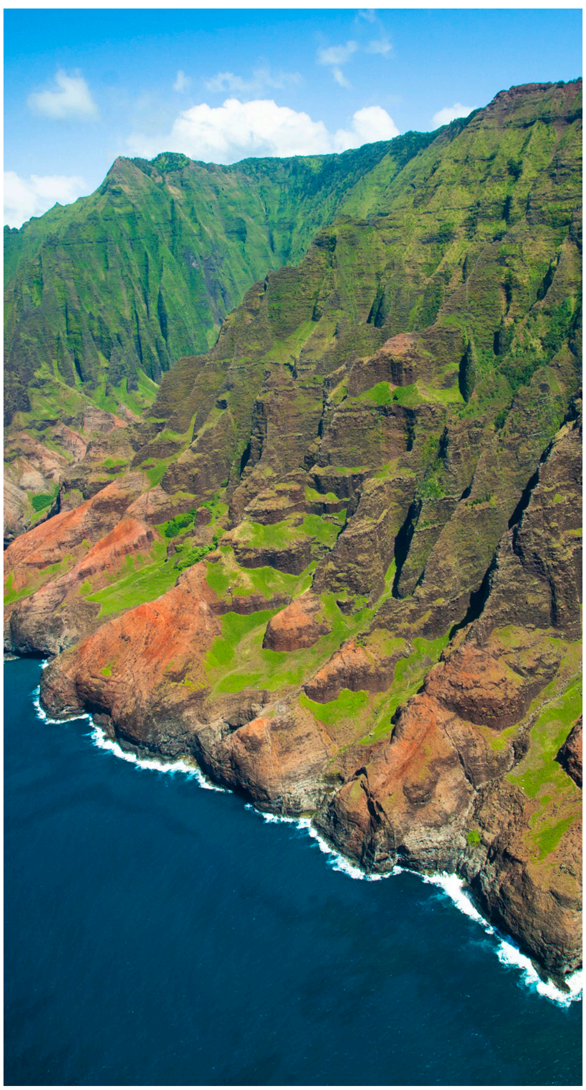



UHERO
THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAIʻI

UHERO FORECAST FOR THE STATE OF HAWAII

Promise and peril for the Hawaii economy

MAY 12, 2023

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Carl S. Bonham, Ph.D.
Executive Director

Byron Gangnes, Ph.D.
Senior Research Fellow

Steven Bond-Smith, Ph.D.
Economist

Peter Fuleky, Ph.D.
Economist

Justin Tyndall, Ph.D.
Economist

Rachel Inafuku, Ph.D.
UHERO Research Economist

Luke Miller
Graduate Research Assistant

Adib Rahman
Graduate Research Assistant

Victoria Rhinebolt
Graphic Design and Layout

2424 Maile Way, Room 540 • Honolulu, Hawaii 96822 • (808) 956-2325 • uhero@hawaii.edu

Executive Summary

Recent developments bring both promise and peril for Hawaii. Tourism prospects are positive, despite the delayed Japanese market recovery. Construction activity will remain high, and inflation is receding rapidly, setting the stage for real income gains. On the flip side, the Fed's aggressive rate hikes and liquidity problems sparked by recent bank failures threaten the US and global economies. A national recession will weigh on Hawaii later this year, but local sources of strength should keep our heads above water.

- The external environment facing Hawaii is dicey. The Federal Reserve appears likely to maintain its high interest rate policy for some time, and tighter lending conditions associated with recent bank failures will also weigh on US growth. A recession beginning late this year will hold US GDP growth to 1.5% this year and 0.3% in 2024.

- Tighter credit conditions will also contribute to a weaker global economy. Canada will fare only a bit better than the US. In Japan, lagging exports and high inflation will offset government support. Australia's economy will expand only modestly, as inflation and higher interest rates limit consumer spending. While China's economic recovery is underway, there is no indication of a pending upturn in their travel to the US.

- Despite weakening external conditions, the visitor industry has continued to perform well, with activity only slightly below 2019 levels. The US market still dominates, but it will soften as the year progresses. Further international market recovery will sustain visitor numbers. Lagging Japanese travel will continue to be a problem.

- Solid visitor demand continues to benefit hotels, causing room rates to soar on the Neighbor Islands. Statewide, real revenue per available room is now 6% higher than in 2019. Visitor spending has been strong despite the incomplete recovery of international markets. Both the number of visitor days and real visitor spending will fall slightly next year, before returning to moderate growth. Over the long run, climate change may become a substantial tourism challenge.

- The Hawaii labor market is healthy, with about 3.5% unemployment. Labor force recovery and softening labor demand have largely eliminated the overall worker shortage, although businesses still report hiring challenges. Labor force recovery differs by county, mostly because of differences in inward and outward migration. Net out-migration at the statewide level may be due in part to heightened cost of living concerns in the face of challenging pandemic-era economic conditions.

- Weakening US tourism, tight credit, and high interest rates will weigh on the Hawaii economy this year and next. The unemployment rate will rise above 4% by the beginning of next year, and moderate job gains will not resume until 2025.

- Hawaii inflation has receded more quickly than in the US overall. This will support income gains. Real income nearly recovered to the pre-pandemic level last year and will grow at a 2.5% average annual pace over the next three years.

- Because of surging home prices and mortgage interest rates, affording a single-family home now takes twice the income it did a decade ago. The culprit is a lack of new supply, due in part to regulatory hurdles. Major public sector projects will support a high level of construction activity. The construction job count will top 41,000 by 2026.

- Despite heightened downside risks, Hawaii is still likely to avoid an outright recession. Like the US overall, how much our economy weakens will depend importantly on the Federal Reserve, in particular whether the Fed eases policy now that inflation is declining and the US economy is beginning to slow. Higher rates for longer would impose a significant burden.

Forecast Summary

MAJOR ECONOMIC INDICATORS
STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
STATE OF HAWAII						
Nonfarm Payrolls (Thou)	560.2	587.0	618.0	633.4	638.2	645.3
% Change	-14.9	4.8	5.3	2.5	0.8	1.1
Unemployment Rate (%)	11.8	6.0	3.5	3.9	4.2	3.6
Real Personal Income (Mil 2022$)	91,846.7	93,623.1	88,099.2	90,770.2	92,556.2	94,554.0
% Change	2.7	1.9	-5.9	3.0	2.0	2.2
Real GDP (Mil 2022$)	91,222.8	96,966.6	98,210.5	100,762.2	102,798.5	104,928.5
% Change	-11.6	6.3	1.3	2.6	2.0	2.1
Total Visitor Arrivals by Air (Thou)	2,708.3	6,777.0	9,247.8	9,836.8	9,725.1	9,883.9
% Change	-73.9	150.2	36.5	6.4	-1.1	1.6
Visitor Days (Thou)	28,515.8	65,309.7	84,791.7	87,498.4	86,392.8	88,486.2
% Change	-68.2	129.0	29.8	3.2	-1.3	2.4
Real Visitor Expenditures (Mil 2022$)	5,573.1	13,978.7	19,251.8	19,657.1	19,227.6	19,582.0
% Change	-71.9	150.8	37.7	2.1	-2.2	1.8
HONOLULU COUNTY						
Nonfarm Payrolls (Thou)	411.8	424.3	444.7	455.6	458.4	463.3
% Change	-13.1	3.0	4.8	2.4	0.6	1.1
Unemployment Rate (%)	10.3	5.5	3.3	3.8	4.1	3.5
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022$)	67,312.4	68,119.1	63,846.6	65,577.4	66,842.1	68,308.7
% Change	2.3	1.2	-6.3	2.7	1.9	2.2
Total Visitor Arrivals by Air (Thou)	1,506.2	3,326.2	4,864.7	5,565.8	5,647.2	5,816.4
% Change	-75.5	120.8	46.3	14.4	1.5	3.0
HAWAII COUNTY						
Nonfarm Payrolls (Thou)	60.8	64.9	68.1	70.2	71.1	72.1
% Change	-14.2	6.7	5.0	3.0	1.4	1.4
Unemployment Rate (%)	11.6	5.9	3.9	4.2	4.3	3.9
Real Personal Income (Mil 2022$)	10,441.9	10,811.7	10,163.6	10,649.3	10,876.5	11,127.1
% Change	6.8	3.5	-6.0	4.8	2.1	2.3
Total Visitor Arrivals by Air (Thou)	482.0	1,183.5	1,674.2	1,767.1	1,769.4	1,827.3
% Change	-73.0	145.5	41.5	5.5	0.1	3.3
MAUI COUNTY						
Nonfarm Payrolls (Thou)	61.2	69.6	74.4	76.1	76.9	77.7
% Change	-23.9	13.7	6.9	2.3	1.0	1.1
Unemployment Rate (%)	18.2	7.8	3.8	3.9	4.3	3.9
Real Personal Income (Mil 2022$)	9,755.7	10,238.9	9,889.6	10,212.0	10,437.0	10,619.6
% Change	0.8	5.0	-3.4	3.3	2.2	1.8
Total Visitor Arrivals by Air (Thou)	844.8	2,340.9	2,959.6	3,045.1	3,009.4	3,109.4
% Change	-72.9	177.1	26.4	2.9	-1.2	3.3
KAUAI COUNTY						
Nonfarm Payrolls (Thou)	26.3	28.2	30.7	31.5	31.8	32.1
% Change	-21.0	7.1	8.9	2.4	1.0	1.1
Unemployment Rate (%)	16.5	8.3	3.9	3.8	4.0	3.7
Real Personal Income (Mil 2022$)	4,336.7	4,388.4	4,199.4	4,331.5	4,400.7	4,498.6
% Change	3.8	1.2	-4.3	3.1	1.6	2.2
Total Visitor Arrivals by Air (Thou)	339.0	813.6	1,345.3	1,396.6	1,361.5	1,385.9
% Change	-75.4	140.0	65.3	3.8	-2.5	1.8

Note: Source is UHERO. Figures for county income for 2022 are UHERO estimates. Figures for 2023-2025 are forecasts.

Second Quarter Hawaii Forecast

Developments over the past quarter have brought both promise and peril for the Hawaii economy. Prospects for tourism remain encouraging, despite the puzzling delay of the Japanese market recovery. Pending construction activity is looking even better than we had anticipated only a few months ago. Inflation in the Islands is receding rapidly, setting the stage for stronger gains in the standard of living. At the same time, the Fed's aggressive rate hikes are more clearly slowing the US economy, and liquidity problems that began with the Silicon Valley Bank failure have added to credit worries both at home and abroad. Hawaii will feel the effects of a likely US recession later this year, even as local sources of strength keep our head above water.

Greater risks for the US and Global Economies

The external environment facing Hawaii continues to be dicey. The US Federal Reserve is committed to maintaining its high interest rate policy, despite significant progress in reducing inflation and indications that the restraining effects of past rate hikes are beginning to be felt more broadly. On top of this, the March meltdowns of Silicon Valley Bank and Signature Bank sparked a tightening of lending standards and financial challenges for small and medium sized banks. Credit constraints have spread abroad, as well, leading to marked-down forecasts for the global economy. A US recession later this year is looking more likely, and recent developments increase the risk that the downturn could be more severe than currently anticipated.

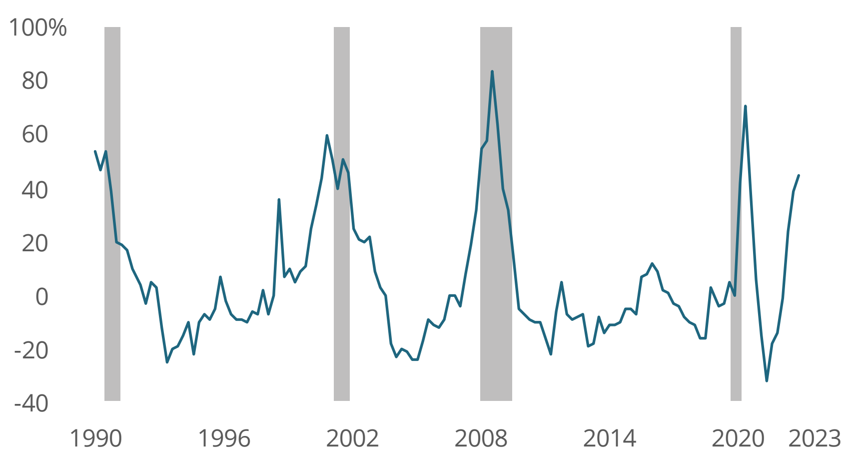
Add SVB to the tight money mix

The most notable US event since our last report was the failure in mid-March of Silicon Valley Bank and Signature Bank, following bank runs that rapidly depleted their deposit base. (See the UHERO blog, *When banks go boom: Footloose deposits, regulatory failure, and the SVB crisis*.)

To quell outflows from these and other regional banks, regulators swiftly extended deposit guarantees to the two banks, and the Fed created a special lending facility for other banks in need of liquidity. The Fed also encouraged bank borrowing from its discount window to maintain liquidity in the banking

NET PERCENT OF US BANKS TIGHTENING LENDING STANDARD FOR COMMERCIAL & INDUSTRIAL LOANS

Credit conditions have tightened to recession levels.



system. These events threaten credit availability at a time when banks were already raising lending standards in a cooling economy.

While emergency borrowing from the Fed has begun to unwind, the crisis is not yet over, evidenced by the recent FDIC-brokered acquisition of First Republic Bank by JPMorgan Chase.

In the meantime, depositors have moved a considerable volume of cash to money market mutual funds and the "too big to fail" banking giants. Even if this abates as expected, there has already been an adverse impact on credit availability. Measurable effects on lending have been limited so far, but there is plenty of anecdotal evidence that smaller firms in particular are facing more challenging credit conditions and are therefore facing financial challenges of their own. These businesses have been a primary source of new job growth.

The worsening credit conditions will cause less borrowing, lower capital investment, and a decline in the demand for goods and services. The effects of monetary tightening that have primarily affected housing and real estate so far will extend more broadly. In the past, credit tightening on the scale we have seen has usually resulted in a recession. Given our already softening economy, a recession later this year is now more likely.

Inflation risks are receding

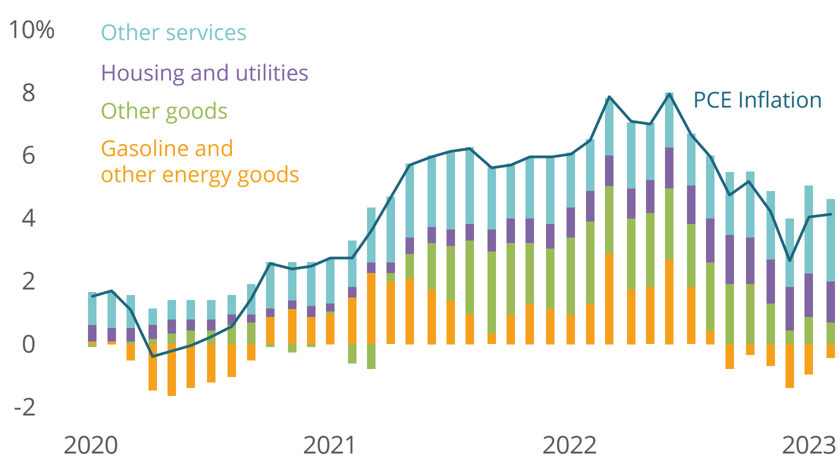
There has been considerable progress in the Fed's battle against inflation. On the twelve-month basis normally reported, CPI inflation has fallen from a 9% June peak to about 5% in March. The Fed's favored index, the personal consumption expenditure (PCE) deflator, has receded to 4.2%. Core PCE inflation, which excludes the volatile food and energy prices, is running at 4.6%.

The twelve-month inflation measures understate the extent of disinflation that has already occurred. Looking at changes over just the past six months, the PCE deflator has risen just 3.6% on an annualized basis. While still higher than the Fed's long-run target of 2%, inflation is clearly headed in the right direction.

At the same time, the stubborn elements remain the same: housing cost inflation and inflation in other services, which include everything from travel

CONTRIBUTIONS TO US PCE INFLATION, PAST 6 MONTHS AT AN ANNUAL RATE

Housing and other shelter price gains represent nearly all of current US inflation.



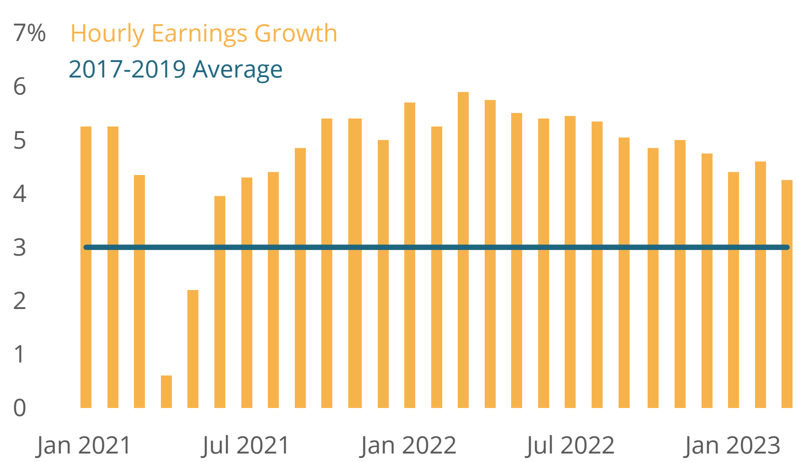
and tourism to doctor visits. Shelter inflation has only recently begun to recede, contributing more than one percentage point of the 3.6% overall PCE inflation observed over the past six months. And inflation for all services other than shelter continues to run at better than 4.5%, contributing nearly 2.5 percentage points to overall PCE inflation. Goods price inflation has fallen rapidly, and energy prices have contracted, subtracting from overall inflation.

The shelter component—driven by sharp increases during the pandemic in rents and the imputed rent of homeowners—will soon abate. According to Redfin, the median asking rent in March declined for the first time since March 2020, after peaking at more than 17% year-on-year growth in March 2022. Because asking rents reflect only new leases, there is a considerable time lag before lower asking rents feed through to reduced consumer price shelter inflation. But that will surely happen over the coming year.

The biggest remaining concern then is the persistence of inflation in services other than shelter. There has been essentially no retreat yet in this price category according to PCE statistics. Because these service categories are labor-intensive, a concern is that strong wage growth will continue to propel price gains in this area and therefore overall inflation. Luckily, underlying wage pressures are gradually easing. Growth in average hourly earnings has receded from a high of 6% a year ago to just over 4% recently. At this level, it is only a little more than one percentage point above the 3% average experienced in the three years prior to the pandemic. And consumer expectations of medium-term price inflation are holding steady at about 3%. That makes it less likely that inflation will become entrenched in worker and business behavior.

One new concern is the possibility of renewed inflationary pressure from energy prices, now that OPEC countries have announced oil production cuts. While higher fuel costs may be in the offing, they are unlikely to reverse overall progress in reducing core inflation. Oil price futures have indeed risen since the OPEC announcement: on April 13 they were running at about $82 per barrel (bbl), up from about $67/bbl on March 17. (They have receded to about $75/bbl since then.) Some commentators are expecting $100/bbl oil by summer, as the cuts tighten and summer travel demand kicks in. But even at that price, oil would not be particularly expensive by historical standards, just 7% above the inflation-adjusted average since 2004. And economic weakening will bring oil prices back down in any case.

GROWTH IN US AVERAGE HOURLY EARNINGS
Labor costs are gradually easing from their early 2022 peak.



Strong labor markets are cause for celebration, not just concern

The US labor market remains both the strongest component of economic performance and the biggest risk to the economy's prospects. Labor market recovery since the pandemic has been impressive, and ongoing job creation is now pulling ever more people back into the labor force. The unemployment rate stands at 3.4%, matching the lowest rate of the past half-century. Low rates of unemployment are particularly useful for segments of society that often have the hardest time finding jobs—minorities, youth, and ex-offenders—so this should certainly be viewed as an economic success story.

At the same time, the Federal Reserve has emphasized tight labor markets as a primary concern in its fight against inflation. A relative labor shortage tends to drive up wages, which have been at least one driver of recent inflation (supply constraints have likely been more important). The Fed wants to see some slackening of labor market conditions before claiming success in its inflation-fighting campaign.

There are welcome signs that the labor market is beginning to slacken. The net number of new jobs created, while volatile from month to month, has come down from an average of 400,000 last year to a three-month average of 220,000 jobs recently. And the number of job openings has also begun to recede. In February, the number of job openings nationally fell below ten million for the first time since May 2021. While still high by historical standards, this indicates that the excess demand for labor is beginning to ease. And of course the gradual slowing of wage inflation that we discussed above also indicates that labor market tightness is finally on the decline.

Recession risks are rising

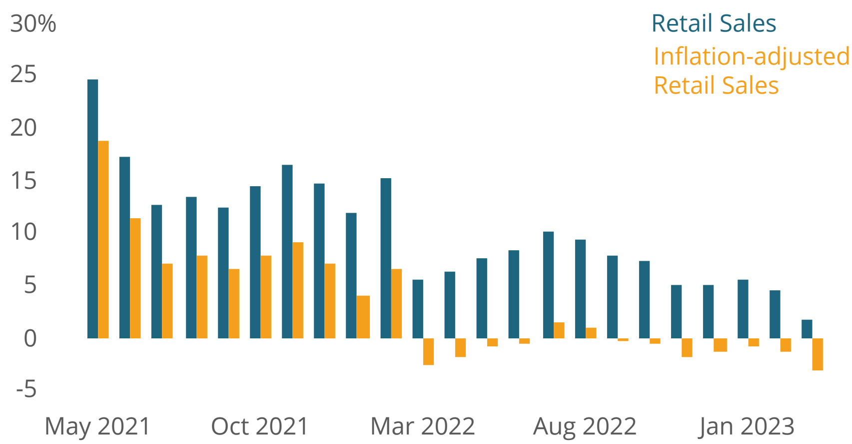
Labor market softening now joins a number of other indicators of broad economic slowing, so that the risks are shifting from inflation to recession. Here we can identify a number of signs of growing weakness:

- Manufacturing is in recession. Measured by the Institute for Supply Management's manufacturing index, it has been contracting, and by widening margin, since last November. New orders for durable goods have softened.
- There are early signs that unemployment is beginning to rise for the most vulnerable populations. The rate of unemployment among hispanics has begun to edge upward, although this has not yet spread to other minority groups.
- Small firms, which are often most vulnerable when economic conditions begin to soften, are shedding workers and having difficulty meeting fixed costs like rents.
- The Conference Board's Leading Economic Indicators index has moved into the deep negative territory usually associated with recessions in the past.
- As we noted above, the extent of credit tightening is now in recession territory.

Perhaps most important, spending by consumers may finally be beginning to show cracks. Retail sales growth has slowed significantly over the past several months, and sales have been flat or contracting in inflation-adjusted terms

GROWTH IN US ADVANCE RETAIL SALES IN NOMINAL AND INFLATION-ADJUSTED TERMS

Retail sales have been flat or contracting in real terms for more than a year.



for more than a year. There has also been a marked slowing of the growth of household credit. Still, overall consumer spending has held up relatively well, particularly for services, as households continue to make up for activities that they were forced to forego during the pandemic.

We expect the US economy to slow appreciably in coming months as the effects of high interest rates continue to dampen aggregate demand. The tightening of lending standards that we have seen since the Silicon Valley Bank debacle, will further weaken prospects, particularly for small and medium-sized businesses who rely on regional banks. We expect the US economy to be in recession by the fourth quarter of this year.

How bad this gets will depend largely on the Fed. The Federal Open Market Committee raised rates another quarter point at their May meeting. Will the central bank now maintain high interest rates for an extended period, or will it instead acknowledge the emerging signs of US slowing and the success it has already achieved in reducing inflationary pressures? The drag from rate hikes that have already occurred will be felt for some time; the Fed will decide whether unnecessarily severe economic damage occurs over the next several years.

2023 weakness is a global problem

The global economic recovery from the pandemic is continuing in several areas. China's growth has accelerated now that its *Zero COVID* policy is in the past. Supply chain problems that disrupted production across the globe have eased considerably. Despite the announced OPEC oil production cuts, energy prices remain much lower than they were a year ago.

The challenges to the world economy are largely the same as for the US. On the positive side, labor markets and output are holding up better than many expected, but this has fueled monetary tightening by many central banks. And while inflation is easing in some countries, it is proving stubbornly persistent in others. Food prices, which had surged due to Russia's war on Ukraine and poor growing conditions, have subsided a bit, but remain much higher than normal, and a still-strong dollar elevates import costs further in many countries. This is a life-or-death matter for the world's poorest people. The International Monetary Fund sees 2023 as the low point for the global economic cycle, but the recovery pace in coming years will be much slower than in many past recoveries.

Economic growth in Hawaii's biggest visitor markets will generally be weak for the next two years. Shallow recessions will limit North American growth.

GLOBAL FOOD PRICE INDEX (2016 = 100)
Food prices have subsided a bit, but remain much higher than normal.

The US economy will expand by about 1.5% for 2023 as a whole and only 0.3% in 2024. As recovery takes hold, GDP growth will average 2.5% in 2025. Canada will fare only a bit better than the US, according to IMF projections. Japan will see limited growth, with the economy supported by domestic stimulus but adversely affected by lagging exports and the effects on households and businesses of unfamiliar inflation. Australia's growth slowed at the end of last year, and prospects are for only modest expansion for the next two years as inflation and higher interest rates drag on consumer spending. While China's economic recovery is now underway, there is no indication of a pending upturn in their travel to the US.

Strong US visitor market despite US recession risk

Despite slowing in the global economy, the Hawaii visitor industry has continued to perform well, with activity only slightly below 2019 levels. In March, total visitor arrivals were 14% higher than in March 2022 and just 3% below their 2019 level. Average daily visitor census, which takes into account the length of stay, fared even better, running only 1% below the level in 2019. The visitor industry benefited from strong spring break travel this year, which lifted weekly passenger counts in March above last year's levels.

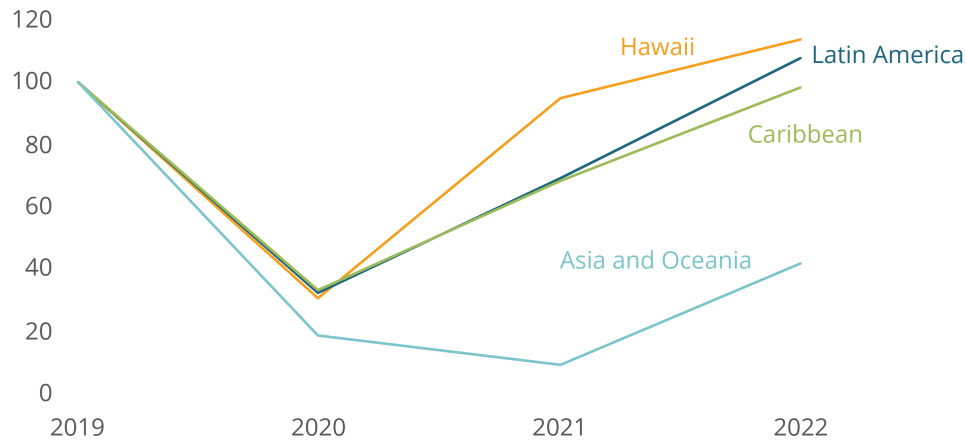
The continued strong performance of the visitor industry is due in part to ongoing gains in international arrivals. The average daily census of international visitors from markets other than Japan has recovered to nearly 90% of its 2019 level. The Japanese recovery has lagged badly, with the visitor census running at just one-third of its 2019 level, even as the trend remains upward. International market gains add to the healthy domestic market that has dominated Hawaii tourism over the past two years. The US visitor share remains much higher than before the pandemic, with seasonally-adjusted arrivals from the mainland continuing to run nearly 20% above 2019 levels.

The strength of US visitor numbers during the pandemic recovery period reflects robust overall US travel demand. US consumers have quickly resumed long distance travel as the pandemic has receded. US departures to Latin America and the Caribbean have now recovered to the 2019 level. At the same time, the number of trips to Oceania and Asia is lagging, making Hawaii's US visitor rebound unique among Pacific region destinations.

The very slow recovery of Japanese visitor arrivals continues to vex tourism businesses. Japanese citizens are reluctant to travel in general, not just to Hawaii. According to a survey by Morning Consult of 16,000 adults from 15 countries, more than a third of Japanese respondents say they will never

US OUTBOUND TRAVEL TO SELECT DESTINATIONS, INDEX (2019 = 100)

US residents have resumed travel to Hawaii and the Americas, while they continue to avoid Asia-Pacific destinations.



undertake leisure travel again. This was the highest negative rate across the countries included in the survey—It was twice as high as in the US and South Korea, and about four times as high as in Canada and Australia. At the end of last year, the number of Japanese citizens traveling abroad was less than a quarter of the pre-pandemic level. The reasons for this are unclear, but appear to go deeper than the adverse effects of high travel costs.

The delayed recovery of Japanese travel shows up in the changing visitor shares across counties. The recent uptick in Japanese visitor arrivals on Oahu is small relative to the county's total number of visitors. At the same time, the US visitor market share remains much higher than before the pandemic in all counties, with Oahu seeing the biggest difference, up 27 percentage points from 2019 levels. The state's greater reliance on the domestic market makes the Islands more exposed to a potential US downturn. As the recovery of visitors from other markets procedes, this will help to mitigate that risk.

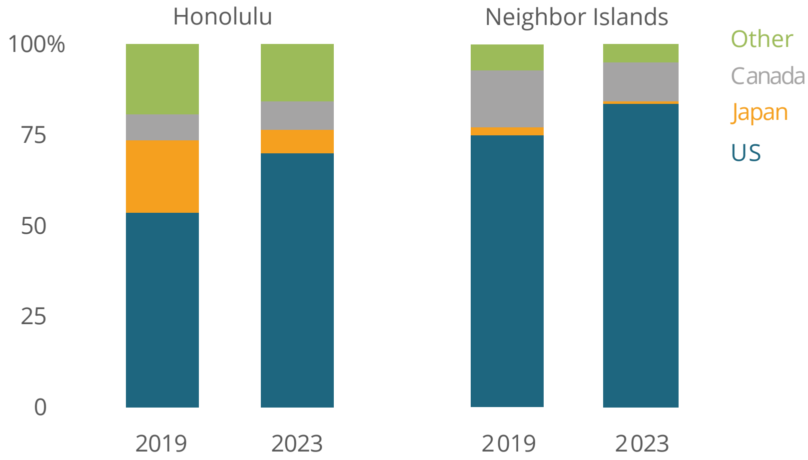
High room rates lift visitor spending in every county

Solid visitor demand has continued to benefit the hotel industry. After surging upward in 2021 and early 2022, the statewide average daily room rate has fluctuated in a narrow range over the past twelve months. In March, real (inflation-adjusted) room rates were essentially the same as in 2022 and nearly 20% higher than in 2019. Occupancy rates have eased a bit since last fall. In March, they averaged 74% statewide, roughly six percentage points below the 2019 level. Across the islands, Kauai is the only county with an occupancy rate higher than in 2019.

Room rates on the Neighbor Islands raced past their pre-pandemic levels early in the recovery. Oahu real room rates failed to recover to 2019 levels until last fall. The buoyant demand for Hawaii vacations and a widening price gap relative to the Neighbor Islands has supported price increases in Honolulu County. The stricter regulations on short-term rentals that came into effect last year may also have contributed to firming Oahu room rates, which are now about 5% above their 2019 levels in inflation-adjusted terms. Maui's record-high room rates are yet to show any signs of softening, but this appears to be weighing on occupancy rates, which are the lowest among the counties.

Real revenue per available room (RevPAR), which is often used within the industry as an indicator of overall hotel performance, is now 6% above the 2019 level, statewide. Maui and the Big Island have seen the strongest hotel performance by this measure.

CHANGE IN VISITOR MARKET SHARES ACROSS COUNTIES
The Japanese visitor market has shrunk considerably, while the US market share has increased.



Total visitor spending has been strong despite the incomplete recovery of international visitors. Inflation-adjusted visitor expenditures in March were 9% higher than in March 2022, and 7% higher than in 2019. The upward trend in international arrivals, the steady influx of US visitors, and rising room rates have bolstered total spending in every county. Real visitor spending in each of the Neighbor Islands far surpasses 2019 levels, with Kaui and Maui seeing the strongest gains, up 12-13%. Honolulu has a special appeal to the traditionally high-spending Japanese visitors, and their absence has burdened Honolulu's spending growth. Oahu continues to lag behind the other counties, with real visitor spending still 7% below the 2019 level.

As we have mentioned in past reports, an impressive rise in daily per person spending by North American visitors has offset the low number of high-spending Japanese visitors for the state as a whole. Real per capita daily spending by US visitors is 12% higher than in 2019, and has maintained stable growth over the past year. Real per capita daily spending by Canadian visitors exceeds its 2019 level by 20%. Even for Japanese visitors, real per person daily spending has nearly recovered to its 2019 level.

The recent partial retreat of the US dollar rally bodes well for international visitors, as it makes travel to Hawaii more affordable. The yen's gains are a particularly hopeful sign, although the currency's real purchasing power in the US is still 30% below its pre-pandemic level. This continues to weigh on the return of Japanese visitors. At the other end of the spectrum, both the Australian dollar and the Canadian dollar have remained relatively stable against the US dollar, supporting Hawaii travel from those markets.

Despite the worsening macroeconomic outlook, the visitor industry has managed to grow at a steady pace. Their heavier reliance on US visitors makes the Neighbor Islands particularly prone to a potential US downturn later this year. But Oahu is also more vulnerable than usual to US macro conditions. Anticipated gains in international visitor arrivals will benefit the tourism industry on Oahu and partly offset an expected modest decline in US visitor arrivals.

While the focus of this report is on economic performance over the near-to-medium term, climate change will make longer-term considerations increasingly important. The risks to tourism and Hawaii's tourism-dependent economy will be substantial, but quantifying such risks is a daunting task. See the box, "Climate Change, the Environment, and Tourism" for a discussion of how researchers are beginning to identify implications of climate change for tourism industries.

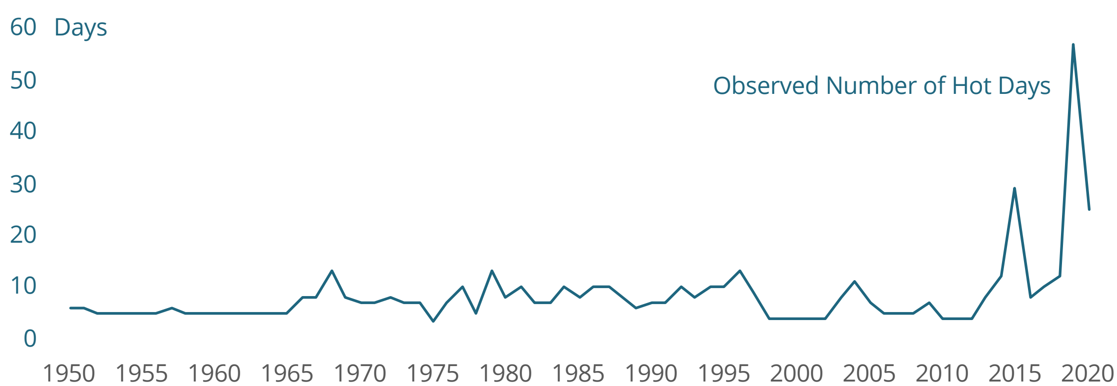
Climate Change, the Environment, and Tourism

Climate change presents significant challenges, with far-reaching environmental, social, and economic consequences. The IPCC Synthesis Report (AR6), released in March, shows that the climate has already warmed by 1.1° C (2° F) since 1900, and suggests that even if emission goals are met by 2050, temperatures that exceed the global warming threshold of 1.5° C (2.7° F) are now very likely. This threshold is considered the point at which severe global consequences of climate change will no longer be avoidable. These projections have significant implications for Hawaii, with direct impacts including temperature increase, ocean acidification, rising sea levels, changing rainfall patterns, increased drought frequency, changing storm intensity, and decreased trade winds. This could have significant implications for Hawaii's economy, including the all-important visitor industry.

Tourism both contributes to carbon emissions and is impacted by climate change. According to one estimate, the tourism industry globally generates 8% of greenhouse gas (GHG) emission. In Hawaii, tourism contributes about a quarter of energy sector emissions. Destinations such as Hawaii are susceptible to strong climate impacts due to the interaction of sea level rise with coastal resort development. Climate change will affect tourism through direct and indirect means, including policy interventions, with social, ecological, and economic consequences.

Direct impacts of climate change on tourism include the potential disruption of a comfortable and predictable climate for tourists. One study found that predicted impacts to the "Sun, Sand, and Sea" regions are always negative across many different models, with the main explanation being the search for a more comfortable climate. Hawaii's number of uncomfortably hot days (> 90° F) has been dramatically higher since 2010, compared with the previous 60 years.

NUMBER OF DAYS IN HAWAII REACHING TEMPERATURE OF 90° OR HIGHER



(Recreated with estimates from NOAA NCEI)

Along with less comfortable weather comes less predictable weather. Hurricanes are historically rare in Hawaii, but they have the potential for devastation, as we saw with Hurricane Iniki, which altered the growth trajectory for Kauai. There is not yet sufficient evidence to show that hurricanes are increasing in frequency because of climate change, but hurricanes are growing in intensity. As reported by NASA, warmer air allows hurricanes to hold more water vapor, intensifying rainfall. Additionally, storms and their effects are becoming less predictable; in 2018, Hurricane Lane simultaneously influenced flooding events on the Big Island and wildfires on Oahu and Maui.

Indirect impacts on Hawaii tourism may arise from changes in demand for vacations in response to the environmental impacts of climate change. Changes in ocean temperatures, sea level rise and coastal erosion, water shortages, loss of fauna diversity, long-term changes to surf patterns as waves become too high to break over the reefs, and a variety of other avenues would affect the amenities that tourists come to enjoy in Hawaii. Among the most well-documented outcomes of climate change are sea level rise, higher water temperature, and increased seawater acidity, all of which have implications for tourism activities. Using the Pacific Islands Ocean Observing System's sea-rise projection viewer, Waikiki and its numerous beachfront hotels are highly vulnerable to even 6 inches of sea level rise.

In fact, losses to the beach area are already occurring, and protecting public beaches is constitutionally mandated. In Waikiki, sand dredging and replacement projects occur regularly. Marine activities are also subject to environmental impacts. Marine life exists within a fragile ecosystem, and slight changes to acidity and temperature endangers coral reefs and reef-dependent species. Snorkeling, scuba diving, and fishing would all be adversely affected. Tourists coming to Hawaii to enjoy the beaches and marine life may find alternative destinations if our reefs cannot offer the experiences that they once did.

Mitigation policies seeking to reduce greenhouse gasses (GHG) by reducing travel-related emissions would also have an impact on tourism demand. An example would be the effect of a carbon tax or offset that raises the price of air travel to Hawaii, reducing to some extent the number of visitors. However, Hawaii benefits from inelastic demand for vacations, suggesting that the resulting changes in demand may be relatively small.

Other indirect impacts of climate change on tourism may be felt through growing acceptance of the need for personal social responsibility for GHG emissions, or through impacts of climate change on standards of living. Many studies have posited that travel will become more local as individuals choose to avoid trips that negatively impact the environment. At the same time, population and economic growth may well overshadow climate-tourism impacts as the ultimate driver of destination choice.

Decreasing global prices of travel and increasing real incomes made travel to Hawaii more accessible and paved the way for the industry's development in the closing decades of the twentieth century. But a sustainable tourism industry in the future will require that Hawaii addresses the growing risks of climate impacts to remain an attractive destination.

Some relief from tight labor market conditions

Hawaii's labor market continues to perform well, with employment recovery ongoing and an unemployment rate that sits at about 3.5%. While many firms still report difficulty finding qualified employees, the worker shortage has eased considerably over the past year.

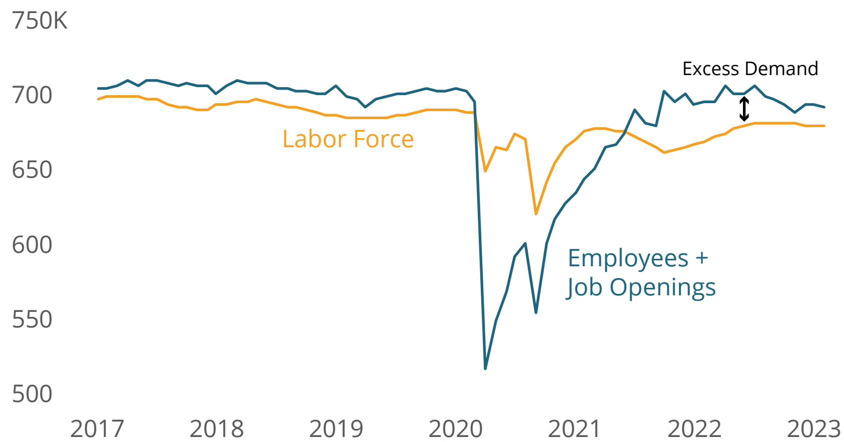
In October 2021, as the labor market started to recover in earnest, there were as many as 40,000 more job openings than employees available to fill them. This was the largest "jobs-to-workers" gap since the start of the 21st century. Since then, employees have returned to the labor force and employment growth has slowed. As a result, the supply-demand imbalance has eased considerably. As of February, there were roughly 13,000 more job openings than available workers, similar to levels prior to the pandemic.

The recovery of Hawaii's labor supply is a key reason for the rebalancing that has occurred in the labor market. At the state level, the labor force is now less than 2% below its December 2019 level. All counties have seen significant progress toward a full labor force recovery. Honolulu, Maui, and Kauai counties are just 1-3% shy of their pre-pandemic levels. Hawaii county has seen the most growth from the COVID-recession trough, with its labor force now 2% *above* its level at the end of 2019.

County differences in the labor force compared with the pre-pandemic level have been driven partly by migration patterns. Since the start of the pandemic, Honolulu County's population has declined by more than 20,000 residents. This large decrease drove a 1% decline in the state's total population. In contrast, Hawaii County has seen a 3% population uptick,

NUMBER OF EMPLOYEES PLUS JOB OPENINGS RELATIVE TO THE LABOR FORCE

Softening job gains and labor force recovery have brought the supply-demand balance back to normal levels.



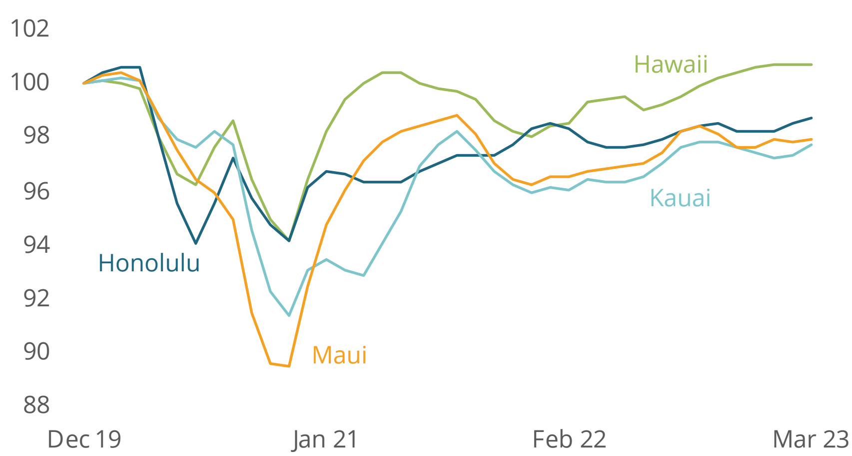
gaining 6,000 residents. Growth in Kauai County was also positive, but more subdued at a 0.7% increase, while Maui saw a population decline of 0.3% since the start of the pandemic.

Due to data limitations, we cannot directly observe what is driving these population shifts. One theory has attributed rural population increases over the course of the pandemic to the rise of remote work. Since remote jobs allow greater flexibility in where workers live, some may be attracted to the amenities of rural or far-suburban locations (e.g., lower housing costs, family ties, and so forth). Another theory has attributed increased population numbers in rural areas to the surge in retirements during the pandemic. A study from the Economic Innovation Group found areas that saw accelerated population growth had higher concentrations of vacation homes and longer commute times. While we cannot pinpoint the exact reason for county level population shifts, it appears that COVID-19 did not alter existing migration patterns, but accelerated them.

Most of Hawaii's population inflows and outflows have been movements to and from the US mainland. About 95% of those who left Honolulu County between 2019 and 2020 migrated out of state. The percentage of migrants who moved to the US mainland from the Neighbor Islands was smaller, at roughly 80%. The top five outward destinations for Hawaii migrants were California, Washington, Texas, Nevada, and Florida. Those who moved to California made up the largest share of migration outflows, roughly 15% of the total.

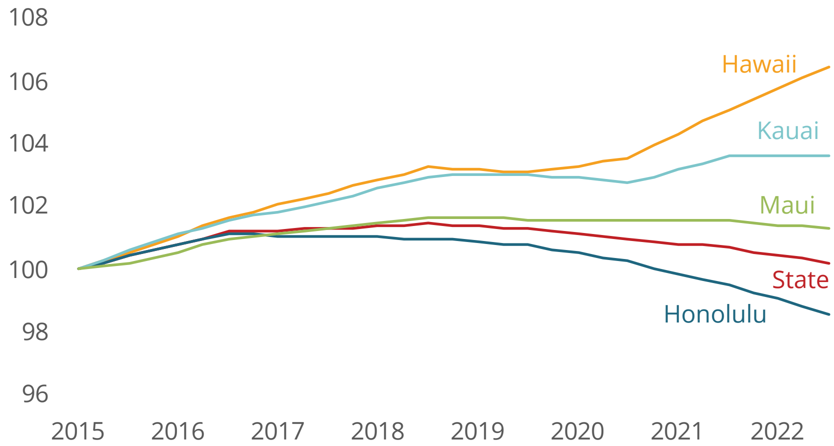
LABOR FORCE RECOVERY BY COUNTY, 3-MONTH MOVING AVERAGE (INDEX, DECEMBER 2019 = 100)

All counties have seen substantial labor force recovery.



COUNTY POPULATION (INDEX, 2015 = 100)

The pandemic accelerated population changes that were already underway.



Many residents who leave the state do so because of the financial challenge of living in Hawaii. A 2019 survey by the Pacific Resource Partnership found that 47% of residents who were thinking of moving out of Hawaii attributed their decision to the high cost of living. Do these migrants who leave Hawaii end up better off? Data from the IRS reveals that migrants who left Hawaii for another state from 2019 to 2020 ended up with more purchasing power on average. For example, the average income of people relocating to Nevada was just $27,000 after adjusting for Hawaii's high cost of living. At Nevada's lower living cost, the typical Hawaii resident moving to Nevada would have experienced an annual gross income gain of $4,000.

Hawaii's cost of living has been consistently more expensive than other states, but the gap has increased only gradually over time. Instead, what has likely been driving most migrants out of Hawaii in recent years is differences in job opportunities. When Hawaii's economy weakens, the lower cost of living on the mainland may have a greater influence on migration decisions than in healthier economic times. In these circumstances, the pull of better employment opportunities in another state may be a more attractive draw. To learn more about Hawaii's cost of living relative to other states, see the box, *Hawaii's high cost of living*.

A government shutdown could hit Hawaii hard

If the federal government cannot raise the debt ceiling, at some point this summer or fall various government operations will cease until an agreement is reached. Treasury Secretary Janet Yellen recently warned that this could occur as soon as June 1. Seven percent of Hawaii's workforce is employed directly by the federal government, and many others have jobs tied to federal government activities. If a large share of these workers go on unpaid furlough, there would be a temporary downturn in spending that is larger in Hawaii than many other states. The longer a shutdown lasts, the greater the impact. Even if these workers are later made whole, there may be permanent costs too. For example, the Congressional Budget Office estimates that the most recent shutdown, which ended in January 2019, cost the national economy $3 billion.

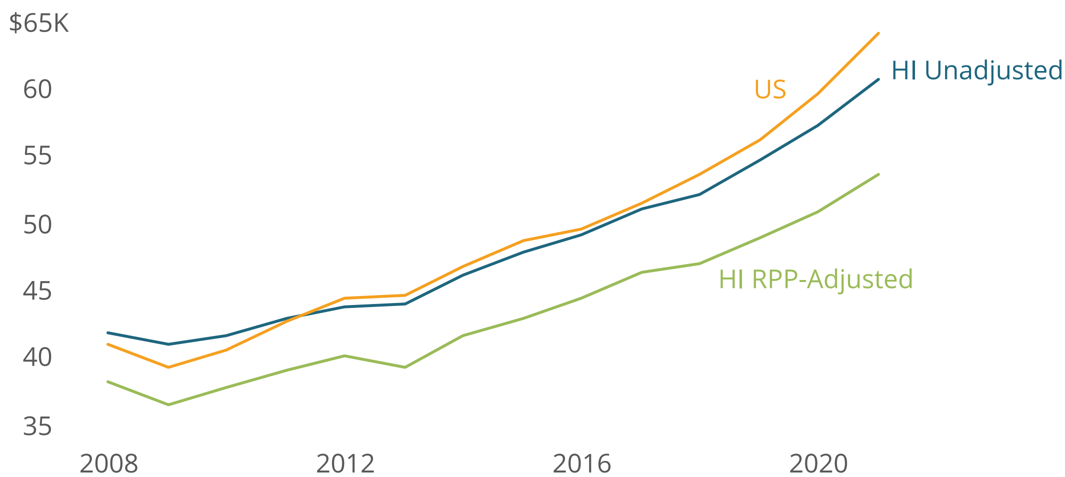
Many of the risks and impacts of a shutdown are national, rather than specific to Hawaii. For example, during the 2018-2019 shutdown, the US Securities and Exchange Commission warned small businesses to delay plans to go public, the Small Business Administration stopped approving loans, and permitting ceased for a range of federal government entities. A

Hawaii's high cost of living

Hawaii offers amenities that make it a highly desirable place to live. But this desirability and various supply factors have also made it one of the most expensive states. This has created affordability challenges for many residents, leading some to relocate to relatively less expensive areas elsewhere.

The recognition that Hawaii is an expensive place to live is not new—or news to residents—but exactly how much more expensive is it to live in Hawaii compared with other states? The Bureau of Economic Analysis (BEA) produces Regional Price Parities (RPPs) that estimate the cost of goods and services in each state relative to the national average. RPPs allow us to adjust current (nominal) dollars into comparable values based on what can be purchased in different places. Data for 2021 shows that in Hawaii the price level of goods and services was about 13% higher than the US average, making it the most expensive state in the country. California and the District of Columbia have the next highest costs of living, with price levels roughly 11% greater than the national average.

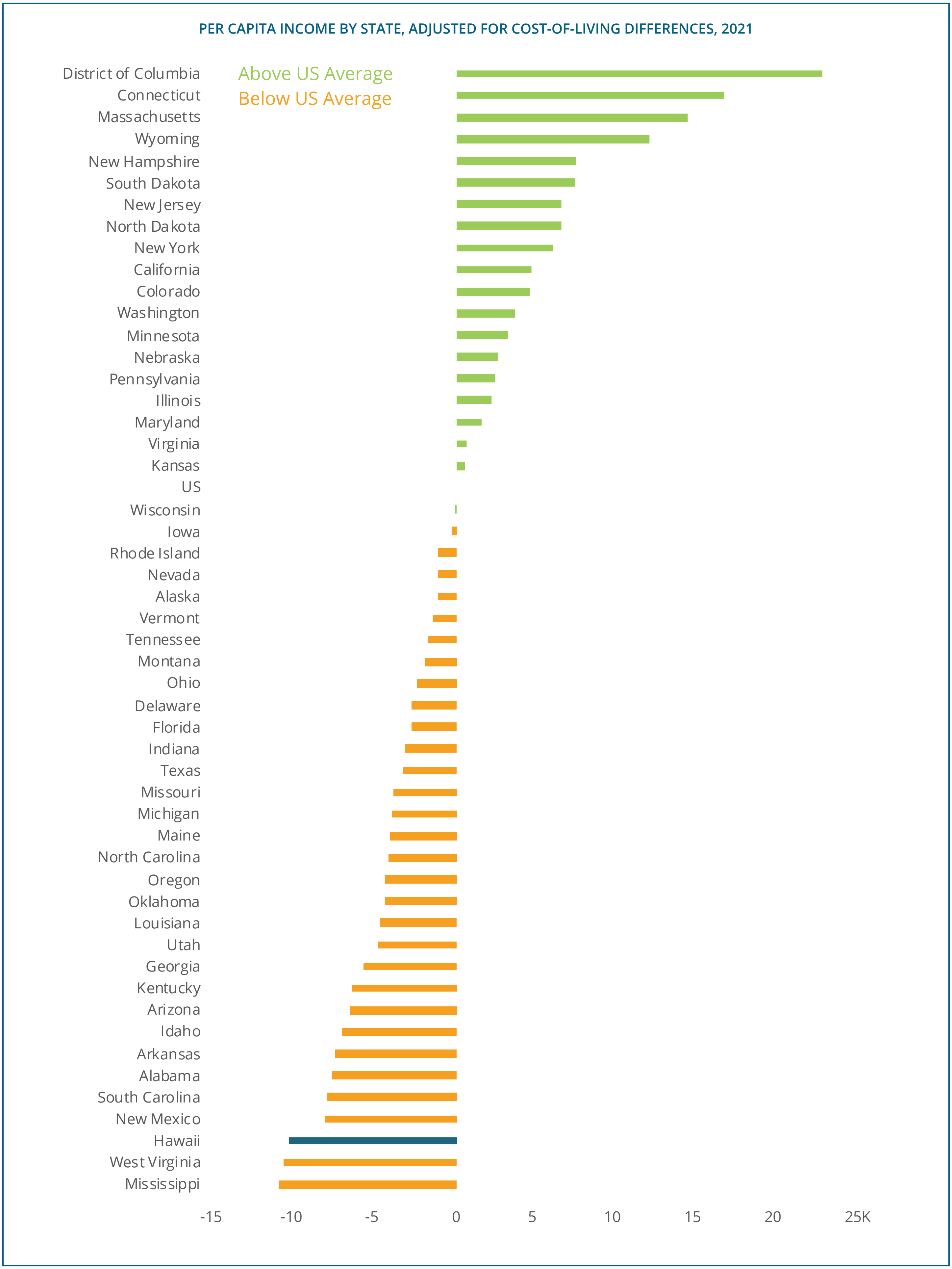
PER CAPITA PERSONAL INCOME FOR HAWAII AND THE US BEFORE AND AFTER ADJUSTING FOR THE COST OF LIVING



Even before adjusting for Hawaii's high prices, Hawaii per capita income in 2021 was 5% lower than the national average. After adjusting for cost of living, Hawaii's per capita income was 12% lower than its unadjusted level. In addition, relative purchasing power in Hawaii has been gradually declining over time. The difference between adjusted and unadjusted per capita income has increased by three percentage points since 2008.

Of course there are also large differences in levels of income across states even before any costs of living adjustments are made. As a result, California—which is similar to Hawaii in terms of cost of living—has an RPP-adjusted per capita income of roughly $70,000, compared with Hawaii's $53,000. The extent of cost of living differences brings Hawaii's RPP-adjusted per capita income down to the levels of Mississippi and West Virginia, among the poorest states in the nation.

Why is purchasing power in Hawaii so low? In part, this reflects lower nominal incomes because of Hawaii's job mix. Many jobs in Hawaii are tourism-related service industry positions. These jobs tend to be lower paid and often have limited potential for wage growth. At the same time, Hawaii's geographical and cultural amenities (including strong family ties) make it a high demand locale. Many people are willing to pay "the price of paradise" in order to live in Hawaii.


PER CAPITA INCOME BY STATE, ADJUSTED FOR COST-OF-LIVING DIFFERENCES, 2021
Above US Average
Below US Average
District of Columbia
Connecticut
Massachusetts
Wyoming
New Hampshire
South Dakota
New Jersey
North Dakota
New York
California
Colorado
Washington
Minnesota
Nebraska
Pennsylvania
Illinois
Maryland
Virginia
Kansas
US
Wisconsin
Iowa
Rhode Island
Nevada
Alaska
Vermont
Tennessee
Montana
Ohio
Delaware
Florida
Indiana
Texas
Missouri
Michigan
Maine
North Carolina
Oregon
Oklahoma
Louisiana
Utah
Georgia
Kentucky
Arizona
Idaho
Arkansas
Alabama
South Carolina
New Mexico
Hawaii
West Virginia
Mississippi
-15
-10
-5
0
5
10
15
20
25K

less likely outcome—a default on government debt—would be much worse. If the US government fails to pay its debts, it could cause big problems for the global financial system. Investors may start to worry about the safety of US government bonds, which are usually considered among the most secure investments. Even when an outright default has been avoided in the past, markets have been spooked. In 2011, a similar situation caused a decline in the stock market and a downgrade of the country's credit rating by S&P. We are hopeful that cooler heads prevail this time so that this risk remains low.

What budget surplus?

Legislators have agreed on a $21.7 billion budget for 2023 and 2024, at the time of this writing still awaiting final passage by the House and Senate. The budget includes $4.2 billion for capital improvements over two years. But last year's surplus of $2.6 billion, and this year's projected surplus of $2 billion, is evaporating with new spending commitments and projected revenues declining.

Lawmakers plan to put $1 billion into the state's "rainy day" fund and the State recently agreed to a 14.5% pay increase for teachers over four years. The budget is likely to include $125 million in tax relief, but not the entire tax relief package proposed by Governor Green.

The Council on Revenues recently lowered its forecast for the State's general fund growth rate from 5.5% to 2%. Tax revenue growth has declined in part because rising interest rates have reduced home sales and their associated tax revenue. Future declines would further reduce the funds available, so some spending items may still get cut.

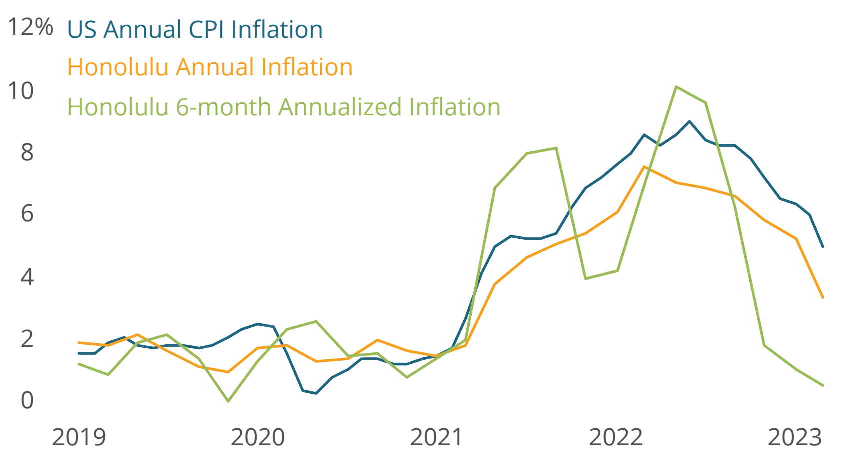
While the size of the surplus has declined, spending the surplus could form a countercyclical fiscal policy in Hawaii that offsets some of the effects of a weaker US economy.

Hawaii inflation is well down from its peak

Inflation is easing nationally, but the reduction has been even more dramatic in Hawaii. In March, declines in the price of food, energy and utilities, and gasoline drew the annual inflation rate for Honolulu down to 3.3%. The inflation rate also eased because the very large price increases that occurred over a year ago are no longer part of the annual measure of price change.

HONOLULU ANNUAL AND 6-MONTH ANNUALIZED INFLATION RATES, AND US ANNUAL INFLATION

Inflation has come down faster in Hawaii than at the national level.



This is clearer when we look at the annualized six-month inflation rate. The biggest falloff in inflation had already occurred by November 2022 and continued to ease through March.

That Hawaii inflation is falling faster than for the nation as a whole is welcome news for residents and businesses. At the same time it sets up a difficult situation. The US Federal Reserve sets monetary policy for the nation as a whole, which might be too conservative relative to Hawaii's lower inflation rate. This means tighter credit and lending in Hawaii, potentially slowing local spending by more than necessary to get inflation in Hawaii down to the Fed's target of 2%.

Lack of homebuilding aggravates affordability challenge

Single-family home prices in Hawaii rose a remarkable 40% from the start of the pandemic to their peak in April 2022. Since then, median prices have fallen about 10%. The modest dip in prices relative to the pandemic upturn means home prices remain very high by historical standards. High mortgage interest rates, which remain well above 6%, further increase ownership costs for new homebuyers. The combination of high prices and high interest rates now makes homeownership unattainable for a large share of Hawaii's population.

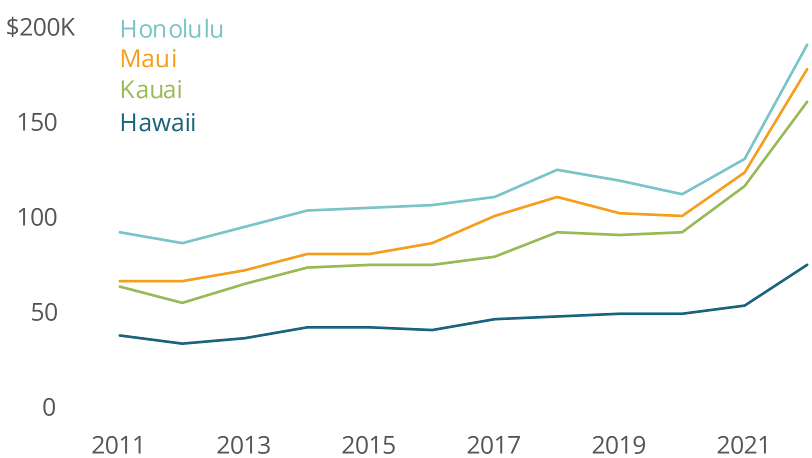
In 2012, a household earning $85,000 per year could afford the median single-family home on Oahu, meaning that less than 30% of their income would go to mortgage payments. In 2022, the amount of income needed to afford a home had more than doubled. To afford a mortgage on the median priced home on Oahu, a household now needs to earn $190,000 annually. Over the same period, the median household income on Oahu has risen by only 27%, to $91,000, and about 80% of Oahu households earn less than $190,000. The result is a smaller and smaller share of households that are able to afford to buy a home.

The evolution of affordability on Maui and Kauai has been even more dramatic. While the income needed to afford the median single-family home on Oahu or the Big Island rose 120% over the ten years to 2022, the income needed rose 165% on Maui and 190% on Kauai.

Price increases in the condominium market have been much less dramatic. While Oahu single-family homes appreciated by 40% between January

HOUSEHOLD INCOME NEEDED TO "AFFORD" THE MEDIAN SINGLE-FAMILY HOME

The pandemic-era price surge has made Hawaii housing much less affordable.



The calculation assumes a 20% downpayment, and defines affordability as no more than 30% of the household income going toward mortgage payments.

2020 and April 2022, condominium prices grew by 19%. Since then, condo prices have been flat. The median priced condominium mortgage on Oahu is affordable to households earning above $96,000, or roughly half of current households. Including the roughly $800 average monthly HOA fee, an Oahu household would need an income of $128,000 to keep condominium costs below 30% of income. Oahu has the largest stock of non-resort condominiums, and so gains the most from relative condo affordability.

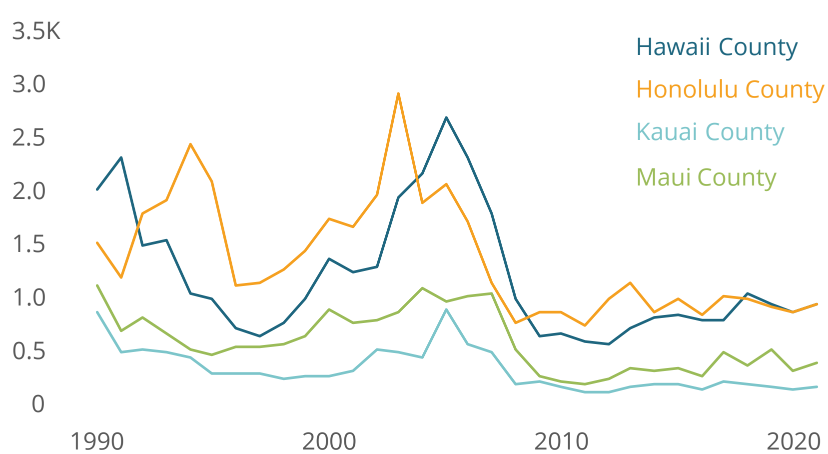
The dramatic price inflation of single-family homes can be attributed largely to a lack of new supply. When demand rises sharply in Hawaii's housing market, strict regulations and long permit wait times mean that new housing cannot be created to absorb the demand. Instead, new demand is absorbed by rising home prices. Since 2008, the state has never approved more than 2,500 single-family homes in a year.

And overall housing production in the state is low by historical standards. In 2021, Hawaii permitted only 35% as many homes as it did in 2005. While many states are permitting fewer homes than in the past, Hawaii's recovery has been particularly lackluster. In a well functioning, competitive housing market, home builders respond to rising prices by building more homes. Hawaii ranks 49th out of 50 states in terms of housing permitted relative to 2005 levels. If Hawaii were producing housing at the level of other states that experienced similar price rises, we would be permitting 7,200 new units of housing per year, 73% of 2005 levels. In reality, Hawaii is permitting only half that many homes.

The production of housing in the state has been stymied by onerous regulations as well as unique local challenges. A recent example of an economically viable development being blocked by regulation is the desire by OHA to convert underutilized land in Kakaako Makai into a large-scale housing development. OHA has lobbied to remove zoning restrictions that prevent highrise development on the land. But state lawmakers have declined to rezone the area, recently proposing a buyout of $100 million dollars to OHA in exchange for abandoning plans to build housing towers. OHA is poised to reject the offer, but still faces numerous political and regulatory barriers to building homes on the land. In general, the extremely low level of housing production in Hawaii, even as home prices have surged, suggests that economically viable projects are being blocked by regulatory barriers.

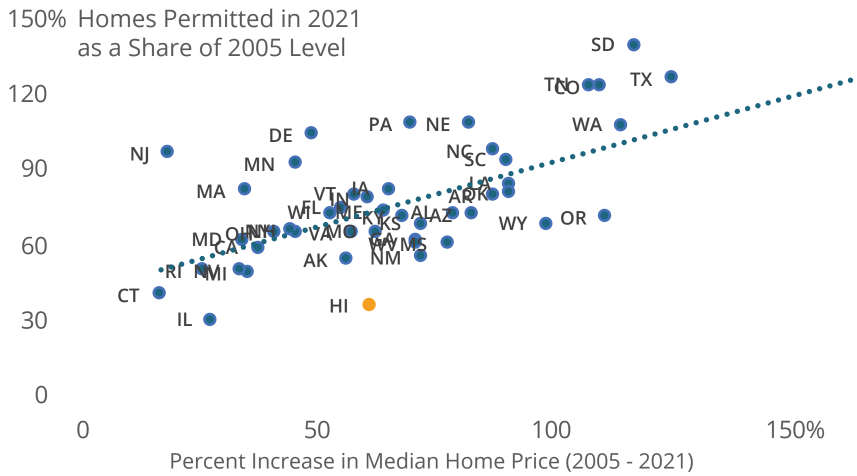
NEW SINGLE-FAMILY UNITS AUTHORIZED

Authorizations for new single-family homes remain low across all counties.



STATE HOUSING PERMITS RELATIVE TO CHANGING PRICES

Hawaii housing production has not risen as much as home price appreciation would predict.



State action to deploy Department of Hawaiian Homelands (DHHL) funding is another political process that could impact the housing market. In 2022, $600 million was allocated to DHHL to help reduce the long waitlist of those eligible for homesteading land. The Act that granted the funding stipulates that the money must be spent by 2025. Currently, the DHHL, the Governor's office, and the Hawaii Legislature have provided alternative visions for spending the funds. The Legislature is likely to allocate a large portion of the funds during this session. Spending is likely to include financing of multifamily housing construction and a downpayment assistance program, in addition to opening up additional land for homesteading.

The Hawaii Public Housing Authority has announced plans to move quickly in redeveloping nine sites it currently holds to provide 10,000 new units of public housing. The largest component of the plan would redevelop the Mayor Wright Homes complex on Oahu, replacing the low rise buildings with modern high density development. The plan would represent a significant contribution to affordable housing needs in the state.

Large public sector projects are buoying construction

While plans to build more housing face regulatory and political hurdles, they may also struggle to find construction capacity. Large construction projects feed growth in industry wages, pushing up building costs. And construction workers are in heavy demand. In January, construction payrolls in the state rose to 40,000 workers, nearing record highs set in 2008 and 2016. This level of industry employment is in striking contrast to overall payrolls, which have not yet recovered to pre-pandemic levels.

Very large public sector projects will become an increasingly important part of local construction activity. A plan by the US Navy to spend $4 billion to update naval infrastructure is beginning to appear in local contracts. A consortium of construction and dredging companies in the state were recently awarded $2.8 billion for updates to Pearl Harbor facilities. The funds are scheduled to pay out between now and 2027. The scale of the investment represents a significant share of the state's overall construction activity.

Government spending on roads is also a significant source of recent construction contracts. In January and February HDOT awarded $200 million in funds for road improvement projects across the state. The spending continues investments enabled by generous federal spending. Cost and capacity pressures, as well as an uncertain future budget picture mean that the boom in government construction projects could recede in coming years.

THE HAWAII OUTLOOK

In many respects, our Hawaii forecast is closely aligned with our first-quarter report. The recovery of Japanese tourism once again falls short of our expectations, even as there are signs that it will continue to gradually improve. The Japanese yen and Korean won rallied a bit in the November-to-January period, but have since given up some of those gains, which will continue to weigh on their purchasing power here. The Canadian and Australian dollars are comparatively strong, buoying arrivals from these markets. At the same time, the global outlook has weakened somewhat. The anticipated US recession and sub-par growth abroad will bring total visitor numbers down just a bit over the next two years, and the balance of risks continues to be to the downside.

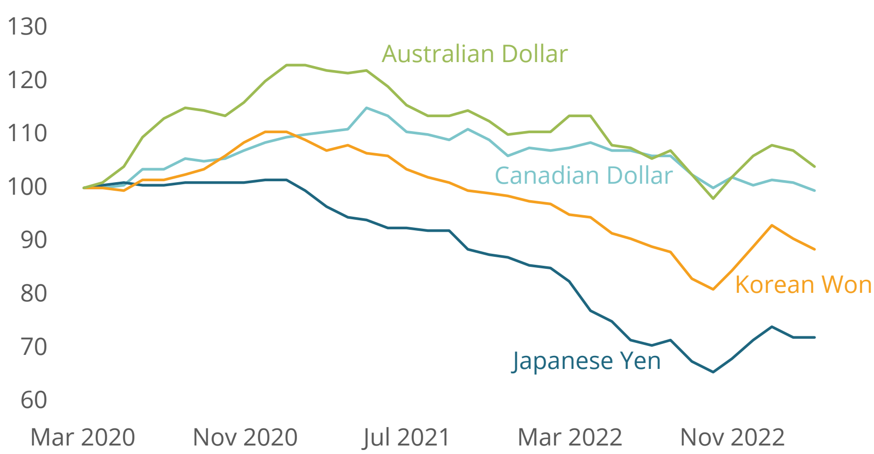
At home, the real estate market remains weak. Mortgage rates will continue to be elevated, and so affordability will only improve gradually over the next five years. Despite this, the construction sector remains very strong. The industry's employment level has surged recently, and the huge stock of public-sector building projects means buoyant conditions will continue. Employment progress will soften in most sectors this year and next, before a return to modest growth. Continuing high interest rates and softening US and global conditions will cause a slowdown in Hawaii growth, but not a local recession.

When, oh when, will Japanese visitors return?

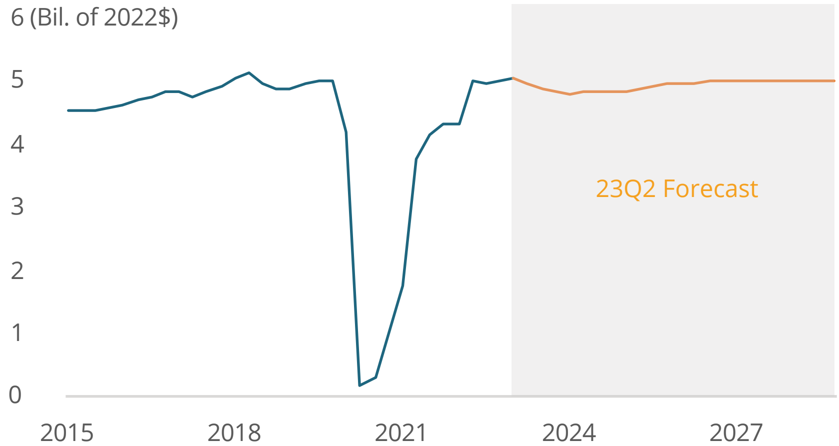
The recovery of Japanese tourism took forever to begin and has remained very limited so far. So the question now is how large that recovery will ultimately be and over what time frame? By some measures, the meager return of Japanese arrivals actually slowed a bit at year end, and that has continued at the start of 2023. Japanese arrivals totaled 99,000 in the first quarter, just 26% of their level in the first quarter of 2019. (The average daily census of Japanese visitors was up 32%.) Information on bookings leads us to expect some acceleration of the Japanese market recovery over the rest of this year, with arrivals totalling more than 190,000 by the fourth quarter. For 2023 as a whole, Japanese arrivals will total 586,000 visitors, rising to nearly 890,000 in 2024. At that point, Japanese visitors will still number less than 60% of their 2019 total.

REAL VALUE OF FOREIGN CURRENCIES AGAINST THE DOLLAR (INDEX MARCH 2020 = 100)

The partial rebound of the yen and won will support international tourism recovery.



HAWAII VISITOR SPENDING
Real visitor spending will fall back only a bit as the US economy slows.



Further growth of Japanese visitor numbers will continue at a slower pace thereafter, but we are relatively pessimistic about longer-term prospects for this market. Because of a shrinking and aging population, the number of Japanese visitors at the end of the decade will be 12% lower than the average for the 2015-2019 period. But it is important to note that Japan at that time will remain the second largest visitor market after the US.

While the Japanese market has struggled to recover, visitors from other countries have staged a much more robust revival. By the fourth quarter of last year, Canadian arrivals were running at more than 90% of their fourth quarter 2019 level, and total visitors from all other international markets were back to 86% of their pre-pandemic level. In particular, Australia, New Zealand, and Korea have made significant recovery progress. There has been virtually no return of visitors from China, and despite this year's economic rebound in China, the lack of direct flights and ongoing US-China geopolitical tensions will limit recovery of this market.

A robust dollar has weighed on international arrivals over the past two years, particularly for the Japanese and Korean markets. The partial retreat of the dollar that we have seen since late last year will help to support ongoing recovery of international markets, and further dollar weakening can be expected once the Fed turns the corner on this tightening cycle. At the same time, weaker global macroeconomic conditions will provide headwinds for nearly all international markets.

Overall, we see further gradual recovery of many international markets over the next several years, bringing the total number of arrivals from markets other than the US and Japan back to roughly their 2019 level by 2027. The average daily census, which is influenced by the length of visitor stays in the Islands, is already very close to its 2019 level. After a slight retreat this year related to US and global macro weakness, it will settle at a level roughly on par with the pre-pandemic period.

The dominant market throughout the pandemic and recovery period has been the US. Visitors from the mainland accounted for 84% of all arrivals last year. This is far higher than the 66% market share claimed in 2019. This makes Hawaii tourism particularly vulnerable to a slowdown in US travel demand. As the US economy passes through a mild recession and recovery over the next several years, US visitor arrivals to the Islands will fall back a bit. The continued recovery of other markets will help us avoid any sharp downturn in overall visitor numbers and move us gradually back to a more diversified visitor mix.

Real visitor spending for this year as a whole will rise a bit above last year's total, before edging back marginally in 2024. The ongoing rise in the number of high-spending overseas Pacific travelers will support total visitor spending even as the US market softens. In addition to the impact on visitor arrivals that we noted above, the still-strong US dollar will weigh on travel budgets of some international visitors. The real value of goods and services that these travelers can afford—and their contribution to industry fortunes—will continue to be more limited than in the past until a more significant dollar retreat occurs.

Looking across counties, the Neighbor Islands have seen a more substantial recovery of visitors than Oahu has so far, because of the latter's traditional reliance on Japanese travelers. But that also means that the Neighbor Islands will experience a larger, if still limited, pullback when the US recession kicks in later this year. Oahu, and to a lesser extent Hawaii County, will benefit from the anticipated moderate Japanese market revival. The disproportionate surge in hotel room rates on the Neighbor Islands will act as a constraint on industry expansion going forward.

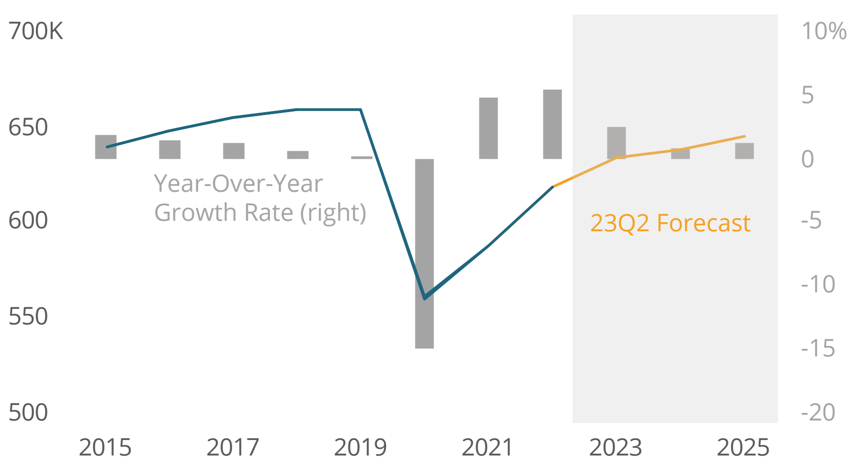
Hawaii's economic gains will decelerate into 2024

Weakening US tourism, tight credit, and high interest rates will weigh on the Hawaii economy this year and next. As we noted above, the balance of risks suggests that the national economy will slip into a mild recession by the end of this year. However, with a robust construction pipeline and additional gains in international visitor arrivals, Hawaii will avoid its own recession, even as weakening macro conditions lead to the slowest incremental growth since the recovery began.

The labor market has improved slowly but surely during the recovery, but a noticeable slowdown will develop as this year progresses. Net payroll job growth for this year as a whole will decelerate to 2.5%, less than half the pace of last year's 5.3% expansion. As we have noted before, these annual figures mask greater underlying weakness. From the first quarter of this year through the first quarter of next year, there will be only a half-percent growth in the total nonfarm job count. Moderate gains will not return until US and global conditions firm in the second half of next year, nudging annual job growth above 1% by 2025. The softer labor market will result in a slight uptick in the unemployment rate. The statewide average will edge up

HAWAII NONFARM PAYROLL JOBS

Job gains will slow for the next two years.



from 3.6% in the first quarter of this year to 4.3% at the beginning of next year. Unemployment will begin to recede in the second half of 2024. This represents a mild unemployment cycle compared with past slowdowns.

With labor force participation now essentially fully recovered, additional expansion of the workforce will be tied to population growth within the state. As we noted above, the counties have experienced different migration patterns over the past five years, with Oahu's population decline more than offsetting Neighbor Island gains. A stagnant labor force will constrain the state economy in the near term, and slow trend population growth will limit labor market gains thereafter. As a result, the number of filled jobs will not fully return to pre-pandemic level until late in the decade.

There will be a slowing of job gains in nearly all sectors this year and next. In part this simply reflects maturing of the post-pandemic recovery period, but poorer macro conditions will also play a role. Tourism-related industries will see sharply lower growth rates, but the existing high level of activity in the industry will still support notable additional expansion in some areas. In particular, the accommodation and food service sector will add roughly 7,000 jobs in 2023— nearly half of all net job gains—and transportation and utilities will add about 5% to its employment base. But even these sectors will slow to negligible growth in 2024.

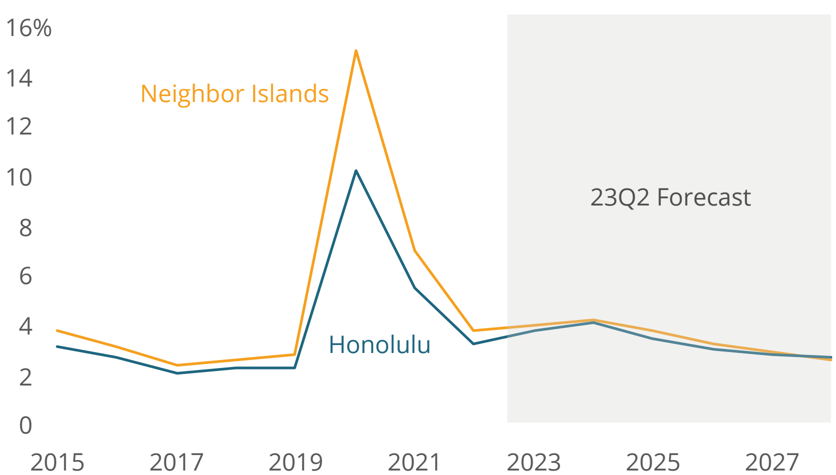
Construction will remain a key economic support

While the building industry is typically very susceptible to cyclical fluctuations, it has been and will remain the most resilient segment of the local economy this time around. Last year's surprising jump in payrolls demonstrates the industry's strength, and the large number of projects in the pipeline will employ an additional 2,000 workers by 2026, bringing industry employment above 41,000 workers, the highest level on record.

The large healthcare industry will regain its 2019 level of employment by 2025. Growth in the expansive "other services" sector, which includes everything from business services to education, will decelerate in 2023 after a nearly 7% gain last year, and then pause in 2024. Finance, insurance, and real estate jobs, which have regained little of their pandemic-era losses, will remain flat for the next two years, weighed down in part by the lagging real estate industry. Expansion in the government sector is essentially on hold,

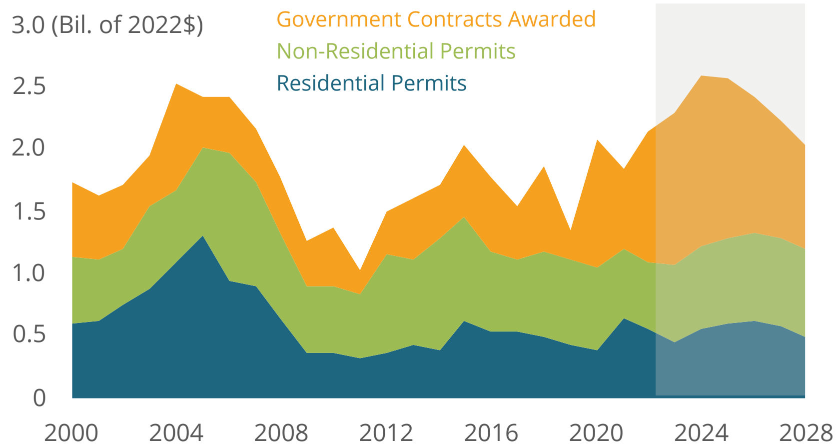
UNEMPLOYMENT RATE FOR HONOLULU AND THE NEIGHBOR ISLANDS

The domestic tourism rebound has brought Neighbor Island labor conditions in line with Honolulu.



REAL AUTHORIZATIONS TO BUILD

A surge in contracts for government construction will offset soft residential building.



with a modest employment upturn expected to resume in 2025. Stagnant public sector employment reflects a tighter and more uncertain fiscal landscape. There will be some firming of job growth in many sectors as we move into 2025, but slower population growth will mean a lower trend rate of economic growth in coming years than we have seen in the past.

High inflation should be behind us

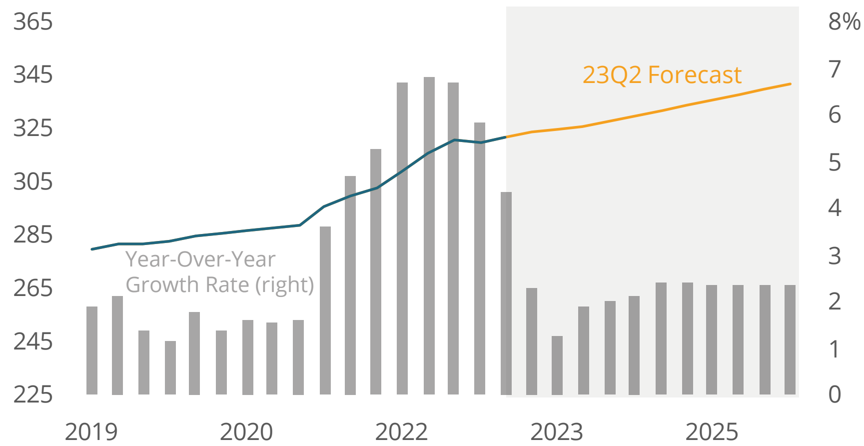
Honolulu inflation has receded from its 7.5% annual pace a year ago to 3.3% this March. As we noted above, price increases have essentially fallen to zero when we look at the most recent six months. Inflation will not stay that low—declines in transitory energy and food prices drove part of this disinflation—it is likely that the period of exceptionally high inflation is now behind us. The moderation of prices across other goods and services, as well as the effect on shelter costs of lower asking rents, will bring annual inflation this year down to just 2.4% and 2.2% in 2024, close to the long-run average. The recent upward movement in oil prices poses some upside risk.

It is hard to overstate the adverse effects of recent inflation on local purchasing power. Consumer prices jumped more than 11% between the end of 2020 and the end of 2022. This imposed significant economic pain on local households, to a greater or lesser degree depending on the goods and services they buy the most. And the ending of federal support programs further undermined income last year. But pay raises in recent months are helping to reverse that decline. Average weekly earnings in Hawaii rose more than 5% in the twelve-month period ending September 2022 alone. And as inflation continues to slow, this will also help to support real income gains. Inflation-adjusted real income nearly recovered to the pre-pandemic level by the end of last year, and it will grow at a moderate 2.5% annual average pace over the next three years.

The pace of employment and income gains will converge toward their long-run growth paths by mid-decade. The non-farm payroll job base will average just over 1% growth in the 2025-2027 period. At that point, it will finally have recovered to roughly its 2019 level. The lengthy period of job recovery partly reflects the loss of population and labor force that began even before the pandemic hit. Real personal income growth will settle at a roughly 1.5% annual pace by 2027. Production, as measured by real gross domestic product, will average 1.7% growth over the 2025-2027 period.

HONOLULU CONSUMER PRICES, INDEX (1982-1984 = 100)

The painful period of high inflation should be behind us.



Lots of downside risks to a fairly good outlook

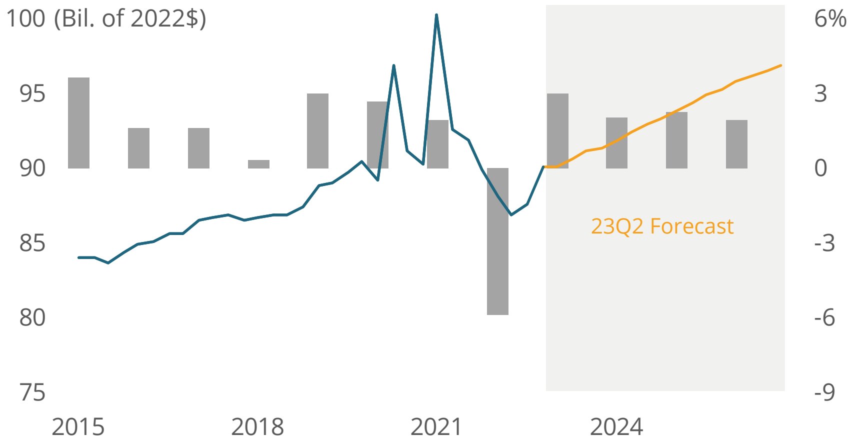
The past few months have seen both measurable progress for Hawaii's ongoing recovery and new risks. Improving conditions are evident in the labor market, where the excess of demand for labor has returned to normal levels. Most welcome has been the rapid continuing decline in inflation, which has been a major burden for Hawaii's households and businesses. Tourism remains strong, although overly reliant on US visitors. Despite the health of local banks, the tightening of credit conditions that has occurred nationally since the March failures of Silicon Valley Bank and Signature Bank threatens to constrain borrowing and spending. The anticipated slowing of the US and global economies will also weigh on growth in the Islands.

Despite heightened downside risks, we continue to see the path forward for Hawaii as better than for the nation as a whole. Odds are that the US economy will enter recession this year, although we now see that starting in the fourth quarter, rather than mid-year. Hawaii still looks likely to avoid recession itself, but the US downturn will mean some weakening of the domestic tourism market, one that Hawaii is now overly reliant on. Ongoing recovery of international markets will help to offset this, preventing a deeper falloff in tourism activity.

But we are now at a key moment. The Federal Reserve's campaign against inflation has been historically aggressive. We have felt the effects in real estate and housing, and they are being seen more acutely now in US manufacturing. Whispers of weakening are now being heard in the labor market, even as it retains considerable strength. Credit is now harder to get for some borrowers. At the same time, there remain areas of unexpected strength, particularly the American consumer, but on balance the economy is now on a slowing path. As always, the precise extent and timing of the macroeconomic cooling that will come from tighter monetary policy is unknown—and unknowable. Given the softening we are seeing and the clear progress reducing inflation, it is time for the Fed to stop. And it may already have gone too far, risking more than just the mild recession that we and many others foresee.

For Hawaii, one area of particular promise continues to be in the construction industry. Even as high rates and high prices challenge the residential market, some large projects will move forward. And an unusually large stock of public-sector projects promises to support construction employment—already at near-record levels—for the next half-decade. Surely high employment and construction costs will challenge the industry, but

REAL PERSONAL INCOME
The income losses from inflation and ending federal programs will begin to reverse.



from a macro perspective the timing of this construction cycle could not be better.

In past reports we have acknowledged the challenges that face Hawaii over the long run. Hawaii remains an expensive place to live and housing is in short supply. Together with an aging society, this will drag on population and labor force growth. As in the broader US and many other countries, this will also present big fiscal challenges. Climate change will have costly implications across the entire economy, even if the nature and magnitude of the impacts is hard to measure and harder to forecast.

Luckily, Hawaii remains a resilient place. We remain a top bucket list destination for people the world over. And despite the high cost of living, there is a strong local attachment to the Islands. We have a population diversity and cohesion that is the envy of other locales. And we have public, private, and nonprofit leaders who are serious about finding solutions to emerging challenges. Hard to be too pessimistic about the future given these many local advantages.

TABLE 1: MAJOR ECONOMIC INDICATORS

STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
Nonfarm Payrolls (Thou)	560.2	587.0	618.0	633.4	638.2	645.3
% Change	-14.9	4.8	5.3	2.5	0.8	1.1
Unemployment Rate (%)	11.8	6.0	3.5	3.9	4.2	3.6
Population (Thou)	1,451.0	1,447.2	1,440.2	1,438.6	1,439.1	1,440.6
% Change	-0.3	-0.3	-0.5	-0.1	0.0	0.1
Personal Income (Mil$)	83,109.4	87,918.6	88,099.2	92,980.4	96,920.3	101,354.9
% Change	4.3	5.8	0.2	5.5	4.2	4.6
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022$)	91,846.7	93,623.1	88,099.2	90,770.2	92,556.2	94,554.0
% Change	2.7	1.9	-5.9	3.0	2.0	2.2
Real Per Capita Income (Thou 2022$)	63.3	64.7	61.2	63.1	64.3	65.6
% Change	3.0	2.2	-5.4	3.1	1.9	2.1
Real GDP (Mil 2022$)	91,222.8	96,966.6	98,210.5	100,762.2	102,798.5	104,928.5
% Change	-11.6	6.3	1.3	2.6	2.0	2.1
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	2,708.3	6,777.0	9,247.8	9,836.8	9,725.1	9,883.9
% Change - Total Visitor Arrivals by Air	-73.9	150.2	36.5	6.4	-1.1	1.6
U.S. Visitors	1,987.3	6,468.9	7,759.8	7,640.1	7,117.7	7,009.7
% Change - U.S. Visitors	-71.1	225.5	20.0	-1.5	-6.8	-1.5
Japanese Visitors	289.1	18.9	199.8	586.2	886.7	1,062.7
% Change - Japanese Visitors	-81.7	-93.5	954.9	193.4	51.3	19.8
Other Visitors	403.3	289.1	1,288.3	1,610.6	1,720.7	1,811.5
% Change - Other Visitors	-79.2	-28.3	345.6	25.0	6.8	5.3
Visitor Days (Thou)	28,515.8	65,309.7	84,791.7	87,498.4	86,392.8	88,486.2
% Change	-68.2	129.0	29.8	3.2	-1.3	2.4
Average Daily Room Rate ($)	208.3	315.8	370.6	383.9	388.3	398.6
% Change	-26.3	51.6	17.3	3.6	1.2	2.7
Occupancy Rate (%)	31.7	57.1	73.7	73.6	72.7	74.7
Real Visitor Expenditures (Mil 2022$)	5,573.1	13,978.7	19,251.8	19,657.1	19,227.6	19,582.0
% Change	-71.9	150.8	37.7	2.1	-2.2	1.8

Note: Source is UHERO. Occupancy rate includes UHERO's estimate of TVR occupancy. Figures for 2023-2025 are forecasts.

TABLE 2: JOBS BY INDUSTRY

STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
Nonfarm Payrolls (Thou)	560.2	587.0	618.0	633.4	638.2	645.3
% Change	-14.9	4.8	5.3	2.5	0.8	1.1
Construction and Mining	36.8	37.1	37.4	39.7	40.5	41.2
% Change	-2.2	0.8	0.8	6.2	1.9	1.9
Manufacturing	12.0	12.1	12.5	12.7	12.8	13.1
% Change	-14.5	0.8	3.3	1.3	1.0	2.0
Trade	77.9	79.8	82.2	82.9	83.7	85.1
% Change	-13.2	2.5	3.0	0.9	0.9	1.7
Transportation and Utilities	27.5	29.7	32.8	34.5	34.9	35.3
% Change	-22.8	7.9	10.6	5.1	1.0	1.2
Finance, Insurance and Real Estate	27.3	27.3	27.8	27.7	27.8	28.0
% Change	-8.8	-0.3	1.8	-0.2	0.1	1.1
Services	257.5	280.8	304.6	315.1	316.5	319.2
% Change	-20.8	9.0	8.5	3.5	0.4	0.9
Health Care and Soc. Assistance	71.2	72.0	72.4	73.2	73.7	74.4
% Change	-3.3	1.2	0.5	1.2	0.7	0.9
Accommodation and Food	69.6	85.5	100.5	107.4	108.4	109.7
% Change	-38.4	22.8	17.5	6.9	0.9	1.2
Other	116.7	123.2	131.7	134.5	134.4	135.0
% Change	-15.8	5.6	6.9	2.1	-0.1	0.5
Government	121.1	120.3	120.7	120.7	122.1	123.4
% Change	-4.1	-0.7	0.4	0.0	1.1	1.1
Federal Government	35.1	34.7	34.7	34.8	34.9	35.1
% Change	2.4	-1.0	-0.1	0.2	0.3	0.6
State and Local Government	86.0	85.5	86.0	85.9	87.2	88.3
% Change	-6.5	-0.6	0.6	-0.1	1.5	1.2

Note: Source is UHERO. Figures for 2023-2025 are forecasts.

TABLE 3: PERSONAL INCOME BY INDUSTRY

STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
Real Personal Income (Mil 2022$)	91,846.7	93,623.1	88,099.2	90,770.2	92,556.2	94,554.0
% Change	2.7	1.9	-5.9	3.0	2.0	2.2
Labor & Proprietors' Income	59,615.5	61,657.7	61,626.5	63,525.7	65,039.1	66,568.6
% Change	-7.3	3.4	-0.1	3.1	2.4	2.4
Construction	5,110.2	5,011.4	4,823.5	5,125.5	5,310.9	5,478.7
% Change	-1.9	-1.9	-3.7	6.3	3.6	3.2
Manufacturing	1,047.0	1,045.5	1,047.9	1,073.5	1,092.1	1,121.3
% Change	-8.0	-0.1	0.2	2.4	1.7	2.7
Trade	4,948.3	5,131.1	5,247.0	5,514.9	5,680.9	5,827.7
% Change	-8.2	3.7	2.3	5.1	3.0	2.6
Transportation and Utilities	3,159.7	3,207.4	3,542.2	3,754.8	3,847.7	3,932.6
% Change	-13.7	1.5	10.4	6.0	2.5	2.2
Finance, Insurance & Real Estate	4,199.2	4,315.2	4,016.2	3,838.3	3,959.8	4,154.8
% Change	-4.1	2.8	-6.9	-4.4	3.2	4.9
Services	22,518.2	24,413.4	25,255.4	26,671.0	27,149.6	27,681.7
% Change	-14.1	8.4	3.4	5.6	1.8	2.0
Health Care & Soc. Assist. (% ch.)	4.5	0.1	-4.5	3.0	3.0	1.8
Accommodation & Food (% ch.)	-44.1	39.0	18.1	12.2	2.9	3.2
Other (% ch.)	-7.8	3.4	1.6	3.6	0.6	1.3
Government	18,312.0	18,191.8	17,072.0	17,180.7	17,625.7	17,995.6
% Change	1.9	-0.7	-6.2	0.6	2.6	2.1
Federal, civilian (% ch.)	2.3	-0.1	-4.2	1.2	1.3	1.1
State & Local (% ch.)	1.9	-3.6	-7.1	0.0	3.4	3.3
Less Social Security Taxes (-)	6,894.1	7,051.2	7,149.0	7,417.5	7,588.3	7,761.1
% Change	-6.1	2.3	1.4	3.8	2.3	2.3
Transfer Payments	21,356.4	21,585.9	16,486.4	17,606.3	17,990.4	18,402.3
% Change	49.8	1.1	-23.6	6.8	2.2	2.3
Dividends, Interest and Rent	17,768.9	17,430.8	17,135.2	17,056.2	17,116.1	17,345.2
% Change	-2.7	-1.9	-1.7	-0.5	0.4	1.3
Population (Thou)	1,451.0	1,447.2	1,440.2	1,438.6	1,439.1	1,440.6
% Change	-0.3	-0.3	-0.5	-0.1	0.0	0.1
Real Per Capita Income (Thou 2022$)	63.3	64.7	61.2	63.1	64.3	65.6
% Change	3.0	2.2	-5.4	3.1	1.9	2.1
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Nominal Personal Income (Mil. $)	83,109.4	87,918.6	88,099.2	92,980.4	96,920.3	101,354.9
% Change	4.3	5.8	0.2	5.5	4.2	4.6

Note: Source is UHERO. Figures for 2023-2025 are forecasts.

TABLE 4: CONSTRUCTION INDICATORS

STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
BUILDING PERMITS (Mil 2022$)						
Total Commitments to Build	6,906	14,535	9,590	7,619	8,578	8,495
% Change	55.0	110.5	-34.0	-20.6	12.6	-1.0
Real Private Building Permits	3,469	3,979	3,579	3,527	4,027	4,232
% Change	-5.8	14.7	-10.0	-1.5	14.2	5.1
Real Residential Building Permits	1,278	2,118	1,797	1,440	1,844	1,991
% Change	-7.8	65.8	-15.1	-19.9	28.0	7.9
Real Non-Residential Building Permits	2,191	1,861	1,782	2,087	2,182	2,241
% Change	-4.6	-15.1	-4.2	17.1	4.6	2.7
Real Government Contracts Awarded	3,438	2,147	3,520	4,092	4,551	4,263
% Change	345.4	-37.6	64.0	16.3	11.2	-6.3
CONSTRUCTION ACTIVITY						
Real GE Contracting Tax Base (Mil 2022$)	10,837	10,590	10,678	11,576	12,645	13,325
% Change	-1.6	-2.3	0.8	8.4	9.2	5.4
Nominal GE Contracting Tax Base (Mil $)	9,712	9,973	10,678	12,245	13,941	15,218
% Change	0.8	2.7	7.1	14.7	13.9	9.2
Construction Job Count (Thou)	36.8	37.1	37.4	39.7	40.5	41.2
% Change	-2.2	0.8	0.8	6.2	1.9	1.9
Real Construction Income (Mil 2022$)	5,110	5,011	4,823	5,126	5,311	5,479
% Change	-1.9	-1.9	-3.7	6.3	3.6	3.2
PRICES & COSTS (HONOLULU)						
Honolulu Median Home Price (Thou $)	822.6	987.3	1102.0	1,026.3	1,040.7	1,088.9
% Change	4.1	20.0	11.6	-6.9	1.4	4.6
Honolulu Median Condominium Price (Thou $)	432.6	470.6	506.5	482.6	487.7	513.0
% Change	1.2	8.8	7.6	-4.7	1.0	5.2
Honolulu Housing Affordability Index	92.3	81.7	57.0	58.1	61.8	62.6
% Change	8.5	-11.5	-30.2	1.9	6.4	1.2
Honolulu Construction Cost Index (2022=100)	89.6	94.2	100.0	105.8	110.2	114.2
% Change	2.5	5.1	6.2	5.8	4.2	3.6
30-Year Mortgage Rate (%)	3.1	3.0	5.3	6.1	5.8	5.6

Note: Source is UHERO. Figures for 2023-2025 are forecasts. Commitments to Build are the sum of private permits and public contracts awarded. Figures for Total Commitments to Build and Real Government Contracts Awarded for 2020-2022 are UHERO estimates. Permits and tax base are deflated by Honolulu Construction Cost Index. Income is deflated by Honolulu CPI. Housing affordability index is the ratio of median family income to qualifying income for a loan for the median-priced home (times 100).

TABLE 5: MAJOR ECONOMIC INDICATOR SUMMARY

HONOLULU COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	411.8	424.3	444.7	455.6	458.4	463.3
% Change	-13.1	3.0	4.8	2.4	0.6	1.1
Unemployment Rate (%)	10.3	5.6	3.3	3.8	4.1	3.5
Population (Thou)	1,012.3	1,004.7	995.6	993.1	992.3	992.4
% Change	-0.4	-0.8	-0.9	-0.3	-0.1	0.0
Personal Income (Mil $)	60,909.1	63,968.6	63,846.6	67,174.1	69,993.7	73,221.9
% Change	3.9	5.0	-0.2	5.2	4.2	4.6
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022 $)	67,312.4	68,119.1	63,846.6	65,577.4	66,842.1	68,308.7
% Change	2.3	1.2	-6.3	2.7	1.9	2.2
Real Per Capita Income (Thou 2022 $)	66.5	67.8	64.1	66.0	67.4	68.8
% Change	2.7	2.0	-5.4	3.0	2.0	2.2
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	1,506.2	3,326.2	4,864.7	5,565.8	5,647.2	5,816.4
% Change - Total Visitor Arrivals by Air	-75.5	120.8	46.3	14.4	1.5	3.0
U.S. Visitors	1,024.3	3,142.0	3,836.3	3,828.7	3,542.3	3,467.2
% Change - U.S. Visitors	-69.0	206.7	22.1	-0.2	-7.5	-2.1
Japanese Visitors	269.4	18.0	193.6	585.2	859.5	1,026.4
% Change - Japanese Visitors	-82.0	-93.3	975.3	202.4	46.9	19.4
Other Visitors	273.9	166.2	834.9	1,151.9	1,245.5	1,322.8
% Change - Other Visitors	-79.5	-39.3	402.3	38.0	8.1	6.2
Visitor Days (Thou)	12,829.5	26,897.4	36,203.7	39,229.5	39,002.0	39,830.9
% Change	-69.3	109.7	34.6	8.4	-0.6	2.1
Occupancy Rate (%)	32.8	54.9	75.4	77.1	76.7	78.9

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 6: JOBS BY DETAILED SECTOR
HONOLULU COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	411.8	424.3	444.7	455.6	458.4	463.3
% Change	-13.1	3.0	4.8	2.4	0.6	1.1
Construction and Mining	26.8	27.0	27.0	28.6	29.1	29.7
% Change	-1.6	0.7	0.0	6.0	1.6	2.1
Manufacturing	9.4	9.2	9.2	9.3	9.4	9.7
% Change	-14.4	-2.7	0.4	1.1	1.6	2.7
Trade	53.6	54.4	56.1	56.1	56.7	57.9
% Change	-13.8	1.5	3.1	0.0	1.0	2.1
Transportation and Utilities	20.9	21.6	23.8	25.2	25.5	25.8
% Change	-20.4	3.3	10.3	5.7	1.2	1.3
Finance, Insurance and Real Estate	21.6	21.2	21.3	21.3	21.3	21.5
% Change	-5.9	-1.9	0.3	0.1	0.0	0.9
Services	186.2	198.3	214.3	222.2	222.4	223.9
% Change	-18.1	6.5	8.1	3.6	0.1	0.7
Health Care and Soc. Assistance	52.9	53.8	54.5	54.9	55.2	55.7
% Change	-2.8	1.8	1.2	0.8	0.5	0.9
Accommodation and Food	43.1	49.9	59.4	65.0	65.3	65.7
% Change	-36.2	16.0	18.9	9.6	0.3	0.7
Other	90.2	94.1	100.2	102.3	102.0	102.5
% Change	-14.5	4.4	6.5	2.1	-0.3	0.5
Government	93.2	92.6	93.0	92.9	93.9	94.9
% Change	-3.9	-0.6	0.4	-0.1	1.1	1.0
Federal Government	32.2	32.0	31.9	32.1	32.2	32.3
% Change	2.3	-0.8	-0.1	0.6	0.2	0.5
State and Local Government	61.0	60.7	61.1	60.8	61.8	62.5
% Change	-6.9	-0.5	0.6	-0.4	1.6	1.3

Note: Source is UHERO. Figures for 2023 - 2025 are forecasts.

TABLE 7: PERSONAL INCOME BY DETAILED SECTOR

HONOLULU COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Real Personal Income (Mil 2022 $)	67,312.4	68,119.1	63,846.6	65,577.4	66,842.1	68,308.7
% Change	2.3	1.2	-6.3	2.7	1.9	2.2
Labor & Proprietors' Income	45,902.1	46,792.4	46,112.4	47,604.8	48,621.6	49,702.5
% Change	-5.8	1.9	-1.5	3.2	2.1	2.2
Construction	3,797.3	3,701.8	3,525.5	3,744.4	3,872.0	4,001.2
% Change	-1.1	-2.5	-4.8	6.2	3.4	3.3
Manufacturing	841.7	813.4	794.0	811.2	829.1	857.0
% Change	-8.3	-3.4	-2.4	2.2	2.2	3.4
Trade	3,420.8	3,497.0	3,555.5	3,666.3	3,767.6	3,870.1
% Change	-9.6	2.2	1.7	3.1	2.8	2.7
Transportation and Utilities	2,504.2	2,494.0	2,742.3	2,916.4	2,994.0	3,066.6
% Change	-12.2	-0.4	10.0	6.4	2.7	2.4
Finance, Insurance & Real Estate	3,214.6	3,291.4	3,031.6	2,910.3	2,994.2	3,134.6
% Change	-7.1	2.4	-7.9	-4.0	2.9	4.7
Services	16,685.8	17,620.1	17,919.8	18,874.9	19,144.2	19,489.1
% Change	-10.8	5.6	1.7	5.3	1.4	1.8
Health Care & Soc. Assist. (% ch.)	4.5	0.7	-3.7	2.4	2.8	2.0
Accommodation & Food (% ch.)	-42.1	29.8	18.6	14.7	2.2	2.7
Other (% ch.)	-6.6	1.1	1.3	3.6	0.4	1.3
Government	15,336.4	15,303.6	14,432.2	14,565.2	14,903.4	15,166.2
% Change	1.7	-0.2	-5.7	0.9	2.3	1.8
Federal, civilian (% ch.)	2.2	-0.1	-4.2	1.6	1.2	1.1
State & Local (% ch.)	1.3	-3.5	-6.2	0.2	3.0	2.9
Less Social Security Taxes (-)	5,284.9	5,365.9	5,367.3	5,573.4	5,688.1	5,811.0
% Change	-4.7	1.5	0.0	3.8	2.1	2.2
Transfer Payments	13,979.2	14,243.1	10,955.8	11,664.0	11,920.8	12,193.7
% Change	46.6	1.9	-23.1	6.5	2.2	2.3
Dividends, Interest and Rent	12,774.9	12,502.0	12,275.0	12,174.9	12,236.7	12,413.5
% Change	-2.8	-2.1	-1.8	-0.8	0.5	1.4
Population (Thou)	1,012.3	1,004.7	995.6	993.1	992.3	992.4
% Change	-0.4	-0.8	-0.9	-0.3	-0.1	0.0
Real Per Capita Income (Thou 2022 $)	66.5	67.8	64.1	66.0	67.4	68.8
% Change	2.7	2.0	-5.4	3.0	2.0	2.2
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Nominal Personal Income (Mil $)	60,909.1	63,968.6	63,846.6	67,174.1	69,993.7	73,221.9
% Change	3.9	5.0	-0.2	5.2	4.2	4.6

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 8: MAJOR ECONOMIC INDICATOR SUMMARY
HAWAII COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	60.8	64.9	68.1	70.2	71.1	72.1
% Change	-14.2	6.7	5.0	3.0	1.4	1.4
Unemployment Rate (%)	11.5	5.8	3.5	4.2	4.3	3.9
Population (Thou)	200.7	203.8	206.3	207.3	208.3	209.1
% Change	0.4	1.5	1.2	0.5	0.5	0.4
Personal Income (Mil $)	9,448.6	10,153.0	10,163.6	10,908.6	11,389.3	11,927.4
% Change	8.4	7.5	0.1	7.3	4.4	4.7
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022 $)	10,441.9	10,811.7	10,163.6	10,649.3	10,876.5	11,127.1
% Change	6.8	3.5	-6.0	4.8	2.1	2.3
Real Per Capita Income (Thou 2022 $)	52.0	53.1	49.3	51.4	52.2	53.2
% Change	6.3	2.0	-7.1	4.3	1.6	1.9
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	482.0	1,183.5	1,674.2	1,767.1	1,769.4	1,827.3
% Change - Total Visitor Arrivals by Air	-73.0	145.5	41.5	5.5	0.1	3.3
U.S. Visitors	381.3	1,137.2	1,447.2	1,405.0	1,341.6	1,349.4
% Change - U.S. Visitors	-69.7	198.2	27.3	-2.9	-4.5	0.6
Japanese Visitors	35.5	1.0	16.2	56.5	102.6	133.5
% Change - Japanese Visitors	-79.2	-97.2	1,516.9	249.8	81.5	30.1
Other Visitors	70.9	45.3	210.9	305.6	325.2	344.4
% Change - Other Visitors	-79.0	-36.1	365.5	44.9	6.4	5.9
Visitor Days (Thou)	4,584.8	10,964.9	13,846.9	13,733.9	13,409.5	13,697.8
% Change	-64.9	139.2	26.3	-0.8	-2.4	2.2
Occupancy Rate (%)	34.2	60.8	74.9	72.0	70.6	72.2

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 9: JOBS BY DETAILED SECTOR
HAWAII COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	60.8	64.9	68.1	70.2	71.1	72.1
% Change	-14.2	6.7	5.0	3.0	1.4	1.4
Construction and Mining	3.6	3.7	3.8	4.1	4.2	4.2
% Change	-5.0	1.6	3.1	7.4	2.7	1.4
Manufacturing	1.3	1.4	1.5	1.6	1.6	1.6
% Change	-9.1	12.0	5.4	8.7	-0.3	0.1
Trade	10.6	11.1	11.2	11.7	11.8	11.9
% Change	-8.0	4.7	0.9	4.2	0.8	1.2
Transportation and Utilities	2.5	2.9	3.0	3.2	3.2	3.2
% Change	-23.3	15.5	5.4	4.3	0.9	1.2
Finance, Insurance and Real Estate	2.3	2.4	2.5	2.5	2.5	2.6
% Change	-13.6	2.3	5.1	-0.5	0.8	1.6
Services	26.3	29.5	31.8	32.7	33.2	33.7
% Change	-20.9	12.4	7.7	2.9	1.5	1.5
Health Care and Soc. Assistance	7.5	7.5	7.4	7.6	7.7	7.7
% Change	-5.5	0.5	-1.7	2.4	1.3	1.3
Accommodation and Food	8.3	10.8	12.4	13.0	13.2	13.5
% Change	-35.8	30.2	15.3	4.3	2.2	2.3
Other	10.5	11.3	12.0	12.2	12.3	12.4
% Change	-15.2	6.8	6.6	1.6	0.8	0.8
Government	14.4	14.1	14.4	14.5	14.7	14.9
% Change	-4.2	-1.9	2.0	0.8	1.5	1.3
Federal Government	1.4	1.2	1.3	1.3	1.3	1.3
% Change	4.5	-9.8	4.4	-0.3	1.2	1.4
State and Local Government	13.0	12.8	13.1	13.2	13.4	13.6
% Change	-5.1	-1.1	1.8	0.9	1.5	1.3

Note: Source is UHERO. Figures for 2023 - 2025 are forecasts.

TABLE 10: PERSONAL INCOME BY DETAILED SECTOR

HAWAII COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Real Personal Income (Mil 2022 $)	10,441.9	10,811.7	10,163.6	10,649.3	10,876.5	11,127.1
% Change	6.8	3.5	-6.0	4.8	2.1	2.3
Labor & Proprietors' Income	5,482.6	5,820.0	6,024.0	6,210.1	6,422.2	6,611.9
% Change	-6.0	6.2	3.5	3.1	3.4	3.0
Construction	—	431.9	—	—	—	—
% Change	—	—	—	—	—	—
Manufacturing	—	100.7	—	—	—	—
% Change	—	—	—	—	—	—
Trade	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Transportation and Utilities	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Finance, Insurance & Real Estate	320.0	315.4	—	—	—	—
% Change	—	-1.4	—	—	—	—
Services	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Health Care & Soc. Assist. (% ch.)	—	—	—	—	—	—
Accommodation & Food (% ch.)	—	—	—	—	—	—
Other (% ch.)	—	—	—	—	—	—
Government	1,485.7	1,440.9	1,349.0	1,339.0	1,397.2	1,455.1
% Change	3.0	-3.0	-6.4	-0.7	4.3	4.1
Federal, civilian (% ch.)	3.5	-0.7	0.0	-3.3	2.0	1.5
State & Local (% ch.)	3.0	-3.6	-7.4	-0.5	4.7	4.7
Less Social Security Taxes (-)	655.6	709.6	746.5	778.1	805.1	829.0
% Change	-4.5	8.2	5.2	4.2	3.5	3.0
Transfer Payments	3,384.8	3,507.5	2,720.2	2,926.3	2,993.2	3,064.4
% Change	42.9	3.6	-22.4	7.6	2.3	2.4
Dividends, Interest and Rent	2,196.5	2,162.8	2,135.9	2,165.6	2,172.1	2,201.2
% Change	-1.5	-1.5	-1.2	1.4	0.3	1.3
Population (Thou)	200.7	203.8	206.3	207.3	208.3	209.1
% Change	0.4	1.5	1.2	0.5	0.5	0.4
Real Per Capita Income (Thou 2022 $)	52.0	53.1	49.3	51.4	52.2	53.2
% Change	6.3	2.0	-7.1	4.3	1.6	1.9
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Nominal Personal Income (Mil $)	9,448.6	10,153.0	10,163.6	10,908.6	11,389.3	11,927.4
% Change	8.4	7.5	0.1	7.3	4.4	4.7

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 11: MAJOR ECONOMIC INDICATOR SUMMARY

MAUI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	61.2	69.6	74.4	76.1	76.9	77.7
% Change	-23.9	13.7	6.9	2.3	1.0	1.1
Unemployment Rate (%)	18.2	7.6	4.0	3.9	4.3	3.9
Population (Thou)	164.8	164.9	164.4	164.4	164.6	165.0
% Change	-0.1	0.0	-0.3	0.0	0.1	0.2
Personal Income (Mil $)	8,827.7	9,615.1	9,889.6	10,460.7	10,929.1	11,383.4
% Change	2.4	8.9	2.9	5.8	4.5	4.2
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022 $)	9,755.7	10,238.9	9,889.6	10,212.0	10,437.0	10,619.6
% Change	0.8	5.0	-3.4	3.3	2.2	1.8
Real Per Capita Income (Thou 2022 $)	59.2	62.1	60.1	62.1	63.4	64.4
% Change	0.8	4.9	-3.1	3.3	2.1	1.5
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	844.8	2,340.9	2,959.6	3,045.1	3,009.4	3,109.4
% Change - Total Visitor Arrivals by Air	-72.9	177.1	26.4	2.9	-1.2	3.3
U.S. Visitors	726.0	2,239.4	2,562.9	2,551.6	2,484.5	2,553.6
% Change - U.S. Visitors	-70.8	208.4	14.4	-0.4	-2.6	2.8
Japanese Visitors	8.3	0.8	6.0	13.6	18.9	23.1
% Change - Japanese Visitors	-83.0	-90.6	676.2	125.4	39.6	22.2
Other Visitors	115.7	100.7	390.6	480.0	506.0	532.6
% Change - Other Visitors	-79.8	-12.9	287.7	22.9	5.4	5.3
Visitor Days (Thou)	7,754.3	20,442.3	24,278.9	24,213.6	23,931.8	24,729.0
% Change	-68.7	163.6	18.8	-0.3	-1.2	3.3
Occupancy Rate (%)	27.9	59.9	67.7	67.5	67.0	69.3

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 12: JOBS BY DETAILED SECTOR

MAUI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	61.2	69.6	74.4	76.1	76.9	77.7
% Change	-23.9	13.7	6.9	2.3	1.0	1.1
Construction and Mining	4.4	4.3	4.5	4.8	4.9	5.0
% Change	-2.0	-2.6	4.8	7.3	2.5	1.3
Manufacturing	1.0	1.0	1.1	1.2	1.2	1.2
% Change	-20.1	4.4	11.6	4.5	-0.5	0.0
Trade	9.7	10.3	10.3	10.7	10.7	10.8
% Change	-15.9	6.2	0.0	3.8	0.4	0.9
Transportation and Utilities	2.9	3.7	4.1	4.4	4.4	4.4
% Change	-34.6	27.3	10.5	5.7	0.7	1.1
Finance, Insurance and Real Estate	2.4	2.7	2.9	2.9	2.9	3.0
% Change	-22.8	12.5	6.2	1.4	0.7	1.4
Services	32.1	39.0	42.6	43.7	44.2	44.7
% Change	-31.0	21.6	9.3	2.5	1.1	1.2
Health Care and Soc. Assistance	8.0	8.0	8.0	8.1	8.2	8.3
% Change	-3.7	0.2	0.0	1.6	0.9	1.0
Accommodation and Food	13.0	18.1	20.2	21.0	21.4	21.8
% Change	-44.4	38.8	11.9	3.9	1.6	1.8
Other	11.1	12.9	14.4	14.5	14.6	14.7
% Change	-25.2	16.7	11.6	1.0	0.3	0.4
Government	8.8	8.7	8.5	8.5	8.6	8.7
% Change	-4.4	-1.0	-1.5	-0.2	1.1	1.1
Federal Government	0.9	0.8	0.8	0.8	0.8	0.8
% Change	0.0	-5.3	-0.6	-6.4	1.1	1.3
State and Local Government	7.9	7.8	7.7	7.7	7.8	7.9
% Change	-4.8	-0.6	-1.6	0.5	1.1	1.0

Note: Source is UHERO. Figures for 2023 - 2025 are forecasts.

TABLE 13: PERSONAL INCOME BY DETAILED SECTOR

MAUI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Real Personal Income (Mil 2022 $)	9,755.7	10,238.9	9,889.6	10,212.0	10,437.0	10,619.6
% Change	0.8	5.0	-3.4	3.3	2.2	1.8
Labor & Proprietors' Income	5,738.2	6,457.8	6,738.8	6,893.9	7,096.5	7,280.4
% Change	-16.4	12.5	4.4	2.3	2.9	2.6
Construction	607.4	592.3	600.9	628.6	648.0	660.4
% Change	-1.6	-2.5	1.5	4.6	3.1	1.9
Manufacturing	84.1	87.4	94.1	100.1	101.6	103.1
% Change	-3.0	3.9	7.7	6.3	1.5	1.5
Trade	604.5	656.6	633.7	669.0	691.6	714.8
% Change	-9.9	8.6	-3.5	5.6	3.4	3.4
Transportation and Utilities	282.0	315.9	343.8	366.6	376.9	387.1
% Change	-20.1	12.0	8.9	6.6	2.8	2.7
Finance, Insurance & Real Estate	479.0	518.1	530.2	529.8	536.7	544.5
% Change	5.9	8.2	2.3	-0.1	1.3	1.5
Services	2,725.6	3,360.0	3,600.1	3,699.4	3,818.0	3,926.7
% Change	-27.2	23.3	7.1	2.8	3.2	2.8
Health Care & Soc. Assist. (% ch.)	2.8	-0.6	-2.5	1.8	3.0	2.5
Accommodation & Food (% ch.)	-49.4	58.6	10.8	4.8	4.2	3.9
Other (% ch.)	-17.0	15.2	8.5	1.0	2.1	1.8
Government	935.1	899.8	808.3	799.2	830.5	862.1
% Change	2.6	-3.8	-10.2	-1.1	3.9	3.8
Federal, civilian (% ch.)	0.7	0.3	-7.5	-4.3	2.0	1.5
State & Local (% ch.)	2.8	-4.6	-10.7	-0.8	4.3	4.4
Less Social Security Taxes (-)	663.2	672.1	716.0	739.4	759.3	776.7
% Change	-15.0	1.4	6.5	3.3	2.7	2.3
Transfer Payments	2,710.8	2,506.1	1,864.0	2,001.8	2,041.0	2,085.4
% Change	73.9	-7.6	-25.6	7.4	2.0	2.2
Dividends, Interest and Rent	1,936.4	1,916.6	1,896.8	1,894.2	1,887.6	1,902.7
% Change	-3.2	-1.0	-1.0	-0.1	-0.3	0.8
Population (Thou)	164.8	164.9	164.4	164.4	164.6	165.0
% Change	-0.1	0.0	-0.3	0.0	0.1	0.2
Real Per Capita Income (Thou 2022 $)	59.2	62.1	60.1	62.1	63.4	64.4
% Change	0.8	4.9	-3.1	3.3	2.1	1.5
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Nominal Personal Income (Mil $)	8,827.7	9,615.1	9,889.6	10,460.7	10,929.1	11,383.4
% Change	2.4	8.9	2.9	5.8	4.5	4.2

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 14: MAJOR ECONOMIC INDICATOR SUMMARY

KAUAI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	26.3	28.2	30.7	31.5	31.8	32.1
% Change	-21.0	7.1	8.9	2.4	1.0	1.1
Unemployment Rate (%)	16.4	8.1	4.2	3.8	4.0	3.7
Population (Thou)	73.2	73.8	73.8	73.8	73.9	74.1
% Change	-0.3	0.8	0.0	0.0	0.1	0.2
Personal Income (Mil $)	3,924.2	4,121.0	4,199.4	4,437.0	4,608.2	4,822.2
% Change	5.5	5.0	1.9	5.7	3.9	4.6
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Real Personal Income (Mil 2022 $)	4,336.7	4,388.4	4,199.4	4,331.5	4,400.7	4,498.6
% Change	3.8	1.2	-4.3	3.1	1.6	2.2
Real Per Capita Income (Thou 2022 $)	59.3	59.5	56.9	58.7	59.5	60.7
% Change	4.1	0.4	-4.3	3.2	1.4	2.0
TOURISM SECTOR DETAIL						
Total Visitor Arrivals by Air (Thou)	339.0	813.6	1,345.3	1,396.6	1,361.5	1,385.9
% Change - Total Visitor Arrivals by Air	-75.4	140.0	65.3	3.8	-2.5	1.8
U.S. Visitors	295.4	785.1	1,207.1	1,221.9	1,170.8	1,176.8
% Change - U.S. Visitors	-74.2	165.8	53.8	1.2	-4.2	0.5
Japanese Visitors	3.6	0.4	3.0	8.1	12.5	15.6
% Change - Japanese Visitors	-85.7	-90.0	718.7	175.0	54.1	24.2
Other Visitors	42.9	28.2	135.2	166.5	178.2	193.6
% Change - Other Visitors	-79.4	-34.2	379.5	23.1	7.0	8.7
Visitor Days (Thou)	2,859.6	7,005.8	10,460.2	10,321.4	10,049.5	10,228.5
% Change	-71.7	145.0	49.3	-1.3	-2.6	1.8
Occupancy Rate (%)	30.6	57.0	78.3	78.8	75.9	76.9

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts.

TABLE 15: JOBS BY DETAILED SECTOR
KAUAI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Non-farm Payrolls (Thou)	26.3	28.2	30.7	31.5	31.8	32.1
% Change	-21.0	7.1	8.9	2.4	1.0	1.1
Construction and Mining	2.0	2.1	2.1	2.2	2.3	2.3
% Change	-6.0	4.8	2.6	6.6	2.5	1.2
Manufacturing	0.4	0.5	0.6	0.6	0.6	0.6
% Change	-16.7	12.0	23.2	8.9	-0.5	0.0
Trade	3.9	4.1	4.3	4.4	4.5	4.5
% Change	-14.8	5.1	4.9	3.3	0.4	0.9
Transportation and Utilities	1.1	1.4	1.7	1.8	1.8	1.8
% Change	-29.2	20.6	22.3	6.6	0.6	1.0
Finance, Insurance and Real Estate	1.0	1.0	1.0	1.0	1.0	1.0
% Change	-18.6	-2.8	6.9	-2.7	0.7	1.5
Services	12.9	14.0	16.1	16.6	16.7	17.0
% Change	-29.2	8.2	15.4	2.9	1.0	1.2
Health Care and Soc. Assistance	2.8	2.8	2.6	2.7	2.7	2.7
% Change	-4.5	-0.7	-6.3	1.1	1.0	1.0
Accommodation and Food	5.2	6.2	8.1	8.4	8.6	8.7
% Change	-43.9	19.2	29.3	4.5	1.5	1.8
Other	4.9	4.9	5.4	5.5	5.5	5.5
% Change	-18.6	1.6	10.1	1.3	0.3	0.4
Government	5.1	4.9	4.8	4.8	4.9	4.9
% Change	-1.5	-2.6	-1.9	-0.5	1.1	1.1
Federal Government	0.6	0.6	0.6	0.6	0.6	0.6
% Change	7.4	0.6	-4.4	-0.6	1.0	1.3
State and Local Government	4.4	4.3	4.2	4.2	4.3	4.3
% Change	-2.6	-3.0	-1.5	-0.5	1.1	1.0

Note: Source is UHERO. Figures for 2023 - 2025 are forecasts.

TABLE 16: PERSONAL INCOME BY DETAILED SECTOR

KAUAI COUNTY FORECAST

	2020	2021	2022	2023	2024	2025
Real Personal Income (Mil 2022 $)	4,336.7	4,388.4	4,199.4	4,331.5	4,400.7	4,498.6
% Change	3.8	1.2	-4.3	3.1	1.6	2.2
Labor & Proprietors' Income	2,487.2	2,609.0	2,751.4	2,817.0	2,898.7	2,973.8
% Change	-12.4	4.9	5.5	2.4	2.9	2.6
Construction	—	285.0	—	—	—	—
% Change	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Trade	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Transportation and Utilities	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Finance, Insurance & Real Estate	185.7	189.7	—	—	—	—
% Change	—	2.2	—	—	—	—
Services	—	—	—	—	—	—
% Change	—	—	—	—	—	—
Health Care & Soc. Assist. (% ch.)	—	—	—	—	—	—
Accommodation & Food (% ch.)	—	—	—	—	—	—
Other (% ch.)	—	—	—	—	—	—
Government	555.0	540.0	482.8	477.5	494.9	512.5
% Change	4.7	-2.7	-10.6	-1.1	3.7	3.6
Federal, civilian (% ch.)	5.5	3.6	-8.0	-4.6	2.0	1.5
State & Local (% ch.)	4.8	-4.3	-11.1	-0.6	4.1	4.1
Less Social Security Taxes (-)	289.5	306.1	319.2	326.6	335.9	344.4
% Change	-11.4	5.7	4.3	2.3	2.9	2.5
Transfer Payments	1,287.0	1,246.7	946.4	1,014.2	1,035.3	1,058.9
% Change	62.1	-3.1	-24.1	7.2	2.1	2.3
Dividends, Interest and Rent	860.3	847.9	827.6	821.5	819.7	827.8
% Change	-2.7	-1.4	-2.4	-0.7	-0.2	1.0
Population (Thou)	73.2	73.8	73.8	73.8	73.9	74.1
% Change	-0.3	0.8	0.0	0.0	0.1	0.2
Real Per Capita Income (Thou 2022 $)	59.3	59.5	56.9	58.7	59.5	60.7
% Change	4.1	0.4	-4.3	3.2	1.4	2.0
Inflation Rate, Honolulu MSA (%)	1.6	3.8	6.5	2.4	2.2	2.4
Nominal Personal Income (Mil $)	3,924.2	4,121.0	4,199.4	4,437.0	4,608.2	4,822.2
% Change	5.5	5.0	1.9	5.7	3.9	4.6

Note: Source is UHERO. Income figures for 2022 are UHERO estimates. Figures for 2023 - 2025 are forecasts. Because of data disclosure rules, industry-level income is not available for some sectors.

TABLE 17: EXTERNAL INDICATORS

STATE OF HAWAII FORECAST

	2020	2021	2022	2023	2024	2025
U.S. FACTORS						
Employment (Thou)	147,794.8	152,580.7	158,291.1	160,362.3	159,629.3	161,171.5
% Change	-6.2	3.2	3.7	1.3	-0.5	1.0
Unemployment Rate (%)	8.1	5.4	3.7	3.8	4.9	4.6
Inflation Rate (%)	1.3	4.7	8.0	4.2	2.9	2.7
Real GDP (Bil chained 2012$)	18,509.1	19,609.8	20,014.1	20,319.8	20,390.7	20,893.9
% Change	-2.8	5.9	2.1	1.5	0.3	2.5
Population (Thou)	331,788.0	332,351.0	333,595.0	335,213.1	336,615.8	337,954.4
% Change	0.4	0.2	0.4	0.5	0.4	0.4
JAPAN FACTORS						
Employment (Thou)	66,765.8	66,665.8	67,225.8	67,220.7	66,880.8	66,499.4
% Change	-0.7	-0.2	0.8	0.0	-0.5	-0.6
Unemployment Rate (%)	2.8	2.8	2.6	2.5	2.5	2.4
Inflation Rate (%)	0.0	-0.2	2.5	3.2	1.8	1.1
Real GDP (Bil chained 2011 yen)	526,957.9	535,922.5	542,985.6	546,241.2	548,297.5	553,681.4
% Change	-4.7	1.7	1.3	0.6	0.4	1.0
Population (Thou)	126,261.0	125,681.6	125,053.3	124,393.2	123,728.7	123,058.2
% Change	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5
Exchange Rate (Yen/$)	106.8	109.8	131.5	132.5	127.1	120.4

Note: Source is UHERO. Figures for 2023-2025 are forecasts.

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