

Baseline Assumptions (Scenarios to follow)  
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A significant part of Hawaii's economy is effectively shut down to slow the spread of the coronavirus in the Islands. The mandatory fourteen-day self-quarantine requirement for arriving visitors and residents has essentially put a stop to tourism, and the stay-at-home order for all non-essential workers has shuttered many businesses. The unprecedented pause in economic activity, even if necessary to halt the virus spread, has had a profound negative impact on Hawaii, with a sharp drop in spending, employment, and income. The key question for us as we look forward is how rapidly economic conditions will improve as the positive effects of government relief measures are felt and as restrictions are gradually eased over the coming weeks or months.

Before attempting to establish reasonable scenarios for the economy's future path, we need to have a good understanding of where we are now. In fact, this is tricky. The impact of the precipitous changes of recent weeks is difficult to assess, because most official government statistics are released with a considerable delay. But a limited number of available metrics and reasonable assumptions about exposure to shut-down restrictions can be used to gauge the extent and distribution of losses we have experienced so far. Airline passengers to the state declined from more than 30,000 per day to an economically negligible 500 per day recently. Reservations at restaurants dropped even before mandatory rules brought them to zero, and a sharp [reduction in resident's mobility](#) suggests that activity across a broad swath of the economy has declined to less than half its pre-crisis level.

Job losses due to COVID19 accumulated during late March and April, with [initial claims for unemployment](#) compensation surging by 175,000 during this period. This represents 26% of the February [labor force](#). The number of layoffs differs across industries depending on their exposure to the two main channels of COVID19 impacts: 1) the halt to tourism and 2) the stay-at-home order for local residents. Industries that predominantly cater to visitors (for example, accommodations) are primarily affected by the first channel, but most industries are affected to varying degrees through both channels. Since the available unemployment claims data do not provide industry or occupation identifiers, we must make assumptions about the distribution of job losses across sectors, taking into account their sensitivity to the decline in tourism and the stay-at-home order. These assumptions are informed by results from a recent survey UHERO conducted with the Chamber of Commerce Hawaii and other organizations.<sup>1</sup>

Because most COVID19-related job losses occurred after the BLS/DLIR surveyed local establishments in March, the number of non-farm payroll jobs reported for the first quarter remained relatively stable. We estimate that job losses peaked at about 212,000 in April, with

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<sup>1</sup>Thanks to Chamber of Commerce Hawaii, The Hawaii Island, Kauai and Maui Chambers of Commerce, The Retail Merchants Association of Hawaii, the Pacific Resource Partnership, Hawaii State Bar Association, Hawaii Restaurant Association, the Chinese Chamber, Kalihi Business Association, and the Hawaii Food Manufacturing Association for help promoting the survey.

about 113,000 of those job losses attributable to the tourism halt and the remaining 99,000 jobs resulting from the stay-at-home order.<sup>2</sup> During May and June, the labor market will benefit from the forgivable Small Business Administration loans provided under the Paycheck Protection Program (PPP). The maximum amount of these loans is equivalent to 2.5 months worth of payroll costs, and the covered period is eight weeks. The terms of the loan require that not more than 25% of the forgiven amount may be used to cover non-payroll costs. This implies that 75% of the loan is used for personnel costs, and the remainder for other business expenses.

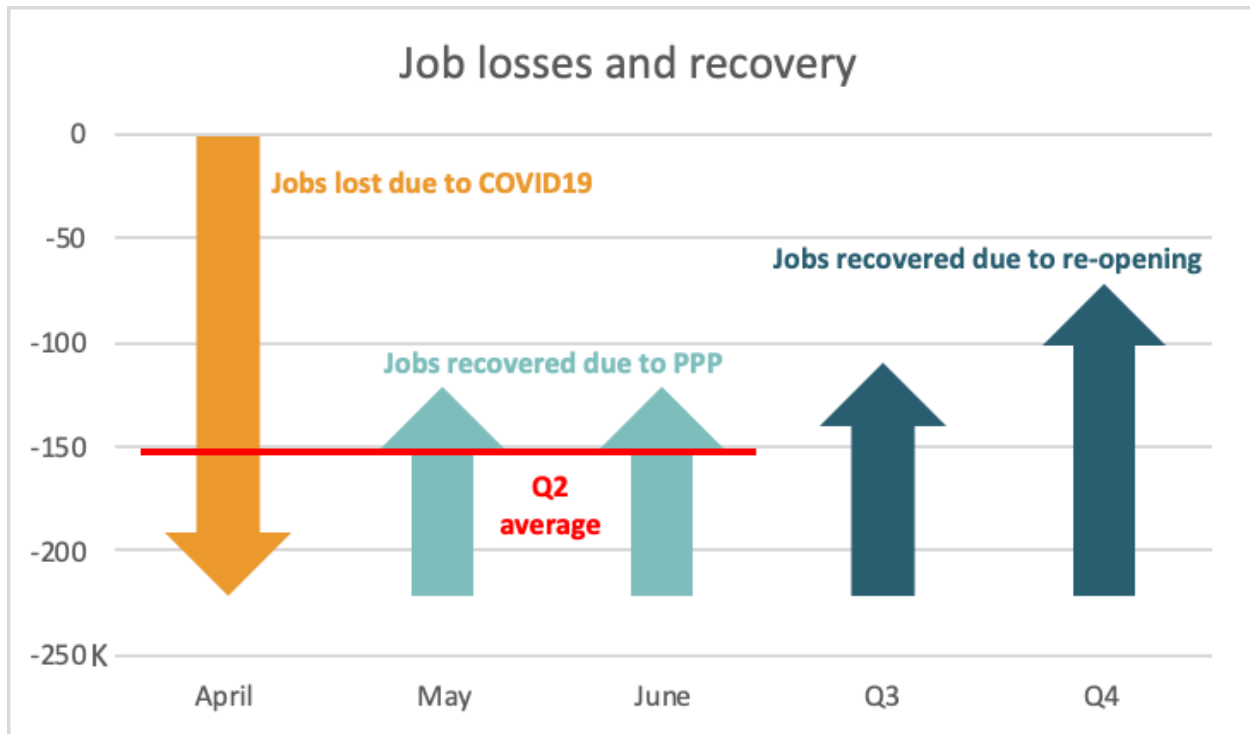
Using information on PPP loans by industry and prevailing pay rates, we are able to estimate the number of industry jobs that will be supported by the program. Specifically, we divide 75% of the aggregate value of approved loans in each industry by an estimate of the supported payroll earnings of an employee in that industry. The implied total number of jobs supported by the \$2.2 billion of loans approved to date is 165,000. We estimate that an additional 6,000 jobs may be supported by the Payroll Support Program for Airlines. But because these programs allow funds to be used to retain employees still on company payrolls, only a fraction of the loan amounts will actually result in re-hiring previously laid-off employees. This fraction varies by industry. Under our assumptions, the aggregate impact of the CAREs act Payroll Protection and Support Programs will be to reverse roughly 96,000 of the job losses that have already occurred. Taking all of this into account, we estimate that average payroll employment for the second quarter will be about 150,000 lower than it was in the first quarter of the year.

Beyond the temporary effects of the PPP, our scenarios for the economic activity and job gains in a particular future month are determined by assumptions about when restrictions will be lifted and the rate of increase in capacity utilization once those restrictions are gone. We assume that the economy gradually begins to open up by the last week of May, and once the stay-at-home order is lifted, local consumption will ramp up slowly at first as businesses and consumers adjust to a “new normal”. In May and June, we assume that business activity is 40-50% greater than during the peak of the local economy shut-down in April. Put differently, 40-50% of the jobs lost due to stay-at-home orders are reversed. By December, 85% of job losses due to the stay-at-home order will have been reversed. The less-than-complete recovery reflects both persisting macroeconomic weakness and ongoing costs of measures to preserve social distancing. The timing and degree of recovery in tourism is also highly uncertain, but it is likely to be more attenuated than for local demand. We assume that advances in testing and tracing visitors will allow for re-opening of the visitor industry by the last week of July. Specifically, we assume third quarter arrivals recover to 30% of their fourth quarter 2019 level, but that capacity use will linger at low levels at least through the end of the year, held back by consumer reluctance to resume long-haul travel, pocketbook challenges, and the probability of localized virus flare-ups in some

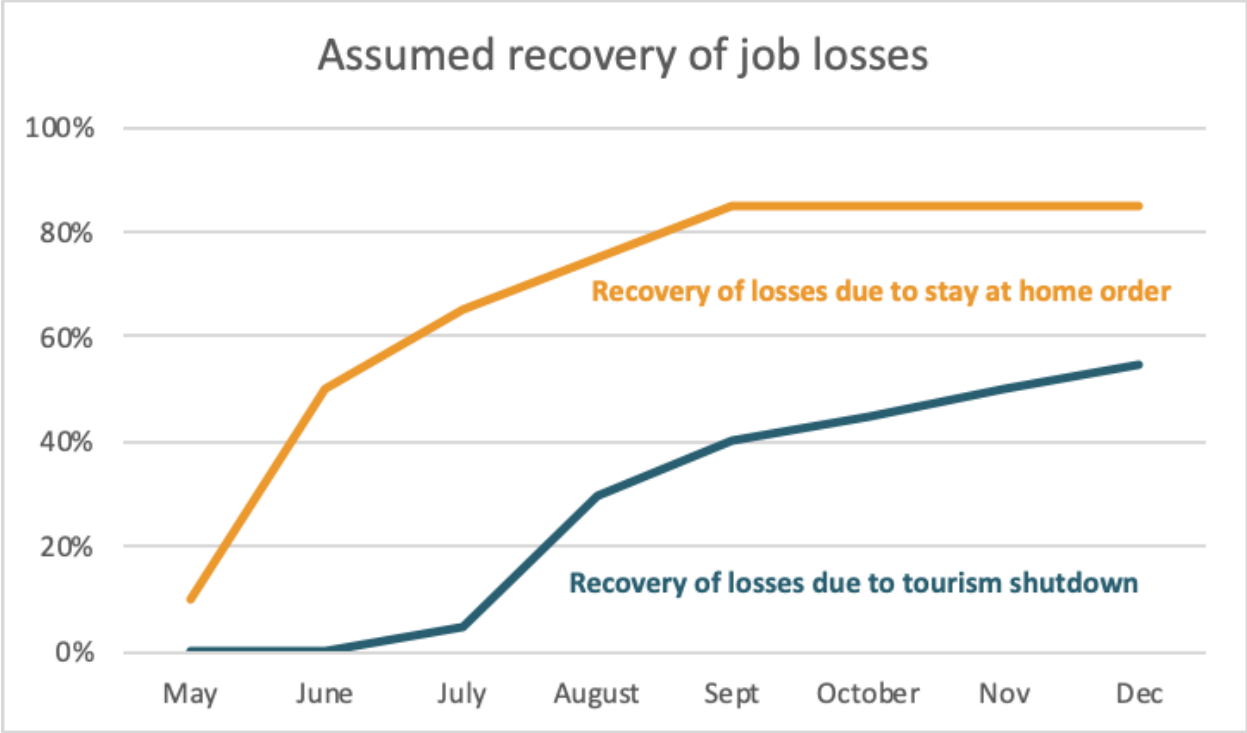
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<sup>2</sup> The estimated number of jobs lost in April is higher than the 175,000 initial unemployment claims to allow for the possibility that some workers have been unable to file claims, or they have not yet been processed. Our estimate is also consistent with the results from the UHERO/COC survey results. Finally, note that the number of jobless claims reported in the press appears to be the number of applications received for Unemployment Insurance and apparently includes duplicate applications, and may include self employed claimants that are not yet included in the weekly [Initial Claims](#) data.

markets or in Hawaii. By December, only 50% of the jobs lost due to the current tourism embargo will have been recovered.



If you find our assumptions plausible, you will be encouraged by the fact that a gradual re-opening of the economy should be enough to offset the drag that will come as the Paycheck Protection Program is phased out at the end of the second quarter. By the fourth quarter of this year, of the 212,000 lost jobs due to COVID19, 140,000 will be reinstated. While that will represent significant progress, it will nevertheless mean an unemployment rate of 11% at the end of the year. Further gains will occur in 2021 as economic growth strengthens, but because of persistent effects of the crisis on household and business finances, a full recovery of payroll employment is many years away.



Needless to say, these calculations require making heroic assumptions about a number of factors, some economic--like which job losses have occurred because of the tourism halt or the stay-at-home orders--and others about the pace of policy change. Those in turn depend on an array of epidemiological, medical, and political factors, including progress and continuing control of the virus here and in key visitor markets, the availability and efficacy of testing, and agreements on how to use testing to facilitate reopening. In formulating our baseline scenario, we are making our best judgments about these issues, given information available at this time. Because of the tremendous uncertainty, we are also working to prepare what we hope will be reasonable alternative scenarios.