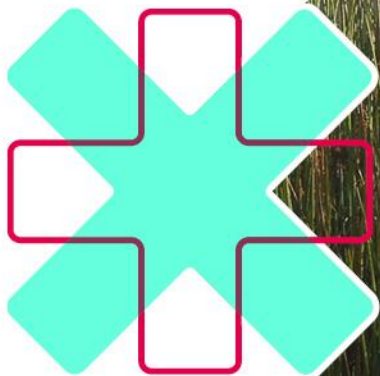
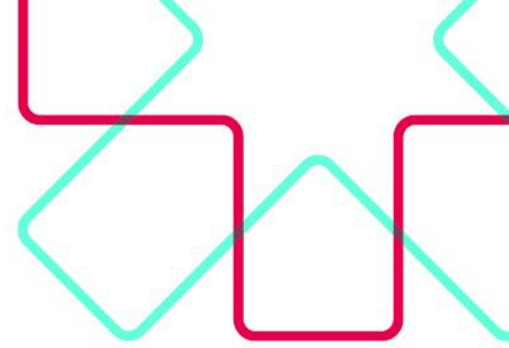


ARATAKI - COVID-19 ECONOMIC PROJECTIONS UPDATE: DETAILED REPORT

Final Report

April 2021





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PREFACE

This report has been prepared for the New Zealand Transport Agency by Stephen Knuckey from MartinJenkins (Martin, Jenkins & Associates Limited) and Gareth Kiernan from Infometrics.



BACKGROUND

The ongoing impact of Covid-19 and the related safeguard measures on the New Zealand economy continues to be highly uncertain. In April 2020, Waka Kotahi commissioned MartinJenkins and Infometrics to report on the potential impacts of the pandemic on the national economy, industries and regions over ten years in order to inform potential impacts on and opportunities for the land transport system and to inform Arataki version 2 (published in August 2020).

The projections at the time suggested that New Zealand would be hit hard and there would be a significant medium term impact on GDP and employment across most industries and regions. Similar projections were made by a range of forecasting agencies, including The Treasury, The Reserve Bank, financial institutions, and economic consultancies.

Almost a year later, it is clear that New Zealand has fared much better than was expected in April/May 2020. It was acknowledged at the time of the first report that there was considerable uncertainty about the economic ramifications of the pandemic and that the projections should be revisited in future. Almost a year on from the first lockdown period, it is timely to update the projections through a high-level review of:

- The original projections for 2020/21 against actual performance.
- The implications of the most recent global (e.g., International Monetary Fund World Economic Outlook) and national economic forecasts (e.g., Treasury Half Year Economic and Fiscal Update) for the medium-term projections for 2025 and 2031.

The updated analysis will be used by Waka Kotahi to identify whether any change is required to its existing assessment of the impacts of Covid-19 on the land transport system and the post-Covid opportunities over the next 10 years.

This background report is structured in four parts:

- 1 A summary of the global impacts of Covid-19 and the latest projections for global recovery.
- 2 An overview of the national impacts over 2020 and projections across updated Treasury scenarios.
- 3 An updated assessment of the current and projected impacts on industries in New Zealand.
- 4 An updated assessment of the current and projected impacts on regions and territorial authorities in New Zealand.

The Appendices provide the detail data tables on the projected impacts on industries and regions across different scenarios.



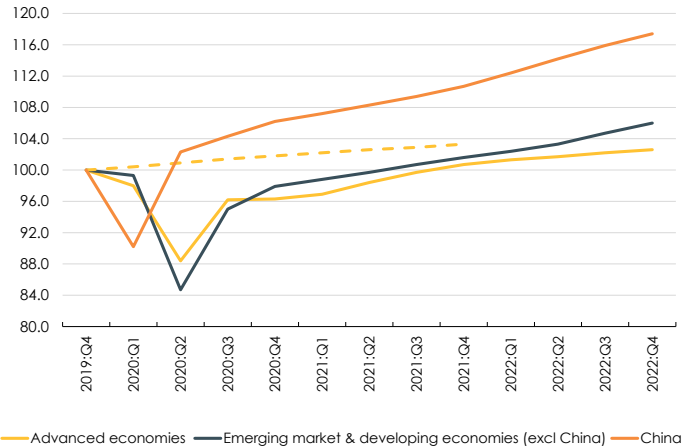
GLOBAL IMPACTS & PROJECTIONS

Global sentiment is more positive than projected in 2020. After an estimated 3.5 percent contraction in global GDP in 2020, the International Monetary Fund (IMF) projects world real GDP growth at 5.5 percent in 2021 and 4.2 percent in 2022¹ (the OECD is also positive but less bullish, projecting 4.2 world real GDP growth in 2021 and 3.7 percent in 2022²). The IMF’s latest January estimates and projections are 0.9 percent higher for 2020 and 0.3 percent higher for 2021 than they expected in October last year.³

The more positive projections reflect a combination of the faster economic turnarounds in several economies in the latter half of 2020 driven by high consumer spending (e.g., Australia, Japan, Korea), the better than expected adjustment by businesses to non-contact trade, the greater than expected stimulus packages in several large economies, and expectations for the widespread distribution of vaccines over the latter half of 2021 and into 2022. A short-term note of caution has been the slow-down in the pace of recovery in Europe and other areas from the end of 2020 due to the emergence of new Covid-19 strains and associated containment measures.

As shown in Figure 1, world GDP is expected to return to the pre-Covid level over 2021/22. While the decline experienced by advanced economies has been less than across developing and emerging economies (due to the former’s ability to provide more extensive fiscal and monetary support), the latter group are expected to experience a better longer-term recovery, largely driven by China and India.

Figure 1: Quarterly world GDP (2019: Q4 = 100, dashed line indicates world estimate from January 2020)



Source: International Monetary Fund, 2021

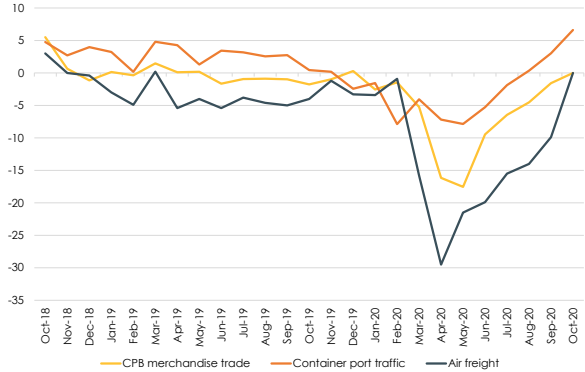
¹ International Monetary Fund, 2021
² OECD, 2020
³ International Monetary Fund, 2020.



In terms of trade, global trade volumes are estimated to have contracted by 9.6 percent over 2020⁴. As expected, there was a significant decline in air freight over the year. Container port freight recovered and grew strongly in the latter part of 2020, in part substituting for air freight (Figure 2). This was driven by the recovery in several Asian economies, such as China and Korea.

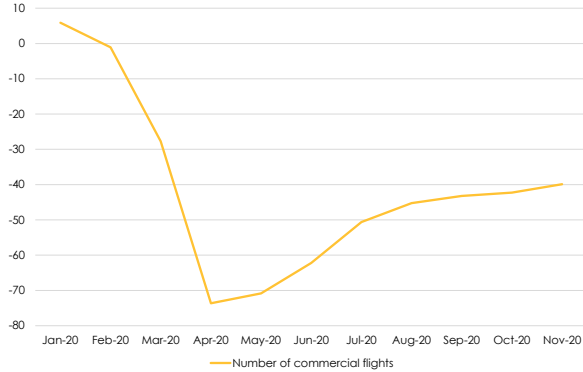
Trade volumes are expected to grow strongly as an increasing number of economies recover over the short and medium term, by around 8 percent in 2021 and over 6 percent in 2022.⁵

Figure 2: Global merchandise trade indicators (year on year % change)



Source: OECD Economic Outlook, December 2020

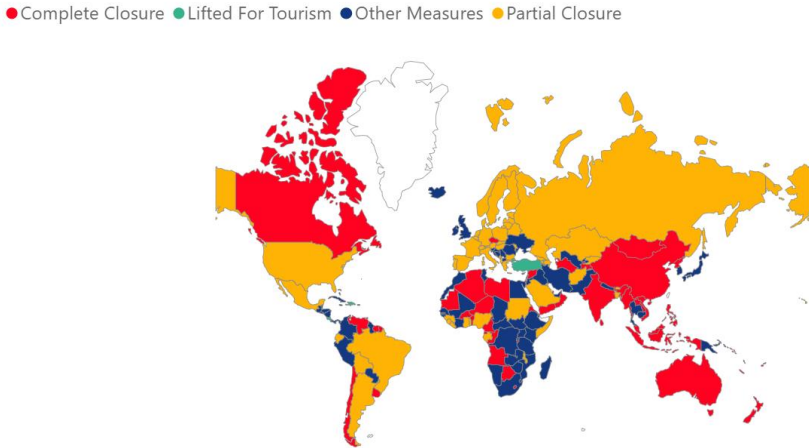
Figure 3: International commercial flights (year on year % change)



Source: OECD Economic Outlook, December 2020

International commercial flights and air passenger travel have remained well below pre-Covid levels (Figure 3) due to ongoing travel restrictions worldwide (Figure 4).

Figure 4: Covid-19 Related Tourism Travel Restrictions, November 2020



Source: <https://www.unwto.org/unwto-tourism-recovery-tracker>

⁴ International Monetary Fund, 2021

⁵ Ibid

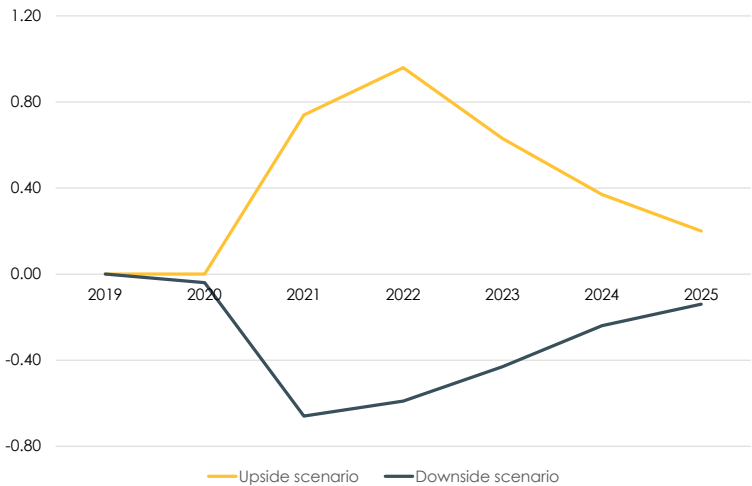


A slight restart of commercial flights in mid-2020 was stalled by the second wave of Covid-19 in Europe and the third wave in the US. It is not expected that international air travel will recover to pre-Covid levels until 2024 (Pearce, 2020).

Upside potential but downside risks

The performance of the global economy over 2021-2022 will depend on a combination of the response and recovery packages adopted by economies, ongoing measures by countries to contain the spread of the virus and the speed in which vaccines can be distributed widely, as well as their effectiveness. There is clearly the potential for both a more positive and negative global recovery than expected. The potential impacts of upside and downside scenarios on world GDP are shown in Figure 5.

Figure 5: World Real GDP under different scenarios (% deviation from baseline), 2020-2025



Source: International Monetary Fund, 2021

In summary⁶:

- A stronger and faster recovery may occur with improved vaccine manufacture, distribution and effectiveness, increasing business and consumer confidence. This would lead to stronger investment and employment and a faster global upturn. Higher levels of economic/fiscal support across a range of economies could also result in a faster lift in activity.

The IMF has estimated that, in this upside scenario, global output would be around 0.75 percent above the baseline scenario in 2021 and 1 percent above the baseline in 2022. Advanced economies are expected to enjoy the gains in 2021 due to faster vaccine roll-outs before emerging market economies in 2022.

- Conversely, global growth may falter if new Covid variants continue to emerge and are difficult to manage and/or if there are delays in vaccine distribution and take-up or vaccines prove to be less effective than anticipated. Further major lockdowns across economies will make it challenging for businesses in exposed industries to survive, resulting in more business closures, job losses and hence lower investment and incomes.

⁶ International Monetary Fund, 2021



In this downside scenario, global output would be around 0.75 percent below the baseline in 2021 but starts to recover from 2022, although remains below the baseline until after 2025.

Given that previous international projections have constantly overestimated the negative global impact of Covid-19, the baseline to stronger recovery scenarios may be more likely than the downside scenario.



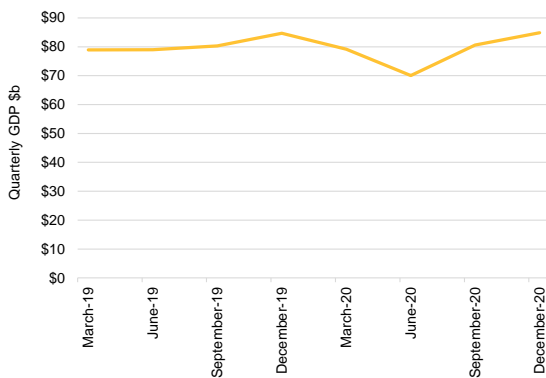
NEW ZEALAND ECONOMIC IMPACTS

Actual compared to projected impacts in 2020

New Zealand fared much better than expected in the 2020 calendar year, although economic activity still declined significantly. Infometrics estimate that GDP fell by 2.6 percent in the year ended December 2020, compared to what was expected to be -4.8 percent.

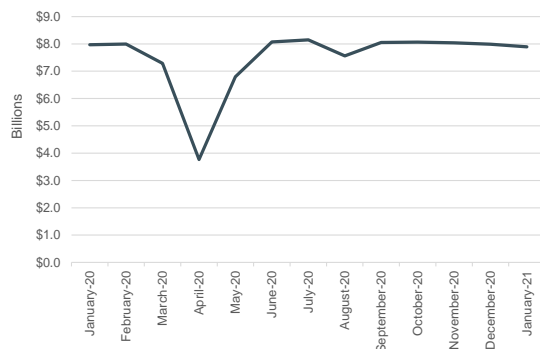
The better-than-expected results were due to a massive rebound in activity in the September 2020 quarter, with GDP growing by 14.0 percent in that quarter following the around 12.0 percent decline in GDP in the June 2020 quarter (Figure 6). The rebound is attributed to a combination of the success of the government's fiscal support in keeping people in employment and businesses in operation and the release of pent-up consumer and business spending after the initial lock-down period.

Figure 6: Quarterly GDP (2019-2020)



Source: Infometrics

Figure 7: Monthly electronic card transaction activity

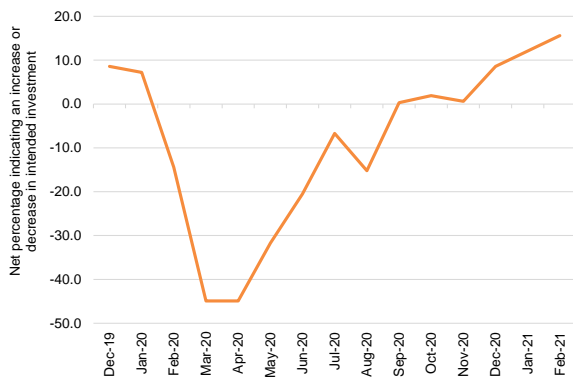


Source: Stats NZ Covid-19 Data Portal

Following the large decline in household spending over March-April 2020, spending rebounded to pre-lockdown levels by June and, despite a slight dip in the second lockdown period in August, has remained relatively constant since then (Figure 7). Overall, consumer spending is estimated to have declined by 3.2 percent for the December 2020 year. Similarly, business investment intentions have rebounded from May 2020, allowing for the slight dip in intentions during the August lock-down (Figure 8), although are not at particularly high levels.

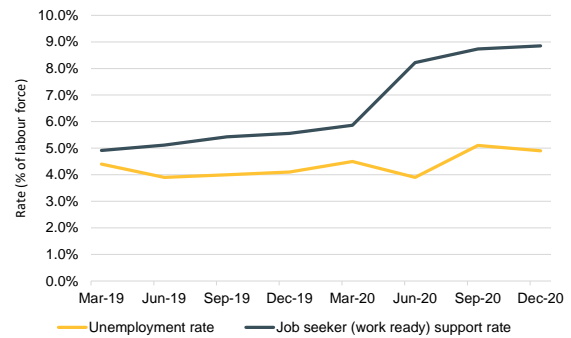


Figure 8: Business investment intentions



Source: ANZ Business Outlook data

Figure 9: Unemployment and Job Seeker (work ready) Support rate (2019-2020)



Source: Stats NZ Covid 19 Portal and MSD Benefit Statistics

Key employment indicators were also more positive than projected in early 2020. The unemployment rate actually fell over the June 2020 quarter (Figure 9), undoubtedly due to the wage subsidy allowing businesses to retain staff, and has increased only slightly since then to sit at around 4.6 percent for the year ended December 2020. This compares to initial forecasts of unemployment rates at over 8 percent for 2020. However, the under-utilisation rate increased significantly to over 13 percent in the September 2020 quarter and the number of job seeker (work ready) recipients has increased over the year by almost 50,000 people (the job seeker rate increased by more than 2 percent during the June quarter and by 0.5 percent during the September quarter)⁷.

In terms of transport related measures, domestic and trade indicators proved relatively resilient while international travel into New Zealand (apart from an initial influx of returning New Zealanders), not surprisingly, largely stalled.

The cumulative value of exports did not change appreciably over the year ended December 2020 compared to 2019, increasing by \$24 million or (0.04 percent) (Figure 10). The value of New Zealand's exports also generally benefited from the strong recovery in China, which is a key market for several primary product exports, growth in demand for health/natural products, and high global commodity prices.⁸

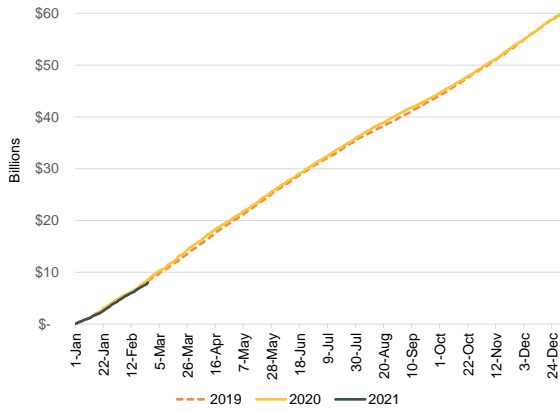
The value of good imports fell by 11 percent over 2020 compared to 2019, by \$7.4 billion (Figure 11). Imports fell in part because of the restrictions on travel, resulting in large falls in the annual imports of fuel and cars. Imports were also impacted over the year by congestion and delays in maritime supply chains (which substituted for the reduced air capacity available) and capacity constraints at Ports of Auckland.

⁷ Note that the increase in jobseeker numbers in the December quarter will be part of a normal seasonal increase as more people, such as tertiary students, became available for work during summer.

⁸ Horticulture exports performed well over the year due to a good harvest and global demand for healthy foods, whereas meat exports fell due to a combination of processing constraints associated with lockdowns and falling demand from the hospitality sector worldwide. There were mixed results for dairy and forestry exports over the year due to demand and price fluctuations.

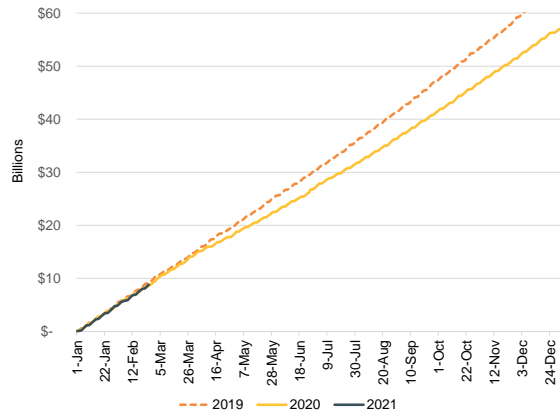


Figure 10: Cumulative total export values (\$b) 2019, 2020, 2021



Source: Stats NZ Covid-19 Data Portal

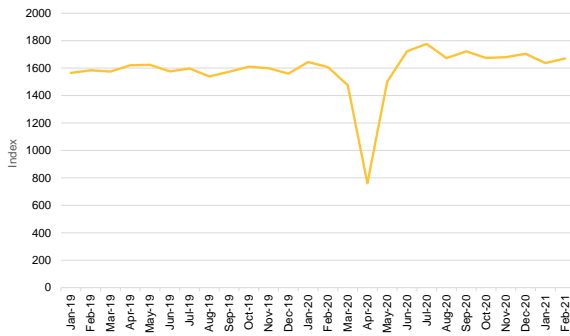
Figure 11: Cumulative total import values (\$b), 2019, 2020, 2021



Source: Stats NZ Covid-19 Data Portal

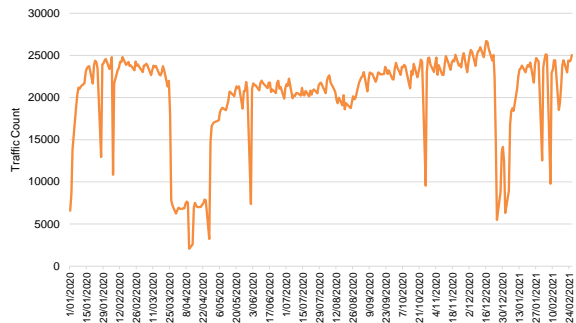
New Zealand’s heavy vehicle activity, excluding the additional lockdown periods, has largely returned to its pre-Covid levels, reflecting the recovery in production and freight. As shown in the figures below, there was a large decline in truck movements over the first lock-down period in March-April 2020, followed by steady growth in heavy vehicle movements, with the exceptions of the smaller decline during the Auckland lock-down period in August and then the typical seasonal decline over the holiday period.

Figure 12: ANZ Truckometer Index – seasonally adjusted



Source: Stats NZ Covid-19 Data Portal

Figure 13: Weekly traffic in main urban centres – 5 day average of Heavy Vehicle movements

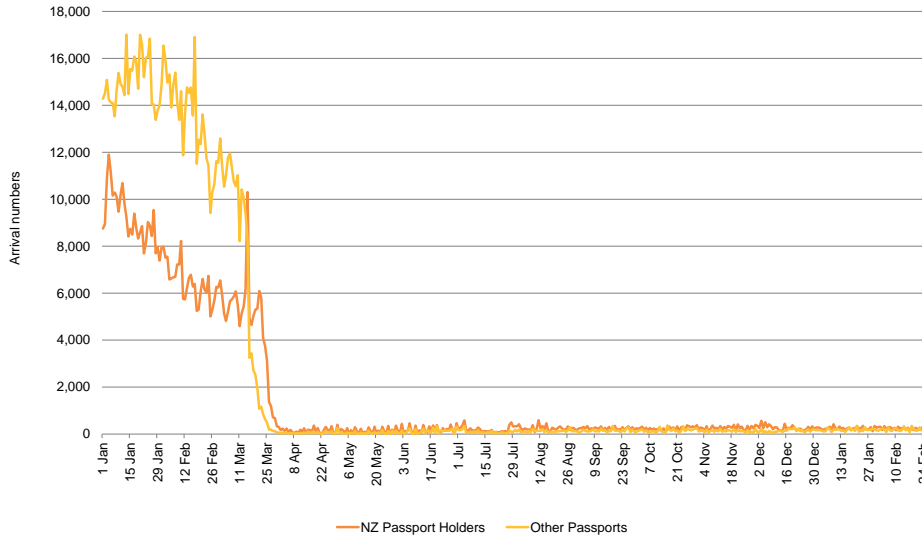


Source: Stats NZ Covid-19 Data Portal

The border restrictions introduced in March 2020 resulted in a fall of international visitor arrivals to practically zero by the end of that month. Given the ongoing closure of borders, these numbers have not altered appreciably since then, with a larger, but still small, number of New Zealand passport holders returning from April (Figure 14).



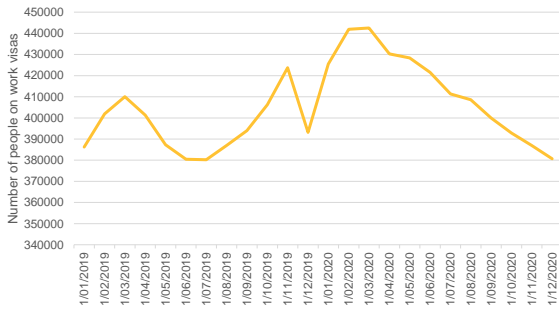
Figure 14: Daily border arrivals



Source: Stats NZ Covid-19 Data Portal

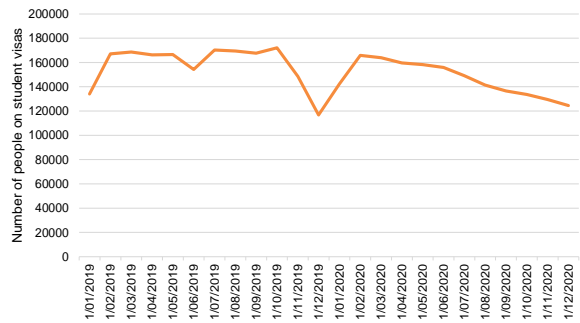
The closure of the borders is also reflected in the large, on-going reduction in the number of people on work visas from March 2020 and a smaller but still significant and steady decline in the number of people on student visas (Figure 15 and Figure 16).

Figure 15: Number of people on work visas



Source: Stats NZ Covid-19 Data Portal

Figure 16: Number of people on student visas

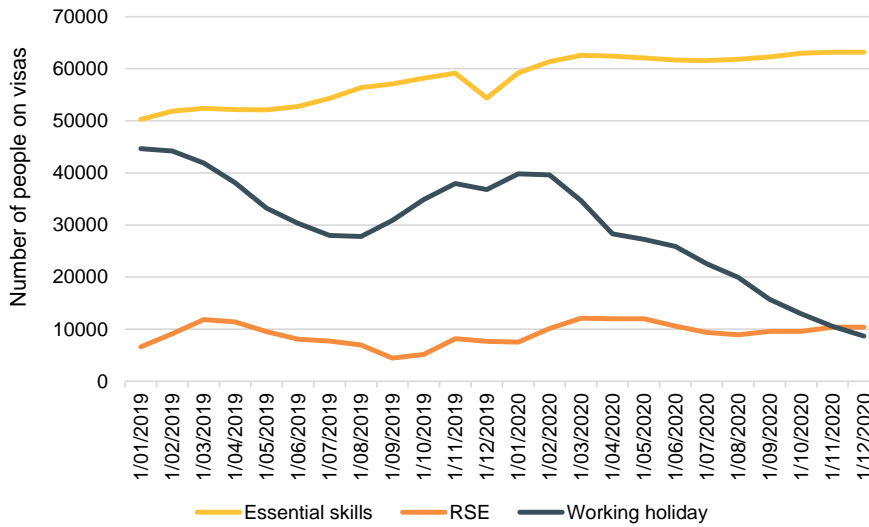


Source: Stats NZ Covid-19 Data Portal

The reduction in work visa numbers is largely due to the drop-off in the number on working holiday visas, as the number with essential skills and RSE visas has recovered (Figure 17).



Figure 17: Number of people on different types of work visas (2019-2020)

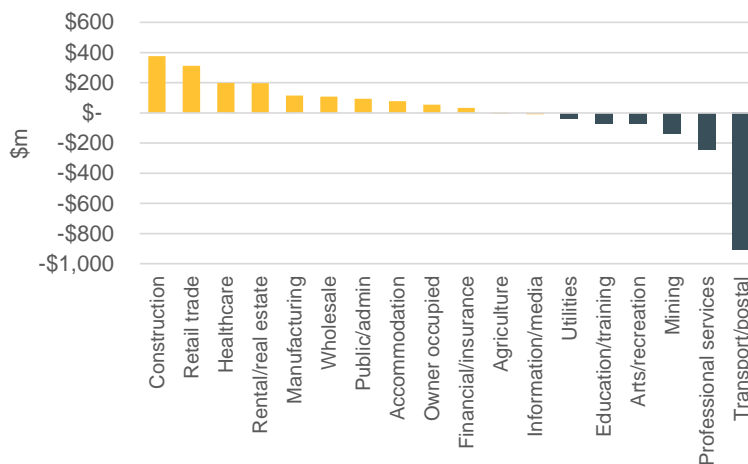


Source: Stats NZ Covid-19 Data Portal

Industry impacts

Although the economy has been resilient overall, Covid-19 resulted in quite different impacts on different sectors as was expected. Strong housing demand has supported strong construction and real estate activity and the combination of a resilient labour market and limited access to international travel has supported growth in the value of the retail sector (Figure 18). Sectors heavily reliant on international travel have naturally not fared well, although the accommodation sector was bolstered in 2020 by an increase in domestic tourism.

Figure 18: Change in GDP by sector (change between Q4 2019 and Q4 2020)



Source: RBNZ, 2021, based on Statistics NZ data



Employment growth was strong in the construction and health sectors, with professional and administrative services, retail, rental and wholesale trade experiencing declines in employment (Figure 19).

Figure 19: Change in employment by sector (change between Q2 2020 and Q4 2020)



Source: RBNZ, 2021, based on Statistics NZ data

Projected impacts on the economy

Scenarios developed by the Treasury for the May Budget 2020 Economic and Fiscal Update were used as the basis for the initial industry and regional projections for NZTA last year. The Treasury updated its scenarios in its December Half Year Fiscal and Economic Update (HEYFU) and these new scenarios have been used for the revised projections.

The scenarios and key assumptions underpinning them are as follows:

Central Scenario

- Alert Level 1 will be in place until the end of 2021. Alert Level 1 has a 4% negative impact on activity.
- Border restrictions removed from 1 January 2022.
- Covid-related fiscal support totals \$32 billion over the forecast period.
- Trade weighted index is steady at 71.0 from March 2021 to the end of 2022 before trending upwards.
- Net migration falls from 90,000 in the March 2020 quarter to 5,000 by June 2021. As international travel restrictions are lifted worldwide, net migration increases to 43,000 by the June 2025 quarter.
- Economic activity in New Zealand’s top 16 trading partners contracts by 2.8% in 2020 before rebounding by 5.3% in 2021.

Upside Scenario

Stronger domestic recovery and stronger outlook for trading partner growth.

Downside Scenario

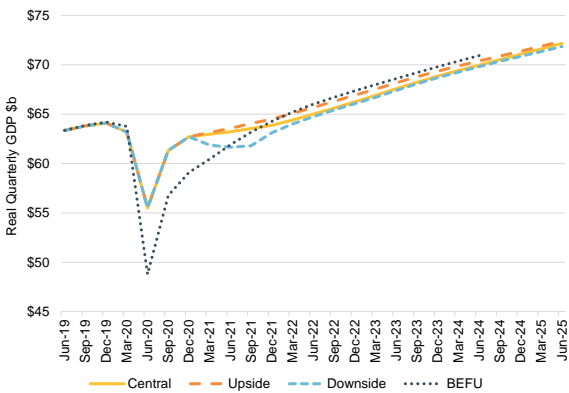
Sporadic outbreaks of Covid-19 result in the reinstatement of Alert Level 3 for two weeks followed by three weeks of Alert Level 2 once per quarter for the first three quarters of 2021 for half of the country. Alert Level 1 is in place the rest of the time. Alert Level 3 has a 17.5% negative impact on activity; Alert Level 2 has a 8% negative impact on activity.



Based on the Central Scenario, the Treasury estimates that real GDP will grow by 1.7 percent in the year ended June 2021. This is significantly higher than their BEFU 2020 forecast of a -1.0 percent decline in real GDP over the year. In addition, the expected rebound they were forecasting in 2022 is already occurring, so the projections are now for a more muted 2022 year, with real GDP growth of 2.0 percent (compared to 8.6 percent GDP growth in the BEFU). Real GDP growth is expected to get back to normal levels of over 3 percent per year from 2023 (Figure 20).

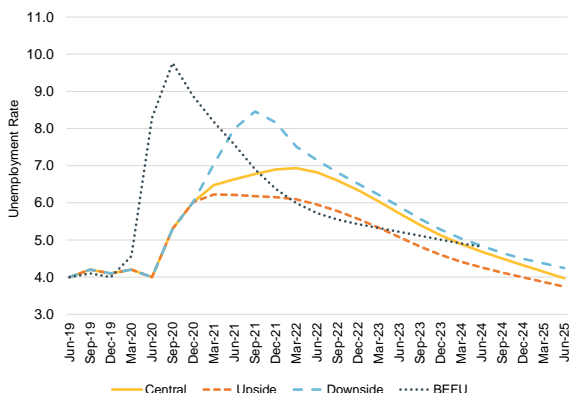
The unemployment rate is now expected to reach 6.6 percent in the year ended June 2021 (compared to the previous forecast of 7.6 percent) and 6.8 percent in the year ended June 2022, before easing back in subsequent years and getting back under 5 percent by 2024 (Figure 21).

Figure 20: Estimated quarterly Real GDP (2009/10 prices) – Central, Upside and Downside Scenarios compared to BEFU 2020



Source: The Treasury, 2020

Figure 21: Estimated unemployment rate, Central, Upside and Downside Scenarios compared to BEFU 2020



Source: The Treasury, 2020

The Treasury also estimates that, under the Central Scenario, the value of exports will fall by 12.1 percent in the year ended June 2021 (compared to the earlier forecast of -16.1 percent) before rebounding to 4.9 percent in 2022 (compared to 20.2 percent), with imports initially falling by 9.1 percent and then rebounding by 7.8 percent in the same years.

With the Upside Scenario, real GDP tracks slightly above the Central Scenario throughout 2021 to 2025. Unemployment does not get above 6.2 percent and tracks to below 5 percent by September 2022.

Under the Downside Scenario, real GDP is a relatively modest \$8.1 billion less over the forecast period relative to the Central Scenario. Most of that difference occurs in the 2021 calendar year – effectively there is a second dip in real GDP compared to the Central Scenario. Unemployment is expected to be higher for longer, reaching 8.5 percent in the year ended September 2021 and remaining over 7 percent until midway through 2022.

One of the key differences between the GDP and labour market forecasts is that there are still expectations of potential further softening in labour market indicators, albeit a softening relatively limited in the context of last year’s pessimistic outlook. This delayed trough in employment is typical of most economic cycles, where businesses’ hiring and firing decisions tend to lag actual activity. It also reflects the high levels of government support for businesses and workers via the wage subsidy in 2020, which enabled firms to retain their staff much more easily than would otherwise have been the case. The subsequent rebound in economic activity outlined above has then meant that many businesses have experienced strong enough demand conditions to maintain their staffing levels. Any



job losses that are occurring are likely to be limited to selected industries that continue to be directly affected by Covid-19 prevention measures such as the border closures.

A key change from the previous projections is that the gap between GDP projections and pre-Covid-19 expectations of the economy's size is forecast to have closed almost to zero by 2025, even for the new Downside Scenario. Across Treasury's three Scenarios, GDP in the March 2025 year is forecast to be 11.0-11.8 percent above its March 2020 level. The previous May 2020 modelling suggested that total BAU growth over this five-year period was only marginally above these outcomes, at 11.9 percent.

The closure of this gap in forecast GDP by 2025 represents a reasonably significant shift in thinking from the previous projections where, under the then Slower Recovery Scenario, economic activity in 2025 was still expected to be 4.5% below BAU levels.

The projections remain uncertain and depend on the distribution and effectiveness of the vaccine/s, recoveries in major trading partners, the speed with which international travel recovers and any subsequent rounds of government stimulus.



PROJECTED INDUSTRY IMPACTS

Infometrics has modelled the effects of the updated Treasury's scenarios on employment and GDP across industries and regions.

Assumptions used in the modelling

Infometrics have applied several assumptions to model the Treasury scenarios. For the Central Scenario:

- The borders are expected to remain closed until the first quarter of 2022, although there is scope for the Trans-Tasman bubble to be implemented during the second half of 2021.
- Even when the borders reopen, reduced international air capacity, higher travel costs, and a lingering reluctance among people to fly will prevent tourism from rebounding to its pre-Covid levels. Even by 2025, visitor numbers from Australia are expected to be at about 85% of their pre-Covid levels, with arrivals from the rest of the world still sitting down about one-third from where they were in 2019.
- Infometrics have taken into account that New Zealanders' travel patterns have tended to disproportionately benefit areas such as Northland, Coromandel, and Wairarapa. Although other areas such as Queenstown-Lakes have also benefited in part from the domestic travel boom, the cushioning effect of Kiwi spending has generally been more pronounced in areas that are within a comfortable driving distance of major urban centres.
- Infometrics has refined its modelling for several industries as the effects of the pandemic have become clearer. For example, the outlook for the construction industry is considerably brighter given the booming housing market and additional government funding for infrastructure. Similarly, the trend towards online shopping has been accelerated by the lock-downs, driving positive outcomes for supermarkets and non-store-based retailing as well as postal and courier services.

Infometrics have also incorporated the following specific shocks into the modelling of the Upside and Downside Scenarios.

- The Upside Scenario assumes a stronger recovery in global economic conditions, resulting in a 5 percent increase in exports during the March 2022 year relative to the Central Scenario. Fiscal stimulus is also assumed to have a greater positive effect on the domestic economy, modelled by a 2.5 percent increase in government consumption compared with the Central Scenario.
- The Downside Scenario assumes weaker global economic conditions and more sustained restrictions on international travel, resulting in a 10 percent reduction in demand for service exports during the March 2022 year relative to the Central Scenario. Sporadic moves to Alert Level 3 (three periods of two weeks for half the country during 2021) are expected to constrain demand for domestic travel. Infometrics have also incorporated a negative effect on economic activity due to those people who are not essential workers or are not able to work from home at Level 3. However, they do not expect this inability to work at Level 3 to have a direct effect on employment outcomes, with the government's wage subsidy effectively supporting businesses and protecting jobs.



Central Scenario

Short-term impacts

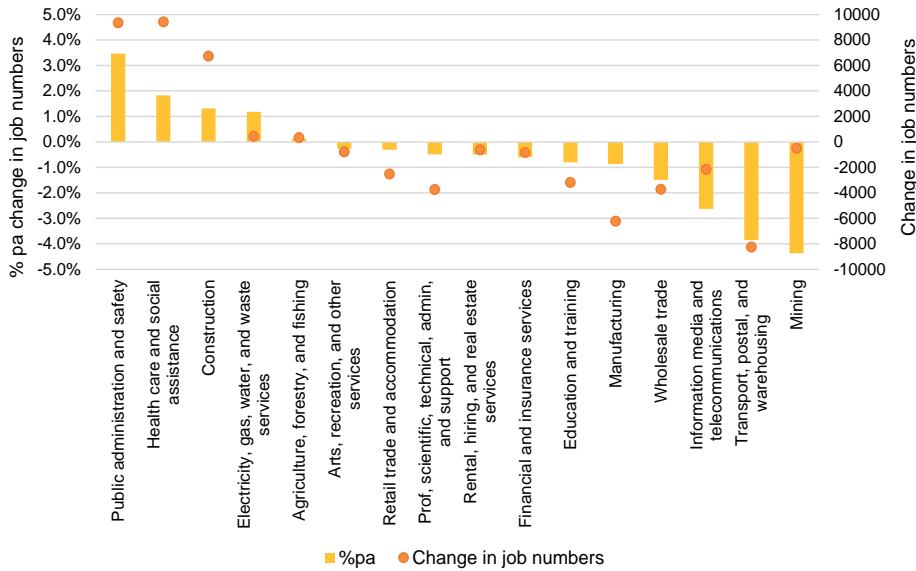
Infometrics forecasts suggest the following impacts over 2020-2022 on sector employment and value added under the Central Scenario. Total filled job numbers are forecast to reduce by -0.2 percent per year to be 9,800 less in 2022 than in 2020. Nationwide GDP is expected to increase very slightly by 0.1 percent per year to be around \$730m above the level in 2020.

Key sectors that are expected to be the most negatively impacted over the two years, excluding mining, are (Figure 22 and Figure 23):

- transport and warehousing (-8250 jobs over the two years or -3.8 percent per annum; -\$410m in GDP or -1.6 percent per annum)
- information media and telecommunications (-2150 jobs or -2.6 percent per annum, although GDP grows slightly by 0.2 percent per year)
- wholesale trade (-3725 jobs or -1.5 percent per year; -\$420m in GDP or -1.3 percent per year), and
- manufacturing (-6230 jobs or -0.8 percent per year; -\$1.74b in GDP or -1.8 percent per year).

Public administration, healthcare and social assistance, construction and utilities are forecast to fare relatively well and be the least affected over 2020-2022.

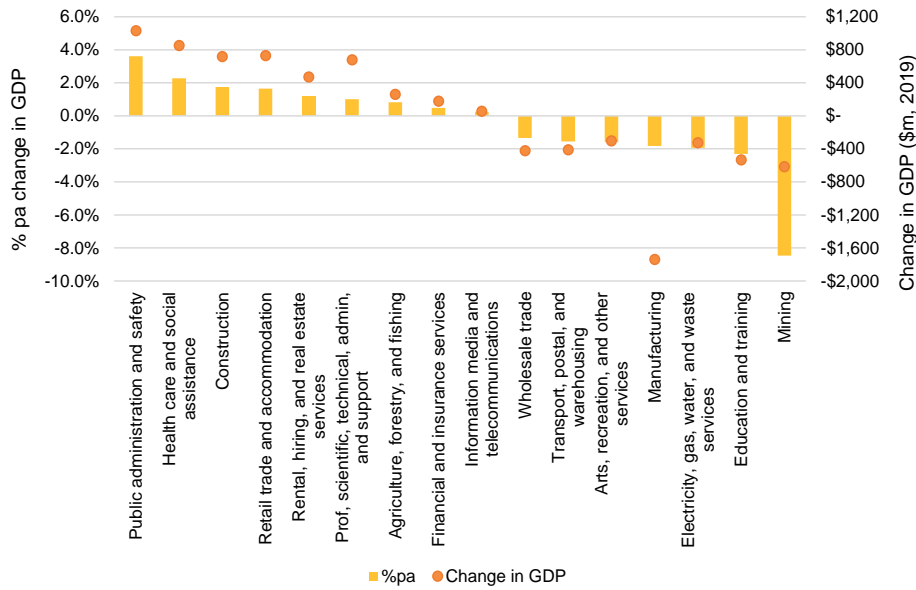
Figure 22: Forecast change in employment by industry over 2020-2022, Central Scenario



Source: Infometrics



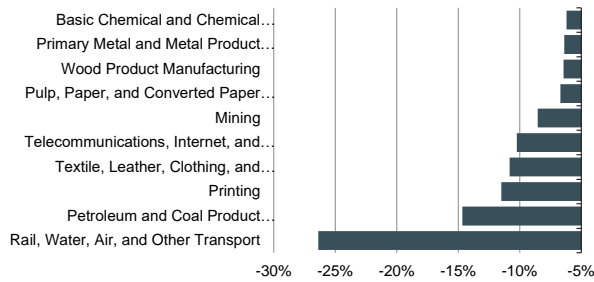
Figure 23: Forecast change in GDP by industry over 2020-2022, Central Scenario



Source: Infometrics

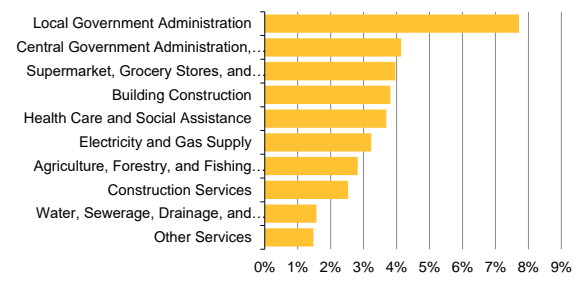
At a greater level of detail, the worst performing sub-sectors for employment over the two years are expected to be rail, water and air transport, a range of manufacturing sub-sectors (e.g., petroleum and coal product manufacturing, printing, textile and clothing manufacturing, pulp and paper manufacturing, metal and metal product manufacturing), and telecommunications, internet and library services (Figure 24).

Figure 24: Employment growth 2020-2022 – 10 worst performing industries, Central Scenario



Source: Infometrics

Figure 25: Employment growth 2020-2022 – 10 best performing industries, Central Scenario



Source: Infometrics

The best performing sub-sectors are expected to be local and central government administration, supermarket and specialist food retailing, building construction, and health care & social assistance (Figure 25).

What is being seen from these figures is:

- The effects of the fiscal stimulus and the government’s broader response to Covid-19 show through in strong growth in government administration and health care employment.



- Supermarkets have benefited from being one of the few store types able to trade at Alert Level 4. Despite consumers having more flexibility about their shopping options at Alert Level 3, supermarkets are still in a relatively strong position, and this strength is reflected in their employment growth.
- High levels of construction activity are reflected in strong employment growth for building construction, construction services, and utilities industries.
- The effect of Covid-19 on the agricultural sector has been relatively limited, and relatively good export volumes and prices are underpinning growth in employment in agricultural services.
- Rail, water, air, and other transport has been clearly impacted by Covid-19 and the job losses in this industry will be mostly concentrated in air transport.
- The manufacturing industries appearing in the bottom 10 performers are experiencing a long-term downward trend in employment anyway. As a result, these forecast declines will not simply be due to Covid-19. Nevertheless, these outcomes are significant in the context of the expectations in the projections last year that manufacturing employment could be buoyed by the availability of spare labour as job losses occurred in other industries due to Covid-19, as well as the possibility that consumers might demand more local products in the wake of the pandemic. However, ongoing disruptions to international supply chains could lead to better manufacturing employment outcomes than the current modelling suggests.

Medium-term impacts

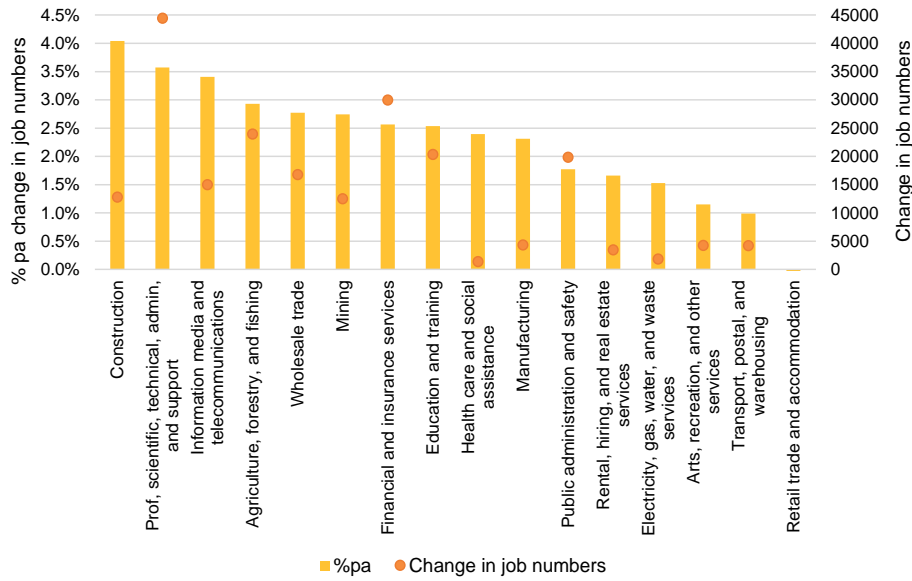
Under the Central Scenario, total filled job numbers are forecast to increase at an average rate of 2.6 percent per year between 2022 and 2025. By March 2025, this growth would push total employment up by 7.5 percent from its 2020 level to 2.768m, implying average growth of 1.5 percent per annum over the five-year period. Employment would then be only 0.1 percent below the pre-Covid projections for BAU.

The fastest growing broad sectors over this period are (Figure 26 and Figure 27):

- construction (an additional 12,780 jobs over 2022-2025 and 4.0 percent per year job growth; \$1.78b in GDP over the three years and 2.7 percent per year GDP growth)
- professional, scientific and technical services (44,440 jobs, 3.6 percent per year job growth; \$5.45b in GDP, 5.0 percent per year GDP growth)
- information media and telecommunications (an extra 15,010 jobs, 3.4 percent per year job growth; \$1.99b in GDP and 5.3 percent per year GDP growth).
- agriculture, forestry & fishing (an additional 23,940 jobs and 2.9 percent per year job growth; \$1.16b in GDP and 2.4 percent per year GDP growth)
- wholesale trade (an additional 16,790 jobs, 2.8 percent per year job growth; \$1.11b in GDP and 2.4 percent per year GDP growth).

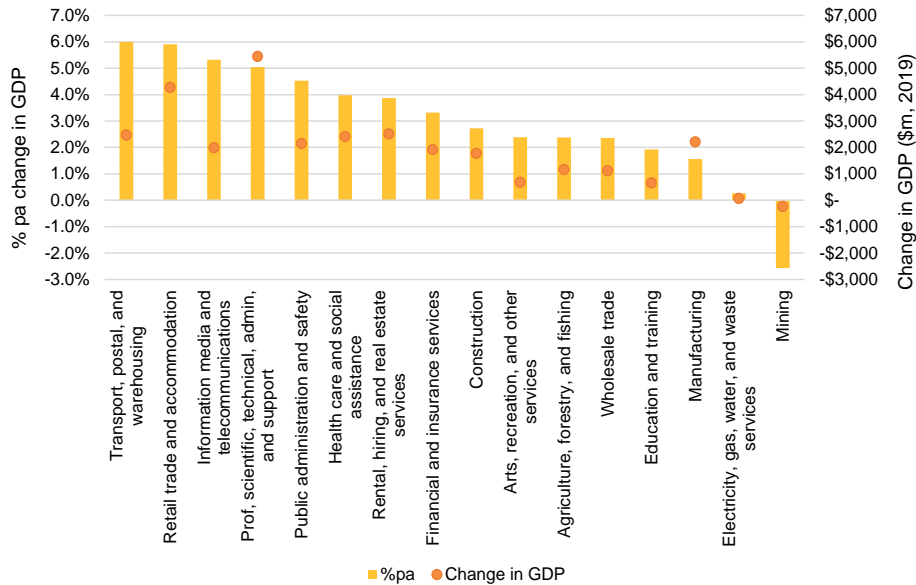


Figure 26: Forecast change in employment by industry over 2022-2025, Central Scenario



Source: Infometrics

Figure 27: Forecast change in GDP by industry over 2022-2025, Central Scenario

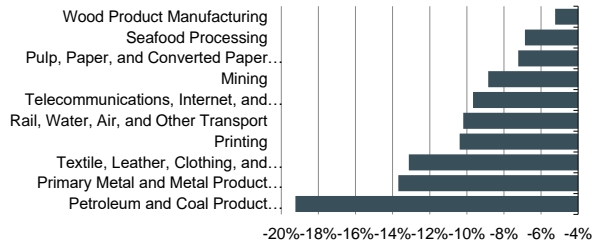


Source: Infometrics

At a more detailed industry level, manufacturing sub-sectors (e.g., petroleum and coal product, metal and metal product, textile and clothing, pulp and paper, seafood, wood product), transport and telecommunications are expected to have the poorest employment outcomes by 2025 (Figure 28). Government administration, supermarkets, health care and building construction are expected to be the best performing by 2025 (Figure 29).

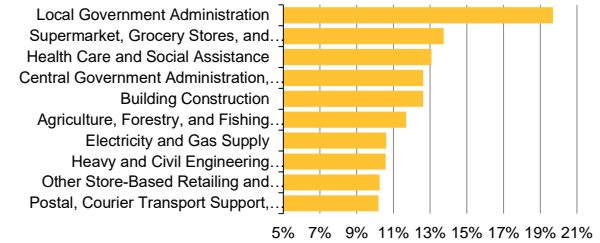


Figure 28: Employment growth 2020-2025 – 10 worst performing industries, Central Scenario



Source: Infometrics

Figure 29: Employment growth 2020-2025 – 10 best performing industries, Central Scenario



Source: Infometrics

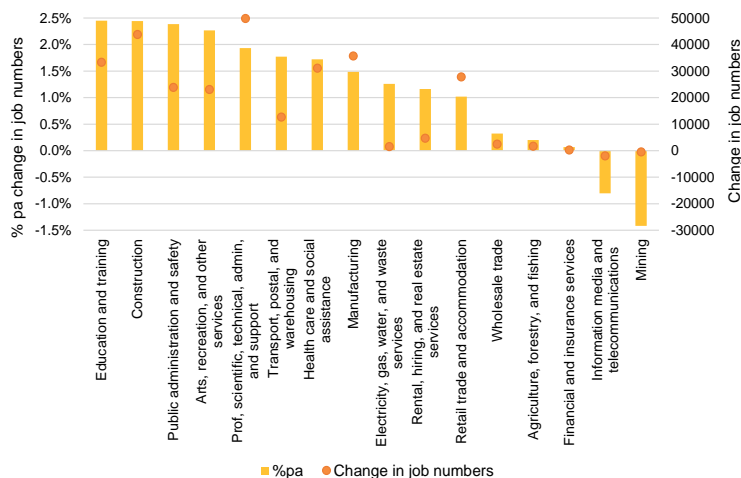
Many of the industries represented in the top and bottom 10 are the same as for the 2020-2022 period, noting that:

- The strong position of supermarkets is now backed up the emergence of other store-based retailing and non-store retailing, underpinned by growth in the non-store component of this industry. Increased employment for postal and transport services and warehousing services reiterates the continued expansion of online retailing’s share of total household spending.
- The government’s significant plans for infrastructure investment in the New Zealand Upgrade Programme show through in heavy and civil engineering construction employment.
- Rail, water, air and other transport employment is still forecast to be 10 percent below its 2020 level by 2025.

Long-term impacts

Employment is forecast to increase by another 1.5 percent per annum between 2025 and 2031. Total employment in the Central Scenario continues to be in line with BAU projections over the period. Figure 30 and Figure 31 show the forecast changes in industry employment and GDP over 2025-2031.

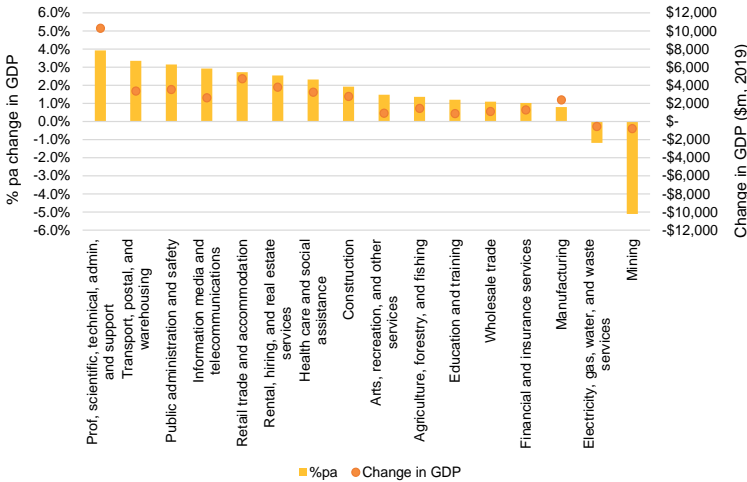
Figure 30: Forecast change in employment by industry over 2025-2031, Central Scenario



Source: Infometrics



Figure 31: Forecast change in GDP by industry over 2025-2031, Central Scenario



Source: Infometrics

Over the period, the sectors that are expected to grow the fastest in terms of jobs are:

- education and training (2.5 percent per annum job growth over 2025-2031, generating an additional 33,340 jobs over the period)
- construction (2.4 percent per year job growth, 43,810 jobs in total)
- public administration & safety (2.4 percent per year job growth, 23,860 jobs)
- arts & recreation (2.3 percent per year job growth, 23,080 jobs), and
- professional, scientific and technical services (1.9 percent per year job growth, 49,850 jobs).

Two of these sectors are also expected to experience relatively high GDP growth rates over the period – professional, scientific and technical services (3.9 percent per year) and public administration & safety (3.1 percent per year). Other broad sectors expected to achieve strong GDP growth rates over 2025-2031 are transport and warehousing (3.3 percent per year), information media & telecommunications (2.9 percent per year) and retail trade and accommodation (2.7 percent per year). Hence, several of the sectors that under-performed due to Covid over the short-to-medium term effectively rebound over the long-term.

Key transport industries

Under the Central Scenario, there is a reasonable initial shock across several key industries that rely heavily on transport in the first two years due to the lockdowns and loss of output. Compared to the BAU, the largest negative value impacts occur in non-food manufacturing, food manufacturing, mining and road transport. Construction is projected to experience a higher level of growth than the BAU over the first two years.



Mining, food manufacturing, non-food manufacturing and road transport continue to underperform the BAU by 2025 while construction still outperforms its BAU level of GDP (Table 1). A larger number of transport-related industries are projected to under-perform relative to the BAU by 2031 – retailing, logistics, and sheep, beef & dairy farming also achieve slightly lower value add outcomes under the Central Scenario compared to the BAU.

Table 1: Key industries for transport activity – Central Scenario (2019, \$m)

	Mar 22	Mar 25	%pa 22-25	Difference in 2025 to BAU	Mar 31	%pa 25-31	Difference in 2031 to BAU
Sheep, Beef and Dairy	9,108	9,480	1.3%	-4	9,756	0.5%	-45
Forestry	462	468	0.4%	16	441	-1.0%	3
Mining	3,175	2,937	-2.6%	-216	2,144	-5.1%	-92
Food Manufacturing	8,747	8,939	0.7%	-579	8,843	-0.2%	-1,374
Non-Food Manufacturing	18,516	19,447	1.6%	-1,773	21,074	1.3%	-2,301
Construction	21,122	22,898	2.7%	2,902	25,663	1.9%	2,432
Retailing	16,392	19,978	6.8%	307	24,150	3.2%	-790
Road Transport	4,541	5,308	5.3%	-108	6,044	2.2%	-120
Logistics	6,114	7,127	5.2%	42	8,941	3.9%	-32

Source: Infometrics

Upside Scenario

Short-term impacts

There are only a few differences between the Upside Scenario and the Central Scenario in the first two years. Total filled job numbers are forecast to grow by 0.2 percent per year over 2020-2022 (rather than fall by -0.2 percent per year) and to be 8,240 jobs higher than in 2020. GDP is expected to increase by 0.5 percent per year (compared to 0.1 percent per year under the Central Scenario), to be around \$3.38 billion above the 2020 level.

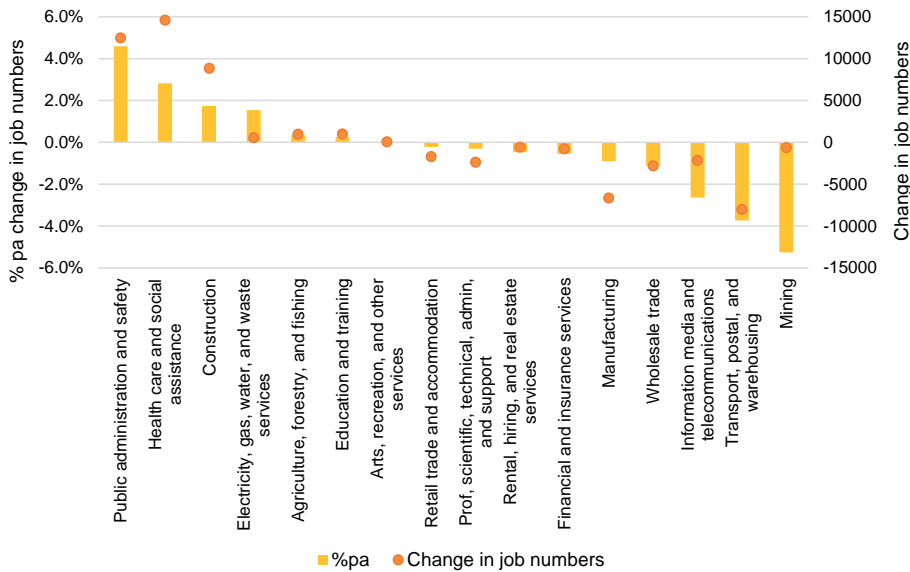
As shown in Figure 32 and Figure 33, the profile of sectors negatively impacted by Covid-19 under the Upside Scenario are very similar to the Central Scenario – the main impact is that most sectors achieve slightly higher growth. Other than mining, sectors that are particularly affected are:

- transport and warehousing (-8020 jobs over the two years or a -3.7 percent per year decline over 2020-2022; -\$350m in GDP in total or -1.3 percent per year)
- information media & telecommunications (-2160 jobs or -2.6 percent per year; but grows slightly in value terms by 0.5 percent per year)
- wholesale trade (-2830 jobs or -1.1 percent per year; -\$280m in GDP or -0.9 percent per year), and
- manufacturing (-6670 jobs or -0.9 percent per year; -\$1.64b in GDP or -1.7 percent per year).

Public administration, healthcare and social assistance, construction and utilities are expected to achieve the strongest growth over the period.

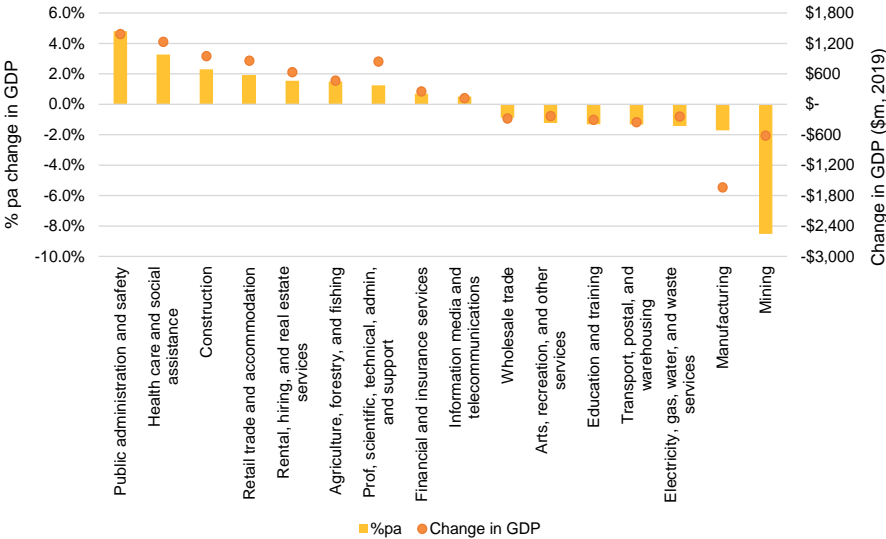


Figure 32. Forecast change in employment by industry, 2020-2022, Upside Scenario



Source: Infometrics

Figure 33. Forecast change in GDP by industry, 2020-2022, Upside Scenario



Source: Infometrics

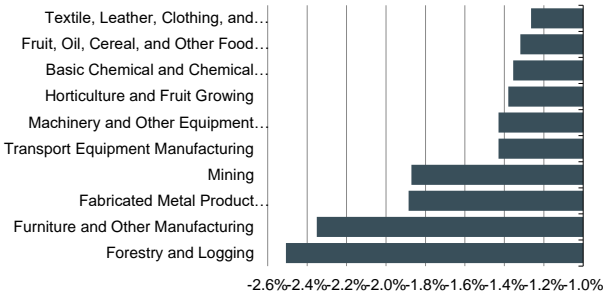
At a greater level of detail, the worst performing industries in the Upside Scenario relative to the Central Scenario are projected to occur in forestry and logging, furniture and other manufacturing, fabricated metal product manufacturing, mining, transport equipment manufacturing and machinery and equipment manufacturing (Figure 34).



The stronger demand for workers across the better performing industries will push up labour costs at the margin and reduce the availability of workers in other industries. Employment outcomes will typically be lower in the Upside Scenario for industries that are capital-intensive or can substitute away from labour to capital relatively easily. Hence, most of the weaker performing industries are manufacturing-related.

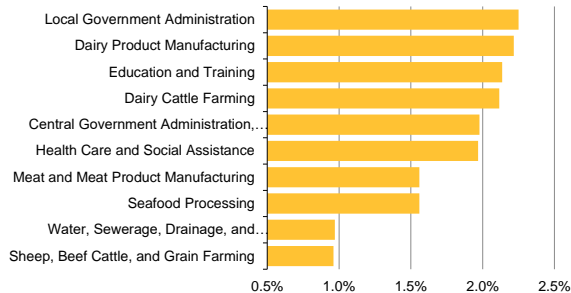
In contrast, local and central government administration, dairy product manufacturing and dairy farming, education & training, and health care and social assistance fare better in the Upside Scenario (Figure 35).

Figure 34: Employment relative to Central Scenario, 2022 – 10 worst performing industries, Upside Scenario



Source: Infometrics

Figure 35: Employment relative to Central Scenario, 2022 – 10 best performing industries, Upside Scenario



Source: Infometrics

The strength in the public sector reflects the effects of government spending and fiscal stimulus. The agricultural employment outcomes are indicative of a stronger outlook for trading partner growth, which supports the terms of trade and demand for New Zealand’s exports. However, growth in agricultural employment could be constrained by a general unwillingness among New Zealanders to do this type of work and the lack of access to overseas workers caused by the border closures.

As noted earlier, Treasury has also assumed a slightly earlier recovery in services exports in the Upside Scenario than in the Central Scenario. However, the timing of this recovery, from late 2021, is unlikely to materially affect employment outcomes for tourism or other services export industries in the March 2022 year.

Medium-term Impacts

In the Upside Scenario, total filled job numbers are forecast to grow by an average of 2.4 percent per year between March 2022 and March 2025. This growth would place nationwide employment in 2025 up 7.9 percent from its 2020 level, implying average growth of 1.5 per annum over the five-year period. Employment in this scenario would be slightly above the projections for BAU (by 0.2 percent).

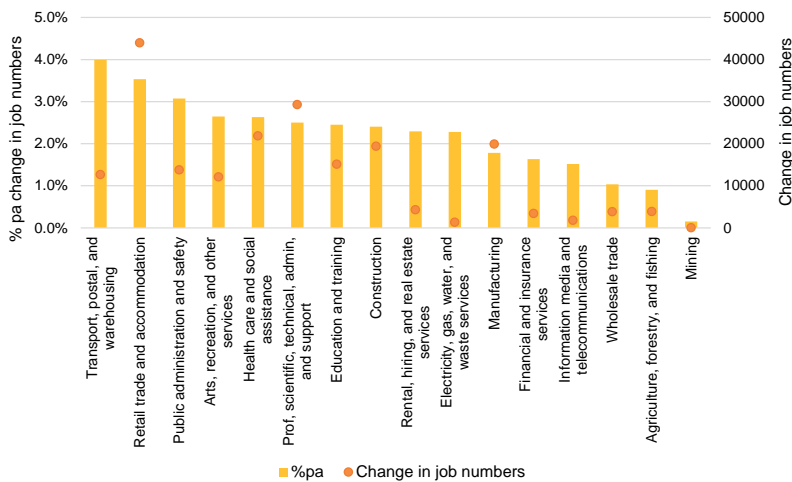
Total GDP is projected to grow by an average of 3.4 percent per year between 2022 and 2025. This increase equates to average growth of 2.3 percent per annum between 2020 and 2025 but the value of economic activity would still be slightly below BAU projections in 2025 (by -0.1 percent).

Broad industry impacts are shown in Figure 36 and Figure 37 below. The fastest growing broad sectors are similar to the Central Scenario but they generally achieve higher annual growth rates. They include:



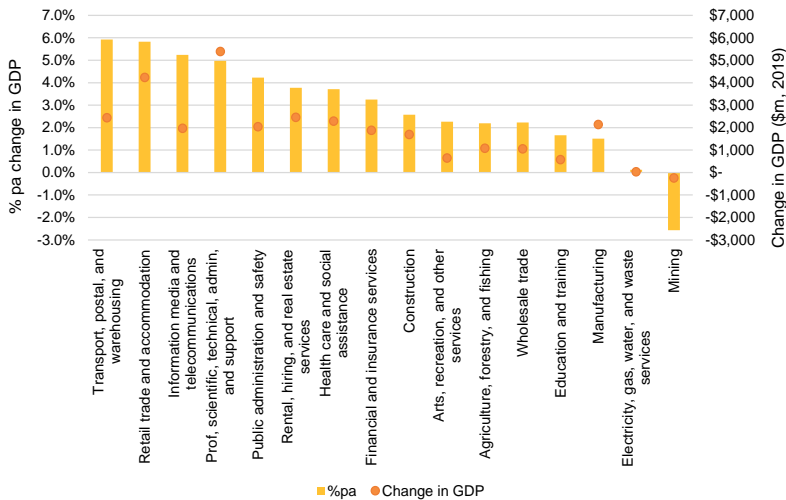
- transport and warehousing (an additional 12,650 jobs over 2022-2025 and 4.0 percent per year job growth; \$2.44b in GDP over the period and 5.9 percent per year GDP growth)
- retail trade and accommodation (an additional 43,990 jobs and 3.5 percent per year job growth; \$4.23b in GDP and 5.8 percent per year GDP growth)
- public administration and safety (an additional 13,800 jobs and 3.1 percent per year job growth; \$2.05b in GDP and 4.2 percent per year GDP growth)
- arts & recreation (an additional 12,120 jobs, 2.6 percent per year job growth; \$650m in GDP and 2.3 percent per year GDP growth)
- health care and social assistance (an additional 21,870 jobs and 2.6 percent per year job growth; \$2.29b in GDP and 3.7 percent per year GDP growth).

Figure 36: Forecast change in employment by industry over 2022-2025, Upside Scenario



Source: Infometrics

Figure 37: Forecast change in GDP by industry over 2022-2025, Upside Scenario

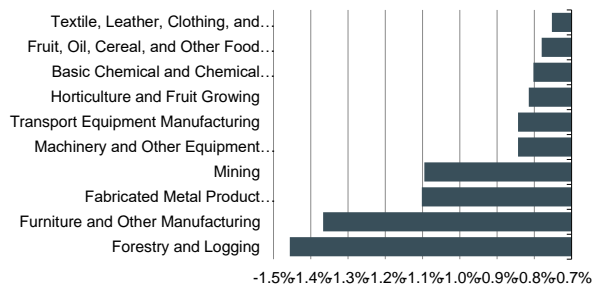


Source: Infometrics



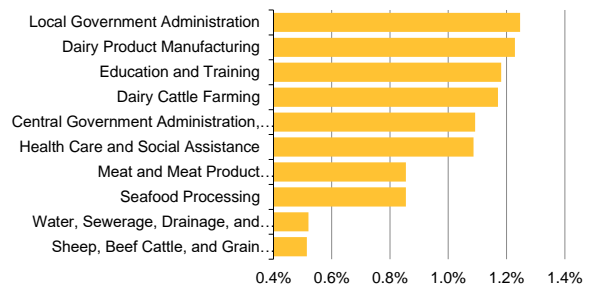
At a more detailed industry level, the worst and best performing industries in 2025 relative to the Central Scenario are the same as in 2022 (Figure 38 and Figure 39). Effectively, the industries follow the same trajectories over the medium-term.

Figure 38: Employment relative to Central Scenario, 2025 – 10 worst performing industries, Upside Scenario



Source: Infometrics

Figure 39: Employment relative to Central Scenario, 2025 – 10 best performing industries, Upside Scenario



Source: Infometrics

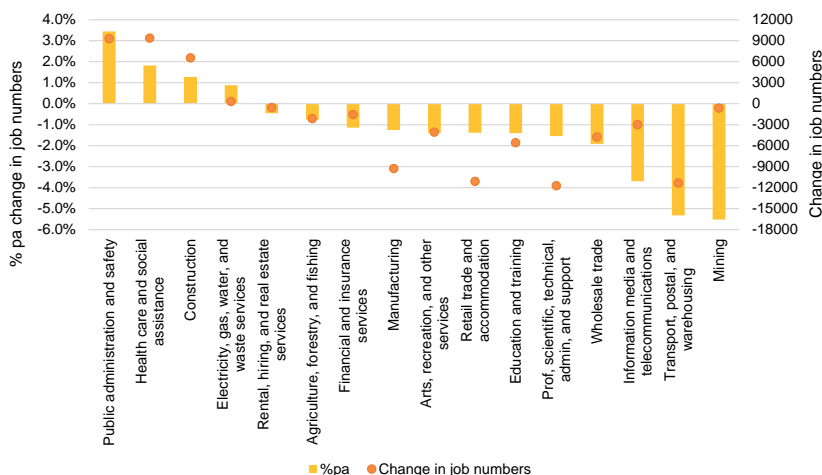
Downside Scenario

Short-term impacts

Under the Downside Scenario, total filled job numbers are forecast to drop 1.7 percent in total over 2020-2022 (or by -0.8 percent per year) – by 43,630 over the two years.

As shown in Figure 40 and Figure 41, the majority of industries are expected to record a drop in employment over 2020 to 2022 except for the public administration, health care, construction and utilities industries. Other than the relatively small mining industry, the largest declines in jobs are expected to occur in transport & warehousing, information media & telecommunications, wholesale trade, professional and administrative services, education and training, and tourism related industries.

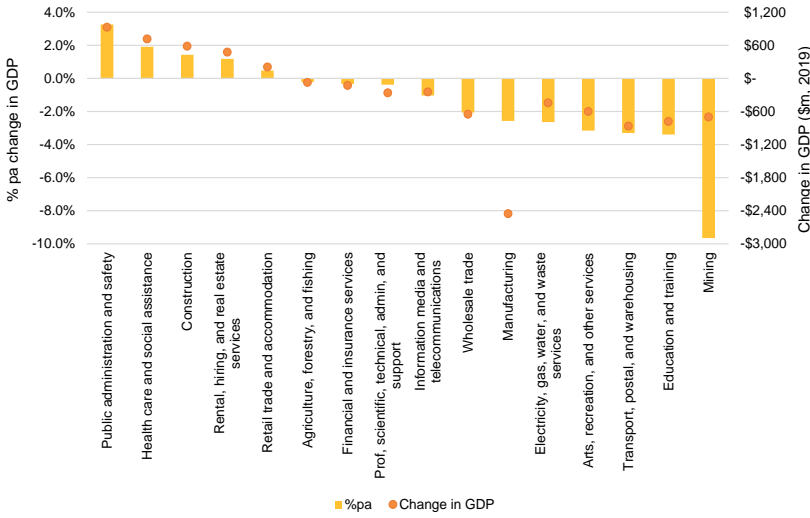
Figure 40. Forecast change in employment by industry, 2020-2022, Downside Scenario



Source: Infometrics



Figure 41. Forecast change in GDP by industry, 2020-2022, Downside Scenario



Source: Infometrics

Changes in GDP closely follow the employment projections, although the relative decline in value for manufacturing is larger than its expected reduction in employment and the relative decline in value for professional services is much smaller than its decline in jobs.

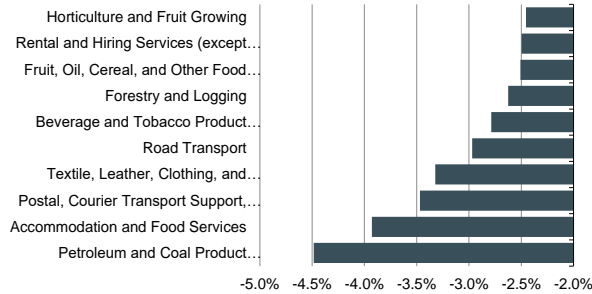
At a greater level of detail, the worst performing industries in the Downside Scenario relative to the Central Scenario are expected to be petroleum and coal product manufacturing, accommodation and food services, postal and transport support services, textile and clothing manufacturing and road transport (Figure 42). This is a somewhat different set of industries than in the Upside Scenario, reflecting the impact of more lock-down periods on sectors reliant on personal contact. However, the presence of additional government support for businesses at Alert Level 3 means that the negative pressure on employment is not as great as it otherwise would be.

Some food related industries (e.g., beverage products, fruit, cereal and other food products, horticulture) are also more heavily impacted. This may reflect them being squeezed by the constraints on and uncertainty about domestic travel and eating out caused by repeated moves to Alert Level 3. Although people still need to eat under any scenario, the mix of products consumed can vary widely between consumption at home and consumption at restaurants and bars or on holiday. Depending on their target market, some food-related manufacturers are likely to experience more difficult trading conditions, and therefore reduce employment levels, under this Scenario.

Almost all sub-sectors are expected to perform worse than in the Central Scenario except for property and real estate, transport equipment manufacturing and machinery and equipment manufacturing. Construction industries are also relatively less affected (Figure 43). There could be some substitution of business investment activity towards locally manufactured products, outweighing the effects of the broader weakness in investment spending for a few select industries.

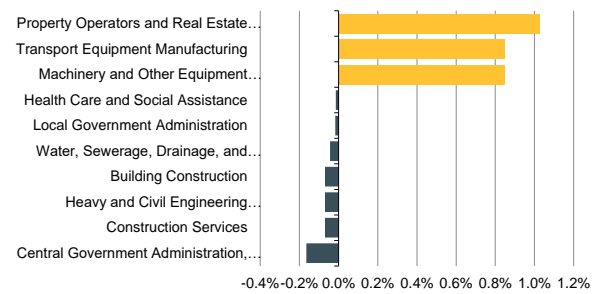


Figure 42: Employment relative to Central Scenario, 2022 – 10 worst performing industries, Downside Scenario



Source: Infometrics

Figure 43: Employment relative to BAU, 2022 – 10 best performing industries, Central Scenario



Source: Infometrics

Medium-term impacts

Under the Downside Scenario, total filled job numbers are forecast to grow by an average of 3.0 percent per year between March 2022 and March 2025. This growth would place nationwide employment in 2025 up 7.3 percent from its 2020 level, implying average growth of 1.4 percent per annum over the five-year period. Employment would be close to but slightly below (by -0.3 percent) pre-Covid projections for BAU.

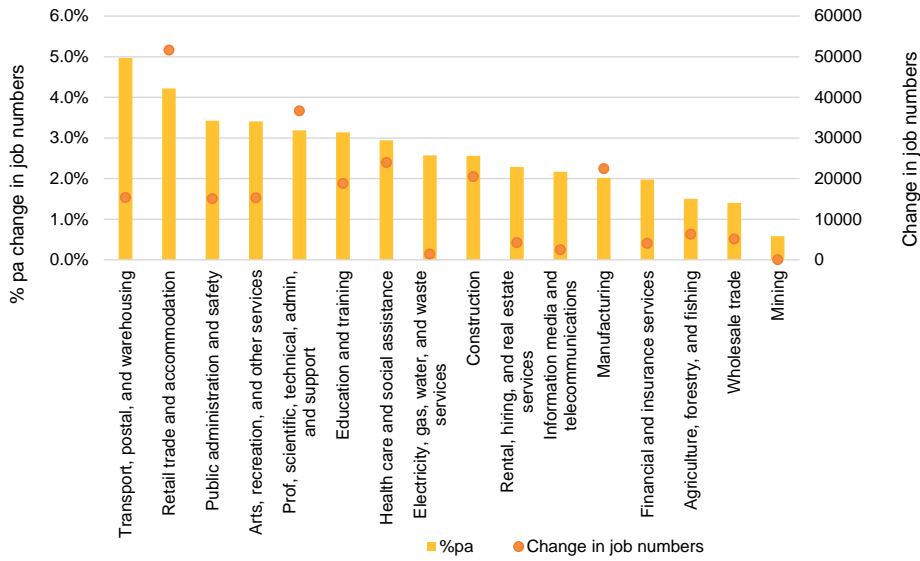
Total GDP in this scenario is projected to grow by an average of 4.1 percent per year between 2022 and 2025. This increase equates to average growth of 2.1 percent per annum between 2020 and 2025, with economic activity 0.8 percent below BAU projections in 2025.

Broad industry impacts are shown in Figure 44 and Figure 45 below. The fastest growing sectors for jobs are similar to the Upside Scenario but they generally achieve lower annual growth rates. They include:

- transport and warehousing (an additional 15,370 jobs over 2022-2025 and 5.0 percent per year job growth and 7.1 percent per year GDP growth)
- retail trade and accommodation (an additional 51,650 jobs in total, 4.2 percent per year job growth; 6.6 percent per year GDP growth)
- public administration and safety (an additional 15,090 jobs, 3.4 percent per year job growth; 4.7 percent per year GDP growth)
- arts & recreation (an additional 15,280 jobs, 3.4 percent per year job growth; 3.3 percent per year GDP growth) and
- professional, scientific and technical services (36,720 jobs, 3.2 percent per year job growth; 5.9 percent per year GDP growth).

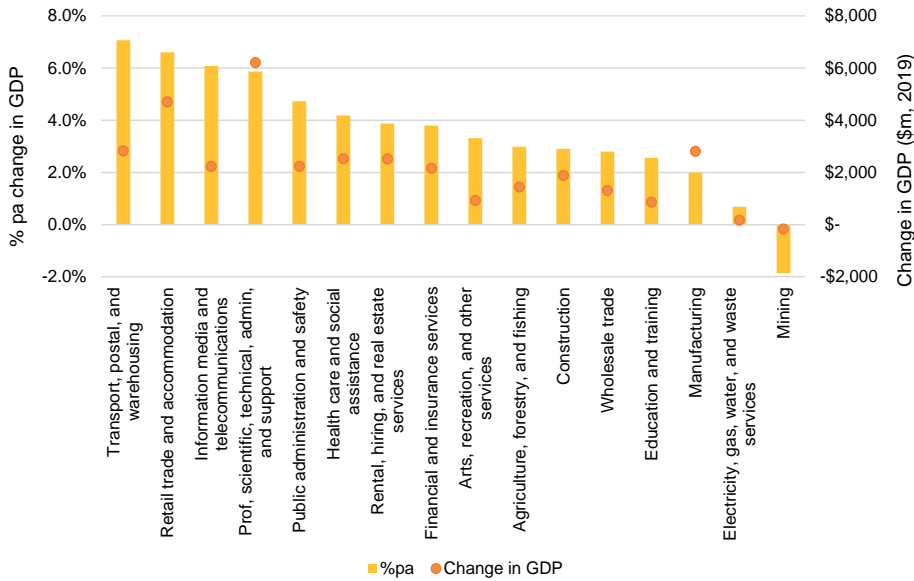


Figure 44: Forecast change in employment by industry over 2022-2025, Downside Scenario



Source: Infometrics

Figure 45: Forecast change in GDP by industry over 2022-2025, Downside Scenario

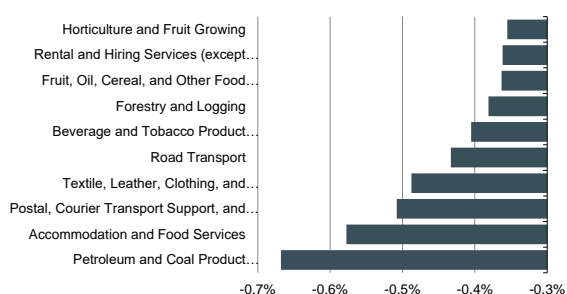


Source: Infometrics



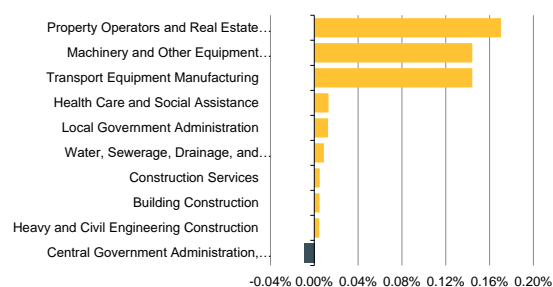
At a more detailed industry level, in this Scenario, a range of transport and tourism exposed industries are most negatively impacted compared to the Central Scenario (see Figure 46), similar to the situation in 2022. This includes petroleum and coal product manufacturing, accommodation and food services, postal and transport services, road transport, rental and hiring services, as well as some manufacturing industries. Industries that perform better in this scenario relative to the Central Scenario (albeit only slightly stronger performance) are property and real estate, machinery and equipment, transport equipment and health care (Figure 47), again extending the situation in 2022.

Figure 46: Employment relative to Central Scenario, 2025 – 10 worst performing industries, Downside Scenario



Source: Infometrics

Figure 47: Employment relative to Central Scenario, 2025 – 10 best performing industries, Downside Scenario



Source: Infometrics

Key transport industries

In terms of key drivers for land transport activity, the biggest near-term effects of the Downside Scenario on value-add will be experienced by non-food manufacturing, food manufacturing, road transport and mining. These are the same transport related industries that are negatively impacted over 2020-2022 under the Central Scenario. Construction experiences higher value-add in this Scenario than would have occurred in BAU conditions.

By 2025, some of the negatively impacted industries recover but most are still behind the BAU level of activity, with the exception of retailing, which slightly extends beyond its BAU performance (Table 2). Construction also continues to grow beyond its BAU level.

Table 2: Key industries for transport activity – Downside Scenario (2019, \$m)

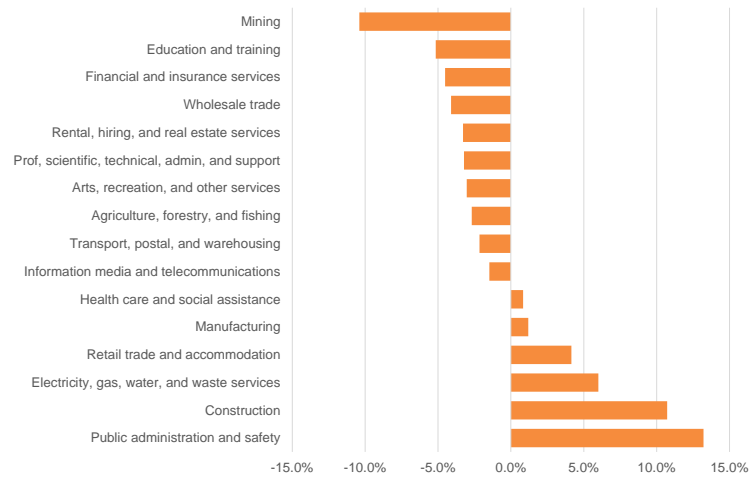
	Mar 22	%pa 20-22	Difference in 2022 to BAU	Mar 25	%pa 22-25	Difference in 2025 to BAU
Sheep, Beef and Dairy	8,956	-0.6%	-276	9,455	1.8%	-29
Forestry	448	-1.7%	3	465	1.3%	14
Mining	3,093	-9.7%	-467	2,924	-1.9%	-230
Food Manufacturing	8,534	-4.0%	-609	8,905	1.4%	-613
Non-Food Manufacturing	18,227	-3.8%	-1,604	19,400	2.1%	-1,819
Construction	20,992	1.4%	1,411	22,878	2.9%	2,882
Retailing	16,158	2.3%	-311	19,933	7.3%	253
Road Transport	4,382	-2.1%	-494	5,276	6.4%	-140
Logistics	5,873	-0.1%	-299	7,081	6.4%	-5



Comparing the Upside and Downside Scenarios

As noted, under the Upside Scenario, several industries return to close to their pre-Covid levels over the medium-term, with mining, education and training, financial and insurance services, and wholesale trade the most negatively affected. Public administration, construction and utilities enjoy the greatest level of employment growth relative to BAU. Retail trade and accommodation also rebounds to exceed its BAU level by 2025.

Figure 48: Employment relative to BAU, major industries 2025, Upside Scenario

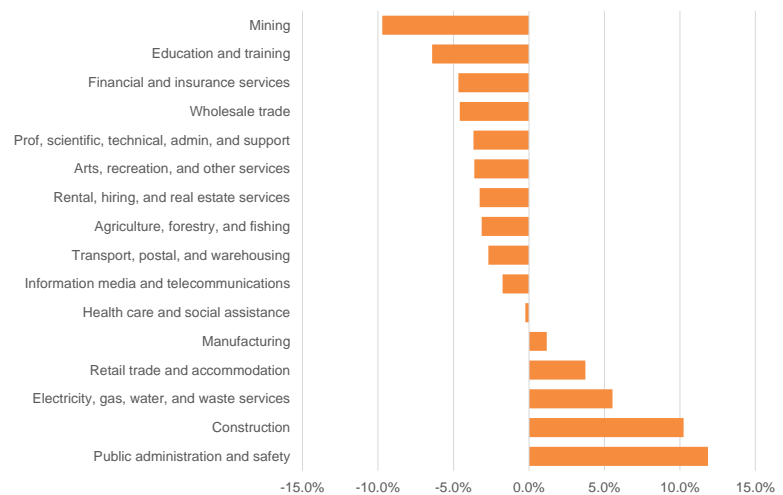


Source: Infometrics

The Downside scenario shows the same pattern of industries relative to the BAU by 2025, albeit with lower employment growth.

Hence there is limited difference between the scenarios over the medium-term and beyond.

Figure 49: Employment relative to BAU, major industries 2025, Downside Scenario



Source: Infometrics



PROJECTED REGIONAL IMPACTS

Infometrics modelling also projected the potential impact of Covid-19 on employment in New Zealand regions and territorial authorities under the different scenarios.

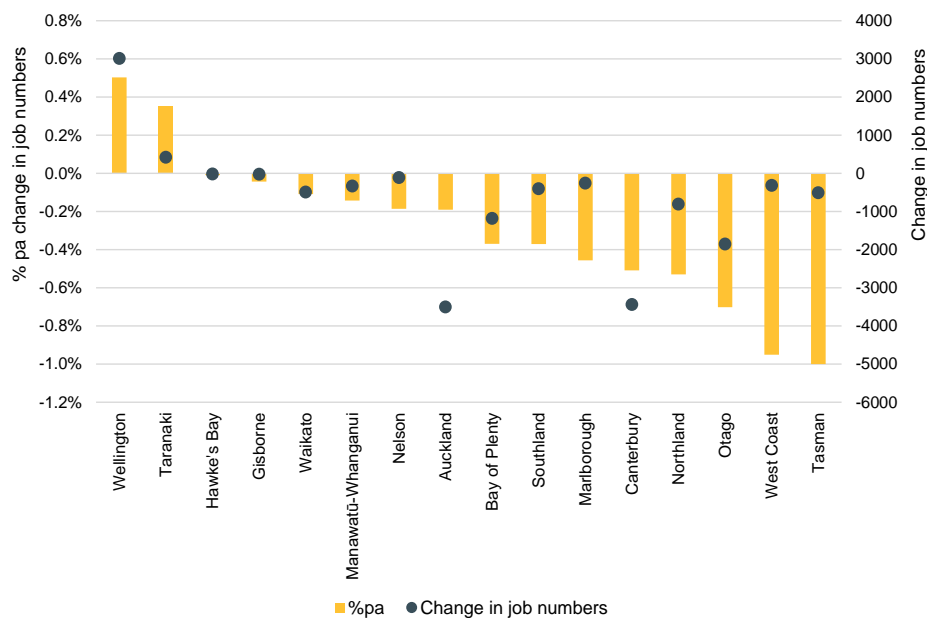
Central Scenario

Short-term impacts

Infometrics forecasts suggest the following impacts over 2020-2022 on regional employment under the Central Scenario. Consistent with the known impacts of Covid-19, tourism and migrant dependent regions are particularly affected in the first two years: Otago is projected to lose around 1,870 jobs over 2020 to 2022 (a -1.1 percent decline in employment in total); Northland 805 jobs (-1.1 percent over the two years); Tasman 510 jobs (-2.0 percent); the West Coast 315 jobs (-1.9 percent); and Canterbury 3,440 jobs (-1.0 percent). Auckland is naturally the largest hit in absolute terms and is projected to lose 3,500 jobs (-0.4 percent).

Wellington fares the best and grows employment by over 3,000 jobs over the two years, likely due to being shielded by the large public sector. Less affected provincial regions include Taranaki, Hawke's Bay and Gisborne.

Figure 50: Forecast change in employment by region over 2020-2022, Central Scenario



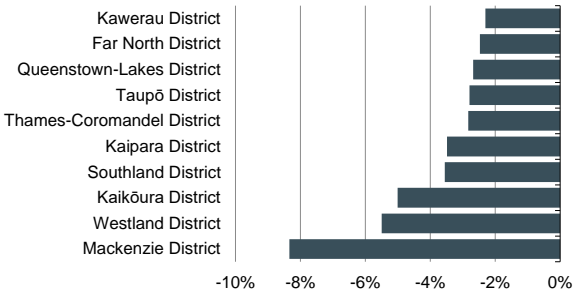
Source: Infometrics



At a territorial authority (TA) level, the best performers tend to be dominated by areas where significant construction projects are planned to take place during the short-term: Ōtorohanga, Waimakariri, Ōpōtiki, Manawatū, New Plymouth, and Invercargill (see Figure 52). The effects of these major projects on construction employment tends to dominate any weakness or other trends in employment across other industries in these areas. Some Wellington region TAs are also shielded through the public service base. Indicators of public sector employment have been strong during recent months, and this trend is expected to persist over the next year.

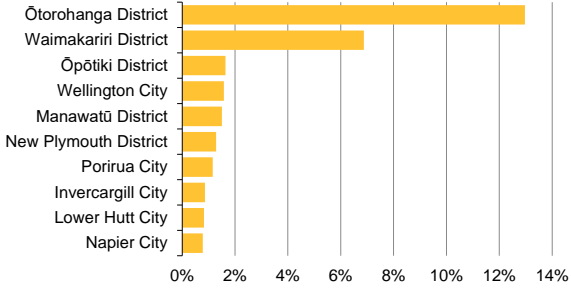
Tourism-dependent TAs are the hardest hit over the two years, with employment in Mackenzie, Westland and Kaikōura expected to experience the largest percentage falls (see Figure 51). However, the magnitude of these declines in employment are significantly smaller than was previously projected. For example, under the previous Slower Recovery Scenario, job numbers in Mackenzie and Queenstown-Lakes were forecast to drop by 23.5 percent and 21.1 percent respectively by March 2021. The forecast declines by March 2022 for these areas are now just 8.3 percent and 2.7 percent respectively.

Figure 51: Employment growth 2020-2022 – 10 worst performing districts, Central Scenario



Source: Infometrics

Figure 52: Employment growth 2020-2022 – 10 best performing districts, Central Scenario



Source: Infometrics

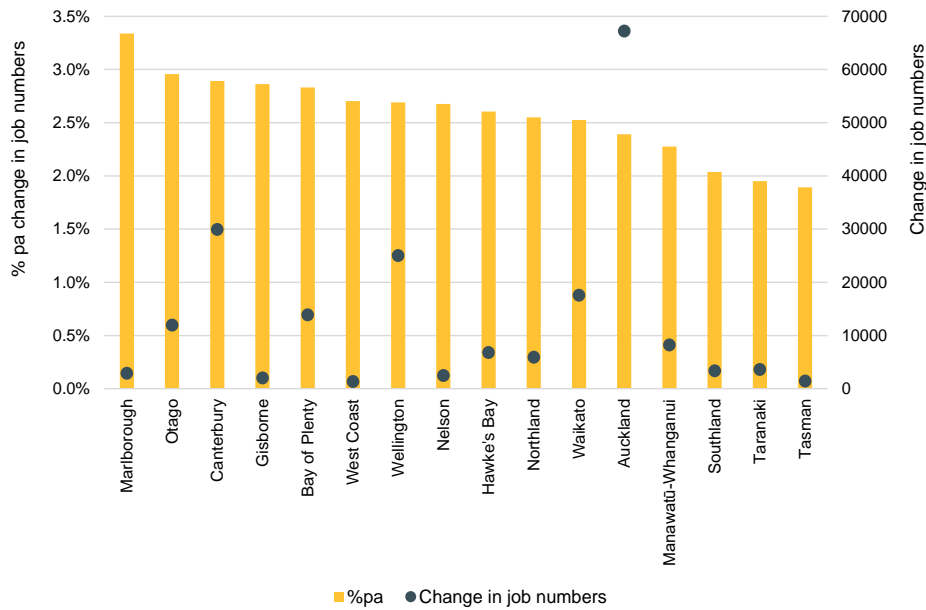
It is also notable that more domestically focused holiday areas such as Thames-Coromandel and Taupō still feature in the bottom 10. These results suggest that some of the initial buoyancy in domestic travel spending that occurred during the second half of 2020 will wear off over the coming year, leading to more difficult trading conditions for businesses in these areas.

Medium-term impacts

Projected regional employment impacts for the 2022-2025 period under the Central Scenario are shown in Figure 53 below. Several regions that were particularly affected in the short-term begin to bounce back over the medium-term. For example, relatively strong job growth is forecast for Marlborough (3.3 percent per year or an increase of 2,900 jobs over the period), Otago (3.0 percent per year or an increase of 11,940 jobs), Canterbury (2.9 percent per year, 29,920 jobs) and the West Coast (2.7 percent per year, 1,350 jobs). Tasman rebounds but experiences relatively low job growth over the period.



Figure 53: Forecast change in employment by region over 2022-2025, Central Scenario

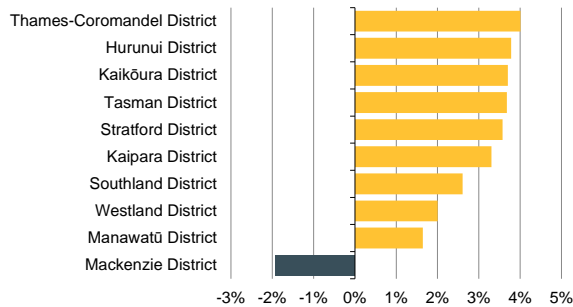


Source: Infometrics

At a TA level, it is notable that all districts other than Mackenzie achieve positive job growth over 2020 to 2025 (Figure 54). The previous modelling of the Slower Recovery Scenario in 2020 had shown eight areas with a forecast drop in job numbers in the medium-term.

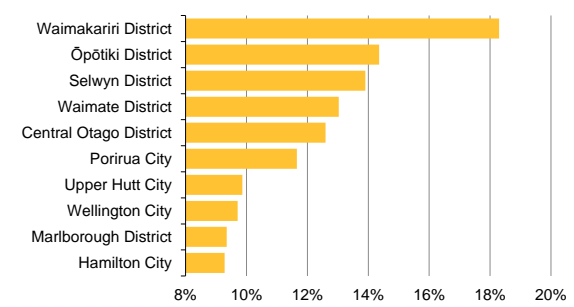
Several of the better performing districts are in the lower North Island (Figure 55) and this result is likely to be a continued effect of public sector resilience in Wellington. Reflecting the rebound in Canterbury, some districts in that region also achieve relatively strong job growth.

Figure 54: Employment growth 2020-2025 – 10 worst performing districts, Central Scenario



Source: Infometrics

Figure 55: Employment growth 2020-2025 – 10 best performing districts, Central Scenario



Source: Infometrics



Key Urban Areas

The most pronounced change in the forecasts for New Zealand's main urban areas post-Covid aligns with the rest of the country, i.e., much less of a hit in the near term. Table 3 summarises the employment projections across key urban centres for the central scenario.

Table 3. Total filled jobs in key urban areas – projections under the Central Scenario

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Auckland	919,037	-0.2%	915,533	2.4%	982,761	1.3%	1,062,866
Wellington City	173,312	0.8%	176,046	2.6%	190,141	1.8%	211,165
Hamilton City	99,089	0.3%	99,623	2.8%	108,287	1.8%	120,511
Tauranga City	76,881	-0.2%	76,650	3.0%	83,791	1.4%	90,859
Christchurch City	236,160	-0.8%	232,533	2.8%	252,638	1.5%	276,523
Queenstown-Lakes District	31,697	-1.3%	30,848	2.7%	33,374	4.9%	44,525
Total New Zealand	2,592,391	-0.2%	2,582,590	2.6%	2786252.2	1.5%	3,055,228

Source: Infometrics

Table 4 compares the new projections across the urban areas for 2025 and 3031 in the Central Scenario with the BAU projections. Notably, Wellington, Hamilton and Christchurch are projected to achieve slightly more positive employment outcomes over the medium-term under the Central Scenario than they would have achieved under BAU conditions. Moreover, Queenstown-Lakes is forecast to experience higher employment by 2031 in the Central Scenario than under the BAU projections.

Table 4. Employment projections for the Central Scenario compared to BAU projections, 2025 and 2031

	BAU 2025	Central 2025	Difference	BAU 2031	Central 2031	Difference
Auckland	1,007,918	982,761	-25,157 (-2.5%)	1,121,115	1,062,866	-58,248 (-5.2%)
Wellington City	189,568	190,141	573 (+0.3%)	208,782	211,165	2,383 (+1.1%)
Hamilton City	106,759	108,287	1,528 (+1.4%)	119,379	120,511	1,132 (+0.9%)
Tauranga City	84,346	83,791	-556 (-0.7%)	94,432	90,859	-3,572 (-3.8%)
Christchurch City	248,781	252,638	3,857 (+1.6%)	271,243	276,523	5,280 (+1.9%)
Queenstown-Lakes District	35,346	33,374	-1,972 (-5.6%)	42,200	44,525	2,326 (+5.5%)

Source: Infometrics

The following briefly discusses some of the nuances in how the different urban areas have been affected by Covid-19 to date, and how activity is expected to pan out over the next decade.

Auckland

Auckland's economy has been more heavily affected by Covid-19 than many other parts of the country. There are three key reasons behind this:



- The city’s role as the main gateway for international travel in and out of New Zealand has had significant flow-on effects for spending and other economic activity, with South Auckland coming under particular pressure as work levels have reduced due to the absence of international visitors.
- Auckland has been subjected to additional periods at Alert Level 3 since the initial nationwide lockdown in March and April last year. Although businesses have adapted their operations so that more people can continue working at Level 3 than was initially the case, these restrictions have still had major flow-on effects for consumer spending and other indicators of activity.
- The increased incidence of working from home has led to a change in people’s spending patterns and negatively affected consumer-focused businesses in Auckland’s CBD.

Compared to the pre-Covid business-as-usual forecasts, Auckland’s employment in 2021 under the Slower Recovery Scenario was expected to be 6.8 percent below “normal”. The comparable trough in employment (now in March 2022, due to the slower effect of the pandemic on job numbers) under the new Central Scenario is now 2.8 percent.

Most of the “loss” of jobs under the Central Scenario is expected to persist out to 2025, with employment in four years’ time still 2.5 percent below BAU. Furthermore, the employment outlook for Auckland by 2031 has worsened. These updated projections reflect the expectation that remote working will be a more persistent trend than was initially anticipated, enabling more people to live further afield from Auckland while remaining in work. High housing costs in Auckland and more appealing lifestyle options elsewhere will encourage some people to live in other parts of the country, and only travel to Auckland for work on an ad-hoc basis.

Hamilton

Hamilton’s employment in March 2020 was about one percentage point above the level originally estimated in the previous report. This better starting point contributes to a better overall employment outlook for the Hamilton urban area, with employment in March 2022 now forecast to be just 0.3 percent below BAU levels. This result compares much more favourably to the forecast of 5.0 percent below BAU for 2021 that was previously projected under the Slower Recovery Scenario.

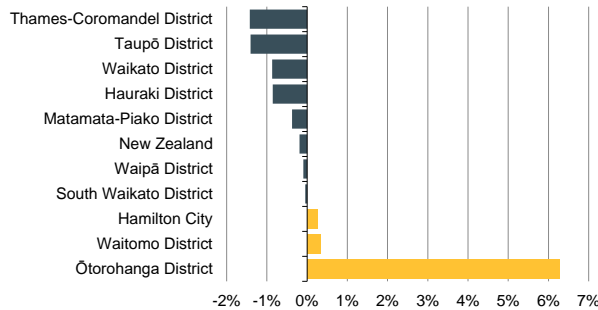
The main driver of this improved outlook is the composition of the broader Waikato economy. Areas with a significant agricultural economy and low reliance on international tourism have, to date, emerged relatively unscathed from the pandemic. Furthermore, areas within driving distance of major urban centres have also been boosted by increased domestic holiday spending.

As shown below, several Waikato districts fare relatively well over 2020-2022, with strong tourism districts such as Thames-Coromandel and Taupō experiencing the largest impacts and the Waikato District being affected by flow-on impacts from Auckland. As noted earlier, Ōtorohanga benefits from construction related activity over the short-term. Over 2020-2025, all districts are projected to achieve positive growth rates.

Although Hamilton does not benefit from either agriculture or domestic tourism directly, the positive effects of both these sectors throughout Waikato will flow through into Hamilton’s economic and employment outcomes. The 2025 and 2031 forecasts suggest that Covid-19 is unlikely to have any long-lasting effects on the Hamilton economy and, indeed, Hamilton is expected to achieve slightly better employment outcomes than the BAU under the Central Scenario.

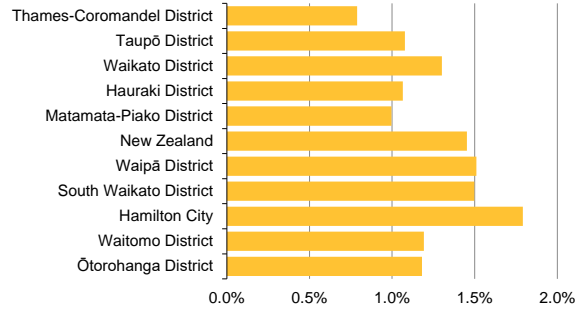


Figure 56: Employment growth 2020-2022, Waikato TAs and New Zealand



Source: Infometrics

Figure 57: Employment growth 2020-2025, Waikato TAs and New Zealand



Source: Infometrics

Tauranga

The changes in forecast outcomes for Tauranga are broadly similar to the shifts in Hamilton’s expected outlook. The primary sector is an important part of the Bay of Plenty economy and most of the region (except for Rotorua and Whakatane) has a limited reliance on international tourists and their spending. Tauranga also benefits from the strong port activity.

Throughout most of the forecast period, however, Tauranga’s employment outcomes remain lower, relative to BAU, than Hamilton’s outcomes. This gap reflects the border closures and slower population growth, which will have a more pronounced effect on Tauranga than on Hamilton. Tauranga has typically been one of the faster-growing areas in the upper North Island, but with lower migration and less population pressure in other parts of the country, a moderate spill-over effect is expected for Tauranga, leading to slightly slower population and employment growth in the city.

Wellington

The previous forecasts recognised that, as the nation’s capital city and home of central government, Wellington was likely to be more sheltered than many other parts of the country from the effects of the Covid-19 pandemic. Even so, growth in public sector employment during recent quarters has been remarkably strong, as the government has increased its hiring to implement its public health response and major fiscal stimulus initiatives as part of its Covid-19 Response and Recovery Fund.

The Wellington urban area’s insulation from the worst economic effects of Covid-19 is likely to be reflected in the area’s longer-term outcomes, with employment expected to hold slightly above BAU in 2025 and 2031.

Nevertheless, within Wellington, the effects of increased working from home are showing through in spending outcomes in the Wellington City area. It is possible that some of this change persists over the longer-term, altering spending patterns within the Wellington urban area despite relatively good employment outcomes. In addition, the assumption is that many parts of central government are unlikely to be as open to remote working as the private sector, which helps to explain why employment in Wellington does not experience the same potential squeeze over the longer-term as employment in Auckland.



Christchurch

Christchurch's role as the main gateway for international tourists to the South Island has meant that the Covid-19 pandemic has affected employment in the city. However, this effect is nowhere near as pronounced as it has been in Auckland. As with other parts of the country, the latest forecast of the employment trough in Christchurch is considerably less negative than it was previously. Under the Central Scenario, employment in Christchurch is expected to be 2.0 percent below BAU in 2022, which compares favourably with the previous modelling of 8.0 percent below BAU in 2021 under what was the Slower Recovery Scenario.

Christchurch is expected to emerge essentially unscathed from Covid-19 over the medium to long-term, with the projections of employment in 2025 and 2031 now above pre-Covid forecast levels. An increased incidence of remote working could work in Christchurch's favour over the medium term, particularly given the city's air connectivity with Auckland.

Increases in the proportion of people working from home could also change the shape of urban development in the Greater Christchurch area over the medium term. This shift is likely to reinforce the growth of satellite towns in the Waimakariri and Selwyn Districts, as people accept a longer commute on a less frequent basis in exchange for the greater housing affordability and better lifestyle options offered by these towns.

Queenstown

Although there have been widespread media reports of difficult economic conditions in Queenstown, the effects on job numbers in the town have been much more limited than the declines of 20% or more that were projected in the early stages of the pandemic. The revised projections suggest that employment in Queenstown-Lakes in March 2022 could be as little as 3-5 percent below BAU levels. This assumes that a Trans-Tasman bubble is implemented from April 2021 and that borders start to reopen more fully early in 2022.

There could still be downside risks to this employment outlook, given that tourism businesses are only just coming to the end of their peak summer period when the hole in revenue from international visitors will be most pronounced. However, even if there are further job losses in Queenstown over the next few months, it is clear that employment in the town has been hit less hard than was initially feared.

It is worth noting that job numbers in Queenstown-Lakes are still expected to be 5-6 percent below BAU levels by 2025. Growth in the District's employment will be constrained over the next few years by international travel volumes remaining below their pre-pandemic levels. Reduced air capacity, higher flight costs, and a lingering reluctance among some people to fly will all weigh on visitor numbers.

Nevertheless, unlike the previous projections, these outcomes appear are less likely to result in semi-permanent scarring on the Queenstown economy. The earlier forecasts suggested that employment by 2031 could still be as much as 16 percent below BAU levels. This is no longer expected to be the case, with Queenstown forecast to enjoy faster employment growth from 2025 onwards as the town makes up for lost time.

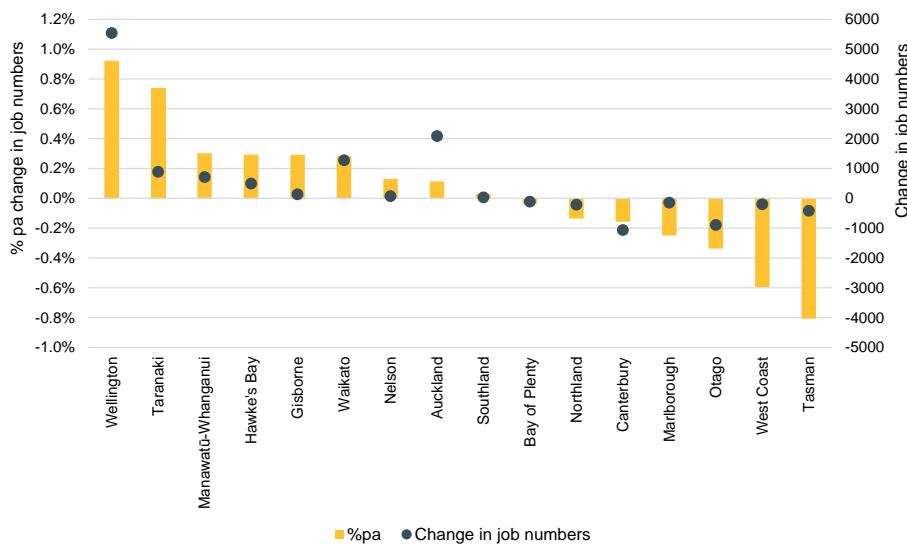


Upside scenario

Short-term impacts

The Upside Scenario produces similar results to the Central Scenario, albeit with smaller negative impacts. Tasman is projected to lose around 410 jobs over 2020-2022 (a -1.6 percent decline in employment over the two years); the West Coast is projected to lose around 200 jobs (a -1.2 percent decline); Otago around 890 jobs (a -0.7 percent decline); Marlborough 140 jobs (-0.5 percent); and Canterbury 1,060 jobs (-0.3 percent). Auckland actually increases employment slightly in this scenario (by 2,090 jobs), with Wellington projected to enjoy the most positive impact, gaining 5,540 jobs over the two years.

Figure 58: Forecast change in employment by region over 2020-2022, Upside Scenario



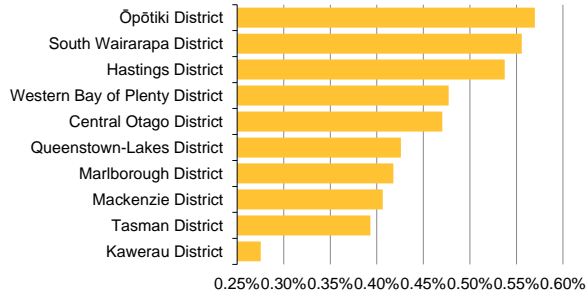
Source: Infometrics

At a territorial authority (TA) level, the additional employment growth is expected to be spread reasonably evenly across the country, with all local authority areas recording employment between 0.3 percent and 1.1 percent higher than the Central Scenario in 2022. Provincial areas reliant on agriculture tend to be less heavily affected by the downturn compared to the Central Scenario (see Figure 60) and they will benefit from improved global demand and higher export prices.

Several tourism-dependent TAs are the weakest performing relative to the Central Scenario as they will experience only a limited immediate benefit from the better economic outcomes, given that the borders will remain shut until early 2022. However, all still achieve slightly higher employment compared to the Central Scenario (see Figure 59).

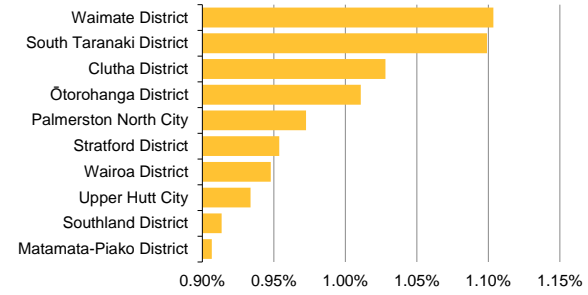


Figure 59: Employment relative to Central Scenario 2022 – 10 worst performing districts, Upside Scenario



Source: Infometrics

Figure 60: Employment relative to Central Scenario 2022 – 10 best performing districts, Upside Scenario

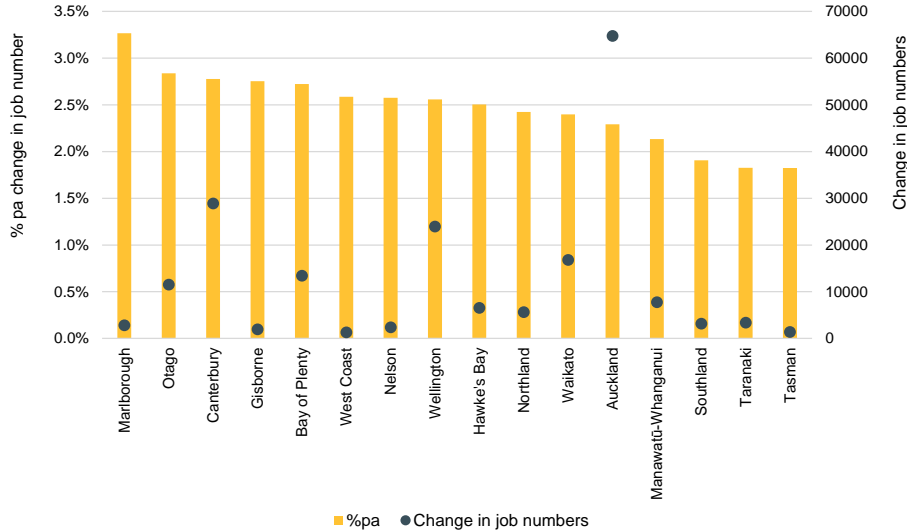


Source: Infometrics

Medium-term impacts

Projected regional employment impacts for the 2022-2025 period under the Upside Scenario closely mirror the results over the same period for the Central Scenario. Again, the recovery sees relatively strong growth in jobs projected for Marlborough, Otago, Canterbury and the West Coast as they rebound.

Figure 61: Forecast change in employment by region over 2022-2025, Upside Scenario

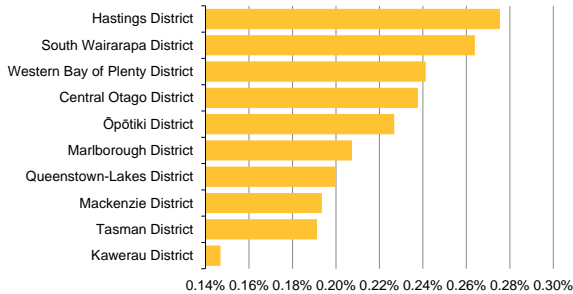


Source: Infometrics

At a TA level, again, districts with strong agricultural bases continue to perform well relative to the Central Scenario (Figure 55) and tourism dominated districts perform less well (Figure 54).

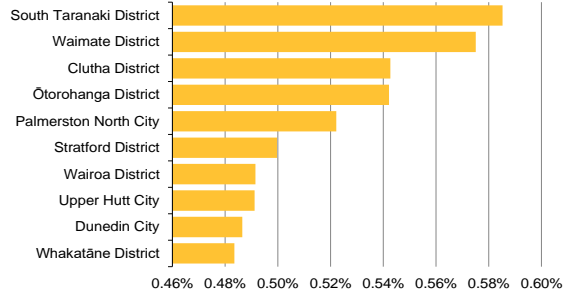


Figure 62: Employment relative to Central Scenario 2025 – 10 worst performing districts, Upside Scenario



Source: Infometrics

Figure 63: Employment relative to Central Scenario 2025 – 10 best performing districts, Upside Scenario



Source: Infometrics

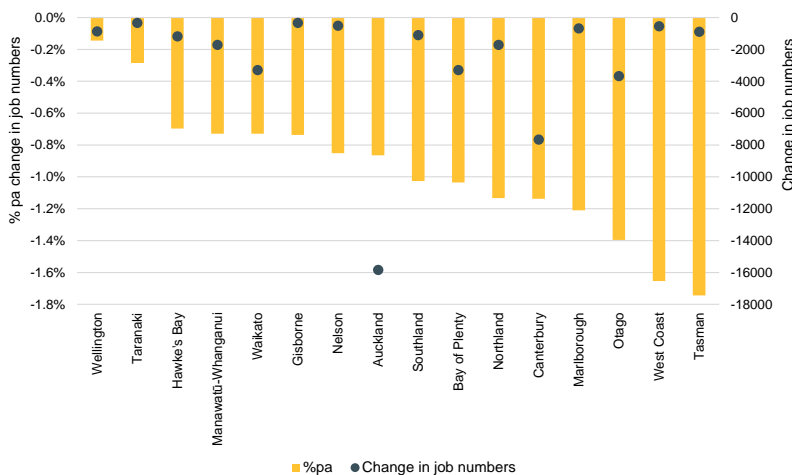
Note that although Queenstown-Lakes' employment is forecast to rebound by an average of 2.6 percent per year between 2022 and 2025, employment in the district in 2025 will still be 5 percent below what would have been its BAU level.

Downside scenario

Short-term impacts

As this Scenario involves more Alert Level 3 lock-down periods, the impact of Covid-19 on tourism and migrant-exposed districts is naturally larger compared to the Central Scenario. Over 2020-2022 Tasman is projected to lose around 890 jobs (a -1.7 percent per year decline); the West Coast is projected to lose 540 jobs (-1.7 percent per year); Otago around 3,680 jobs (-1.4 percent per year); Marlborough 680 jobs (-1.2 percent per year) and Canterbury 7660 jobs (-1.1 percent per year). Under this Scenario, none of the regions recover sufficiently to achieve positive job growth over the two years, even Wellington (Figure 64).

Figure 64: Forecast change in employment by region over 2020-2022, Downside Scenario



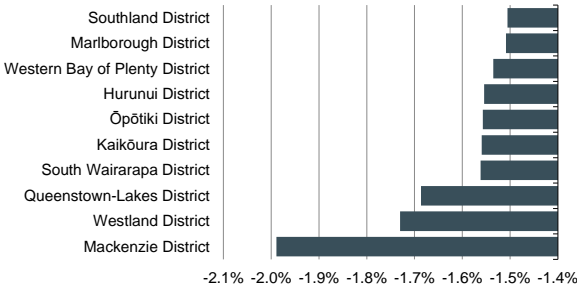
Source: Infometrics



This plays out at the TA level, with several tourism exposed districts faring worse than under the Central Scenario, particularly Mackenzie, Westland and Queenstown-Lakes (Figure 65). It is important to note that the restrictions on travel at Alert Level 3 mean that areas such as South Wairarapa or Hurunui, with a strong domestic tourism component, are particularly affected as well, alongside the more archetypal holiday destinations.

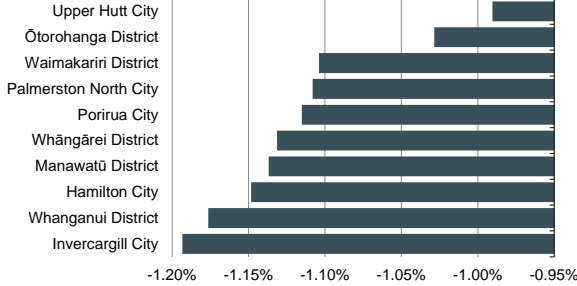
None of the districts achieve employment levels in this Scenario higher than under the Central Scenario. The areas least affected in the Downside Scenario generally have about 1 percent less employment in 2022 than under the Central Scenario. These areas are generally little affected by tourism and are also ones where the mix of industry means that people are still able to continue working at Alert Level 3 (either from home or as an essential worker). Furthermore, the nature of these areas also means that economic activity does not suffer substantially when people do work from home, unlike urban centres such as Wellington City, where a sizable amount of activity is generated by workers during the day who live outside the City.

Figure 65: Employment relative to Central Scenario 2022 – 10 worst performing districts, Downside Scenario



Source: Infometrics

Figure 66: Employment relative to Central Scenario 2022 – 10 best performing districts, Downside Scenario



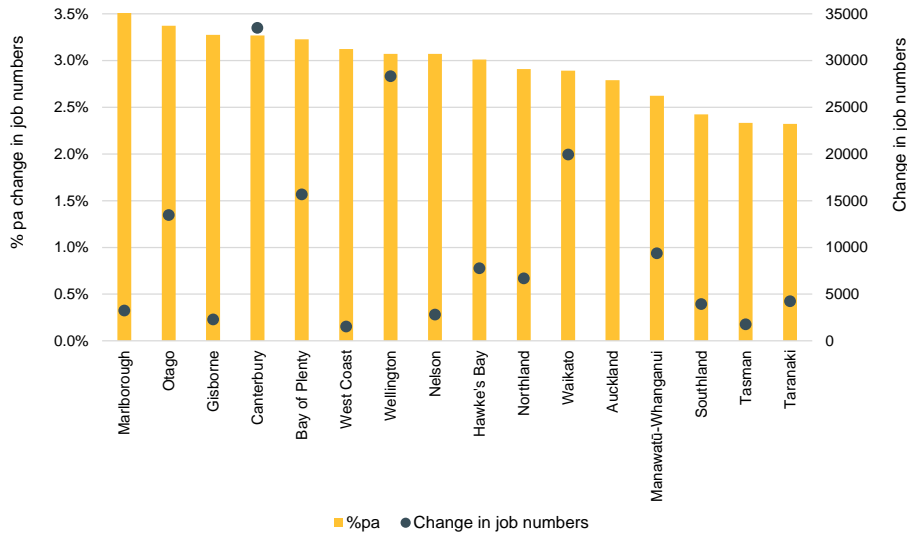
Source: Infometrics

Medium-term impacts

Regional employment impacts for the medium term under the Downside Scenario are shown in Figure 67 below. Even under this scenario, all regions recover relatively strongly over 2022-2025, with some of the most affected regions in the short-term, such as Marlborough, Otago and Canterbury, rebounding with the strongest job growth.



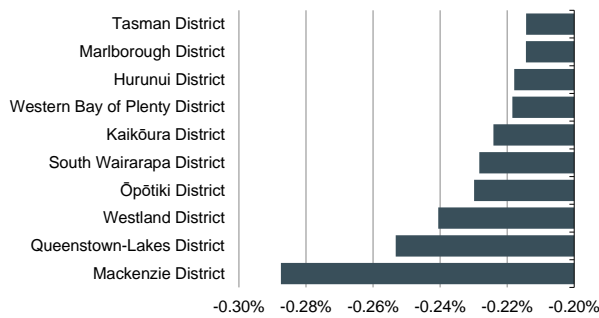
Figure 67: Forecast change in employment by region over 2022-2025, Downside Scenario



Source: Infometrics

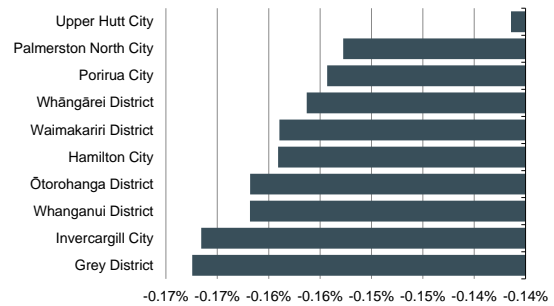
At a TA level, all of the districts achieve lower employment over the medium-term compared to the Central Scenario, although the differences are very small (Figure 68 and Figure 69). The range of employment outcomes under the Downside Scenario is only 0.1 to 0.3 percent below job numbers in the Central Scenario. Again, tourism and migrant reliant districts are the most negatively impacted compared to the Central Scenario. A similar range of cities and districts that were less affected in the short-term are projected to be less affected in the medium-term.

Figure 68: Employment relative to Central Scenario, 2025 – 10 worst performing districts, Downside Scenario



Source: Infometrics

Figure 69: Employment relative to Central Scenario, 2025 – 10 best performing districts, Downside Scenario



Source: Infometrics



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APPENDIX 1: CENTRAL SCENARIO KEY OUTPUTS

Table 5.

Employment by local authority - Treasury Central Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Far North District	25,813	-1.2%	25,176	2.6%	27,162	1.4%	29,571
Whāngārei District	41,829	0.2%	41,959	2.6%	45,309	1.4%	49,385
Kaipara District	8,532	-1.8%	8,235	2.3%	8,814	1.0%	9,384
Auckland	919,037	-0.2%	915,533	2.4%	982,761	1.3%	1,062,866
Thames-Coromandel District	13,217	-1.4%	12,843	2.3%	13,746	1.6%	15,158
Hauraki District	7,698	-0.9%	7,567	2.4%	8,117	1.8%	9,010
Waikato District	24,172	-0.9%	23,755	2.8%	25,787	1.5%	28,207
Matamata-Piako District	18,225	-0.4%	18,089	1.9%	19,151	0.9%	20,231
Hamilton City	99,089	0.3%	99,623	2.8%	108,287	1.8%	120,511
Waipā District	24,916	-0.1%	24,870	2.6%	26,854	0.8%	28,133
Otorohanga District	4,596	6.3%	5,192	-2.1%	4,874	1.2%	5,226
South Waikato District	10,235	0.0%	10,225	2.5%	11,025	1.3%	11,935
Waitomo District	5,099	0.3%	5,134	1.8%	5,410	1.1%	5,772
Taupō District	19,450	-1.4%	18,907	2.8%	20,521	1.6%	22,525
Western Bay of Plenty District	24,560	-1.0%	24,087	2.1%	25,607	1.5%	28,059
Tauranga City	76,881	-0.2%	76,650	3.0%	83,791	1.4%	90,859
Rotorua District	36,025	-0.4%	35,733	2.9%	38,910	2.0%	43,792
Whakatāne District	15,888	-0.6%	15,706	2.7%	17,033	1.5%	18,656
Kawerau District	2,926	-1.2%	2,858	2.6%	3,090	1.2%	3,317
Ōpōtiki District	3,888	0.8%	3,952	4.0%	4,446	4.9%	5,922
Gisborne District	23,059	0.0%	23,039	2.9%	25,074	1.3%	27,126
Wairoa District	3,388	-0.3%	3,369	1.8%	3,554	0.9%	3,744
Hastings District	46,160	-0.2%	45,969	2.8%	49,945	2.2%	56,854
Napier City	28,732	0.4%	28,956	2.6%	31,264	2.0%	35,136
Central Hawke's Bay District	6,464	-0.2%	6,434	1.6%	6,757	0.7%	7,063
New Plymouth District	42,566	0.6%	43,112	2.1%	45,868	1.6%	50,555
Stratford District	3,530	-1.1%	3,453	1.9%	3,656	1.5%	3,998
South Taranaki District	13,856	-0.2%	13,811	1.5%	14,455	0.8%	15,140
Ruapehu District	6,477	-0.9%	6,367	2.2%	6,793	1.7%	7,508
Whanganui District	20,389	-0.8%	20,069	2.9%	21,844	1.8%	24,291
Rangitikei District	6,697	0.2%	6,720	2.1%	7,146	1.0%	7,575
Manawatū District	12,125	0.7%	12,307	0.0%	12,324	1.1%	13,176
Palmerston North City	53,259	-0.1%	53,204	2.7%	57,605	1.8%	64,217
Taranua District	7,655	-0.7%	7,548	2.0%	8,003	1.0%	8,512
Horowhenua District	11,195	0.2%	11,247	2.0%	11,950	1.7%	13,204
Kāpiti Coast District	18,192	-0.7%	17,940	3.3%	19,787	1.3%	21,350
Porirua City	20,929	0.6%	21,172	3.3%	23,369	1.5%	25,530
Upper Hutt City	14,271	0.0%	14,264	3.2%	15,678	1.5%	17,176
Lower Hutt City	51,231	0.4%	51,653	2.4%	55,535	1.5%	60,731
Wellington City	173,312	0.8%	176,046	2.6%	190,141	1.8%	211,165
Masterton District	12,703	-0.2%	12,644	2.6%	13,654	1.4%	14,825
Carterton District	3,839	0.3%	3,859	1.9%	4,084	1.2%	4,395
South Wairarapa District	4,416	-1.0%	4,331	2.7%	4,692	1.7%	5,179
Total New Zealand	2,592,391	-0.2%	2,582,590	2.6%	2,786,252	1.5%	3,055,228

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 6

Employment by local authority - Treasury Central Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Tasman District	25,633	-1.0%	25,123	1.9%	26,576	1.4%	28,853
Nelson City	30,148	-0.2%	30,036	2.7%	32,513	1.8%	36,268
Marlborough District	28,241	-0.5%	27,985	3.3%	30,882	2.2%	35,105
Kaikōura District	2,007	-2.5%	1,907	3.0%	2,081	1.9%	2,335
Buller District	4,169	-0.3%	4,144	2.6%	4,476	0.9%	4,735
Grey District	7,596	-0.2%	7,569	2.8%	8,231	1.8%	9,155
Westland District	4,747	-2.8%	4,486	2.6%	4,842	1.8%	5,392
Hurunui District	6,176	-1.1%	6,036	2.0%	6,409	0.9%	6,757
Waimakariri District	19,682	3.4%	21,036	3.4%	23,285	3.2%	28,175
Christchurch City	236,160	-0.8%	232,533	2.8%	252,638	1.5%	276,523
Selwyn District	23,210	-0.4%	23,041	4.7%	26,437	3.7%	32,881
Ashburton District	19,159	-0.6%	18,925	2.3%	20,254	0.8%	21,285
Timaru District	26,004	-0.5%	25,726	2.1%	27,406	1.0%	29,078
Mackenzie District	2,855	-4.3%	2,617	2.3%	2,800	1.9%	3,139
Waimate District	3,276	-0.1%	3,272	4.2%	3,703	0.6%	3,837
Waitaki District	11,514	-0.3%	11,454	2.2%	12,227	1.1%	13,039
Central Otago District	13,970	0.2%	14,033	3.9%	15,729	2.2%	17,921
Queenstown-Lakes District	31,697	-1.3%	30,848	2.7%	33,374	4.9%	44,525
Dunedin City	66,107	-0.7%	65,188	3.2%	71,589	1.3%	77,330
Clutha District	9,280	-0.5%	9,191	1.9%	9,738	0.6%	10,103
Southland District	17,553	-1.8%	16,929	2.1%	18,011	0.3%	18,373
Gore District	7,209	-0.2%	7,177	1.9%	7,591	2.5%	8,784
Invercargill City	29,475	0.4%	29,729	2.0%	31,589	1.6%	34,665
Total New Zealand	2,592,391	-0.2%	2,582,590	2.6%	2,786,252	1.5%	3,055,228

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 7

Employment by region - Treasury Central Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Northland	76,175	-0.5%	75,370	2.6%	81,285	1.4%	88,340
Auckland	919,037	-0.2%	915,533	2.4%	982,761	1.3%	1,062,866
Waikato	226,697	-0.1%	226,207	2.5%	243,771	1.5%	266,707
Bay of Plenty	160,168	-0.4%	158,987	2.8%	172,877	1.6%	190,606
Gisborne	23,059	0.0%	23,039	2.9%	25,074	1.3%	27,126
Hawke's Bay	84,744	0.0%	84,727	2.6%	91,519	2.0%	102,797
Taranaki	59,953	0.4%	60,376	2.0%	63,980	1.4%	69,693
Manawatū-Whanganui	117,796	-0.1%	117,461	2.3%	125,664	1.6%	138,483
Wellington	298,894	0.5%	301,908	2.7%	326,940	1.6%	360,351
Tasman	25,633	-1.0%	25,123	1.9%	26,576	1.4%	28,853
Nelson	30,148	-0.2%	30,036	2.7%	32,513	1.8%	36,268
Marlborough	28,241	-0.5%	27,985	3.3%	30,882	2.2%	35,105
West Coast	16,512	-1.0%	16,200	2.7%	17,549	1.6%	19,283
Canterbury	338,529	-0.5%	335,092	2.9%	365,013	1.7%	404,010
Otago	132,568	-0.7%	130,714	3.0%	142,657	2.2%	162,918
Southland	54,237	-0.4%	53,835	2.0%	57,191	1.3%	61,823
Total New Zealand	2,592,391	-0.2%	2,582,590	2.6%	2,786,252	1.5%	3,055,228

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 8

GDP by local authority - Treasury Central Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Far North District	2,578	-0.5%	2,552	3.6%	2,839	2.2%	3,234
Whāngārei District	4,775	-1.6%	4,622	2.9%	5,031	1.6%	5,548
Kaipara District	910	-0.7%	898	3.5%	994	2.0%	1,121
Auckland	119,372	0.3%	120,045	3.6%	133,635	2.0%	150,891
Thames-Coromandel District	1,356	-0.9%	1,333	3.3%	1,468	2.3%	1,683
Hauraki District	1,083	-3.0%	1,019	1.0%	1,049	0.7%	1,092
Waikato District	3,079	-2.3%	2,936	2.9%	3,196	1.7%	3,531
Matamata-Piako District	2,127	0.0%	2,125	2.7%	2,304	1.5%	2,522
Hamilton City	10,813	0.2%	10,856	3.4%	11,986	2.2%	13,645
Waipā District	2,811	0.4%	2,835	3.3%	3,125	1.4%	3,401
Ōtorohanga District	585	5.7%	654	###	652	2.0%	733
South Waikato District	1,341	0.8%	1,362	3.7%	1,519	2.4%	1,748
Waitomo District	840	-1.8%	809	0.3%	817	0.0%	818
Taupō District	2,424	-1.1%	2,369	3.0%	2,587	1.8%	2,876
Western Bay of Plenty District	2,304	-0.4%	2,286	3.1%	2,505	2.1%	2,839
Tauranga City	7,710	0.7%	7,821	4.1%	8,814	2.0%	9,950
Rotorua District	3,696	0.2%	3,708	3.8%	4,151	3.5%	5,111
Whakatāne District	1,735	0.3%	1,745	3.2%	1,920	2.0%	2,163
Kawerau District	383	-0.6%	378	3.2%	416	1.6%	456
Ōpōtiki District	367	0.8%	373	4.8%	430	4.7%	568
Gisborne District	2,096	0.7%	2,124	4.2%	2,403	2.5%	2,790
Wairoa District	332	0.2%	333	2.9%	363	1.9%	405
Hastings District	4,370	0.2%	4,385	3.8%	4,902	2.8%	5,774
Napier City	2,866	1.0%	2,924	3.8%	3,270	2.8%	3,861
Central Hawke's Bay District	631	0.2%	633	2.5%	681	1.3%	737
New Plymouth District	6,839	-0.9%	6,711	2.5%	7,235	1.2%	7,781
Stratford District	517	-1.5%	502	0.9%	517	1.3%	559
South Taranaki District	2,208	-1.2%	2,155	1.5%	2,255	0.6%	2,343
Ruapehu District	710	-0.1%	709	3.0%	774	2.0%	873
Whanganui District	1,938	-0.1%	1,936	3.9%	2,173	2.5%	2,524
Rangitikei District	674	0.6%	682	3.0%	745	1.8%	828
Manawatū District	1,245	1.5%	1,282	1.2%	1,327	1.8%	1,479
Palmerston North City	5,101	0.7%	5,171	3.9%	5,792	2.5%	6,698
Tararua District	900	-0.2%	897	2.7%	973	1.6%	1,070
Horowhenua District	1,140	1.5%	1,174	3.0%	1,284	2.3%	1,475
Kāpiti Coast District	2,108	0.1%	2,113	4.4%	2,405	2.3%	2,757
Porirua City	2,365	1.6%	2,441	4.7%	2,801	2.4%	3,236
Upper Hutt City	1,838	0.6%	1,860	4.3%	2,111	2.6%	2,459
Lower Hutt City	6,334	0.6%	6,407	3.5%	7,094	2.1%	8,059
Wellington City	26,982	1.0%	27,511	3.8%	30,783	2.3%	35,208
Masterton District	1,404	0.9%	1,431	4.3%	1,622	2.6%	1,893
Carterton District	505	0.6%	511	3.3%	564	2.2%	643
South Wairarapa District	547	-1.0%	537	3.9%	603	2.8%	713
Total New Zealand	313,699	0.1%	314,426	3.6%	349,135	2.1%	396,349

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 9

GDP by local authority - Treasury Central Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Tasman District	2,353	-0.5%	2,330	3.3%	2,567	2.3%	2,940
Nelson City	2,789	0.2%	2,802	3.8%	3,133	2.6%	3,646
Marlborough District	3,227	-1.1%	3,156	3.8%	3,533	2.6%	4,122
Kaikōura District	224	-1.7%	216	4.0%	243	2.5%	282
Buller District	621	-1.9%	598	1.3%	621	0.0%	621
Grey District	840	-0.3%	834	3.0%	911	1.9%	1,022
Westland District	607	-2.6%	576	2.5%	621	1.4%	676
Hurunui District	823	-0.2%	820	3.3%	903	1.8%	1,006
Waimakariri District	2,203	3.2%	2,348	4.7%	2,697	4.0%	3,419
Christchurch City	26,358	-0.5%	26,111	3.8%	29,237	2.2%	33,336
Selwyn District	2,808	-0.2%	2,795	5.3%	3,263	4.4%	4,212
Ashburton District	2,429	-0.3%	2,415	3.0%	2,640	1.3%	2,860
Timaru District	3,025	-0.4%	3,003	2.7%	3,257	1.4%	3,542
Mackenzie District	364	-3.7%	338	2.3%	362	1.6%	399
Waimate District	444	0.3%	446	4.1%	503	1.1%	538
Waitaki District	1,803	-0.1%	1,800	2.1%	1,914	-0.1%	1,907
Central Otago District	1,472	0.8%	1,494	4.5%	1,705	2.9%	2,021
Queenstown-Lakes District	3,337	-1.0%	3,268	3.9%	3,671	5.5%	5,047
Dunedin City	6,504	-0.4%	6,450	3.8%	7,222	1.7%	8,012
Clutha District	1,001	-0.2%	996	2.7%	1,078	1.4%	1,175
Southland District	2,514	-1.4%	2,445	2.2%	2,611	0.5%	2,694
Gore District	816	-0.5%	808	2.0%	858	1.3%	925
Invercargill City	3,202	0.3%	3,223	2.4%	3,465	1.8%	3,850
Total New Zealand	313,699	0.1%	314,426	3.6%	349,135	2.1%	396,349

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 10

GDP by region - Treasury Central Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Northland	8,263	-1.2%	8,071	3.2%	8,865	1.9%	9,903
Auckland	119,372	0.3%	120,045	3.6%	133,635	2.0%	150,891
Waikato	26,458	-0.3%	26,298	3.0%	28,705	1.9%	32,049
Bay of Plenty	16,195	0.4%	16,312	3.8%	18,236	2.5%	21,088
Gisborne	2,096	0.7%	2,124	4.2%	2,403	2.5%	2,790
Hawke's Bay	8,198	0.5%	8,275	3.7%	9,216	2.6%	10,777
Taranaki	9,564	-1.0%	9,368	2.2%	10,008	1.1%	10,683
Manawatū-Whanganui	11,708	0.6%	11,850	3.3%	13,069	2.3%	14,947
Wellington	42,082	0.9%	42,810	3.9%	47,983	2.3%	54,967
Tasman	2,353	-0.5%	2,330	3.3%	2,567	2.3%	2,940
Nelson	2,789	0.2%	2,802	3.8%	3,133	2.6%	3,646
Marlborough	3,227	-1.1%	3,156	3.8%	3,533	2.6%	4,122
West Coast	2,068	-1.5%	2,008	2.4%	2,153	1.2%	2,319
Canterbury	38,678	-0.2%	38,491	3.8%	43,104	2.4%	49,594
Otago	14,117	-0.4%	14,008	3.6%	15,590	2.6%	18,163
Southland	6,532	-0.4%	6,477	2.3%	6,934	1.2%	7,469
Total New Zealand	313,699	0.1%	314,426	3.6%	349,135	2.1%	396,349

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 11

Employment by industry - Treasury Central Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Horticulture and Fruit Growing	27,509	0.3%	27,688	1.9%	29,315	1.9%	32,825
Sheep, Beef Cattle, and Grain Farming	28,239	-0.3%	28,083	-0.7%	27,462	-1.2%	25,491
Dairy Cattle Farming	35,305	-0.6%	34,849	0.1%	34,903	-0.5%	33,942
Poultry, Deer, and Other Livestock Farming	8,424	0.0%	8,417	0.8%	8,615	0.1%	8,666
Fishing and Aquaculture	6,366	0.0%	6,372	1.5%	6,669	1.2%	7,177
Forestry and Logging	4,362	-0.9%	4,280	-0.3%	4,246	-1.0%	3,993
Agriculture, Forestry, and Fishing Support Services and Hunting	30,361	1.4%	31,217	2.8%	33,909	0.4%	34,773
Mining	6,037	-4.4%	5,521	-0.1%	5,503	-1.4%	5,052
Meat and Meat Product Manufacturing	26,183	-0.9%	25,695	-0.1%	25,604	-1.4%	23,574
Seafood Processing	4,909	-2.6%	4,655	-0.6%	4,572	-1.4%	4,209
Dairy Product Manufacturing	14,250	0.3%	14,323	1.6%	15,024	-0.1%	14,945
Fruit, Oil, Cereal, and Other Food Product Manufacturing	29,245	-0.5%	28,961	2.1%	30,791	1.9%	34,380
Beverage and Tobacco Product Manufacturing	7,753	-2.0%	7,439	3.6%	8,276	3.3%	10,034
Textile, Leather, Clothing, and Footwear Manufacturing	9,926	-5.6%	8,851	-0.9%	8,623	-0.1%	8,575
Wood Product Manufacturing	18,520	-3.3%	17,327	0.4%	17,551	0.9%	18,528
Pulp, Paper, and Converted Paper Product Manufacturing	4,712	-3.4%	4,397	-0.2%	4,371	-0.9%	4,141
Printing	8,195	-5.9%	7,252	0.4%	7,343	2.2%	8,390
Petroleum and Coal Product Manufacturing	1,103	-7.6%	941	-1.8%	891	-1.3%	826
Basic Chemical and Chemical Product Manufacturing	8,340	-3.1%	7,823	1.2%	8,119	1.9%	9,101
Polymer Product and Rubber Product Manufacturing	11,640	-2.4%	11,080	1.6%	11,604	1.5%	12,678
Non-Metallic Mineral Product Manufacturing	9,318	-0.8%	9,167	2.8%	9,968	1.7%	11,036
Primary Metal and Metal Product Manufacturing	4,427	-3.2%	4,144	-2.7%	3,820	0.6%	3,956
Fabricated Metal Product Manufacturing	28,570	-1.6%	27,672	2.1%	29,446	1.9%	32,943
Transport Equipment Manufacturing	14,156	-2.2%	13,533	1.5%	14,165	1.1%	15,115
Machinery and Other Equipment Manufacturing	32,026	-2.1%	30,709	1.3%	31,942	1.1%	34,085
Furniture and Other Manufacturing	11,133	-2.0%	10,685	1.0%	11,019	0.9%	11,622
Electricity and Gas Supply	8,869	1.6%	9,155	2.3%	9,809	1.3%	10,592
Water, Sewerage, Drainage, and Waste Services	9,331	0.8%	9,477	2.5%	10,193	1.2%	10,971
Building Construction	71,037	1.9%	73,745	2.8%	80,005	2.4%	92,478
Heavy and Civil Engineering Construction	38,873	0.5%	39,248	3.1%	42,986	2.4%	49,688
Construction Services	144,006	1.3%	147,649	2.3%	157,972	2.4%	182,601
Wholesale Trade	125,648	-1.5%	121,922	1.2%	126,178	0.3%	128,650
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	28,206	-1.9%	27,156	3.4%	30,013	0.3%	30,601
Supermarket, Grocery Stores, and Specialised Food Retailing	74,404	2.0%	77,352	3.0%	84,631	0.3%	86,289
Other Store-Based Retailing and Non Store Retailing	127,416	-0.2%	126,828	3.5%	140,476	0.3%	143,227
Accommodation and Food Services	172,458	-1.1%	168,641	3.9%	189,293	1.9%	212,152
Road Transport	48,588	-2.8%	45,872	3.5%	50,930	0.8%	53,282
Rail, Water, Air, and Other Transport	19,725	-14.2%	14,522	6.8%	17,714	2.8%	20,857
Postal, Courier Transport Support, and Warehousing Services	41,143	-0.4%	40,808	3.6%	45,335	2.5%	52,509
Information Media Services	23,400	-0.6%	23,099	2.4%	24,827	-0.6%	23,952
Telecommunications, Internet, and Library Services	18,109	-5.3%	16,256	0.2%	16,359	-1.1%	15,288
Finance	38,432	-0.3%	38,203	2.0%	40,541	0.1%	40,703
Insurance and Superannuation Funds	10,353	-1.6%	10,020	1.2%	10,383	0.1%	10,425
Auxiliary Finance and Insurance Services	20,496	-0.7%	20,228	1.2%	20,993	0.1%	21,077
Rental and Hiring Services (except Real Estate)	16,310	-0.5%	16,138	2.8%	17,542	1.6%	19,259
Property Operators and Real Estate Services	45,526	-0.5%	45,080	2.1%	48,022	1.0%	51,016
Professional, Scientific, and Technical Services	249,058	-0.5%	246,702	2.7%	267,471	2.0%	300,613
Administrative and Support Services	134,338	-0.5%	132,953	2.3%	142,147	1.9%	158,852
Central Government Administration, Defence, and Public Safety	24,982	2.1%	26,017	2.6%	28,137	1.9%	31,478
Local Government Administration	107,630	3.8%	115,934	3.6%	128,824	2.5%	149,342
Education and Training	199,529	-0.8%	196,348	2.8%	213,136	2.5%	246,474
Health Care and Social Assistance	255,006	1.8%	264,416	2.9%	288,358	1.7%	319,491
Arts and Recreation Services	49,299	-2.3%	47,059	3.1%	51,557	2.8%	60,810
Other Services	99,213	0.7%	100,679	2.6%	108,669	2.0%	122,496
Total	2,592,391	-0.2%	2,582,590	2.6%	2,786,252	1.5%	3,055,228

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 12

GDP by industry - Treasury Central Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25	%pa	Mar 31
Horticulture and Fruit Growing	1,446	1.0%	1,474	3.5%	1,633	3.2%	1,968
Sheep, Beef Cattle, and Grain Farming	3,049	0.5%	3,078	0.8%	3,155	0.0%	3,149
Dairy Cattle Farming	6,020	0.1%	6,031	1.6%	6,325	0.7%	6,608
Poultry, Deer, and Other Livestock Farming	444	0.8%	451	2.4%	484	1.3%	524
Fishing and Aquaculture	1,989	2.3%	2,081	4.6%	2,384	4.1%	3,030
Forestry and Logging	464	-0.2%	462	0.4%	468	-1.0%	441
Agriculture, Forestry, and Fishing Support Services and Hunting	2,223	2.1%	2,319	4.0%	2,606	1.0%	2,771
Mining	3,790	-8.5%	3,175	-2.6%	2,937	-5.1%	2,144
Meat and Meat Product Manufacturing	2,087	-2.8%	1,973	-1.3%	1,895	-2.9%	1,592
Seafood Processing	477	-4.4%	436	-1.8%	413	-2.8%	347
Dairy Product Manufacturing	1,717	-1.7%	1,658	0.5%	1,683	-1.4%	1,550
Fruit, Oil, Cereal, and Other Food Product Manufacturing	2,423	-2.1%	2,323	1.0%	2,391	0.4%	2,445
Beverage and Tobacco Product Manufacturing	2,565	-4.1%	2,356	2.8%	2,557	2.2%	2,909
Textile, Leather, Clothing, and Footwear Manufacturing	783	-3.1%	736	1.9%	778	2.1%	879
Wood Product Manufacturing	1,689	-0.2%	1,681	2.7%	1,819	2.9%	2,156
Pulp, Paper, and Converted Paper Product Manufacturing	935	-0.3%	929	2.1%	990	1.1%	1,059
Printing	717	-7.6%	612	0.9%	628	2.2%	715
Petroleum and Coal Product Manufacturing	1,452	-8.6%	1,214	-2.0%	1,144	-1.6%	1,036
Basic Chemical and Chemical Product Manufacturing	1,860	-3.9%	1,718	0.9%	1,763	1.0%	1,877
Polymer Product and Rubber Product Manufacturing	1,659	-3.0%	1,559	1.3%	1,620	0.7%	1,691
Non-Metallic Mineral Product Manufacturing	1,381	-1.5%	1,341	3.4%	1,481	2.0%	1,664
Primary Metal and Metal Product Manufacturing	753	-4.3%	690	-3.4%	623	-0.5%	603
Fabricated Metal Product Manufacturing	2,662	-2.9%	2,512	1.4%	2,616	0.7%	2,728
Transport Equipment Manufacturing	1,625	-2.7%	1,537	2.9%	1,675	2.0%	1,882
Machinery and Other Equipment Manufacturing	4,096	-2.6%	3,884	2.6%	4,199	1.9%	4,702
Furniture and Other Manufacturing	863	-1.4%	838	2.0%	889	1.3%	962
Electricity and Gas Supply	6,975	-1.8%	6,722	0.2%	6,764	-1.2%	6,277
Water, Sewerage, Drainage, and Waste Services	1,514	-2.4%	1,441	0.5%	1,463	-0.9%	1,384
Building Construction	4,365	2.5%	4,586	2.9%	4,991	2.0%	5,613
Heavy and Civil Engineering Construction	5,623	1.0%	5,734	3.2%	6,305	1.7%	6,985
Construction Services	10,416	1.8%	10,803	2.4%	11,602	2.0%	13,065
Wholesale Trade	15,762	-1.3%	15,341	2.4%	16,453	1.1%	17,561
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	2,238	1.0%	2,281	6.9%	2,786	3.2%	3,372
Supermarket, Grocery Stores, and Specialised Food Retailing	4,544	5.0%	5,006	6.5%	6,050	3.2%	7,320
Other Store-Based Retailing and Non Store Retailing	8,665	2.5%	9,105	7.0%	11,142	3.2%	13,459
Accommodation and Food Services	6,562	-1.7%	6,346	3.5%	7,035	1.3%	7,583
Road Transport	4,571	-0.3%	4,541	5.3%	5,308	2.2%	6,044
Rail, Water, Air, and Other Transport	2,861	-11.4%	2,247	9.3%	2,931	4.1%	3,735
Postal, Courier Transport Support, and Warehousing Services	5,881	2.0%	6,114	5.2%	7,127	3.9%	8,941
Information Media Services	3,260	2.7%	3,435	7.0%	4,205	3.2%	5,072
Telecommunications, Internet, and Library Services	8,502	-0.7%	8,382	4.6%	9,603	2.8%	11,336
Finance	12,197	0.8%	12,397	3.6%	13,798	1.1%	14,766
Insurance and Superannuation Funds	3,105	-0.8%	3,056	2.5%	3,291	0.3%	3,346
Auxiliary Finance and Insurance Services	3,110	0.4%	3,136	2.9%	3,413	1.2%	3,672
Rental and Hiring Services (except Real Estate)	3,473	1.1%	3,550	4.4%	4,043	3.0%	4,816
Property Operators and Real Estate Services	16,839	1.2%	17,234	3.8%	19,252	2.5%	22,262
Professional, Scientific, and Technical Services	26,901	1.4%	27,657	5.6%	32,542	4.3%	41,959
Administrative and Support Services	6,637	-0.6%	6,561	2.8%	7,127	2.0%	8,003
Central Government Administration, Defence, and Public Safety	1,694	3.5%	1,816	4.0%	2,042	2.7%	2,400
Local Government Administration	12,369	3.6%	13,279	4.6%	15,197	3.2%	18,362
Education and Training	11,664	-2.3%	11,131	1.9%	11,787	1.2%	12,658
Health Care and Social Assistance	18,583	2.3%	19,435	4.0%	21,848	2.3%	25,066
Arts and Recreation Services	4,191	-3.5%	3,904	2.2%	4,161	1.3%	4,496
Other Services	5,403	-0.1%	5,389	2.5%	5,812	1.6%	6,393
Total¹	313,699	0.1%	314,426	3.6%	349,135	2.1%	396,349

¹ Includes owner-occupied dwellings and unallocated

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



APPENDIX 2: UPSIDE SCENARIO

KEY OUTPUTS

Table 13

Employment by local authority - Treasury Upside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Far North District	25,813	-0.9%	25,365	2.4%	27,270
Whāngārei District	41,829	0.6%	42,308	2.5%	45,509
Kaipara District	8,532	-1.4%	8,294	2.2%	8,846
Auckland	919,037	0.1%	921,128	2.3%	985,913
Thames-Coromandel District	13,217	-1.1%	12,926	2.2%	13,793
Hauraki District	7,698	-0.4%	7,629	2.2%	8,152
Waikato District	24,172	-0.5%	23,927	2.7%	25,883
Matamata-Piako District	18,225	0.1%	18,253	1.8%	19,241
Hamilton City	99,089	0.7%	100,443	2.7%	108,762
Waipā District	24,916	0.3%	25,051	2.5%	26,956
Ōtorohanga District	4,596	6.8%	5,245	-2.2%	4,900
South Waikato District	10,235	0.3%	10,303	2.4%	11,067
Waitomo District	5,099	0.8%	5,176	1.6%	5,433
Taupō District	19,450	-1.1%	19,021	2.7%	20,584
Western Bay of Plenty District	24,560	-0.7%	24,202	2.0%	25,668
Tauranga City	76,881	0.2%	77,170	2.9%	84,090
Rotorua District	36,025	0.0%	35,996	2.8%	39,061
Whakatāne District	15,888	-0.1%	15,848	2.6%	17,115
Kawerau District	2,926	-1.0%	2,866	2.6%	3,094
Ōpōtiki District	3,888	1.1%	3,974	3.9%	4,457
Gisborne District	23,059	0.3%	23,193	2.8%	25,162
Wairoa District	3,388	0.2%	3,401	1.6%	3,571
Hastings District	46,160	0.1%	46,216	2.7%	50,083
Napier City	28,732	0.7%	29,148	2.5%	31,370
Central Hawke's Bay District	6,464	0.1%	6,477	1.5%	6,780
New Plymouth District	42,566	1.0%	43,395	2.0%	46,023
Stratford District	3,530	-0.6%	3,486	1.8%	3,674
South Taranaki District	13,856	0.4%	13,963	1.4%	14,540
Ruapehu District	6,477	-0.4%	6,421	2.0%	6,824
Whanganui District	20,389	-0.4%	20,236	2.7%	21,939
Rangitikei District	6,697	0.6%	6,776	1.9%	7,177
Manawatū District	12,125	1.2%	12,412	-0.1%	12,379
Palmerston North City	53,259	0.4%	53,721	2.5%	57,906
Tararua District	7,655	-0.3%	7,614	1.8%	8,039
Horowhenua District	11,195	0.6%	11,330	1.9%	11,996
Kāpiti Coast District	18,192	-0.3%	18,076	3.2%	19,865
Porirua City	20,929	1.0%	21,361	3.2%	23,478
Upper Hutt City	14,271	0.4%	14,397	3.0%	15,755
Lower Hutt City	51,231	0.8%	52,031	2.3%	55,750
Wellington City	173,312	1.2%	177,587	2.5%	191,037
Masterton District	12,703	0.2%	12,746	2.5%	13,712
Carterton District	3,839	0.6%	3,884	1.8%	4,097
South Wairarapa District	4,416	-0.7%	4,355	2.6%	4,705
Total New Zealand	2,592,391	0.2%	2,600,628	2.4%	2,796,487

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 14

Employment by local authority - Treasury Upside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Tasman District	25,633	-0.8%	25,221	1.8%	26,627
Nelson City	30,148	0.1%	30,225	2.6%	32,622
Marlborough District	28,241	-0.2%	28,102	3.3%	30,946
Kaikōura District	2,007	-2.3%	1,918	2.9%	2,087
Buller District	4,169	0.0%	4,168	2.5%	4,490
Grey District	7,596	0.2%	7,632	2.7%	8,266
Westland District	4,747	-2.5%	4,517	2.5%	4,860
Hurunui District	6,176	-0.8%	6,075	1.9%	6,431
Waimakariri District	19,682	3.7%	21,185	3.3%	23,370
Christchurch City	236,160	-0.4%	234,116	2.7%	253,553
Selwyn District	23,210	0.1%	23,236	4.6%	26,555
Ashburton District	19,159	-0.2%	19,074	2.2%	20,336
Timaru District	26,004	-0.1%	25,928	2.0%	27,519
Mackenzie District	2,855	-4.1%	2,628	2.2%	2,806
Waimate District	3,276	0.5%	3,308	4.0%	3,724
Waitaki District	11,514	0.1%	11,534	2.1%	12,270
Central Otago District	13,970	0.5%	14,099	3.8%	15,766
Queenstown-Lakes District	31,697	-1.1%	30,980	2.6%	33,441
Dunedin City	66,107	-0.2%	65,777	3.0%	71,937
Clutha District	9,280	0.0%	9,285	1.8%	9,791
Southland District	17,553	-1.3%	17,084	1.9%	18,096
Gore District	7,209	0.2%	7,235	1.8%	7,623
Invercargill City	29,475	0.8%	29,950	1.9%	31,714
Total New Zealand	2,592,391	0.2%	2,600,628	2.4%	2,796,487

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 15

Employment by region - Treasury Upside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Northland	76,175	-0.1%	75,967	2.4%	81,625
Auckland	919,037	0.1%	921,128	2.3%	985,913
Waikato	226,697	0.3%	227,975	2.4%	244,772
Bay of Plenty	160,168	0.0%	160,057	2.7%	173,485
Gisborne	23,059	0.3%	23,193	2.8%	25,162
Hawke's Bay	84,744	0.3%	85,242	2.5%	91,804
Taranaki	59,953	0.7%	60,844	1.8%	64,237
Manawatū-Whanganui	117,796	0.3%	118,509	2.1%	126,259
Wellington	298,894	0.9%	304,437	2.6%	328,399
Tasman	25,633	-0.8%	25,221	1.8%	26,627
Nelson	30,148	0.1%	30,225	2.6%	32,622
Marlborough	28,241	-0.2%	28,102	3.3%	30,946
West Coast	16,512	-0.6%	16,317	2.6%	17,616
Canterbury	338,529	-0.2%	337,468	2.8%	366,380
Otago	132,568	-0.3%	131,675	2.8%	143,205
Southland	54,237	0.0%	54,269	1.9%	57,433
Total New Zealand	2,592,391	0.2%	2,600,628	2.4%	2,796,487

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 16

GDP by local authority - Treasury Upside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Far North District	2,578	0.0%	2,575	3.5%	2,855
Whāngārei District	4,775	-1.1%	4,666	2.7%	5,060
Kaipara District	910	-0.2%	907	3.3%	1,000
Auckland	119,372	0.6%	120,911	3.5%	134,185
Thames-Coromandel District	1,356	-0.4%	1,345	3.1%	1,476
Hauraki District	1,083	-2.5%	1,029	0.9%	1,055
Waikato District	3,079	-1.9%	2,964	2.7%	3,214
Matamata-Piako District	2,127	0.6%	2,152	2.6%	2,321
Hamilton City	10,813	0.7%	10,957	3.2%	12,052
Waipā District	2,811	1.0%	2,865	3.2%	3,145
Ōtorohanga District	585	6.5%	664	-0.3%	658
South Waikato District	1,341	1.3%	1,376	3.6%	1,528
Waitomo District	840	-1.4%	817	0.2%	822
Taupō District	2,424	-0.7%	2,390	2.9%	2,601
Western Bay of Plenty District	2,304	0.0%	2,303	3.0%	2,515
Tauranga City	7,710	1.1%	7,885	3.9%	8,856
Rotorua District	3,696	0.6%	3,741	3.7%	4,173
Whakatāne District	1,735	0.8%	1,764	3.1%	1,932
Kawerau District	383	-0.5%	379	3.2%	416
Ōpōtiki District	367	1.2%	376	4.7%	432
Gisborne District	2,096	1.1%	2,143	4.1%	2,415
Wairoa District	332	0.7%	336	2.8%	365
Hastings District	4,370	0.5%	4,416	3.7%	4,921
Napier City	2,866	1.4%	2,947	3.7%	3,284
Central Hawke's Bay District	631	0.6%	639	2.3%	685
New Plymouth District	6,839	-0.6%	6,753	2.4%	7,262
Stratford District	517	-0.9%	508	0.8%	520
South Taranaki District	2,208	-0.6%	2,184	1.4%	2,274
Ruapehu District	710	0.5%	716	2.8%	779
Whanganui District	1,938	0.5%	1,956	3.8%	2,186
Rangitikei District	674	1.2%	690	2.8%	750
Manawatū District	1,245	2.0%	1,297	1.0%	1,336
Palmerston North City	5,101	1.2%	5,229	3.7%	5,830
Tararua District	900	0.5%	908	2.6%	980
Horowhenua District	1,140	2.0%	1,186	2.9%	1,292
Kāpiti Coast District	2,108	0.6%	2,131	4.3%	2,417
Porirua City	2,365	2.1%	2,465	4.5%	2,816
Upper Hutt City	1,838	1.1%	1,880	4.2%	2,124
Lower Hutt City	6,334	1.0%	6,460	3.3%	7,128
Wellington City	26,982	1.5%	27,784	3.7%	30,966
Masterton District	1,404	1.4%	1,444	4.1%	1,631
Carterton District	505	1.0%	515	3.2%	566
South Wairarapa District	547	-0.6%	541	3.8%	605
Total New Zealand	313,699	0.5%	317,083	3.4%	350,842

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 17

GDP by local authority - Treasury Upside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Tasman District	2,353	-0.1%	2,346	3.2%	2,577
Nelson City	2,789	0.6%	2,824	3.7%	3,147
Marlborough District	3,227	-0.8%	3,175	3.7%	3,545
Kaikōura District	224	-1.2%	218	3.9%	245
Buller District	621	-1.4%	604	1.1%	625
Grey District	840	0.2%	843	2.8%	917
Westland District	607	-2.0%	583	2.4%	625
Hurunui District	823	0.3%	829	3.1%	908
Waimakariri District	2,203	3.7%	2,370	4.6%	2,711
Christchurch City	26,358	-0.1%	26,319	3.7%	29,372
Selwyn District	2,808	0.3%	2,827	5.1%	3,285
Ashburton District	2,429	0.3%	2,444	2.8%	2,658
Timaru District	3,025	0.2%	3,034	2.6%	3,276
Mackenzie District	364	-3.3%	341	2.2%	364
Waimate District	444	1.1%	453	3.8%	508
Waitaki District	1,803	0.3%	1,813	2.0%	1,922
Central Otago District	1,472	1.1%	1,506	4.4%	1,712
Queenstown-Lakes District	3,337	-0.7%	3,288	3.8%	3,683
Dunedin City	6,504	0.1%	6,516	3.7%	7,266
Clutha District	1,001	0.4%	1,009	2.5%	1,087
Southland District	2,514	-0.6%	2,482	2.0%	2,634
Gore District	816	0.0%	816	1.9%	863
Invercargill City	3,202	0.8%	3,251	2.3%	3,482
Total New Zealand	313,699	0.5%	317,083	3.4%	350,842

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 18

GDP by region - Treasury Upside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Northland	8,263	-0.7%	8,148	3.0%	8,914
Auckland	119,372	0.6%	120,911	3.5%	134,185
Waikato	26,458	0.2%	26,558	2.8%	28,872
Bay of Plenty	16,195	0.8%	16,448	3.7%	18,324
Gisborne	2,096	1.1%	2,143	4.1%	2,415
Hawke's Bay	8,198	0.8%	8,338	3.5%	9,255
Taranaki	9,564	-0.6%	9,445	2.1%	10,056
Manawatū-Whanganui	11,708	1.2%	11,982	3.2%	13,154
Wellington	42,082	1.3%	43,219	3.7%	48,254
Tasman	2,353	-0.1%	2,346	3.2%	2,577
Nelson	2,789	0.6%	2,824	3.7%	3,147
Marlborough	3,227	-0.8%	3,175	3.7%	3,545
West Coast	2,068	-0.9%	2,030	2.2%	2,167
Canterbury	38,678	0.2%	38,835	3.7%	43,327
Otago	14,117	0.1%	14,132	3.5%	15,669
Southland	6,532	0.1%	6,549	2.1%	6,980
Total New Zealand	313,699	0.5%	317,083	3.4%	350,842

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 19

Employment by industry - Treasury Upside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Horticulture and Fruit Growing	27,509	-0.4%	27,306	2.1%	29,076
Sheep, Beef Cattle, and Grain Farming	28,239	0.2%	28,353	-0.9%	27,604
Dairy Cattle Farming	35,305	0.4%	35,587	-0.3%	35,312
Poultry, Deer, and Other Livestock Farming	8,424	0.4%	8,492	0.6%	8,656
Fishing and Aquaculture	6,366	-0.2%	6,347	1.6%	6,652
Forestry and Logging	4,362	-2.2%	4,173	0.1%	4,184
Agriculture, Forestry, and Fishing Support Services and Hunting	30,361	1.5%	31,292	2.7%	33,944
Mining	6,037	-5.3%	5,418	0.2%	5,443
Meat and Meat Product Manufacturing	26,183	-0.2%	26,095	-0.3%	25,823
Seafood Processing	4,909	-1.9%	4,728	-0.8%	4,611
Dairy Product Manufacturing	14,250	1.4%	14,640	1.3%	15,209
Fruit, Oil, Cereal, and Other Food Product Manufacturing	29,245	-1.1%	28,579	2.2%	30,551
Beverage and Tobacco Product Manufacturing	7,753	-2.3%	7,399	3.7%	8,249
Textile, Leather, Clothing, and Footwear Manufacturing	9,926	-6.2%	8,739	-0.7%	8,558
Wood Product Manufacturing	18,520	-3.4%	17,298	0.4%	17,528
Pulp, Paper, and Converted Paper Product Manufacturing	4,712	-4.0%	4,345	0.0%	4,340
Printing	8,195	-5.8%	7,279	0.4%	7,357
Petroleum and Coal Product Manufacturing	1,103	-7.5%	944	-1.9%	892
Basic Chemical and Chemical Product Manufacturing	8,340	-3.8%	7,717	1.4%	8,054
Polymer Product and Rubber Product Manufacturing	11,640	-2.9%	10,978	1.7%	11,540
Non-Metallic Mineral Product Manufacturing	9,318	-1.1%	9,120	2.9%	9,936
Primary Metal and Metal Product Manufacturing	4,427	-3.7%	4,106	-2.6%	3,799
Fabricated Metal Product Manufacturing	28,570	-2.5%	27,151	2.4%	29,122
Transport Equipment Manufacturing	14,156	-2.9%	13,339	1.7%	14,045
Machinery and Other Equipment Manufacturing	32,026	-2.8%	30,270	1.5%	31,673
Furniture and Other Manufacturing	11,133	-3.2%	10,434	1.4%	10,869
Electricity and Gas Supply	8,869	1.8%	9,194	2.3%	9,830
Water, Sewerage, Drainage, and Waste Services	9,331	1.3%	9,569	2.3%	10,246
Building Construction	71,037	2.3%	74,346	2.6%	80,350
Heavy and Civil Engineering Construction	38,873	0.9%	39,568	2.9%	43,171
Construction Services	144,006	1.7%	148,853	2.1%	158,654
Wholesale Trade	125,648	-1.1%	122,821	1.0%	126,667
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	28,206	-1.5%	27,356	3.3%	30,129
Supermarket, Grocery Stores, and Specialised Food Retailing	74,404	2.3%	77,922	2.9%	84,959
Other Store-Based Retailing and Non Store Retailing	127,416	0.1%	127,763	3.3%	141,020
Accommodation and Food Services	172,458	-1.4%	167,722	4.0%	188,646
Road Transport	48,588	-2.7%	46,046	3.5%	51,023
Rail, Water, Air, and Other Transport	19,725	-14.2%	14,505	6.9%	17,697
Postal, Courier Transport Support, and Warehousing Services	41,143	-0.3%	40,890	3.5%	45,373
Information Media Services	23,400	-0.8%	23,045	2.5%	24,786
Telecommunications, Internet, and Library Services	18,109	-5.1%	16,302	0.2%	16,380
Finance	38,432	-0.2%	38,240	2.0%	40,551
Insurance and Superannuation Funds	10,353	-1.6%	10,030	1.2%	10,386
Auxiliary Finance and Insurance Services	20,496	-0.6%	20,248	1.2%	20,998
Rental and Hiring Services (except Real Estate)	16,310	-0.7%	16,086	2.9%	17,504
Property Operators and Real Estate Services	45,526	-0.4%	45,170	2.1%	48,061
Professional, Scientific, and Technical Services	249,058	-0.4%	246,940	2.7%	267,535
Administrative and Support Services	134,338	-0.1%	134,083	2.1%	142,788
Central Government Administration, Defence, and Public Safety	24,982	3.1%	26,531	2.3%	28,444
Local Government Administration	107,630	4.9%	118,542	3.2%	130,430
Education and Training	199,529	0.3%	200,541	2.5%	215,654
Health Care and Social Assistance	255,006	2.8%	269,619	2.6%	291,491
Arts and Recreation Services	49,299	-2.0%	47,367	3.0%	51,733
Other Services	99,213	1.0%	101,200	2.5%	108,955
Total	2,592,391	0.2%	2,600,628	2.4%	2,796,487

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 20

GDP by industry - Treasury Upside Scenario
2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Horticulture and Fruit Growing	1,446	0.4%	1,458	3.5%	1,618
Sheep, Beef Cattle, and Grain Farming	3,049	1.3%	3,128	0.6%	3,186
Dairy Cattle Farming	6,020	1.4%	6,193	1.3%	6,433
Poultry, Deer, and Other Livestock Farming	444	1.5%	457	2.1%	487
Fishing and Aquaculture	1,989	2.4%	2,085	4.6%	2,386
Forestry and Logging	464	-1.0%	454	0.6%	462
Agriculture, Forestry, and Fishing Support Services and Hunting	2,223	2.4%	2,329	3.9%	2,614
Mining	3,790	-8.5%	3,172	-2.6%	2,934
Meat and Meat Product Manufacturing	2,087	-2.0%	2,006	-1.6%	1,914
Seafood Processing	477	-3.5%	445	-2.1%	418
Dairy Product Manufacturing	1,717	-0.5%	1,699	0.2%	1,711
Fruit, Oil, Cereal, and Other Food Product Manufacturing	2,423	-2.6%	2,300	1.1%	2,373
Beverage and Tobacco Product Manufacturing	2,565	-4.2%	2,356	2.7%	2,554
Textile, Leather, Clothing, and Footwear Manufacturing	783	-3.4%	731	1.8%	771
Wood Product Manufacturing	1,689	-0.3%	1,680	2.7%	1,818
Pulp, Paper, and Converted Paper Product Manufacturing	935	-0.8%	921	2.2%	984
Printing	717	-7.3%	616	0.8%	631
Petroleum and Coal Product Manufacturing	1,452	-8.0%	1,229	-2.1%	1,154
Basic Chemical and Chemical Product Manufacturing	1,860	-4.4%	1,701	1.0%	1,752
Polymer Product and Rubber Product Manufacturing	1,659	-3.3%	1,551	1.3%	1,614
Non-Metallic Mineral Product Manufacturing	1,381	-1.7%	1,336	3.4%	1,478
Primary Metal and Metal Product Manufacturing	753	-4.5%	687	-3.3%	620
Fabricated Metal Product Manufacturing	2,662	-3.6%	2,471	1.5%	2,587
Transport Equipment Manufacturing	1,625	-3.4%	1,518	3.0%	1,661
Machinery and Other Equipment Manufacturing	4,096	-3.2%	3,837	2.7%	4,161
Furniture and Other Manufacturing	863	-2.4%	822	2.2%	877
Electricity and Gas Supply	6,975	-1.4%	6,784	0.1%	6,802
Water, Sewerage, Drainage, and Waste Services	1,514	-1.7%	1,464	0.3%	1,478
Building Construction	4,365	3.1%	4,636	2.7%	5,025
Heavy and Civil Engineering Construction	5,623	1.5%	5,795	3.1%	6,346
Construction Services	10,416	2.4%	10,923	2.2%	11,674
Wholesale Trade	15,762	-0.9%	15,484	2.2%	16,543
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	2,238	1.4%	2,302	6.8%	2,801
Supermarket, Grocery Stores, and Specialised Food Retailing	4,544	5.4%	5,051	6.4%	6,084
Other Store-Based Retailing and Non Store Retailing	8,665	3.0%	9,194	6.8%	11,201
Accommodation and Food Services	6,562	-1.8%	6,321	3.5%	7,015
Road Transport	4,571	0.0%	4,568	5.2%	5,325
Rail, Water, Air, and Other Transport	2,861	-11.4%	2,246	9.3%	2,930
Postal, Courier Transport Support, and Warehousing Services	5,881	2.3%	6,149	5.2%	7,150
Information Media Services	3,260	2.6%	3,433	7.0%	4,201
Telecommunications, Internet, and Library Services	8,502	-0.3%	8,450	4.5%	9,650
Finance	12,197	1.0%	12,449	3.6%	13,830
Insurance and Superannuation Funds	3,105	-0.6%	3,069	2.4%	3,297
Auxiliary Finance and Insurance Services	3,110	0.6%	3,150	2.8%	3,421
Rental and Hiring Services (except Real Estate)	3,473	1.2%	3,557	4.4%	4,045
Property Operators and Real Estate Services	16,839	1.6%	17,388	3.6%	19,360
Professional, Scientific, and Technical Services	26,901	1.6%	27,756	5.5%	32,601
Administrative and Support Services	6,637	-0.1%	6,623	2.7%	7,165
Central Government Administration, Defence, and Public Safety	1,694	5.0%	1,866	3.7%	2,079
Local Government Administration	12,369	4.8%	13,582	4.3%	15,415
Education and Training	11,664	-1.3%	11,360	1.7%	11,934
Health Care and Social Assistance	18,583	3.3%	19,815	3.7%	22,107
Arts and Recreation Services	4,191	-3.1%	3,937	2.0%	4,179
Other Services	5,403	0.2%	5,424	2.5%	5,832
Total¹	313,699	0.5%	317,083	3.4%	350,842

¹ Includes owner-occupied dwellings and unallocated

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



APPENDIX 3: DOWNSIDE SCENARIO KEY OUTPUTS

Table 21

Employment by local authority - Treasury Downside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Far North District	25,813	-1.9%	24,847	3.0%	27,113
Whāngārei District	41,829	-0.4%	41,484	2.9%	45,238
Kaipara District	8,532	-2.4%	8,126	2.7%	8,798
Auckland	919,037	-0.9%	903,202	2.8%	980,904
Thames-Coromandel District	13,217	-2.1%	12,672	2.7%	13,721
Hauraki District	7,698	-1.5%	7,471	2.7%	8,102
Waikato District	24,172	-1.5%	23,450	3.2%	25,740
Matamata-Piako District	18,225	-1.0%	17,859	2.3%	19,116
Hamilton City	99,089	-0.3%	98,479	3.2%	108,115
Waipā District	24,916	-0.7%	24,553	3.0%	26,806
Ōtorohanga District	4,596	5.7%	5,139	-1.8%	4,866
South Waikato District	10,235	-0.7%	10,094	2.9%	11,004
Waitomo District	5,099	-0.4%	5,062	2.2%	5,399
Taupō District	19,450	-2.1%	18,626	3.2%	20,478
Western Bay of Plenty District	24,560	-1.7%	23,717	2.5%	25,551
Tauranga City	76,881	-0.8%	75,679	3.4%	83,645
Rotorua District	36,025	-1.1%	35,248	3.3%	38,837
Whakatāne District	15,888	-1.2%	15,511	3.1%	17,004
Kawerau District	2,926	-1.8%	2,822	3.0%	3,084
Ōpōtiki District	3,888	0.0%	3,890	4.5%	4,436
Gisborne District	23,059	-0.7%	22,720	3.3%	25,026
Wairoa District	3,388	-0.9%	3,325	2.2%	3,547
Hastings District	46,160	-0.9%	45,335	3.2%	49,849
Napier City	28,732	-0.3%	28,561	3.0%	31,203
Central Hawke's Bay District	6,464	-0.9%	6,344	2.1%	6,744
New Plymouth District	42,566	0.0%	42,557	2.5%	45,784
Stratford District	3,530	-1.7%	3,412	2.3%	3,650
South Taranaki District	13,856	-0.8%	13,645	1.9%	14,431
Ruapehu District	6,477	-1.5%	6,281	2.6%	6,780
Whanganui District	20,389	-1.4%	19,833	3.2%	21,808
Rangitikei District	6,697	-0.5%	6,629	2.5%	7,132
Manawatū District	12,125	0.2%	12,167	0.4%	12,303
Palmerston North City	53,259	-0.6%	52,614	3.0%	57,517
Tararua District	7,655	-1.3%	7,450	2.4%	7,988
Horowhenua District	11,195	-0.4%	11,112	2.4%	11,930
Kāpiti Coast District	18,192	-1.3%	17,722	3.7%	19,753
Porirua City	20,929	0.0%	20,936	3.7%	23,333
Upper Hutt City	14,271	-0.5%	14,123	3.5%	15,657
Lower Hutt City	51,231	-0.2%	51,031	2.8%	55,442
Wellington City	173,312	0.1%	173,667	3.0%	189,780
Masterton District	12,703	-0.9%	12,486	3.0%	13,630
Carterton District	3,839	-0.5%	3,803	2.3%	4,076
South Wairarapa District	4,416	-1.7%	4,263	3.2%	4,682
Total New Zealand	2,592,391	-0.8%	2,548,756	3.0%	2,781,142

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with high-level figures published in Treasury's scenarios



Table 22

Employment by local authority - Treasury Downside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Tasman District	25,633	-1.7%	24,747	2.3%	26,519
Nelson City	30,148	-0.9%	29,637	3.1%	32,452
Marlborough District	28,241	-1.2%	27,563	3.8%	30,816
Kaikōura District	2,007	-3.3%	1,877	3.4%	2,077
Buller District	4,169	-1.0%	4,084	3.0%	4,467
Grey District	7,596	-0.8%	7,478	3.2%	8,217
Westland District	4,747	-3.6%	4,409	3.1%	4,831
Hurunui District	6,176	-1.9%	5,942	2.5%	6,395
Waimakariri District	19,682	2.8%	20,803	3.8%	23,248
Christchurch City	236,160	-1.4%	229,631	3.2%	252,204
Selwyn District	23,210	-1.0%	22,742	5.1%	26,389
Ashburton District	19,159	-1.3%	18,682	2.7%	20,218
Timaru District	26,004	-1.2%	25,399	2.5%	27,357
Mackenzie District	2,855	-5.2%	2,565	2.9%	2,792
Waimate District	3,276	-0.7%	3,229	4.6%	3,696
Waitaki District	11,514	-1.0%	11,294	2.6%	12,202
Central Otago District	13,970	-0.5%	13,828	4.3%	15,697
Queenstown-Lakes District	31,697	-2.2%	30,328	3.2%	33,289
Dunedin City	66,107	-1.3%	64,368	3.5%	71,466
Clutha District	9,280	-1.1%	9,075	2.3%	9,721
Southland District	17,553	-2.5%	16,674	2.5%	17,973
Gore District	7,209	-0.9%	7,081	2.3%	7,577
Invercargill City	29,475	-0.2%	29,374	2.4%	31,536
Total New Zealand	2,592,391	-0.8%	2,548,756	3.0%	2,781,142

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 23

Employment by region - Treasury Downside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Northland	76,175	-1.1%	74,458	2.9%	81,148
Auckland	919,037	-0.9%	903,202	2.8%	980,904
Waikato	226,697	-0.7%	223,403	2.9%	243,348
Bay of Plenty	160,168	-1.0%	156,868	3.2%	172,556
Gisborne	23,059	-0.7%	22,720	3.3%	25,026
Hawke's Bay	84,744	-0.7%	83,566	3.0%	91,342
Taranaki	59,953	-0.3%	59,613	2.3%	63,865
Manawatū-Whanganui	117,796	-0.7%	116,085	2.6%	125,459
Wellington	298,894	-0.1%	298,030	3.1%	326,352
Tasman	25,633	-1.7%	24,747	2.3%	26,519
Nelson	30,148	-0.9%	29,637	3.1%	32,452
Marlborough	28,241	-1.2%	27,563	3.8%	30,816
West Coast	16,512	-1.7%	15,971	3.1%	17,515
Canterbury	338,529	-1.1%	330,870	3.3%	364,376
Otago	132,568	-1.4%	128,893	3.4%	142,376
Southland	54,237	-1.0%	53,130	2.4%	57,086
Total New Zealand	2,592,391	-0.8%	2,548,756	3.0%	2,781,142

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 24

GDP by local authority - Treasury Downside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Far North District	2,578	-1.3%	2,511	4.1%	2,832
Whāngārei District	4,775	-2.5%	4,539	3.4%	5,018
Kaipara District	910	-1.5%	883	4.0%	992
Auckland	119,372	-0.6%	117,918	4.2%	133,256
Thames-Coromandel District	1,356	-1.6%	1,313	3.7%	1,465
Hauraki District	1,083	-3.9%	1,000	1.5%	1,046
Waikato District	3,079	-3.2%	2,887	3.4%	3,188
Matamata-Piako District	2,127	-0.8%	2,091	3.2%	2,298
Hamilton City	10,813	-0.6%	10,685	3.8%	11,957
Waipā District	2,811	-0.4%	2,790	3.8%	3,118
Ōtorohanga District	585	4.9%	644	0.3%	651
South Waikato District	1,341	-0.1%	1,338	4.2%	1,515
Waitomo District	840	-2.8%	793	0.9%	815
Taupō District	2,424	-2.0%	2,328	3.5%	2,580
Western Bay of Plenty District	2,304	-1.3%	2,244	3.6%	2,498
Tauranga City	7,710	-0.1%	7,690	4.6%	8,791
Rotorua District	3,696	-0.7%	3,643	4.3%	4,140
Whakatāne District	1,735	-0.6%	1,716	3.7%	1,915
Kawerau District	383	-1.5%	371	3.7%	415
Ōpōtiki District	367	-0.2%	366	5.4%	429
Gisborne District	2,096	-0.2%	2,087	4.7%	2,396
Wairoa District	332	-0.7%	327	3.4%	362
Hastings District	4,370	-0.7%	4,307	4.3%	4,889
Napier City	2,866	0.1%	2,873	4.3%	3,261
Central Hawke's Bay District	631	-0.7%	622	3.0%	679
New Plymouth District	6,839	-1.9%	6,582	3.1%	7,213
Stratford District	517	-2.3%	494	1.4%	515
South Taranaki District	2,208	-2.1%	2,118	2.0%	2,249
Ruapehu District	710	-0.9%	697	3.5%	772
Whanganui District	1,938	-0.9%	1,905	4.4%	2,167
Rangitikei District	674	-0.3%	670	3.5%	743
Manawatū District	1,245	0.7%	1,263	1.6%	1,324
Palmerston North City	5,101	-0.1%	5,093	4.3%	5,778
Tararua District	900	-1.0%	882	3.2%	970
Horowhenua District	1,140	0.7%	1,156	3.5%	1,281
Kāpiti Coast District	2,108	-0.7%	2,079	4.9%	2,399
Porirua City	2,365	0.8%	2,402	5.2%	2,794
Upper Hutt City	1,838	-0.1%	1,833	4.7%	2,107
Lower Hutt City	6,334	-0.3%	6,299	4.0%	7,075
Wellington City	26,982	0.0%	26,990	4.4%	30,690
Masterton District	1,404	0.1%	1,406	4.8%	1,618
Carterton District	505	-0.4%	501	3.9%	562
South Wairarapa District	547	-1.9%	526	4.5%	601
Total New Zealand	313,699	-0.8%	308,915	4.1%	348,160

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 25

GDP by local authority - Treasury Downside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Tasman District	2,353	-1.4%	2,288	3.8%	2,560
Nelson City	2,789	-0.7%	2,752	4.3%	3,124
Marlborough District	3,227	-2.1%	3,094	4.4%	3,522
Kaikōura District	224	-2.6%	212	4.6%	243
Buller District	621	-2.8%	587	1.8%	619
Grey District	840	-1.1%	821	3.5%	909
Westland District	607	-3.6%	565	3.1%	619
Hurunui District	823	-1.2%	804	3.8%	900
Waimakariri District	2,203	2.4%	2,312	5.2%	2,690
Christchurch City	26,358	-1.3%	25,663	4.3%	29,158
Selwyn District	2,808	-1.1%	2,747	5.8%	3,254
Ashburton District	2,429	-1.1%	2,375	3.5%	2,633
Timaru District	3,025	-1.2%	2,950	3.3%	3,248
Mackenzie District	364	-4.7%	331	3.0%	361
Waimate District	444	-0.5%	439	4.6%	502
Waitaki District	1,803	-1.1%	1,764	2.7%	1,907
Central Otago District	1,472	-0.1%	1,468	5.0%	1,700
Queenstown-Lakes District	3,337	-2.1%	3,199	4.6%	3,658
Dunedin City	6,504	-1.3%	6,338	4.4%	7,202
Clutha District	1,001	-1.1%	979	3.2%	1,075
Southland District	2,514	-2.3%	2,400	2.7%	2,603
Gore District	816	-1.4%	793	2.5%	856
Invercargill City	3,202	-0.5%	3,171	2.9%	3,456
Total New Zealand	313,699	-0.8%	308,915	4.1%	348,160

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios

Table 26

GDP by region - Treasury Downside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Northland	8,263	-2.0%	7,932	3.7%	8,841
Auckland	119,372	-0.6%	117,918	4.2%	133,256
Waikato	26,458	-1.1%	25,870	3.4%	28,632
Bay of Plenty	16,195	-0.5%	16,030	4.3%	18,187
Gisborne	2,096	-0.2%	2,087	4.7%	2,396
Hawke's Bay	8,198	-0.4%	8,129	4.2%	9,190
Taranaki	9,564	-2.0%	9,194	2.8%	9,977
Manawatū-Whanganui	11,708	-0.2%	11,666	3.8%	13,036
Wellington	42,082	-0.1%	42,037	4.4%	47,845
Tasman	2,353	-1.4%	2,288	3.8%	2,560
Nelson	2,789	-0.7%	2,752	4.3%	3,124
Marlborough	3,227	-2.1%	3,094	4.4%	3,522
West Coast	2,068	-2.3%	1,972	2.9%	2,147
Canterbury	38,678	-1.1%	37,834	4.3%	42,988
Otago	14,117	-1.3%	13,747	4.2%	15,543
Southland	6,532	-1.3%	6,365	2.8%	6,915
Total New Zealand	313,699	-0.8%	308,915	4.1%	348,160

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 27

Employment by industry - Treasury Downside Scenario

Total filled jobs, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Horticulture and Fruit Growing	27,509	-0.9%	27,009	2.6%	29,210
Sheep, Beef Cattle, and Grain Farming	28,239	-1.0%	27,656	-0.3%	27,403
Dairy Cattle Farming	35,305	-1.2%	34,471	0.4%	34,852
Poultry, Deer, and Other Livestock Farming	8,424	-0.8%	8,294	1.2%	8,597
Fishing and Aquaculture	6,366	-0.9%	6,250	2.1%	6,651
Forestry and Logging	4,362	-2.2%	4,168	0.5%	4,230
Agriculture, Forestry, and Fishing Support Services and Hunting	30,361	0.4%	30,581	3.4%	33,810
Mining	6,037	-5.5%	5,389	0.6%	5,484
Meat and Meat Product Manufacturing	26,183	-1.5%	25,398	0.2%	25,563
Seafood Processing	4,909	-3.2%	4,602	-0.3%	4,564
Dairy Product Manufacturing	14,250	-0.3%	14,161	1.9%	15,001
Fruit, Oil, Cereal, and Other Food Product Manufacturing	29,245	-1.7%	28,235	2.8%	30,679
Beverage and Tobacco Product Manufacturing	7,753	-3.4%	7,231	4.5%	8,242
Textile, Leather, Clothing, and Footwear Manufacturing	9,926	-7.2%	8,557	0.1%	8,581
Wood Product Manufacturing	18,520	-3.8%	17,129	0.8%	17,523
Pulp, Paper, and Converted Paper Product Manufacturing	4,712	-4.5%	4,296	0.5%	4,357
Printing	8,195	-6.8%	7,120	0.9%	7,324
Petroleum and Coal Product Manufacturing	1,103	-9.7%	899	-0.5%	885
Basic Chemical and Chemical Product Manufacturing	8,340	-4.1%	7,668	1.8%	8,096
Polymer Product and Rubber Product Manufacturing	11,640	-3.4%	10,856	2.1%	11,571
Non-Metallic Mineral Product Manufacturing	9,318	-1.2%	9,093	3.1%	9,957
Primary Metal and Metal Product Manufacturing	4,427	-3.9%	4,089	-2.3%	3,813
Fabricated Metal Product Manufacturing	28,570	-2.3%	27,272	2.5%	29,386
Transport Equipment Manufacturing	14,156	-1.8%	13,648	1.3%	14,185
Machinery and Other Equipment Manufacturing	32,026	-1.7%	30,970	1.1%	31,989
Furniture and Other Manufacturing	11,133	-2.5%	10,575	1.3%	11,004
Electricity and Gas Supply	8,869	1.0%	9,048	2.7%	9,794
Water, Sewerage, Drainage, and Waste Services	9,331	0.8%	9,473	2.5%	10,194
Building Construction	71,037	1.9%	73,694	2.8%	80,009
Heavy and Civil Engineering Construction	38,873	0.4%	39,221	3.1%	42,988
Construction Services	144,006	1.2%	147,547	2.3%	157,980
Wholesale Trade	125,648	-1.9%	120,884	1.4%	126,036
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	28,206	-2.3%	26,925	3.6%	29,979
Supermarket, Grocery Stores, and Specialised Food Retailing	74,404	1.5%	76,693	3.3%	84,535
Other Store-Based Retailing and Non Store Retailing	127,416	-0.7%	125,748	3.7%	140,317
Accommodation and Food Services	172,458	-3.1%	162,016	5.1%	188,200
Road Transport	48,588	-4.3%	44,510	4.4%	50,709
Rail, Water, Air, and Other Transport	19,725	-15.1%	14,205	7.5%	17,659
Postal, Courier Transport Support, and Warehousing Services	41,143	-2.2%	39,392	4.6%	45,105
Information Media Services	23,400	-1.8%	22,559	3.1%	24,743
Telecommunications, Internet, and Library Services	18,109	-6.2%	15,937	0.8%	16,313
Finance	38,432	-0.8%	37,788	2.3%	40,481
Insurance and Superannuation Funds	10,353	-2.2%	9,912	1.5%	10,368
Auxiliary Finance and Insurance Services	20,496	-1.2%	20,009	1.6%	20,962
Rental and Hiring Services (except Real Estate)	16,310	-1.8%	15,735	3.6%	17,478
Property Operators and Real Estate Services	45,526	0.0%	45,543	1.8%	48,103
Professional, Scientific, and Technical Services	249,058	-1.6%	241,081	3.4%	266,593
Administrative and Support Services	134,338	-1.4%	130,579	2.8%	141,785
Central Government Administration, Defence, and Public Safety	24,982	2.0%	25,974	2.7%	28,134
Local Government Administration	107,630	3.8%	115,914	3.6%	128,840
Education and Training	199,529	-1.4%	193,948	3.1%	212,775
Health Care and Social Assistance	255,006	1.8%	264,378	2.9%	288,395
Arts and Recreation Services	49,299	-3.3%	46,114	3.7%	51,409
Other Services	99,213	-0.5%	98,311	3.3%	108,300
Total	2,592,391	-0.8%	2,548,756	3.0%	2,781,142

Differences between Treasury's and Infometrics' modelling processes mean that Infometrics estimates and forecasts will not align exactly with the high-level figures published in Treasury's scenarios



Table 28

GDP by industry - Treasury Downside Scenario

2019 \$m, Infometrics forecasts

	Mar 20	%pa	Mar 22	%pa	Mar 25
Horticulture and Fruit Growing	1,446	-0.6%	1,429	4.4%	1,626
Sheep, Beef Cattle, and Grain Farming	3,049	-0.5%	3,017	1.4%	3,145
Dairy Cattle Farming	6,020	-0.7%	5,939	2.0%	6,310
Poultry, Deer, and Other Livestock Farming	444	-0.2%	442	2.9%	481
Fishing and Aquaculture	1,989	1.1%	2,032	5.3%	2,375
Forestry and Logging	464	-1.7%	448	1.3%	465
Agriculture, Forestry, and Fishing Support Services and Hunting	2,223	0.8%	2,257	4.8%	2,596
Mining	3,790	-9.7%	3,093	-1.9%	2,924
Meat and Meat Product Manufacturing	2,087	-3.6%	1,938	-0.9%	1,889
Seafood Processing	477	-5.2%	429	-1.3%	412
Dairy Product Manufacturing	1,717	-2.5%	1,631	1.0%	1,680
Fruit, Oil, Cereal, and Other Food Product Manufacturing	2,423	-3.6%	2,254	1.8%	2,380
Beverage and Tobacco Product Manufacturing	2,565	-5.7%	2,282	3.7%	2,543
Textile, Leather, Clothing, and Footwear Manufacturing	783	-4.8%	710	2.8%	771
Wood Product Manufacturing	1,689	-1.1%	1,651	3.2%	1,814
Pulp, Paper, and Converted Paper Product Manufacturing	935	-1.6%	904	2.9%	986
Printing	717	-8.7%	598	1.5%	625
Petroleum and Coal Product Manufacturing	1,452	-10.8%	1,156	-0.6%	1,135
Basic Chemical and Chemical Product Manufacturing	1,860	-5.1%	1,674	1.6%	1,755
Polymer Product and Rubber Product Manufacturing	1,659	-4.3%	1,520	2.0%	1,615
Non-Metallic Mineral Product Manufacturing	1,381	-2.2%	1,321	3.8%	1,479
Primary Metal and Metal Product Manufacturing	753	-5.1%	678	-2.9%	620
Fabricated Metal Product Manufacturing	2,662	-3.9%	2,460	1.9%	2,607
Transport Equipment Manufacturing	1,625	-2.6%	1,542	2.8%	1,677
Machinery and Other Equipment Manufacturing	4,096	-2.5%	3,897	2.5%	4,202
Furniture and Other Manufacturing	863	-2.2%	826	2.4%	887
Electricity and Gas Supply	6,975	-2.7%	6,610	0.7%	6,748
Water, Sewerage, Drainage, and Waste Services	1,514	-2.6%	1,436	0.6%	1,463
Building Construction	4,365	2.2%	4,559	3.0%	4,988
Heavy and Civil Engineering Construction	5,623	0.7%	5,697	3.4%	6,301
Construction Services	10,416	1.5%	10,736	2.6%	11,589
Wholesale Trade	15,762	-2.1%	15,116	2.8%	16,420
Motor Vehicle and Motor Vehicle Parts and Fuel Retailing	2,238	0.2%	2,248	7.3%	2,779
Supermarket, Grocery Stores, and Specialised Food Retailing	4,544	4.2%	4,933	7.0%	6,037
Other Store-Based Retailing and Non Store Retailing	8,665	1.8%	8,976	7.4%	11,117
Accommodation and Food Services	6,562	-3.9%	6,060	4.8%	6,981
Road Transport	4,571	-2.1%	4,382	6.4%	5,276
Rail, Water, Air, and Other Transport	2,861	-12.4%	2,193	10.0%	2,920
Postal, Courier Transport Support, and Warehousing Services	5,881	-0.1%	5,873	6.4%	7,081
Information Media Services	3,260	1.1%	3,334	7.9%	4,183
Telecommunications, Internet, and Library Services	8,502	-1.9%	8,184	5.3%	9,566
Finance	12,197	0.0%	12,196	4.1%	13,763
Insurance and Superannuation Funds	3,105	-1.6%	3,005	3.0%	3,282
Auxiliary Finance and Insurance Services	3,110	-0.4%	3,086	3.3%	3,405
Rental and Hiring Services (except Real Estate)	3,473	-0.4%	3,446	5.3%	4,022
Property Operators and Real Estate Services	16,839	1.5%	17,346	3.6%	19,282
Professional, Scientific, and Technical Services	26,901	0.0%	26,876	6.4%	32,388
Administrative and Support Services	6,637	-1.8%	6,404	3.5%	7,098
Central Government Administration, Defence, and Public Safety	1,694	3.3%	1,806	4.2%	2,041
Local Government Administration	12,369	3.3%	13,188	4.8%	15,182
Education and Training	11,664	-3.4%	10,887	2.6%	11,743
Health Care and Social Assistance	18,583	1.9%	19,302	4.2%	21,825
Arts and Recreation Services	4,191	-4.7%	3,804	2.9%	4,145
Other Services	5,403	-2.0%	5,194	3.6%	5,778
Total¹	313,699	-0.8%	308,915	4.1%	348,160

¹ Includes owner-occupied dwellings and unallocated

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