

The economic impact of the Canterbury earthquakes

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In late 2010 and in 2011, Canterbury endured a series of major earthquakes. Overall, the Canterbury economy has been reasonably resilient to the impact of the earthquakes, and the spillover to other regions in New Zealand has been limited. Goods exports and manufacturing activity appear to have held up well. Conversely, some sectors, notably retail, accommodation and hospitality, have been hard hit. International visitor numbers are sharply down, and there appears to have been some population loss from Christchurch. Repair and rebuild activity is under way and expected to accelerate from here, peaking in the next few years, but will take at least a decade to complete.

Introduction

In late 2010 and in 2011, Canterbury endured a series of major earthquakes. These earthquakes have caused deaths and considerable destruction in Christchurch and the surrounding area.

Identifying the economic impact is difficult. It is hard to disentangle the effects of the earthquakes from other emerging developments, and timely and reliable data can be hard to obtain, or interpret.

Nonetheless, by piecing together disparate sources of data, it is possible to develop an idea of the developments in the Canterbury economy since the earthquakes. In what follows, we document some of the indicators of the impact the earthquakes have had on households and businesses in the region.

1 Comparison with other major earthquakes

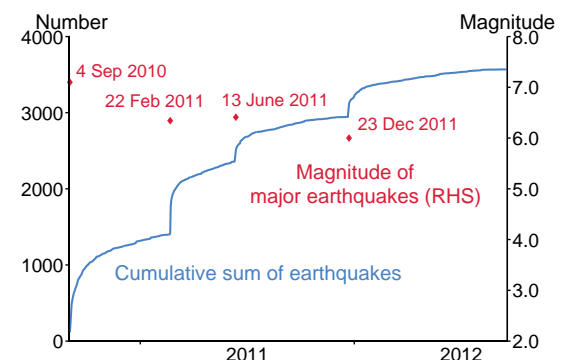
Table 1, overleaf, compares the magnitude and impact of the Canterbury earthquakes to four other major earthquakes. Damage estimates are still preliminary, but are likely to be around 10 percent of GDP (compared with around 3 to 4 percent of GDP in the case of the recent Japanese earthquake and tsunami, for example).

Natural disasters have both immediate and longer-term economic effects. In the recent Japanese disaster, for example, while the total damage was relatively modest relative to the size of Japan's economy, disruption to nuclear electricity generation meant severe short-term disruption to industrial production and economic activity across Japan.

The Canterbury economy has been quite resilient, and the wider New Zealand economy appears to have been little affected. Despite affecting a much larger proportion of the New Zealand economy, the immediate impact on output appears to be much more muted than following disasters such as Kobe in 1995, or Tōhoku in 2011. Disruption to industrial production, goods exports and activity was relatively short lived as the region's manufacturing hub escaped significant damage. But Christchurch is the tourist gateway of the South Island; accommodation capacity has been greatly reduced and tourist numbers have fallen considerably.

There have been more than 3500 aftershocks of magnitude greater than 3.0 over the past two years, with more than 50 above 5.0 (figure 1). These are among the many factors that have slowed repair and rebuilding activities.

Figure 1
Canterbury earthquakes since 3 September 2010



Source: Geonet.
Note: Measures all earthquakes of magnitude greater than 3.0 between 3 September 2010 and 18 September 2012 with epicentre located between 43°S and 44°S and 171°30' W and 173° 30' W.

Table 1
A comparison to other large earthquakes

| | Canterbury | Tōhoku (Japan) | Central South Chile | Kobe (Japan) | Northridge (United States) |
|--------------------------------------|---|---|--|---|--|
| When | 4 September 2010 and 22 February 2011 | 11 March 2011 | 27 February 2010 | 17 January 1995 | 17 January 1994 |
| Population affected | 460,000 in Christchurch city, Selwyn and Waimakiriri. | About 400,000 most directly affected. | Over 2.5 million people directly affected in BioBio, Maule and O'Higgins. | 500,000 in Kobe worst affected, within larger metropolitan area of 4 million people. | About 30,000 worst affected in Northridge, wider Los Angeles city had a population of about 3.5 million. |
| Fraction of economy | Damage concentrated in Christchurch city, which accounts for around 8% of GDP. | Affected prefectures accounted for 4 to 6% of GDP. | Worst affected regions: BioBio (10% of national GDP), Maule (4%) and O'Higgins (4%). | Hyogo prefecture worst affected (4% of national GDP). | Very small share of national output. |
| Damage estimates | 185 deaths, over 150,000 homes damaged, 30,000 seriously. | Over 15,000 deaths, 300,000 buildings partially or totally destroyed, 600,000 buildings damaged. | Over 500 deaths. About 450,000 houses destroyed or damaged. Extensive damage to infrastructure. | Over 6000 people died, 100,000 buildings destroyed, another 300,000 damaged. | About 60 people died. Over 100,000 commercial and residential buildings were damaged or destroyed. |
| Industrial structure affected | Tourism hub, accounting for roughly 20% of total tourist arrivals in New Zealand. Manufacturing centre although most manufacturers outside worst affected area. Agricultural sector largely unaffected. | Damage to electricity generation capacity, radiation fallout from the meltdown at Fukushima Daiichi Nuclear Plant, several ports severely damaged, damage to automotive and electronic goods factories, agricultural and fishing sectors. | Damage concentrated to areas accounting for 40% of national agricultural output and 20% of manufactured production. Tsunami destroyed port facilities and devastated the fishing industry. | Japan's major port; manufacturing accounted for over 25% of prefecture GDP but also supplied parts for manufacturing in other prefectures in Japan. | Mostly light manufacturing and service sectors (about 60% of the city of Los Angeles' output was derived from services and about 20% from industry). Significant indirect costs from shutdown of the Santa Monica freeway. |
| Losses | Rebuild costs of around NZ\$20 billion (US\$15 billion) excluding disruption costs, or 10% of GDP. Insured losses of around NZ\$30 billion (US\$25 billion). | Overall losses of over US\$200 billion (over 3 to 4% of GDP). US\$35 to US\$40 billion represented insured losses. | Losses of around US\$30 billion (20% of GDP). Insured losses of around US\$8 billion. | Losses estimated at over US\$100 billion (around 2% of GDP), insured losses of about US\$3 billion. | Over US\$40 billion (less than 1% of GDP). Insured losses of US\$15 billion. |
| Initial conditions | Modest recovery from recession, positive medium-term outlook, some spare capacity, high agricultural and commodity prices. National earthquake insurance for a significant portion of damage. | Interest rates at zero. High government debt. Government responsible for liabilities beyond a certain total insurance cost borne by insurers. | Economy had begun to recover from recession at the time of the earthquake. Relatively strong fiscal position. | National and regional economy weak before the earthquake. Large stocks of saving helped residents. | San Fernando Valley had been in recession before the earthquake. A depressed local housing market. Relatively high vacancy rates pre-earthquake reduced the need for temporary housing. |

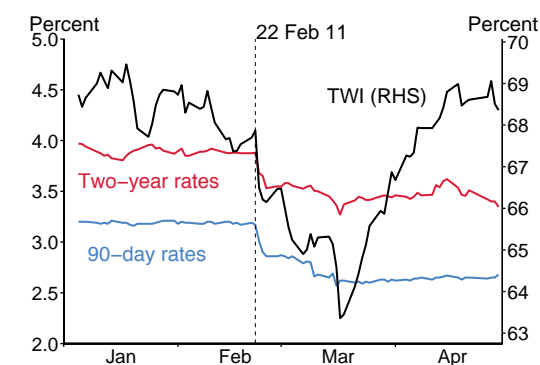
2 Domestic impact

2.1 Initial impact

The 4 September 2010 earthquake happened at night, and caused no loss of life. Following that earthquake, a rough estimate of repair and rebuilding costs was around \$5 billion. The 22 February 2011 earthquake, while lower in magnitude, involved much more intense shaking and caused significantly more damage, together with the loss of 185 lives. The central city suffered widespread damage, particularly close to the Avon River and in the eastern suburbs, while land damage has posed additional challenges to the rebuild process.

Financial markets largely shrugged off the September earthquake. The New Zealand dollar dropped sharply immediately after the February earthquake, although share prices were little changed (figure 2). Financial markets immediately priced in a fall in interest rates, with the entire short end of the yield curve moving down. To counter the risk of significant deterioration in national economic activity and to shore up confidence, the Reserve Bank cut the Official Cash Rate by 50 basis points to 2.50 percent in early March.

Figure 2
Financial market impact of 22 February 2011 earthquake



Source: Bloomberg, RBNZ.

2.2 Damage and costs

Estimates of the total economic cost of the earthquakes vary and are subject to considerable uncertainty. There are differences between the market value of assets destroyed, the cost of replacing those assets over time, and the additional value of rebuilding to a higher standard or other

discretionary improvements (such as building a roof on the new stadium). In addition, disruption to businesses and to the lives of individuals following a natural disaster can be substantial, but is difficult, if not impossible, to measure accurately. These factors mean that it is important to define one's terms carefully when referring to the cost of the earthquake.

For macroeconomic purposes, the Reserve Bank has focused on estimates of the cost of rebuilding and repair. We estimate that around \$20 billion (in 2011 prices) will be spent on repairing or replacing damaged assets, equal to some 10 percent of annual domestic output. We estimate that the cost of repairing or replacing residential property damage is \$13 billion, while reinstatement of commercial damage is estimated to be \$4 billion and infrastructure damage repair and replacement is expected to cost \$3 billion. Construction cost inflation and the factors mentioned above mean that the final nominal cost of the rebuild is likely to be higher than the \$20 billion figure. Indeed, the Canterbury Earthquake Recovery Authority's (CERA) figures suggest that the rebuild, improvements included, could total \$30 billion (Brownlee 2012).

The insured cost of the earthquake could be higher still, with insurance figures suggesting a nominal cost of over \$30 billion. This figure includes damage to buildings and contents, as well as disruption to business activities. This figure does not, however, include under- or uninsured losses. Section 2.7 provides some discussion of additional insurance-related issues.

Current estimates suggest that over 150,000 homes (around three quarters of Christchurch's housing stock) sustained some damage from the earthquakes, and of these around a fifth exceed \$100,000 in damage. Some areas of Christchurch have been declared not fit for building, affecting over 7500 residential buildings. About 30 000 of the homes that have been declared safe to be repaired or rebuilt will require significant structural and land remediation work. Overall, the total number of individual building, land or contents claims received exceeds 600,000 (Earthquake Commission (EQC) 2011).

Claims made to the government EQC net of reinsurance cover exceed \$7 billion, and have exhausted its funds. The additional liability of the EQC is to be met by

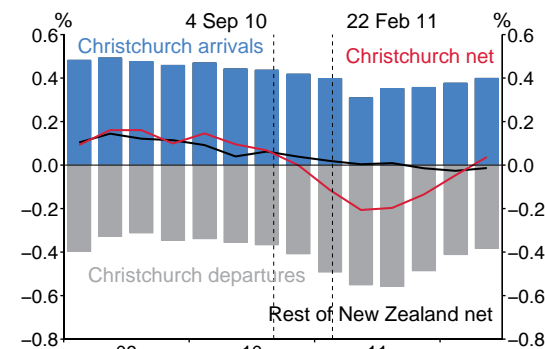
the Crown. On top of these costs, the Government is also expecting to spend over \$5.5 billion on earthquake related costs, including over \$1.5 billion for local infrastructure, \$1 billion for land purchase and remediation, and \$230 million for welfare support.

2.3 Population

Population changes post disaster have important implications for the extent of post-disaster rebuilding and economic recovery in Canterbury itself. However, reliable data are not easy to obtain. Given the disruption, particularly to residential addresses, survey results should be interpreted with caution. Similarly, other data sources such as postal relocations will be affected by changes in behaviour following the earthquakes.

There appears to have been little change in Christchurch's population in the immediate aftermath of the September 2010 earthquake. However, following the February 2011 quake, there appears to have been a considerable net outflow of residents from Christchurch to overseas destinations (figure 3). Some of this international outflow may be understated in official statistics since residents may have temporarily migrated to other New Zealand cities before departing permanently abroad. According to migration statistics, Australia has been the main destination.

Figure 3
Quarterly net permanent and long-term international migration
(seasonally adjusted, share of relevant population as at 30 June 2010)



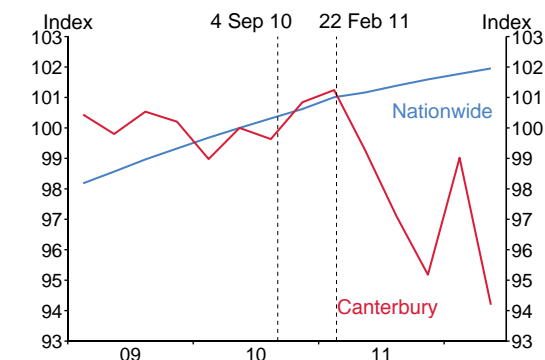
Source: Statistics New Zealand.

In recent months there has been a reversal in international migration flows, with international migration data now showing a net positive inflow to Christchurch. This could reflect foreign workers arriving to take part in the rebuild, as well as a reduced outflow of residents, now that activity has picked up.

In addition to the international migration, there has also been noticeable internal migration as Christchurch residents have settled elsewhere in New Zealand. Some will have moved to other parts of Canterbury: while school enrolment figures are lower in Christchurch city, they have increased somewhat in neighbouring districts such as Waimakariri and Selwyn. Voluntary change-of-address notifications to Inland Revenue Department suggest that this internal migration is of the same order as the international outflow.

Subnational population estimates from Statistics New Zealand point to a decline of 8900 people in Christchurch in the year to June 2011. More recent data from the Household Labour Force Survey (HLFS), which surveys households who are normally resident, suggest that Canterbury's working age population shrunk by around 28,000 in net terms in 2011 (figure 4). However, the uncertainties surrounding the accuracy of these data mean that it is not possible to confirm how much of a loss of population there has been. It seems likely that the population has fallen by at least 2 percent (a significant portion of the loss being the reduction in international student numbers), but some indicators suggest that the drop could have been as large as 6 percent.

Figure 4
Working age population
(Index: 2010 Q2 = 100)



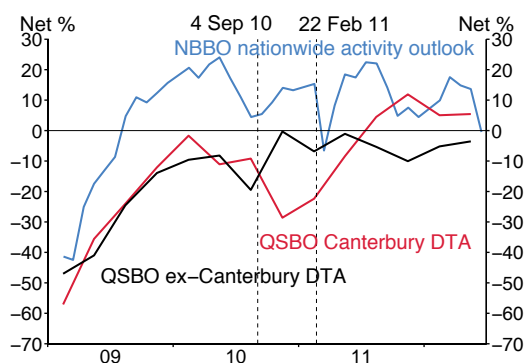
Source: Statistics New Zealand.

2.4 Businesses

The earthquakes have affected businesses in the region in a number of ways. First, damage to physical capital (mainly buildings) has reduced the productive capacity of numerous companies. Second, the damage to infrastructure such as roads and utilities has reduced the ability of businesses to carry out their operations. Finally, some businesses have faced a change in demand. For some, this reflects a reduced number of clients, especially those operating in the tourism sector. However, some businesses have witnessed an increase in demand, particularly those involved in construction or those outside the worst affected areas.

Aggregate indicators suggest that business activity has been quite resilient. According to the National Bank Business Outlook (NBBO) indicators, business confidence dropped nationwide in the immediate aftermath of the February quake, but recovered quickly. Respondents to the Quarterly Survey of Business Opinion (QSBO) reported a fall in experienced domestic trading activity in Canterbury following the two major earthquakes. However, activity has recovered over the past few quarters and is now more positive than the average for the rest of the economy (figure 5). Surveyed business profitability displays a similar pattern.

Figure 5
Surveys of business confidence and activity
(difference from the average since 2000)

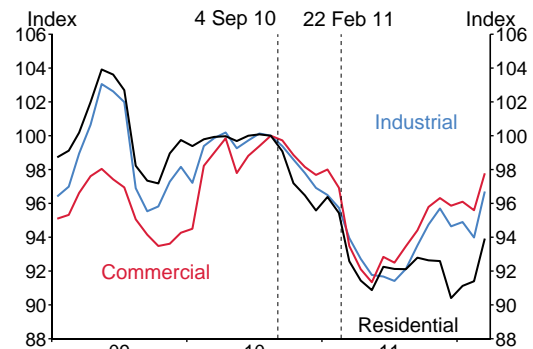


Sources: ANZ National Bank, NZIER.
Note: DTA = domestic trading activity.

Electricity consumption in Christchurch city fell 21 percent in March 2011 relative to the previous March. It has since recovered somewhat, and was 11 percent down in March 2012 relative to March 2010. Petrol

consumption was also down over the same period, whereas consumption of diesel increased by 8 percent, probably related to the clearance and demolition work. Overall energy usage declined by 3 percent between March 2010 and March 2012, with residential usage still showing a more marked decline (figure 6).

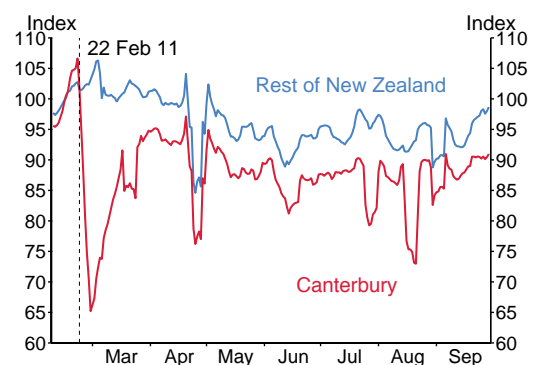
Figure 6
Christchurch city total energy usage
(seasonally adjusted, three-month moving average, index: August 2010 = 100)



Source: Christchurch Agency for Energy, RBNZ estimates.
Note: Short history of data means seasonal adjustment must be taken with caution.

Retail activity in Christchurch has been subdued. In the initial aftermath of the February 22 earthquake, about four trading days were almost completely lost. Furthermore, disruptions to the power and telecommunications networks resulted in payment systems being unavailable for many outlets. Paymark transactions, for example, suggest that electronic spending dropped by 40 percent in the days immediately following the February 2011 earthquake (figure 7).

Figure 7
Electronic card transactions
(index: 7 - 21 February 2011 average = 100)

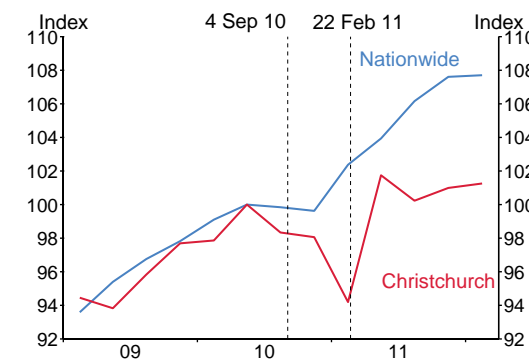


Source: Paymark.

In the immediate aftermath of the earthquakes, there was a large increase in the demand for banknotes as consumers focused on acquiring essentials such as food, water and petrol, and as electronic payment systems were temporarily off-line. The Reserve Bank worked closely with banks and local authorities to ensure the availability of financial services and cash. About \$150 million in additional cash was distributed in the week following the February earthquake, representing around \$350 per resident.

The initial disruption lasted for a number of weeks. However, transactions in Canterbury relative to nationwide transactions had recovered to around 10 percent below where they had previously been by around the start of May 2011. They are currently down around 6 percent in relative terms. This fall is reflected in retail sales, which have not increased by as much as the rest of the country. Retail trade has increased by around 7.7 percent in nominal terms nationwide since September 2010, but only by 1.3 percent in Christchurch (figure 8). While this will be largely a symptom of the fall in the local population, it may also reflect the loss of retail premises, particularly in the city centre.

Figure 8
Retail sales
(seasonally adjusted, index: 2010 Q2 = 100)



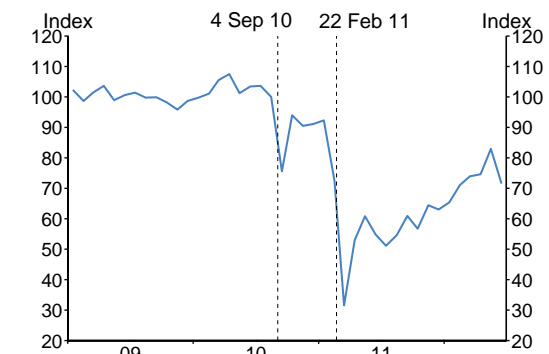
Source: Statistics New Zealand.

Within this overall relative decline, there will have been both winners and losers. Business relocation data and electronic transactions point to a marked increase in activity in certain suburbs (mostly to the west and south west) at the expense of other, mostly eastern and riverside, suburbs.¹

¹ We are grateful to Opus Central Laboratories for sharing their preliminary research with us.

There also appears to have been a drop-off in public transport volumes. Bus passenger numbers, for example, are down around 30 percent in Christchurch compared to pre-quake levels (Figure 9). In part, this reflects the continued dispersion of economic activity away from the central city and the cancellation of some services.

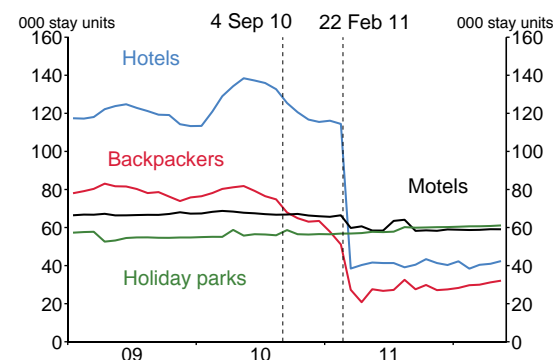
Figure 9
Christchurch bus passenger numbers
(seasonally adjusted, index: August 2010 = 100)



Source: Environment Canterbury, RBNZ estimates.

Tourism is another sector that has suffered significantly from the earthquakes. The central city had been the hub of tourist activity. But many of the attractions and many hotels have been demolished, and others remain either closed or still behind the central city cordon. The number of available hotel rooms and beds in backpackers has fallen by over two thirds since the February 2011 quake (figure 10).

Figure 10
Accommodation capacity in Christchurch
(seasonally adjusted)

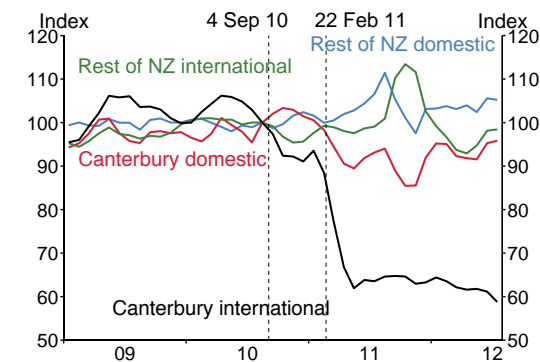


Source: Statistics New Zealand, RBNZ estimates.

International visitor numbers to Canterbury have also fallen since February 2011. International guest nights dropped by 6 percent immediately following the September 2010 earthquake, and then by a further third following the February quake and have yet to recover (figure 11). Domestic guest nights did not undergo such a marked fall, but remain around 8 percent down on the pre-quake level, even allowing for demand from temporarily displaced residents and those from out of town working on repairs or insurance assessments, for example.

Figure 11
Total guest nights

(seasonally adjusted, index: 2010 Q2 = 100)



Source: Statistics New Zealand, RBNZ estimates.

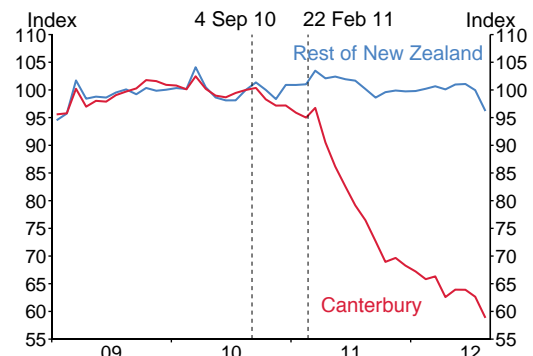
Similarly, Christchurch has suffered a marked reduction in the number of international students, with student visas down by 40 percent since February 2011, around 3300 people (figure 12). Ministry of Education statistics suggest that international student numbers in Canterbury have fallen by almost 50 percent since 2010.

While tourism sector activity has been hard hit, exports of goods have held up. Despite damage to its wharves, Lyttelton Port (the port of Christchurch) has maintained, and indeed managed to increase, the volume of exports. Core services at the port were restored within four days of the February 22 earthquake and volumes reached their previous peak midway through 2011 (figure 13).

Agricultural activity in Canterbury, as elsewhere in New Zealand, has been boosted by favourable climatic conditions. The manufacturing sector also appears to have held up reasonably well: the gap between Canterbury and nationwide performance (figure 14) has not changed noticeably from where it was in mid-2010.

Figure 12
Education visas by location

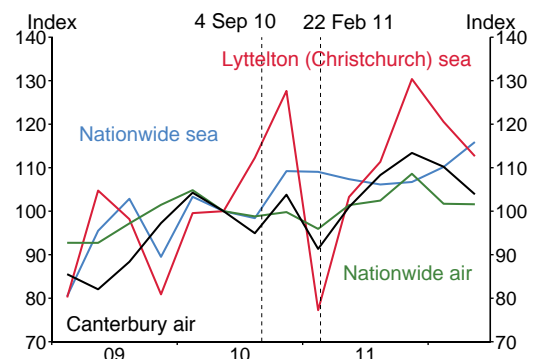
(seasonally adjusted, index: August 2010 = 100)



Source: Immigration New Zealand, RBNZ estimates.

Figure 13
Export volumes

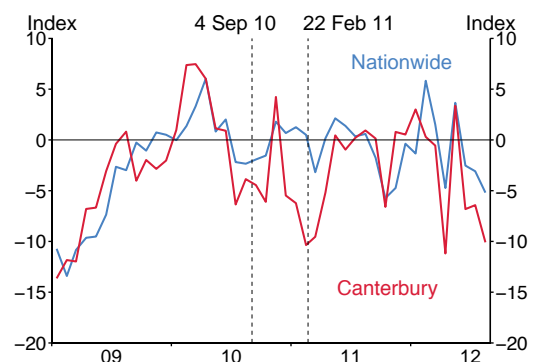
(seasonally adjusted, index: 2010 Q2 = 100)



Source: Statistics New Zealand, RBNZ estimates.

Figure 14
Performance of Manufacturing Index

(seasonally adjusted, difference from average since August 2002)



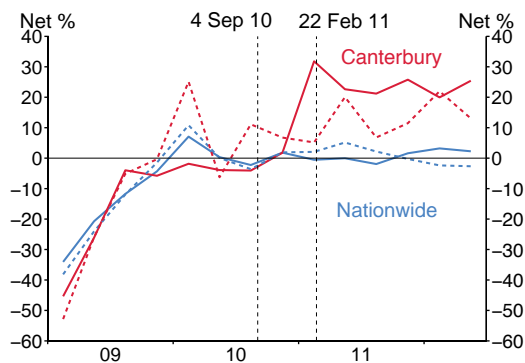
Sources: Business New Zealand, RBNZ estimates.

Note: PMI measures activity in the manufacturing sector, with higher numbers implying a greater number of firms experiencing an increase in production.

Most manufacturing activity was located outside the hardest hit areas.

Damage and destruction of capital have resulted in increased investment intentions in Canterbury. Canterbury respondents to the QSBO now expect to do more investment in buildings and plant and machinery than respondents in the rest of the country (figure 15). Indeed, the value of non-residential building consents in Canterbury increased by 78 percent in the 12 months to July 2012 relative to the preceding 12 months. This compares with a decline in the rest of the country.

Figure 15
Investment intentions
(seasonally adjusted, difference from mean since 2000)



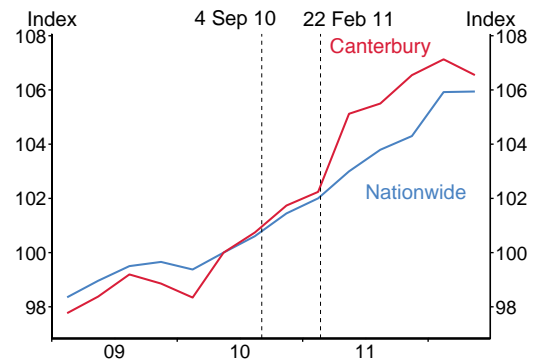
Source: NZIER, RBNZ estimates.
Note: Solid lines represent net percentage of firms expecting to increase investment in buildings over the next 12 months compared with the previous 12 months. Dashed lines represent the same for investment in plant and machinery.

2.5 Labour market

According to the HLFS, total employment declined by 9 percent between the June 2010 and June 2012 quarters, although recent outturns have been particularly volatile. Conversely, the Quarterly Employment Survey (QES), which surveys businesses, points to a 4.5 percent decline in filled jobs (figure 16). The QES will pick up employees staying in temporary accommodation that the HLFS does not cover. However, it does not cover small companies and self-employment, so if they have suffered a greater rate of attrition than larger companies, the QES will under-report the decline in employment.

The decline in employment has been most marked in the retail trade, accommodation and food services sectors. Employment in these sectors in Canterbury is estimated

Figure 16
Employment
(seasonally adjusted)

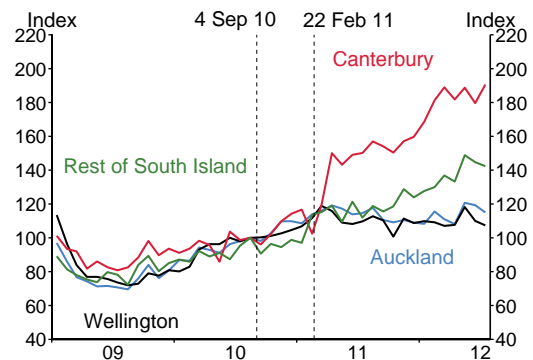


Source: Statistics New Zealand.

to have declined from 54,100 in June 2010 to 41,600 in June 2012. The vast majority of these job losses were for female workers, explaining the sharp pick-up in female unemployment in the region. Conversely, employment in the construction industry is estimated to have increased, from 25,900 in June 2010 to 32,800 in June 2012.

Despite the fall in aggregate employment, there are signs of difficulties recruiting labour. Online advertisements to fill skilled jobs in Canterbury have almost doubled since the start of 2011. The rest of the South Island has also witnessed a pick-up over that period, in marked contrast to Wellington and Auckland, where online job advertisements have remained reasonably constant (figure 17).

Figure 17
Online skilled job vacancies by region
(seasonally adjusted, index: August 2010 = 100)

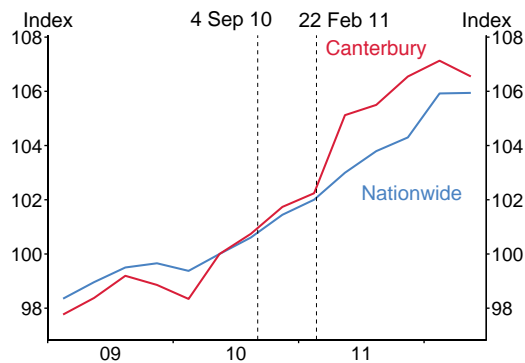


Source: Ministry of Business, Innovation and Employment.

At least over the short to medium term, it may be more difficult to match workers with vacancies, particularly if those who have lost jobs in the accommodation and tourism sectors cannot readily secure jobs in the construction sector as the rebuild gathers pace. This increased difficulty in finding labour is also apparent in the QSBO survey, and has been mentioned by businesses in the region visited by the Bank as part of its quarterly liaison round.

Average hourly earnings have increased at a slightly higher rate in Canterbury than elsewhere in New Zealand (figure 18). However, this could just be a reflection of a change in the composition of employment, with the loss of lower-paid jobs in retail and hospitality.

Figure 18
QES average total hourly earnings (ordinary & overtime)
(seasonally adjusted, index: 2010 Q2 = 100)

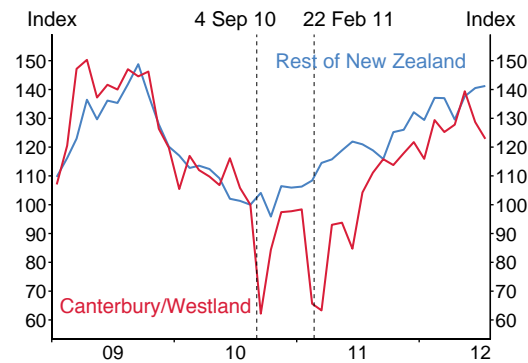


Source: Statistics New Zealand.

2.6 Housing market

The earthquakes have had a marked impact on the regional housing market. Both major earthquakes initially caused a drop in housing market activity in Canterbury (figure 19). Uncertainty over the earthquake damage and difficulties in securing insurance, even for existing customers, will have contributed to some of this initial weakness in activity. However, housing market activity has subsequently picked up in the wider Canterbury region: the fall in the housing stock appearing to more than offset the impact of the drop in the population. As a consequence, the time taken to sell a house has fallen. After spiking to over 50 days in March 2011, days to sell have declined to 30 in Canterbury/Westland, around five days quicker than

Figure 19
House sales
(seasonally adjusted, index: August 2010=100)

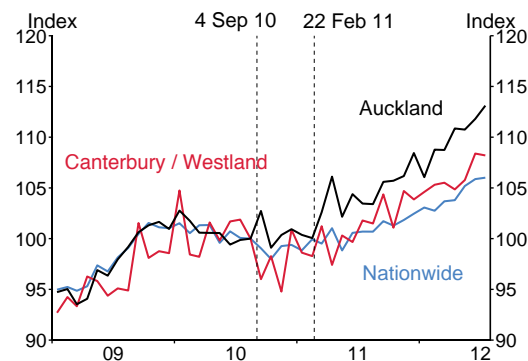


Source: REINZ.

the current national average.

Property prices suggest that the loss of dwellings has outstripped the loss of population, generating some excess demand for housing. There may also have been some price and rent spillovers to other regions, although it is not clear how much outward migration has contributed to extra demand for housing in the rest of New Zealand, particularly in Auckland (figure 20). At present, the divergence between house price inflation in Canterbury and that in the rest of the country is not out of line with the divergence among regions seen historically.

Figure 20
Housing price index
(seasonally adjusted, rebased: August 2010 = 100)

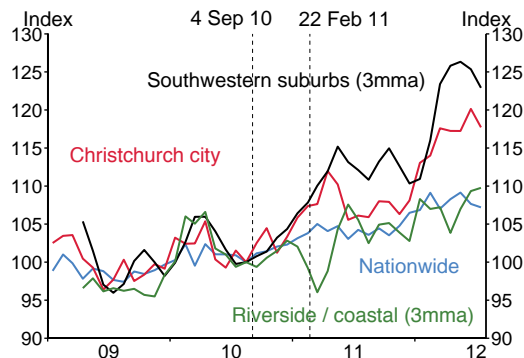


Source: REINZ, RBNZ estimates.

Rents for new rental contracts have increased by 18 percent in Christchurch since the end of 2010, compared with the 7 percent increase nationwide. Rental increases for existing contracts, as measured in the CPI, have

increased by less. But there is clear differentiation between suburbs, with the south western suburbs seeing larger increases than those in the east or close to the Avon River, where damage was more heavily concentrated (figure 21, left below). The pick-up has become more marked since the start of 2012.

Figure 21
Rents for new residential property leases
(index: August 2010 = 100)



Source: Ministry of Business, Innovation and Employment: Building and Housing Group, RBNZ estimates.

Note: 3mma = three-month moving average. Southwestern suburbs comprise Oaklands, Halswell, Hornby, Sockburn, Wigram, Yaldhurst, Broomfield, Templeton, Islington, Prebbleton (Selwyn), Westmorland, Mcleans Island, Kennedys Bush. Riverside/coastal comprises Shirley, Burwood, Dallington, Avondale, Richmond, Avonside, Bexley, New Brighton, South Brighton, Mt Pleasant, Avon-Heathcote Estuary, Moncks Bay, Sumner.

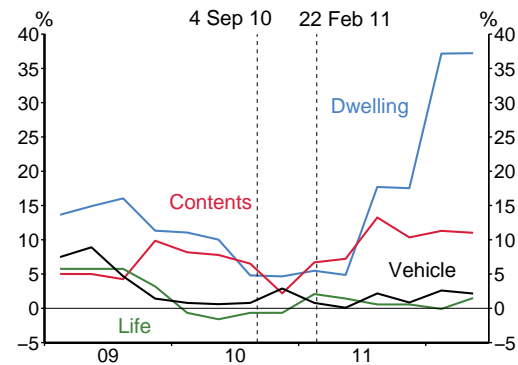
2.7 Financial institutions

New Zealand's financial system has stood up well financially, as well as operationally, to the earthquakes. Extensive insurance helped limit banking sector losses. The EQC provides cover up to a maximum of \$100,000 (plus GST) on insured properties, with losses beyond that covered by private insurance.

That said, several factors have led to delays in claim processing, including the large number of aftershocks, land issues, access restrictions for safety reasons and the need for apportionment between EQC and private insurance in respect of each earthquake event. The Government also provided a financial support package to a large insurer of residential property, and several insurers have been supported by capital injections from their parents. A few insurers are in the process of exiting the New Zealand market or limiting their exposures here.

EQC levies have been trebled to meet the higher costs of reinsurance and replenish funds. Private insurance costs have markedly increased for households and for businesses throughout New Zealand (figure 22), with terms and conditions, such as excesses and capped replacement values, also tightening. For households and businesses, restricted availability of insurance to cover construction of new buildings has hampered investment and the rebuild process. However, there are some recent signs of improvement in insurance availability.

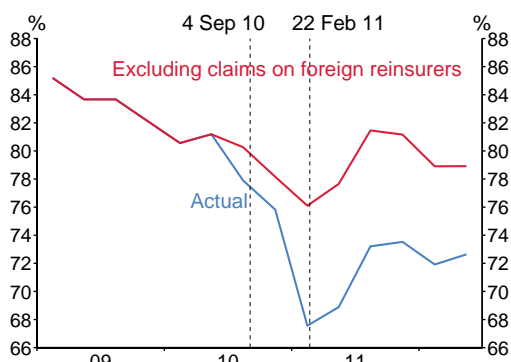
Figure 22
CPI insurance components inflation
(annual)



Source: Statistics New Zealand. Note: these components include EQC levies.

Extensive offshore reinsurance will fund a substantial share of the rebuild costs and thus has helped reduce the financial impact on New Zealand. Claims on foreign reinsurers count as overseas assets and have led to an improvement in New Zealand's net international investment position, although it is expected to unwind as the proceeds of this insurance are used to pay for the repairs and rebuilding (figure 23). Furthermore, reinsurance premiums have increased and will weigh on the current account balance over time.

Figure 23
Net foreign liabilities
(share of nominal GDP)



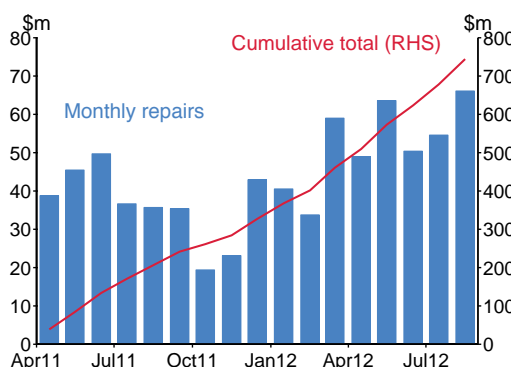
Source: Statistics New Zealand.

2.8 Construction sector

The construction sector faces a substantial increase in demand following the earthquakes. The scale of the rebuild will drive construction sector activity in the region for the coming decade. It will also affect national construction activity through demand for materials and labour. Initially, the focus was on repairing infrastructure such as roading, and on demolition and clearance work. Some 1600 buildings have needed to be partly or completely demolished, with around 80 percent of that work now completed (Brownlee 2012).

Residential repairs are beginning to gather speed, with spending on repairs in August 2012 carried out on behalf of the EQC up 85 percent on the previous August. Total EQC repairs to date are around \$750 million (figure 24). Over 45,000 emergency repairs and 20,000 full-scope repairs (typically at the less severe end of the spectrum) have been completed (Fletcher EQR 2012).

Figure 24
EQC-funded repair work

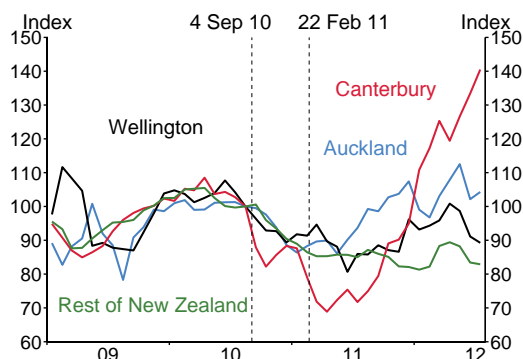


Source: EQC.

Residential consent issuance in Canterbury fell more sharply immediately following the two major earthquakes than was the case nationally. However, since the start of 2012, consent issuance has increased markedly. Overall Canterbury residential consent issuance is now around 40 percent higher than pre-earthquake levels (figure 25).

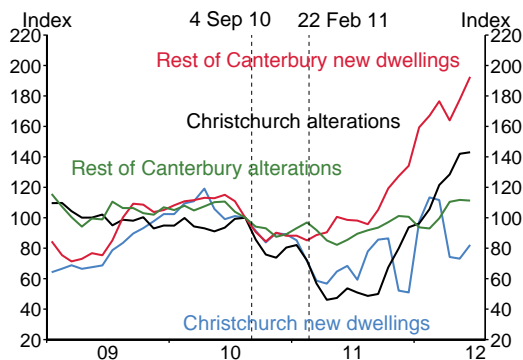
Much of the increase witnessed in Christchurch city since the start of 2012 has been consents issued for alterations, with consents for new dwellings still around the lows reached immediately following the February 2011 earthquake. Many of the earthquake-related repairs will not require consents, but nonetheless represent additional construction activity. Conversely, the pick-up in consents elsewhere in Canterbury is primarily for new construction, notably in districts adjacent to Christchurch such as Waimakariri and Selwyn (figure 26).

Figure 25
Number of residential building consents
(seasonally adjusted, three-month moving average, index: August 2010 = 100)



Source: Statistics New Zealand, RBNZ estimates.

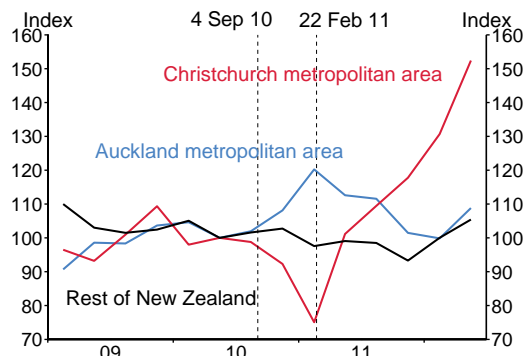
Figure 26
Number of consents issued in Canterbury
(seasonally adjusted, three-month moving average, index: August 2010 = 100)



Source: Statistics New Zealand, RBNZ estimate.

The production of ready-mix concrete fell in Christchurch immediately following the February 2011 earthquake, but has since accelerated as repair work gathered pace, and is now around 50 percent higher than mid-2010 (figure 27).

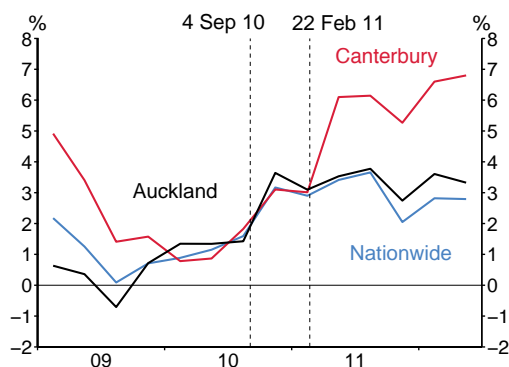
Figure 27
Production of ready-mix concrete
(seasonally adjusted, index: 2010 Q2 = 100)



Source: Statistics New Zealand, RBNZ estimates.

Perhaps unsurprisingly, there has been a marked pick-up in construction cost inflation in Canterbury, while in the rest of the country construction cost inflation remains muted (figure 28).

Figure 28
CPI construction cost inflation
(annual)



Source: Statistics New Zealand.

3 Conclusion

In aggregate, the Canterbury economy has been resilient in the aftermath of the earthquakes. In spite of considerable damage to residential and commercial property and public infrastructure, and a large amount of relocation, business activity in total rebounded rapidly after the initial disruption. Regional goods export volumes have remained strong, buoyed by the rapid recovery of port and airport capacity, but international tourism and education have been hard hit, and population losses have not yet been recovered.

Though delayed by extensive land damage and ongoing aftershocks, the repair and rebuild process is under way and likely to accelerate from now. Comparisons with other major natural disasters suggest that the widespread coverage of insurance, particularly accompanied by reinsurance overseas, has helped to mitigate the longer-term adverse economic effects of the earthquakes.

The process of repair and rebuilding will take a long time to complete, but will be at its most intense in the next few years. The Reserve Bank will continue to monitor regional activity and inflation developments and the consequent flow-through to the national economy.

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