Economic **Update**

After the Earthquake

Economic and financial market aspects

- **Economic output disrupted in short term, but reconstruction will provide a longer-lasting boost.**
- **Financial market reaction has been muted to date – and should remain that way.**
- **NZ's long-term economic fundamentals have not changed.**

Saturday's Canterbury earthquake has hugely affected thousands of people. Many of us around the country have family and friends in Canterbury and are counting our blessings that the human toll has been so light.

As economists, we are also thinking about – and being asked – what the earthquake may mean for the economy and financial markets. It will take some time to get a clear picture of the economic impact: it is still very early after the earthquake, and the scale of the damage is large yet uncertain. In this note we have discussed a number of relevant factors to consider as well as looked at the economic and financial impacts of recent comparable earthquakes in Japan and the US.

The Canterbury economy will face a period of short-term disruption until the vast majority of businesses can resume more normal operations. Overseas experiences suggest national GDP growth could be weak in Q3. However, reconstruction activity will subsequently boost GDP, potentially by 1.5 percentage points.

Some of this activity will cause pockets of inflation, but we expect the RBNZ will look through these impacts and if anything keep interest rate support in place for longer. Increasingly the RBNZ is unlikely to lift interest rates until early next year.

The earthquake's destruction is a large wealth hit, with early estimates of $2 billion. However, much of the wealth shock will be borne by the Earthquake Commission, insurance companies and the public sector. Consequently, the long-term spending plans of private individuals and firms are unlikely to be materially impacted by adverse wealth effects.

Markets react quickly to disasters. So far the NZ reaction on Monday morning has been modest and reasonable. The long-term fundamentals for the vast majority of listed companies and the economy as a whole will not change as a result of the earthquake.

Economic impact

Short-term disruption

Key to the degree of short-term economic disruption is the extent of infrastructure damage and disruption to businesses. Customers still exist both within Canterbury and around the country, as well as those farther afield that support the region's export industries. It is a matter of how soon businesses can get back on their feet and reopen.

Speed with which infrastructure restored is key.

For many businesses (including farms) the extent of disruption will depend in part on how quickly key infrastructure can be restored. Electricity has been restored quickly to 95% of residents, with quite a number of outages caused by transformers tripping rather than structural damage. Water and sewerage will be the main concerns, and restoring these services will be much more time-consuming due to their underground nature and multiple ruptures. Comfortable household life, and many businesses' ability to operate fully, depend on both these services being up and running. Even so, water supplies were restored to around 80% of households on Sunday, with some areas never losing their supply. Buildings need to be checked they are safe before being used again.

Damaged businesses will need more time.

Businesses that have suffered direct damage to premises, equipment or stock will take that much longer to recover. Severely damaged premises will be unusable. Specialised equipment may take time to replace, particularly if it needs to be imported. Businesses with relatively unscathed premises will still need a bit of time to tidy up and replace needed items that have been damaged. The central business district, where many of the damaged commercial buildings are, will not be usable until the dangers from debris or further building damage have been removed.

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Transport systems are critical...

Transport is crucial, both for supplying aid and supporting commerce. Geographically, Christchurch and the Canterbury plains are less vulnerable to being cut off than Wellington, particularly, and Auckland. Much of the Canterbury plains and Christchurch are covered by a grid of roads, giving greater potential for alternative access around any damaged roads and bridges. Rail access to Christchurch comes from North, West and South, giving better options for restoring freight routes.

...and fortunately appear relatively intact.

The ability to transport needed supplies (and, as businesses reopen, commercial goods) appears good even right now. Although many roads have been damaged, the state highway network is largely open and road access to and within Christchurch would appear readily free. At least two of the main trunk rail lines have been buckled and in the interim road will be used to bridge the affected areas. But the southern line has been in sufficiently usable condition to enable KiwiRail to bring in 280,000 litres of water in Fonterra milk tankers. Commercial flights resumed at Christchurch airport 1:30pm on Saturday. The road tunnel to the port of Lyttelton is open, and the port itself may soon be able to resume operations. But if needed the ports of Timaru and Otago to the south are accessible by rail. Getting rail fully functioning again fairly soon would minimise disruption to commercial activity both in Canterbury but also on the West Coast. Fuel supplies are currently "sufficient", though no fresh shipments into Lyttelton will occur until water supplies are back on there.

Nature, however, remains a big factor. Aftershocks remain frequent, with the possibly of another large earthquake. Wind and rain could compound the initial damage, particularly as many buildings are no longer watertight.

Christchurch has Burnham military camp nearby to supply manpower to assist various recovery efforts if needed.

Rebuilding phase

Rebuilding will provide a sustained boost.

Very quickly we will get into the rebuilding phase: the initial activity will be assessing, planning and demolishing before construction starts. Numerous buildings, particularly the older brick commercial buildings still common in the more central areas of Christchurch, have been obviously damaged and many will need to be replaced rather than repaired. Many other buildings will have less apparent structural damage and need rebuilding or extensive repairs. Large numbers of houses will need repairing, particularly given the number of chimneys that collapsed, and some have been rendered uninhabitable and need replacing. Damage is also quite severe in towns near Christchurch that have either been close to the epicentre (such as Darfield) or built on the less stable river plains (such as Kaiapoi), and in inhabited areas on the coast. Many roads, water pipes and sewers will need replacing.

The pace of reconstruction will be constrained by the country's ability to produce or import the necessary building products and by the pool of skilled tradespeople. At present the construction sector is operating at a low ebb given the lingering effects of recession. There is, therefore, plenty of scope to bring in workers from around the country though the main challenge could be housing them.

There will likely be a premium on useable property in the short term at least, given the extent of the destruction, potentially putting upward pressure on both prices and rents for commercial and residential property. To the extent that workers are brought in from elsewhere to assist with rebuilding, demand for short-term accommodation and flights in and out of Christchurch will be boosted. This could help offset any short-term decline in tourist visitors to the city.

Global comparators

Japan and US experiences.

Overseas experience gives some guide to the economic impact. The January 1995 earthquake in Japan near Kobe (population 1.5 million) was of magnitude 6.8 and killed over 6,000 people. Japan's earthquake caused considerable damage, in part because many buildings did not meet newer and stricter building standards – 200,000 buildings collapsed. Rebuilding cost around 10 trillion yen at the time (equivalent then to NZ$156 billion), around 2.5% of GDP.

The October 1989 Loma Prieta earthquake in the San Francisco bay area registered at 6.9. 63 people died, most of them when a freeway collapsed onto cars underneath. Roughly 12,000 houses and 2,600 businesses were damaged. The damage estimate was US$6 billion (NZ$10 billion) in 1989 terms, a very small fraction of US GDP.

NZ may need proportionately less rebuilding, suffered less transport damage.

US GDP growth fell from 0.8% qoq to 0.2% in the quarter the earthquake hit, before lifting to 1% the quarter after. Japan's picture is murkier given the earthquake followed a quarter of GDP contraction, but smoothing through those quarters GDP growth was flat for 6 months.

NZ's GDP impact from construction may be milder than Japan's. The stricter building code in NZ appears to have limited the extent of the damage given the magnitude and location of the earthquake. The Treasury's early estimates suggest a damage bill of around $2 billion, slightly more than 1% of GDP but less than the 2.5% Japan paid. Economic disruption may also be less if proportionately fewer buildings (and businesses) have been affected. Moreover, the major port of Kobe was extensively damaged and impeded the ability of major exporters to ship goods. Christchurch seems relatively more fortunate in this regard based off initial reports.

Quarterly growth profile following a major earthquake						
US	**Q3 1989** 0.8	**Q4 1989** 0.2	**Q1 1990** 1.0	**Q2 1990** 0.4	**Q3 1990** 0.0	**Q4 1990** -0.9
		Earthquake				
Japan	**Q4 1994** -0.8	**Q1 1995** 0.9	**Q2 1995** 0.8	**Q3 1995** 0.9	**Q4 1995** -0.2	**Q1 1996** 1.0

Potential GDP impact

The overall GDP impact is likely to be positive. The short-term impact will be negative, but outweighed over time by restoration activity.

Earthquake could temporarily slow GDP growth by around 0.6ppts.

The deepest disruption will fall in September, the tail end of Q3, but a lengthy period of business disruption could drag on growth the early parts of Q4 as well. Q3 national GDP growth could conceivably be reduced by 0.6 percentage points relative to where it would have been, implying weak growth. Prior to the earthquake we expected fairly strong growth in Q3 given the introduction of GST.

Canterbury accounts for roughly 15% of GDP and Christchurch is New Zealand's second-biggest city, so the affected area is proportionately more critical to the NZ economy than the Kobe and San Francisco areas are to their respective national economies. But, compared to Japan, we suspect that the degree of economic disruption could be less given more stringent local building standards, the relative usability of key transport infrastructure, and the swifter local and central government response.

Another crude rough of thumb is that that every week Canterbury (15% of the economy) operates at half its capacity is equivalent to roughly 0.14 percentage points off GDP. Four weeks of the Canterbury economy running an average at half capacity would impact GDP by 0.6 percentage points, largely offsetting economic growth elsewhere in the country. The US experience on the face of it implies a similar impact.

But rebuilding could add 1.5ppt over the next year.

But rebound should start kicking in over Q4. Businesses will progressively regroup from this week onwards, lifting the level of GDP largely back to where it was prior to the earthquake. On top of that, construction activity will be spurred for a sustained period to repair or replace damaged buildings and infrastructure. Reconstruction will take time given the need to plan and schedule it. There will be a surge in retail spending within Canterbury as households replace damaged household possessions and cars. So, on top of reversal of any business disruption, GDP would likely get boosted by roughly 1.5 percentage points over the next 12 months, allowing for $2 billion of reconstruction and further spending on top of that.

Wealth impact largely borne by insurance agencies.

GDP will show the expenditure/income effects of the disruption and the rebuilding. The other side of the coin is the significant loss of wealth caused by the damage. This bill will be borne largely by the Earthquake Commission and insurance companies for private damage, and local/central government for public infrastructure. Insured businesses and households will eventually face comparatively modest loss of personal wealth (though many irreplaceable heirlooms). Relatively minimised personal wealth destruction – once the cheques come in – means little risk of households cutting medium-term spending plans in the way that a widespread loss of life savings would.

Inflation implications

Pockets of isolated inflation...

The impact of the earthquake will be more inflationary than not. Canterbury's ability to supply goods and services has been impaired for a period. But the main impact will come through sharp lifts in demand for things for which supply won't be able to respond adequately. Construction materials and services are likely to be the biggest area of potential price pressure given the huge extent of urgent work to do.

...that RBNZ will look through.

This does not mean the RBNZ will be rushing to lift interest rates, quite the contrary. Clause 3a of the Policy Targets Agreement allows for the RBNZ to look through inflation impacts that "would normally be temporary", including "a natural disaster affecting a major part of the economy". If anything, the RBNZ will be even more cautious. The earthquake reinforces the likelihood of the RBNZ putting a temporary halt on lifting the OCR – the RBNZ is likely to remain on hold at least until the start of next year.

The wildcard risk is the RBNZ actually cuts the OCR if the economic damage from the earthquake looks severe and spreads outside the immediately-affected region: the earthquake has come at a time when many businesses around the country are struggling to overcome the recession. But from Canterbury's narrow point of view the more effective and important support for its economic health is coming from the numerous responses that have kicked into action to minimise disruption and enable as many businesses to resume operations as soon as possible.

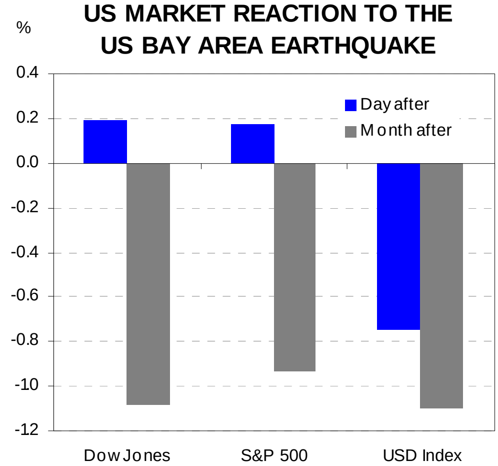
The RBNZ may make a statement clarifying how it will respond to the impact once it has a better grasp of the severity of the situation. At the least its September 16 Monetary Policy Statement is sure to make mention of the earthquake.

Financial market reaction

Modest negative reaction normal.

Markets' immediate reaction in the aftermath of a natural disaster is usually slightly negative but not dramatically so.

US MARKET REACTION TO THE US BAY AREA EARTHQUAKE



Overseas examples

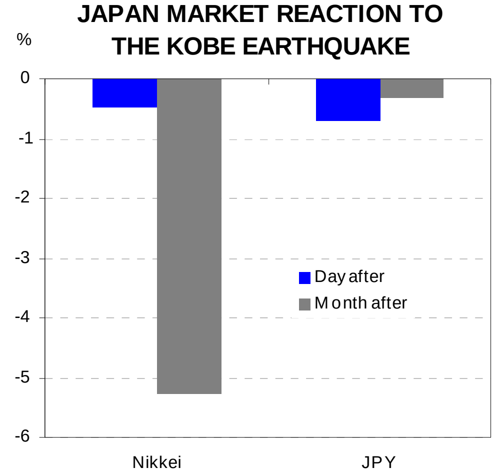
US reaction mild.

The San Francisco earthquake appeared to have very little immediate impact on equity prices and a month later equity markets were down around 1%. The USD was also little affected: the broad DXY USD index fell less than 1% immediately afterwards and was down in total 1% a month later. US short-term interest rates spiked immediately afterwards but reversed that within the month. 2-year rates were down around 20bp within a month.

Japanese equity market was hit hard.

In the wake of the Kobe earthquake the yen softened around 0.5% against the US dollar. The equity market reaction was more violent. After several days of mild declines the Nikkei index fell 1000 points (6%) in one day a week afterwards as the extent of damage became more apparent. Ultimately the earthquake unstuck Nick Leeson and brought down Barings bank. Short-term rates were little changed over the month but 2-year rates were down around 30bp.

JAPAN MARKET REACTION TO THE KOBE EARTHQUAKE



Barring the Japanese equity market, the magnitude of the movements over a period of time were within the bounds of normal market volatility.

Initial NZ reaction

Initial NZ reaction muted

So far the NZ market reaction has been relatively muted. The NZ dollar traded in early Monday down 20 points to 0.7190. Given that the NZD/AUD is little changed, this initial reaction may have little to do with the earthquake. The 1-year swap rate has dropped around 5bp as the market anticipates even less likelihood of Official Cash Rate increases in the near future.

In contrast, the 10-year Government bond yield has risen 10bp, 4bp more than the 10-year swap rate has lifted. Part of the move will reflect a slightly smaller rise in US bond yields over the week. However, some focus will be going on the needs of the Earthquake Commission to liquidate some of its $5.6 billion portfolio, of which around 63% is held in NZ fixed interest securities. The Government is also likely to contribute to help local councils rebuild infrastructure, so may need to do slightly more funding in the short term than anticipated.

The NZX50 has overall lifted around 0.7% in early trading, following positive US trading and reflecting a 4% lift in Fletcher Building, the country's biggest listed company and largest construction company. Other potential beneficiaries of reconstruction, such as Steel and Tube, have lifted. Insurance and property companies, potential adversely affected, have dipped slightly. Many other shares are simply flat.

Long-term fundamentals largely unaffected.

There may be further moves, particularly over the next 24 hours as Asia, Europe and the US also take stock of the situation. However, to date the moves (or lack of them) seem entirely keeping with a long-run perspective. Ultimately the long-run fundamentals of the economy have not been affected, and that is what will drive the long-run earnings of most equities.

Summary

The Canterbury economy will face short-term disruption through damaged infrastructure and businesses unable to function effectively for a period. Exactly how much of an economic impact will come clearer over the next few weeks. NZ could see short-term growth reduced by 0.6 percentage points given Canterbury's importance to the economy.

But, after the initial disruption, economic activity will recover as businesses left relatively unscathed are able to reopen and as construction activity in Canterbury surges. Restoration of property could boost GDP roughly 1.5 percentage points over the next year.

Soaring demand for some goods and services, particularly for rebuilding, could cause isolated pockets of inflation. However, the RBNZ will look through such effects and – if anything – be more prepared to keep interest rate stimulus in place for longer.

Financial markets have – to date – had a muted response. The experiences of the Kobe and San Francisco earthquakes were also modest (with the exception of Japanese equities). NZ's long-term fundamentals have not been affected, notwithstanding the disruption and diversion of resources in the near term.

It has been encouraging how efficiently and calmly civil defence and emergency personnel have swung into action. We should all take some comfort from what appears to be a speedy response: this is no Hurricane Katrina or Haiti. The seriousness of the situation has been swiftly grasped and the country's ability to cope has not been overwhelmed. That, more than anything, is what will minimise the economic cost of the huge disaster that Canterbury woke up to on Saturday morning.

On a final and non-economic note, a large number of people have gone through, and are still going through, an extremely traumatic ordeal. They have been given a severe fright and lost precious mementos. Many will be wondering about the futures of their houses, jobs or businesses. Any support and comfort the more fortunate of us can give will help.

Useful information

ASB Customer Financial Help Team: 0800 272735

Canterbury Earthquake Appeal 2010 account number: 12-3192-0015998-01

Civil defence (Canterbury information): http://www.civildefence.govt.nz/memwebsite.nsf

Earthquake Commission: www.eqc.govt.nz

Insurance Council of NZ: http://www.icnz.org.nz

http://reports.asb.co.nz/index.html

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