

Economic Impact of Canterbury Earthquake

10 September 2010

- **Economic impact and damage estimates are highly uncertain at this early stage**
- **Overall GDP impact will be smaller than final damage bill**
- **Earthquake to have a negative impact on GDP in the September quarter of around 0.4%**
- **Recovery and repair work over the following three quarters likely to more than offset this, boosting GDP in the year to June 2011 as a whole**

Economic impacts difficult to assess

It is too early to confidently assess the impact of the Canterbury earthquake on the New Zealand economy. This note provides some indicative estimates of the likely impact on overall GDP over the next couple of years.

In order to produce these estimates, a number of assumptions have had to be made. These relate to the amount of disruption caused to economic activity in the Canterbury region. Economic data relating to September will not be released until October at the earliest, with most key indicators of September quarter GDP due for release in November and early December.

Disruption caused by the earthquake will negatively impact on September quarter GDP

Disruption to businesses and other services such as education will negatively impact on economic activity in the September quarter. It is estimated that this disruption will reduce New Zealand's September quarter GDP by 0.4% relative to what would have been the case in the absence of the earthquake occurring. This means that in the year to September 2010 the annual level of GDP would be 0.1% lower than it would have been. Despite the negative impact on GDP, we still expect GDP growth in the September quarter to remain positive.

This estimate is based on making assumptions about the number of days of lost output across the various industries within the Canterbury economy over the month of September and from this calculating the loss of value added production. The estimates from the various industries were then aggregated to calculate the loss of production in the Canterbury region as a whole. This production loss was then converted into a national impact based on Canterbury's approximate share of national production.

Negative impact on September quarter GDP in the 0.2% to 0.8% range

The judgments around the loss of production in each industry are fairly subjective given the (unsurprising) lack of hard data relating to the negative impacts on the Canterbury economy. Therefore we considered several scenarios which generated losses in output for the September quarter in the range of 0.2% to 0.8%, with the 0.4% impact our best professional judgement.

Boost to economic activity from rebuilding will depend on the size of loss experienced...

The amount of damage will influence the amount of recovery and repair activity that will take place over the next couple of years. This will include clean-up and demolition work, repairs to damaged buildings and infrastructure, the replacement of structures too damaged to be repaired, and the replacement of contents destroyed by the earthquake.

... for which we have assumed \$4 billion ...

To derive an estimate of the likely boost to economic activity from recovery efforts we have assumed that the earthquake has caused a total of \$4 billion worth of damage. This is based on approximately \$2 billion worth of damage to private dwellings and their contents, \$1 billion of damage to commercial property and \$1 billion

worth of damage to public infrastructure (roads, sewerage, drainage etc). The Earthquake Commission (EQC) estimates their exposure, which relates only to insured private dwellings and their contents, to be in the \$1 billion to \$2 billion range.

... but the true value will not be known for some time

We are unlikely to know the full cost of damage for some time as it will take time for all insurance claims to be lodged and assessed. A large number of individuals will have lost items of high personal value (e.g. family heirlooms). These items may not show up in damage estimates given that their monetary value will at times be relatively small.

What type of boost to real GDP can we expect as repair and reconstruction work commences?

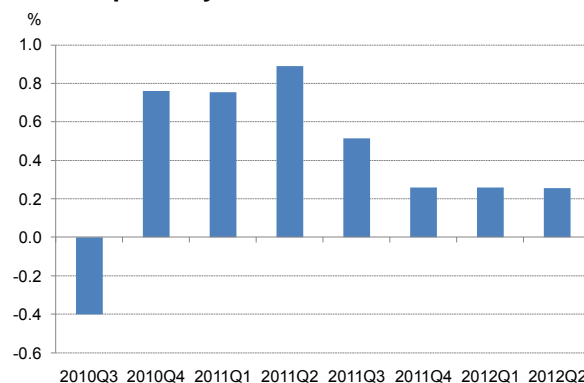
A number of factors will influence this including:

- How much existing work the recovery activity replaces as recovery work takes precedence over other projects that are now deemed lower priority.
- The proportion of destroyed buildings replaced. This is likely to be a high proportion for houses, but may be lower in the near term for other building types such as retail stores.
- How much value added will be associated with the recovery work. GDP reflects the value added component of production in New Zealand. Replacing a \$2000 television will not have a very big impact on GDP as televisions are not produced in New Zealand; likewise some of the materials used to construct buildings will be imported.
- Natural disasters tend to discourage tourists. However, next year the lead up to the Rugby World Cup, and the event itself, will provide a good opportunity to showcase to potential tourists that Canterbury (and New Zealand) is still a good destination to visit.

Figure 1 shows an illustrative impact of the earthquake on quarterly real GDP taking into account the factors above. The recovery phase

will provide a boost to GDP growth of around 0.5%, over the 2011 June year as a whole. The boost to the level of GDP will diminish over time as recovery work is completed, but real GDP is likely to be around 0.3% higher in the June 2012 year than what it would have been in the absence of the earthquake. Beyond 2012 the remaining boost to GDP would decline as reconstruction work is completed.

Figure 1: Estimates of earthquake impact on level of quarterly real GDP



Source: Treasury

It should be noted that there is uncertainty associated with the speed of recovery. Figure 1 illustrates a rapid recovery, perhaps a little too fast as it may take time for industry to gear up to do the reconstruction work and funding to be arranged. Nevertheless, it should be noted that activity associated with the general clean up and demolition of condemned buildings will form part of GDP.

While the reconstruction work associated with the earthquake will boost GDP it is worth noting that the earthquake has negatively impacted wealth. What we will be seeing is the economy working a bit harder to offset a reasonable amount of the welfare loss caused by the earthquake, i.e. the stronger growth is required to get back some of what we previously had.

There is also likely to be a small upward impact on the rate of inflation given increased resource pressure, particularly in the Canterbury region. We have not quantified this impact.