

New Zealand

Prevalence of natural hazards

New Zealand is made up of two main islands in the South Pacific (North and South Islands) that are located between the equator and Antarctica and on the juncture of the Australian and Pacific plates. New Zealand's location and geography exposes it to a broad range of hazards, including earthquakes, tsunamis, volcanic activity, ex-tropical cyclones, floods and droughts.

Types of natural hazards affecting New Zealand

Category	Types of hazard
Geophysical	Earthquakes, tsunamis, volcanic activity
Hydrological	Flooding,
Meteorological	Flooding, ex-tropical cyclones
Climatological	Wild fire; droughts

Source: ODESC, 2007.

Located at the southwest end of the Pacific Ring of Fire, New Zealand is particularly susceptible to earthquakes (and related tsunamis) and volcanic eruptions. Based on its seismic history, there is a high probability of a magnitude 6 earthquake occurring at least once per year, and a magnitude 7 earthquake at least every five years (GeoNet, 2017).

Around 22% of the population of New Zealand (1 million inhabitants) is exposed to significant earthquake risk. The most recent major earthquakes occurred in Kaikoura (2016), resulting in economic losses of USD 3.9 billion, and in Canterbury (2011), resulting in economic losses of over USD 15 billion.

Major natural disasters in New Zealand (since 1980)

Disaster Event	Year	Fatalities	People affected	Economic damage in USD
Kaikoura earthquake	2016	2	Not available	3.9 billion
2012/13 drought	2012/13	0	Not available	823 million
Canterbury earthquake	2011	181	301 500	1 500 billion
Canterbury earthquake	2010	0	300 002	650 billion
February 2004 storm (flood)	2004	4	5 350	275 million
1997/98 El Niño drought	1998	0	Not available	544 million

Sources: EM-DAT, 2017; ODESC, 2007.

Volcanoes, arising from the subducted Pacific plate, are found in the centre, north and west of the North Island as well as offshore. Ruapehu eruptions in 1995 were the largest volcanic events in New Zealand in 50 years. They deposited ash as far as 250 km from the volcano, affecting Hawke's Bay, Gisborne and the Bay of Plenty. A wide flight-exclusion zone disrupted air travel and major highways were closed several times. Total economic losses were estimated at around USD 94 million.

Floods are the most frequently occurring natural hazard in New Zealand. Although fatality rates have significantly decreased, floods still cause major disruptions through evacuations of people and damage to property. They regularly cause millions in damage to structures, infrastructure and agriculture. The February 2004 storm caused widespread and damaging floods with estimated losses of USD 275 million (ODESC, 2007).

Significant landslides occur frequently in New Zealand due to its steep slopes, active tectonics, and high rainfall in some areas. There have been at least 15 rainstorms in the past 35 years that have caused extensive landslides over large areas, especially in the erodible mudstone hill area of the North Island (from Manawatu-Wanganui to Gisborne). The Kaikoura earthquake (2016) triggered thousands of smaller landslides along the steep coastal hills, caused 11 significant landslides, and destroyed or disrupted major road and rail infrastructure. The effects of such events are far-reaching. Pasture loss decreases productivity; silt washed into streams and rivers degrades water quality and increases flood risk; and transport infrastructure disruption has significant economic consequences. The annual cost of soil erosion is estimated at USD 72–109 million.

New Zealand's climate is influenced by the El Niño–Southern Oscillation, which results in drier conditions in northern and eastern areas, with stronger-than-normal north-easterly airflows during La Niña phases. The 1997/98 drought, associated with a strong El Niño event, severely affected eastern regions, from Hawke's Bay to Central Otago. Economic losses were estimated at USD 544 million, or 0.9% of gross domestic product (GDP) (2006 value), affecting New Zealand's farming community particularly hard. Other recent major drought episodes, which were not related to the El Niño oscillation, occurred in the period 2012–13. Economic losses were estimated at USD 823 million (EM-DAT, 2017).

Past fiscal impacts of disasters

The estimated annual average loss from disasters in New Zealand is USD 832 million, corresponding to 0.47% of GDP. The probable maximum loss for 100-year and 500-year return periods has been calculated at USD 4.6 billion and USD 7.3 billion, respectively (PreventionWeb, 2017). The values seem to be underestimated however, given recent experiences with major earthquakes in New Zealand.

New Zealand currently does not hold a comprehensive database of economic losses or fiscal impacts from past disasters. The government has committed to developing a mechanism for more systematic reporting of ex ante and ex post public spending on disaster risk management.

The most costly recent disasters in New Zealand have been the Kaikoura and Canterbury earthquakes in 2016 and 2010/11, respectively. Some information regarding the fiscal costs of these events is publicly available in the Treasury's reports. In the case of the Kaikoura earthquake the reports show a significant increase in infrastructure spending to repair roads and other utilities. Preliminary estimates of the total costs are at around USD 2 billion to USD 3 billion, with the majority of costs funded through budget allowances or from insurance proceeds (excluding Earthquake Commission [EQC] claims costs). As a result, the forecast of the Treasury's Half Yearly Economic and Fiscal Update of 2017 shows the net operating package at USD 7.2 billion in 2017 (Treasury, 2017).

Two-thirds of the costs incurred by the Canterbury earthquake sequence of 2010 and 2011 were funded by insurance companies through insurance and reinsurance, and by the public sector, which financed around one-third of the costs through natural disaster insurance provided by the EQC and central government resources (IMF, 2016). The 2016 Financial Statements of the Crown present consolidated information regarding the fiscal impact of this earthquake sequence. The total cost at the end of fiscal year 2016 was USD 10.3 billion, and the earthquake-related obligations still faced are estimated at USD 1.5 billion. The cost of repairing or replacing physical assets owned by the central government amounted to USD 706 million, or 6.8% of total central government costs.¹ The central government provided significant contributions for the reconstruction of public assets owned by subnational government (local/district councils and regional councils²); these amounted to USD 1.19 billion for the restoration of essential subnational government infrastructure, such as fresh water supply, wastewater services and storm water services. From the EQC, which provides insurance coverage against earthquake and other perils for residential property, the government is expected to assume some of USD 5.3 billion paid out in compensation for privately owned residential property. Finally, the central government exceptionally provided USD 806 million to settle residential property claims for policies held with a private insurance company, AMI, which became financially distressed as a result of the 2010/11 earthquakes³.

Canterbury earthquake public expenditures (2011-16)

	Total to date (million NZD)	30 June 2016 (million NZD)	30 June 2015 (million NZD)	Actual June 2014 (million NZD)	Actual June 2013 (million NZD)	30 June 2012 (million NZD)	30 June 2011 (million NZD)
EQC insurance claims	7 334	21	(444)	(242)	(107)	662	7 444
Local infrastructure	1 637	55	66	109	483	729	195
Land zoning	1 087	88	(1)	97	(8)	258	653
Southern Response support package	1 111	204	325	124	(53)	156	355
Christchurch central city rebuild	920	153	179	473	115	-	-
Crown assets	969	498	335	96	28	12	-
Other earthquake costs	1 242	338	129	249	17	96	413
Gross earthquake expenses	20 448	1 414	904	918	815	2 823	13 574
Earthquake related revenue (e.g. reinsurance)	(6 148)	(57)	(315)	(12)	(340)	(910)	(4 514)
Total Crown net earthquake costs	14 300	1 357	589	906	475	1 913	9 060
Operating and capital expenses							
Operating expenses	12 084	587	(55)	326	266	1 900	9 060
Capital expenditure	2 216	770	644	580	209	13	-
Total Crown net earthquake costs	14 300	1 357	589	906	475	1 913	9 060

Source: Treasury, 2016, note 31, pp. 122-26.

Typically, the central government compensates subnational governments for at least 60% of the cost of public infrastructure reconstruction (OECD, 2016). To prepare for potential disaster-related contingent liabilities, the EQC invests the premiums that it receives into the Natural Disaster Fund.⁴ The fund serves as an accumulated technical reserve in the insurance scheme. The fund accumulates investment income from money held in the fund and from insurance premiums⁵, and it pays the Earthquake Commission's operational costs and payouts of insurance claims after a natural disaster. In the event of a major natural disaster likely to involve claims in excess of USD 182 million, the EQC must consult with the minister of finance before liquidating any part of the fund's investment portfolio, apart from the holdings of New Zealand bank bills.

Until the Canterbury earthquakes in 2010 and 2011, there had not been any major claims on the Natural Disaster Fund. The fund had accumulated a value of USD 4.3 billion (NZD 5.9 billion) at the beginning of the 2010/11 financial year. EQC has been drawing down on the fund to meet claims since the first Canterbury earthquake in September 2010, and the fund has been depleted as EQC settles its liabilities. Reflecting the underlying risk of the scheme, premiums have been increased with the expectation that the fund will be replenished to pre-Canterbury levels within nine years (presuming another major event does not occur in the meantime).

In general, the New Zealand's approach to financing disaster recovery and reconstruction has revolved around running a strong fiscal position with low debt levels, which allows the cost of an event to be absorbed without unduly affecting core public services or the wider economy (Treasury, 2014). However, the increased external borrowing following the Canterbury earthquake sequence, which occurred during a period of domestic and global economic weakness, saw the New Zealand government's fiscal buffer decline: net debt

increased from 13.6% of GDP in 2010 to 23.5% of GDP in 2012. In 2011, concerns about the New Zealand's public finances - both as a result of the global recession and the repair and reconstruction costs associated with the Canterbury earthquake sequence - led Standard & Poor's to downgrade the long-term foreign currency sovereign rating of New Zealand to "AA" (from AA+). The New Zealand government's fiscal strategy aims at bringing the debt down again to levels that can sustain major disruptive events.

Managing disaster-related contingent liabilities

Identification of disaster-related contingent liabilities

Explicit contingent liabilities

Explicit contingent liabilities arise from legal commitments for both central and subnational governments to provide disaster assistance. The table below provides a summary of the explicit commitments made by the New Zealand government.

Explicit central government obligations for post-disaster financial assistance in New Zealand

Commitment to finance...	Yes	No
... post-disaster response and recovery	✓	
... a share of the costs incurred by subnational governments for post-disaster response and recovery	✓	
... reconstruction and maintenance of central government-owned public assets	✓	
... rehabilitation and reconstruction of private assets		Partially
... other expenses incurred by subnational governments (e.g. payments to businesses or individuals)		Partially
... government guarantees for disaster losses incurred by public corporations and public-private partnerships	✓	

Source: OECD Survey.

Generally speaking, New Zealand's commitment to providing post-disaster assistance is based on a strong sense of national solidarity. The 2015 Guide to the National Civil Defence Emergency Management (CDEM) Plan⁶ (the CDEM Guide) provides New Zealand with the policy framework for the comprehensive disaster risk management by all public entities at national and subnational levels. The arrangements, roles, and responsibilities of agencies for disaster risk management that are laid out in the guide – and that offer an overview of government commitments for providing disaster assistance – are summarized below.

The central government makes an explicit commitment to compensate costs for rebuilding government-owned assets. The CDEM Guide (Section 33.8) states that central government assumes responsibility for restoring those facilities that it owns or manages. The relevant government agency is responsible for managing risks, maintaining adequate insurance cover and completing the restoration of the facilities. The central government owns assets such as schools and hospitals, as well as national roads and power production plants (the power distribution is privatised). Water infrastructure is owned by subnational governments, as are flood protection measures. During the Canterbury earthquakes, for example, the central government paid for repairing and replacing its assets, including the Canterbury hospitals, the University of Canterbury and Lincoln University, the Justice and Emergency Services Precinct, and Canterbury schools.

Central government assistance is not normally available for state-owned enterprises, local authority-controlled trading organisations, airport and port companies, or electricity retailers. Such organisations should maintain sufficient insurance cover and emergency

reserves to manage their risks. If special problems of risk management and hardship can be demonstrated, government assistance may be requested on an exceptional basis.

The initial and primary responsibility for responding to and recovering from an emergency rests with subnational governments. The central government may provide physical assistance (e.g. by deploying central government personnel to assist on the ground) or financial assistance, which may comprise partial or full reimbursement of the costs of response and recovery. The current explicit cost-sharing arrangement between the central and subnational governments, and the cost eligibility criteria for response and recovery expenses, are detailed in Section 33 of the CDEM Guide, as follows:

- The central government repays 100% of response costs incurred by subnational governments that are associated with caring for displaced or directly affected people. Eligible costs for “caring for the displaced” include accommodating, transporting, feeding and clothing people who cannot continue to live in their usual place of residence as a result of an emergency. Also eligible are costs related to the in situ welfare of people who are isolated in their homes and therefore unable to access essential goods and services.
- In addition, the central government reimburses 60% of “other response” costs that reduce the immediate danger to human life and the potential consequences of an emergency. For example, while not incurred prior to the emergency, the costs of pumping and draining floodwaters are regarded as meeting the intent of other response costs and are therefore eligible costs. Subnational governments should be able to demonstrate that costs reduce danger to life and harmful consequences when discussing claims with the Ministry of Civil Defence and Emergency Management (MCDEM).
- The central government also reimburses 60% of essential infrastructure recovery costs incurred by subnational governments. Eligible costs include the repair or recovery of essential infrastructure assets; repair or recovery of river management systems; and repair or recovery of other community assets that were damaged as a consequence of the failure of flood protection schemes.
- For both “other response” and essential infrastructure recovery costs, the established 60% reimbursement rule is applied above the following thresholds: 1) 0.0075% of the net capital value⁷ of the city council, district council or unitary authority⁸ involved; 2) 0.002% of the net capital value of unitary authorities where the assets in question are of a type ordinarily managed by regional councils; or 3) 0.002% of net capital value in the case of regional councils.
- Other financial mechanisms to support subnational governments include the following: 1) advance payments for response and recovery costs when significant response and recovery costs are expected; 2) contributions made by joint ministers through disaster relief funds set up by councils; and 3) special policy support provided under exceptional circumstances to establish new programmes for repair and recovery.⁹

During the last major disasters the cost-sharing arrangements between central and subnational governments came under discussion. The central government made contributions that far exceeded its expected obligations, and questions were raised about the CDEM Guide’s definitions of what “essential infrastructure” entails. It became clear that many subnational governments had not sufficiently provisioned for the 40% of the costs they were responsible for, and that the financial preparedness and capacity of

subnational governments varied significantly. Ongoing reform discussions will centre on revising the current cost-sharing arrangements, while also looking at reducing future exposure to risks, such as by increasing the effectiveness of building code enforcement and assessing the application of land-use policies. The discussions will also aim at improving information on local risk exposure and will likely include alternatives to the current “light-handed” disclosure regime regarding insurance arrangements for local government assets (OECD, 2016). The reforms are also expected to allocate to subnational governments a greater share of the costs for more frequent, low-impact events, while ensuring that the central government still shoulders a significant portion of the costs from less frequent, severe events.

In addition to support listed in Section 33 of the CDEM Guide, other central government agencies may provide financial assistance to people who are affected by a natural disaster. The Ministry of Social Development supplies civil defence to evacuees for immediate needs such as temporary accommodation, food and clothing. During the recovery phase, the ministry also provides: 1) relocation and re-establishment grants for low-income, uninsured households where essential household equipment has been destroyed; 2) rural assistance payments for farming families to meet their essential living needs; 3) psychological support for counselling and support services for people affected by disasters; and 4) taskforces to help clear up and repair damage. The Inland Revenue Department provides tax assistance for those affected by disasters. The Ministry for Primary Industries uses an adverse events framework to provide recovery assistance for farms and farming families, and the New Zealand Transport Agency provides road subsidy assistance for the repair of local roads and bridges.

The central government has committed to compensating private asset losses from some natural hazards (earthquake, tsunamis, landslides and flood impacts on land) through its public earthquake insurance scheme.¹⁰ This scheme is managed by the EQC, a statutory agency. The central government provides an unlimited guarantee for any disaster that exceeds the EQC’s capacity to pay its insurance claims.

Implicit contingent liabilities

Disaster-related contingent liabilities are understood to be implicit liabilities when they are not determined by a law or contractual rule. They include assistance provided in the aftermath of a disaster that is based on a moral commitment by the government.

As shown in the above section, New Zealand specifies a wide range of explicit commitments for disaster assistance by the government. Nevertheless, during past disasters the government has gone beyond those explicit commitments. For example, following the Canterbury earthquakes, the central government undertook the following actions:

- The government supported a private insurance company in financial distress and provided several welfare benefits to affected populations that were not based on prior commitments.
- The government offered homeowners in a high-risk “red zone” – with a high likelihood of earthquake damage – buyouts at near-market value. Between 2011 and 2015, 95% of eligible property owners participated in this programme, leading to the purchase of 7 800 properties in the red zone (Mitchell, 2015).
- The central government offered special “needs grants” to people who had urgent and necessary needs and no other way to meet the costs.

- The central government provided additional support through the welfare system in the form of new benefits, such as a financial allowance for employees of small businesses that could not operate or pay staff wages because of earthquake damage. Businesses could re-apply after four weeks if they were still unable to operate, but they were expected to use insurance cover for loss of earnings before accessing the wage subsidy.
- The government instituted a range of tax changes to facilitate relief in the period immediately following the Canterbury earthquakes.

Another implicit liability could arise for the central government if the cabinet¹¹ agrees to additional financial assistance on a case-by-case basis when the scale of the disaster is so great that it overwhelms subnational governments' or other stakeholders' ability to respond and/or recover. There are a number of mechanisms not anticipated in the 2015 CDEM Plan that could be applied across various sectors in the event of a major disaster. Generally, the trigger point that allows them to be activated is the declaration of an emergency (local or national). The relevant mechanisms include the following:

- Ministry of Social Development: Enhanced taskforce for clean-up and hardship assistance for people who need new clothes or appliances
- Ministry of Primary Industries – Rural assistance payments for essential living expenses following an adverse event
- Inland Revenue – Tax smoothing/deferral facilities
- New Zealand Transport Authority Assistance in helping to rebuild roads
- Ministry of Business, Innovation and Employment: Temporary accommodation

Estimation of insurance payouts

The proportion of losses covered by insurance can be an important determinant of the size of government contingent liabilities, as high levels of uninsured losses may result in political pressure on the government to provide financial support.

New Zealand has a high level of hazard insurance penetration. Homeowner insurance is provided on an all-perils basis, including the capped coverage provided by the EQC. The EQC is a central government entity providing insurance to residential property owners for damages to houses and contents stemming from an earthquake, a natural landslide, a volcanic eruption, hydrothermal activity or a tsunami. All-risk coverage for commercial buildings is provided by private insurers without government support and shows a similarly high level of penetration. Many businesses also have business interruption insurance.

Almost half of public assets in New Zealand have insurance; this coverage cost around NZD 280 million (USD 200 million) annually in 2012 (Controller and Auditor-General, 2013). Insurance for public assets is not obligatory, but public entities are required to analyse the risks to their assets and choose adequate financial protection (OECD, 2016). As a result, the majority of uninsured public assets are those for which insurance either is not available or is very expensive – i.e. land, landfills and water assets (including flood protection assets) as well as transport infrastructure and other assets such as furniture. The total value of uninsured assets is calculated at about NZD 128 billion (USD 90 million) (Controller and Auditor-General, 2017).

The EQC premium cost is NZD 0.20 for every NZD 100 of home or contents coverage by fire insurance. EQC premiums have increased substantially in recent years (they were NZD 0.05 for every NZD 100 prior to the Canterbury earthquake) in order to address the gap between premium rates and the underlying risks covered by the scheme. This premium is paid to private insurance companies, which pass it on to the EQC. At the NZD 0.15 premium rate the maximum annual EQC premium for one home and its contents is NZD 180 (or NZD 207 including 15% Goods and Services Tax). This provides the maximum cover of NZD 100 000 for the home and NZD 20 000 for both contents and insured residential land directly related to the dwelling. This amount of insurance coverage is available per event. Gross earned premiums paid in 2016 amounted to USD 203.7 million. In June 2017, the government announced reforms to the EQC Act; these changes are anticipated to come into effect in 2020. Among other things, they include increases to the monetary caps detailed above (Beehive.govt.nz, 2017).

There was some disruption to the insurance market following the Canterbury earthquakes, as many insurers decided not to write new policies (renewals only), partly out of concerns that some damage from the earthquakes was not repaired.

Data indicate that from 1984 to 2014, the insurance industry paid out USD 20.5 billion (on average USD 662 million per year) for damages caused by major disasters. The majority of this amount stems from the Canterbury earthquake, with an estimated payout of USD 19.3 billion (including USD 8 billion from the EQC). Excluding Canterbury, the average annual payout amounts to USD 1.2 billion (or USD 38.6 million per year). Among hazard events, earthquakes cause the highest insurance payouts, followed by floods (LGNZ, 2014).

The EQC transfers the financial risk posed by the New Zealand's natural hazards through financial arrangements. These arrangements include: 1) the Natural Disaster Fund; 2) an international reinsurance programme that is renewed every year; and 3) a backstop government guarantee in the event that the reserves and reinsurance lines of the EQC are exhausted¹² (EQC, 2008). If disaster losses exceed these provisions, financial assistance by the central government is required by law (Section 16 of the Earthquake Commission Act 1993)¹³. The Treasury may meet the deficiency of funds by providing either a grant or a loan.

Quantification of disaster-related contingent liabilities

The government does not conduct a quantification of disaster-related contingent liabilities on a regular basis. The New Zealand public accounting system complies with the International Public Sector Accounting Standard regarding contingent liabilities (IPSAS 19), and is able to produce relevant information to quantify disaster-related contingent liabilities. Such information includes: 1) response and recovery spending made by central and subnational governments; 2) spending for the reparation or replacement of damaged public infrastructure and assets furnished by central and subnational governments; 3) central government spending on increased welfare benefits during natural disaster emergencies; 4) additional public resources allocated to disaster recovery, such as the ones included in special policies; and 5) expenditures due to the guarantee issued to the Earthquake Commission. Currently, however, no public body systematically captures, consolidates or publicly reports all this information so as to facilitate accurate quantification of New Zealand's overall fiscal exposure to disaster-related contingent liabilities. The information is either unreported or fragmented among national agencies, state-owned enterprises and regional, district and city councils.

Estimating the fiscal impacts of disaster-related contingent liabilities and integrating them into overall fiscal forecasting

The fiscal strategy of New Zealand aims at attaining a high level of fiscal resilience, taking account of all the risks, including natural hazards, that the government is exposed to. The Treasury is responsible for reporting and advising on the management of specific fiscal risks in each budget, and setting desired fiscal buffers to withstand economic shocks.

Following release of the “Investment Statement: Managing the Crown’s Balance Sheet” report in 2014¹⁴ (Treasury, 2014), the Treasury has built on its understanding of risks that could have a major financial impact on the government’s balance sheet. This effort includes measuring the financial impact of a number of key stress events, such as modelling the fiscal impact of a major earthquake affecting Wellington. The approach makes it possible to combine worst-case outcomes from two simultaneous fiscal shocks – for example a natural disaster and a financial crisis – to evaluate the impact on net worth and net debt to GDP. While the specific costs of the scenarios are not quantified for the purposes of budget estimates, the impacts are considered in developing the overall fiscal strategy, which could in turn lead to consideration of the means for reducing the impact of these risks.

Through a multiple agency effort, New Zealand is currently undertaking a national risk assessment project to better understand the social and economic consequences of large-scale to maximum credible events related to various shocks and stresses, including natural hazards.

Previously the government made an effort, through one-off studies, to understand the worst-case impact a major disaster could have for the central government. In 2010 the government conducted a study using historical data from previous earthquakes, to model the fiscal impact of a 7.8 earthquake affecting Wellington. The results showed an estimated contingent liability of USD 11 billion to finance public expenses for response and recovery over the three years after the earthquake (Fookes, 2011). Time proved this study useful, as the actual fiscal costs of the subsequent Canterbury earthquakes were comparable to the estimates in the scenario.

Regarding disclosure of contingent liabilities, all contingent liabilities that have a value greater than USD 73 million need to be individually reported every year in the audited Notes of the Financial Statements of the Government and in the Budget Economic and Fiscal Update (BEFU) – specifically in the chapters on “Risks and Scenarios” and “Specific Fiscal Risks”. Both the Financial Statements and the Budget Updates include sensitivity analyses for a range of events, but not specifically for disaster-related shocks (Ter-Minassian, 2014). In addition, all contingent liabilities, including guarantees, with an exposure greater than NZD 10 million (USD 7.3 million) must be approved by the minister of finance and reported to parliament.

The guarantee to the Earthquake Commission is included in the BEFU as one of the central government’s contingent liabilities. The independent actuary for the EQC undertakes half-yearly valuations of the total liability for the government. Based on these valuations, the EQC estimates the unfunded liabilities that might need support from the central government’s guarantee. However, this contingency is considered unquantifiable and included without specific value in the BEFU report. Unquantifiable contingencies are presented with a brief description of their nature, and a notation on whether they have changed or remain unchanged from the previous corresponding BEFU report.

Implementation arrangements for providing post-disaster financial assistance

As seen above, in New Zealand the central government's post-disaster assistance is extensive. The main implementation arrangements for providing this assistance are summarised in the following paragraphs.

When an event occurs beyond subnational governments' ability to cope using their own resources, the central government provides financial assistance. There are no other formal criteria that trigger central government intervention. As specified in the CDEM Guide¹⁵ assistance is administered by MCDEM. Section 33 of the CDEM Guide describes the process by which the central government provides financial assistance to subnational governments (cities/councils) for response and recovery. In the system laid out in the CDEM Guide, the MCDEM repays subnationally incurred expenses for the response to and recovery from natural disasters of any kind.

The claim submission process starts with a council preparing the claim and supporting data, and submitting it to the director of CDEM. The director may subsequently seek independent verification that the charges shown in the claim are fair and reasonable.¹⁶ When the director is satisfied that a claim represents an accurate statement for reimbursement of the costs, the claim is then certified and items considered eligible are noted. In a final step, the director recommends the amount eligible for reimbursement to the minister of civil defence, who approves the request or delegates approval to the cabinet (the central decision-making body of executive government) if the claimed amount exceeds his or her delegated authority. Once a decision on the claim has been made, the CDEM director arranges for payments to be made.

The CDEM Guide also makes provisions for when central government can advance resources to subnational governments instead of reimbursing them. When subnational governments are expected to face significant response and recovery costs – i.e. if the agreed estimate of the overall reimbursable costs is greater than NZD 250 000 (USD 180 000) – they can receive these costs in advance, subject to cabinet approval. Any advance would be offset against subsequent subnational government claims.

The central government can also contribute to local recovery expenses through local disaster relief funds set up by subnational governments, i.e. by their mayors. The minister of civil defence, together with either the prime minister or the minister of finance, may authorise a lump sum contribution to a disaster relief fund of up to NZD 100 000 (USD 73 000), which generally is made only in the event of larger disasters. Higher contributions need to be approved by the cabinet. Government contributions, once made, are disbursed by the administrators of the fund. Administrators are encouraged to closely co-ordinate their approach to funding allocation closely with those of the Ministry of Social Development and the Housing Corporation of New Zealand. Donations received by subnational governments in the aftermath of a disaster are also to be channelled through local disaster relief funds. The disaster relief funds have the purpose of providing hardship assistance for the local population affected.

Subnational governments can seek “special policy” financial assistance from the central government for recovery works intended to decrease future vulnerability to or the likelihood of another event. The local authority must make a business case for the central government to fund such proposals, which could entail structural mitigation or relocation. Payments under this special policy are approved by the cabinet. Each case is evaluated on its own merits, and there are no predetermined co-financing arrangements or set levels of support to be provided by the government. In some cases, loans rather than grants may be

appropriate. Since it can take time to establish a business case for such measures, the proposals can be submitted at any time after an event. Proposals generally undergo a lengthy consultative process during preparation to make it less likely that they will be refused at the final decision stage. Once approved, special policies are administered through a national department, in most cases the MCDEM.

Special policy funding provided to a local authority is covered by an agreement between the central government agency and the recipient, which requires that grant monies be held in special interest-bearing bank accounts, and that surplus funds and any interest earned on such funds be returned to the central government. The director of CDEM monitors implementation of the special policy and undertakes further co-ordination if necessary.

Central government-owned infrastructure is rehabilitated and reconstructed by the respective national departments in charge. For example, the Ministry of Education reconstructs schools, and decides on their potential relocation in that process. The relevant District Health Board, in conjunction with the Ministry of Health, is responsible for rehabilitating or reconstructing hospitals.

Mitigating disaster-related contingent liabilities and financing residual risks

To mitigate previously identified, quantified and disclosed disaster-related fiscal risks, governments must control and ideally reduce the size of contingent liabilities, and decide on how to provision for the residual risk.

In New Zealand, the MCDEM is responsible for administering the Civil Defence Emergency Management Act 2002. MCDEM takes the lead in facilitating, promoting, strategically guiding and nationally co-ordinating the various key activities across the “4Rs” - reduction, readiness, response, and recovery. However, New Zealand’s hazard and risk management framework places strong emphasis on disaster risk management at the local level. Investment decisions in structural disaster risk reduction measures, including avoidance, are generally made at the subnational level.

It is difficult to assess the total expenditure for managing natural disaster risks in New Zealand, because this information is not consistently collected and aggregated at a national level. Some studies suggest that central government expenditures for disaster risk management are skewed towards response and recovery, rather than disaster risk reduction. The MCDEM, a business unit within the Department of the Prime Minister and Cabinet, is funded to support and develop the emergency management sector, educate communities, and manage emergencies. For the year ended 30 June 2018, funding of approximately NZD 16 million (USD 12 million) has been allocated. The central government funds the MCDEM with USD 8 million annually to manage disasters. The central government funds climate information and water resource databases at an estimated USD 4.3 million annually, and the official weather forecast service (MetService) with USD 12.4 million annually. Some research on climate change and flood hazard research is also funded through the national science system.

Government expenditure for risk reduction is mostly through administration of the core regulatory framework. Key to this is the Building Act 2004 (which covers building standards and guidelines relative to various hazards including seismic acceleration) and the Resource Management Act 1991 (which covers policy and guidance on the management and control of land use, including with regard to natural hazards and the impacts of climate change). Other efforts to develop disaster risk reduction and resilience, such as through

regulating lifeline utility sectors and direct ownership of national infrastructure, are harder to cost out from general government expenditure in these areas.

As flooding is New Zealand's most frequent natural hazard, in 2008 the Ministry of Environment conducted a review of the flood risk management system (Ministry of Environment, 2008). The report compiled council investment reports and discussions with central government agencies. Based on the data gathered, the report concluded that subnational governments spend about USD 123 million annually on activities related to flood risk management. The majority of this spending is on traditional river control activities to reduce flood risk through stopbanks, channel clearance or floodways.

Despite individual laws and policies supporting the need for long-term risk reduction measures (e.g. Coastal Policy Statement, the building code for earthquakes), currently there is no national framework for assessing the value of these measures *ex ante*. This gap is something that New Zealand is considering as it develops the next National Civil Defence Emergency Management Strategy – also referred to as the National Disaster Resilience Strategy – after adopting the Sendai Framework for Disaster Risk Reduction 2015-30.

In addition to financing preparedness and risk reduction activities, New Zealand has made some provision for financing its residual risk, as seen earlier. The public insurance programme for natural disasters provided by the Earthquake Commission is the main initiative to manage the residual risk of disasters. The insurance cost is assumed by the population, and the risk of having to compensate private losses is transferred, offsetting or reducing the need for post-disaster public resources. To meet their share of the funding requirements for restoring locally owned public infrastructure damaged by natural disasters, subnational governments have established a pooling arrangement (the Local Authority Protection Programme) (OECD, 2016).

Public losses arising from damaged public infrastructure and public spending on welfare benefits are financed *ex post*, since New Zealand does not have a national *ex ante* risk financing strategy. However, individual government agencies are responsible for their own risk management and for securing risk insurance. The government does not have regular budgetary provisions to deal with natural disaster emergencies, dedicated contingency reserves funds to face recovery costs, or *ex ante* financial instruments to provide liquidity in the aftermath of a catastrophe, such as contingent credit lines and catastrophe bonds. The central government has typically financed extraordinary disaster-related fiscal expenses by increasing public borrowing.

As previously mentioned, the government is reviewing the cost-sharing arrangement with local governments. The goal is to ensure that: 1) the arrangement does not reduce the incentive for local governments to manage risks to the infrastructure they operate; 2) local governments have the capacity to meet their share of the costs; 3) the share of risk exposure is clear; and 4) the sharing of costs is equitable.

Notes

¹ In New Zealand a significant share of public infrastructure assets, including schools, hospitals and national roads, are owned by the central government and managed by the relevant central government department.

² New Zealand is structured with two levels of government, the central and local levels. Local authorities can be cities (which serve a population of over 50 000 in a predominantly urban area) or

districts (which serve towns and wider rural areas). Regional authorities are created for the functional management of some public services (e.g. transport and environmental management), and unitary authorities unite both functions in one. Local authorities do not have constitutional mandates; their functions and powers are determined by the national parliament.

³ In 2011, as a result of the financial impact of the Canterbury earthquakes, AMI Insurance requested Crown support. Support was granted in the form of a Crown Support Deed, and in return the government gained control of AMI. In 2012, AMI sold its non-earthquake-related business to IAG New Zealand, and the Crown received the proceeds of the sale but retained direct control and ownership of the residual company. This business was renamed Southern Response Earthquake Services Limited. Since that time, the outstanding claims continue to be re-measured as settlement experience emerges; the government continues to provide support and will do so until outstanding claims are settled with policy holders. During 2013, the Crown subscribed additional capital to Southern Response Earthquake Services Limited.

⁴ In 1993, the Earthquake Commission Act replaced the Earthquake and War Damage Commission with the Earthquake Commission, and replaced the Earthquake and War Damage Fund with the Natural Disaster Fund.

⁵ In 2016, the investment income earned in the fund amounted to USD 52.3 million, and gross earned premiums amounted USD 203.7 million.

⁶ See MCDEM (2015)/.

⁷ The net capital value is used as the basis for property tax assessments.

⁸ A unitary authority is a territorial authority that also performs the functions of a regional council.

⁹ Special policy financial support from central government is not available routinely. It is intended to assist communities in those rare circumstances when disasters of an unusual type or magnitude cause damage that overwhelms community resources. In considering proposals for special policy financial support, the cabinet will examine closely all other provisions made for risk management by the local authority.

¹⁰ Government assistance is not ordinarily available for restoring household assets, except through the Ministry of Social Development's social housing assistance and its contributions to ad hoc disaster relief funds.

¹¹ The Cabinet consists of the council of senior government ministers that are accountable to the New Zealand Parliament. Cabinet meetings are chaired by the Prime Minister.

¹² In 2008, the EQC estimated that the Natural Disaster Fund would be able to meet its maximum probable liability, a magnitude 7.5 Wellington earthquake, and be rebuilt within a reasonable time to continue as New Zealand's financial reserve for recovery from natural disasters. The consensus was that the fund should be maintained at around USD 5 billion, if supported by USD 1.8 billion of reinsurance.

¹³ In a major disaster, the EQC is responsible for meeting a defined initial dollar value of total claims (the "deductible") with its reserves from the Natural Disaster Fund, and reinsurers are responsible for further "layers" of total claim costs, up to a contractual limit. The current insurance strategy of the EQC requires USD 1.27 billion of reserves from the Natural Disaster Fund to pay as "deductible" on its current reinsurance programme of USD 3.4 billion.

¹⁴ This report fulfils a fiscal reporting requirement set by parliament when it amended the Public Finance Act in 1989. It provides information on the shape and health of the government's portfolio of assets and liabilities at the end of the last full financial year. It outlines how the balance sheet has changed in recent years and includes forecasts on its anticipated composition and size through 30 June 2018.

¹⁵ The guide covers all types of hazards, not just natural hazards.

¹⁶ Where there is any doubt that the costs claimed by a local authority are emergency expenditure, the director may refer the claim back to the appropriate local authority or CDEM Group for reassessment.

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