Efficacy of insurance for organisational disaster recovery: case study of the 2010 and 2011 Canterbury earthquakes

Charlotte Brown, PhD Senior Research Fellow, Resilient Organisations, Canterbury, New Zealand, **Erica Seville, PhD** Co-leader, Resilient Organisations, Canterbury, New Zealand, and **John Vargo, PhD** Co-leader, Resilient Organisations, Canterbury, New Zealand

Insurance is widely acknowledged to be an important component of an organisation's disaster preparedness and resilience. Yet, little analysis exists of how well current commercial insurance policies and practices support organisational recovery in the wake of a major disaster. This exploratory qualitative research, supported by some quantitative survey data, evaluated the efficacy of commercial insurance following the sequence of earthquakes in Canterbury, New Zealand, in 2010 and 2011. The study found that, generally, the commercial insurance sector performed adequately, given the complexity of the events. However, there are a number of ways in which insurers could improve their operations to increase the efficacy of commercial insurance cover and to assist organisational recovery following a disaster. The most notable of these are: (i) better wording of policies; (ii) the availability of sector-specific policies; (iii) the enhancement of claims assessment systems; and (iv) risk-based policy pricing to incentivise risk reduction measures.

Keywords: catastrophe insurance, disaster recovery, insurance claims management, organisational resilience

Introduction

Insurance is widely acknowledged to be an important component of an organisation's disaster preparedness and resilience. Yet, little analysis exists of how well current commercial insurance policies and practices support organisational recovery in the wake of a major disaster. Are organisations getting the benefits they require: when they need them and in appropriate fashion?

Most of the literature on catastrophe insurance concentrates on the economic and policy design of insurance systems at a macro scale. That is, whether communities or countries are adequately insured in purely economic terms for the direct costs of an event (Faure and Bruggeman, 2008; Latham, McCourt, and Larkin, 2010; Cowan and Simpson, 2011; Middleton, 2012; Quinto, 2011a, 2011b). Few studies appear to investigate how beneficial the provided cover is to *the insured.* Furthermore, many of the existing catastrophe insurance analyses focus on residential insurance coverage and neglect the important aspect of commercial insurance. There is a small body of literature on organisational recovery in the wake of a disaster, in which insurance plays a part (Dahlhamer and Tierney, 1996, Wasileski, Rodriguez, and Diaz, 1999, Alesch et al., 2001, Tierney and Webb, 2001, Chang and Falit-Baiamonte, 2002, Tierney, 2006, Powell and Harding, 2009, Stevenson, Seville, and Vargo, 2011a, 2011b, Whitman et al., 2014). But there is little insurance-specific data analysis.

Given that this is a novel area of research, this study aimed to explore commercial insurance issues after the sequence of earthquakes in Canterbury, New Zealand, in 2010 and 2011. In particular, it sought to answer the following questions:

- Did policies meet organisations' expectations?
- Were the correct risks being insured?
- Could the claims management process be more effective?
- Are new post-disaster earthquake pricing structures affecting insurance uptake and disaster preparedness?

While the data and analysis are based on the events in Canterbury, the evaluation leads to general points of learning that could be transferred to other contexts. These include how insurance policies and claims processes could be better designed and managed to benefit organisational recovery in the aftermath of a disaster. Recommendations for further research are also provided.

Background

The Canterbury region of New Zealand, located in the central-eastern South Island, was struck by a magnitude 7.1 earthquake on 4 September 2010. It caused significant damage but no loss of life. The event did, however, trigger a sequence of more deadly and damaging earthquakes. In particular, a magnitude 6.3 earthquake occurred on 22 February 2011, centred within 10 kilometres of the central city of Christchurch, which claimed the lives of 185 people and seriously injured a further 164 (GeoNet, 2011). There were four aftershocks greater than magnitude 6.0 and more than 4,000 greater than magnitude 3.0 between 4 September 2010 and 4 September 2012 (GeoNet, 2012).

The earthquakes had a significant effect on organisations. The Christchurch central business district (CBD) was cordoned off immediately after the February 2011 earthquake for public safety purposes. The cordon remained (shrinking in size) until July 2013 to allow for ongoing demolition. When complete, approximately 1,300 commercial properties will have been demolished across the city (CERA, 2015). In addition, the government purchased nearly 8,000 homes to depopulate the worst-affected suburbs (Rebuild Christchurch, 2014), causing significant disruption to organisations' employees and customers.

As of the time of writing (June 2015), the majority of businesses are still operating and have stayed within the Canterbury region. Although the local economy is performing strongly, businesses face ongoing challenges in the form of significant competitive disadvantages owing to the disruption caused by reconstruction (Stevenson et al., 2011a). Tourism, international education, and inner city retail appear to be the most affected sectors (ICNZ, 2012).

In terms of insurance, New Zealand has one of the highest insurance penetration rates in the world. According to a Centre for Economic and Business Research (CEBR) study commissioned by The Society of Lloyd's (CEBR, 2012), New Zealand ranked seventh globally for commercial/industrial non-life insurance coverage in 2011.[1] As a result, the Canterbury earthquake sequence was ranked as the seventh costliest on Aon Benfield's list of insured loss events between 1980 and 2011, and second highest in 2011 (after the 9.0 magnitude earthquake and tsunami off the Pacific coast of Tōhoku, Japan, on 11 March 2011) (ICNZ, 2012). New

[1] Non-life insurance is defined in this report as a proxy for assessing the risk of natural catastrophe, as per the conventions of the European Union and the Organisation for Economic Co-operation and Development. Ratings are determined relative to the total output of industry.

Zealand's Treasury has estimated that the total cost of the disaster will be around NZD 40 billion or 19 per cent of gross domestic product (GDP) (NBR, 2013). Losses covered by commercial insurance (material damage and business interruption) are expected to be in the region of NZD 7.9 billion (ICNZ, 2014).

Methodology

The research is based on qualitative analysis of data from 12 expert interviews, a literature review of more than 50 documents, and supporting data from a 2013 survey of 541 organisations by Resilient Organisations (hereafter referred to as the Resilient Organisations 2013 ERI (Economics of Resilient Infrastructure) Survey) (Seville et al., 2014). The expert interviews were held with key professionals involved in various aspects of commercial insurance in Canterbury. At least one professional for each of the following groups was interviewed (where more than one was interviewed the number is shown in parentheses): business recovery support services; claims preparers; commercial property managers; insurers (2) (1 present, 1 past); insurance brokers (2); insurance complaints service; insurance lawyers; insurance repair project managers; small business owners; and structural engineers. Groups not interviewed (owing to time constraints and personnel availability) included: banks; the Canterbury Earthquake Recovery Authority (CERA); loss adjustors; and reinsurers. The literature review comprised, inter alia, a review of Canterbury earthquake-related documents as well as articles on organisational disaster recovery and catastrophe insurance.

The interviews were semi-structured and questions were adjusted to fit the expertise of the interviewee. Table 1 shows the questions asked, grouped by their relevance to the four research questions. A thematic analysis of the data was performed to uncover the principal trends in the responses to each research question to derive the main lessons and recommendations.

Table 1. Interview questions on commercial insurance effectiveness following the 2010 and 2011 Canterbury earthquakes

Research question	**Interview question**
Did policies meet organisations' expectations?	• How did businesses perceive their insurers? • Were businesses generally satisfied or dissatisfied with their insurance companies and policies? Why?

	• Were businesses satisfied with the timeliness of the insurance response? • Were there any policy clauses or types (building, business loss, cashflow etc.) that tripped businesses? • What efforts could be made to improve understanding of insurance policies?
Were the correct risks being insured?	• What were the main losses that organisations faced? • Was insurance coverage adequate for this event? • What was not covered? • Were the policies consistent with other relevant laws and regulatory requirements (property, tenancy laws, building code?) • What effects did insurance issues have on business supply chains? • Did you notice any difference in the challenges faced by SMEs [small and medium-sized enterprises] (compared to large businesses)?
Could the claims management process be more effective?	• What was the claim process like? • Can you suggest how this process could be improved? • What support services existed (e.g. claim preparation, mediation) and what were most beneficial to businesses? • What types of settlements were most common for building insurance policies? For example, cash or managed repair/demolition/rebuild? Which were more beneficial for the insured and the insurer? • Were claims prioritised? If so, how? • Did insurance cause any significant delays in the recovery process for businesses? • How did the insurance model allow for (or not) betterment? Do you think this is important?
Are new post-disaster earthquake pricing structures affecting insurance uptake and disaster preparedness?	• How have commercial insurance policies changed following the earthquakes? • Are organisations changing their level of insurance following the earthquakes?

Source: authors.

The qualitative interview data are supplemented by statistics obtained from the Resilient Organisations 2013 ERI Survey. The latter asked 541 organisations in Canterbury about their experiences during and after the earthquakes. As well as questions on organisation demographics and the recovery situation, a number pertained to insurance. The seven questions used in the analysis for this paper were:

1. With the earthquakes in mind, is your organisation:
   (Response options: ‘Significantly better off’; ‘Slightly better off’; ‘The same’; ‘Slightly worse off’; or ‘Significantly worse off’).
2. Which of the following best describes your organisation at present?
   (Response options: ‘We are no longer trading’; ‘We are still in survival mode following the earthquakes’; ‘We are still recovering from the earthquakes’; ‘We have fully recovered from the earthquakes’; ‘The earthquakes were positive for our organisation’; ‘The earthquakes never impacted our organisation’).
3. Did your organisation lodge an insurance claim?
   (Response options: ‘Yes’; ‘No’).
4. What proportion of your insurance claim has been paid out?
   (Please estimate percentage).
5. How would you rate your relationship with your insurer?
   (Response options: ‘Very dissatisfied’; ‘Dissatisfied’; ‘Neutral’; ‘Satisfied’; ‘Very satisfied’).
6. Do you believe your insurance cover/policy was adequate?
   (Response options: ‘Yes’; ‘No’).
7. How has/is your organisation financing its recovery from the earthquakes?
   (Response options: ‘N/A’; ‘Organisational cashflow’; ‘Savings’; ‘Money borrowed from family or friends’; ‘Bank loan’; ‘Credit cards’; ‘Insurance claim’; ‘Self-insurance programme’; ‘Earthquake wage subsidy’; ‘Grants’; ‘Other’).

A statistical analysis of the data was done using the IBM SPSS software.[2] For this paper, descriptive statistics were generated for questions 2–6. A chi-square test was carried out to determine whether or not making an insurance claim (question 2) made an organisation more likely to recover better (question 1). The results are included in the section below.

[2] See http://www-01.ibm.com/software/analytics/spss/ (last accessed on 18 March 2016).

Analysis

Did policies meet organisations' expectations?

All of the expert interviewees noted that there was a disparity between business owners' expectations of their insurance and the timeliness and value of the settlements. For instance:

> Clearly [the insurer's response] was not adequate because people expected it to be faster. So did the insurers (insurer).

> Managing the expectations is the big problem too . . . some expectation are pie in the sky . . . we have to manage that to a certain degree (insurance complaints service).

> I think business interruption was another challenge for property owners in actually understanding what it covered and what it didn't cover. I get the impression that the cover was a lot more restrictive than most business owners expected . . . [business owners] are not particularly satisfied and I don't think that is the fault of the insurance companies necessarily. There are high expectations . . . people that are insured generally think that 'whatever happens I'm insured. I've paid a premium so they'll pay up no matter what happens to me' (past insurer).

Contrary to this expert perception, surveys of affected businesses done by the authors (through Resilient Organisations) and Recover Canterbury indicate that levels of dissatisfaction with insurers in the commercial sector actually were quite low. Following the earthquake on 4 September 2010, just six per cent of organisations surveyed said that they were 'dissatisfied' or 'very dissatisfied' with their insurer (Stevenson et al., 2011a). Organisations' levels of dissatisfaction with insurers increased only slightly after the earthquake on 22 February 2011 and the aftershock on 13 June 2011 (Stevenson et al., 2011a). These results are echoed in the Resilient Organisations 2013 ERI Survey, which found that 78 per cent of organisations believed their insurance to be adequate and 80.5 per cent thought their relationship with their insurer was neutral or positive. It is unclear why there is such a difference in perception between the expert interviewees and the businesses surveyed. It is possible that the surveys have merely picked up organisations that are still operating and perhaps are less affected (only one per cent of the respondents in the Resilient Organisations 2013 ERI Survey were no longer functioning, as compared to an average business failure rate of approximately 10 per cent in Canterbury

(Statistics New Zealand, n.d.)). Conversely, it may be that the experts have spent the majority of their time and energy working on difficult and/or dissatisfied cases and this has influenced their view. This is a matter that will be the subject of future research.

The interviewees cited two main reasons why insurers and insurance policies did not deliver as expected. First, 10 out of 12 experts interviewed believed that the insurance policies and the claims processes were not clear enough for business owners to understand. Differences in the interpretation of certain policy wording has generated a lot of extra confusion among both insurers and claimants. Some interesting statements in this regard are as follows:

> There is so much to [insurance]! You need a contracts manager (small business owner).

> We use about eight different insurers, their responses and policy interpretation has been quite different, even though we generally use a standard wording (broker).

> What has happened here in Christchurch is that the original estimate of losses has grown dramatically because of legal issues, or lack of clarity in insurance contracts which had unended sums of insurance effectively (insurer).

For example, many commercial policies included terms such as ‘repair as new’. Insurers have interpreted this as a functional repair, whereas some building owners have argued that, inter alia, a wall repaired with epoxy may be structurally sound and functional but it is not ‘new’. This wording has been employed by some claimants as leverage to increase the value of insurance settlements. The lack of clarity has slowed settlements and augmented tensions between insurers and claimants. It has also boosted insurers’ risk exposure (higher insurance costs) and has led to a high number of demolitions of buildings that are not dangerous, but rather are uneconomic for insurers to repair (Barton, 2011; Muir-Wood, 2012). Excessive demolition has had wider impacts, including slower community recovery, greater business disruption costs, and environmental ramifications.

The second main reason why insurers and insurance policies did not deliver as expected is that it was unclear how to apply the policies to the successive earthquake insurance events in Canterbury. In the words of two interviewees:

> There is a significant amount of mistrust over insurance policies. In many cases unjustified, because I don't think that was ever the intention, it's just that this has been such a hideous event . . . and one of the main complexities of this is because it wasn't just one event (property manager)

> The sheer magnitude of the problem, you can't overstate that this is an unprecedented event as far as NZ [New Zealand] is concerned, and in fact, on a worldwide scale it is unprecedented in terms of the number of earthquakes and aftershocks that has been in the sequence . . . insurance policies, whether they be for residential properties or whether they be for small businesses, are first and foremost designed to respond to an event. So the policies and policy cover are being challenged as never before because they are having to deal with a series of events within one insurance period . . . and certainly it was never envisaged by the policy drafters or the underwriters to have to respond in such a way. That's not to say that the policies are deficient in anyway, it's just that they've been tested as never before. And that is causing a lot of frustrations (insurance complaints service)

Most policies in New Zealand had evolved to a point where insurance cover was reinstated straightaway following a damage event. Following the events of 2010 and 2011, however, this was not immediately clear to insurers and it took a declaratory judgement (post earthquake) to ascertain that this was the case for the Crown Insurer (High Court of New Zealand, 2011). The frequency of the earthquakes in Canterbury meant that most claims had not been assessed, let alone settled, before the next incident occurred. Insurers, therefore, had to try to apportion the total losses between different disasters. It was necessary to do this to determine the cost share between the insurer and the re-insurer(s), the number of excesses or deductibles the claimant had to pay, and the applicability of business interruption periods. This apportionment proved challenging for insurers and frustrating for claimants. In response to this, most insurance companies in New Zealand have moved to change their standard wording about reinstatement of cover to limit their liability to the sum insured for any given insurance period (typically a year).

The interviewees noted that the delays and frustration caused by a lack of clarity could be minimised by: (i) providing simpler policy wording (noted by past insurer, small business owner, and property manager); (ii) improving communication during the claims process (noted by small business owner, lawyer, and property manager); and (iii) educating the insured about their policies (pre event) (noted by claims preparer, past insurer, insurance complaints service, project management office, small business owner, and property manager). For instance:

> Insurance policies that provide certainty . . . that are well worded, clear, probably simple . . . so that as quickly as possible the property owner knows just exactly where he stands . . . that would be the hallmark of a good policy (past insurer).

> Education and coalface support for the insured would have reduced the expectation/reality gap, increased payments to the insured and reduced the timeframes to settlement (claims preparer).

> One of the biggest issues we've had in dealing with insurers on a whole is a lack of consistency (broker).

> Businesses not really being aware of what they were insured for and having never read the policy and I'm talking about business interruption in particular (business recovery support service).

In other contexts, the problem of clarity has been addressed through standardised interpretation of policy wording, improving the timeliness of insurance payments. Examples include: Queensland, Australia, for flooding events (Brookes and Goodridge, 2011); Chile, following the earthquake on 27 February 2010 (Rios, 2011); and Japan, after the Tōhoku tsunami in 2011 (Courbage and Stahel, 2012; Nagamura, 2012). In Chile, the adoption by the insurance industry of standard policy interpretation guidelines helped to settle 99 per cent of residential claims within 10 months of the earthquake (Rios, 2011). Ideally, standard definitions should be adopted before an event so that both insurers and organisations can understand better their exposures and risks, and insurance benefits can be delivered in a timely manner. Given the wide array of possible disasters and ensuing effects, though, it is understandable that some ambiguity is unavoidable. Subsequent policy clarifications and interpretations may be the most practicable solution.

The survey results suggest that the majority of businesses were satisfied with their insurers, yet the expert interview responses indicate that improvements still need to be made. Having clearer policies that are well communicated to insured parties will help to increase customer satisfaction and certainty regarding insurance coverage as well as to reduce the amount of work required to settle claims and lessen the risk to insurers.

Were the correct risks being insured?

Despite high insurance penetration in New Zealand, organisations experienced notable losses above those for which they were insured. The Resilient Organisations 2013 ERI Survey contains some evidence of this. First, respondents were asked what proportion of their losses were covered by insurance. Material or property damage was well covered, but business interruption was less well covered. Of those that made property damage claims (34 per cent or 186 respondents), 45 per cent indicated that 100 per cent of this was covered by insurance. On average, 82 per cent of property losses were covered. Of those that made business interruption claims (27 per cent or 147 respondents), only 27 per cent of respondents indicated that 100 per cent of this was covered by insurance. The average proportion of business interruption covered was 62 per cent.

Second, 66 per cent or 353 organisations surveyed made an insurance claim, but only 39 per cent of them indicated that they used insurance to finance their recovery. Organisations acquired other funds for recovery from sources such as organisational cashflow (41 per cent), bank loan (21 per cent), government earthquake wage subsidy (21 per cent), and savings (18 per cent). These statistics demonstrate that there were a number of organisations that were inadequately insured for the events experienced in Christchurch. There will always be limits to the risks insurance will feasibly cover; however, it is important to look at how well insurance covered organisations and the risks they faced to see if coverage can be improved for future events.

The interviews and the literature have provided a number of possible causes for the gap between actual losses experienced and insured losses (see Table 2 for a summary). In terms of material damage claims, the survey results show that insurance covered the majority of the losses. One reason why not all businesses had all of their material damage losses covered was that they had sum-insured policies (rather than full replacement). Often this is a result of the insured, and their broker, not updating regularly their sum-insured policies to reflect changes in demolition and construction costs and cost implications of new regulations. Another reason was that some business owners chose an indemnity insurance policy. In this case, they received payment only for the value of their asset at the time of the event and they had to meet all additional reconstruction costs.

Table 2. Causes of the difference between actual losses sustained and insured losses following the 2010 and 2011 Canterbury earthquakes

Type of insurance policy	**Cause of difference between actual losses and insured losses (cited in the literature and by interviewees)**
Material damage	• Inadequate demolition and debris removal sums in policies (Clement, 2012; Muir-Wood, 2012). • Policies not being updated regularly by the insured to reflect changes in building costs (noted by claims preparer). • Post-disaster demand surge increasing recovery costs, such as labour, materials, professional fees, and services (Muir-Wood, 2012; also (noted by insurer). • Post-earthquake changes to the building code leading to increased rebuild costs (noted by broker, business recovery support service, insurance repair project manager, and past insurer). • Business not wanting to insure for full replacement (noted by broker).
Business interruption	• Inadequate business interruption periods being in place (Muir-Wood, 2012; Clement, 2012; also noted by broker, business recovery support service, claims preparer, insurance complaints service, and insurer). • The cordon around the CBD preventing access to central city businesses, meaning some business interruption policies were capped at a 10 per cent loss of access sublimit (noted by broker, business recovery support service, insurer, and past insurer). • Reduction in payments owing to depopulation—and subsequent reduced profit projections (noted by broker, business recovery support service, and small business owner). • Inability to claim business interruption where there was no material damage—a requirement of which many businesses claimed to be previously unaware (noted by claims preparer and insurer). • Inadequate understanding by brokers of likely business impacts following disasters (noted by broker, claims preparer, insurer, and past insurer).

Compared to property damage, a lower proportion of actual losses was covered by business interruption claims. As shown in Table 2, there are a number of reasons for this. First, many businesses found that their indemnity period was not long enough. Before the earthquake sequence it was possible to get business interruption policies with two to three years of cover.

However, the majority of brokers and insured parties opted for one-year cover. It is arguable whether or not a year is sufficient to reinstate a business after a catastrophic incident. It was definitely not long enough for most organisations following the events in Christchurch. Furthermore, the typical amount of time needed for reinstatement will depend on the nature of the business. Manufacturing organisations, for instance, require indemnity periods that allow for the long lead time necessary to find suitable alternative premises and/or specialised machinery. More analysis is needed of typical reinstatement times for organisations/sectors after different disasters to inform better the choice made by businesses when determining indemnity periods.

The cordon around the CBD affected a lot of business interruption claims. Unless an individual policy specifically contained loss of access cover, most policies were subject to a 10 per cent sublimit on their business interruption claim. This is a mechanism employed by insurers to reduce their liability against actions by third parties: in this case, the local council imposing a cordon around the central city. Some sectors, such as hospitality and retail, are very location-dependent and are not able to move easily their business so this policy affected them acutely. More research is required to quantify the economic effects of this clause and to assess the value of adding 'loss of access' cover to policies in the future.

Insurers used depopulation clauses during the valuing of business interruption claims. Depopulation describes the movement of people and changes in spending as an indirect result of a disaster. Insurers assert that this reduces the likely profit of some businesses over this time. Following the earthquake sequence in 2010 and 2011, the University of Canterbury, for example, experienced a drop in student numbers (Seville, Hawker, and Lyttle, 2012). Their business interruption payment could only compensate for loss as a direct consequence of material damage and not indirect earthquake effects such as decreased student numbers. The tourism sector suffered likewise: businesses witnessed a fall in tourist numbers (Orchiston, Vargo, and Seville, 2012; Stevenson, Seville, and Vargo, 2012a) and found that their business interruption payments were reduced. Hospitality and retail were, and still are, similarly affected. As well as the effects of declines in visitor numbers, they have been hit by changes in discretionary spending by locals, including decreased customer numbers, lower expenditure, shifts in competitor locations, and customers needing additional or different services (Stevenson et al., 2011a). For some sectors, the impacts of these indirect costs are more significant than the direct costs. Again, more research is needed to quantify the ‘depopulation’ losses businesses faced and to assess the feasibility of designing cover for this, especially for sectors majorly affected by indirect losses.

High uninsured losses also resulted from poor understanding by some brokers of the risks to businesses. As noted earlier, the Christchurch earthquakes were unprecedented. It is unreasonable to expect brokers to have foreseen these events. Yet, it is important to harness the lessons outlined above and the experiences of Christchurch to inform future policy development and to provide advice to parties taking out business insurance.

Tenants also experienced challenges with under-insurance and insurance settlement delays. Following the Canterbury earthquakes, organisations that rented or leased the premises from which they operated faced several challenges. First, some tenants had difficulty in obtaining information on, and access to, their premises (Stevenson et al., 2012b). Second, frequently they experienced delays in claiming business interruption insurance entitlements owing to holdups in their landlord’s material damage insurance claim settlement (noted by property manager). Third, some found that they were not covered for the repair of their premises’ internal furnishings following structural building repairs (that is, by the landlord’s insurance) (noted by broker and property manager). Tenants are considered to be a vulnerable group in the aftermath of a disaster (Dahlhamer and Tierney, 1996; Tierney and Webb, 2001; Powell and Harding, 2009) and more research is required on their specific risks and how insurance could be enhanced to assist them.

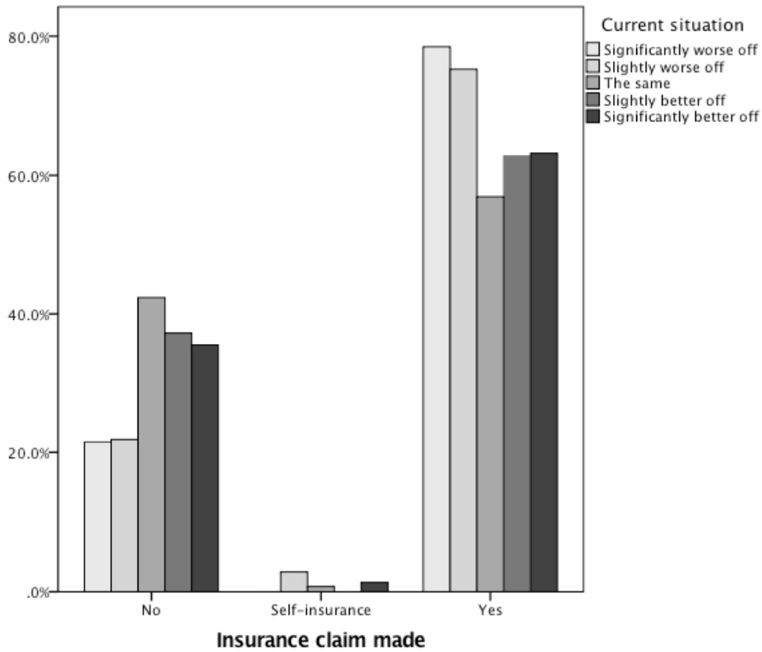
Despite high levels of insurance, there were still risks that insurance did not cover. While the events in Christchurch were unprecedented, and it is unlikely that covering all of these losses would have been feasible, it is important to know where organisations experienced the largest losses and to determine how insurance policies can cater better for these losses in the future. A number of authors involved in business recovery (Alesch et al., 2001; Tierney and Webb, 2001; Orchiston, Vargo, and Seville, 2012; Stevenson, Seville, and Vargo, 2012b) agree that indirect effects, such as loss of customers, market changes, loss of access, and reputational damage, are more disruptive than typical direct insurable damage effects. More research is needed to comprehend business risks and to design suitable insurance policies to meet those needs.

Could the claims management process be more effective?

In general, one would think that having insurance would improve an organisation's recovery trajectory. However, the results of the Resilient Organisations 2013 ERI Survey revealed that making an insurance claim did not make an organisation more or less likely to recover (see Figure 1). Insurance did not seem to make a noticeable contribution to an organisation's recovery.

Figure 1. Current situation of organisations based on whether or not they made an insurance claim

Source: authors.



It became apparent from the interviews that the effectiveness of an insurance policy depends not only on its value and scope, but also on how the claim is managed when the time arises, notably: (i) the timeliness of the settlement process; (ii) the quality and consistency of the assessment and settlement process; and (iii) the type of policy held or the settlement options available to clients. The interviewees pointed up aspects of all of these that could be enhanced to aid business recovery.

The first, and arguably most important, feature of the claims settlement process was its timeliness. This is a key variable in facilitating organisational recovery following a disaster (Chang and Falit-Baiamonte, 2002; Powell and Harding, 2009) and is one of the purported benefits of insurance over other disaster financing mechanisms (Warner et al., 2012). After the Canterbury earthquakes, though, many organisations felt that the speed of insurance settlements was not adequate. Between one-third and one-half of commercial claims[3] had been settled by August 2012, 18 months after the February earthquake (Steeman, 2012). According to the Resilient Organisations 2013 ERI Survey, 68 per cent of organisations had received 80–100 per cent of their claim by late 2013 (2.5 years after the earthquakes). Taylor et al. (2012) reported that experts rated this progress as slow as compared to international examples, a conclusion supported by a report of the insurance broker firm, Marsh (2014). The latter pointed out that the commercial insurance response in Christchurch was significantly slower than those after the 2010 earthquake in Chile and the 2011 earthquake and tsunami in Japan. Table 3 shows the factors identified by interviewees and in the literature that appear to have contributed to slow claims management.

Table 3. Factors affecting slow claims management following the 2010 and 2011 Canterbury earthquakes

Factors affecting slow claims management (cited by interviewees)
• High number and complexity of insurance events and claims, including ongoing aftershocks (broker, business recovery support service, claims preparer, insurance complaints service, insurer, insurer repair project manager, past insurer, property manager); slow reporting of claims (insurer) (Marsh, 2014). • Technical repair and rebuild challenges (business recovery support service, insurance complaints service, insurer, insurer repairs project manager, professional engineer). • Shortage of human resources: insurance assessment personnel and support services, such as accountants and engineers (broker, business recovery support service, claims preparer, insurer repair project manager, professional engineer, small business owner). • Poor claims and information management (business recovery support service, insurer, insurer repair project manager, small business owner). • The CBD cordon slowing or preventing access to business records, necessary for assessing claims (broker, business recovery support service, insurer). • Regulatory changes to the building code (business recovery support service, professional engineer). • Declaratory judgements on policy interpretation (insurer repair project manager, lawyer).

[3] It is important to note that these figures do not reflect claims where agreements on insurance settlements have been made but repairs are still under way or the claims cannot be finalised until business indemnity periods have elapsed.

- Lack of existing relationship with insurer or broker (business recovery support service, claims preparer, insurer, small business owner).

Source: authors.

Slow progress in settling both material damage and business interruption claims had an impact on organisations. Delays in material damage claim assessments increased losses as businesses were forced either to operate in compromised structures (potentially affecting customer numbers and/or productivity) or were having to pay temporary accommodation charges for much longer periods. The length of delays in material damage claims in some cases meant that business interruption periods had ended before building repair and/or rebuild work had finished (or even started). Consequently, businesses were not able to benefit fully from their business interruption entitlements. Some businesses with limited financial resources opted to settle their claim quickly to access a cashflow, rather than spend time negotiating a higher value settlement.

Insurers made few efforts to identify and prioritise potentially vulnerable organisations. Studies following previous disasters have noted that organisations facing a high level of damage and/or disruption (including disruptions to critical infrastructure, staff, and supply chains) are particularly vulnerable during recovery (Tierney and Webb, 2001; Powell and Harding, 2009), as are small organisations (Dahlhamer and Tierney, 1996; Alesch et al., 2001; Tierney and Webb, 2001; Courbage, Orie, and Stahel, 2012). A study in Christchurch after the earthquakes also showed that small organisations were more vulnerable to negative revenue impacts (Stevenson et al., 2011a). Prioritisation of claims in Christchurch was lacking (cited by: broker, business recovery support service, claims preparer, insurer, insurer repair project manager). Some interviewees (business recovery support service, claims preparer) even said that bigger, better resourced, and more persistent organisations would be prioritised (including those threatening litigation). Normal insurance settlement processes tend to settle highly damaged property claims first, helping to lessen the impact on the more heavily damaged businesses. However, more deliberate and more transparent prioritisation would be an improvement to ensure swift access to insurance payments by vulnerable organisations.

The second aspect of the claims management system that generated concern, and was identified as an area for possible improvement, was the quality and consistency of the assessment and settlement process. Quality affects both the timeliness of settlements and the accuracy and fairness of valuations. Given the large number of claims following the Christchurch events, insurers were challenged initially in accessing and then in managing the considerable number of personnel required to assess insurance claims, including loss adjustors and professional support services, such as accountants, brokers, engineers, and lawyers, which provided evidence for claims. Many loss adjustors had to be sourced from South Africa, the United Kingdom, and the United States.[4] Some interviewees expressed concern about the skills of local and international brokers and loss adjustors and their impartiality (cited by: broker, business recovery support service, insurer, past insurer, property manager, small business owner). Others stated that there were particular cultural and professional challenges owing to the different approaches to loss adjustment (cited by: broker, property manager). In the US, for instance, loss adjustors generally have delegated authority to pay claims on behalf of insurers. This is not the case in New Zealand, which has led to some inequality in claims management.

Compounding the personnel quality-control issues was the fact that assessors often would be brought in for a finite period of time (90 days was common) and there was little continuity for organisations and their claims. Some organisations complained about the number of times they were visited and assessed, frequently by different people (Stevenson et al., 2011a): four to six different assessors was common; 15 assessors was an extreme case (cited by: business recovery support service).

[4] Generally, insurers have standing arrangements with Australian loss adjustors to assist in a crisis situation. However, the timing of the February 2011 earthquake coincided with the aftermath of the Queensland floods of 2011, so many Australian loss adjustors were not available.

The discontinuity in assessments was due in part to insurers' poor claims procedures and information management systems (cited by: business recovery support service, insurer, insurer repair project manager, small business owner). Not only did clients have to deal with multiple loss adjustors, but the loss adjustors often did not seem to be able to access or locate the details of the claims. This problem was exacerbated by different loss adjustors working on material and business interruption claims for the same property. Moreover, a number of authors have flagged the need for improved communication between insurers and organisations (Stevenson et al., 2011b; ICNZ, 2012; InsuranceNEWS.com.au, 2012; Dransfield, 2012).

Poor information management systems also had ramifications for insurers. Some did not have good information on the distribution of their losses (risk locations and useful risk information, such as building type and occupancy). This meant that they were unable to pinpoint easily locations where there were multiple losses (such as via multiple tenancies) or where business interruption losses could be minimised by tending to material damage claims. This appeared to be, primarily in Canterbury, because some insurers only held the client's address (rather than the risk address); brokers had all of the other information.

The third factor influencing the effectiveness of insurance settlements with regard to organisational recovery was the type of policy held or the settlement options available to clients. The main material damage policy types in New Zealand at the time of the earthquakes were full replacement policies, allowing for complete reconstruction of damaged structures (or part of them). These policies have contributed to claim settlement delays for organisations as it takes considerable time for insurers and engineers to develop and compare repair and replacement options. In addition, they have increased the risk exposure of insurers as they bear the risk of inflated building costs, owing to post-disaster-related demand surge—which international experience indicates could be as high as 25 per cent (ICNZ, 2014)—and changes in regulatory building requirements. It is interesting to note that insurers in New Zealand have already responded to this issue. Most insurers have announced that they are moving from full replacement policies (based on floor area) to sums insured for residential properties (Stock, 2012).

As a result of the prevalence of full replacement-type policies, and as a step to try and reduce losses, insurance companies in New Zealand supplied project management offices to manage the physical repair and rebuild process on behalf of the insured. This is a move away from the traditional insurer's role of providing financial support for a more operational function, which has shaped the speed and nature of recovery in Canterbury. Insurer-established rules and restrictions frequently limited repair and rebuild actions to (primarily) only those works for which the insurer was liable. Generally this meant that buildings could be restored only as they were pre-event (with the exception of any modifications necessary to bring them up to new building standards). Consequently, organisations found it hard to use the earthquakes as an opportunity to alter and adapt both their premises and business practices to succeed in the post-event environment, such as changing from individual to open-plan offices or repairing a not-fit-for-purpose building when a better option is to invest in developing an online customer service. Adaptation—the ability of an organisation to adjust following an event: reinvent themselves, capture new markets, form new partnerships (Stevenson et al., 2011b), and build back better—is increasingly being acknowledged as key to organisational resilience (Lee, Seville, and Vargo, 2013). It is important that insurance is provided in a way that enables organisations to adapt to the new post-disaster setting.

Overall, this analysis suggests that insurers have the opportunity to improve their claims management processes and hence contribute more to organisational recovery. In particular there needs to be improvement in the prioritisation of claims, better quality control for brokers and loss adjustors and claims preparation support services, enhanced information management of claims, and more flexible policy settlement options. Targeted research is necessary to develop further these areas.

Are new post-earthquake pricing structures affecting insurance uptake and disaster preparedness?

Prior to the earthquakes there was very limited risk-based insurance premium pricing in New Zealand, and there were virtually no incentives for organisations to invest in risk management. Subsequently, there has been a fundamental and potentially permanent shift in the insurance market (ICNZ, 2012), notably:

- lesser availability of insurance for high-risk properties;
- an increase in the cost of insurance premiums (up to 500 per cent in some cases);

- deductibles changing from a percentage of the claim value to a percentage of the insured value; and
- risk-based premiums (where building owners are rewarded with lower premiums when mitigation measures are put in place) considering factors such as age and height of building, land status, region (hazard risk), and type of construction.

These changes, as well as 21-day moratoriums on new policies after every significant earthquake, created uncertainty vis-à-vis immediate recovery. Existing organisations found it difficult to plan in the face of uncertainty (Stevenson et al., 2011a; Muir-Wood, 2012; Taylor et al., 2012) and developers were hesitant about investing new capital in the city (Taylor et al., 2012). Uncertainty regarding insurance also affected things such as the availability of bank loans and contract works insurance and the ability to buy and sell properties. All of these factors influenced organisational recovery.

Despite the uncertainty caused by changes in insurance, risk-based pricing is an important step in encouraging organisations to put risk mitigation in place and improve resilience. Risk-based pricing alleviates the moral hazard of organisations thinking that they do not need to mitigate risks because they are insured (Courbage and Stahel, 2012). This is not a new practice internationally: it is already occurring in countries such as Japan (Nagamura, 2012) and is being advocated in response to climate change (Herweijer, Ranger, and Ward, 2009). Risk-based pricing, however, could mean that those that cannot afford mitigation measures also cannot afford insurance (Nagamura, 2012).

Some organisations in Canterbury have already indicated that they believe it may be uneconomic to maintain the increased premiums, in spite of the potential risk (Stevenson et al., 2011a). One study participant said:

> The whole landscape of insurance has changed. The policies are more restrictive now. . . . The cost of insurance has gone up. Clients and their banks are a lot more aware of insurance but because the cost has gone up its meaning that even though people know they need this cover, they’re not taking it (broker).

Anecdotally, it appears that, in Canterbury, the increase in deductibles is having a greater impact on organisational insurance decisions than are rises in premiums, which is similar to observations in other contexts (see, for example, Johnson et al., 1993). Organisations in Canterbury are starting to question the value of insurance: the highest risks are not covered (such as indirect costs owing to catastrophes) and the high deductibles mean that small risks effectively require self-insurance. It seems that earthquake insurance cover is narrowing to such a point that many organisations will not see the benefit of third-party insurance. And the less people who are insured, the higher the premiums and deductibles will be going forward.

It is evident that insurers and how they structure and price insurance premiums will play an important part in organisational disaster resilience in the future. Good regulation is needed to manage the pitfalls of risk-based pricing while trying to maintain the good insurance coverage of New Zealand.

Conclusion

The experts interviewed, the literature reviewed, and the survey results derived showed that, generally, the commercial insurance sector performed adequately given the severity and complexity of the earthquake sequence in Canterbury in 2010 and 2011. Yet, there are four principal areas that could be improved:

- First, policies could have been clearer to improve customer satisfaction. Experience following other disaster events suggests this could be done through standard policy definitions (Brookes and Goodridge, 2011; Rios, 2011; Courbage and Stahel, 2012; Nagamura, 2012)
- Second, policies could have catered better for the specific risks that organisations and sectors face in terms of the scope and sum of the cover. For some sectors this would mean increased cover for indirect earthquake impacts such as depopulation.
- Third, claims management could have been more timely and claim settlement options more flexible so that organisations are able to adapt quickly and readily to the new post-disaster situation. Specific measures suggested include: streamlining claims settlement processes; simplifying policies and settlement options; providing interim insurance payments; prioritising claims settlements; allowing deference of business interruption periods; augmenting operational capacity and quality control of claims management services; and increasing the number of cash settlements (avoiding repair management).

- Fourth, it was noted that insurance pricing and policies affects how organisations manage their risks.

Furthermore, the research highlighted some topics in need of further analysis. Additional work is required to understand the relationship between policyholders' expectations of their insurance policies and how effective they are at guarding against their specific risks. This study uncovered some complexities concerning tenants and insurance, which would benefit from more scrutiny. Lastly, the measures suggested for improving claims management need to be developed further and tested.

While the findings here reflect the experiences of a recent and complex event, they are salient for insurers and organisations anywhere preparing for a changing and increasingly complex risk landscape. Organisations need to be change-ready in the wake of a disaster, and insurers need to provide timely, clear, and flexible insurance policies and claims management services to enable recovery.

Correspondence

Dr Charlotte Brown, 219 Wyndale Road, RD1, Sheffield, 7580, New Zealand. E-mail: charlotte.brown@resorgs.org.nz

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