0.3 Entrepreneurship, Start-ups and Small Business

Competitive

Exploring post-crisis recovery among Christchurch small firms: Survive or close the door?

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Author Biographies

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Abstract

The Canterbury earthquakes of September 2010 and February 2011 and their long series of major aftershocks had a huge impact on small firm owner/operators of the region. Some impacts were immediate and dramatic, while others were delayed and protracted. This study features eight small firms four years on from the initial earthquakes, when contrasting recovery trajectories had become apparent. These events created both opportunities, such as stronger network relationships and changed customer demographics; and challenges, such as physical damage, compromised locations, and rising cost structures. All of which have compelled the need for change and survival for some, but not all.

Introduction

The major Canterbury earthquakes of September 2010 and February 2011, to say nothing of their 4,000 or so significant aftershocks, had a huge social and economic impact on the city of Christchurch and the people of the Canterbury region. While some impacts were immediate and dramatic, others took longer to become apparent and were protracted. Here we track developments four years on from the initial earthquakes, a period long enough for contrasting recovery paths to emerge among our group of small firms. This study contributes to the systematic body of evidence on how small firms recover from a major natural disaster and why some recover more than others. Major natural disasters are those involving "physical threats and the destruction of property, life and the systems needed for a community to function" (see Herbane 2010, page 46). We focus on small firms since these are the firms that are worst affected by such events (Tierney 1997). They are also more likely to be among the 80% of businesses without a comprehensive plan that may disappear within two years of a major disaster (Penrose 2000, page 155, citing Brown, 1993). The purpose of this paper is to understand the contrasting recovery paths and coping mechanisms of small firms and their owners caught up in such major and unforeseeable disasters. Our contribution is three-fold. First, rather than focus on firms of different sizes, we study the contrasting recovery paths within a group of small firms, recognising that some small firms may recover better than others. Second, we have allowed four years to elapse since the event, a period longer than that used in most previous work but one sufficiently long for recovery paths to become discernible. Third, we have the dubious benefit of being able to explore local responses to a very real disaster sequence.

The next section discusses the relevant literature, culminating in the research question that guided the study. We then explain the methods used to answer this question. The following two sections are devoted respectively to those small firms that appear to have recovered, with annual sales in 2013 above their 2010 levels, and those that have not. These sections are then balances by one based on the reflections of the business owners, their personal resilience, and why they stayed amidst so much damage and destruction. The paper concludes with some suggestions for future policy and practice.

Literature review

Significant research has been undertaken on alternative approaches to disaster management (Baker 2009), especially on how large firms deal with organisational crises and natural disasters (Pearson and Clair 1998; McEntire et al. 2002). However, crisis management in small businesses remains relatively unexplored (Herbane 2010). Understanding the resilience of small business owners in the wake of natural disasters is complex and multi-levelled. Although the two domains of small business and crisis management have extensive literatures, Herbane (2010) affirms that their nexus requires closer attention. He reflects on the importance of such research, as crisis cannot only be measured in lost revenue but in terms of the damage to services, local communities, supply chain capacity and business capability. Biggs, Hall, and Stoeckl (2014) assert that resilience is an important framework for understanding society's ability to cope with crisis. They define resilience as a business's ability to maintain and adapt in the face of disturbance while maintaining its identity (p. 646). Other resilience definitions refer to adaptive capabilities (Norris et al. 2008) and positive adjustment under challenging conditions (Vogus and Sutcliffe, 2007). Doern (2014) analysed small business owners' resilience during the London riots of 2011. She considered the preparedness and immediate impact of a major crisis, and referred to small business resilience as a mindset that is both anticipatory and containment oriented. However a major earthquake cannot be anticipated - the Canterbury earthquake sequence was a ten thousand year event. Furthermore depending on the epicentre, depth and magnitude, the implications of 'containment' are also unknown.

Research by Runyan (2006) investigated small business response to USA's 2005 Hurricane Katrina. They interviewed owners and support agencies within 3 months of the event and concluded that there is a double effect on small business owners who are also local citizens. They conclude that small businesses cannot be prepared for all disasters, which leaves the question: How do small business owners cope? The effects on Britain's small rural tourism firms of the 2001 outbreak of foot and mouth disease are reported in Irvine and Anderson (2004). A longitudinal quantitative study was undertaken with snapshots taken 2 years apart. This study considered the impact on the local businesses in Grampian and Cumbria and concluded that these were severe but not as bad as anticipated. They argued that media exaggeration was particularly damaging to businesses. Although useful, two quantitative snapshots in time cannot explain the nuances and variability of individual owner/manager experiences and resilience. As (Doern 2014) points out, we have a very slim evidence base on the firm-level experiences of enduring such a major unforeseen disaster such as a sequence of strong earthquakes. While hurricanes, floods and even riots can be both foreseen and presumed to be short-lived, earthquake aftershocks can persist for several years.

The closest parallel to the Canterbury earthquakes, and one extensively studied, is the Northbridge earthquake that afflicted the Los Angeles area in January 1994, killing 57 people and damaging some 200,000 homes and 39,000 businesses (Tierney 1997). In a survey conducted some 16 months after this earthquake, 23% of respondent businesses remained worse off relative to their pre-earthquake state; 53% were back to how they were; and 24% were by then in a better condition than they had been pre-quake. Smaller firms were more likely to be in the worst off group because of a loss of customers and/or a local economic recession in their area. The smaller firms were also less well-prepared for such a disaster and in a poorer financial condition. Those large firms that were better off were also better prepared and able to benefit from the post-earthquake economic stimulus and a more buoyant local economy. But physical damage and local shaking intensity were not associated with business recovery (Dahlhamer and Tierney 1998). The main influences on recovery were the off-site infrastructure damage that affected in particular the movement of goods, staff and customers to and from the business. It was the ancillary damage affecting the ability to trade normally that had the greatest impact on recovery prospects. These prior learnings have informed our own study.

As mentioned previously, there are three areas where we add to the extant literature. First, while researchers have investigated the effects of firm size on disaster recovery, very few have explored differences in post-crisis recovery among small firms. Second, many studies of actual disasters have been confined to the immediate 'survival' period following the event when, in our experience, it is too soon to identify recovery paths. Third, much of the writing on business continuity and recovery is theoretical and anticipatory: there is no actual disaster to provide a real context. The research question that follows from this review is: *What are the influences on how different small firms recover from a major natural disaster*?

Method

The literature has no detailed accounts of owner-managers experiences beyond the immediate disaster. We address this using an emergent design (Charmaz 2008) featuring the owners of eight Christchurch small firms. The fieldwork was undertaken in 2014, some three years after the most devastating earthquake. These eight businesses are profiled in Figure 1. In 2013, four of these businesses were trading on lower sales turnover than in the pre-disaster 2010 financial year [2, 3, 7, 8 – See Figure 1], while the other four were trading above their 2010 sales levels [1,4,5,6]. It is worth noting from Figure 1 that the various recovery paths are difficult to identify within one or two years of the event, and yet most applied post-disaster research has been conducted within this interval.

Figure 1 about here

Face-to-face interviews investigated the how's and why's of the business owner-managers navigation through the immediate survival and longer-term implications for their businesses in Christchurch. Bearing in mind our over-arching research question, these narratives were collected and examined according to four broad analytical questions: (1) What were the consequences of and response to the prominent quakes events of 2010-2011? (2) How did they restart their businesses? (3) What events, changes and learnings occurred in these ensuing four years? (4) Why have they stayed?

In applying the emergent approach we adopted the governing principles of grounded theory to the collection and analysis of data (Glaser and Strauss 1967; Goulding 2005). The transcripts were open coded, line by line, to identify key and repeating properties (Urquhart 2013). Each transcript was subsequently coded to examine similarities and differences (Goulding 2002). A coding template evolved which was then used to form coding trees (de Vries 2008) and subsequent coding categories and the identification of themes. Coding was conducted manually and used NVivo simply as a storage, and handling tool, thus also allowing note taking in the form of memos (Glaser 1998). This was followed by further theoretical sampling and data collection to inform and expand on emerging themes (Glaser 1992).

In Table 1 we summarise the situation of these businesses as a consequence of the earthquakes.

Table 1 about here

Findings

The study distinguished influences on small firm recovery within three main themes: the 2013 recovered companies, the 2013 non-recovered companies and personal resilience.

The 2013 recovered companies

The four companies that have recovered their 2010 sales levels are from different sectors: manufacturing; hospitality/wholesale; construction; and retail. Three of these companies suffered no ancillary damage that compromised their ability of operate, but one did – company 1

'The warehouse was damaged but operational. However, our main manufacturing building was severely damaged. The concrete slab floor collapsed in many sectors of the factory which meant some of our machines fell over and the rest needed to be re-levelled. Really, the factory was stuffed."

Given the significance of ancillary damage to the Northridge business (Dahlhamer and Tierney 1998), company 4 is a case of unexpected survival. Company 4 is a B2B operator supplying the hospitality trade predominantly in the city's central business district, an area laid waste by the February 2011 earthquake. Sales plummeted between 2010 and 2011 – see Figure 1. What saved this company was the speed with which it changed its business focus by expanding B2B sales outside of Christchurch and expanding their product range to further boost sales. By 2013, sales were at 140% of their 2010 levels and being boosted further by the gradual revitalisation of the central city:

"*It's been a whole lot of things I guess. It's been tough but it's been exciting, and it's been fun along the way. I think dealing with hospitality and just seeing it in Christchurch, seen it start from almost scratch and seeing what's happening with some of the bars and restaurants around town is quite exciting."* Company 4

Unlike company 4, company 1 suffered severe damage to its manufacturing plant and premises, coupled with a downturn in demand from local business clients. They moved quickly into make-shift production facilities and embarked on what became an 18 month legal battle with their insurance company: However, this B2B manufacturer resolved the dispute and repaired an existing production facility to meet growing demand from a larger client base as a number of competitors had not survived the disaster. Both of these companies made quick decisions in the immediate aftermath of the earthquakes and then survived long enough to benefit from the eventual upturn in local demand from their business customers.

Neither of companies 5 or 6 experienced serious physical damage to premises or to their ability to trade. Both were companies that were in the right place at a bad time. Company 5 is a construction business that has been suffering into the end of the global financial crisis as this affected bank lending and commercial building activity: It gained sales initially from the need to make ongoing urgent repairs and support structures for damaged buildings – some damaged multiple times:

> *"Engineers came to our office and said what steel have you got lying around as we need to build a structure immediately. Right we've got this, and this, where previously engineers would use their knowledge to design something, now it was actually designing around what we had sitting there to make it work. ……. We had resources and ability and equipment."* Company 5

Thereafter it was also able to expand as the rebuild got underway.

Company 6 is an electronics retailer who was able to grow sales in the immediate post-quake period by deciding to source and stock the range of emergency products that most people never expected to need such a batteries and radios and for the first month sales tripled.

> *"Pretty much straight away our business boomed. Mainly because a lot of emergency products were being sold."* Company 6

What these recovered companies have in common is a sequence of rapid response to the initial adversity and a determination to survive until the post-disaster recovery gained enough momentum for them to benefit from this.

Updating Figure 1 into 2014, in the most recent year for which data are available, company 4's sales were almost double their 2010 level; company 1 was now up 30% on 2010; company 5 continued to hold revenue up 60% in a local construction sector made more competitive by new entrants; and company 6 was up around 18% from 2010 sales. It is worth noting that the most successful recoverers [companies 1,4,5] were all B2B operators and this may have facilitated their recovery.

The 2013 non-recovered companies

The sample used also included four firms which, in 2013, had not recovered their 2010 turnovers. The first point to note is that all of these are retailers and so location is critical to how well they perform. Note too that three of the four non-recoverers suffered major ancillary damage that then inhibited their ability to trade following the disaster.

> *"It's a nightmare [roads] and I've just chosen not to care about things I can't control. So it is a bad as it is. In fact one day I left my shop to go to the local school and I had to come back to the mall to get there. So customers who don't want to be bothered have*

terrible issues and won't be coming here, but I treat it as part of the whole experience." Company 2

In company 2, while the store also had some minor physical damage that was quickly repaired, in 2012 the entire section of the mall in which they were located was vacated to allow for major structural repairs. They were forced to move to an unsatisfactory location, and they were only able to move back to their original site at the end of 2013. However, the owner used the 2012-2013 period to restructure the business, reducing costs and retiring debt.

"It's a crazy thing but we have been out of our shop now for 62 weeks and I'm at a point where I am closer to paying my bills than I have ever been in my life. Everything has diminished – business has diminished, wage bill has diminished, rents –quarter of a million dollars per year, and it's gone. And that's net you save out. Our margins are enormously squeezed at the moment because of the competition and parallel import that sort of thing. There's no margin in the hardware – the good stuff. So I think history will show we had the perfect time to be out of the shop really. If we were still in the damaged shop and paying rent I'd go as far as to say I would be battling by now." Company 2

At the time of writing, late 2014, this owner is still in dispute over some insurance claims.

Company 3 was doing quite well through 2010-2011 but the neighbourhood infrastructure was damaged. In 2013, major road reconstruction commenced outside of his premises compromising the shop's location and having the expected severe effect on sales and profits.

"They started major road works for the damaged sewers down the main arterial root to our business and right outside our shop. And they did that from January right through June. ... It cost us a lot of money which is having a negative effect on us at the moment. But I think we will fight back. It was really difficult for customers to come in. They couldn't get to us and even though we do pride ourselves on the high quality and customers can be quite loyal, that's our challenge now to get our market share back." Company 3

Company 7 was the worst affected by the earthquakes with its location destroyed and its residential area severely damaged. The owners located a shipping container store on the original site, now levelled, hoping to preserve their location. But their suburb continued to depopulate and the demographic changed dramatically:

> *"The environment they are now working in there are lots of containers down the main street. They have lost their building and they are working out of a container at the back of the property. Once the original building was torn down they put up a Marquee which has become their bar and deli area."* Company 7 *[audio field notes]*

Company 8 had very little material or ancillary damage. It had however been struggling against increased international competition. Sales rose by some 20% from 2010 to 2011, but this was short-lived. Sales and margins began to fall after 2011 as fixed costs such as rent and insurance premiums rose dramatically:

> *"So our rent before the earthquakes was around $40,000 plus GST and the current rent is $90,000 within a 2 year period. So that has just gone ridiculously high. Our insurances went from say four and a half thousand to twenty thousand a year for insurances. Again just not realistic."* Company 8

This company was struggling in the pre-disaster period but it is clear the extent to which the other three under-performing retailers were hugely affected by the loss of their original location advantages as a result largely of the collateral damage from the earthquakes. In 2014, company 2 continued to recover its sales level but had yet to reach the 2010 level. Once the road reconstruction ended, company 3's location recovered its value and sales are now back to their pre-earthquake level. Both company 7 and company 8 closed down in 2014. The owners of company 7 left the region, while those involved with company 8 took the initiative to move into a new but unrelated business.

Personal resilience: why they stayed.

Most informants admitted considering leaving Christchurch but this was not a palatable option. While all respondents had business imperatives and stated that their businesses needed to remain viable, the major rationale for staying in Christchurch was family obligations and commitments. Some spoke too of their obligations to employees and the personal challenge of helping rebuild the city. Their

Christchurch business was so intertwined with their lives that they would lose part of themselves by leaving:

> *"But I'm bound to Christchurch because of family and my children working for me; and the worse thing is because I've been there for 27 years it's not just selling the business it's selling part of me. That's a decision you can't take lightly."* Company 3

This 'intertwined' characteristic was also evident with the two respondents that ceased operation as both admitted that they delayed making the decision to shut down and in hindsight this had been financially costly:

> *"… the biggest headache for me was 6 months of thinking do I close this thing down or is it going to turn around, what other things can I do to make it right. …. I mean we should have put the signs up years ago."* Company 8

Commercial obligations were also factors in the deciding to stay including long term leases, commercial property ownership, and the management of insurance claims and remediation. Most respondents also believed in the future value of their businesses, and the loyalty and adaptability of their staff. However as we see with companies 7 and 8, financial imperative must be met. So when a company reaches a tipping point, no level of commitment to Christchurch, family or other sense of obligation can sustain the business.

The respondents with continuing businesses were faced nevertheless with significant barriers in moving their businesses forward such as: higher cost and ongoing disruption to roads and infrastructure from the city's rebuild. They were also frustrated by what they perceived was an increase in bureaucracy within the city but more importantly the indecision and inertia at official level was hindering business activity.

Respondents referred to a changing competitor profile and a more challenging and demanding customer base. But to offset this they referred to the changing customer demographic as opening up new opportunities and the positive networking relationships they had with other stakeholders in the city:

> *"I think everybody is here with one common goal is to see it through for the benefit of the city. And it will eventually be a great city but it does take time."* Company 5

Respondents of ongoing businesses reflected on many factors contributing to their personal resilience. They had a high level of self-belief and internal locus of control, very ‘hands-on’ with their businesses, and referred to positive or personal relationships with their staff. They were dedicated to living in Christchurch and optimistic about their own and the city’s future: *“Sounds tragic [loss of store] but in a lot of ways it’s been quite good.”* Although the last four years had been extremely stressful, they now had coping mechanisms. Sport and exercise was the most common stress reliever identified in the study. Also taking time out through driving or spending time with family and friends were mentioned. Some referred to stress as just part of life and the need to *“just deal with it.”* Some respondents seem to infer that the quakes were just another dimension to the typical fluidity of the business environment:

> *“I think looking back, anybody in Christchurch looking around would probably have the same sort of viewpoint. What our city is going to develop into is – whether it is our lifetime or not, I don’t know – but it is going to be a pretty vibrant new city, I think, in how many years. So I mean it’s been a bit of everything I think.”* Company 4

Discussion

In determining the contrasting recovery trajectories of small firms following the Canterbury earthquakes of September 2010 and February 2011, informants reported using this disaster as a catalyst for changing their business model, including closure. Some suggest that change was inevitable and may have occurred regardless, but in a more gradual manner:

> *"I don’t know if this is because of the quakes, or because our business has actually grown, but we are looking to try and create a more professional image and becoming better planned as well.”* Company 4

In some cases respondents referred to poor decision making on their part before the quakes and that the crisis highlighted some personal business weaknesses or flaws in their business model:

> *“[The] main lesson is growth hides a multitude of ills. When you are growing you do some stupid stuff, really, really stupid stuff. Too many staff, sign on for things you don’t*

really need to sign on for, advertise in publications that have no common sense..." Company 2

Hence the quakes were a catalyst for exacting change which had been put off or covered over in such areas as debt levels, staffing levels, and market positioning. One respondent spoke of implementing a completely new operational model as it was previously top heavy with excessive staffing and unnecessary expenditure lines. Another took the opportunity to reconfigure the family ownership structures of the businesses. These issues may not have been dealt with now without the impetus of the quake environment which forced them to rethink their business strategies:

> *"I guess one positive of the quakes – if you can talk about positives! Was that once we had the insurance sorted we could sit down and look at how we should structure the ownership now that the family had changed over that last 20 years."* Company 1

Major changes highlighted in this study included moving to new locations, changing staff strategies – including decreasing and increasing staff, revising mission and vision statements, and implementing new growth and customer strategies. Many respondents spoke of overcoming the immediate impact of the quakes quite quickly and effectively. However it was the ongoing effects that impacted on their decisions to change business models. Firstly in location and layout strategy, those businesses that were leasing premise have experienced dramatic increases rents which caused them to review their location, layout and exit strategies, such as a smaller footprint, moving location or closure:

> *"But the last couple of years our business has really bounced back to grow and we have had to change our business model. Employing somebody, moving into premises and that sort of thing."* Company 4

Respondents who owned their own premises experienced increased building and compliance costs in their efforts to remediate their existing buildings or extend their buildings to grow their businesses, such as delays in construction. Secondly, in terms of competitive strategy, some respondents pointed to the large national or overseas competitors arriving in Christchurch, causing them to rethink their stand-alone operations and look to networking with former local competitors as a means of competing. For example company 4 referred to corporates trying to squeeze out the smaller players from the re-establishment of the hospitality industry in Christchurch, and Company 5 lamenting the international companies coming into the buoyant Christchurch construction environment where previously the market was not viewed large enough by these companies.

Critical to the post-crisis recovery period is also the personal resilience of the business owners. This 'stickability' was reflected in their wider commitment to the city, their families and employees; the financial obligations and capital investment that constrained their mobility; and their ability to balance extensive personal and business demands.

Conclusion

Christchurch and its surrounds will only recover as well as local small firms recover. The main obstacles to small firm recovery were the impact of long-term repair causing business dislocation and the heightened competition from large corporates able to exploit the temporary recovery boom. The resources of large companies may be needed to expedite the recovery but these firms will eventually downsize and withdraw from the region as the recovery proceeds. In the interim, it is crucial that their activities are not allowed to crowd out the smaller local companies who must be able to survive the disaster but more importantly survive and ultimately flourish as they navigate the post-crisis recovery period. Despite a lack of formal planning and, in some cases, a heightened awareness of their business weaknesses and flaws, small firms can respond quickly to major disasters. Those that do, tend to recover better. Note however that recovery paths are not readily apparent within the first two years post-disaster, notwithstanding that most applied research has been concentrated into this period. The findings confirm that the crisis raised huge challenges but also opportunities for respondents to change their businesses for the better. Factors such as damage to buildings, rising cost structures, an altered customer base, and new corporate competitors have combined to drive the need for change and ultimately survival, for some.

References

Baker, Stacey M. 2009. "Vulnerability and resilience in natural disasters: A marketing and public policy perspective." *Journal of Public Policy & Marketing* no. 28 (1):114-123.

Biggs, Duan, Michael Hall, and Natalie Stoeckl. 2014. "The resilience of formal and informal tourism enterprises to disasters: reef tourism in Phuket, Thailand." *Journal of Sustainable Tourism* no. 20 (5):645-665.

Charmaz, Kathy. 2008. "Grounded Theory as an Emergent Method." In *Handbook of emergent methods*, edited by S N Hesse-Biber and P Leavy. New York: The Guilford Press.

Dahlhamer, James M, and Kathleen J Tierney. 1998. "Rebounding from disruptive events: Business recovery following the Northridge earthquake." *Sociological Spectrum* no. 18 (2):121-141.

de Vries, Huibert P. 2008. *The influence of migration, settlement, cultural and business factors on immigrant entrepreneurship in New Zealand*, Department of Management, University of Canterbury, Christchurch.

Doern, Rachel. 2014. "Entrepreneurship and crisis management: The experiences of small businesses during the London 2011 riots." *International Small Business Journal* no. online:1-27.

Glaser, Barney G. 1992. *Emerging vs forcing: Basics of grounded theory analysis*. Mill Valley, CA: Sociology Press.

———. 1998. *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.

Glaser, Barney G, and Anselm L Strauss. 1967. *The discovery of grounded theory*. New York: Aldine.

Goulding, Christina. 2002. *Grounded theory: A practical guide for management, business and market researchers*. London: Sage.

———. 2005. "Grounded theory, ethnography and phenomenology: A comparative analysis of three qualitative strategies for marketing research." *European Journal of Marketing* no. 39 (3):294-308.

Herbane, Brahim. 2010. "Small business research: Time for a crisis-based view." *International Small Business Journal* no. 28 (1):43-64.

McEntire, David A, Christopher Fuller, Chad W Johnston, and Richard Weber. 2002. "A Comparison of Disaster Paradigms: The Search for a Holistic Policy Guide." *Public Administration Review* no. 62 (3):267-281.

Norris, Fran H, Susan Stevens, Betty Pfefferbaum, Karen F Wyche, and Rose L Pfefferbaum. 2008. "Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness." *American Journal of Community Psychology,* 41: 127-150.

Pearson, Christine M, and Judith A Clair. 1998. "Reframing Crisis Management." *The Academy of Management Review* no. 23 (1):59-76.

Penrose, John M. 2000. "The role of perception in crisis planning." *Public Relations Review* no. 26 (2):155-171.

Runyan, Rodney C. 2006. "Small business in the face of crisis: Indentifying barriers to recovery from a natural disaster." *Journal of Contingencies and Crisis Management* no. 14 (1):12-26.

Tierney, Kathleen J 1997. "Business impacts of the Northridge earthquake." *Journal of Contingencies and Crisis Management* no. 5 (2):87-97.

Urquhart, Cathy. 2013. *Grounded Theory for Qualitative Research*. London: Sage.

Vogus, Timothy, and Kathleen M Sutcliffe. 2007. *Organizational resilience: Towards a theory and research agenda.* Paper presented at the IEEE International Conference on Systems, Man and Cybernetics, October 7-10 Oct 2007. ISIC.

Figure 1. Business Turnover 2010-2013

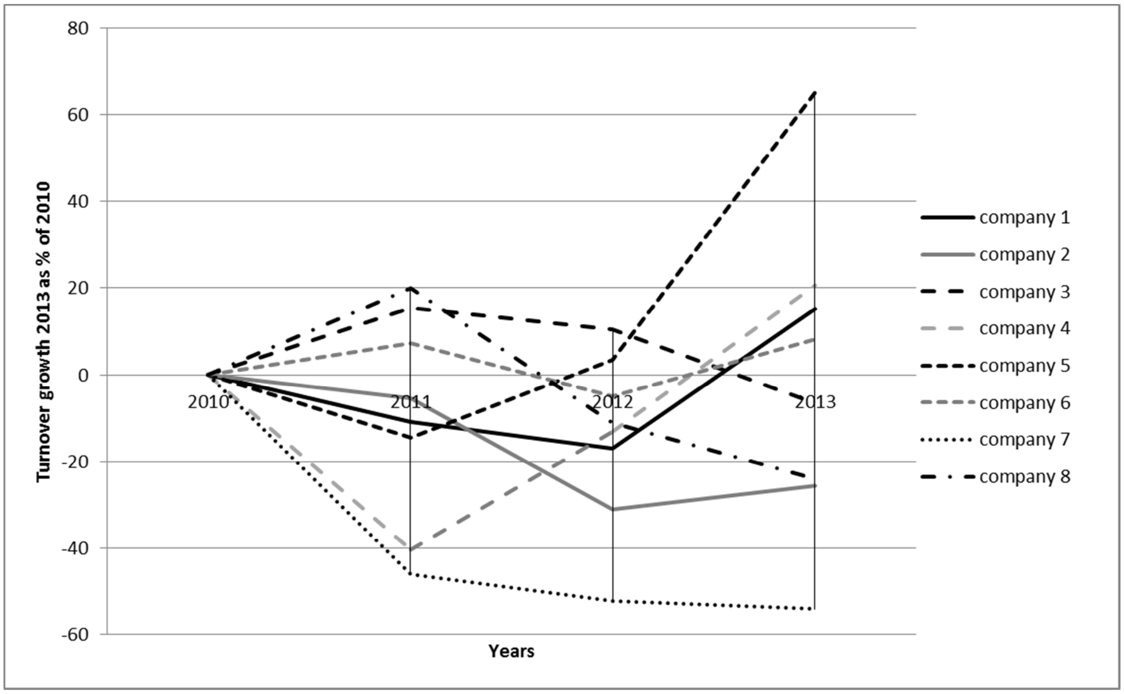

Table 1. Impact of earthquake

Company	Industry Sector	Firm Age (years, 2010)	Employee numbers (2010)	Physical damage to own premises	Ancillary damage/ ability to trade	Turnover 2013 as % of 2010
1	Manufacture (B2B)	47	6	Yes	No	**+15**
2	Retail	24	20	Yes	Yes	-26
3	Manufacturing/Retail	25	8	No	Yes	- 7
4	Hospitality (B2B)	14	3	No	Yes	**+21**
5	Construction (B2B)	46	98	No	No	**+65**
6	Retail	10	4	No	No	**+ 8**
7	Retail	4	5	Yes	Yes	-54
8	Retail	18	10	No	No	-24