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The Impacts of the Canterbury Earthquake on the Commercial Office Market in Christchurch, NZ

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Abstract:

The 22 February 2011 Canterbury earthquake had a devastating impact on Christchurch property with significant damage caused to land and buildings. As at March 2012, around 747 buildings have been demolished in central Christchurch. In addition, around 165 buildings have either been partially demolished or identified to be partially demolished (CERA, 2012).

The broad aims of the research were to (i) examine the nature and extent of the CBD office relocation, (ii) determine occupier's perceptions of the future: their location and space needs post the February earthquake, and the likelihood of relocating back to the CBD after the rebuild, and (iii) find out what occupiers see as the future of the CBD, and how they want this to look. To address these issues, an online survey was developed. Potential respondents were obtained from two sources: 275 suburban office occupier contact details obtained from a physical survey of office occupiers as of August 2011, and 368 contacts obtained from a business database held by CB Richard Ellis.

With a 22% response rate, 55% of respondents were relocated CBD occupiers and 45% were existing suburban office occupiers. Results indicate that 66% of respondents have reduced their office size since the earthquakes. Half of businesses are paying less rent than before the earthquake, probably due to 45% of respondents being in poorer quality space. More than a quarter of relocated tenants have signed leases of one year or less, and 27% of businesses are now working out of residential premises. Of the businesses that relocated out of the CBD the biggest group (38%) want to return to the CBD into low-rise buildings of 3 floors or less (80%) that meet Earth Quake codes with good amenities and public transport. The speed of rebuild is important to respondents.

1. Introduction

The first major earthquake to occur in Canterbury was the magnitude 7.1 earthquake of 4 September 2010 at 4.35am local time. The earthquake's epicenter was 40 kilometres west of Christchurch, near the town of Darfield, but still caused significant damage to Christchurch buildings and infrastructure but no direct fatalities. Six months later, the magnitude 6.3 earthquake struck at 12:51 pm on Tuesday, 22 February 2011 severely damaging New Zealand's second-largest city, Christchurch, killing 185 people. The earthquake was centred 2 kilometres west of the town of Lyttelton, and 10 kilometres south-east of the centre of Christchurch. As at 27 April 2012 there have been 10,492 earthquakes and aftershocks since the September 2010 event. Other large earthquakes were the 6.41 magnitude earthquake on the 13 June 2011 and the magnitude 6 quake on the 23 December 2011.

The damage was exacerbated by buildings and infrastructure already weakened by the 4 September 2010 earthquake and its aftershocks. Significant liquefaction affected the eastern suburbs, producing around 400,000 tonnes of silt. Of the 3,000 buildings inspected within the Four Avenues of the central city (the CBD) by 3 March 2011, 45% had been given red or yellow stickers to restrict access because of the safety problems. Over a third of the CBD buildings have been, or are yet to be, demolished. The damage occurred to many older buildings, particularly those with unreinforced masonry and those built before more stringent earthquakes codes were introduced. Newer high rise buildings performed quite well.

Over half of the deaths occurred in the six-storey Canterbury Television (CTV) Building, which collapsed and caught fire in the quake. The total cost to insurers of rebuilding has been estimated at NZ$20–30 billion, making it by far New Zealand's costliest natural disaster, and the third-costliest earthquake (nominally) event in history, after the 2011 Japan and 1994 California earthquakes (Buhayar et al., 2011).

Following the 7.1 magnitude earthquake on 4 September 2010, the Canterbury Earthquake Recovery Commission was created under the Canterbury Earthquake Response and Recovery Act 2010. The Commission has since been disestablished. The 2010 Act was controversial and said to be "potentially at odds with maintenance of the principles of the rule of law", so the Act was repealed on 19 April 2011, when it was replaced with the Canterbury Earthquake Recovery Act 2011. Under the 2011 Act The Canterbury Earthquake Recovery Authority (CERA) was established on 29 March 2011, to lead the recovery effort. CERA gave the Christchurch City Council the responsibility of developing a Recovery Plan for the Christchurch CBD: the draft Central City Plan. The plan is to be consistent with the Recovery Strategy, which is being developed by CERA.

The process of rebuilding has begun with the construction of the first new multi-storey building in the CBD red zone underway on the site of the old Harcourts Grenadier building in Madras Street (Harcourts Grenadier, 2012). In December 2011, construction of the first new hotel commenced with Latimer Hotel. However, the hotels' CEO reported not being able to find a local insurer to underwrite the project, forcing the company to go to Lloyd's in London. The five storey hotel would be built on piles 13.5 metres deep, exceeding the standard for new buildings (Heather, 2011).

According to a legal update from law firm Buddle Findlay (2012), as at February 2012 nearly 900 earthquake related building consents have been issued since September 2010. The Christchurch City Council expects an additional 10,000 earthquake related building and resource consent applications a year for at least the next three years. Further, CERA lists 747 CBD buildings that have been or will be demolished. CERA expects that about half of the buildings in the central city will eventually be demolished. Nearly a quarter of the buildings CERA lists to be fully or partially demolished are heritage buildings. Some of Christchurch's iconic landmarks have already been demolished, with the Christchurch Cathedral currently the centre of community debate over whether it should be demolished.

Amongst the many issues faced by building owners and investors is that the banks and other lenders updated their requirements for new lending on properties in the Canterbury region subsequent to the earthquakes and are requiring a number of reports from professionals such as structural engineers, geotechnical engineers and valuers, before any new lending will be approved. Further, immediately after the September and February earthquakes there was a twenty one day stand-down period for earthquake cover in Canterbury and without adequate insurance cover banks would not advance mortgage money, causing a slowdown in both the residential and commercial markets.

For commercial buildings situated in the Red Zone uncertainties over the legal rights and responsibility of tenants were highlighted. Some of the buildings were undamaged but not able to be occupied due to the cordon or tenants of buildings not in the cordon but surrounded by damaged buildings had their businesses impacted by depopulation.

Under the Auckland District Law Society Lease (ADLS Lease) which is the common lease used for commercial premises in NZ, if the building occupied is destroyed or so damaged as to make the premises untenantable, the lease terminates from the date of the damage. The landlord may also terminate the lease if in their opinion the building requires demolition or reconstruction, but the landlord must give 20 working days notice to terminate. If the building is tenantable, the landlord is required to spend any insurance money it receives to repair any damage, provided the necessary building permits or consents can be obtained. If a tenant is not able to occupy their premises due to damage caused by an earthquake, any rent or outgoings under the lease abate in a fair and just proportion to the destruction or damage until the premises are repaired and reinstated, and available for occupation. An area for disagreement between a

landlord and tenant may arise over the time the building becomes fit for occupation, particularly with the ongoing aftershocks and need for structural reassessments, and the lease abatement amount (Anderson Lloyd Lawyers, 2010).

2. Literature Review

2.1 US Studies

There are few papers available on the impacts of earthquakes on property values, those that were identified were based in the US and cover impacts other from natural disasters other than just earthquakes. Epley (2010) discusses the case for a post-disaster highest and best use definition when, as often happens, after a natural disaster a normal market no longer exists and few comparable transactions are available for analysis. Some of the issues he mentions after a natural disaster include the possible partial or total destruction of public records, property lines and boundary markers may be gone or hidden and infrastructure may be damaged that makes usability questionable. Further, the assumptions underlying the definition of market value are not satisfied after a disaster. For example, a "competitive market" may not exist, the impacted owner may be suffering stress symptoms and not be able to make rational decisions, and there may be a lack of sales due to the destruction of the current market. In the absence of comparable sales, Epley recommends both a new highest and best use definition and a new valuation approach: contingent valuation, use of surveys to solicit opinions of current value of informed parties.

Levy (1984 and 1986) discusses an approach to value land impacted by landslides.[1] He suggests a cost to repair approach starting with a hypothetical valuation of the affected property in an undamaged condition, deducting the cost to correct the damage, and making an allowance for any further diminution in value after the repairs are complete. Whilst he recommends the valuer's client employ the services of a soils engineer or engineering geologist, he warns the valuer to be careful to ensure all repair work is included in the estimate, and if not, to get cost estimates for missing items such as cosmetic repairs or replacement of improvements removed or damaged as a results of the primary repair. To measure any further value loss in addition to the cost to repair, Levy recommends the use of case histories, if available, of repaired properties that suffered damage by soil movement and subsequently sold. The sales indicate the measure of market resistance, known as "stigma", due to the slide history. Stigma may arise due, for example, buyers fearing a reoccurrence of the problem as well as potential difficulties obtaining finance or insurance coverage (as occurred after the Canterbury earthquake). This stigma may be temporary or permanent. If it is temporary Levy (1986) recommends discounting the present worth of the loss at an appropriate rate for the period of time involved. However, he warns against using transactions involving expert sellers (engineers, geologists, etc) as they tend to make poor case study comparisons.

Sanders (1996) provides a framework for the valuation of properties damaged by geotechnical or related effects. He suggests a cost to repair approach with an allowance for residual stigma, if any, similar to that outlined by Levy (1984, 1986). Stigma can be particularly relevant to defects associated with geotechnical and structural problems where the layperson cannot visibly examine repairs to determine their adequacy. Cost to repair would normally require the value to accept reports prepared by a qualified engineer or geologist. Sanders recommends the assessment of stigma through the use of the case study approach recommended by Levy (1984), regression analysis or contingent valuation. Sanders notes that stigma does reduce with time and will be greatest immediately after the damage or loss occurs, and that adverse influences tend to be maximised in weak markets and minimised during strong markets. He further notes that media exposure can impact on the degree of loss, with highly publicised events suffering greater or more lingering residual loss.

Cole et al. (2011) discuss the valuation approach to take when flood zone maps are revised and a property previously outside the zone now falls within newly designated floodway. Such property is usually required to carry flood insurance and usage is commonly restricted so economic loss may occur and compensation may be payable. Compensation due to new regulation is determined using a before and after approach, similar to that suggested by Sanders (1996) and Levy (1984).

1 Levy (1986) defines "landslides" broadly to include all forms of damage which result from soil problems (i.e. "land failure").

Brunette (1995) attempts to measure the impact on commercial real estate returns as measured by the Russell-NCREIF Property Index using case studies of three disasters: the San Francisco Bay Area earthquake October 1989; hurricane Andrew in South Florida August 1992, and the Los Angeles Area earthquake January 1994. The San Francisco earthquake caused 60 fatalities and over $7 billion US in property damage; hurricane Andrew claimed 30 lives, destroyed 85,000 homes and caused over $20 billion US in damage. Brunette graphs the total returns over time but notes that a difficulty in performing analysis of events on prices over time is that many other events are occurring at the same time and may have a bigger influence on prices than the event under study. He has not controlled for these other events so it is difficult to draw any conclusions from his analysis. He notes that any impact on prices from the San Francisco earthquake was probably minor compared with the losses associated with the overbuilt property markets across the country. Other influencers are that disaster relief and insurance money can actually provide economic stimulus for an area, but this needs to be countered by the possibility that households and businesses may leave an impacted area in large numbers. Concluding Brunette recommends diversification across several geographic areas to minimise risk.

A more recent US disaster was hurricane Katrina in August 2005, the costliest natural disaster in US history. A number of papers have appeared on valuing in post-Katrina era. Seefeldt (2006) outlines the Appraisal Institute guidance that was provided for residential property by a co-sponsored teleconference with Freddie Mac, Fannie Mae, and the Department of Veterans Affairs on how to conduct business in the post-hurricane Gulf region. Freddie Mac established three-zone methodology assigning a zone number to each county/parish to enable it to provide more specific instructions to lenders: Zone 1 - minimal to no damage; Zone 2 - moderate damage and Zone 3 - significant damages. With a scarcity of comparable sales they accepted valuations that used comparables from other neighbourhoods. Listings were also permitted as long as a relationship between list price post-disaster to the list and/or sales price prior to the disaster can be established. Examining the days on the market is also recommended, typically elongated after a disaster. Absent of listing information, Seefedlt suggests using the survey method to examine the market for the most likely set of prospective purchasers as well as any "bottom feeders", those hoping to profit on damaged properties.

As delineated by Pugh, Appraisal Institute 2006 Vice President (in Nicolay, 2010) some of the biggest post-hurricane issues are "rapidly changing markets, no trends, scattered data, and early feeding frenzies", p. 17. As noted above by Epley, and reiterated by Nicolay, that the market value assumptions of willing buyer and seller, neither parties acting under duress may not be able to be met post-hurricane. Nicolay outlines the Appraisal Institute's proposed Guide Note 10, Developing an Opinion of Market Value in the Aftermath of a Disaster.[2] As stated in the Guidance Note:

> *A disaster might have a drastic impact on both supply and demand, causing them to suddenly be out of balance. There may be a dramatic drop in supply due to destruction and damage. At the same time, there may be a spike in demand because those who suffered loss or damage to owned or leased real estate will need to find replacement space, p.4.*

Such circumstances: reduced supply and increased demand following a disaster, raise questions as to whether higher prices paid for property represent market value and whether the parties are typically motivated? There is a great deal of uncertainty in the market post-disaster such as environmental concerns, likelihood of anther event, the degree to which structures can be replaced, etc. These uncertainties are difficult to measure. This uncertainty equates to higher risk that might be reflected in higher capatilisation and discount rates. The National Associate of Home Builders (in Nicolay 2010) outlines another issue: shortages of skilled labour and necessary construction materials driving up the costs of home building and repair in the affected areas, that need to be factored into valuations. These issues are just as relevant for commercial property as they are for residential.

2 See http://www.appraisalinstitute.org/PPC/downloads/2011_guide_note_10.pdf [accessed 5 May 2012].

A study by Graham and Hall (2001) looks at the impact on house prices of hurricane strikes in the coastal area of southeastern North Carolina, an area of perceived increasing hurricane risk given the four hurricanes that made landfall in 1996 through to 1999. Again, whilst residential in focus the results might be relevant to the commercial property market. Using an hedonic pricing model they found little response by the market to an individual hurricane strike but found adverse, progressively greater impacts on home selling prices in the months following successive hurricanes. A similar study by the same authors together with Burrus and Schuhmann (Burrus et al. 2009) look at buyer sentiment to hurricane risk by investigating the spread between listing and selling prices of homes and the average number of days on the market. The results show progressively greater and more significant changes in this sentiment with successive hurricanes in southeastern North Carolina coast. As the perceived risk of hurricane strikes increases, a more volatile market evolves. However, the study also shows that sentiment begins to improve with the passage of time.

2.2 NZ Studies

According to a study by The Field Connection (2011) about a third of employees in Christchurch City were located in the Central City (within the Four Avenues) when the September 2010 earthquake struck. The Field Connection conducted a telephone survey of businesses that were located within the CBD prior to the February 22 earthquake. They attempted 355 phone calls. One third of the numbers had been disconnected and others had answer phones or reused to respond to the survey. Interviews with 100 business owners or senior managers were held between August 29 and September 20 2011 indicating a 28.17% response rate. Results indicated that nearly half (48%) of the businesses located within the CBD decreased their staff after the February 22 earthquake. Nearly half (49%) of the businesses surveyed had relocated, 18% were working form home, 16% were unable to recommence the business and 15% recommenced business in the same premises. Respondents were split over whether they will return to the CBD: 40% said they will return and 38% said they were unlikely to.

Insurance was the major concern reported by businesses. The majority (93%) of businesses had business insurance, and 92% of respondents had made at least one claim. 89% of respondents were concerned about the lack of or delays in payments/settlements, poor communication from insurance companies, and difficulties in seeking re-insurance for relocated businesses or in gaining insurance for new buildings.

Other concerns included:

- **Access to buildings -** some business owners' had issues retrieving vital stock, technology or other items from their premises.
- **Status of Business Premises –** respondents noted a disconnect within the communicative process between authorities (i.e. CERA / CCC), building owners, and tenants relative to access to buildings, retrieval of items, and the future fate of the building itself. Ongoing delays within the building assessment process had impacted upon some business owners' ability to move forward. This was compounded by uncertainty as to the legal ramifications of current leases and whether or not the building would be fit for re-tenancy.
- **Loss of Income / Cashflow** from a number of sources including: non-payment of claims from insurance companies; forced closure of their business due to its' location within the Red Zone, building damage or safety concerns, or until assessment could take place; reduced patronage (de-population), additional costs incurred post-quake such as advertising or promotional costs to raise awareness of new location, etc.
- **Staffing Issues -** 48% of businesses had decreased their staffing levels post-quake due to: retention of current staff post-quake (impacted by financial/cash flow issues and human flight from the city/region); sourcing new staff within a challenging environment; the emotional impact of the February 22 earthquake on staff – their ability to 'cope' in an ongoing seismic event; fragmentation of staff (i.e. relocating into smaller 'teams' due to decreased workplace size post-relocation), etc.
- **Relocation / Finding Premises -** A limited number of functional/'safe' premises from which to select, post-quake increases in rents in what became a 'landlord's market' given increased demand for premises.

- **Timing of the CBD Rebuild** – Uuncertainty over timelines which the rebuild and recovery would take to enable business owners to make informed decisions about the future of their business; for some business owners who owned their building, difficulties in accessing information as to the likelihood of the site being deemed suitable for rebuild by geotechnical engineers was problematic.

A Canterbury Employers survey conducted by The Labour Department (2011) surveyed more than 1700 employers located in Central Christchurch, Waimakariri, Selwyn and Banks Peninsula about the impacts of the earthquake. Around 40% of businesses had seen a drop in revenue as a result of the earthquakes. There was a net loss of staff and revenues in most sectors including retail, health, education, manufacturing and professional services, but a few industries such as construction saw a net gain. The study excluded businesses no longer operating. Nearly 38% if workplaces expected to increase staff in the coming year with predicted unprecedented demand on labour, particularly relating to the construction rebuild.

3. Research

3.1 Introduction

A study was undertaken to investigate the impacts of the Canterbury earthquake on the commercial office market in Christchurch. The 22 February 2011 Canterbury earthquake had a devastating impact on Christchurch property with significant damage caused to land and buildings. As at March 2012, around 747 buildings have been demolished in central Christchurch. On top of this, around 165 buildings have either been partially demolished or identified to be partially demolished (CERA, 2012).

It is currently not possible to assess the impact of the earthquakes on the commercial property market within the CBD due to an absence of sales data, and delays in decisions regarding the draft City Plan that will outline future planning regulations. Market data is unlikely to become available until the rebuild commences and insurance companies finalise claims. Thus, a survey approach was adopted, as suggested by Sanders (1996), Epley (2006) and Seefeldt (2006), to determine the attitudes and perceptions of the owners and occupiers of commercial office space. While land failure issues due to liquefaction and settlement remain in affected locations causing uncertainty within the market, and new damage prone land maps are likely to be established, decisions on remediation potential and options are yet to be decided by Government. This will likely give rise to claims for compensation.

3.2 Research Aims

The broad aims of our research are to (i) examine the nature and extent of the CBD office relocation, (ii) identify the nature of the occupiers, (iii) determine occupier's perceptions of the future: their location and space needs post the February earthquake, and the likelihood of relocating back to the CBD after the rebuild, and (iv) find out what occupiers see as the future of the CBD, and how they want this to look. To address these issues, a survey of around 25 questions was developed, and 643 contacts received the survey.

3.3 Survey Samples

The sample of respondents was obtained from two sources. Firstly, 275 suburban office occupier contact details were obtained from a physical survey of office occupiers as of August 2011. Secondly, 368 contacts were obtained from a business database held by CBRE of CBD businesses from mid-2010. As this contained both office-based businesses and retailers, those contacts that came under the following office related industry classifications were selected:

- Information Media and Telecommunications
- Financial and Insurance Services
- Rental, Hiring and Real Estate Services
- Professional, Scientific and Technical Services
- Administrative and Support Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance

Office occupiers were surveyed from a number of locations which are illustrated on the map in Figure 1, below. The map is not comprehensive as some individual buildings are located just outside of the shown area. These buildings form part of CBRE's suburban office stock list and are typically stand-alone office buildings over 500 sq. metres in size.

Figure 1: Location of survey respondents

3.4 Data collection method

As this was an online questionnaire, only those contacts with an email address were selected for the survey and duplicate contacts were removed if they appeared in both sources. Details about the study and a link to a Qualtrics online survey were distributed to respondents by email. The email was sent on the 23rd of August 2011 and recipients were given four weeks to respond to the survey. Reminders were sent out to recipients after two weeks and again two days prior to the survey closing date.

We received 139 responses which equates to a response rate of 22%. Over half (55%) of respondents were those identified from the business database, while 45% of respondents were from our physical survey of tenants. Approximately 55% of these were previously CBD occupiers and 45% were existing suburban occupiers. We believe this provides a balanced view from office occupiers across the Christchurch office market.

Subsequently, in January 2012, a follow up survey was undertaken to help understand some of the more recent issues facing office occupiers in Christchurch after the earthquake events of December 2011 and January 2012. Using the same methodology as the initial survey, the survey was sent out to 641 contacts (slightly less than the initial survey as some contacts had opted out). Over a period of 10 days, we received 140 responses, indicating a response rate of 21.8%.

4. Results - August 2011 survey of office occupiers

The following sections outline the survey responses. Charts typically display results as a percentage of respondents on the Y-axis with the number above each bar representing the number of responses.

4.1 Respondent profile

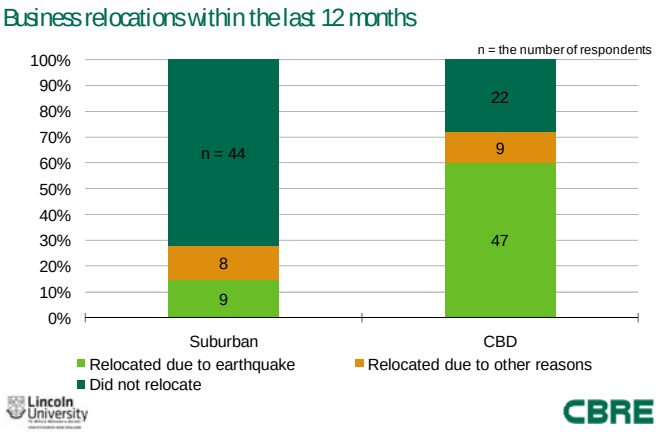
Nearly two-thirds (64%) of the respondents were male, 43% were aged 50-59 years with a third in the 30-39 age group. Nearly a third of respondents (32%) owned their own business, 27% were managers, 22% were director's and18% employees. The standard industrial classification (ANZSIC) that best described respondents' business was "Professional, scientific and technical services", representing nearly 50% of all respondents. This includes Lawyers, Accountants, IT Professionals and Architects just to name a few. The

next largest group was those in the Finance and Insurance sector, who contributed to around 17% of all responses.[3]

4.2 Have you relocated your business premises within the last 12 months?

Out of the 139 respondents, 73 (53%) have relocated within the last 12 months. However, removing those who have relocated due to other reasons, there were 56 (42%) who have moved as a result of the earthquake. Figure 2, below, shows the breakdown of those in the CBD and those in suburban offices. Of CBD occupiers, 60% have relocated due to the earthquake, while only 15% of suburban occupiers relocated due to the earthquake.

Figure 2: Business relocations



4.3 Questions answered by those who relocated as a result of the earthquake

The following questions were answered by the 56 responses that relocated due to the earthquake.

4.3.1 Where was your business located before you moved?

Of the 56 respondents who relocated directly as a result of the earthquake, the majority (82%) were former CBD occupiers, while 18% came from suburban office buildings which were affected by the earthquake. The map in Figure 3, below, illustrates the area which CBRE considers to be the Christchurch CBD as of mid 2010 and displays office buildings by quality grading.

4.3.2 How much space did you previously occupy?

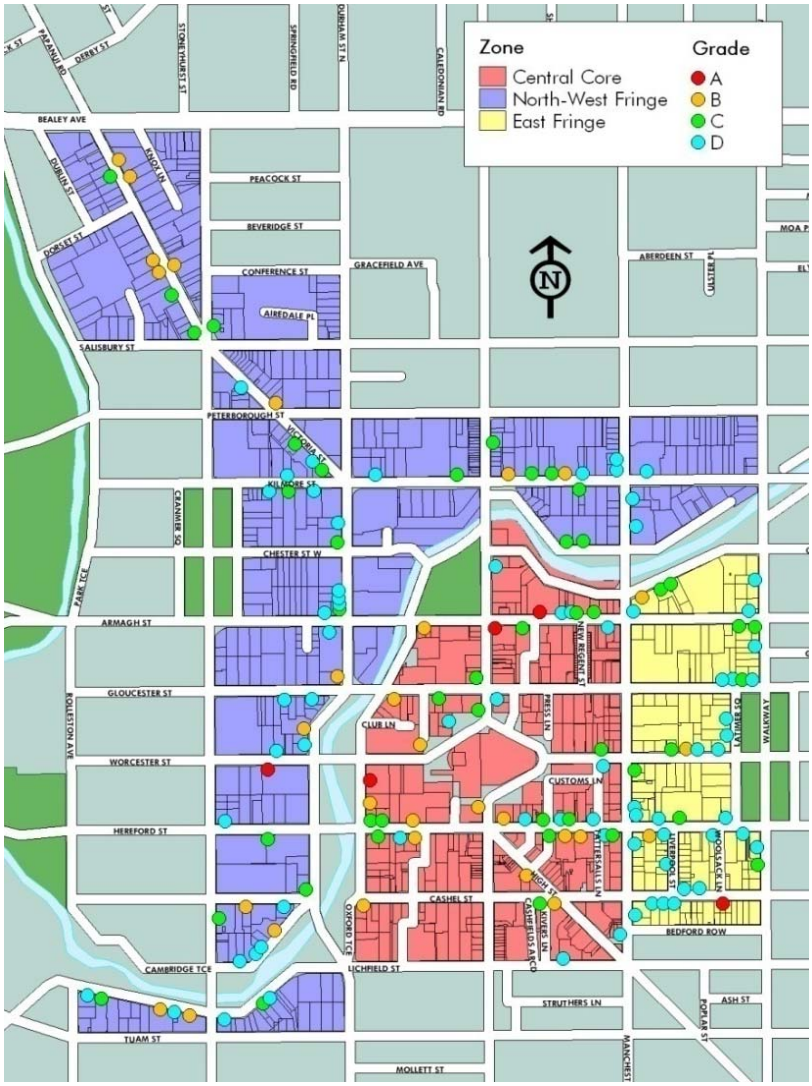
The largest proportion (45%) of respondents previously occupied smaller space of between 0-250 sq. m., and around 28% previously occupied spacebetween 251 and 500 sq. m. The respondent with the largest floor space occupied nearly 8,000 sq. m in the CBD prior to the earthquake. In total, respondents covered 37,000 sq. m of office space which was occupied prior to the earthquake. The average tenant size works out to be 660 sq. m.

4.3.3 How many months or years did you have remaining on your previous lease?

Respondents generally had a short amount of time remaining on their previous lease, with the largest proportion (36%) having one year or less remaining, 27% had 25 months to 4 years remaining, followed by 18% having 13 months to 2 years remaining on their previous lease. There were only 9% who had more than six years remaining.

3 For more information about ANZSIC classifications please visit www.stats.govt.nz.

Figure 3: Christchurch CBD and Office Grades



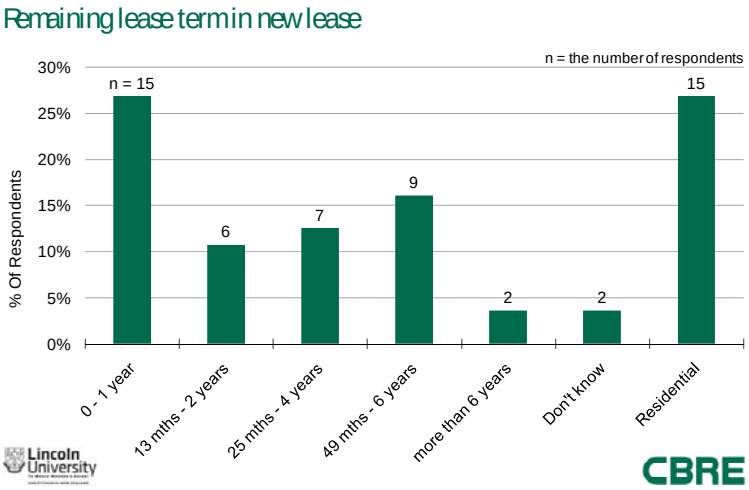
4.3.4 Were you able to terminate the previous lease due to the building being "untenantable"?

Over half (57%) of respondents who relocated due to the earthquake were able to terminate the previous lease due to the building being "untenantable", and 25% were not sure if they were able to or not. Those who are still responsible for their previous lease or still have their lawyers dealing with it varied in the lease term remaining on the existing lease.

4.3.5 What lease term did you sign up for at your new premises?

Over a quarter (27%) of tenants who have relocated due to the earthquake signed a lease term of one year or less. However, an equal number have relocated to residential premises where a commercial lease does not apply. Longer term leases have also been signed by a number of occupiers: 49 months to 6 years (16%); 25 months to 4 years (13%), and 13 months to 2years (11%). Figure 4, below, illustrates these results.

Figure 4: Remaining lease term on new lease



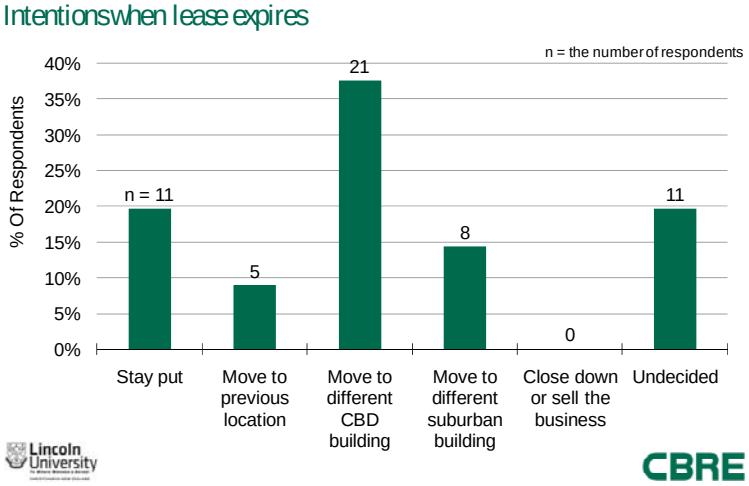
4.3.6 What type of lease did you have at your previous premises and what do you have at your new premises?

Over half (59%) of respondents were on a standard ADLS lease at their previous tenancy. However, in their new premises, this number has fallen considerably to 32% with many now on 'other' types of leases or 27% having moved to residential premises. 'Other' leases have tended to be informal agreements based on handshakes or verbal agreement. Also some occupiers have become owner occupiers and hence did not require a lease. Shortly after the February earthquake the media had reported that landlords were taking advantage of increased tenancy demand by signing displaced tenants up to long leases, but these survey results indicate that this was not the case.

4.3.7 When your current lease expires, or when it is possible to move out of residential accommodation, what are your intentions for the future in terms of location?

Figure 5, below, indicates that for those businesses that have relocated due to the earthquake, over a third (38%) wanted to move back into the CBD to a different building. 20% of respondents indicated they were going to stay where they had relocated to, and 20% were undecided. No businesses indicated that they were to close down or sell the business which is an encouraging indication that the earthquake has not caused businesses to fail.

Figure 5: Intention on lease expiry



4.4 Questions answered by those who relocated into commercial premises as a result of the earthquake
Nearly three-quarters (73%), or 41 out of the 56 occupiers who moved, have relocated into commercial space. The results shown here focus on those who have moved into commercial space as it is difficult to perform comparative analysis of relocations to residential spaces.

4.4.1 What is the change in space requirements from the old to the new premises?
As a result of the earthquake, over a third (34%) of these businesses that moved into commercial space have halved in size, 20% reduced in size by 75% and 12% of businesses reduced by 25% in size. On the other hand 17% of businesses have increased in size, and 17% stayed the same size.

4.4.2 When your current lease expires, what are your intentions for the future, in terms of space needs?
Respondents would either stay in the same size space (40%) or expand (55%). Few indicated they would downsize further or close the business. Despite many businesses having downsized as the result of the earthquake, most are positive about future growth/recovery of their business. No respondents indicated that they intend to close down the business.

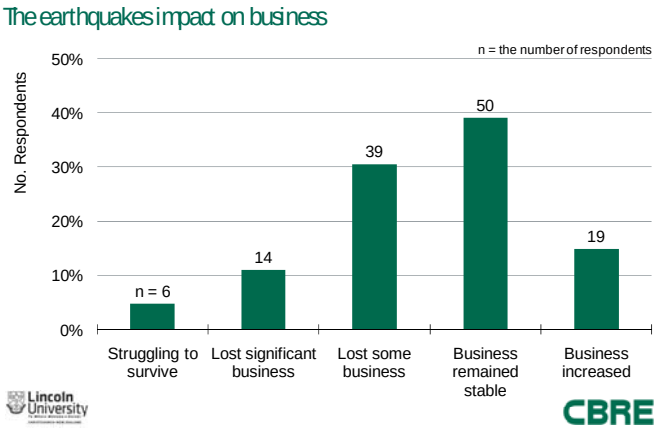
4.4.3 How does the quality of your new premises compare to the old one?
Under half (45%) of respondents have indicated that they have moved into worse/inferior premises. However, nearly a third (33%) of respondents moved into better premises compared to their old one, and 23% responded that their new space is about the same quality as previously occupied.

4.4.4 How does the rental you are paying for your new premises compare to the old one?
Around half (51%) of respondents indicated that they are paying less rent in their new premises compared to the old one on a dollar per sq. m. basis and 28% are paying more with the remainder paying the same as before they moved. Although rents in the suburban market have increased 30% since the earthquake, the responses of this question reflect that 45% of respondents had moved into worse/inferior premises which tend to have lower rents.

4.4.5 What is your perception of your new location?
A net 84% of respondents felt that availability of amenities (banks, shops, cafes and restaurants) was worse compared to their previous location. Respondents felt that the availability of parking and the distance from home were slightly better in their new location.

4.5 Questions answered by all respondents covering their views on earthquake issues and recovery
4.5.1 What impact did the February earthquake have on your business?
Half of the respondents indicated that business/turnover has remained stable after the earthquake. There are still a number of respondents who suffered losses during the quake, with 29% indicating some loss and 11% indicating significant loss in business. Business/turnover had increased for 14% of respondents. Figure 6, below outlines these results. The number of staff who laid off has been low with only fifteen companies out of 139 (11%) laying off staff. Ten (7%) of these companies have lain off less than five staff.

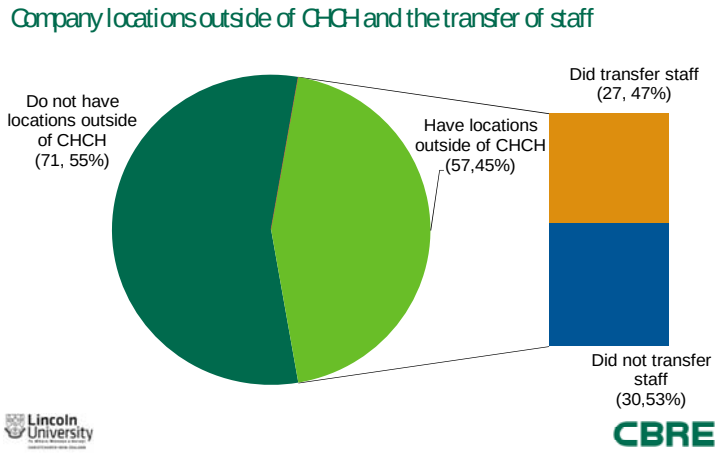
Figure 6: Earthquake impact on buisiness/turnover



4.5.2 Does your company occupy locations outside of Christchurch?

Figure 7, below, indicates that more than half (55%) of respondents are solely Christchurch based businesses with no operations in any other locations outside of Christchurch. Of the 45% of respondents who did have locations outside of Christchurch, 47% transferred staff to other locations.

Figure 7: Company locations



4.5.3 Ideally, what type of building would you prefer to locate in?

We define the following classes of buildings by height:

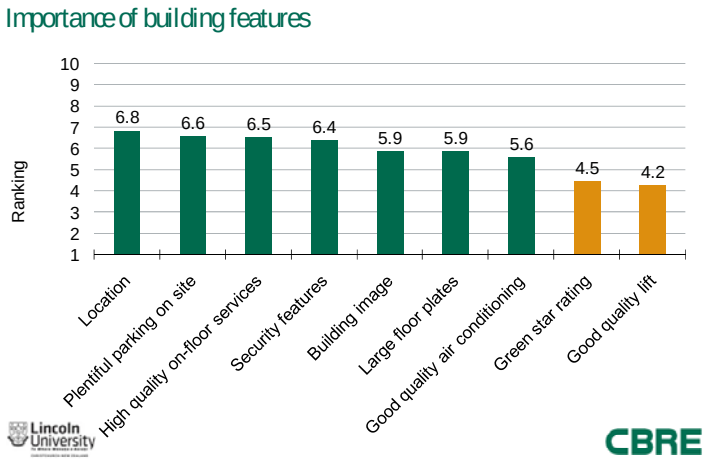
- Low-rise: 3 floors or lower
- Mid-rise: 4 to 8 floors
- High-rise: over 8 floors

Low rise was most preferred by 80% of respondents. There was the greatest aversion shown to relocating in high rise buildings (68% not preferring this height) which is not surprising, given the greater risks associated with evacuating a high rise in the event of an emergency, and as experienced by Christchurch CBD office occupants during the quake. Responses for medium rise buildings were mixed but were generally not preferred.

4.5.4 How do you rank the importance of building features for your organisation?

Respondents have ranked the importance of building features from 1, least important, to 10 most important, as shown in Figure 8, below. The rankings were averaged for each of the building features. An average score above 5.5 indicates it is somewhat important, however a score below 5.5 indicates it is not important. There is no clear preference of one particular feature; however location was seen as the most important feature, followed by plentiful parking, and high quality on-floor services. Good quality lifts and Green Star Rating were not considered important.

Figure 8: Preferred Building Features



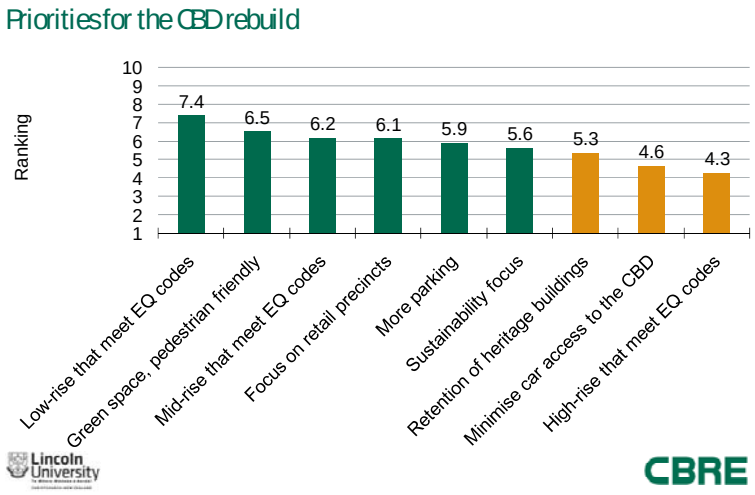
4.5.5 What are the importance of locational factors

Respondents were asked to rank the importance of locational features in order from 1, least important, to 3 most important. An average score above 2 indicates it is somewhat important, however a score below 2 indicates it is not important. Proximity to public transport networks was most important followed by proximity to amenities such as shopping and recreational facilities. Both of these factors were considered to be important. On the other hand, proximity to supporting and complementary businesses and services was not considered to be an important factor.

4.5.6 What do you see as priorities for the CBD rebuild?

Respondents were also asked to rank the priorities for the CBD rebuild in order from 1, least important, to 10 most important. An average score above 5.5 indicates it is somewhat important, however a score below 5.5 indicates it is not important, as shown in Figure 9, below. A low-rise building that meets or exceeds the current earthquake codes (3 floors or lower) was clearly the most important factor for the rebuild with an average score of 7.4. The next most important factor was more green space and a pedestrian friendly CBD. Minimising car access to the CBD and high rise buildings that meet or exceed the current earthquake codes (over 8 floors) were not considered as important to the CBD rebuild.

Figure 9: CBD Rebuild Priorities



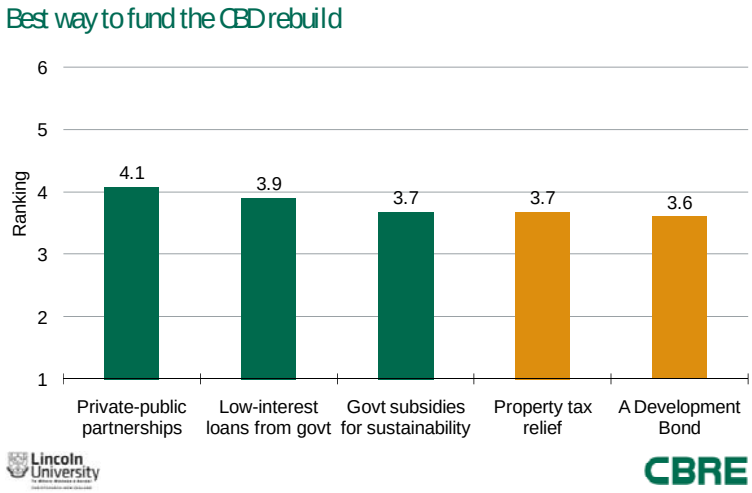
4.5.7 What do you think would be the best way to fund the CBD rebuild?

Respondents were asked to rank the following options to fund the CBD rebuild in order from 1, least important, to 5 most important:

1. Development Bond issued by the government to raise funding for the rebuild.
2. Property tax relief which will allow owners to be exempt from any taxes on the ownership, construction and leasing of a building.
3. Low-interest loans from government.
4. Private-public partnerships whereby capital investment is made by the government to assist private developers and may have an allotted equity share in the development.
5. Government subsidies for owners that rebuild to sustainable/Green Star standards.

An average score above 3.5 indicates it is somewhat important, however a score below 3.5 indicates it is not important. There was generally a near equal preference across all funding types. However private-public partnerships have been most preferred followed by low interest loans from government. Figure 10, shows these results, graphically.

Figure 10: Best way to fund the CBD Rebuild



4.6 Other comments

Finally, survey respondents were asked to make any additional comments about issues affecting office occupiers in Christchurch after the earthquakes. The main points raised, either by individuals or a number of respondents, are summarised below.

- Respondents want the market (developers, owners and tenants) to have significant input into deciding how and what to build in the new CBD.
- The speed of rebuild is important as some organisations indicate an unwillingness to wait around if things are not going to happen soon. Once timeframes can be put in place, businesses are able to make more concrete plans.
- Most respondents look forward to being able to return to a CBD which they believe will be a vibrant and busy central city precinct. The walkability of the CBD is viewed as a very important factor as the previous CBD was considered too spread out with a lot of side streets considered to be dark and unsafe.
- Although most respondents look forward to returning to the CBD, there needs to be real emphasis on drawing people back, including workers, residents and tourists. On the other hand, many are still concerned about the aftershocks and whether a rebuild is actually possible. Alternatives suggested were to shift the commercial area out to the suburbs and use the CBD for recreational purposes only.
- There is a concern that rentals in newly constructed buildings will be much higher because they will be based on returns from build costs. This will make it unfavourable to return to the CBD for businesses who could only afford to rent at the lower end of the office market.

4.7 Implications for the Christchurch office market

The results indicate that Christchurch businesses have not been as adversely affected by the earthquake as has been suggested in the media. However, as businesses were forced to relocate, due to the unavailability of office space most businesses have been forced to occupy smaller space. Businesses are therefore positive about expansion from their current premises (which appears to be more of a temporary solution as indicated by the short lease terms being signed). There is a clear preference to return to the CBD into low rise buildings serviced by good amenities and public transport.

These results suggest that future demand for CBD office space should not be an issue if buildings are safe and well serviced by amenities. However, the speed and certainty of the recovery will be a major determinant for the success of the future CBD as displaced tenants have only signed short term leases and once they expire they will need to make decisions about their future occupancy. For suburban office owners, there should be some concern about their longer term investment, as while they are reaping the short term gains of strong tenant demand, it seems that a major event such as an earthquake is still not enough to encourage tenants to be based in the suburbs rather than the CBD.

5. Results - January 2012 survey of office occupiers

In January 2012, a follow up survey was conducted to help understand some of the more recent issues facing office occupiers in Christchurch, particularly after the earthquake events of December 2011 and January 2012. Using the same methodology as the initial survey, the survey was sent out to 641 contacts (slightly less than the initial survey as some contacts had opted out). Over a period of 10 days, 140 responses were received, indicating a response rate of 21.8%.

5.1 Questions answered by all respondents

5.1.1 Has your premises suffered any damage after the recent aftershocks of December 2011 and January 2012?

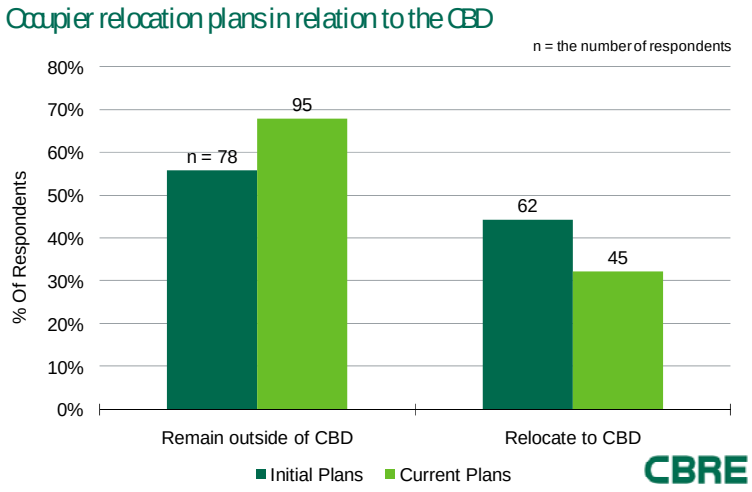
Respondents indicated only minor effects from the recent aftershocks of December 2011 and January 2012. Nearly half (46%) said their premises sustained no damage, while 36% said their premises sustained some damage but could still be occupied. The remaining 18% indicated their premises could not be occupied due to damage of varying levels: 7% were in buildings that sustained damage, but was able to be repaired; 11% were in buildings that sustained major damage and may have to be demolished.

5.1.2 Have your relocation plans changed?

This question considers the relocation plans of all respondents regardless of whether or not they had relocated due to the earthquake. As we consider both groups of respondents (those that had moved due to the earthquake, and those that were already located in the suburbs), it gives an indication of demand potential for the CBD. This question differs to question *4.4.2* in the initial survey which looked solely at the intentions of those who had relocated due to the earthquake.

Currently, 68% (95) of the occupiers surveyed wish to remain outside of the CBD. This figure includes both existing suburban occupiers and former CBD occupiers. Figure 11, below, indicates the change in relocation plans before and after the subsequent aftershocks of December 2011 and January 2012.

Figure 11: Relocation Plans to the CBD



Less than half (44%) of respondents indicated that they initially planned to relocate to the CBD, however, around a third of these respondents have indicated they have since changed their minds and currently 32% (45) of respondents plan to relocate to the CBD. Some of the reasons behind this are:

- Rents are likely to be too high and not sustainable for most businesses.
- Businesses will be well established in the suburban location by the time the CBD is able to be occupied so there is no reason to relocate back.
- Infrastructure in the CBD is not up to standard.
- Staff response to further earthquakes has been negative resulting in them not wanting to return to the CBD.

- Happy with current location as there have been changes to company structure/client base which means a CBD location is no longer important.
- Delays and uncertainty means it is better to commit to a suburban location for the long term.
- Prospect of disruption for years to come and working in a construction zone means that the CBD is not attractive.
- Confirmed redevelopments in the CBD are not available to meet the businesses' timeframe.

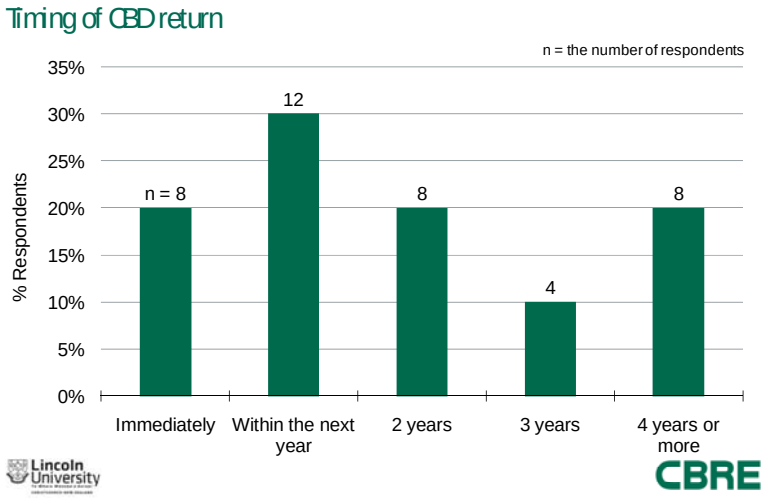
5.2 Questions answered by those who intend to move back into the CBD

The previous question determined that 32% of respondents intend to move back into the CBD. The following questions were answered only by these respondents.

5.2.1 When are you able to return to the CBD?

Half of the respondents indicated that they are able to return to the CBD immediately or within the next year. This indicates the short term or casual nature of many leases. Figure 12, below, shows the results vary considerably.

Figure 12: Timing of CBD Return



5.2.2 If the CBD cannot be occupied at the time stated above, what will you do?

Two-thirds (66%) of respondents indicated that they are prepared to keep waiting until the CBD is ready. Fewer, but still a significant proportion (28%), indicated that they would commit long term to space in the suburbs. No respondents indicated they would leave Christchurch or close the business, 6% were unsure.

5.2.3 What type of building would you consider locating to in the CBD?

More than half (54.5%) of the respondents indicated that they would want to occupy a new building which meets earthquake standards. Over a third (36.3%) of respondents said they would occupy an existing building that sustained no or little damage and is deemed earthquake safe. Less than 10% (9.1%) indicated they would occupy an existing building that sustained damage and required significant repair but that is now deemed earthquake safe.

`*5.2.4 What quality of building would you require in the CBD taking price into account?*

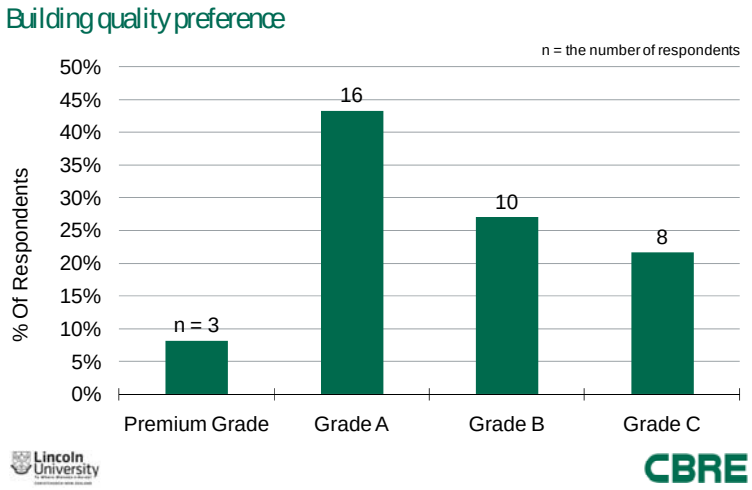
Respondents were asked which of the following building grade they would require taking into account price:

- Premium Grade – New building. Constructed to the highest quality, prestige lobby, high architectural merit, latest generation building services, onsite undercover parking. The total occupancy cost could be in the region of $425-450 per sq.m (rent plus outgoings).
- Grade A – New building. Good quality construction including many but not all Premium features. The total occupancy cost could be in the region of $350-375 per sq.m (rent plus outgoings).
- Grade B – Existing building of average quality with some but not all Grade A features and to a lower standard. The total occupancy cost could be in the region of $225-275 per sq.m (rent plus outgoings).

- Grade C – Existing building of lower quality air conditioned space. The total occupancy cost could be anything below $225 per sq.m (rent plus outgoings).

A preference for Grade A (new build) was shown by 43% of respondents and 27% preferred Grade B (existing) buildings, as indicated in Figure 13, below. Top quality premium grade buildings were least preferred.

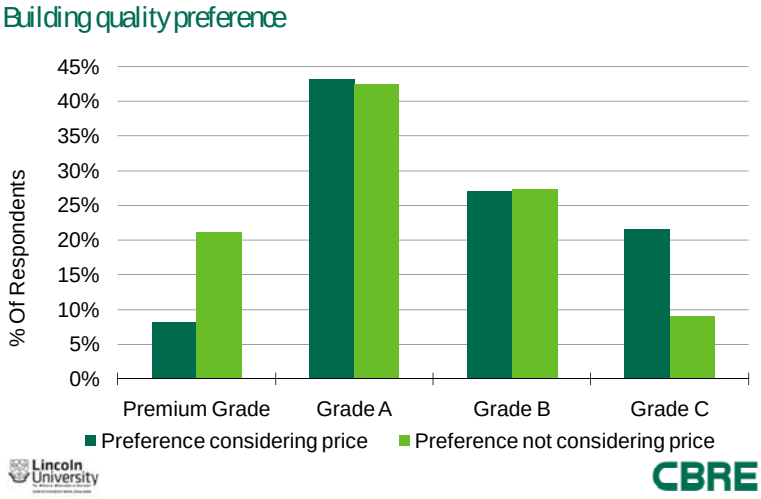
Figure 13: Building Quality Preference taking Account of Price



5.2.5 Notwithstanding your response from the previous question, what is the quality you would prefer disregarding price?

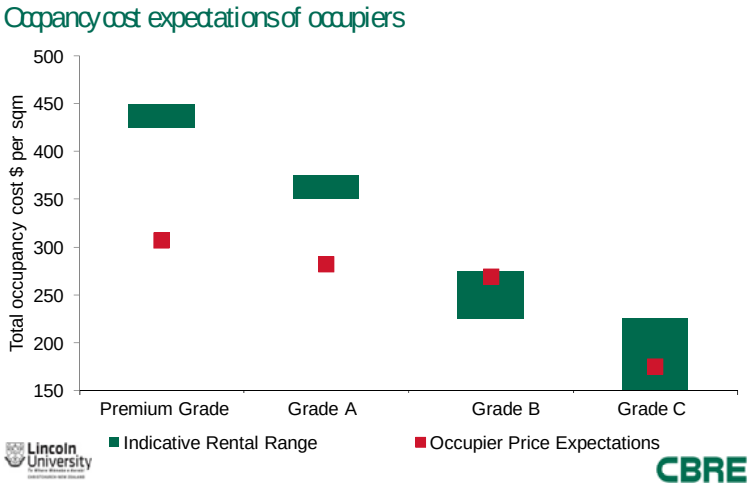
Respondents indicated a preference for higher quality space if they did not have to consider price. Figure 14 indicates that over a third (36%) of respondents indicated a preference for higher quality space than their response in the previous question. For Premium Grade space 21% (versus 8%) preferred this space if price was not an issue. Only 8% (versus 22% taking price into account) preferred Grade C when price was not an issue.

Figure 14: Building Quality Preference NOT taking Price into Account



Respondents were also asked how much they were prepared to pay for each quality grade and the Figure 15 illustrates the difference between tenants' willingness to pay and the indicative rents that are likely to be required for such buildings from landlords. This is based on likely development costs/economic rents derived from conventional feasibility models which may or not apply to the Christchurch rebuild due to the complexities with insurance payouts. We have taken an average of the occupier price expectations.

Figure 15: Tenants Occupancy Cost Expectations



The chart above illustrates that for existing buildings (Grade B and C) tenants are willing to pay prevailing market rates. However, for new Premium Grade and Grade A buildings, there is a large gap between expectations, which may negatively impact the quantum of demand for such space when the rebuild gets under way.

5.2.6 If the desired office space cannot be rented for the levels willing to be paid as stated in the previous question, what will you do?

Nearly 42% of respondents indicated they would locate outside of the CBD where it is more affordable, while 30.5% of respondents would occupy lower quality CBD space which is affordable. No respondents indicated they would relocate to another city. Of note is that only 8% of respondents would downsize space requirements, 14% would accept the higher rental, and 5% would buy their own building.

5.2.7 Are you familiar with the Central City Plan? And what is your opinion of it?

78% of respondents were familiar with the Central City Plan. Opinions were generally critical and a summary of comments are as follows:

- Very ambitious and uneconomical. The fact that the city is not starting with a "blank canvas" makes it even more unrealistic.
- Concerns at prescriptive building regulations especially strict and unrealistic parking codes for the CBD compared to the suburbs. Private developers also need to be able to develop what they want to.
- It is not so good for landowners who may incur substantial costs to comply with Council requirements yet have a building that no-one can afford to rent. May look good on paper but the practicality of the plan, costs of implementation and the cost to businesses to locate within the plan are serious concerns.
- There needs to be a lot of consultation, leniency and an essence of speed to ensure that the CBD is actioned successfully. If the process is too long then people will get impatient and will look elsewhere.
- Land owners are waiting to see what businesses/buildings are re-instated before they judge what they are going to build there or if they sell the land and build somewhere else.
- The rebuild will need Government intervention to happen as the market is fickle.

5.3 Summary: Implications from the follow up survey

This follow up survey has highlighted some topical issues facing Christchurch office occupiers. Demand for the CBD has fallen since the initial survey with some occupiers expressing frustration over the delays and disruption of moving back into the CBD. There is a concern that demand for the CBD may weaken over time as initial short term leases will be expiring and although many have indicated they will keep waiting until the CBD is ready, some will commit to long term leases in the suburbs.

In terms of building preferences, the response from occupiers is that although higher quality buildings are nice to have, taking into account price, occupiers prefer lower quality existing buildings or lower quality

new buildings. The concern with new builds is that rentals are likely to be too high for tenants to afford which has been illustrated by the gap analysis of respondent expectations of rents and the indicative market rentals that will need to be achieved to make the rebuild feasible. As preference for buildings which sustained little or no damage appear to be nearly as strong as new buildings, demand for the existing buildings is likely to be strong but will be compounded by the fact that many buildings across the CBD will, or have been, demolished leading to supply constraints.

6. Summary:

From survey one, with a 22% response rate, 55% of respondents were relocated CBD occupiers and 45% were existing suburban office occupiers. Results indicate that 66% of respondents have reduced their office size since the earthquakes. More than half (57%) of respondents who relocated due to the earthquake were able to terminate the previous lease due to the building being "untenantable".

For tenants who have relocated due to the earthquake, around a quarter (27%) have generally signed up for a lease term of 1 year or less. However, an equal number have relocated to residential premises where a commercial lease does not apply. For businesses that have relocated due to the earthquake, 38% want to move back into the CBD to a different building in the future. Respondents have indicated that they would either stay in the same size space or expand in the future. Few indicated they would downsize or close their business.

Respondents indicated that they are paying less rent in their new premises compared to the old one, however, this is a reflection of a quality downgrade. The lack of amenities (banks, shops, cafes and restaurants) was the largest drawback of their new location. Generally, responses indicated that business/turnover has remained stable after the earthquake.

Respondents have indicated a strong preference towards low-rise buildings that meet or exceed the current earthquake code (3 floors or lower). Location was seen as the most important building feature, followed by plentiful parking. Proximity to public transport networks came out as the most important location factor followed closely by the proximity to amenities.

The key findings from the follow up survey, was that more than 50% of respondents indicated that they sustained some level of damage as a result of the aftershocks of December 2011 and January 2012, and the CBD had become less attractive to them. Now only 32% plan to relocate to the CBD, down from 44%. This reduction is for various reasons including frustration with the rebuild delay and the likelihood that rents will be unaffordable in new buildings. Suburban locations have also become more attractive as changes to businesses/client base mean that a CBD location is of lesser importance.

Of the 45 respondents who plan to return to the CBD, more than half are able to return to the CBD immediately or within the next year. Respondents indicated a preference for Grade A (new build) and Grade B (existing buildings) buildings. Top quality Premium grade buildings were least preferred. However, respondents indicated a preference for higher quality space if they did not have to consider price. It appears that for existing buildings (Grade B and C) tenants are willing to pay the indicative asking rentals. However, for new Premium Grade and Grade A buildings, there is a large gap between what the market is prepared to pay and the likely economic rental levels that will be required by landlords, as indicated by the market.

If occupiers could not afford to occupy their preferred quality of space in the CBD, more than 40% of respondents who want to return to the CBD indicated they would instead locate outside of the CBD where it is more affordable. On the other hand more than 30% of respondents would occupy lower quality CBD space which is affordable.

References:

Anderson Lloyd Lawyers (2010, December), *Canterbury Earthquake – Some Advice for Businesses*, Fact Sheet, http://www.andersonlloyd.co.nz/uploads/files/Canterbury_Earthquake_Some_Advice_for_Businesses.pdf [accessed 5 May 2012].

Brunette, D. (1995). Natural disasters and commercial real estate returns, *Real Estate Finance*, Winter, vol. 11, no.4 pp. 67-72.

Buddle Findlay (2012), *Legal Update on Property and construction: he progress of earthquake-related demolitions in Christchurch, 12 February,* http://www.buddlefindlay.com/sites/all/files/The_progress_of_earthquake_related_demolitions_in_Christchurch_0.pdf [accessed 5 May 2012].

Buhayar, N. Greber, J., Saminather, N. (23 February 2011). "New Zealand's Earthquake May Become Costliest Insured Disaster Since 2008". *Bloomberg*. http://www.bloomberg.com/news/2011-02-22/new-zealand-s-earthquake-may-become-costliest-insured-disaster-since-2008.html. Retrieved 24 February 2011.

Burrus, R.T. et al. (2009), Home-buyer sentiment and hurricane landfalls, *The Appraisal Journal*, Fall, pp. 338-347.

CERA (2012), Demolitions, http://cera.govt.nz/demolitions/list [accessed 27 April 2012]

Cole, W. et al. (2011), Flood Zone Revisions and Economic Loss: An Example from Florida, *The Appraisal Journal*, Winter, pp. 44-56.

Epley, D. (2010), "Reconsidering the definition of Highest and Best Use: The case for a post-disaster Highest and best Use, *Real Estate Issues*, Vol. 35, No. 2, pp.59-71.

Graham and Hall (2001), Hurricanes, Housing Market Activity, and Coastal Real Estate Values, *The Appraisal Journal*, October, pp.379-387.

Harcourts Grenadier (2012), *Rebuild underway on Harcourts Grenadier flagship*, Autumn, p.1. http://photos.harcourts.co.nz/Harcourts.Public.WebTemplates/695/Files/Grenadier_Autumn_Newsletter_Feb_2012-7.pdf {accessed 5 May 2012].

Heather, B. (2011), *City Rebuild Under Way*, The Press, 10 December, http://www.stuff.co.nz/the-press/news/christchurch-earthquake-2011/6118679/City-rebuild-under-way [accessed 6 May 2012].

Levy, L.S. (1986), Landslides: Implication on the appraisal process, *The Real Estate Appraiser and Analyst*, Spring, pp. 5-11.

Levy, L.S. (1984), Casualty Loss Appraisals of Landslide Damaged Real Estate, *The Real Estate Appraiser and Analyst*, Fall, pp. 8-12.

Nicolay, C. (2010), After the Storm: Appraisal challenges in Katrina's Wake", *Valuation Insights and Perspectives*, Fourth Quarter, pp. 16-23.

Sanders, M.V. (1996). Post-repair diminution in value from geotechnical problems, *The Appraisal Journal*, January.

Seefeldt, J. (2006), Life after Katrina: Relief Foundation helps appraisers regroup, *Valuation Insights and Perspectives*, Third Quarter, pp. 5-9.

The Field Connection (2011), *New Beginnings – Christchurch CBD: Evolution from an earthquake*, http://www.fieldconnection.co.nz/New%20Beginnings%20-%20Christchurch%20CBD.pdf [accessed 5 May 2012].

The Labour Department (2011), *A Changing Landscape: The Impact of the Earthquakes on Christchurch Workplaces,* http://www.dol.govt.nz/publications/research/earthquakes-impact-in-christchurch-workplaces/earthquake-impact-in-christchruch.pdf [Accessed 5 May 2012].