

Pacific Rim Real Estate Society (PRRES)

Conference 2004
Bangkok, 26-28 January

Leaky Home Stigma

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Keywords: Weather tightness, leaky homes, stigma, -New Zealand

Abstract:

The relaxation of the building code in New Zealand in the early 1990's resulted in the use of a variety of new materials and housing designs. Some of these new houses, particularly those with monolithic claddings and limited roof overhang, had problems achieving weather tightness. The main problem was the penetration of wind driven rain through the exterior walls. Such houses are likely to be discounted in the market place. The authors used a mail questionnaire to survey a sample of real estate agents, valuers & building consultants in order to obtain their opinions on the impact of leaky home syndrome on property values. The results of the survey showed a residual stigma of 10-15% after remediation.

Background

The introduction of the Building Act 1991 resulted in a period of light-handed regulation for New Zealand's building industry that allowed architects and builders to be much more permissive with respect to the introduction of new building designs and materials. Historically the building industry had been heavily regulated using a very prescriptive set of building controls.

One form of construction that became very popular during this period was the "Mediterranean" style with monolithic cladding on the exterior walls. Monolithic claddings are defined by the Building Research Association of New Zealand (BRANZ) as;

"claddings with the appearance of unbroken wall surface like traditional plastered masonry" (BRANZ Seminar Series 2001). The materials used for monolithic claddings are normally stucco, or EIFS (polystyrene) with a textured finish, or texture-coated fibre cement. Monolithic cladding systems were well insulated, relatively inexpensive to build and offered architects a wide choice of colours and textures. However, monolithic systems may not be weatherproof in exposed situations with wind driven rain, poor construction detailing, or no roof overhang (eaves). Houses in New Zealand are likely to move slightly over time from earthquakes, ground settlement and wind loadings. These factors can cause cracks in the outside walls also resulting in water intrusion into the structure.

During the 1990's many builders stopped using chemically treated framing timber and began to use kiln dried untreated framing timber. This factor compounded the damaging effects of water intrusion because once the water penetrates monolithic cladding the untreated pine framing timber can rapidly rot unless there is a cavity (drip gap) between the framing and the cladding. Rotting can endanger the structural integrity of the building. In addition there is a potential health hazard because toxic mould may grow in the damp environment. Fixing the problem can be complicated because when the framing timber is weakened, remediation is not just a matter of replacing the exterior cladding.

An increasing number of New Zealanders live in apartments, units, and town houses. This means that decisions about remediation may need to be taken by groups of owners rather than individuals. There are arguments about who benefits and who pays, who is to blame and who to sue.

In many respects the current situation in New Zealand, with respect to leaky buildings, mirrors the North American experience reported by Ricketts (1999). The main difference is

the North American problem was identified much earlier, particular in Canada. The Barrett (1998) report was commissioned by the British Columbia Government after major weather tightness problems were identified with condominiums in the Vancouver area. Barrett made 82 recommendations and many of these have been acted upon. A second report Barrett (2000) dealt with the issue of New Home Warranties. Ramsay (1999) outlined the establishment of the Home Owner Protection Office in British Columbia in evidence presented to the second Barrett inquiry. It is clear from the Canadian experience that resolving the weather tightness problem in buildings is a costly and very time consuming business. Problems first emerged in the wetter parts of Canada and are now spreading eastwards into housing situated in the drier prairie areas. Boel (2002) noted that some condominium owners were proactive in their approach to building repairs while others were less so.

In the USA similar leaky home problems have emerged in a number of states where there is more emphasis on consumers engaging in class action lawsuits against the large building supply manufacturing companies. Groups such as Homeowners Against Deficient Dwellings (HADD) (2000) maintain websites to help owners act with combined effort and provide consumer information. Schmitt (1998) describes a class lawsuit against the Louisiana-Pacific Corp, the manufacturer of an external cladding system experiencing weather tightness problems.

The Hunn report (2002a) identified a complex and systematic failure within parts of the New Zealand building industry that has resulted in what is now known as the leaky home syndrome, and Hunn (2002b) outlined additional recommendations to the Government. In response the New Zealand Government is in the process of re-regulating the building industry along similar lines to the British Columbia model.

The full extent of leaky home problems is difficult to define. Approximately 220,000 homes have been built in New Zealand over the last decade and around 35% to 40% of these have a monolithic cladding plaster finish. Consumer (2002) suggested some 75,000 to 90,000 homes could be at risk. This is probably an over-estimate because where the monolithic systems manufactures assembly recommendations have been adhered to there is much less risk of water intrusion. A large number of weather tightness problems have occurred in the Auckland region, especially associated with multi-unit speculative housing and very complex high cost single family homes.

The overall “cost to cure” leaky building syndrome is also difficult to measure. This involves quantifying the number of houses presently affected, those that might be affected in the future, assessing the cost of remediation on a case by case basis and dealing with owners who believe it is their best interests not to reveal the problem. According to the Hunn report the cost of repairing multi-unit houses alone was estimated at \$240 million dollars. This figure is probably very conservative and excluded single family homes, the largest housing type with leaky home problems.

Another important aspect about leaking home syndrome is its hidden nature within the walls of buildings. A lack of evidence of water intrusion at one inspection point does not guarantee no leaks further down the length of the timber framing. Therefore the extent of potential leaking problems and repair costs relies on the best estimates of contractors and engineers. The current generation of moisture metres used by building inspectors to measure dampness are intrusive and home owners do not appreciate having holes made in the interior walls. Technology may offer better solutions in the future if non-invasive medical imaging methods can be applied to measuring moisture differentials in the home.

Stigma Studies

Only a limited number of studies have examined the impact of leaky home stigma on residential property values. Kilpatrick, Brown and Rogers (1999) analysed the performance of exterior insulation finish systems (EIFS) on property values. They concluded that future maintenance costs and the impact of stigma must be considered when valuing EIFS properties. The said buyer perceptions of stigma relate to aspects such as diminished rents, increased vacancy rates, higher ongoing expenses for building maintenance and an increased capitalisation rate to cover risk.

Simons and Throupe (2003) researched the impact of toxic mould on property values in Seattle, Washington and Cleveland, Ohio. Their preliminary results indicated reductions in property value due to presence of toxic mould of 20-37% of the unimpaired value. They reported in some cases properties with toxic mould may be uninsurable and in extreme cases it may be better to demolish the building and start again.

Sanders (1996) considered the impact of post tension structure (PTS) on property values in Calgary, Canada. His research result showed that there was a loss in value from PTS stigma both before and after the repairs were undertaken. Evidence of PTS stigma extended to all properties built during the susceptible period in Calgary once the presence of PTS was known.

A wider review of the literature revealed the concept of stigma has received attention over the past decade in the academic literature on environmental issues. Sanders (1996) observed that the same market forces commonly affect properties damaged by structural or geotechnical problems and construction defects. Stigma is commonly described as;

“a residual loss even after completion of necessary repair as a result of increased risk or uncertainty regarding future events,” (Sanders, 1996, Arens, 1997, Syms, 1995 and Wilson, 1993). This reflects;

“the resistance of buyers to purchase a property that has been damaged or (where there remains a question about the adequacy of the repairs) market perceptions, the fear of future related issues arising, or simply the real or perceived trouble of owning a property with a history of being damaged” (Bell, 1997, p254).

There are various valuation approaches for studying the effect of stigma. It is generally agreed that case studies involving sales of previously damaged properties provide a reliable method of evaluating stigma, even if case study properties are not locationally or physically comparable to the subject (Patchin, 1994).

Arens (1997) examined the valuation approaches for defective properties. In his case study of contaminated sites, stigma (certainty/uncertainty) level was measured by the grid/matrix at 8% of the undamaged (before-condition) value. Patchin (1994) indicated a stigma effect on a contaminated site might be of the order of 21% to 69% of the unimpaired value.

One of interesting issues arising from previous studies is about the time specific nature of stigma. Some researchers believe that in certain instances any residual loss due to stigma will eventually disappear. They go on to argue because such a loss should be viewed as temporary, it should not subject to compensation. Among these researchers, Kiel and McClain (1996) examined house prices in a market surrounding a failed incinerator. Their results showed while proposing an incinerator did negatively initially impact on house values, prices

rebounded after the facility was cancelled and residents did not attach any long term stigma to the site.

Other researchers argue that market value is measured at a specific point of time, and the fact that a real loss has occurred is more important than the speculative presumption that the owner may eventually recover the full value of the property (Sanders, 1997). As both Wilson (1993) and Mundy (1992) point out, stigma is a perception problem, and public perceptions are often not logical, and most certainly, not easy to reverse.

In New Zealand, there is no published academic research on leaky home stigma however similar research on the effects of high voltage overhead electric transmission lines on the urban property was studied by Valuation Department (1984), in which it found that proximity to an electrical transmission line was generally associated with diminished selling prices. Callanan and Hargreaves (1995) further examined the effect of transmission lines on property values in the Wellington area using statistical analysis. They also found the stigma was attached to the properties close to the transmission lines and the effect diminished to a negligible amount after one hundred metres.

Research Objectives

The research objectives of this paper are as follows;

- 1) To investigate if there is a stigma attached to remediated residential properties.
- 2) To explore the reasons why leaky home stigma might exist.
- 3) To determine the loss in value from leaky home stigma.
- 4) To determine which residential property types are mostly affected by leaky home stigma.
- 5) To ascertain if leaky home stigma should be viewed as temporary.

Research Concept

The concept of stigma in relation to leaky homes is defined as a residual loss in value, after remediation, as a result of increased risk or uncertainty regarding future events.

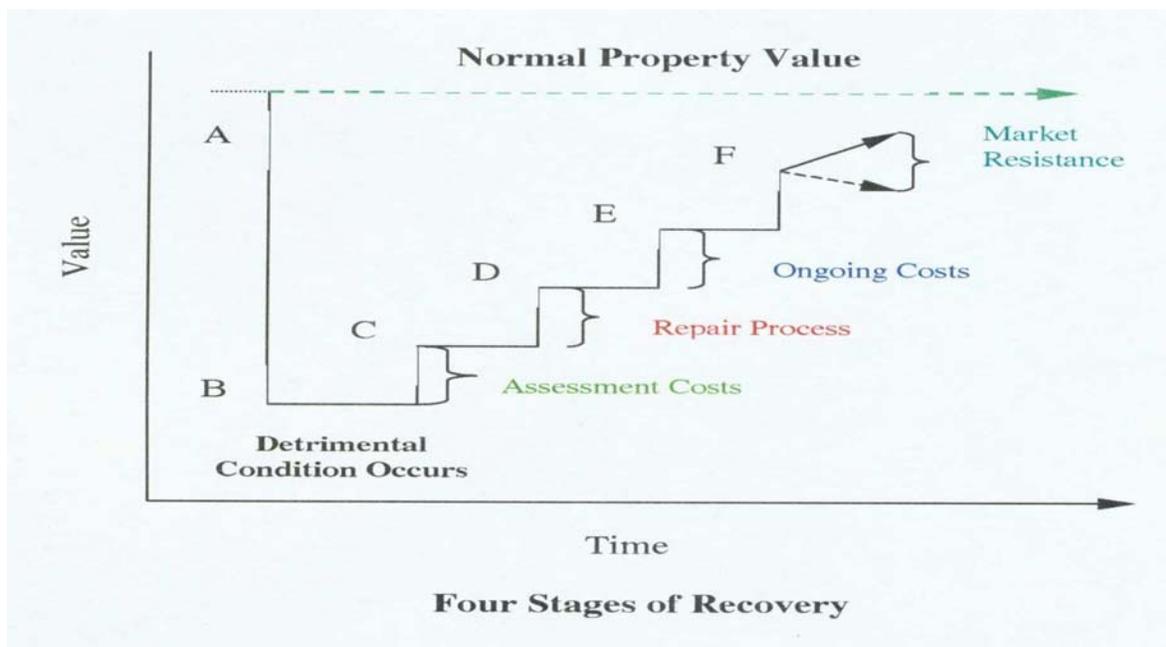
Stigma reflects the resistance of buyers to purchase a property that has been damaged and where there remains a question about the adequacy of the repairs, market perceptions, the fear of future related issues arising, or simply the real or perceived trouble of owning a property with a history of being damaged.

By definition, the conceptual framework of stigma is described as a “negative intangible” caused by:

- Fear of hidden remediation costs;
- The “trouble” factor associated with the work involved in remediation;
- The fear of public liability;
- The “trouble” factor associated with compensation;
- Ongoing expense for insurance, debt servicing, monitoring and repairing;
- Market considerations due to diminished price, increased marketing time, due diligence costs and health issues arising from toxic mould and dampness.

Value losses from leaky home syndrome may result from tangible (the cost-to-cure) and intangible market resistance (stigma). This is best illustrated by Bell’s (1997) *Four Stages of Recovery* theory for detrimental properties, also known as **Bell Chart** as replicated in Figure 1 below.

Figure 1



Bell noted that stigma might exist in each of the four recovery stages and be extremely difficult to quantify at the first three recovery stage. This study researched stigma impacts on property values only at the fourth recovery stage.

For the purposes of this research leaky home stigma was defined as;

“the value of a remediated leaky home as compared to a home with no history of leaky home syndrome”.

Research Hypothesis

The research hypothesis was that stigma would still exist after leaky homes had been remediated.

Research Methodology

Collection of Data

The mail questionnaire was sent to all public valuers, a sample of real estate sale persons and a small group of building consultants. This group was considered likely to have the most expertise regarding leaky home stigma and property values.

The mail survey was confined to New Zealand.

Analysis of Data

Information contained in the questionnaire was analysed with the aid of the Statistical Package for the Social Sciences (SPSS).

Questionnaire

A copy of the questionnaire and covering letter are contained in Appendix I.

The main purpose of the covering letter was to briefly introduce the researchers, the objectives of the research project and to encourage the recipients to complete the questionnaire and mail it back in the free post envelope. As an incentive to complete the questionnaire the researchers promised to email a summary of the results to the respondents.

The questionnaire comprised five sections as follows:

Part A: Background on Leaky Home Syndrome

The concept of monolithic cladding and the history of leaky home syndrome over the past decade was briefly reviewed.

Part B: Reasons Why Leaky Home Stigma Might Exist

The objective was to test the reasons why buyers might discount remediated leaky homes. Respondents answered on a five point Likert scale with the mid-point. (a score of 3) being a neutral position.

Part C: Scale and Extent of Stigma

This section was the most important part of this research and asked respondents to give their opinions about value loss in percentage terms.

Question 12 was designed to confirm the key question “is there a residual loss in value from leaky home stigma?”

Question 13 aimed to answer the question “if stigma exists, it occurs before the repairs are undertaken, after or both?”

Question 14 was designed to gauge the respondents perception regarding the question “which residential properties are mostly affected by leaky home stigma?”

Question 15 asked respondents to specify the percentage of value loss from leaky home stigma.

Part D: Additional Leaky Home Stigma Issues

This part explored some specific features of leaky home stigma. Included in this part were the time dimension, market movements, effects of media exposure and the impact of treated framing timber.

Part E: Demographic Profile

Question 21 recorded the respondents' experience with leaky home syndrome, question 22 occupations, question 23 years in current occupation, question 24 level of education and question 25 business location.

Analysis and Results

Part A: Response Rate

A total of 1,362 questionnaires were sent out on 7 August 2003 and by 15 September 2003, the date which the mail survey closed, the total number of returned questionnaires was 525. Among these 109 were returned because of a change of address or because the person did not have the required knowledge about leaky home stigma, leaving a balance of 416 valid questionnaires.

The overall response rate was 33.2%. This was a good response rate as this type of questionnaire often struggles to achieve a 20% response.

Part B: Demographic Profile

Q22. Current occupation

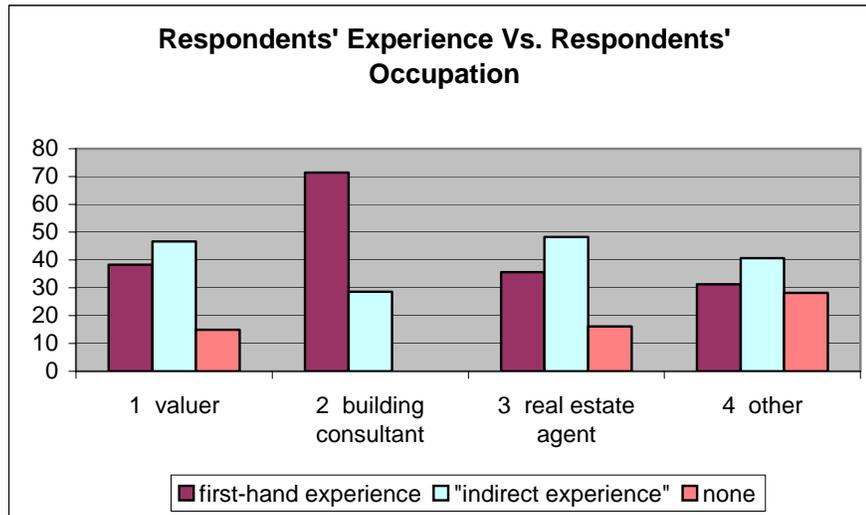
Two thirds of the respondents were valuers and one fifth real estate agents. Building consultants comprised 2 percent of the sample and the rest (8%), identified themselves as “others”. These were typically valuers who had moved into other property related professional careers.

Q21. Experience with leaky home syndrome

Among the respondents 38% reported first-hand experience with leaky home syndrome, 46% had indirect experience and 16% no experience.

Further analysis on the relationship between leaky building experience and occupation showed nearly the same distribution pattern between valuers and real estate sales persons and this is illustrated in Figure 2. With valuers 38% had first-hand experience and 47% indirect experience with real estate professionals 36% had first-hand experience and 48% indirect experience.

Figure 2



Q23. Years of current occupation

More than two thirds (71%) of the respondents had been employed in their current occupation over 10 years, 18% between 5-10 years with the balance less than 5 years. Overall the respondents were a very experienced group of property professionals.

Q24. Highest level of education

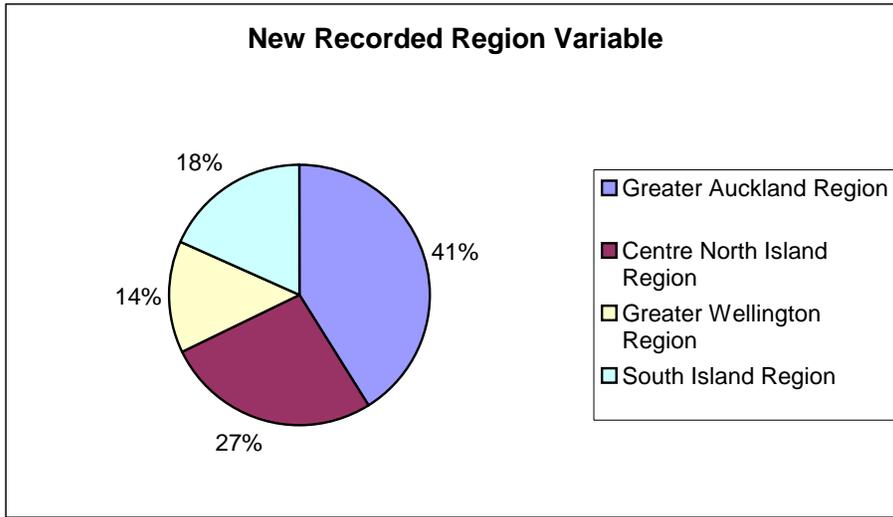
Respondents were asked to indicate their highest level of education. The majority, seven out of ten (69%, said they had university diploma or degree.

Q25. Region where respondents usually work

Respondents were asked where they usually work. The biggest grouping, 36% came from Auckland. This data was then reclassified in four groups as follows and graphed in Figure 3:

1. Greater Auckland Region
2. Centre North Island Region
3. Greater Wellington Region
4. South Island Region

Figure 3

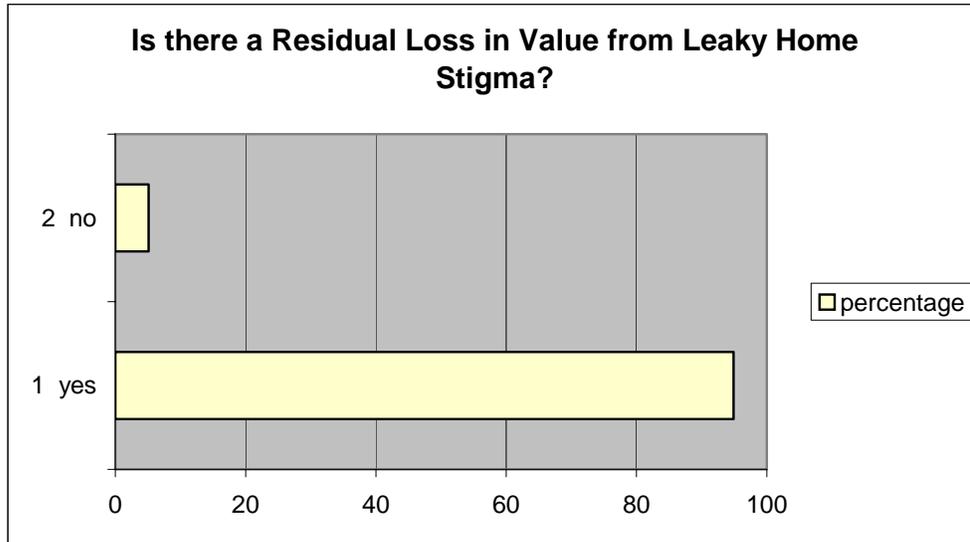


Part C: Analysis of Scale and Extent of Stigma

Q12. Is there a residual value loss from leaky home stigma?

The results for this question are summarised in Figure 4.

Figure 4

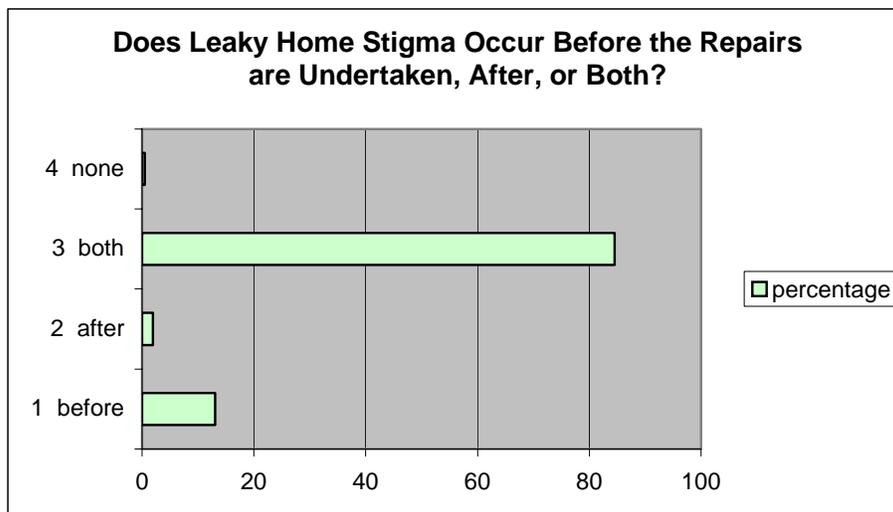


In this case 95% of respondents thought that there was a residual loss in value from leaky home stigma.

Q13. When does stigma occur?

Figure 5 summarises the results of this question.

Figure 5

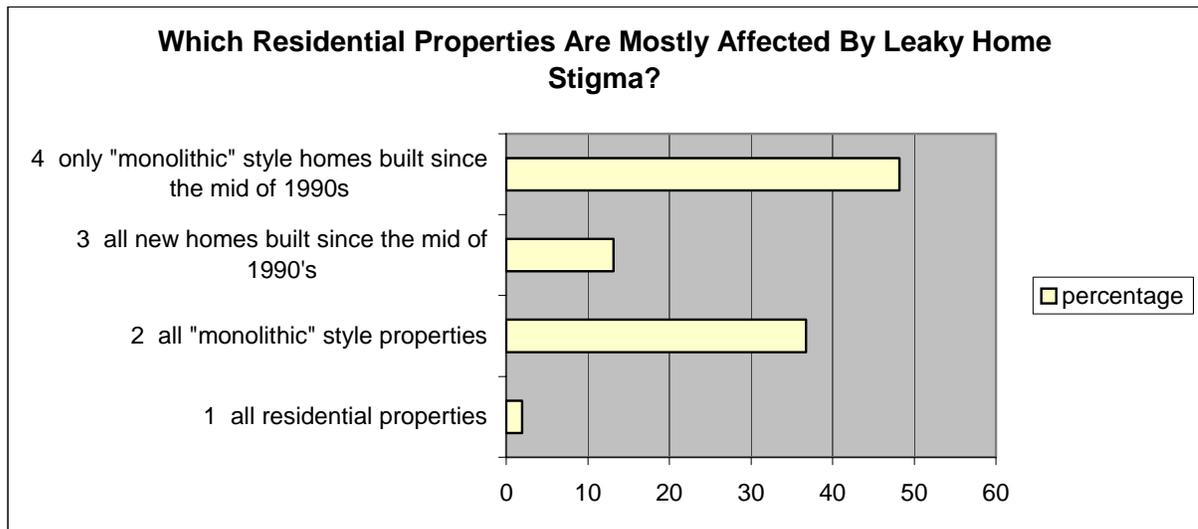


The vast majority (85%) said stigma occurred both before and after the repairs had been undertaken, while 13 % said it occurred before the repairs. Only 2 percent claimed it only occurred after the repairs.

Q14. Mostly affected residential property groups

Respondents were given four interrelated choices as shown in Figure 6.

Figure 6



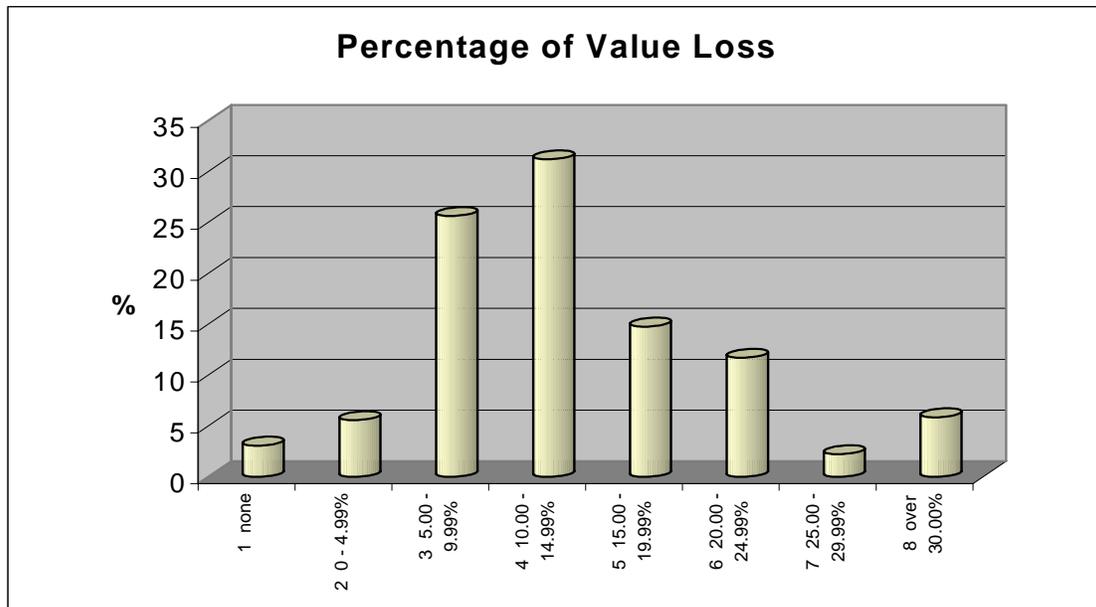
One third of the respondents (37%) said that leaky home stigma mostly affected “all monolithic style properties”, while half of the sample (48%) chose “only monolithic style homes built since the mid of 1990s. Of the balance 13% said it would mostly affect “all new homes built since the mid of 1990s and 2% claimed that it will affect “all residential properties”.

Monolithic style properties are considered to be the benchmark in identifying the leaky home stigma, particularly homes built since the mid of 1990s.

Q15. Percentage of value loss for a remediated leaky home?

This is probably the most important question and the results are shown in Figure 7.

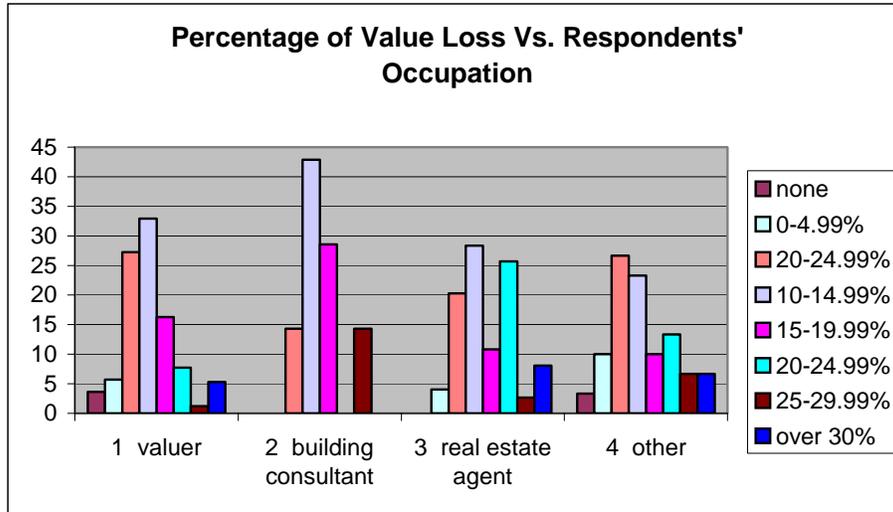
Figure 7



26% of respondents believed the percentage of value loss was 5%-9.99%, 31% chose 10%-14.99%, 15% said between 15%-19.99% and 12% said between 20%-24.99%. About 6% chose over 30% and the rest were spread thinly across a wide variety of other percentage groups.

Further analysis as detailed in Figure 8 shows some variation in response according to occupation. Among valuers 33% said value loss is 10%-15%, 27% chose 5%-10% and 8% chose 20%-25%. In contrast with valuers, 28 percent of real estate agents said 10%-15%, 20% chose 5%-10% and 26% said 20%-25%.

Figure 8



Valuers tend to place a lower estimate on stigma than real estate agents, with a mean of 4.07 as compared to a mean of 4.7 for real estate sale persons. The overall effect is illustrated as follows in Figure 9:

Figure 9

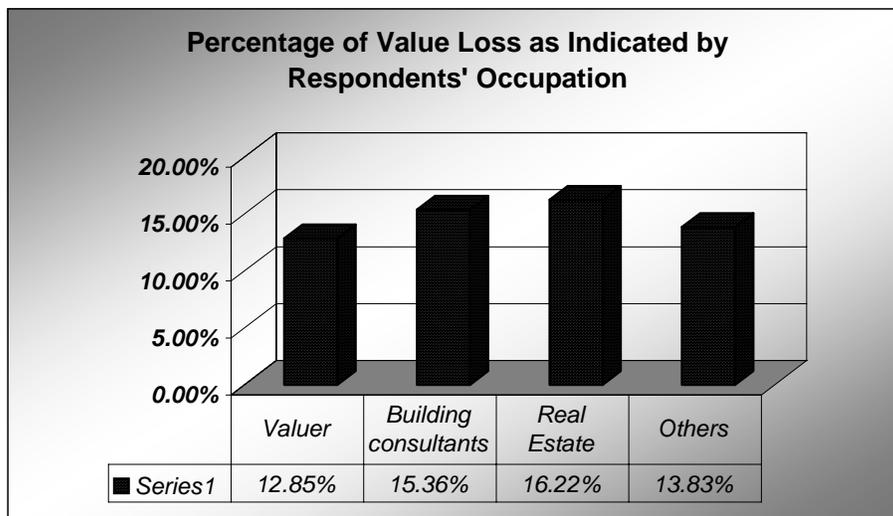
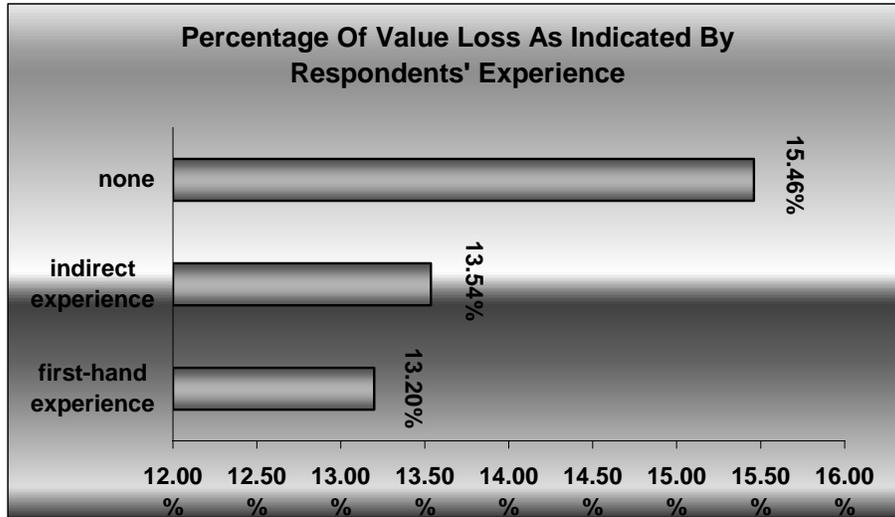


Figure 10 charts value loss according to the experience factor. Interestingly, respondents with first hand experience attribute a smaller percentage of loss through stigma than those with second hand or no experience.

Figure 10

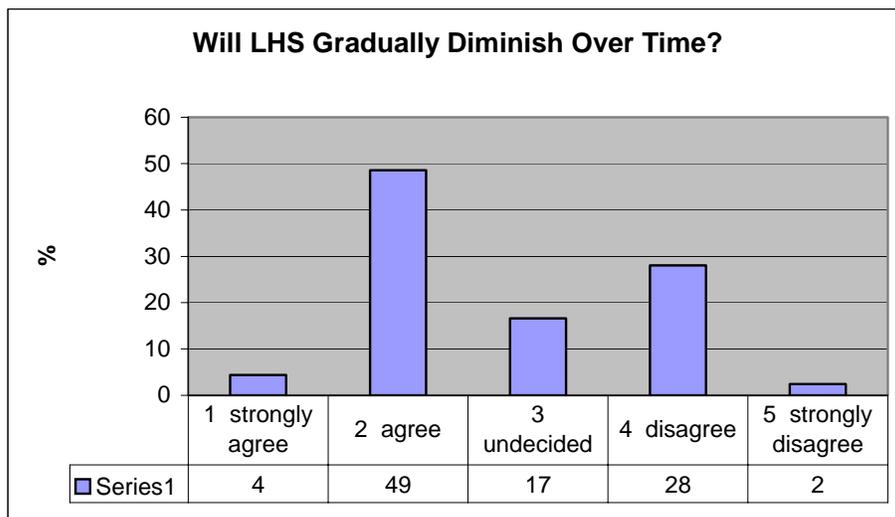


Part D: Analysis of Others Aspects of Stigma

Q16. Will leaky home stigma gradually diminish over time?

About half of the sample (53%) agreed with the statement, 30% disagreed and the rest 17% were undecided. These results are summarised in Figure 11.

Figure 11



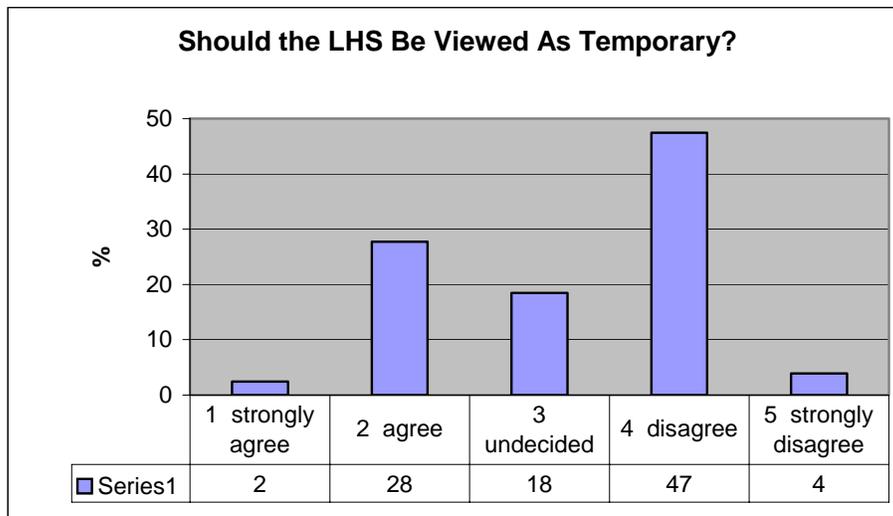
There was not much difference between valuers and real estate sale persons when answering this question

A significant difference was shown between those who had first-hand experience and indirect experience with leaky home stigma. The respondents with first-hand experience tended to choose either “agree” (38%) or “disagree” (35%) without much difference (with median of 3 and skewness of 0.049), while half of the people (51%) with indirect experience choose “agree” and only a fifth (19%) of those choose “disagree” (with median of 2 and skewness of 0.435), for the people with indirect experience median is 2 and skewness is 1.134:

Q17. Should the leaky home stigma be viewed as temporary?

It may seem odd that those who agree “leaky home stigma will gradually diminish over time” were less likely to support “stigma should be viewed as temporary” than those who do not – and vice versa – but that’s what the data indicated. Perhaps the stigma is thought to gradually diminish, but never diminish entirely. Figure 12 charts the responses to Q17.

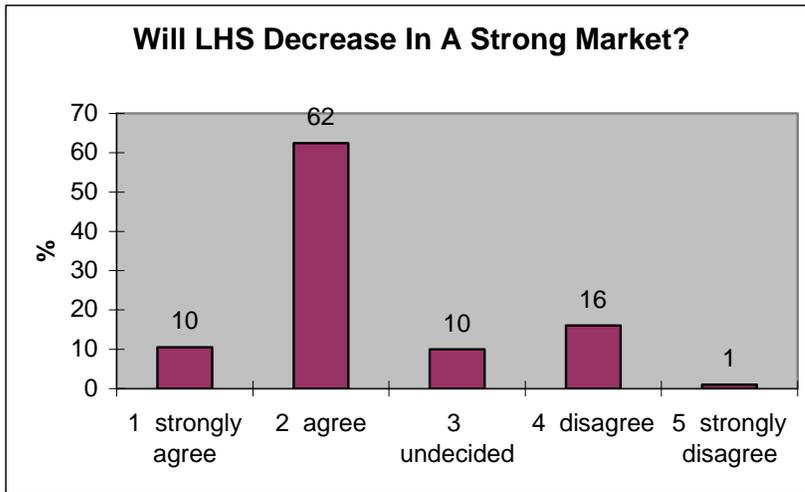
Figure 12



Q18. Will stigma decrease in a strong market where demand exceeds supply?

The majority (73%) chose “strongly agree” and “agree” when the two categories are combined leaving 10 percent “undecided”, another 17 percent “disagree” and only 1 percent “strongly disagree”. Figure 13 summarises this question.

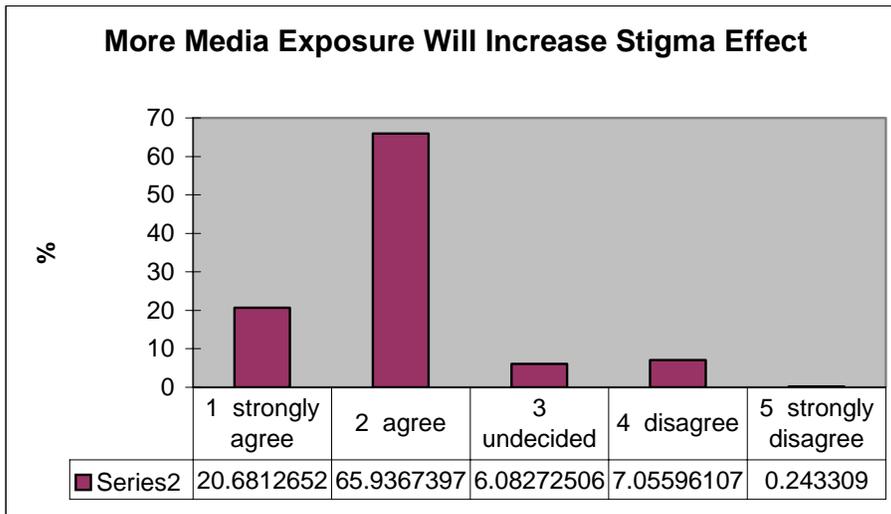
Figure 13



Q19. Will more media exposure or public awareness increase the percentage of residual loss in value due to leaky home stigma?

The vast of majority (87%) chose “strongly agree” and “agree” when the two categories are combined leaving 13 percent of “undecided” and “disagree”.

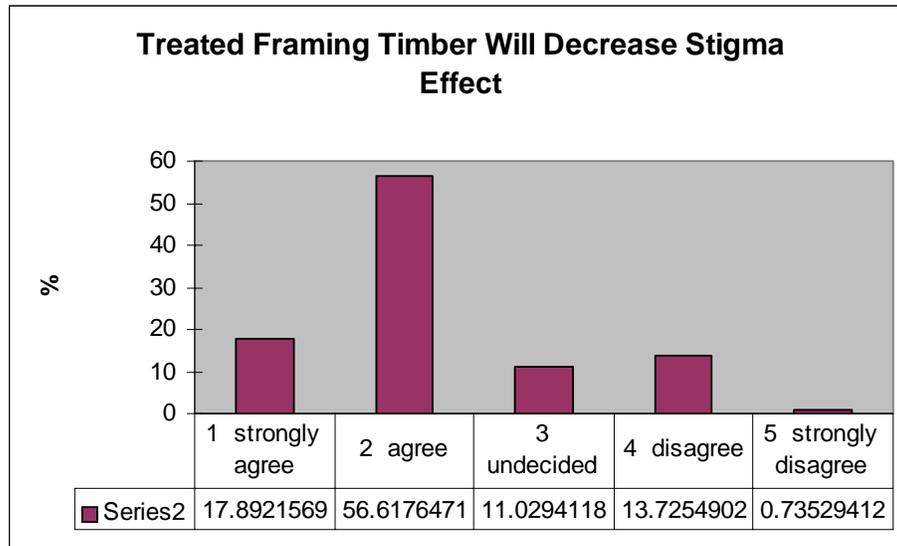
Figure 14



Q20. Will treated framing timber decrease the percentage of residual loss in value due to leaky home stigma as compared to homes framed with untreated radiata pine?

Three fourth of the sample (75%) in the study chose “strongly agree” and “agree” when the two categories are combined leaving 11 percent of “undecided” and 14 percent of “disagree”. Figure 15 illustrates this data.

Figure 15



Of those who have first-hand experience only 67% agreed, contrasted to 77% of those who have indirect experience and 83% of those who have no experience agreed.

Summary and Conclusions

Many valuers, real estate sale persons and building consultants are dealing with leaky building syndrome as part of their every day work. Their opinions on the extent of leaky home stigma should accurately reflect the real estate market. Ideally the results from this survey should be verified against a sales database; however, at this stage there are very few sales of remediated homes. Also difficulties exist in identifying leaky homes because the sellers tend to be secretive about disclosing leaky problems due to worries about the stigma that may attach to the house.

This research has shown quite conclusively that the property professionals surveyed believe a residual stigma exists after a leaky home has been remediated. The most frequent group of responses suggest this stigma is in the range of 10%-15% of value.

Stigma is a moving target in the sense that it is likely to reduce in overheated property markets, increase when buyers have more market leverage and gradually diminish over time as buyers regain confidence in remediated homes and the housing designs most at 'risk of leaking'.

Future research into leaky home stigma will concentrate on using contingent valuation methodology to assess the attitude of homebuyers and obtaining more information from actual transactions of remediated homes.

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Appendix I:

Covering Letter

4 August 2003

Hello

My name is Song Shi. I am currently studying extramurally towards a Master of Business (MBS) from Massey University. As part of my postgraduate studies I am undertaking research into perceptions regarding Leaky Home Syndrome. I would be grateful if you, as a property professional, would assist me with this task by completing the attached questionnaire.

The objective of this research is to explore the stigma effect of leaky home syndrome. To investigate if there is a market resistance attached to residential properties built since the mid 1990's. Moreover to establish valuation guidance for practitioners on possible decreases in property value due to a stigma effect.

The questionnaire has only been sent to the professionals who might have first-hand or indirect experience with leaky home syndrome. I really appreciate your help with this project. Your opinion is valued. **The questionnaire will take about 15 minutes of your time to complete.**

The research is conducted under the supervision of Professor Bob Hargreaves from Massey University Property Studies and the results are intended for academic study and dissemination to the property industry.

Massey University and I will undertake to maintain the confidentiality and anonymity of your responses at all times. As a small 'thank you' I will be happy to supply you with an executive summary of the final report. If you want to receive this please include your e-mail address on the last page of the questionnaire.

Please take the time now to complete the questionnaire and mail it back to me in the free post envelope that has been provided.

Yours sincerely



Song Shi
BBS (Valuation & Property Management)
BE (Civil Engineering)

Questionnaire

Questionnaire on Leaky Home Stigma

Part A: Background on Leaky Home Syndrome

In New Zealand, during the period from the mid 1990's to now, the use of monolithic cladding became popular.

According to Building Research Association of New Zealand (BRANZ) the **monolithic cladding is defined as** "claddings with the appearance of unbroken wall surface like traditional plastered masonry" (BRANZ Seminar Series 2001). It assumes that moisture will not penetrate to the substructure and relies on face sealing. The material is often confused with traditional stucco, which is similar in appearance. However traditional stucco application anticipates water penetration and uses building paper or other flashing behind the wall surface to carry water down and out of the bottom of the wall.

However, in practice the monolithic cladding system may not be weatherproof in exposed situations, and water may penetrate at the edges of wall openings, where there is poor construction detailing and where the building has no eaves or limited overhang. Once the water penetrates through, the untreated framing timber can rapidly rot and endanger the structural integrity of the building. In addition there might be a health hazard because toxic mould may grow in the damp environment. In 2002, The Hunn report (2002) identified a complex and systematic failure within parts of the New Zealand building industry that has resulted in what is now known as the **leaky home syndrome**.

Part B: Reasons Why Leaky Home Stigma Might Exist

Stigma is defined as a residual loss even after remediation (completion of necessary repairs) as a result of increased risk or uncertainty regarding future events. In this section, we have listed a number of factors that people might expect regarding leaky home stigma. We are asking you to indicate how important each of these is to you.

In completing this section, try to think of those factors which would be important to you when appraising a **remediated leaky home** as judged by your experience and knowledge; disregard the extent to which they are contained in some extreme cases.

Please answer these questions by indicating the priority that you place on them.

- 1 very important
- 2 moderate importance
- 3 neither important nor unimportant
- 4 little importance
- 5 not important

Future Ongoing Expense Considerations (with respect to remediated leaky homes as compared to homes with no history of leaky home syndrome)

Please tick the most appropriate box.

1. Banks are less likely to lend on homes where there is a history of leaky home syndrome?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

2. Debt servicing costs with remediated homes are going to be higher where there is a history of leaky home syndrome?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

3. Insurance costs are going to be higher where there is a history of leaky home syndrome?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

4. Future remediation work may be required if the original repairs were not up to standard?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

5. Weathertightness consultants will add to the costs of monitoring leaky home syndrome?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

Future Market Considerations(with respect to remediated leaky homes as compared to homes with no history of leaky home syndrome)

6. Marketing time with remediated leaky homes is going to be longer as compared to homes with no history of leaky home syndrome?

- | | |
|--|--|
| <input type="checkbox"/> very important | <input type="checkbox"/> little importance |
| <input type="checkbox"/> moderate importance | <input type="checkbox"/> not important |
| <input type="checkbox"/> neither important nor unimportant | |

13. Does leaky home syndrome stigma occur before the repairs are undertaken, after, or both?

- Before
- After
- Both
- None

14. Which residential properties are mostly affected by leaky home syndrome stigma?

- All residential properties
- All “monolithic” style properties
- All new homes built since the mid of 1990s
- Only “monolithic” style homes built since the mid of 1990s.

Please note the “Monolithic” style home is referring to the building, with the appearance of unbroken wall surface like traditional plastered masonry and has no eaves or limited overhang. This does not include traditional stucco style, Spanish bungalow style homes.

15. What percentage of value is lost with respect to remediated leaky homes as compared to homes with no history of leaky home syndrome, if stigma exists?

- None
- 0 - 4.99%
- 5.00 - 9.99%
- 10.00% - 14.99%
- 15.00% - 19.99%
- 20.00% - 24.99%
- 25.00% - 29.99%
- Over 30%

Part D: Additional Leaky Home Stigma Issues

Please answer these questions by indicating the level of agreement you have with them. (please tick the most appropriate box).

- 1 Strongly agree
- 2 Agree
- 3 Undecided
- 4 Disagree
- 5 Strongly disagree

16. Leaky home stigma will gradually diminish over time?

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

17. The residual loss in value due to leaky home stigma should be viewed as temporary?

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

18. In a strong market where demand exceeds supply, the percentage of residual loss in value due to leaky home stigma will decrease?

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

19. More media exposure or public awareness will increase the percentage of residual loss in value due to leaky home stigma?

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

20. Treated framing timber will decrease the percentage of residual loss in value due to leaky home stigma as compared to homes framed with untreated radiata pine?

- Strongly agree
- Agree
- Undecided
- Disagree
- Strongly disagree

Part E: Background Questions

What follows are some background questions that will enable us to compare your responses with those of other people. *(Please tick the most appropriate box).*

21. Have you had first-hand or indirect experience with leaky home syndrome?

- First-hand experience
- Indirect experience
- None

22. What is your current occupation?

- Valuer
- Building consultant
- Real estate agent
- Other
(Please specify)_____

23. How long have you been employed in your current occupation?

- Less than 1 year
- 1-4.99 years
- 5-10 years
- Over 10 years

24. What is the highest level of your education?

- High school
- University Diploma
- University Undergraduate Degree
- University Postgraduate Degree
- PhD
- Other
(Please specify)_____

25. Please indicate the region where you usually work?

- Northland
- Auckland
- Waikato
- Bay of Plenty
- Gisborne
- Hawke's Bay
- Taranaki
- Wanganui
- Manawatu
- Wairarapa
- Wellington
- Nelson & Bays
- Marlborough
- West Coast
- Canterbury
- Timaru/Oamaru
- Otago
- Southland
-

Please supply your e-mail address if you wish to receive an e-mail copy of the summarised results from this questionnaire

My email address is _____

Thank you for your time and participation.

Please place the completed questionnaire in the enclosed freepost envelope.