Ground Leaseholders' Perception of Rent Review Risk: The Impact of the Availability Heuristic.

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Abstract

The aim of this thesis is to explore the adequacy of investor perception of market ground rent review risk, on ground leasehold value. Ground rent levels are a function of freehold value levels, so if at the time of review there have been freehold price increases, it follows that ground rents will increase. Increased ground rent at rent review time, will lead to lower ground leasehold value, as the cost obligations increase for the ground leasehold. Reports of ground leaseholder discontent with ground rents are therefore not surprising, however the literature to date does not appear to robustly explain how individuals anticipate and quantify this risk when making ground leasehold purchase decisions. Investigating if behavioural theory explains the relationship between a ground rent review and a ground leasehold purchase is undertaken. The objective is to determine if the ground leasehold tenure type is flawed by not being appropriately designed to account for ground leaseholder thinking.

In order to form a hypothesis for testing, twenty-five semi-structured interviews with ground leaseholders were carried out. The semi-structured interviews pointed to ground leaseholders linking freehold and ground leasehold value increases together, not considering that the ground rent increases reduce the ground leasehold value, especially at rent review time. This incorrect correlation of freehold value growth to ground leasehold value growth, suggests that ground leaseholders are susceptible to the availability heuristic. In order to robustly test the application of the availability heuristic, experimental scenarios were put to forty property investors. The investors either completed a scenario with freehold growth as a manifestation of the availability heuristic (treatment), or not (control). The results showed that there was a statistical difference between the treatment and control groups, and in the posited direction, indicating that the availability heuristic explains the ground leasehold valuation behaviours of investors.

These results are important because they show that knowledgeable market participants, in this case property investors, are not fully accounting for the ground leasehold rent review risk. Ground leaseholder concerns about ground rent review levels aired in the semi-structured interviews are genuine. The ground leasehold rent review procedures are not designed to account for ground leaseholders thinking and the tenure form accordingly requires revision where possible.

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Chapter One Introduction

Ground leaseholds in the New Zealand context have some special characteristics. This chapter provides a description of ground leaseholds in New Zealand and discusses what gives ground leaseholds value. Further explained is the motivation for this thesis, together with a brief summary of the behavioural literature that was initially thought to explain ground leasehold problems. An overview of the thesis structure completes this chapter.

1.1 What is a ground leasehold and an overview of ground leaseholds in New Zealand

When people purchase a ground leasehold they need to account for the risks, particularly a ground rent review. The New Zealand experience with ground leaseholds tends to be notable for dispute over ground rent reviews between ground leaseholder and the lessor (Lusk, 1993; Sawyer, 2015). Accordingly, the decision-making process of ground leaseholders is examined to determine if it is sub-optimal. Before the nature of the ground leasehold problems are explored, explanation of the ground leasehold tenure form in the New Zealand context is undertaken.

Ground leaseholds are notably different to freeholds, because the ground leasehold title is effectively derived from the freehold title. By derived, we mean the freehold rights are split between the lessor (owner of the land) and the ground leaseholder (lessee), who usually owns the improvements. Sometimes, the ground leaseholder does not own the improvements, only having occupancy rights until lease expiry. In summary, the ground leasehold usually comes from a freehold title form, with rights and responsibilities allocated between the ground leaseholder and the lessor.

Ground leases can have many differences. In return for exclusive occupation rights, the ground leaseholder pays ground rent to the lessor. Rent reviews are commonly carried out every 7, 14 or 21 years (Freeman, 1993). Ground rent review periods are not always whole divisors of the lease length and not all ground leases are perpetually renewable. Common practice is for ground rents to be set by market forces, either by a percentage of the freehold land value, explicitly stated in the lease, or implied by comparable market land rent transactions where no ground rent percentage is specified. Paucities of land rent transactions mean the percentage of land value method is most frequently used. If a ground rent percentage is not specified in the lease however, there can be differences in interpretation of the correct ground rent percentages, potentially leading to arbitrations or legal dispute. However, there does tend to be a range of ground rent percentages that reflect the market rent levels.

New Zealand ground leases can be different in characteristic to ground leases encountered in other countries. The New Zealand ground lease tenure system derives from early ground leaseholds in the United Kingdom used by religious and other institutions (Jackson, 1999). The initial motivation for use in New Zealand stemmed from the need to generate income for religious and municipal organisations. Although the 21-year term can be traced to the United Kingdom, the perpetual right of renewal clause appears to have formed independently in early New Zealand (Jackson, 1999). New Zealand ground leaseholds have therefore taken on their own characteristics, since their adoption form the United Kingdom.

Ground leaseholds are valuable and confer three benefits to the ground leaseholder. The first is the improvements, principally the house in a residential context, or the right to occupy the house depending on the ground lease wording. A lower than market ground rent lasting until the ground rent review can also create value. Lastly there is the residual ground lease rights, especially the perpetual right of ground lease renewal. The latter two can be considered as ground leaseholder rights in the land. Given that ground leaseholds have less rights than freeholds, they tend to sell for lower prices. Commonly the purchase of a ground leasehold is incentivised with a lower purchase price than a freehold property. A crude illustration from the Real Estate Institute of New Zealand (2015) sales data shows, in three sample streets in Greenlane, Auckland a mean $290,000 ground leasehold sale price for land and improvements compared to a mean $1,547,950 freehold sale price for land and improvements. To summarise, ground leaseholds tend to sell for less and are a more complex title form, to the more common freehold title. Clearly those who purchase a ground leasehold need to be very careful to ensure they fully understand the ground leasehold value components.

The ground leasehold legislative framework in New Zealand is characterised by a number of different Acts. The most common New Zealand piece of legislation applying to ground leasehold is the Public Bodies Leasing Act 1969. There is also the Māori Reserved Land Amendment Act 1997. Furthermore, there is no central government agency administering or assisting ground leaseholders. In England, for example, a government body provides advice for residential leaseholders (Ministry of Housing Communities & Local Government, 2018). Overall, the New Zealand ground leasehold market is typified by differing ground lease types, lessor owners and a variety of differing legislative frameworks.

Ground leaseholds are not a common title form in New Zealand. Consequently, an overview of the market in New Zealand provides an understanding of the extent of their place in the market. Table 1.1 compares ground leasehold title numbers to other title types in New Zealand.

Table 1.1 Proportion of ground leaseholds compared to freehold and other title types

This table shows that freeholds are by far the most common title form. Those that are neither freehold nor leasehold, include life estates, cross lease titles, unit titles and timeshare titles amongst others. Cross leases are a specific New Zealand form of title for subdivided land, while unit or strata titles provide for individual ownership where there is common property.

Title type	Number	(%)
Freehold	1721037	79.9%
Ground Leasehold	29602	1.4%
All types	2153254	100%

Adapted from Land Information New Zealand data as at February 2015

Ground leaseholds are a relatively uncommon title form, although their presence occurs throughout New Zealand. Information indicating the distribution of ground leaseholds throughout New Zealand is displayed in Table 1.2 following.

Table 1.2 Residential leasehold and all other residential sale numbers in different regions of New Zealand from 1 January 2005 to 1 January 2015

Table 1.2 shows the distribution of ground leasehold sales throughout New Zealand. All categories include freehold, ground leasehold, unit titles and cross lease titles. Ground leaseholds are shown as the number of sales, then as a percentage of all sales (%). Ground leasehold properties are located evenly across New Zealand, with the Hawkes Bay having the greater proportion of sales and Auckland having the most sales.

District	All categories	Ground leasehold	%
Auckland	369,730	2,399	0.65
Bay of Plenty	68,567	208	0.30
Canterbury	151,012	439	0.29
Gisborne	7,251	16	0.22
Hawkes Bay	34,717	727	2.09
Manawatu- Whanganui	54,976	150	0.27
Marlborough	14,720	79	0.54
Nelson	15,110	118	0.78
Northland	35,832	109	0.30
Otago	64,620	331	0.51
Southland	27,140	214	0.79
Taranaki	27,996	417	1.49
Tasman	8,854	176	1.99
Waikato	101,837	453	0.44
Wellington	113,187	216	0.19
West Coast	8,474	153	1.81
New Zealand total	1,104,023	6,205	0.56

Adapted from Real Estate Institute of New Zealand (REINZ) data

The ground leasehold tenure form is therefore not isolated to one particular part of New Zealand, with investigation of ground leaseholds of relevance to New Zealand as a whole. At an overall rate of 0.56% of REINZ sourced sales, ground leaseholds trade less frequently than the number of ground leasehold titles at 1.4% (Land Information New Zealand, 2015).

In summary, ground leaseholds are an uncommon form of tenure and have variations in lease clauses, such as differing rent review periods. There is no central government agency tasked with ensuring ground leaseholders are fully informed as to their rights and responsibilities. With the lesser property rights, they tend to be viewed as less expensive but a more complex alternative to freeholds.

1.2 Thesis rationale and theory background

This subsection discusses the need for research on ground leaseholds in New Zealand and identifies why the risks associated with rent reviews in particular, are serious. The literature is then briefly introduced, outlining the behavioural economics field and other theory which may offer a way of examining ground leasehold problems.

The task of purchasing a ground leasehold is a complex one. Ground leaseholds have the usual hedonic factors, such as house age, number of bathrooms, location, size and other factors such as local school reputation to be considered (Sirmans, David, & Emily, 2005). Additionally, there are the ground leasehold value components, such as benefit rent, that purchasers must consider, when making their purchase decisions. The benefit rent, also known as the profit rent, is the difference between the current ground rent paid and what the ground rent would be if reviewed. It is not surprising that there have been various news articles featuring ground leaseholders, who express surprise at their reviewed

ground rents. News articles are not a robust way of justifying a research project; nevertheless, they can pique the interest of the attentive researcher. Case and Shiller (2003) provide such an example of how an article inspired their important housing market bubble survey. However, a more robust form of justification is sought.

Government reports have outlined ground leaseholder difficulty in New Zealand (Lusk, 1993; Myers, 1948). There is a long history of problems with unforeseen ground rent review levels adversely impacting the ground leaseholder. A Royal Commission investigated ground rent fairness for West Coast settlement reserve leases (Myers, 1948). Similar observations of the erosion of ground leasehold value were made by the ministerial inquiry conducted by Lusk (1993) into perpetually renewable Auckland residential ground leaseholds. In particular Lusk (1993) makes the following comments on ground leasehold valuations:

> Almost without exception the valuers, lawyers, real estate agents, and the leasing authorities themselves, ascribe much of the blame for present lessees' dissatisfaction, on their having paid far more for their leasehold interest than it was worth, often to the point of paying freehold prices. This is particularly true of those who purchased in the 1980's. Much of their equity is now gone or is threatened (p.60).

Sawyer (2015) outlines ground leasehold concerns in her paper of legal perspective. Sawyer (2015) also refers specifically to ground leasehold value loss because there can be misunderstanding of the freehold value to ground leasehold value relationship. Sawyer's (2015) paper covers case law, particularly the Cornwall Park Trust Board Inc. v Chen [2014] NZHC 2465.

Of common note in the work of Lusk (1993); Myers (1948) and Sawyer (2015) is the detailing of ground leaseholder objection to increased ground rent review levels. The recorded concerns of ground leaseholders at a newly set ground rent is not surprising. For example, those ground leaseholder submitters to the Lusk enquiry had an obvious motivation to make submissions, namely to secure lower ground rents. Accordingly, in addition to the government reports, justification of ground leasehold problems is in reference to forced (mortgagee) sales transaction data. Mortgagee sales are an unfortunate circumstance, where the property owner has not kept up with mortgage payments, with their bank instructing the sale of the property. Further supporting the need for ground leasehold research however, is a greater prevalence of ground leasehold mortgagee (forced) sales. Table 1.3, indicates the proportion of ground leasehold mortgagee sales.

Table 1.3 Leasehold mortgagee sales compared to other mortgagee property listing numbers

Table 1.3 shows that from June 2005 to April 2015, there were a total of 8,183 mortgagee listings, 7,735 of which were for residential property. Of the residential mortgagee listings, 298 properties or 3.85% were identified as leasehold or lease hold mortgagee sale listings. The difference between "leasehold" or "lease hold," reflects the variation in wording encountered in different real estate advertisements. The data source, trademe is an online trading site similar in concept to eBay where people commonly search for property. The data base may not include all sales, such as private sales that were not advertised, however trademe captures most properties for sale and is therefore a good indicator of the proportions of mortgagee sales.

Listing description	Number of listings
Mortgagee	8,183
Leasehold or lease hold and mortgagee	326
Residential mortgagee	7,735
Residential Leasehold or lease hold and mortgagee	298

Adapted from trademe New Zealand data from June 2005 to April 2015

Although ground leaseholds comprise approximately 1.4% of total properties, according to Land Information New Zealand (2015) they sell less frequently compared to other residential property at 0.56% of total sales (Real Estate Institute of New Zealand, 2015). Despite selling less frequently in normal circumstances, the trademe data show they make up 3.85% of residential mortgagee sale listings (trademe Property, 2015). Given the mortgagee sales statistics and the work of Lusk (1993); Myers (1948) and Sawyer (2015) further understanding of the nature and extent of ground leasehold problems is justified.

With the ground rent review risks appearing to not be taken adequately into account by ground leaseholders when purchasing, the cause of the issue becomes a focus. A possible explanation could lie within the behavioural economics literature. Economic behaviour that is not consistent with rational economic theory, has drawn considerable academic attention. The foundations of this research are often attributed to the work of Simon (1955) who explains that people are susceptible to making decisions in a bounded rational way. That is, people are limited by their cognitive abilities and the information they possess.

Operationalisation of Simon's (1955) bounded rationality theory has been attributed to others. The work of Tversky and Kahneman in particular, has been credited with illuminating the field of behavioural economics, with experimental methodology showing a range of irrational behaviours people are prone to making. A summary of Tversky and Kahneman's work is provided in the paper by Kahneman (2003) entitled "Maps of bounded rationality: Psychology for behavioural economics" and additionally in the book "Thinking fast and slow"(Kahneman, 2011). An example of Tversky and Kahneman's work relates to how people make decisions that are anchored to a prior price level before they estimate a quantity. An asking price used by a real estate agent is a typical example of the

anchoring heuristic, to influence purchasers (Kahneman, 2011). Tversky and Kahneman are not the only contributors to the behavioural economics field. Richard Thaler, the 2017 Nobel Laureate in economics, is also a famous scholar contributing much to behavioural economics (Barberis, 2018). The behavioural economics field has offered explanation of many phenomena, however, consideration of the property research context is required.

The work of Tversky and Kahneman, in particular, has been applied to property phenomena. Experiments have been applied to property contexts, where there is a hypothesis for behaviour to deviate from normative expectations. Some property examples where the experimental method has been applied to anchoring theory include papers by Diaz and Hansz (2001), Hansz and Diaz (2001) , Havard (2001) and Jin and Gallimore (2010). Anchoring is when decision making is influenced by information, such as an asking price, that may not be rational to rely upon. The experimental method allows testing of a hypothesis between two or more participant groups, making it a useful way of testing a research hypothesis. However, consideration of which theory should be applied in this ground leasehold context, requires careful consideration, because there are different theories that could explain the behavioural phenomena.

The ground leasehold is a different asset to the more common freehold property, therefore a careful consideration of the theory application is required. Initially it was thought two competing theories would explain the problems relating to ground rent reviews. Firstly, the availability heuristic of Tversky and Kahneman (1973) was considered. The availability heuristic is employed when people recall a similar occurrence, to judge the future likelihood of an event. In the case of a ground leasehold, the thought of freehold growth could be the manifestation of the availability heuristic mechanism. The ground leasehold purchasers can think that the cost of their ground leasehold will increase in value as with freehold properties, without fully considering that the freehold increases will increase their ground rent.

Secondly, the asymmetric information theory of Akerlof (1970) could explain the ground leasehold problems. Lessors may have access to more relevant information than the ground leaseholders. Without that relevant information the ground leaseholders may therefore, make sub-optimal decisions when considering ground rent reviews. This could explain the number of ground leasehold mortgagee sales (trademe Property, 2015) and other adverse reports regarding ground leaseholds.

The dilemma of which theory to apply is considered further in the chapter covering the review of the literature and in particular the methodology chapter. Clearly the application of the most relevant theory is important and requires careful weighing of the literature with an appropriate methodology to best capture the essence of the ground leasehold phenomena. To assist in this, semi-structured interviews with ground leaseholders are used to better understand ground leaseholds and the theory explanation. What is clear is that ground leaseholds are interesting due to how people interpret ground rent reviews.

1.3 Organisation of the thesis

This chapter explains the New Zealand context of ground leaseholds and consequent ground rent review issues that motivate the need for this thesis. Chapter two brings together the behavioural and ground leasehold literature. Differing theories including rational behaviour, the availability heuristic (Tversky & Kahneman, 1973) and asymmetric information (Akerlof, 1970) could explain the ground leasehold rent review phenomena. Additionally, Chapter Two, clarifies the ground leasehold value components and how ground leasehold value can change between ground rent review periods.

The methodology is contained in Chapter Three, which explains the researcher philosophy and mixed methods research framework. Two different methods are used to better understand ground leaseholds. Firstly, given the limitations of the existing ground leasehold literature regarding theory explanation, semi-structured interviews with ground leaseholder subjects were used to identify if they were experiencing problems, what type of problems they were and the likely theory explanation. Then, the experimental method is described, completing the methodology section. The results of both the semi-structured interviews and experiment are contained in Chapter Four, while Chapter Five contains a discussion of both sets of results. Chapter Six provides the thesis conclusions, contributions to the literature and recommendations. Finally, the references and appendices containing the semi-structured interview questions together with the experimental scenarios complete the thesis.

Chapter Two : Literature Review

Ground leaseholds in New Zealand have tended to be problematic for the ground leaseholder and to illustrate Lusk (1993) outlines many of the issues. One notable issue is the misunderstanding of the market risk of freehold value growth on reviewed ground rents. The behaviour of market participants in terms of the availability heuristic (Tversky & Kahneman, 1973) or an information asymmetry problem, (Akerlof, 1970) were both initially suspected as providing plausible explanations of the leaseholder behaviours. The ground leasehold literature in New Zealand, has not focused on the behaviours of individual ground leaseholders. Therefore, this thesis firstly considers the more general behavioural-based economic theory from which the property behavioural literature draws upon. Rational economic theory, the alternative to behavioural economic theory, is then discussed because rational economic behaviour is a standard assumption behind many studies. Information asymmetry is then considered as an explanation of ground leaseholder behaviours. The idea that ground leaseholders are disadvantaged through an information disadvantage to the ground lessor, is a possible explanation that warrants examination. The focus then turns to the behavioural property literature, which shows how market behaviours have been studied, using common behavioural methodology in a property context.

After the possible theory explanations of behaviour are considered, the ground leasehold literature is outlined. Ground leaseholds can be a subject for different research areas, such as accommodation or investment perspectives. Additionally, differences in ground leaseholds internationally are considered because New Zealand ground leaseholds are often quite different in the way the ground lease document is drafted. These contractual differences, especially around the ground leasehold rent

review clause, mean the behavioural focus is relevant to the full investigation of the ground leaseholder perspective.

2.1 Behavioural economics literature

The application of an appropriate theory requires consideration of the roots of the behavioural theory that is applied in a property research context. It is important to note that the property discipline is not unique in the application of behavioural theory to important research questions. As the economics literature has developed over the years, there has been increased scrutiny of the conventional economic decision-making wisdom. Questioning the universal applicability of standard rational economic theory has become commonplace for a number of years now, for example see Jensen (1978). The blending of psychology and economics has gained considerable momentum amongst researchers who see alternative ways of answering questions. Behavioural economics can show that in certain circumstances, some of these theoretical assumptions do not fully explain certain economic behaviours.

Behavioural research itself draws from broad sources. Baddeley (2012) for example, traces strands of influence from economists such as Keynes through to psychologists such as Freud. The goal here is not to detail all of this literature, but rather to focus on the relevant theory for this thesis. Acknowledgement of such diverse influential sources is nevertheless important, because it helps in part to understand the source of differing research emphasises. Such emphasises are especially important to appreciate, in a context of ongoing debate amongst academics, as to the correctness of diverse and sometimes competing theories.

Occurrences that do not seem to fit within standard economic explanation have been a catalyst for some to investigate human behavioural impacts on economic decisions. The framework for this thinking is credited to Simon (1955) who observed that people are limited by their computational abilities and their environment when they make decisions. These two "scissor blades" limit human computational ability and have become widely known as bounded rationality (Simon, 1990). Wilkinson (2008) further defines the conditions for bounded rationality as: imperfect information in a complex and dynamic decision environment, limited computational ability and imperfectly defined agent objectives.

Simon effectively outlined how people do not behave as standard economic models expect. Questioning of the assumptions of standard economic theory, has now become common in the literature. Simon's work however lacked a formal proof, making it easier for economists to ignore (Cartwright, 2018). The work of Daniel Kahneman and Amos Tversky, and others, is credited by Simon as providing such proof (Cartwright, 2018).

The work of Tversky and Kahneman is both prominent in the literature and relevant to this thesis. Kahneman (2003) categorises their work within as prospect theory, framing effects and heuristics. Prospect theory is based on how heuristics provide an editing mechanism for people's decisions, also extending to how their problem-evaluation is explained by loss averse tendencies (Wilkinson, 2008). Framing effects relate to the manner of decision presentation. Differing presentations of the same problem can lead people to make different choices (Tversky & Kahneman, 1981). Heuristics are "…decision-making shortcuts…" (Baddeley, 2012, p.105). Heuristics are an important way of explaining how people can make, at times, decisions that are not fully rational. Heuristics are not necessarily a

poor decision making tool as Wilkinson (2008) recognises. Slovic and Peters (2006) indicate that heuristics are an evolutionary survival mechanism helping people to make quick decisions in times of danger. However, what tends to interest researchers is when heuristic use results in sub-optimal decisions.

There are numerous other heuristic types and biases in addition to those previously discussed, such as the anchoring heuristic as applied by Hansz and Diaz (2001). Their application of the anchoring heuristic is of course based upon the work of Tversky and Kahneman (1974). Another example is the representativeness heuristic (Kahneman & Tversky, 1972). The representativeness heuristic occurs when a solution for one dilemma fits previously known phenomena. Others include insensitivity to sample size, gamblers fallacy or illusionary correlation (Baddeley, 2012). Required however, is a more specific theoretical explanation from Tversky and Kahneman's work that could be relevant in explaining ground leaseholder behaviour. One idea is that ground leaseholders make use of what information is "available" to them, rather than more carefully thinking through implications of issues like rent reviews. Accordingly, the relevant heuristic here is termed the availability heuristic (Tversky & Kahneman, 1973).

2.1.1 The availability heuristic

The seminal paper on the availability heuristic is written by Tversky and Kahneman (1973) entitled "Availability: A Heuristic for Judging Frequency and Probability." This paper establishes how the availability heuristic manifests through a variety of different experiments. The availability heuristic is defined as when making a judgement involving a frequency or probability type problem, people rely on the ease by which similar examples come to mind (Tversky & Kahneman, 1973). Given the

importance of this article a brief summary of some of Tversky and Kahneman's experiments helps to explain the availability heuristic. Such a description is important in a property context as there are few papers that focus solely on the availability heuristic.

Tversky and Kahneman (1973) break their experiments into several categories. Firstly, two experiments show that people can use availability to estimate the number of instances of an item, before then having to recall those items. This is an "assessment of availability" (p.209). The method involved participants estimating the number of words constructible from a block of letters. Also used were categories of items, such as city names beginning with 'F'. The conclusion is that the assessment of availability occurs quickly and accurately.

Assessment of availability findings are extended by investigating how people form items in their mind. Termed "availability for construction," one test requires judgements of whether the letter R is found first or third in words. Participants most commonly indicated the letter R occurs first, as this is more easily formed in their minds and therefore more available. The interrelated nature between availability and the ease of construction was confirmed through different exercise types, for example, the comparison of pathways in a visual puzzle. Problems involving possible combinations of committee members, or the way a multiplication exercise is ordered, provide additional confirmation of construction in relation to availability.

A third investigation termed availability manifestation, involved an initial information exposure, prior to a frequency judgement of items previously included in that initial information. One of these 'retrieval' exercises showed participants a list of names, some of which were famous people. The famous names were more easily retrievable, because they are more available. Paired words and the

way they are structured provides further confirmation, for instance, “lion-tiger” is more easily retrievable than “house-paper” (p.224). Follow-up investigation of related personality traits compared to unrelated traits, confirmed a similar tendency to the paired word conclusions. Tversky and Kahneman (1973) track earlier work that focuses on the pairing of items, such as Chapman and Chapman (1969) who refer to this tendency to pair otherwise unrelated items, as “illusionary correlation.” Availability provides a “…natural explanation for illusionary correlation” (Tversky & Kahneman, 1973, p.223).

While the work of Tversky and Kahneman goes into great depth of the mechanics of the availability phenomena, the idea that people take mental short cuts, using what is more available to them, is compelling. It does not take too much extrapolation to view the availability heuristic as a possible explanation of ground leaseholder behaviours. For example, ground leaseholders may consider the incorrect information when assessing the value of a ground leasehold. Due to the possible theory explanation of behaviour that the availability heuristic provides, consideration of how others have used the availability heuristic follows.

The disaster myopia theory, recognises the central role the availability heuristic plays in market risks. This has been demonstrated both in relation to general market threats to banks (Guttentag & Herring, 1986) and for both real estate and banks (Herring & Wachter, 1999). Effectively the application of the availability heuristic rests on the idea that bankers can be myopic in their assessments of risk, relying on the availability heuristic, amongst other sub-optimal mechanisms. Currently disaster myopia theory is an explanation of behaviour but there is not a specific disaster empirical test available, (Cornand & Gimet, 2012) or at least a definitive one (Guttentag & Herring, 1986).

Numerous other publications rely upon the availability heuristic as a means of explaining behaviours. Investor propensity to purchase attention grabbing stocks to the detriment of other opportunities, in other words those that are more available, is outlined by Barber and Odean (2008). Broker recommendations enhancing the availability of certain stocks is of interest to other researchers (Kliger & Kudryavtsev, 2010). The availability heuristic is offered as one reason why there can be differences in local and more remotely located investor behaviours (Zhu, 2002). Apart from investment decisions, many other subjects are explainable by availability such as judgements on product failure (Folkes, 1988) or health (An, 2008) or ethics (Hayibor & Wasieleski, 2009). As a way of examining numerous types of decision-making situations, the availability heuristic is thus firmly established.

2.1.2 The affect heuristic

When making decisions that typically involve the availability heuristic people, can also make use of images in their minds that can be identifiable with a sense of favourable or adverse feeling. This emphasis on feelings is labelled as the affect heuristic (Finucane, Alhakami, Slovic, & Johnson, 2000). The affect and availability heuristics are interrelated (Slovic, Finucane, Peters, & MacGregor, 2004).

Identification of the affect heuristic emerged out of earlier psychology literature. Zajonc (1980) is seen as influential because he asserts that affective reasoning occurs before conscious thought does. Zajonc's conclusions countered common thought at the time, where psychologists believed that affective processes occurred after rational reasoning had concluded. Furthermore, Slovic, Finucane, Peters, and MacGregor (2007) refer to numerous studies by Zajonc and others, that show that the exposure of stimulus objects can enhance attitudes towards that object. An example is where pictures of male university graduates that are shown more frequently (treatment) and are perceived more

favourably by participants (Zajonc, 1968). Zajonc's work is an important influence in the development of the affect heuristic theory.

Damasio (1994) investigates why people who are without certain brain function, lack certain abilities to make normal decisions. He introduces the somatic marker hypothesis, where the brain, for most people, is marked by certain emotions in relation to a particular event. When a similar event occurs, the response can then be automatic given the hard wiring of the brain. An example provided involves unusually high interest rates where, if a quick decision is required, a negative somatic state will help avoid a potentially disastrous investment decision (Damasio, 1994).

Damasio's (1994) work establishes that the affect heuristic is part of the human psyche. Affect is an inherent part of the way people make decisions, thus triggering researchers to extend investigation into its evolutionary origins. Kralik, Xu, Knight, Khan, and Levine (2012) even find that under certain experimental conditions, monkeys use the affect heuristic. Thus the affect heuristic has a firm basis of support in the literature as a commonplace decision making mechanism.

Slovic is associated with work involving risk and the affect heuristic provides explanation in some contexts where risk is studied. "Perception of Risk" for example is a paper where Slovic (1987) captures how lay people have different perceptions of the riskiness of certain activities or technologies, than what expert analysis suggests they should. Nuclear power is one notable example that ranks as most risky by lay people, compared to experts, where they rank 20th out of the 30 technologies or activities listed. With such a subject matter, imagery invoking strong emotion and the link to the affect heuristic is apparent.

There was an intermingling of ideas that occurred at the time the affect and availability heuristic theories were developed. Tversky and Kahneman (1973) for example, acknowledge in their seminal paper, the support of Paul Slovic and others. Slovic et al. (2007) acknowledge the availability heuristic as part of formative literature for justification of the affect heuristic. Clearly therefore Tversky, Kahneman Slovic and others work has been an important influence on each other, with the two heuristics being related.

2.1.3 How has the availability or affect heuristics been incorporated in other research designs

Understanding how the availability heuristic or the affect heuristic has been applied in other research contexts is important. Examples of specific testing for the availability heuristic or the affect heuristic enables a greater understanding of the application of the availability, or closely related affect heuristic. Selected therefore, are studies that may have some similarity in the way the heuristic is applied. To be clear, the aim is to understand how the heuristic has been applied, and not on the study of property phenomena. The focus is also not on work that speculates that the availability or affect heuristic cause a particular phenomenon. An example of such speculation of the role of the availability heuristic, is where stock price proxies are related to consumer sentiment indices (Akhtar, Faff, Oliver, & Subrahmanyam, 2012). Rather, research design involving the availability or affect heuristics tend to be experimental, as detailed in the following paragraphs.

The first study in Folke's (1988) paper provides useful experimental design insight. Product distinctiveness links to the availability heuristic; i.e. those products that are more distinctive are more readily recalled. The brand name was the specific variable manipulated in the scenarios from typical sounding names to atypical sounding names. Three conditions checked the robustness of the results. Firstly, where the failing product had a distinctive name, secondly where the failing product had a non-distinctive name and lastly, where half the products were failing and half were succeeding (a control). Participants rated the degree of recognition on a 7-point scale. Participants judged that brand names that are more distinctive are more likely to fail than non-distinct brand names. Therefore, Folkes (1988) was able to invoke the availability heuristic by use of a written statement. Undergraduate students were the participants because they were less likely to have product knowledge, with the rationale being that they would have little preconceived knowledge.

Recall of consumer goods and their associations are investigated by Ofir, Raghubir, Brosh, Monroe, and Heiman (2008). An experimental design tested consumer recall of either two (an easy task) or five (a difficult task) cheaply priced store items. Participants then rated price perception of the same store on a scale. The research design is two-step, where an initial recall exercise (2 or 5 goods) precedes a judgement as to the price perception of the shop. Those who were requested to recall two items tended to rate the store as lower priced, affirming the availability heuristic. Further scenario testing examined how product recall altered in different situations. Ofir et al. (2008) use consumers and not students, enhancing the ability to generalise. It is not surprising that retail is the subject of research by Folkes (1988) and Ofir et al. (2008). Perception is critical to retailers, so the application of the availability heuristic to this topic is logical.

Healthcare is another subject where the availability heuristic has been of focus for Pachur, Hertwig, and Steinmann (2012). How people perceive health risks such as cancer, is the subject within a psychology publication where the focus is on perception measurement. Both the availability and the affect heuristics are measured in the following tasks:

1. Choosing the more common cancer type from 276 pairs.
2. Estimating of the death rate of the listed cancer types each year.
3. Recommending a yearly spending rate to stop the death of one-person per cancer type.
4. Rating of the amount of dread per cancer type i.e. the affect heuristic.
5. Recalling how many people known that had particular cancer types. (Pachur et al., 2012, pp.317-318)

Pachur et al. (2012) outline that activities 1 and 2, were linked to recalled instances in 5. Conversely, activity 3 links more to the participant's sense of dread in 4 (affect heuristic). Pachur et al. (2012) concluded that the availability and affect heuristic manifest in differing ways as captured in the following quote:

> [A]vailability by recall offered a substantially better descriptive account than the affect heuristic when people judged deindividualised, statistical mortality rates. Affect, however, was at least on par with availability when people were asked to put a price tag on a single life saved from a risk, or when they were asked to indicate the perceived risk of dying from a cause of death (Pachur et al., 2012, p.324).

Differing designs can invoke the use of either the availability or affect heuristics. If imagery, especially of an emotional nature is part of a design, people will use the affect heuristic. Conversely, if the task is more numerical based the availability heuristic will be to the fore. In Pachur et al. (2012) student participants were used despite the difficult task level. Clear indications were provided in this paper as to the application of each heuristic.

In summary, the availability and affect heuristics are tested in differing types of behavioural problems. These robustly proven heuristics are applicable where there are important societal consequences. The availability heuristic is used when an automatic form of decision making is used (Folkes, 1988; Ofir et al., 2008; Pachur et al., 2012; Tversky & Kahneman, 1973). The affect heuristic relies on the use of imagery such as risk or dread (Finucane et al., 2000; Pachur et al., 2012). Given the ground leasehold context, a design involving the availability heuristic is adopted in this thesis.

2.2 Asymmetric information

Ground leasehold problems could be said to be related to the fact that the lessor has an information advantage over the ground leaseholder. In markets, certain participants often have superior knowledge to others. This non-symmetrical or "asymmetrical" circumstance can in some situations, lead to market failure. This theory is attributable to Akerlof's (1970) Nobel prize winning paper called "The market for 'lemons': quality uncertainty and the market mechanism." In this theory the subject studied in a market that fails, is termed a lemon. (Akerlof, 1970).

Proliferated through the real estate literature is reference to Akerlof's (1970) theory. Described below are some examples of asymmetric information theory being central to varying research endeavours. Kurlat and Stroebel (2015) investigate how differing levels of knowledge between buyers and sellers impact house prices. Information asymmetry issues are at the heart of this paper with a conclusion that home sellers have information advantages over purchasers. Wong, Yiu, and Chau (2012) examine apartment sales considering the land to improvements composition. Apartments with larger land components have lesser information asymmetry problems and sell quicker. Wong et al. (2012) find that for the improvements component, apartment owners have a greater information advantage and

prospective purchasers may not be able to find out all relevant information. Further to these above two publications, information asymmetry theory related to the topic of real estate is crucial to explain phenomena in a variety of other contexts. Studies involving accountancy standards (Muller, Riedl, & Sellhorn, 2011), real estate trusts (Deng, Hu, & Srinivasan, 2017), office market vacancy rates (Chau & Wong, 2016) and bubbles in farm prices (Olsen & Stokes, 2015) are further examples that demonstrate the broad importance of information asymmetry theory.

Akerlof (1970) provides a well-recognised theory with which to examine property issues. Occupation leaseholds are discussed in the literature with information asymmetry theory used to offer explanation of behaviours. Occupation leaseholds are leases of buildings, as well as land. Palm (2015) links advertisements of office space to information asymmetry theory. Mooradian and Yang (2002) consider how differing methods of lease expense allocation influence information efficiency. Examination of differing market states includes competitive market and monopolistic competition, where the impacts can differ. The occupation leasehold issues explained by information asymmetry theory in turn may provide explanation of ground leasehold issues.

Information asymmetry theory is not widely applied to ground leaseholds in the literature. Given that New Zealand ground leaseholds are notably different compared to other countries, a publication paucity is not unexpected here either. Nevertheless, Mandell (2002) discusses how the rent review process can be unbalanced between lessor and lessee. Swedish municipalities own most of the leasehold land and administer the zoning regulations. They therefore have superior knowledge of the supply / demand characteristics for that land. If underlying economic conditions allow, a change in zoning can result in significant land value increases upon rent review. Determining the value of the land is important because usually, the ground rent can be set as a percentage of that land value, in a

more systematically managed way than in New Zealand. In the New Zealand context, there are many different landowners such as organisations for the public good and other private owners. Consequently the same information asymmetry issues raised by Mandell (2002) may not be applicable because the lessor does not have the same regulatory power and knowledge that Swedish local government lessors have.

Information asymmetry may be a way of explaining ground leasehold issues in the New Zealand context where the ground leaseholder requires a reasonable level of knowledge to interpret a ground lease. Difficulties understanding ground lease clauses can occur, even judges differing in their interpretations. An example of such opinion difference is shown in the case of Mandic and Dohnt v. The Cornwall Park Trust Board [2011] NZSC 135. In this case, the Chief Justice of New Zealand, Judge Sian Elias, showed a different rationale in her decision to the other four judges. This is a somewhat extreme example, however the point remains that a lay person may not be able to readily understand the implications of specific lease clauses, disadvantaging them in comparison to the lessor.

Further examination of the information asymmetry literature however indicates that people can seek help to overcome the information asymmetry disparity. Buyers can screen information provided to them by third parties (Wetzstein, 2013) Screening is well accepted in the literature, for example see Sharpe (1990) or Stiglitz and Weiss (1983). In a ground leasehold context, this means employing the right valuer or lawyer to help purchasers overcome the information asymmetry problem. An example of such assistance could involve having the meaning and consequences of the rent review clause explained. Therefore it is possible for people to have assistance to overcome interpretation difficulties.

Despite the comments above, screening information by external assistance may not always be possible. It might be difficult to discover knowledgeable professionals. Valuation is one means that a purchaser of a ground leasehold can use, however the resulting reports may not be suitable for purpose. Some countries use minimum valuation standards, that arguably encourage valuers to produce reports of a minimum standard, rather than provide extra comprehensive information and explanation (Colwell & Trefzger, 1992). Comparing mandatory and voluntary systems of appraisal however, Rudolph (1998) finds that there are no significant quality and effort differences. Rudolph's (1998) findings are based upon lenders reporting requirements, which could be different to what a borrower, who intends to purchase a ground leasehold requires. Consequently, it is difficult to definitely state that screening procedures reduce or eliminate the information asymmetry problem for ground leaseholders.

Asymmetric information theory provides an explanation for property market problems and could apply to New Zealand ground leaseholds. The specialised nature of ground leaseholds in New Zealand means it is difficult to state if asymmetric information is the definitive reason for any problems. Required therefore is further investigation of information asymmetry theory relating to ground leaseholds in New Zealand.

2.3 A brief overview of rational economic thinking

Many introductory economics textbooks usually start with rationality assumptions. Gans et al. (2015) is an example of this elaborating, "[r]ational people systematically and purposefully do the best they can do to achieve their objectives…" (p.5). A more comprehensive list of common standard economic assumptions is provided by Wilkinson (2008):

1. Economic agents are rational and seek to maximise their utility.
2. Agents are Bayesian probability operators.
3. Agents have consistent time preferences.
4. Assets are freely exchangeable. (Wilkinson, 2008, p.5)

The above list forms backstop assumptions for many economics related papers. A substantial body of literature supports rational theory with some notable contributions detailed as follows. The enlightenment period of 1650-1790 as well as Adam Smith and his ideas about rational self-interest and morality are important influences (Rosefielde & Pfouts, 2015). Wolff and Resnick (2012) outline neoclassical and Keynesian foundations. Rational assumptions underlie findings in modern-day journal publications of the highest quality. So while there is critique on certain aspects of rational economics i.e. see Colander (2000) rational economics has a most solid foundation in the literature.

There are strong counter arguments to the rational behavioural foundations. As McKenzie (2010) observes, "…perfect rationality [is] a premise devised for strictly deductive, theoretical purposes – or in other words, as an imperfect tool of analysis, which has still proven productive." (p.228). Ross (2012) argues that criticisms are to some extent irrelevant because economics is a theoretical construct that does not suggest people should be equated with economic agents. Therefore, rational economics is very much a plausible assumption that has proven to be of immense benefit to society. While the research landscape has changed with alternative theoretical explanations, this does not mean the rationality assumption is less important than before.

This section provides an abridged account of rational economic theory given the widespread understanding in the research community. Nevertheless, given the following section's emphasis on behavioural theory, not discussing rational theory may incorrectly convey reliance on behavioural economic theory alone. As Kahneman (2003) notes rational behaviour usually provides the null hypothesis assumptions, in many behavioural studies. Therefore this brief account of rational economic thinking is relevant to this thesis.

2.4 Property decision making literature

The methodology used by those investigating property participant behaviour is the focus of this subsection. The literature explored is not confined to ground leaseholds, covering for example topics such as how property valuers make their valuation decisions. However, the relevance of these studies is confined to their decision-making focus, where value level is often the dependent variable. An additional advantage of examining property behavioural literature, include theory guidance on whether valuers, investors and others, conform or not to normative behavioural models. With the methodology in this thesis adopting ground leasehold value-level as a dependent variable, the consideration of property behavioural studies will help to indicate an appropriate methodology. In summary, while the valuation, or other contents are not specifically applicable to ground leaseholds, the components relating to decision making methodology and theory explanation are all relevant. Property papers with a behavioural focus, where the experimental method is used, are summarised in Table 2.1 following.

Table 2.1 An outline of property decision making research that uses an experimental methodology

The following table summarises some of the property behavioural research in terms of theory explanation of suspected behaviour and research design. The results are not discussed, because the research objective of many of these papers is different, for example adding to theoretical framework in a valuation context.

Author/s	Theory	Experimental Method
Diaz and Hansz (1997)	Anchoring behaviour was tested in relation to locations that were unfamiliar to the participants.	Valuation scenarios were completed by forty-four valuers regarding a location that the valuers were unfamiliar with. Valuers were asked to value either a scenario with an expert statement (treatment) as to the value levels, or a scenario that did not contain that expert statement (control).
Diaz and Hansz (2001)	The influence of different anchor types is tested to observe if the anchors conform to a hierarchy that is indicated in US valuation guidelines.	Adopting a similar design to Diaz and Hansz (1997), a one-factor experimental design was employed using a location that was unfamiliar to the valuer participants. Eighty–seven qualified Valuers completed the mail delivered experiment, comprising one of four scenarios: involving differing reference anchoring points of an expert opinion of value; the subject property conditional contract price; a comparable property conditional contract price; or lastly no reference points.
Diaz and Hansz (2010)	The agent-client problem is related to valuer behaviour where valuations are ordered.	A paired sample technique of six valuations (three pairs) were ordered, where half of the valuers were subject to client pressure and the other half were ordered without any pressure. While results of this small sample appeared to show client influence on the valuers occurred, a comparison to a larger data set of 321 house sales confirmed the initial findings.
Diaz and Wolverton (2003)	An investigation into appraisal smoothing, to examine how valuers are influenced by their previous assessments.	Twenty valuers valued a property based upon a realistic valuation scenario. After a period of eight months, the same group reassessed their valuation based upon the same scenario information, updated for market changes. A control group, who had not completed the first valuation task, completed the same second valuation task, with the results of the treatment and control groups compared.

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Author/s	Theory	Experimental Method
Diaz, Zhao, and Black (1999)	Anchoring, in a context of a reward that is contingent on the result of a property sale price negotiation.	Nineteen pairs of property students negotiated as either a buyer or seller to determine a house purchase price. The students were assigned to either a high asking price scenario or a scenario that had no asking price. The influence of incentives on participant behaviour, where participants would be rewarded for favourable outcomes, was also tested.
Hansz and Diaz (2001)	High, low and no valuation feedback is used to observe if valuation anchoring occurs. How the adjusted valuations manifest, i.e. symmetrical or not, leads to theory explanation of client influence of "subconscious asymmetrical weights" i.e. Chinloy, Cho, and Megbolugbe (1997).	Thirty valuers completed a valuation task and received feedback that their initial valuations were either too high, too low or received no price feedback. These three groups then completed another valuation exercise to observe if there were any systematic differences between the groups. Also incorporated into the design was a validity control group of ten valuers, which did not complete the first valuation exercise.
Havard (2001)	The impact of tabulated sale price information in order to reduce the influence of anchoring to a sale price.	One group of students completed a valuation task where, approximately half knew the sale price and the other half didn't. Unsurprisingly the group receiving the sale price information produced valuations that were systematically closer to the sale price. A second student group repeated the same valuation task and were provided with tabulated sale price information, resulting in less anchoring to the sale price information.
Northcraft and Neale (1987)	Generalizability of laboratory results for anchoring is tested in a real-world setting for both amateur (students) and experts (real estate agents).	Real estate agents and students were requested to estimate the value, asking price, lowest payment price and a price they would pay for a property that they had physically inspected. Participants were assigned to one of four asking price groups namely a low-price, moderately low price, moderately high price or high price condition.

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Author/s	Theory	Experimental Method
Jin and Gallimore (2010)	The presentation of property information is tested in relation to the possibility for framing biases to influence property market participant perception.	Fifty-three post graduate property students, many of whom had industry experience, ranked their perception of a property on a seven-point Likert scale. Comprehensive information was provided to them in a property market report. In a two-step procedure, they were then provided with either optimistically framed information as a treatment, or pessimistically framed information as a control, to again test their perceptions.
Sah, Gallimore, and Clements (2010)	Provides evidence to help develop a normative model for property investment decision making. The requirement for financial compensation for experiment participation is also tested.	A process tracking design scenario investigates if the behaviour of twenty investment experts differs to that of twenty property students. Two investment choices are provided for the participants to choose between, with the observation of cue utilization and cross search patterns amongst the factors analysed. A quasi-experimental design is also used to investigate the differences between expert behaviour, if compensated or not.
Scott and Lizieri (2012)	Testing to observe if the influence of an anchoring heuristic transfers to future valuation judgements.	One-hundred and thirty-nine university students valued a selection of houses after being influenced by a randomly determined anchor price. The randomly generated anchor price was chosen by requesting the participants to write down the last three digits of their mobile telephone number and then place three zeros at the end to show a price in the hundreds of thousands.
Tidwell and Gallimore (2014)	An investigation to see if a decision support tool reduces valuer propensity to using value anchors when completing a valuation task.	One group of valuers were provided with access to a decision support tool, in this case the CoStar COMPS Professional data service, the other group were not able to use a decision support tool. Each group was divided further into subgroups of a high, low or no expert value opinions, to test the robustness over differing anchor types. Evidence was found to support the use of a decision support tool for reducing valuer bias.

Table 2.1, demonstrates numerous property studies of behavioural phenomena suitably investigated using an experimental design. Valuer behaviour, when influenced by anchoring, is of interest in Diaz and Hansz (1997), Diaz and Hansz (2001), Tidwell and Gallimore (2014). More specifically valuation smoothing is of interest to Diaz and Wolverton (2003). University students rather than valuers, were the participant groups in Havard (2001) and Scott and Lizieri (2012) to further add to the theory framework on valuer behaviour and anchoring. Anchoring behaviour is also tested with student groups in Diaz et al. (1999) in a property negotiation context, while Northcraft and Neale (1987) compare student with real estate agent behaviour. Investor behaviours are examined in Jin and Gallimore (2010) in relation to framing bias and in Sah et al. (2010), evidence is provided for further development of a normative property investment decision making model. Overall, a variety a participants, from students through to experienced valuers and investors, are used to better understand property market participant behaviours. Behavioural theory in the form of heuristics, commonly the anchoring heuristic, tend to be reconciled against normative behavioural assumptions. Conclusions derived from these experimental studies, offer a greater understanding of property market phenomena.

The emphasis in many of the property studies involving behavioural phenomena, is on participant reaction to the information presented. Typically, there will be a price estimation (or similar) exercise with treatment and a control groups, such as in Hansz and Diaz (2001) or Scott and Lizieri (2012). Conformance to a particular valuation model, is not the emphasis in these papers, rather, comparative reaction between the control and treatment groups is the focus. Measures such as the difference between the mean or median responses and other statistical measures are of interest.

Not all of the studies involving property decision making, mentioned in Table 2.1, exclusively use the experimental method. Amidu, Tajudeen Aluko, and Hansz (2008) for example, investigate surveyor and valuer behaviour by means of a self-administered questionnaire. In an investigation of company investor decision making, Gallimore, Hansz, and Gray (2000) employ a semi-structured interview method in the analysis of small property decision making. So while research of experimental design can offer advantages such as indicating causal relationships, (Bryman & Bell, 2011) the application may not be appropriate in all circumstances. Furthermore the phenomena requires a comprehensive understanding prior to testing, to ensure a correct application of the experimental method.

2.5 Ground leasehold literature

One research topic a number of papers consider, is the price discount level between freeholds and ground leaseholds. Discount levels differ due to numerous factors in each location, as well as variation in the way ground leasehold lease documents are drafted. Consideration of key ground leasehold differences internationally is demonstrated in a table form. With such variation, the ground leasehold literature is characterised by differing research interests, with some topics summarised in order to give an appreciation of the breadth of application that ground leasehold lease documents enable. New Zealand ground leaseholds and what makes them interesting from an international perspective, is therefore clarified. A description of the New Zealand literature concludes this section.

One theme commonly encountered in the literature concerns ground leaseholds that tend to sell for less than freeholds. The 'bundle of right' theory explains the ground leasehold discount, because compared to freeholds, ground leaseholds have less property rights. Authors that show that ground leaseholds are discounted compared to freeholds include Mandell (2001) in a Swedish context; Tyvimaa, Gibler, and Zahirovic-Herbert (2015) in Finland; Gautier and van Vuuren (2017) in Holland; Giglio, Maggiori, and Stroebel (2015) in Singapore and the United Kingdom; Asabere (2004) in Ghana and Teng, Chang, and Chau (2013) in Hong Kong. Findings of lower ground leasehold price levels compared to freehold are not surprising, given the limited ground leasehold ownership rights consistent with the bundle of rights explanation. While a research initiative investigating ground leasehold price discounts in the New Zealand context would be interesting, it would not substantially add new insight to the literature that already demonstrates that ground leaseholds sell for a discount compared to freeholds.

Ground leaseholds are structured differently in other countries, tending to be less onerous in lease provisions. The consideration of such ground lease differences means any further study of ground leaseholds that discovers a ground leasehold price discount, would not be a special finding. Rent review methods lease length and renewal terms are amongst differences discussed in the literature. To illustrate, ground leaseholds can be structured so that the ground lease payments are prepaid such as in Amsterdam (Gautier & van Vuuren, 2017) or have very low ground rents, as many can be in England (Giglio et al., 2015). In order to appreciate the range of differences encountered in the literature, a summary table of important provisions for each country demonstrates the differences in a more comprehensive manner.

Table 2.2 A comparison of common residential ground leasehold clauses and conditions in different locations

The following table summarises frequently encountered ground lease terms for some of the countries discussed in the literature. Rent review procedures, renewal & ground lease length, identification of the lessor owner (freehold) and comments on government oversight are all included to provide context for New Zealand ground leaseholds.

Location	Rent review	Renewal and common lease lengths	Who owns the freehold land (lessors interest)	Government oversight	Source of information
Amsterdam	Included here are perpetual ground leaseholds with a pre-set ground rent that will not change and ground leaseholds that are reviewed based on a percentage of land value. For the ground leaseholds that are based on a percentage of land value, the value is adjusted so it is lower than the full land value. Ground rents can be prepaid or paid annually.	Fifty-year terms are now replacing seventy-five-year terms. Ground leaseholds are almost always renewed.	City of Amsterdam owns the majority of ground leaseholds, although there are some private lessors.	City of Amsterdam	Gautier and van Vuuren (2017) & City of Amsterdam (2019)
China	A periodic lease payment is required reflecting a percentage of the property's value. It appears in most cases to be of a small amount and is collected together with other local government fees.	Residential ground leaseholds have a 70-year term in China. After this period ownership can be extended, but the terms will be later clarified by the Chinese government.	The government owns all land in China.	Ground leaseholds are the main title form, and consequently ground leaseholds are managed by the Chinese government.	Anglin, Dale-Johnson, Gao, and Zhu (2014)
England	Ground rents are commonly encountered at peppercorn (low) levels. Payment for the ground leasehold is at the start, or extension of the ground lease term. More recently, new build housing with ground rent review clauses can in some cases allow the doubling of ground rents every ten years.	Terms are commonly set for 99, 125, 150, 250 or 999 years. Legislation provides for lease extensions in most circumstances.	Long established private land owners.	The leasehold Advisory Service offers advice to ground leaseholders. Tribunal determination of ground leasehold disputes, especially regarding ground lease extensions.	Giglio et al. (2015), Ministry of Housing Communities & Local Government (2018), Bracke, Pinchbeck, and Wyatt (2018) & Wilson and Barton (2019)

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Location	Rent review	Renewal and common lease lengths	Who owns the freehold land (lessors interest)	Government oversight	Source of information
Ghana	Peppercorn ground rents are payable with a more significant payment for the ground leasehold required at the start of the ground lease.	Ninety-nine-year terms as prescribed by the Ghanaian Constitution. The Constitution does not state that ground leaseholds can be renewed.	Chiefs under traditional ownership structures.	The Lands Commission, a Ghanaian Government Department, administers ground leaseholds, such as collecting the pepper corn ground rents.	Asabere (2004)
Helsinki	Rent reviews tend to be negotiated at around 4% of a land value, that is 5-10% lower than the market land value. Living cost index adjustments are applied yearly to ground rents.	Traditionally ground leaseholds were for fifty to sixty-year terms, but more recently one hundred-year terms. Ground leaseholds are renewable for residential purposes.	City of Helsinki	City of Helsinki attempted to moderate ground rent review levels for some large increases. Social housing have lesser costs.	Tyvimaa et al. (2015)
Hong Kong	The Hong Kong government uniformly sets ground rents, currently at 3% of rateable value. Rating valuations are revalued annually.	Apart from some 999-year lease terms on Hong Kong Island, most ground leases are for time periods of less than 75 years. Most ground leases expired in 1997, and were renewed until 2047, without a requirement for a payment.	The government of Hong Kong owns all of the land.	Hong Kong is a location where ground leasehold tenure predominates.	Teng et al. (2013), The Government of the Hong Kong Special Administrative Region (2018)

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Singapore	Ground rent is prepaid when the ground leasehold is initially purchased, so there are no regular ground rent payments.	Ground lease terms are commonly from 99 to 999 years. Renewals are on a case-by-case basis.	The government of Singapore owns the majority of the lessor interests.	The Singapore Land Authority manages the property on behalf of owners.	Giglio et al. (2015)
Sweden	Negotiation between lessor and ground leaseholder, with court determination, for example at 3.75% of land value.	Perpetually renewable.	All lessor interests are owned by the public authorities, usually local government.	Local government established ground leaseholds to retain greater planning controls and enable social housing. The Court system deals with ground rent disputes.	Mandell (2002) & Ratzka (1981)
New Zealand	Rent reviews are negotiated between lessor (freeholder) and the ground leaseholder, often as a percentage of land value.	Various terms available especially 7, 14 or 21 years, often perpetually renewable. Additionally, there are terminating ground leases.	Many different private and government or quasi-government owners	Apart from legislation there is little government overview.	Boyle, Guthrie, and Quigley (2009); Freeman (1993); Lally (2001); Lally and Randal (2004); Sawyer (2015).

New Zealand ground leaseholds have much variation not fully captured in Table 2.2. While there can be variation in other countries, in New Zealand the variation in ground leasehold clauses can be considerable. Ground rents can be set with, or without a specific percentage of land value specified in the ground lease. Some ground leases have ground leaseholder instigated buy out clauses for the land, with significant variation in the terms of those clauses. The improvements are often owned by the ground leaseholder, but sometimes they only have a licence to occupy the improvements. Common to most ground leaseholds however, is the obligation for the ground leaseholder to pay the ground rent until the ground leasehold is sold, or at the termination of the ground lease.

Table 2.2 indicates that ground rents in locations internationally, tend to be less onerous in terms of their cost to the ground leaseholder or in the way they are administered. There can be no ground rents such as in Singapore, or the ground rents can be at very low levels such as in England and Ghana. The purpose of the ground leases in other jurisdictions is to retain some control via lease covenants over how the land is developed and managed. Ground rents can also be set as part of a broader public framework, with greater government scrutiny such as in China or Hong Kong. In many cases the ground leaseholder will be shielded from the full extent of rental increase due to various adjustments that are made to the ground rent formula, such as in Amsterdam or Helsinki. In locations where periodic ground rents are not charged, or are at very low levels, the ground leaseholder typically pays an initial consideration reflecting such ground rent levels. However, in New Zealand the ground leaseholder can pay a consideration for the ground leasehold initially, and furthermore pay a market ground rent upon review, that the ground leaseholder perceives to be at a high level.

Ground leasehold renewal conditions, as indicated in Table 2.2, can vary greatly between locations, depending on local policy. Some locations have strict enforcement in terms of expiry conditions, such as in Singapore where the need to redevelop a location may mean there will be no ground lease renewal (Giglio et al., 2015). China has had a similar policy to Singapore, where the requirement for land redevelopment may mean that ground leases are not automatically renewed (Anglin et al., 2014). In Ghana, ground leasehold renewals have not been clarified, as these issues can be of a sensitive nature between ground leaseholder and the lessor who is part of a traditional tribal structure (Asabere, 2004). Amsterdam, England, Helsinki and Sweden have favourable laws where ground leases have been automatically renewed. Hong Kong ground leases were renewed after the re-establishment of the Chinese government in 1997 in order to create stability, however the ground lease renewal policy is not clear for the future. New Zealand has a variety of ground lease renewal conditions, where some can be perpetually renewed and others can terminate. Such variety of renewal conditions, of course reflects the numerous different ownership ground lease structures and less active central government management in New Zealand.

A single lessor or fewer ground lessors, combined with greater ground leaseholder protection typifies the locations shown in Table 2.2. The lessors are usually a single entity, or the proportion of lessor owners is fewer than in New Zealand. Amsterdam, China, Helsinki, Hong Kong, Singapore and Sweden all tended to either have one lessor owner or far more concentrated lessor ownership. In England, where there is a history of different private lessors, there is far greater legal protection for ground leaseholders (Giglio et al., 2015; Ministry of Housing Communities & Local Government, 2018). England has also seen the emergence of a new form of ground lease with the development of new build housing (Wilson & Barton, 2019). The new build ground lease type has received considerable criticism, with reasons including unfair rent review clauses, unreasonable lessor consent costs for matters like building alterations or disputes over the valuation of land if enfranchisement rights are

exercised (Wilson & Barton, 2019). The United Kingdom government intends to act quickly, making any new ground rents £0, with all new houses to be sold on a freehold basis and to enhance the ground leaseholders ability to freehold their homes (Ministry of Housing Communities & Local Government 2019). In Ghana the different lessor owners are a feature of the traditional tribal ownership structures, although there is uncertainty as to renewal conditions in the future (Asabere, 2004). New Zealand is different to the majority of the locations specified in Table 2.2, due to the variety of different lessor owners and limited ground leaseholder protections in New Zealand.

The differences in ground rent review methods, lease renewal policy, ownership of the freehold and the extent of government oversight, all relate to the motivation for the establishment of the ground lease. There are various political and practical considerations that influence the philosophy of how ground leasehold systems operate in different countries. The differences are not there for unplanned reasons but form an integral part of an overall system of governance. In China for example, the government owns almost all of the freehold interests consistent with its Communist philosophy, with ground leaseholds forming an integral part of the land tenure system (Anglin et al., 2014). In Singapore the ground leasehold system gives the government more flexibility for redeveloping locations when ground leases expire, than if the land was of freehold tenure (Giglio et al., 2015). Singapore is notable for high density population and ground leaseholds therefore are an important part of the land tenure system where redevelopment initiatives are given great importance by the Singaporean government (Fesselmeyer & Seah, 2018). The ground leasehold systems in China and Singapore show that ground leaseholds can be a central part of the philosophy of government.

Greater ground leaseholder rights typify some locations, as compared to New Zealand. In England the leasehold Advisory Service advises ground leaseholders as to their rights and there is a tribunal to determine ground leasehold disputes (Bracke et al., 2018; Giglio et al., 2015; Ministry of Housing Communities & Local Government, 2018). Furthermore, in England ground leasehold enfranchisement laws mean the lessors are compelled to sell the freehold interest, if the ground leaseholder requests a purchase (Grover, 2014). In Amsterdam, pressure on the government from ground leaseholders due to higher ground rents, resulted in more favourable ground leasehold tenure revisions (Korthals Altes, 2018; Ploeger & Bounjouh, 2017). A notable recent change in Amsterdam for example, is the ability of ground leaseholders to make a lump sum payment for the ground rent in perpetuity (City of Amsterdam, 2019; Korthals Altes, 2018; Ploeger & Bounjouh, 2017). In Sweden one of the original goals of the ground leasehold tenure system, was to make housing less costly for people of low to medium income levels (Ratzka, 1981). Swedish law prohibits the freehold to be owned by a non-public authority, with the overriding goal being public welfare (Mandell, 2002). In Helsinki ground leaseholders are given specific protections in their dealings with lessors under Finnish law, such as more affordable market rent reviews (Tyvimaa et al., 2015). In summary, there is a far greater emphasis on the welfare of ground leaseholders, compared to the New Zealand system of ground leasehold law and administration.

In addition to welfare objectives, there is a greater recognition that the ground leasehold tenure system can operate as a part of a broader system of government revenue generation. Hong (1998) discusses the taxation perspective in Hong Kong or Korthals Altes (2018) details how this revenue generating aspect was an objective when setting up the tenure system in Amsterdam. With the important government function of revenue collection, these ground leasehold tenure systems are subject to broader public scrutiny than in New Zealand. Consequently, management is more systematic, enabling greater public understanding of the ground leasehold tenure system. An

example of this more systematic approach is in Hong Kong where all properties are levied at 3% of the Rating Valuation (The Government of the Hong Kong Special Administrative Region, 2018). However, in some cases there are still tensions due to conflicts between the original objective of public (ground leaseholder) welfare and revenue generation (Hong, 1998; Korthals Altes, 2018; Mandell, 2002). Even a recently proposed ground leasehold tenure scheme in New York, designed to, amongst other objectives, facilitate improved community housing, was not implemented due to political opposition (Shamsuddin & Vale, 2017). Nevertheless, while locations outside of New Zealand are not free from dispute, ground leasehold tenure systems are subject to greater scrutiny. This lack of scrutiny in New Zealand is probably related to the relatively small proportion of the total land tenure types i.e. 1.4% (Land Information New Zealand, 2015). Simply put, ground leasehold difficulties are not problematic enough to warrant further government attention in New Zealand.

The variation of ground lease types outside New Zealand is demonstrated in Table 2.2. In order to fully appreciate the diversity of ground leasehold themed research to which this thesis adds, a brief overview of some papers is provided. Cities where leaseholds predominate tend to be more spread out with older buildings found in the central business district (Anglin, Dale-Johnson, Gao and Zhu 2014). Teng, Chang and Chau (2013) show that as Hong Kong ground leaseholds have become more similar to freeholds, this has in turn resulted in pronounced property market bubbles there. Giglio, Maggiori and Stroebel (2015) indicate that the ground leasehold to freehold comparison infers information about long-term discount rates, which can be used for matters like climate change policy analysis. In Canada, ground leaseholds tend to be redeveloped earlier and at a lower than optimal density (Capozza & Sick, 1991). Dale-Johnson (2001) however, outlines how ground leases can be redesigned to avoid the inefficient density outcomes identified by Capozza and Sick (1991). Guidelines for optimising lessor development decisions in terms of timing or even project abandonment, are provided by Yao and Pretorius (2014). These papers show ground leaseholds enable multifaceted

investigations of important phenomena relevant to city form, behaviours of property market and property development. In this context, a study of the noted ground leasehold issues peculiar to New Zealand, is a useful addition to the ground leasehold body of research.

2.5.1 Ground leasehold literature using New Zealand data and case studies

New Zealand ground leaseholds, especially involving the setting of ground rents, is of interest to overseas academics. Mandell (2002) although focusing on Swedish ground leaseholds refers to the New Zealand context by referring to Jefferies (1997). Mandell (2002) applies a Pareto theory framework in order to determine an equilibrium rent from both the ground leaseholder and lessor. His reference to the New Zealand context underscores that the ground rent review issues are of interest outside of New Zealand.

Papers that use New Zealand ground leasehold data have, like Mandell's (2002) paper, focused on matters relating to rent-reviews. Lally (2001) demonstrates a model to enable a ground rent percentage of land value estimation, where there is no percentage specified in the ground lease document. The ground rent percentage, when multiplied with the freehold land value, is used to determine the ground rent. Ratchet clause impact upon ground leases is the focus for Lally and Randal (2004). Ratchet clauses prevent the rent from falling when reviewed. Lally and Randal (2004) find that ground leases containing ratchet clauses should result in lower ground rent percentages. Boyle, Guthrie, & Quigley (2009) recommend an options pricing approach for determining an equilibrium ground rent between lessor and ground leaseholder, this being a different approach to Lally (2001) who used an application of the capital asset pricing model. These papers assume that using variables such as those contained in the ground lease, an optimal rental setting can be derived, within a market

that functions, at least reasonably. The focus of these papers is different to this thesis, as they are based on rural land (Lally, 2001; Lally & Randal, 2004) and commercial land (Boyle et al., 2009). While such findings are of importance to the broader understanding of ground leaseholds, the focus of this thesis is upon the individual ground leaseholder perception of ground leaseholds in a residential context.

The report by Lusk (1993) indicates a need for further investigation of New Zealand ground leasehold issues, especially relating to ground rent reviews. The findings of the Lusk report are echoed in the legal literature by Sawyer (2015). Given this legal context explanation of New Zealand ground leasehold historical context links to discussion of two recent court cases. In Mandic v The Cornwall Park Trust Board Inc. [2011] NZSC 135, the court found the rent review wording means other lease restrictions are to be ignored when the rent is set (Sawyer, 2015). In this case the lease restrictions relate to restrictions of ground leaseholder development rights. Therefore there is a sense that the "…unremitting contractual approach…" favoring lessors is unreasonable (Sawyer, 2015 p.405). Rent review issues are therefore highlighted in the Mandic case as an important topic where there has been significant dispute.

Sawyer (2015) provides further discussion on rent review matters, in particular when examining the Cornwall Park Trust Board Inc. v Chen [2014] NZHC 2465 case. Sawyer (2015) summarises the key facts of the case starting with the purchase of a ground leasehold by Mrs. Chen for $450,000. The ground lease was structured so that rent reviews were every 21 years, with the first review in four years from the purchase date. The non-reviewed ground rent was $8,300 p.a. and Mrs. Chen had expected an increase to be $40,000 p.a., however it was set at $73,750 p.a. Mrs. Chen abandoned the property causing the Cornwall Park Trust to seek reparation for back rent and repairs to the property. The court found Mrs. Chen liable for the repairs, but that she did not have to pay back rent. (Sawyer, 2015). However, the Court of Appeal overturned the previous order, now requiring Mrs. Chen to pay

back rent (Cornwall Park Trust Board Inc. v Chen [2016] NZCA 65). The Chen case outlines an unfortunate circumstance for Mrs. Chen, however, the facts reflect what can occur with ground leaseholds in New Zealand. Of particular note, Sawyer (2015) outlines how people can think about ground leases:

> A rise in land values may appear, at first sight, to benefit anyone with an interest in land, whether freehold or leasehold. If, however, a ground rent formula has been based on the assumption that land values will rise only at the rate of the general cost of living, rent reviews will not produce a sensible result so far as the parties' business dealings are concerned (Sawyer, 2015, p.405).

This display of how people can think about ground leases is an important observation. The quote indicates that there is a degree of flawed thinking when people purchase ground leaseholds. There is no surprise, therefore, when Sawyer (2015) indicates ground leasehold law needs modernisation in New Zealand, as has occurred with the laws relating to residential tenancies. Sawyer's (2015) focus is on disputes in two legal cases concerning residential ground leaseholds. Empirical analysis in the New Zealand context therefore, is an important objective of this thesis.

2.5.2 The Freeholders (Lessor) perspective

This thesis is concerned with the ground leaseholder (lessee) perspective. However, acknowledging the other contractual party in the ground lease, the lessor (freeholder) is necessary. Without the lessor creating the ground leasehold, there could not be a ground leasehold market. The lessor was the original party that had reasons for the ground leasehold formation, such as funding Cornwall Park in central Auckland. Another reason for ground leasehold formation is to provide an income for Māori

landowners with these ground leaseholds being located around various places in New Zealand. In summary, New Zealand ground leaseholds were formed for important reasons that are often related to supporting the community. The ground lessor perspective is therefore important and requires some acknowledgement in this thesis despite the central ground leasehold (lessee) focus.

Research for where the focus is the lessor interest has been of importance to researchers. Yao and Pretorius (2014), apply the American call option pricing model to lessor-interest development sites. Evaluation of developer (lessor) decision making in conjunction with the lessor interest title form is the focus. Another research interest relates to how there can be dispute with the setting of ground rents. As such researchers have been drawn to determining how equilibrium ground rents can be set between the ground leaseholder and the lessor. These equilibrium ground rent focused papers either use New Zealand data (Boyle et al., 2009; Lally, 2001; Lally & Randal, 2004), or refer extensively to literature from New Zealand (Mandell, 2002). Furthermore, the Lusk report when considering the problems with ground leaseholds, studied submissions from both ground leaseholders and lessor organisations (Lusk, 1993). The lessor submissions were noted to be of a most thorough nature backed by expert reports, such as from property valuers. Therefore, the ground lessor perspective has been comprehensively considered in the literature, and this thesis is not focused upon adding to that literature specifically.

The market for ground leaseholds is different to the market for lessor interests. Residential ground leaseholds transact from the ground leasehold sellers to the ground leasehold purchasers who seek to live in or rent out their property. In such transactions, the lessor interest remains as it was, with the only difference being that a new ground leaseholder is responsible to pay the ground rent. Rather than individual sales, the lessor interest market is usually characterised by combined holdings of lessor

interests. An example of a lessor portfolio transaction was in the early 1990s with a sale from the St Johns College Trust Board to St Johns Holdings Limited (B. Dutton, personal communication, January 10, 2017). In summary, ground leaseholds transact independently from lessor interests and it is the ground leasehold asset that is of crucial interest in this thesis.

Internationally the ground leasehold focused perspective has been of interest to researchers. Writing in the highly regarded Quarterly Journal of Economics the ground leaseholder perspective is vital in the work of Giglio, Maggiori & Stroebel (2015). Giglio et al. (2015) use ground leaseholds of varying expiry terms to determine long-term discount rates. Long-term discount rates can be used to evaluate the effectiveness of policies such as climate change initiatives where cost benefit studies are important in their justification. Teng, Chang & Chau (2013) also focus upon the ground leasehold as a basis for their research. Teng et al. (2013) have a specific interest in investigating market bubbles and how freehold markets differ from ground leaseholds in terms of bubble formation. Consequently, the singular focus on the ground leaseholder perspective is important to highly regarded research.

Despite the research to date, problems remain with ground leaseholds in New Zealand. Lusk (1993) and Sawyer (2015) identify that there is still disquiet from those who have purchased a ground leasehold. Complaints often relate to the ground leaseholder perception of high reviewed ground rents. Understanding why the high ground rent perception persists amongst ground leaseholders is the focus of this thesis. Moreover, ground leaseholder centred research can assist ground lessors understand the ground leaseholder perspective more completely. Therefore, for this thesis the ground leasehold estate is the emphasis, with this focus providing an important contribution to the ground lease literature generally.

2.5.3 Valuation of the ground leasehold and the ground leasehold value cycle

Given the explanation of the New Zealand literature, an important question relates to how ground leaseholds are valued. An indication of a way to value a ground leasehold, may appear to be in conflict with common behavioural economic method that typically compares the difference between treatment and control groups, such as in Hansz and Diaz (2001), Diaz and Hansz (2010) or Tidwell and Gallimore (2014). Ground leaseholds are, however, different to freeholds because they have lesser property rights. Explaining how value is derived for a ground leasehold is consequently necessary to provide clarity.

The ground leasehold value is derived from the benefits conveyed in the ground lease where the ground rent level is held by a rent review clause. The period between rent reviews can give rise to ground leasehold value in the land. Between rent reviews value is apparent if the market ground rent is higher than the contract rent. That difference in rent values can be capitalised to derive value. To clarify, the term "contract rent" means the rent level that is payable under the terms of the ground lease, that could change at the time of ground rent review to the market level ground rent. Asabere (2004) expresses the ground lease value, shown as V_{lh} in the following formula. To be clear, the ground leasehold value shown is in relation to the land rights conveyed to the ground leaseholder.

$$V_{lh} = \left[\sum_{1}^{n} \frac{(r_m - r_c)^t}{(1+i_h)^t} \right] \qquad 1$$

This formula shows the ground lease value is derived by calculating the difference between the market rent r_m and contract rent r_c. This difference between r_m and r_c is termed the benefit rent. The ground leaseholder's discount rate is i_h, while t represents the particular time period and n is the lease term.

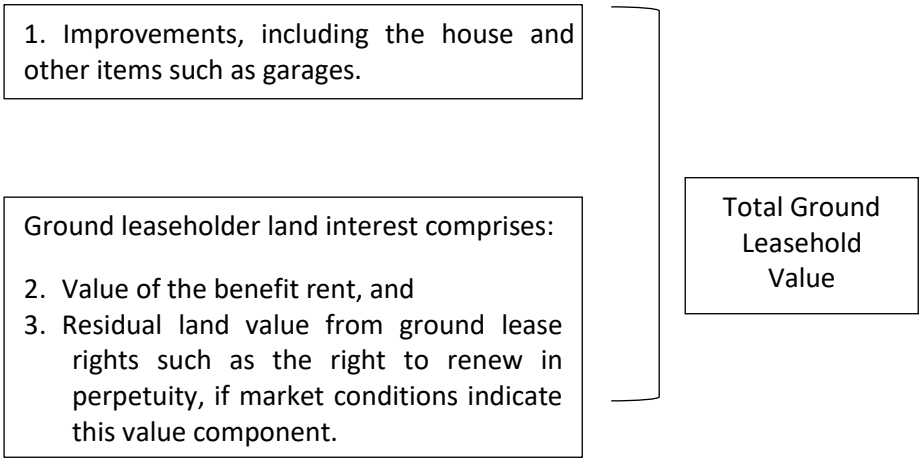
In New Zealand, r_m is usually assessed as a percentage of the current value of the freehold land, either explicitly stated in the lease, or by an imputed percentage.

For there to be ground leasehold value, r_m needs to exceed r_c, where the ground leaseholder pays less than the market rent, until the ground rent review time. If ground rents are reviewed frequently, such as every 7 years, there will be less benefit for the ground leaseholder. If there is a longer time between reviews such as 21 years, and r_m increases quickly after the review, the value to the ground leaseholder will be higher. When the ground rent is reviewed, r_m will then equal r_c.

New Zealand valuation industry practice, uses in part, an adapted version of the ground leasehold valuation formula as displayed by Asabere (2004) when applied to the valuation of ground leasehold housing. In order to value a ground leasehold, the valuer is required to conduct an analysis of sales as a first step. Valuers typically divide ground leasehold sales into three value components. Firstly, an amount for the improvements is derived, predominantly for the house, but also including any garages, carports, fencing, landscaping, swimming pools and similar items. The ground leaseholder usually owns the improvements however the ground leases often have some control over the improvements, such as requiring a good standard of house maintenance at Cornwall park. The second, component is derived by a simplification of the valuation formula as displayed by Asabere (2004). The benefit rent (r_m- r_c) is capitalised by i_h at the time of valuation, until the next review period. The capitalised benefit rent represents the ground leaseholder's interest in the land. Another possible ground leasehold land value component, if apparent in the market, can reflect residual ground lease rights such as perpetual rights of renewal or a right of purchase for the lessor interest. For such a residual value to be apparent, ground leasehold purchasers have to be confident there is benefit in the lease beyond the review

period. To be clear, the three value components of a ground leasehold are summarised below in Figure 2.1 following.

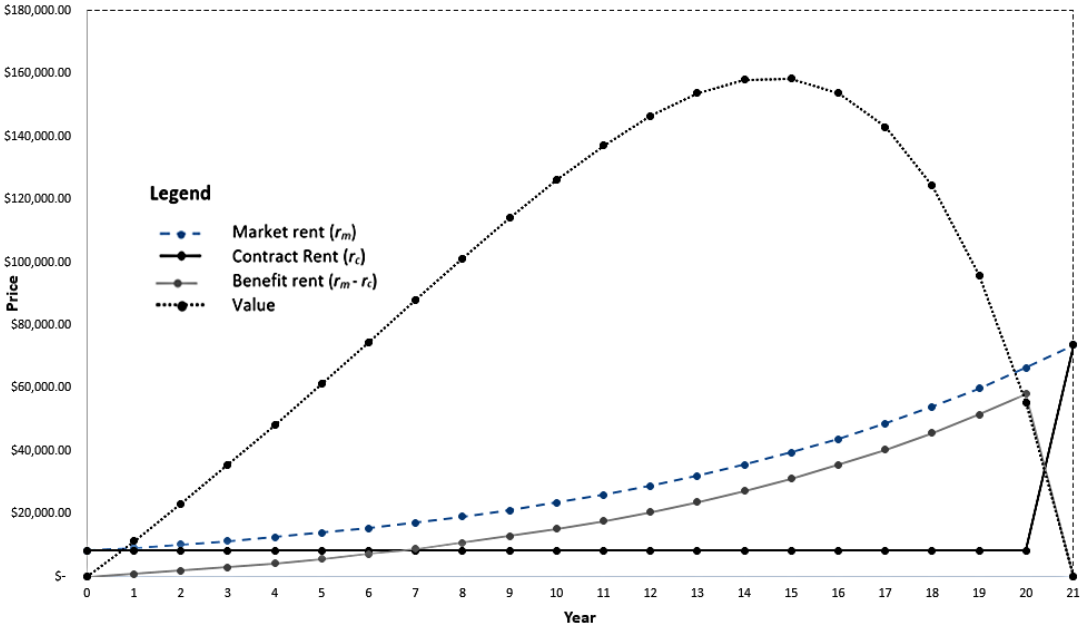
Figure 2.1 The three value components of a residential ground leasehold in New Zealand



The simplifying industry practice, relating to the capitalisation of the benefit rent, assist in showing the ground leasehold land value cycle that can explain the risks of ground leaseholds at review time. In order to show this value cycle, reference to Cornwall Park Trust Board Inc. v Chen [2014] NZHC 2465, where ground rents and other information is reported. In this case the initial ground rent was set at $8,300 per year, rising to $73,750 per year, at the end of the 21-year review period. Capitalising the implied yearly benefit rent based on the Chen case, each year until review date, shows how the ground leasehold value changes for each of the 21 years between rent reviews. Figure 2.2 shows this value cycle of a ground leasehold where the benefit rent is capitalised each year, showing the ground leaseholder's interest in the land.

Figure 2.2 Ground leasehold land value cycle for the capitalised benefit rent component, where there has been substantial freehold value growth

The following graph illustrates the relationship between ground rents and value based upon the rents indicated in the Yong Xin Chen v Cornwall Park Trust Board case. At the bottom the contract rent r_c is shown as a straight line at $8,300 until year 21 when reviewed to $73,750. The market rent r_m is shown in blue, increased at the yearly imputed rate increase of 10.96%, that is the implied yearly rent from $8,300 to $73,750 over 21 years. The benefit rent (r_m - r_c) is shown in grey. The value trend line is constructed by capitalising the benefit rent each year, at a discount rate (i_h) notionally taken to be 5%, until the review in year 21. The value peaks around year 15 and thereafter falls to a zero value in year 21, when the ground rent is reviewed.



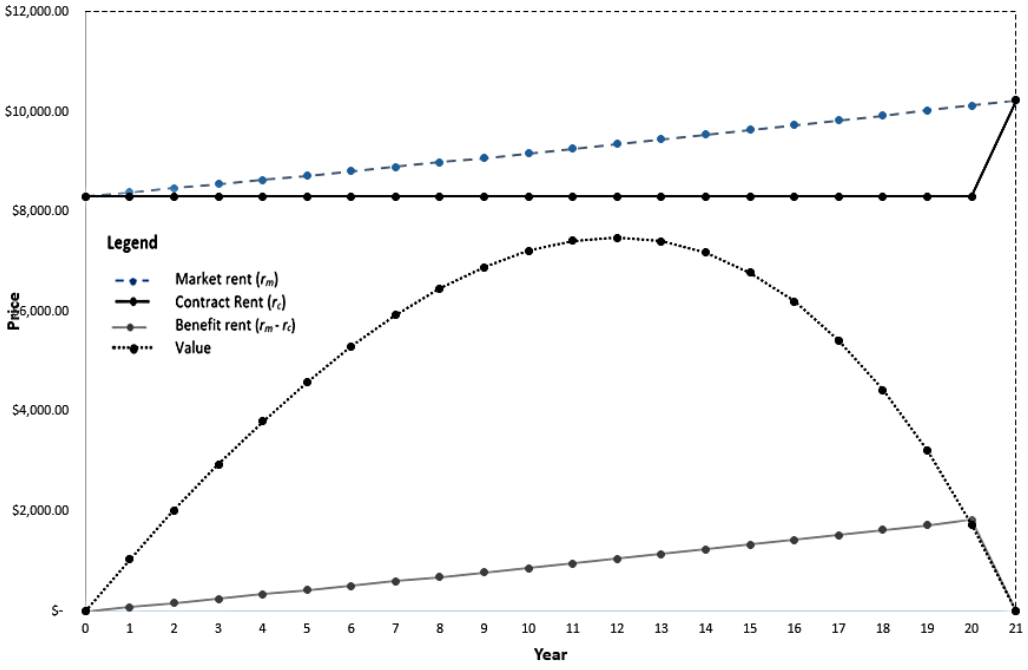
Recognition that the ground leasehold land value falls closer to the review date, when there has been substantial freehold growth, is a crucial understanding for any ground leasehold market participant. Purchasing close to the review date is when the risk of mis-estimation of value is most pronounced. Comparing ground leasehold to freehold prices, without considering the possible ground rent increases, just prior to the review is an undertaking of substantive risk. The ground leasehold value cycle demonstrated on the above graph concerning the Cornwall Park Trust Board Inc. v Chen case is based upon market conditions of substantial freehold value growth over the 21 years. Freehold residential value growth is common to encounter, for example the value of housing stock has risen steadily since the year 2000 (Reserve Bank of New Zealand, 2019) and is also referred to as a critical issue by Lusk (1993). The above Figure 2.2, therefore demonstrates the common circumstance of

substantial freehold value growth and how the ground leasehold value rises before falling closer to the ground rent review date. To reiterate, Figure 2.2 shows the land component of a ground leasehold. An implicit assumption following usual valuation practice, is that the improvements can be added to the land value component, with a resulting higher total ground leasehold value.

The impact of more subdued freehold value growth is considered to understand how ground leasehold values behave in different conditions to the Cornwall Park Trust Board Inc. v Chen case. While Lusk (1993) and others point to common circumstances of substantial freehold value growth, it is possible for periods of lesser value growth. Some locations do not experience the high levels of freehold growth due to economic circumstances, such as the closing of a factory in a small town, where there is no alternative employment. The following Figure 2.3 uses 1% per annum as the level of freehold value-growth to observe the impact on ground leasehold value. Freehold growth at 1% per annum is substantially less than the Yong Xin Chen v Cornwall Park Trust Board case, however, may be a relastic average growth rate in some market conditions.

Figure 2.3 Ground leasehold land value cycle for the capitalised benefit rent component, where there has been modest freehold value growth

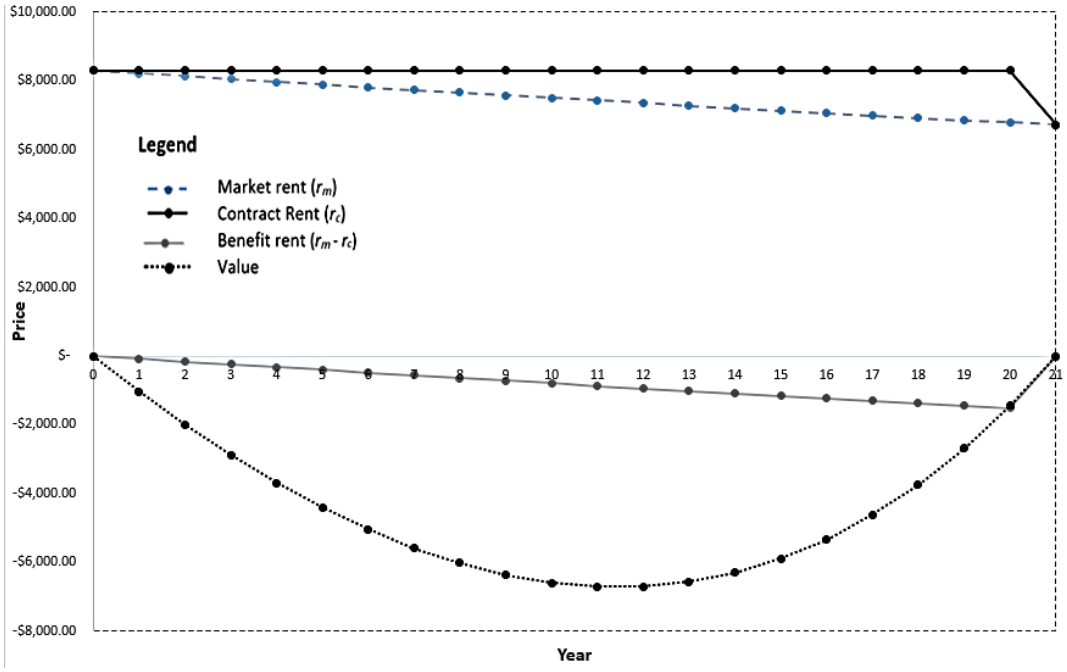
The following graph illustrates the relationship between ground rents and value based upon a 1% per annum increase in ground rent. To be consistent with Figure 2.2, the contract rent r_c is shown to be the same as Figure 2.2 at $8,300 until year 21 when reviewed to $10,229. The market rent r_m is shown in blue, increased at the yearly rate of 1%, from $8,300 to $10,229 over 21 years. The benefit rent (r_m - r_c) is shown in grey. The value trend line is constructed by capitalising the benefit rent each year, at a discount rate (i_h) notionally taken to be 5%, until the review in year 21. The value peaks at year 12 and thereafter falls to a zero value in year 21, when the ground rent is reviewed. Compared to the high land value growth scenario in Figure 2.2, the value attributal to the ground lease is minimal given that it peaks at $7,482.



For completeness, the final scenario considers the impact of freehold price falls. Figure 2.3 was based upon a period of low growth, but it is possible for freehold prices to decrease over a prolonged period. Sustained decreases in freehold prices can relate to factors that include an aging population, as experienced in Japan (Saita, Shimizu, & Watanabe, 2016). In Figure 2.4, a 1% decrease per annum is adopted to indicate the impact on ground leasehold value. Figure 2.4, shows the value of the ground leasehold falls as freehold prices decrease, but rises closer to the review time.

Figure 2.4 Value cycle of a ground leasehold where there has been a fall in freehold values

The following graph illustrates the relationship between ground rents and value based upon a 1% per annum decrease in ground rent. The contract rent r_c is shown as a straight line at $8,300, being consistent with figures 2.2 and 2.3, until year 21 when reviewed to $6,721. The market rent r_m is shown in blue, decreased at the yearly rate of 1%, from $8,300 to $6,721 over 21 years. The benefit rent (r_m - r_c) is shown in grey. The value trend line is constructed by capitalising the benefit rent each year, at a discount rate (i_h) notionally taken to be 5%, until the review in year 21. The value fall is at the most pronounced at around year 11 and thereafter increases to a zero value in year 21, when the ground rent is reviewed. The impact of the falling ground rent, is a reversal of Figures 2.2 and 2.3, where the ground leasehold value falls below zero and then rises to zero at the next review date.



One disadvantage from the ground leaseholder's perspective, is at the end of the rent review cycle in year 21 in Figure 2.4, is that the reviewed contract ground rent (r_c) may be prevented from falling to the market ground rent levels due to specific wording of some ground leases clauses. The ground lease clause that prevents this falling then rising value pattern is known as a ratchet clause, where the ground rents are ratcheted against falling below the previous contract ground rent level (Lally & Randal, 2004). Prospective ground leasehold purchasers would therefore be less likely to purchase a ground leasehold in this circumstance where the ground rent is above current market ground rent levels.

Despite the ratchet clause preventing a fall in the ground rent, the investment in a ground leasehold from the lessor (freeholder) perspective is not likely to be viewed as favourable. Implicit in such an occurrence of falling market ground rents, is the fact that the lessor will not enjoy any increase in the ground rent after considerable time between rent reviews. Even in more buoyant freehold market conditions, a 21-year delay in an increase in ground rents is a long time for the ground leaseholder to wait. Consequently, the lessor takes considerable risk, with an investment in a lessor interest in the land.

In summary, in increasing freehold price conditions, the ground leasehold interest in the land indicated by the capitalised benefit rent, shows an increasing value profile before falling closer to the time when the ground rents are reviewed. Conversely, in decreasing freehold price conditions, the ground leaseholder interest in the land indicated shows a reverse pattern to increasing freehold price conditions. In all three scenarios, Figures 2.2, 2.3 and 2.4, the ground leasehold value starts at zero and returns to zero at the end of the 21-year time span.

The idea that the ground leasehold value changes, depending on the time to run until the rent review and freehold growth levels, is important for market participants to recognise. In particular, not thinking through the impact of an impending ground rent review when there has been freehold growth, is a critical risk, because ground leasehold value falls closer to the ground rent review date. When reviewed, there will be no benefit rent, because the contract rent will change to the market level.

Importantly, the idea that the ground leasehold values are positively correlated with freehold values, close to a ground rent review, is incorrect. Growth in freehold values clearly increases the cost obligations of the ground leaseholder in terms of higher ground rents. A rational market participant should be aware that in a context of freehold value growth over the 21-year rent review cycle, ground rent increases are foreseeable.

2.5.4 Summary on the ground leasehold literature

With there being much variation in ground leaseholds in different countries, the term "ground leasehold" is effectively a general catch-all term that describes a particular land tenure type that has less rights than a freehold title. The extent to which a ground leasehold has lesser rights than freehold property rights, depends on the land laws in the country. The property laws, in turn are linked to how ground leaseholds fit within broader policy settings, such as how in some countries ground leaseholds provide housing for less affluent people. Ground leasehold laws and policies therefore are not randomly set in these locations, but are planned in a deliberate way by the legislators or local government. Ground leaseholds in the New Zealand setting conversely, are notable for the variety of different lessors and different reasons for their establishment. New Zealand also has limited legislative protections for ground leaseholders compared to other jurisdictions. The problems apparent with ground rent reviews in New Zealand, such as that detailed in the Lusk report (1993) are not therefore surprising.

The ground leasehold literature in an international context is typified by numerous differing research interests, enabled by the specific characteristics of ground leaseholds. A common finding is that ground leasehold sale prices tend to be discounted compared to freehold sale prices. Such findings are not surprising given the limited bundle of property rights, and such an investigation using New Zealand data would not add substantively to the literature. New Zealand research has generally concerned itself with matters relating to rent reviews, such as an appropriate ground rent percentage or the impact of a ratchet clause on a ground rent percentage, i.e. Lally (2001). However, such research is often based on non-residential data and assumes a reasonably functioning marketplace for ground leaseholds. This thesis is focused at the micro-level, namely the individual ground leaseholder perspective of ground leaseholds that should provide further insight into the ground leasehold tenure type.

2.6 Summary comments on the review of the literature

The New Zealand experience of ground leaseholds is notable for reports of dispute between ground leaseholder and lessor (Lusk, 1993; Sawyer, 2015). Dispute frequently involves the assessment of ground rent reviews and the way ground leaseholders interpret their ground leasehold lease document. An information problem was initially suspected, either due to the way ground leasehold information is interpreted or because of a paucity of relevant information available to ground leaseholders. Consequently, behavioural literature of a generic nature was reviewed first, in order to better understand what type of thought process ground leaseholders may employ.

The generic behavioural literature often starts with the work of Simon (1955) in terms of the explanation of how bounded rationality influences decision making. Applying Simon's bounded rationality framework has interested a number of researchers especially those in the economics and psychology fields. In particular, the work of Tversky and Kahneman (1973) on the availbility heuristic offered a possible explanation of the behaviours. The availability heuristic could make property market participants apply inaccurate thinking when judging a ground leasehold purchase price. Additionally, rational behavioural assumptions were briefly discussed, as they are the usual null hypothesis settings in behavioural studies (Kahneman, 2003).

In a property economics context, the general work of Tversky and Kahneman has explained different property market behaviours. Theories, as to how market participants anchor their price estimation to information such as asking prices or expert opinion, is of obvious relevance to property decision making (Kahneman, 2003; Tversky & Kahneman, 1974). Examples of such application in the property economics field include Hansz and Diaz (2001); Tidwell and Gallimore (2014) or Scott and Lizieri (2012). Studies such as these, tend to use treatment and control groups and show that there is a robust way of testing behavioural phenomena.

Information asymmetry is another theory considered as a way of explaining the ground leasehold issues (Akerlof, 1970). A lack of relevant information that ground leaseholders can obtain could for example, explain the problems outlined by Lusk (1993) and Sawyer (2015). Information asymmetry is a theory explanation that could, just like the availability heuristic, explain ground leaseholder behaviours. Therefore, a research design is required to investigate the appropriate application of a theory to test, as the first research stage.

The ground leasehold literature, especially in the New Zealand context, does not provide enough guidance on the theory application. Ground leaseholds in other countries are different to those in New Zealand, which is notable for variation in ground lease documents, different lessors (freeholders) and a relatively light regulatory environment. In general, ground leaseholds outside of New Zealand are typically in a form where the lessor interests are government owned and administrated enabling greater systematic management of matters such as rent reviews. Therefore, overseas ground leaseholds are different in design and in the context of how they are used.

The New Zealand ground leasehold literature to date has examined equilibrium ground rent settings from an overall framework, where there are assumptions as to the proper functioning market, or there is a way to overcome possible imperfections (Boyle et al., 2009; Lally, 2001; Lally & Randal, 2004). This thesis examines ground leaseholds from the individual perspective, where the thought process of market participants is of central focus. Such a micro-perspective is different to that research conducted previously in the New Zealand context, with the goal of explaining the individual market participant behaviours. The micro-level perspective can provide a greater understanding of the ground rent review problems raised in Lusk (1993); Myers (1948); Sawyer (2015) and that the papers by Boyle et al. (2009); Lally (2001); Lally and Randal (2004) do not concentrate on.

The model for ground leasehold value shown in Asabere (2004), was applied to a New Zealand case study. Of particular note is the risk apparent in ground leaseholds just prior to the ground rent review, where there has been freehold value growth. The ground leasehold land value falls close to the ground rent review date because the rent currently paid by the ground leaseholder will increase to the full market rent. The ground leaseholder therefore needs to be aware that ground leasehold value changes based upon the length of time between rent reviews, and the extent of freehold value growth.

The New Zealand context for ground leaseholds is of particular interest, because it is unique in the world in the way they are managed. Having considered the literature, more concrete evidence is needed in order apply an appropriate theory lens to the ground leasehold issues in New Zealand. The semi-structured interview method, to be described in Chapter three, is therefore employed to investigate the nature of any ground leasehold problems as suggested by Lusk (1993) and Sawyer (2015). If the existence of such problems is confirmed, hearing from ground leaseholders as to their explanations of ground leasehold problems is crucial to understanding the causes.

Chapter Three : Methodology

3.1. Introduction

Underscoring any research method is the researcher philosophy, with an explanation provided at the start of this method section. The particular research methodology is consequently explained in a more complete way because the research type and researcher philosophy are inextricably linked. The overarching mixed methods framework is then discussed, because two different methods of semi-structured interviews are used as well as an experiment. Then the specific semi-structured interview method, followed by the experiment method are both explained. Gaining insight into investor behaviours with relevance to ground leaseholds is required first, due to the paucity of relevant literature on ground leaseholds that explains the behaviours of the individual. Semi-structured interviews are the most practical way to begin to understand investor behaviour in this context. A questionnaire without the flexibility to ask additional questions may not fully consider all possible explanations of behaviours. An experiment then tests the conjecture derived from the semi-structured interviews.

Motivating this mixed methods approach is the desire to more fully understand the suggestions of ground leaseholder behaviours in the work of Sawyer (2015) and the problems demonstrated in the Lusk (1993) report. The mixed methods framework therefore enables a thorough investigation from identification of problems and possible causes with the semi-structured interviews, through to identification of causal factors in the following experiment method.

Adoption of an empirical data driven method with ground leasehold transactions, such as through a hedonic pricing model, does not specifically offer theory explanations that a semi-structured interview method addresses. Furthermore, obtaining sufficient numbers of transactions with the relevant variables, in addition to the usual hedonic model specifications such as house size, condition and number of bedrooms, proved to not be available given confidentiality requirements. The specific ground leasehold information required includes the existing ground rent, rent review dates, renewal dates and ground rent percentages if appropriate and the current ground rent or current market ground rent at the time the property sold. New Zealand is not unique with its relative paucity of relevant information with Mandell (2001) examining only 16 leasehold sales. The mixed methods framework is the best way to understand ground leaseholds more fully. The semi-structured interviews provide behavioural insight for hypothesis formation, prior to testing in an experimental format.

3.2. Researcher philosophy

Philosophical assumptions of the researcher can influence the whole research process and choice of research style. The researcher in this case is a student who appreciates the benefits of both qualitative and quantitative research. Qualitative research can highlight key insights that at times, can be unanticipated. Conversely, quantitative research can summarise interactions of numerous entities in an objective way. So while qualitative research is different to quantitative research, both are useful in adding to the knowledge of various topics. However, appreciation of different research methodologies alone cannot form the framework for a thesis. Consideration of literature pertaining to research methodologies is required.

This thesis uses qualitative semi-structured interviews and an experimental method. Bryman & Bell (2011) outline studies based upon quantitative preselected options without scope for respondent feedback through to open-ended qualitative studies. This study uses a qualitative method of open-ended questioning first, to gain insight from those who have purchased a ground leasehold. The follow up method of an experiment is chosen by researchers with different research philosophies. Notwithstanding that these two methods are necessary, the underlying researcher philosophy that unifies the differing methods requires explanation.

The unifying philosophy is that of a post-positivist. Positivism underlies most quantitative research endeavour. Required therefore is a comparison of the essential elements between positivism and post-positivism. Tashakkori and Teddlie (1998) summarise the key differences between positivist and post-positivist research paradigms. They show that while the positivist researcher adopts an objectivist epistemology the post-positivist adopts the perspective that research findings are "probably true"(Tashakkori & Teddlie, 1998, p.23). In other words, the framing of results occurs within probabilistic terms, rather than as being "proven" by empirical research (Johnson & Gray, 2010, p.82). While the positivist researcher's ontology is characterised by naive realism, critical realism is the post-positivist ontology. Critical realism asserts that people's subjective experiences need filtering in order to understand the true nature of the world (R. Edwards & Holland, 2013). Creswell (2014) reminds us that when the objects of research are people and we can never be completely certain about their behaviour. Despite the above discussion post-positivism shares much common ground with positivism, with Tashakkori and Teddlie (1998) showing more similarity between the two epistemologies than different qualitative research philosophies. For example, Tashakkori and Teddlie (1998) show a greater similarity in ontologies of positivism and post-positivism, whereas pragmatism and constructivism ontologies can have far greater differences.

Ultimately a practical view is taken in this thesis where the focus is upon the goal of better understanding ground leaseholder behaviours. Mixed methods research discussion on the appropriate epistemology may never be fully clarified with differing authors holding different opinions as Tashakkori and Teddlie (2010) point out. In this context of critical debate, they argue that there can be too much emphasis on epistemological positions, when the researcher should concentrate on accomplishing the research objectives. This view is echoed by Gorard (2010) when he states the debate around epistemologies is pointless and the correct emphasis should be on more practical considerations such as research design and data analysis. This approach is emphasised in this thesis where ground leaseholder experiences drive the design of the experiment. The experiment in turn helps more fully illuminate the semi-structured interview revelations.

Stockman (2015) advises mixed methods researchers to outline the dominant theory or methodology early and be explicit about any tensions between approaches. Accordingly, within this dominant post-positivist framework there is a slight tension with the interview method. In this case, the interviews can reveal matters that are not anticipated, which is not fully within the positivist or post-positivist tradition, where hypothesis forming occurs prior to the data collection. Non-anticipated insights are especially likely given the open-ended style where the intention is not to bias the interviews with suggested answers. Unanticipated insights can, however, lead to a "deeper understanding" of issues and therefore will be used in this thesis (Malterud, 2000). Essentially the objective here is to understand key issues more fully by being open minded for unanticipated matters to emerge. To clarify, however, this thesis does not seek to "build theory" as a grounded study would (Strauss & Corbin, 2008). The assertion here is that this dominant post-positivist method benefits from certain advantages imbued from typically less positivist orientated research methodology.

In summary, the underlying research philosophy driving this thesis is of a post-positivist tradition with a critical realist ontology. This philosophical stance enables integration of results that are derived from both the semi-structured interviews and experiment. The semi-structured design enables ground leaseholders to indicate what they believe are the crucial issues that in turn motivate the experiment design. Mixed method research designs are strongly supported in the literature enabling important research findings for society.

3.3. The mixed methods research thesis framework

Two methods of semi-structured interviews and an experiment are used. The objective of the semi-structured interview is to thoroughly understand the behaviour of ground leaseholders. Upon completion an experiment was formed to test the hypothesis arising from the semi-structured interviews. These twin objectives are aimed at better understanding if ground leaseholds are a flawed tenure form.

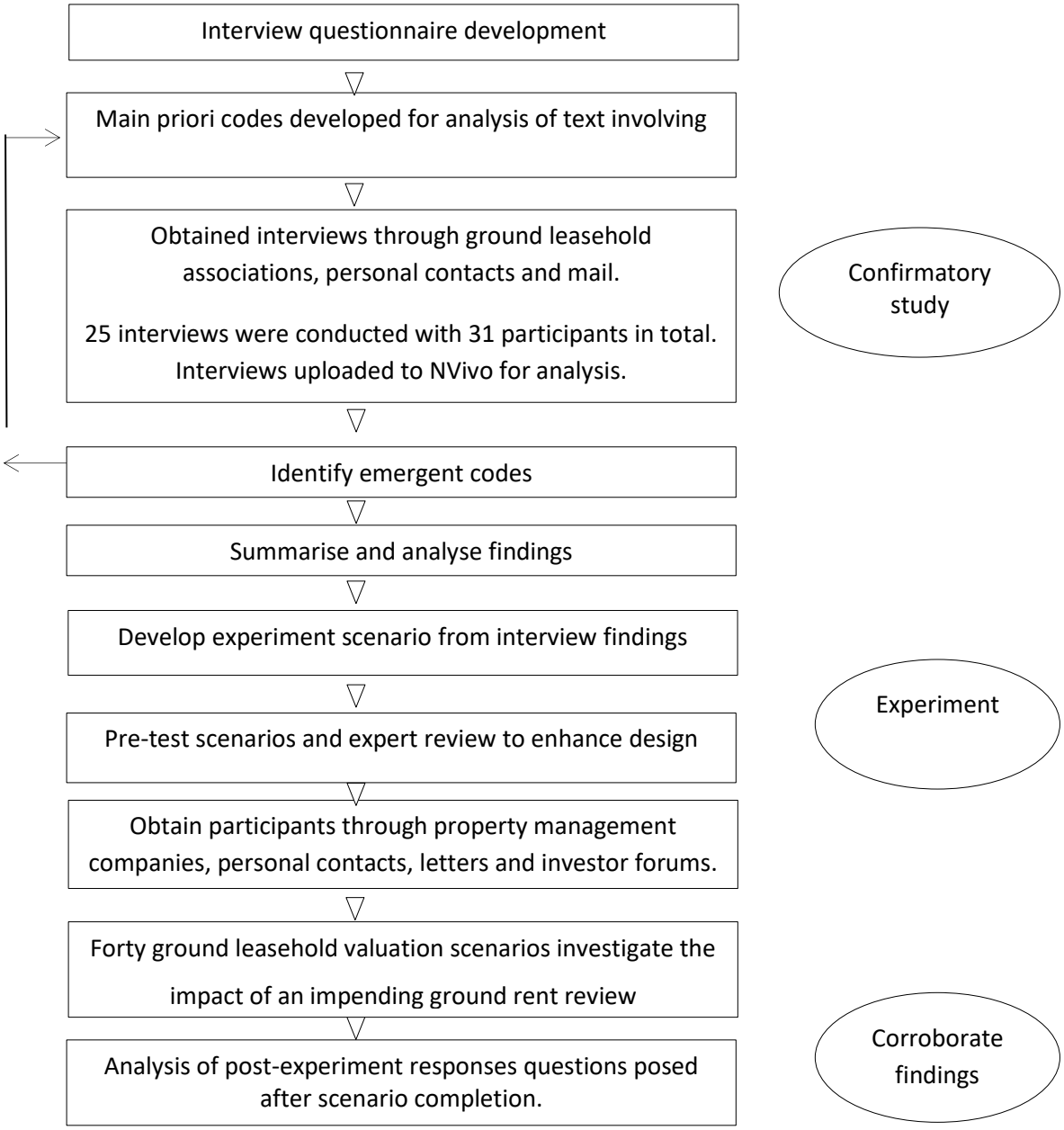
The interview and experimental methods are often used in different research contexts. Therefore, explanation of how this thesis is organised within a mixed methods framework is necessary. This section is in effect, an overview of both methods emphasising their interconnectedness through a post-positivist lens. Interspersed throughout this chapter is details of each method.

The mixed methods research design is not randomly adopted, but considered in relation to the relevant mixed methods literature. This first study is labelled as a "confirmatory" study in this literature, where tentative predictions are used to set the research agenda (Tashakkori & Teddlie, 1998). Tashakkori and Teddlie contrast confirmatory studies with "exploratory studies" where there is no prior research hypothesis. In this thesis, there are prior expectations of possible ground leaseholder behaviours, so this is not an exploratory study. Answers to the questions posed are to ensure the experiment design has a sound theoretical footing.

Using qualitative research supported by additional quantitative enquiry, makes this research endeavour more robust in each research tradition. Such triangulation is a key advantage of mixed methods research (Johnson & Gray, 2010; Tashakkori & Teddlie, 1998). Two methods overcome the often pointed to disadvantages of qualitative research or quantitative research used singularly. Therefore, with this mixed methods approach, detailing the overall design, rather than showing a separate research design for each project is adopted. In simple terms, the design here can be summarised as follows; semi-structured interviews enable understanding of the phenomena concerning ground leaseholds. The follow up experiment draws on the semi-structured interview findings, making the results more meaningful and robust. In order to emphasise the integrated research design a flow chart of the thesis research process follows.

Figure 3.1 The mixed methods research process depicted as a flow chart

The following flow chart highlights how the research process integrates the two research methods. Semi-structured interview questions development links to how the data is processed, through to the formation of the experiment and analysis. Some of the ideas for this diagram are adapted from Fereday and Muir-Cochrane (2006) and J. Edwards (2012).



3.4. Method one - semi-structured interviews

This section outlines the semi-structured interview processes. Firstly the interviewee sampling strategy is explained before the interview steps are outlined. These steps are adapted from the framework shown in Kvale and Brinkmann (2009).

At the outset it is important to note that within the property literature, numerous authors use the interview method. Willis, Natalier, and Revie (2011); Levy (2005); McAllister, Baum, Crosby, Gallimore, and Gray (2003) or Hutchison et al. (2016) are authors who use qualitative interviews. Qualitative interviews are therefore a much-used research method, helping to greatly inform understanding of property related matters.

3.4.1. An overview of the semi-structured interview design steps

Reference to the seven-step framework, of Kvale and Brinkmann (2009) is made due to the suitability for a variety of different philosophical viewpoints. These seven interview steps are summarised in the table following that includes comment related to the ground leasehold research context. Thereafter, the steps are elaborated on as they apply to the interview design, in the following subsections.

Table 3.1 Seven step framework of Kvale and Brinkmann (2009) adopted for semi-structured interviews

The following table shows the seven interview steps (column one), together with a description of what that each step entails (column two). Following this summary table, further discussion of the interview steps follows.

Interview step	Description
Thematising	The interviews purpose is to understand what the key themes are from the ground leaseholder perspective. Identification of important themes will help address which theory to test as part of study two.
Designing	The overall design is semi-structured with the researcher wishing to learn about certain issues specified within the questionnaire. The design allows non-anticipated issues to emerge. Given the interrelated nature with thematising above, both designing and thematising are discussed under one heading.
Interviewing	Detailing of the interview method is an important topic. Incorporated are also considerations such as ethics and other strategic issues.
Transcribing	Writing up the interviews into transcriptions for further analysis.
Analysing	The deriving of findings from the data collected is a critical aspect for this thesis. Given the interrelated nature with transcribing, discussion of these two steps is combined.
Verifying	Verifying is the process of ensuring the findings are valid, reliable and generalizable.
Reporting	The method of reporting is within this thesis document and does not require further elaboration.

3.4.2. Deciding on the interview themes and designing of the semi-structured interview questions

Kvale and Brinkmann (2009) express the need for topic identification and to indicate the study motivation. The introductory section of this thesis describes a ground leasehold and study motivations. To briefly restate, the interview themes and motivations are suggested by reference to the literature, specifically Sawyer (2015) and the Lusk (1993) report. Consequently, the research design is required to uncover information, helpful to explaining ground leasehold phenomena.

The design seeks to explain the ground leasehold phenomena in appropriate theoretical terms, because there is only theory suggestion as to ground leaseholder behaviours. Finding out from ground leaseholders their perceptions of ground leaseholds through semi-structured interviews is most practical. This approach conforms to the recommendation of Case and Shiller (2003) who advise researchers to more regularly find out what people think when they make their economic decisions. This qualitative methodology is more than a pilot study to the latter quantitative investigation as advocated by Martin and Turner (1986). Rather the interviews are a fundamental theory foundation from which quantitative study can be more soundly based.

The semi-structured interviews are designed to optimally determine ground leaseholder concerns. Berg and Lune (2017) outline different interview styles, from highly standardised and structured interviews through to unstandardised non-structured interviews. The main advantage of semi-structured interviews is that questions do have structure, enabling comparison in a typically positivist way. The specific design arranges questions around topics of relevance to prompt discussion. However, the flexibility in semi-structured interviews enables further probing an interviewee for any unanticipated observations. This semi standardised interview style fits within a post-positivist philosophy where results are not accepted in a naive realist sense. Initially, questions are more general, so that the interviewee provides more detail. Initial interviews suggested that some interviewees could "talk around" issues of importance. Therefore, more specific questions are provided later in the interview question schedule to ensure there is understanding of interviewee opinions on specific topics, such as rent reviews. In order to more fully explain the design in this ground leasehold context a sample of some questions with rationale is provided in the table following.

Table 3.2 Selected interview questions and their rationale

This table details some of the questions from the semi-structured interviews. The rationale in the second column, explains the intention of that question.

Interview question/s	Rationale
Please describe the market for leasehold investment properties. (Question 1) Who purchases leasehold properties and why? (Question 2)	Question design engages the interviewee in general conservation about ground leaseholds. They do not require any in-depth knowledge, enabling interview commencement in a non-threatening way.
Why do people choose leasehold properties as an investment – what is the motivation? (Question 3)	With people often believing their property is a form of investment i.e. Case and Shiller (2003), understanding how they respond to this contention is of interest.
What are the critical risks of leasehold property? (Question 4)	A fundamental question for this study. There is no identification at this stage of rent reviews, so interviewees are free to talk on what they perceive as risky, if any.
How is this different to freehold property investment? (Question 3a) How do these risks compare to freehold property risks? (Question 4a)	Identifying how ground leaseholds are different to freehold property is important. If there was no substantial difference, for example, there may be no reason to conduct this research on ground leaseholds. Therefore, gaining insights into comparative perspectives with freehold is essential.
How do you judge if a ground leasehold (lessees interest) is a good buy or not? (Question 8)	This question seeks to determine how the respondent weighs the various factors relating to ground leaseholds. Useful discussion on ground lessee perception is the intended outcome.
Considering your answers in 8 and 8a. how are other investors etc. different from you in terms of judging if a leasehold property is a good buy, or not? If so, what do they think about when they buy? (Question 9)	Useful insights into other ground lessees behaviours is the intention. Additionally, being able to talk about others may help some ground lessees save face if they felt there are additional matters that they may not wish to admit to.
So how are ground rents set for ground leasehold properties? (Question 10) Can the ground rents set for your property change? (Question 11)	These more specific questions relate to ground rents, but are towards the end of the interview. The reason is to understand what is important to ground lessees first. Reflection on some of the earlier interviews lead to this more specific question development later as some interviewees talked around the rent review issues. As a crucial part of this thesis, understanding ground leaseholder opinions on ground rents important.
If you could go back in time (assuming you did purchase a ground leasehold), would you still buy a leasehold property? (Question 12)	Being able to understand what ground leaseholders think in reflection about these properties is important, as they may be able to think more about the advantages and disadvantages of ownership. In all cases, everybody interviewed had or currently owned a ground leasehold.

3.4.3. Interviewee selection, interviewing procedure including ethical considerations

This section discusses the rationale for interviewee selection and why experts such as valuers were not targeted. The definition of a ground leasehold investor is then considered, together with how interviewee recruitment was achieved. Accessing enough ground leaseholders to understand their thought processes guided the design. Ethical considerations and aspects of interview procedure are also discussed.

Semi-structured interviews with ground leaseholders, not experts, was of the greatest importance. Interviewing those who own or have owned a ground leasehold is important because their words express the lived ground leasehold experiences, where the ground leaseholder thought process is made clear. Experts who have never owned a ground leasehold are not the target interviewee group, because they do not have first-hand experience to describe the thought processes during purchase of a ground leasehold.

Not interviewing experts may be contrary to the practice of some qualitative researchers where purposive sampling is used that places emphasis on interviewees considered as experts. In this mixed methods context, however, expert opinion is sought at the experiment design phase, to check the validity of the design based upon the semi-structured interviews. Therefore, the semi-structured interviews rely on ground leaseholder experiences to indicate their thought processes, with expert review introduced in the second experimental research phase.

Identifying the ground leaseholders to be interviewed had to balance obtaining a reasonable sample size with the appropriateness of interviewees. Obtaining enough representative views of ground leasehold owners is more important than interviewing a smaller group conforming to a stricter ground leaseholder investor definition. A stricter definition could be those who own a ground leasehold to derive an income, but do not live in their ground leasehold. Interviewing a more strictly defined group of ground leasehold investors, is not feasible, however, due to the small number of ground leaseholds at 1.4% of certificate of title types (Land Information New Zealand, 2015). Ground leaseholder occupiers as subjects, can explain important considerations and face the same risk/ return trade-off as the more strictly defined investors. Furthermore, all home owners are arguably investors with Case and Shiller (2003), for example, outlining people's tendency to think of themselves as investors in times of property price increase. So indeed, what constitutes a property investor can be a matter of perspective, however, the definition here of an investor is somewhat broad. The semi-structured interviews therefore prioritise more interviews over fewer interviews in order to gain access to the thought processes of different ground leaseholders, to best understand market behaviours.

Variety in interviewee profiles is an important criterion, ultimately aimed at enhancing the generalisability of findings. Interviews with participants from different locations and of different situations were sought. Location selection included those within Auckland and outside of Auckland. Auckland is defined as the greater Auckland area, over which Auckland Council has local government jurisdiction (Local Government New Zealand, 2019). Some ground leaseholds have appeared in the news media, such as Cornwall Park, while others have not such as in Kawhia. Interviews with participants in different places and of different situations, enables the obtaining of an appropriate range of opinions to better understand the phenomena.

Identifying the ground leaseholders that could be interviewed was achieved in different ways. The Kawhia Leaseholders Association sent interview requests to selected members and after obtaining consent, the researcher was able to contact those consenting members. Other ground leasehold locations did not either have publicly contactable organisations of ground leaseholders, or were unable or reluctant to assist. One ground leasehold manager's words best captures this concern when he said that he did not want his clients "thinking" about their ground leaseholds. The desire to be able to ensure the findings apply to other ground leasehold situations lead to selecting other ways of contacting ground leaseholders. Personal contacts were used to facilitate meetings together with mail requests sent to ground leasehold addresses. Although qualitative researchers can point out that preselecting the most knowledgeable interviewees is not possible, other data collection methods can still be valid (Strauss & Corbin, 2008). Interviewing ground leaseholders in a variety of locations, that the other ways of contacting ground leaseholders facilitated, ensures specific location issues did not influence the overall results. Ultimately, understanding the thought processes of different ground leaseholders is important. The interviewee profiles are summarised in the following Table 3.3.

Table 3.3 Profile of semi-structured interviewees

This table summarises the interviewee profiles in terms of age range, gender and work experience. Details on property experience may provide insight on the motivation for some comments improving the interpretation of commentary.

	Gender	Age group	Notable work experience or involvement with leasehold property, if applicable.
1	M	61-70	Current real estate agent, with experience of more than 10 years.
2	M	61-70	Retired – has owned an additional leasehold property in this location
3	F	61-70	Previously a real estate agent for more than ten years and has previously owned an additional leasehold property
4	F	61-70	Has worked as a residential tenancy manager for 2 years.
5	F	61-70	Real estate agent with experience of more than 30 years.
6	M	41-50	Has worked in a property development previously.
7	F	41-50	No property work experience.
8	M	41-50	Current real estate agent with experience of 6 years selling city leasehold property and owner of a leasehold property.
9	F,M	Both 41-50	No property work experience.
10	M	51-60	He had no real estate experience. However, his wife had experience of more than 10 years, although she was unavailable for interview.
11	F	41-50	No property work experience.
12	F,M	Both 71-80	No property work experience.
13	F	51-60	Currently owned two leasehold properties.
14	F,M	Both 51-60	One has been head of a leaseholder association
15	M	61-70	Considerable valuation and real estate experience
16	M	71-80	No property work experience.
17	F	51-60	No property work experience.
18	F,M	Both 41-50	No property work experience.
19	F,M	51-60	No property work experience.
20	F,M	71-80 & 41-50	Second respondent is a real estate agent.
21	M	71-80	He has developed an additional leasehold property into 3 rental units. His current residence is located on leasehold land that also has a number of industrial units upon it.
22	F	21-30	No property work experience.
23	M	51-60	No property work experience.
24	F	61-70	No property work experience.
25	M	61-70	Owns 3 rentable units on one site

To summarise 25 interviews were conducted involving 31 interviewees. The 31 interviewees were made up of, 19 interviews with 1 interviewee and 6 interviews with 2 interviewees. Fifteen interviewees were female while sixteen were male. Most were in the middle three age brackets: nine in the 41-50 year group, seven in 51-60 year age group, eight in the 61-70 year age group, and four were in the 71-80 year age bracket. Six are or have been real estate agents, one has been a property valuer and five own or have owned more than one other leasehold property.

Prior to conducting interviews, ethical considerations required addressing. The project was judged low risk by peer review procedure under Massey University's Human Ethics Committee guidelines. The important principle for low risk notifications is that they do not cause "…harm (that is) is minimal and no more than is normally encountered in daily life "(Massey University, 2015, p.1). Important principles such as confidentiality of participants, conducting interviews in a respectful manner are required to be adhered to under guidelines (Massey University, 2015a). These rights also include the ability to decline answering certain questions or withdraw from the study. The information sheet, dealing with the rights, is contained in the appendix, page 194.

Interview procedure was carefully considered. Open discussion was encouraged by allowing interviewees to choose the interview location such as houses, work location or cafés, where they would presumably feel comfortable. At the outset, the project information sheet was provided, while explanation of the project, assurances of confidentiality and interviewee rights were amongst the issues explained to the interviewees. Consent to record the interviews was requested, with an assurance that for any interviewee raised issue, the recording will be stopped. Before starting the interview, the interviewee signed the consent form. The consent form is contained in the appendix, page 197. Careful explanation of interviewee rights was to help foster trust towards the in the

interviewer, enabling more honest discussion. Unanticipated insights, can more readily occur with honest discussion (Kvale & Brinkmann, 2009). The interviewer took the role of a non- ground leasehold expert to encourage the interviewee confidence. A small gift given to interviewees showed appreciation, with such practice considered not to bias results (Johnson & Gray, 2010).

3.4.4. Transcribing and analysing the interview transcripts

This section details how the analysis of the interview transcripts enhances understanding of ground leaseholds. Philosophically, the emphasis is on the meaning in the transcripts in a qualitative sense. To clarify the emphasis is not on counting, for example certain statements about ground leaseholds, or similar. Should a counting type method be used, qualitative researchers are typically unsupportive toward such an approach. Berg and Lune (2017) express this sentiment by stating that such approaches ignore the true meaning of interviewee statements.

Interviewee transcriptions analysis is by coding. Coding is effectively organising transcriptions into manageable parts that are then named (Schwandt, 2007). Uploading into NVivo software enabled text coding and analysis in a more timely manner, this being a commonly mentioned advantage (Bryman & Bell, 2011). The NVivo software text coding ability enables meanings to be organised and condensed as Kvale and Brinkmann (2009) recommend. Analysis of data through convenient search options and summary nodes (to use for coding) is thus more readily achievable than with manual analysis.

Both priori codes and posteriori codes were used. Priori codes are identified before the analysis while posteriori codes emerge as the data is being analysed. The codes relate to the key research themes and are not necessarily the interview questions. Strauss and Corbin (1998) who are influential qualitative coding pioneers indicate researchers can use this method "… flexibly according to their abilities and the realities of their studies" (p.295). Facilitating a thorough understanding of ground leaseholds is the aim of this method. The particular codes used, both priori and posteriori are detailed in the tables following.

Table 3.4 Selected priori codes used in analysis of interviewee transcripts

The following table shows priori codes in the first column with a brief explanation as to the meaning in the second column. Not all codes provide useful findings with the emphasis here on explaining the process used to process the information.

Priori Code	**Code description and justification for collecting this information**
Attitude to leasehold	Understanding attitudes towards ground leaseholds will help indicate any underlying issues.
Attitude to lessor	Similar to the above rational for leasehold, however, understanding the personal relationship with the lessor may reveal clues as to the experiences with ground leaseholds. The interviewee may fully explain these issues or not.
Asymmetric information (or not)	Any opinions offering comment on theoretical underpinnings of this thesis is noted.
Case studies	Gauging interviewee awareness of other ground leasehold cases may show how deeply they understand this topic. There could also be other leads for the researcher to follow.
Expectation of rent increase	Understanding about the way the interviewees anticipate rent reviews is a central topic of interest.
Judging a good buy	The thought process of people when they make their decisions is important to focus upon. A contextual understanding will also aid the development of the second research initiative.
Key people	Understanding who the key people are from a ground leaseholders perspective is important, especially when it is not much of a hierarchy of ground lessees. Of course, other people or organisations such as the lessor or real estate agents etc. maybe identified.
Leasehold disadvantage to freehold	This code notes any mentioned disadvantages.
Leasehold risks	Identified risks are important. Required therefore is a clear note of such risks.
Regret	Asking the interviewees to reflect upon their experiences is a way understand ground lessee perceptions in a more complete sense. While ground lease rent increases may never be palatable, how the interviewee weighs up all the different factors is useful.
Rent review	Understanding what happens with rent reviews is of course a central part of this thesis.
Who purchases	Understanding who purchases these properties invites discussion on the motivations for purchase.

Table 3.5 Selected posteriori codes used in analysis of interviewee transcripts

Posteriori codes are shown in the first column with a follow up explanation in the column labelled "code description."

Posteriori Code	Code description
Banks	Ground leasehold risks often mean banks are reluctant to use them as security for lending.
Entrepreneur	At times, the interviewer noticed that some ground lessees could exhibit entrepreneurial traits. They may have been business owners or self-employed and ground leaseholds fitted in with their broader business strategy that required the freeing up of more funds.
Defensive characteristics	Some interviewees outlined how ground leaseholds could be beneficial if the freehold market dropped. As land values help set ground rents, lower land values could therefore lead to lower ground rents. Smaller mortgages are also a defensive characteristic identified.
Freehold intention	Some ground lessees indicated that the option to freehold their ground leasehold is a right they should have, even if it is not part of the lease agreement. There is also pointing to historical precedent where this has occurred.
GST	Any goods and services tax ownership advantages or disadvantages. This discussion, however, did not prove common.
International comparison	Some interviewees reflected on their knowledge of property and sometimes leaseholds in other countries. References to ground leaseholds in other countries may help more fully understand ground lessee thinking.
Leasehold strategy	Some ground lessees appeared to have a strategy in mind for when people should ideally buy and sell their ground leaseholds. These interesting comments are important.
Lifestyle	Some particular properties have lifestyle benefits that interviewees often would discuss as an advantage of ground leasehold ownership.
News media coverage	Negative news media coverage could influence purchaser perceptions, potentially lowering sale prices. Therefore, existing ground lessees did not want to air their grievances in the news media, or others directed them not to.
Smaller buying pool	Some interviewees mention fewer buyers and liquidity issues as a disadvantage.
Vacant ground leaseholds	At times interviewees pointed to the existence of never-sold vacant ground leaseholds. This indicates that the ground rents are too high; otherwise, development would have occurred.
Valuers	Attributing blame to professionals included valuers, lawyers and real estate agents.

3.4.5. Verifying the semi-structured interviews for validity, reliability and generalizability

Validity, reliability and generalizability of interview findings are the identified elements of verification in an interview context (Kvale & Brinkmann, 2009). Validity refers to the truthfulness of the findings in the sense they reflect the phenomena being studied (Schwandt, 2007). Being able to repeat the results in a consistent manner is the meaning of reliability (Bryman & Bell, 2011). Lastly, generalizability refers to the findings being applicable in other contexts, or as Schwandt (2007) puts it, "…to reason from the observed to the unobserved" (p.126). Different interpretations of these criteria depends upon the underlying philosophy of the researcher. Each of these three verifying elements are dealt with under the subsequent paragraphs, keeping foremost in mind that the full context of this thesis is within a mixed methods framework.

Validity in qualitative research can be expressed in differing ways, with this thesis more positivist orientated perspectives are emphasised, such as the concept of objectivity (Creswell, 2007). Typically, validity is an inherent strength of qualitative research where data is collected in the natural environment of the interviewee, not an artificial setting (Bryman & Bell, 2011). Creswell (2014) identifies differing strategies to further enhance the validity including the use of "rich descriptions" to convey findings. The meaning of rich descriptions is not having long quotes, rather in depth behavioural accounts. Even emotional state can be a useful element conveyed in a quote (Ponterotto, 2006). This thesis uses quotes to record ground leaseholder perceptions as an important aspect of the research, adding ground leaseholder voices to the quantitative results of the experiment that follows. Another way Creswell (2014) explains how validity can be enhanced is by peer debriefing. In

this context of this thesis, the supervisors review the text, so is not on a peer basis, rather one of student and teacher.

Reliability concerns measurement consistency and is associated principally with quantitative research (Bryman & Bell, 2011). Some qualitative researchers consequently think reliability has little relevance to qualitative research (Schwandt, 2007). However, in this mixed methods design, obtaining 25 interviews ensured comments reflected common ground leaseholder sentiment and not unique circumstances. In this mixed methods context, the experiment following relies upon the identification in the semi-structured interviews of recurrent phenomena that can be reliably measured.

Generalisability is the ability to apply findings to different circumstances and is equivalent to the concept of external validity (Bryman & Bell, 2011). Some qualitative researchers are not concerned with the ability to generalise their findings (Malterud, 2000). However, given the post-positivist philosophy, the ability to generalise findings is important. The generalisability of interview findings is enhanced by interviewing ground leaseholders from differing locations and of differing ground lease types. Therefore, the risk of results being applicable to only one market type or location is significantly lessened.

Ultimately the mixed methods framework enhances the validity, reliability and generalizability semi-structured interviews findings. Triangulation of semi-structured interview results are achieved by the follow-up experiment method. The degree to which the semi-structured interview results reflect the reality of the ground leasehold phenomena are further examined in the experiment following.

3.4.6. Further background information relating to locations of ground leaseholds for the semi-structured interviews

The majority of interviews concerned ground leaseholds at both Cornwall Park and Kawhia. Cornwall Park and Kawhia in particular, but also summary information for other locations is contained in this subsection to provide context. The following table shows descriptive information concerning the interviews.

Table 3.6 Ground lease locations and interview numbers for the semi-structured interviews

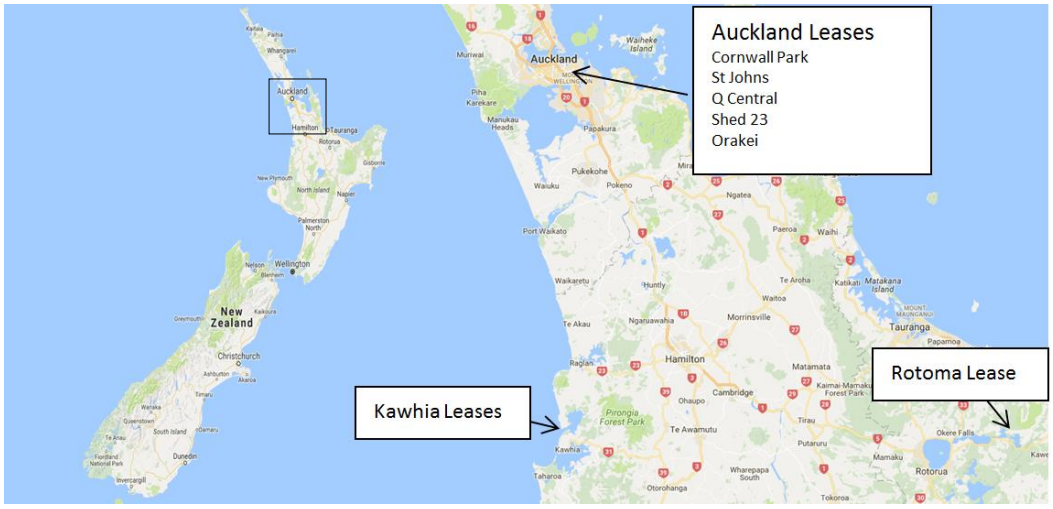
The following table shows the different ground lease location specifically in the first column, the region of New Zealand they are located in the second column and how many interviews concerned that lease type (third column).

Ground Lease type	Location	Interview number
Cornwall Park	Auckland	1-10
Shed 23	Auckland	11
Kawhia	Waikato	12-20
Orakei Lease	Auckland	21
Q-Central	Auckland	22
Rotoma	Bay of Plenty	23
St Johns Trust	Auckland	24-25

Each location is in the central to upper north Island of New Zealand. The map following shows the location of the ground leaseholds.

Figure 3.2 Location of ground leaseholds that were the subject of semi-structured interviews

The following map is of the mid to upper part of the North Island in New Zealand. The specific ground leasehold locations are displayed on this map.



Source: Adapted from Google Maps

Differing ground lease locations mean that no one specific location issue affects the overall results. Diverse interview locations are therefore a crucial element. This is especially important because ground lease clauses vary for each lease type. Some of the main clauses for each lease type noted in the interviews are summarised in Table 3.7, following.

Table 3.7 Overview of key ground lease clauses

The following table displays a general description of the lease type (column one), renewal frequency if appropriate (column two), review frequency (column three) and the way ground rents are set (column four). The details displayed are the commonly encountered clauses in the ground leases, however, there are examples in each location that can be different. To illustrate, in return for a more frequent review of ground rent the ground leaseholder received a lower ground rent for some time.

Lease type	Length	Review	Ground rent % of land value
Cornwall Park	21 years perpetually renewable	Every 21 years	5%
Shed 23	Terminating lease	Every 5 years	6%
Kawhia	21 years perpetually renewable	Every 7 years	Percentage decided by valuation process
Orakei Lease	Terminating lease	Every 5 years	Percentage decided by valuation process
Q-Central	Terminating lease	Every 5 years	7%
Rotoma	Terminating lease	Every 5 years	7%
St Johns Trust	21 years perpetually renewable	Every 21 years	Percentage decided by valuation process

Different historical circumstances surround the adoption of ground leasehold titles, leading to variation in lease terms. A brief description of each location helps to provide the context for each ground lease type. The following sub-section describes each ground leasehold location, including some background on historical aspects.

3.4.6.1 An overview of the ground leasehold locations

Cornwall Park is a well-known recreation area for Aucklanders, where surrounding ground leaseholds (houses) fund the park upkeep. The park features a volcanic cone and approximately 8000 trees over a wide expanse of land (Cornwall Park Trust Board, 2018) The park formed after a donation from Sir John Logan Campbell a noted businessperson and former Auckland mayor. At the time of gifting the Duke and Duchess of Cornwall and York were visiting and the park was named after them (Hodgson, 1992). The ground leaseholds fund the park and facilities and there are also additional charitable grants available (Cornwall Park Trust Board, 2018) A leaseholder association coordinates ground leaseholder views. (Cornwall Park Leaseholders Association Incorporated, 2006). Amongst other matters, this association is set up to coordinate ground leaseholders to resolve ground rent disputes and advocate for legislative reform (Cornwall Park Leaseholders Association Incorporated, 2006).

The central Auckland business district is the location for two ground leaseholds, shed 23 and Q Central. Shed 23 is a complex located on Princess Wharf in downtown Auckland. Many of the apartments enjoy harbour views. The location is also desirable due to the central business district being in close proximity. An extension of the original 50-year length term resulted in a total term of 96 years. Q Central is a complex located in Liverpool Street, just off the major thoroughfare of Queen Street in the central business district. A number of similar developments surrounds these Q-Central apartments. At the time of original sale, this terminating lease allowed for just over 83 years occupation. At the time of interview there were approximately 70 years left.

Close to the central business district in Auckland, St Johns is a suburb to the east and is mostly comprised of standard group housing and blocks of units. In 1913 the first leasehold sections were sold by the St Johns College Trust Board in order to derive income for their organisation (Carlyon & Morrow, 2011). This endowment was for benefiting the retired clergy and clergy widows (B. Dutton, personal communication, January 10, 2017). Over the years, different ground leases converted to freehold. The sale of remaining ground lessor interests to St Johns Holdings Limited occurred in the early 1990's. St Johns Holdings Limited is a privately owned company (New Zealand Companies Register, 1991). The reason for sale was due to the high management costs in part due to ground rent issues and a need to diversify investments (B. Dutton, personal communication, January 10, 2017).

Orakei is an affluent suburb to the east of the central business district of Auckland. The ground leaseholder owns a unique ground leasehold comprising both a place of residence and an income from several of industrial/ retail buildings. A private developer now owns the lessor interest. This is a terminating lease with 18 years left to run (at the time of interview) and it would appear the land is ripe for redevelopment. This is very much a unique ground leasehold compared to other ground leaseholds.

Outside of Auckland, Kawhia ground leaseholds were the subject of nine interviews. Kawhia is a harbour-side settlement of special importance to local Māori. One of the interviewees indicated that the reason is that many of the ground leaseholds occupy land on a former pā site. Legislative amendments in 1997 changed ground leases through the Māori Reserved Land Amendment Act 1997. This act provides what some consider a fairer ground rent calculation method. Previously legislation section 34 (1) of the Māori Reserved Land Act 1955 specified that the ground rent was calculated at 4% of the unimproved land value. Ground leases have been progressively changing to just the fair

annual rental for the unimproved land without a ground rent percentage being specified (McPhail, 2004). Prior to 1997 the legislative framework was considered unfair to Māori (Orange, 2004).

Lake Rotoma is one of a number of lakes in the Rotorua region, which forms part of the Bay of Plenty. The locality is famous for the Māori culture, trout fishing and the geothermal features. The lessors are represented by the Rotoma No. 1 Block Incorporation have granted 145 leases around the lake to fund activities for their people (Rotoma No. 1 Incorporation, 2018). The legislation controlling the administration of the Rotoma land is the Te Ture Whenua Māori Act 1993. This legislation seeks to protect and promote the interests of local Māori. The leases in this locality are not automatically renewed. The interviewee indicated their lease specified a 7% ground rent percentage, although there is provision for the valuer to recommend a different rental if the valuer believes the rent is not a fair market rental.

There is a wide variety of ground lease types and locations, from which interviews are sourced. This variety will ensure a broad understanding of relevant issues occurs. This is more preferable than a concentrated view of location-specific issues. Ultimately a broader selection of locations should enhance the ability to generalise past one particular location.

3.4.6.2 Characteristics of the prominent Cornwall Park and Kawhia markets selected for the study

With 19 of 25 interviews concerning ground leaseholds at either Cornwall Park or Kawhia, a comparison of each residential market provides a greater contextual understanding. Kawhia is a small harbour side township the first and is forms part of the Waikato district in the North Island of New Zealand. Cornwall Park is in New Zealand's largest city of Auckland. The following table shows the population trends for each location.

Table 3.8 Kawhia vs One Tree Hill East Population trends

The following table shows the population of Kawhia has almost halved from 1996 to 2013, while One Tree Hill East has increase by just under 18%. Cornwall Park in Greenlane is termed One Tree Hill East by statistics New Zealand and is an affluent Auckland suburb. While the census is every five years, no data collection occurred in 2011 due to the Christchurch earthquakes.

Location	1996	2001	2006	2013
One Tree Hill East	4,887	5,400	5,493	5,745
Kawhia	645	507	387	339

Adapted from New Zealand Census data http://www.stats.govt.nz/Census/

The reason for population decline in Kawhia may be linked to government policy where the unemployment benefit is no longer paid to residents in Kawhia due to the limited employment opportunities (Ministry of Social Development, 2004). A comparison of each of the housing markets also indicates local differences. Shown in table 3.9 following is the 10-year mean and median freehold sale prices for each location. Following table 3.9 is a graphic depiction of that same sales data as part of figure 3.3.

Table 3.9 Kawhia vs Cornwall Park residential freehold sale trends

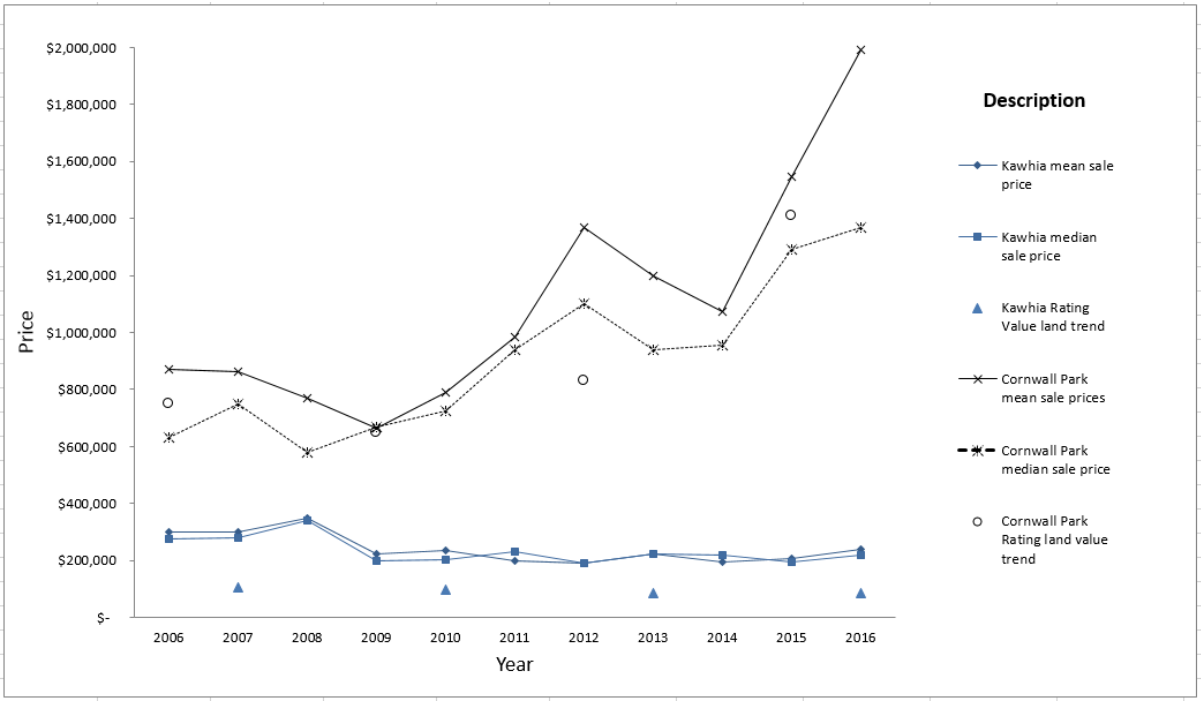
The following table displays the number of freehold sales, together with the mean and median values from 2006 to 2016 for both Kawhia and Cornwall Park. Selection of the Cornwall Park sales is from the streets where ground leaseholds predominate. These streets are Wheturangi Road, Campbell Road and Maungakiekie Avenue. The Kawhia residential area is a well-defined location surrounded by farmland, where selection of all the freehold sales occurred.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Kawhia											
Number	12	13	13	9	6	8	13	12	7	13	15
Mean	298,667	300,993	350,000	222,222	236,667	198,313	192,346	222,833	196,286	205,692	241,367
Median	275,000	280,000	340,000	200,000	205,000	232,500	192,500	225,000	219,000	195,000	220,000
Cornwall Park											
Number	16	24	13	15	18	7	25	16	19	20	23
Mean	871,506	861,825	770,692	665,233	791,268	983,429	1,369,280	1,196,631	1,073,658	1,547,950	1,992,970
Median	632,500	750,000	578,000	670,000	723,914	938,000	1,100,000	940,000	955,000	1,290,500	1,370,000

Adapted from Real Estate Institute of New Zealand data: https://reinz.co.nz/reinz-portals

Figure 3.3 Ten-year residential freehold market trends for Cornwall Park and Kawhia

The figure graphs the data from the previous table 3.9 to show the different characteristics of each market for freehold housing, where the average mean and median sale price is much less and predominately falling over the ten year period of 2006-2016 for Kawhia compared to Cornwall Park. The Rating land values for two selected locations, shown as a circle in Cornwall Park and a triangle for Kawhia, also reflect the improved freehold sale trends. Although depiction of vacant section sales would be ideal, there is a paucity of vacant site sales so no clear patterns are observable with that data. Therefore three yearly-updated local council issued vacant land values that can show land value patterns, however. Not shown are the rating valuation addresses, in order to protect owner privacy.



Sales data adapted from Real Estate Institute of New Zealand data: https://reinz.co.nz/reinz-portals

There are notable differences in freehold market trends. Cornwall Park is clearly increasing in price level while Kawhia has fallen in price level since 2006. Reflecting these sale price trends, the rating valuations follow the same direction of the mean and median house prices for each respective category. With such differing residential freehold markets, the semi-structured interview results following do not relate to one phase of the market cycle only. Interviews concern ground leases of differing historical contexts, varying legislative frameworks, different lessors (landowners) and differing markets.

3.5. Method two – the experiment

This section explains the experimental method encompassing the research hypotheses, scenario design and research participant rationale. The experiment method specifications rely on the semi-structured interview findings. To many of the interviewees their ground leasehold purchase has adversely affected their lives, so this further experimental investigation is neither a trivial nor an isolated exercise. The mixed methods design requires that the semi-structured interview method and the experimental method are viewed as parts of a combined whole, given their interdependent relationship.

There are various ways of defining an experiment. One definition is as "…any procedure that can, at least in theory, be infinitely repeated and has a well-defined set of outcomes" (Wooldridge, 2013). However, most importantly experiments enable examination of whether a particular circumstance (a treatment) causes a difference in the treatment group as compared to the control group (without the treatment). As such experimental methods provide "…considerable confidence in the robustness and trustworthiness of causal findings" (Bryman & Bell, 2011).

With a differing method to the previous semi-structured interviews, there is a requirement to restate that the results interpretation is from a post-positivist epistemological stance. Incorporation of qualitative questions at the end of the experiment helps further probe participant thinking and is consistent with this post-positivist tradition. A comprehensive understanding of ground leasehold phenomena from both a quantitative and qualitative perspective is intended.

3.5.1. Experiment subjects

The type of participant is integral to the research design with the method relying on the appropriateness of participants. Property investors are the selected participants, with the rationale discussed following. Ground leaseholders were the subjects of the preceding semi-structured interviews. Provided were explanations of ground rent review experiences and the consequences. These explanations formed the basis of this second experiment initiative. Involving ground leaseholders again as the primary group of interest was not the intention. Having lived experiences of ground rent reviews means ground leaseholder behaviour may be different to how they behaved when they purchased their ground leasehold. The semi-structured interviews also revealed that many would not buy a ground leasehold again. Consequently, testing those who are current or former ground leaseholders as the primary group targeted may not completely explain new purchaser behaviour. A different group to ground leaseholders is therefore required for the experiments.

Property investors are knowledgeable, being able to provide answers reflecting the marketplace behaviours. Additionally, property investors are more numerous than ground leaseholders, making their participation more readily obtainable. Investors were the best group to reflect the behaviours of likely purchasers who would inform themselves of some property market information before the purchase. Results from non-property-owning participants, conversely, will not be very informative, as they may never have seriously considered the implications of property ownership. Accordingly, there may be no surprise they do not complete a task properly, due to this lack of knowledge. Property investors are therefore the best overall participant type to undertake the scenarios.

Another alternative group is those currently considering buying a ground leasehold property. These people would be best to participate as they are currently in the midst of making that decision, without the influence of time and experience changing their opinions. A practical difficulty is identifying and gaining access to these people, with intermediaries contacted being reluctant in assisting investor recruitment. This reluctance will be exacerbated if the intermediary benefits from the purchase or management of a ground leasehold transaction, meaning they will closely guard their client relationship.

Property undergraduate students were another possible participant source considered. There is, however, notable criticism of students as study participants, such as that discussed in (Druckman & Kam, 2011). Clear power imbalances exist between the researcher, a lecturer in the property program and the students, who may provide an answer they believe the researcher favours. Although more difficult to obtain than students, property investor participants are preferable.

In the experiment the meaning of a property investor does not include a homeowner. An investor is defined for this experimental study as someone who owns an additional property to their usual place of residence, as is used by Fisher and Lambie-Hanson (2012). These property investors are likely to have a good understanding of property matters and reflect usual market practices. With their investment acquired market knowledge, they are more likely to reflect the actions of someone who is intending to purchase a ground leasehold, who presumably would have carried out some amount of self-education on relevant ground leasehold issues. Ultimately, the intended outcome is enhancement of the experimental design validity.

3.5.2. How the research hypothesis was derived

This sub-section explains how the semi-structured interview findings aided the formation of the research hypothesis. The semi-structured interviews revealed the freehold to ground leasehold comparison appeared to be foremost in the ground leasehold purchaser behaviour. The freehold to ground leasehold comparison appeared to have clouded judgements concerning the freehold value impact on ground rent increases, due to the availability heuristic. The interviewees revealed tendencies to think that despite increasing freehold values, the value of ground leaseholds would not be adversely impacted. Higher ground rents, especially close to the rent review date cause the ground leasehold value to fall. Ultimately, a mis-estimated ground leasehold value, is the implication of freehold value growth that is not properly related to the ground rent estimation.

Essentially, there is a relationship between three variables: freehold value, ground rent and ground leasehold value. The experiment format requires clear focus on these three variables. The design consequently requires the investor to value a ground leasehold when a ground rent review is pending. An impending ground rent review is an ideal circumstance to test investor ground leasehold value perception, as ground leasehold values fall if there has been freehold value growth coming up to the review time. A realistic circumstance is set, where there are freehold sales but no ground leasehold sales. Provision of freehold sales evidence only, derives from the semi-structured interviewee statements indicating that ground leasehold to freehold relationship is foremost in the minds of the ground leasehold purchasers. The idea therefore, is to channel participants into a valuation scenario where they think of freehold values in relation to a ground leasehold valuation.

Examining the impact on ground leasehold pricing is of paramount interest with ground leasehold value set as the dependent variable. Implicit in their valuation, however, is the need for investors to estimate a ground rent at the time of valuation. An increase in ground rent should appear likely to the rational market participant, given the price level of the freehold sale evidence, with the dependent variable being ground leasehold value. Investor estimates of ground rent will remain unknown to the researcher, unless the participant makes a note of that estimation. The focus is on how each investor responds with their estimation of ground leasehold value set as the dependent variable.

Use of a particular valuation model, such as that demonstrated by Asabere (2004) is not a priority. If used, a valuation model would require the valuation method to be explained and may turn out to be more of a test of financial or mathematical ability. Such an emphasis does not relate to the semi-structured interview commentary highlighting a behavioural reaction to ground rent increases. Further complicating the use of the valuation model exercise is the propensity for differences in valuation opinion. Expert valuations can vary, sometimes notably. Such variation is viewed as a typical feature in property valuation i.e. see Whipple (1991). Confirming this point, the definition of market value refers to value as being an estimated amount, not a precise amount (International Valuation Standards Council, 2017). Therefore, the use of a model would need to explain and account for "normal" variation compared to what is outside these usual bounds. Emphasis on participant value perception and not conformance to a model avoids such complication. The expectation is that investors may use crude valuation methods with an emphasis on the behavioural reaction, such as is consistent with the property economics literature in Hansz and Diaz (2001) and Havard (2001), for example. With follow up questions however, some participants will explain their assumptions. Post experiment comments may shed light on the particular valuation methods, investors employed. However, the emphasis here is firmly on investor perception of value in experimental form, not on a valuation conformance study.

The use of a value perception-based experiment requires further refinement to investigate the issue of ground rent surprise on ground leasehold value. Showing perceived value differences between participants alone in a single valuation exercise does not help explain behaviour. There might be interesting variation in estimated values; however, that alone does not address the semi-structured interview discussion. Therefore, in a second step, investors are required to readjust their valuations, if needed, based on a realistic estimate of the ground rent. To clarify this is a two-step valuation exercise where investors provide their perceptions of value for the following two scenarios:

1. Initially investors assess the value based on freehold comparables without knowledge of the future ground rent.
2. After completing step one, a realistic ground rent estimate accompanies a request to re-assess the value estimate (if needed).

Such a two-step method can more readily investigate if investors adjust their valuations when there is awareness as to the full extent of ground rent increase. The investor reconciles their ground rent estimate with the expert estimate provided, with the result expressed in terms of their second estimate of value. The expectation, based upon the semi-structured interviews is that given the ground rent increase information, investors will decrease their value estimates. Essentially, this experiment tests if the investors have not fully thought through the implications of high or increasing freehold market prices.

Further experiment variation is introduced to the second valuation scenario to help make a more concrete conclusion as to the impact on ground leasehold value. A statement indicating the freehold growth within the second scenario, may cause the investors to provide higher value estimates, than those investors who are without the freehold growth reminder. The second valuation scenario design is to have investors divided into two groups, with the differences in information provided clarified as follows:

1. Investors that have a forecast of the ground rent only ($S2_c$).
2. Investors that have both a forecast of the ground rent and a projection of the freehold value growth ($S2_t$).

The treatment information ($S2_t$) is therefore speculated to cause investors to adjust their ground leasehold valuations to a higher level, than they would have, if not reminded of the freehold growth information ($S2_c$). Given the above discussion, there is now enough context for stating the research hypothesis.

Research Hypothesis: The value differences between scenario one and two with the freehold growth information, will be less than the value differences between scenario one and scenario two without the freehold growth information.

H_a: $V_{\text{diff S1-S2t}} < V_{\text{diff S1-S2c}}$

H_0: $V_{\text{diff S1-S2t}} \geq V_{\text{diff S1-S2c}}$

The hypothesis is structured to investigate if the semi-structured interview findings indication that ground leasehold overpricing is due to investor reliance on freehold sales information impacting their decision making. The availability heuristic of Tversky and Kahneman (1973) is the theory explanation being tested, with the freehold growth information ($S2_t$) being the manifestation of the availability heuristic. The experiment tests a realistic situation based on the semi-structured interviews where a ground leasehold purchaser, having viewed numerous properties, most likely of freehold title, then comes to make a judgement about a ground leasehold. A careful thought process is required to overcome the impact of the availability heuristic, with the results section indicating the degree to which investors succumb to the availability heuristic, or not.

Advantages and disadvantages of between subjects versus within subject designs are carefully balanced out by the adopted experiment format. For example, the results in a single valuation exercise could be due to a random outcome where participants of one group have a predisposition to think a particular way about ground leaseholds, despite random scenario allocation. The two-step procedure, where investors complete S1, and then either $S2_t$ or $S2_c$ reduces the disadvantage of a between subject design, where individual variability is an often mentioned problem. The two-step valuation design emphases the adjusted value differences of each participant, rather than on absolute differences of a single valuation number only. Additionally the between subject design has natural advantages over a within subject design. Learning effects could occur if all investors completed all of the scenarios (S1, $S2_t$ and $S2_c$), artificially magnifying the treatment effect. Less investor time required for scenario completion is an additional between subject design benefit. Overall the between subject design, where adjustments to initial valuations is undertaken by either $S2_t$ or $S2_c$, is the most practical design overall. Reduction of the between subject design disadvantages combined with the natural advantages over a within subject design, make a robust design overall.

To summarise, the experiment design is based on the semi-structured interview findings where the freehold value growth impact on ground leaseholder thinking causes ground leaseholders to adjust their valuations higher than they otherwise would. Investigation centres on the availability heuristic, manifesting in the form of freehold growth information. The between subject design is carried out in a two-step process, reduces the primary disadvantage of individual participant variation and has natural design advantages.

3.5.3. Experiment design scenario details

Given the hypothesis is stated and the investor participants detailed, more discussion of the other scenario details are provided. Throughout, reference is made to the scenario questions which are contained within the appendix, page 198. Also contained within the appendix is the project information sheet detailing participant rights.

The location for the scenarios is fictional to reduce result bias. Jonesville is said to be a town in the mid-North Island of New Zealand. The intention is to avoid confounding the results due to prior location knowledge. New Zealand is a small country with an approximate population of 4.8 million (Statistics New Zealand, 2017). Specific ground leaseholds may therefore be widely known about, which may in turn impact upon how respondents answer the scenarios. A made-up location therefore reduces any impact of bias towards a particular New Zealand location. The ground leasehold subject is a 1950s 3-bedroom house typical of many in New Zealand. The typical design should reduce any impact of subjective appeal such as a vintage effect as described by Bitter (2014).

Property details are of a standalone house and a simple ground leasehold situation. Standalone houses avoid complex situations that apartments or other property types can sometimes be subject to. To illustrate, apartments may have maintenance disputes involving the allocation of repair costs through a body corporate arrangement. A simple ground leasehold explanation notes that the house owner pays rent for the land, because the land is not owned by the ground leaseholder. The ground lease specifications include the current ground rent at $3,600 per annum, being set in January of 2001, a rent review date every 21 years clarified to be January 2022 and that the ground lease is perpetually renewable every 21 years. The rent review clause is sourced from New Zealand legislation, this being the Public Bodies Leases Act 1969. Crown copyright enables the use of such wording for educational purposes, and this is reproduced as follows:

> Not earlier than 9 months and not later than 3 months before the expiry by effluxion of time of any such period (not being the last such period of the term of the lease), or as soon thereafter as may be, the leasing authority shall cause a valuation to be made by a person whom the leasing authority reasonably believes to be competent to make the valuation of the fair annual rent of the land for the next ensuing period of the term of the lease, so that the rent so valued shall be uniform throughout the whole of that ensuing period. (Public Bodies Leases Act 1969, clause 22 (2) (c))

Such a clause strikes a reasonable balance between using commonly encountered legal language, with enough information presented succinctly. A convoluted review clause may cause participant interest to wane. Furthermore, adopting a specific rent review clause from a particular ground lease may hinder the ability to generalise results to other locations. The rent review clause contained within New Zealand legislation therefore is best overall for the experiment design.

The valuation date is set at as at 1 January 2018, as scenario completion was from early to mid-2018. The scenario makes clear that there is provision of freehold comparable sales only. A lack of ground leasehold sales captures the situation where the ground lessee tends to think of freehold sales. The second valuation request, either the treatment or the control, was presented in a different envelope to indicate task separation. Both the treatment and the control contained the ground rent forecast stated following. “Although the ground rent review in January 2022 is approximately four years away, it is likely that the new annual ground rent, fixed then, will be in the order of $35,000.” Instructions to re-estimate the value if appropriate, are set as at 1 January 2018. This 21-year timing increases the likelihood of strong rental growth. The treatment indicates an average 10% yearly freehold growth factor in the residential market. This 10% freehold growth projection for the final four years before the review should be no surprise, given the compound annual growth rate over 21 years from the starting ground rent of $3,600 to $35,000 is approximately 11.44%. Stating that the growth in freeholds is 10% is more subdued, than the implied ground rent increase overall. The design thus prioritises a realistic design with investor participants to ensure the findings are robust as suggested by (Smith & Kida, 1991).

The design sought a reassuring tone reminding participants of their rights such as privacy, in order to encourage scenario completion. The first scenario highlights that the exercise requires an estimate on an anonymous basis. The words “estimation” and “anonymous” assist in allaying any residual participant fears of information misuse. A reassuring tone is reflected in the second scenario where participants provide an “estimate” and that there is “not one right answer.” Allocation of the treatment or control scenarios were on a random basis, with the researcher not knowing who was receiving the treatment or control, in order to reduce any bias was the overall intention. Much care around the provision of the scenarios occurred to ensure an appropriate method for data collection was followed. Further elaboration of scenario provision can be viewed in the appendix, page 210.

Post scenario completion, some follow-up questions probed the participant's thinking. Accepting the experimental results without any further investigation is not consistent with the post-positivist epistemological stance. These questions include a request for the investors to explain their thinking in each of the two scenarios and to indicate what information is assumed. Motivating such questions to capture comment as to their method for estimating the value, and assumptions. Being able to understand any additional participant assumptions, although instructed not to use anything additional to that contained in the scenarios, may shed further light on behaviours. The post-scenario questions are an important supplement to the quantitative results of the experiments and ties the thesis together.

In summary, the research design relies on a predominant quantitative approach, backed by some post-experiment questions. The design is purposeful and a logical extension to the preceding semi-structured interview questions, reflecting a realistic situation faced by buyers of ground leaseholds.

3.5.4. Validation of the experiment design

Confirming the validity of the scenario instrument is the subject of this sub-section. Two groups provided feedback on the scenarios. The first group comprised people with property careers such as valuers, with the second group being property investors and lay people to test the scenarios. Those providing feedback are identified by pseudonyms only in order to protect their privacy. Feedback occurred in the presence of the researcher in all cases except with one valuer who provided feedback by phone call. The experts included two property valuers, a dual qualified lawyer/ valuer and a PhD student in Marketing, who undertook experimental research as part of a PhD. Property investors and lay people completed the scenarios, just as a study participant would. Scrutiny of their answers and comments improved the design. Apart from minor alterations to aspects like the word order the more important improvements are suggested in the following paragraph.

The two valuers suggested certain scenario improvements. The first improvement was to highlight that the valuations are an estimation, to encourage participation. At the start the investors were requested "… to do your best to estimate the value of the house." Another sentence echoed the estimation emphasis towards the end of the page with there not being "…one right answer as I am interested in your opinion." Assurances as to participant anonymity were recommended to be made more prominent to encourage scenario completion. Further valuer suggestions included making the freehold comparable sales more similar in characteristic to the subject. Variation reduction included factors such as house age, section size, location and sale price level. Reduction in the initial investor valuation variation for the first valuation scenario for factors not related to the ground leasehold was the intention.

Not all valuer recommendations were adopted with these especially concerning more explicit valuation information. Such explicit information included a ground rent percentage, ground leasehold sales, freehold land and house sale prices as at 2001 when the initial ground rent of $3,600 was set. Property investor and lay people pretesting indicated that some may not use the ground rent percentage information in a way that would help them focus on the key variables of interest. The focus then becomes a valuation accuracy investigation, not on whether the availability heuristic behavioural response is detectable for those investors who were provided with the ground rent treatment information. Provision of ground leasehold sales would take investor focus away from the freehold to ground leasehold value relationship, which the semi-structured interviews indicated as being important. Introducing freehold sale prices as at 2001 would introduce information equivalent to the freehold growth treatment earlier, when the growth is already implied in the sale prices in the first valuation scenario. The freehold growth information was the treatment in scenario two, so the intention was to avoid additional information that may otherwise infer freehold growth. Overall a substantial effort was made to ensure the valuation scenarios were set in a realistic way and reflecting good experiment practice procedure.

Review by the Marketing PhD student, experienced in the experiment method, indicated that the made-up location of Jonesville needed further description. Investors may otherwise think of a location known to them regardless of the Jonesville description. In order to limit any possible unintended thought processes regarding location, a genuine location similar to Jonesville was identified. Morrinsville, a mid-north island town of New Zealand, has not had any ground leasehold sales within the last ten years as confirmed by reviewing the last ten years real estate statistics (Real Estate Institute of New Zealand, 2017). A local real estate sales manager also confirmed to the best of their knowledge, that there had been no residential leasehold property sales in Morrinsville.

The dual qualified lawyer/ valuer comment prompted the request for participants to note assumed information at the scenario end. Insights into participant knowledge and assumptions could be crucial to explaining the results, depending on how the scenarios were answered. A further recommendation was to broaden the investor sample to include non-current investors. Arguably, investors who sold their properties just prior to the survey time may be of different characteristic to those who still owned their investment properties. Excluding non-current investors may otherwise bias the results.

Overall, both expert and investor / lay person feedback gave assurance that the design tests the ground leasehold availability phenomena in a valid way. The experts review provided useful suggestions, many of which were adopted in the experiment design. Those suggestions not followed conflicted with the underlying purpose, this being to investigate investor use of the availability heuristic when making ground leasehold value judgements. Investors are required to complete an implicit value estimation exercise, rather than a more explicit exercise with many detailed variables as some experts suggested. The review exercise resulted in useful scenario improvements.

3.6. Concluding comments on the mixed methods research framework

Practical considerations dictate that the semi-structured interviews are required first, prior to undertaking the experiment. This requirement arises because the literature does not provide comprehensive guidance on which theory to apply. The thesis cannot then 'add on' to this existing body of work but must investigate the possible theory explanations of behaviour. Both the semi-structured interviews and the experiment are within a mixed methods framework that is purposefully designed, given the above identified paucity of guiding ground leasehold literature. Mixed methods research provides important findings for society and is supported in the literature as a compelling research framework (Tashakkori & Teddlie, 1998). Essentially the semi-structured interview findings provide a strong foundation for the experimental findings to ensure the overall thesis results are valid.

An illustration of the mixed methods framework relates to the rationale for participant selection for both the semi-structured interviews and the experiment. Those interviewed in the semi-structured interviews are ground leaseholders, enabling first-hand explanation of thought processes when they purchased their ground leasehold. The follow-up experiment uses property investors, who have experience of taking property risks by buying and selling property. Combined, the findings generated by the ground leaseholders and property investors together, should make for robust conclusions.

Philosophically, a post-positivist outlook unifies the two different methods, one being of qualitative origin and the other of quantitative. The findings of either method are not accepted in a naïve sense but provide conclusions that can be further investigated. The requirement for further testing in a mixed methods framework is therefore inherent in the post-positivist philosophy. The two different methods, of the semi-structured interviews and the experiment, are consequently unified both philosophically and practically. Ultimately, the intention is to get to the heart of the ground leasehold issues, where the semi-structured interviews are scrutinised for relevant information and with the experiment focusing on important semi-structured interview findings for further confirmation.

Chapter Four : Results of the semi-structured interviews and experiment

This chapter is divided into two main parts with the semi-structured interview results and then the experiment results examined. The mixed methods research framework ties both of the semi-structured interview results and the experiment results together.

4.1. The semi-structured interview results

The design addresses the New Zealand situation of differing ground leaseholds, in different situations. The semi-structured interviews are consequently conducted with ground leaseholders in different locations that cover different ground lease types. Therefore, this design seeks to confirm if there are problems, and if so, the nature and extent of such problems by use of semi-structured interviews. The follow-up experiment robustly tests any conjecture derived from the semi-structured interviews.

The interviews indicate there are problems with ground leaseholds ultimately impacting on their saleability. This saleability problem is explained first, confirming the investigation of ground leaseholds is warranted. Ground leaseholder surprise at reviewed ground rents is then detailed. Then, the more specific causes for the mis-estimation are detailed and include 'external' factors such as reliance on professional opinion. The ground leaseholder 'internal' thought process is also considered. Discussed lastly are the ground leasehold advantages, incorporating such matters as an advantageous ground leasehold sale strategy.

4.1.1 Problems with ground leaseholds

The problems with ground leaseholds with saleability difficulties are explained herein. Ground leaseholds do not sell quickly, even with a lower price compared to freeholds and with less development options than freeholds. As interviewee 6 observed "…freehold has a lot more liquidity – there are more options – i.e. development options as well as, sale options as well as rental options …" Interviewee 13 reflected interviewee 6's views on the perceived lack of liquidity as follows.

> Is it a good buy? No – why because saleability is hard work. You have a limited amount of people you can tap on the shoulder. A finite group… With freehold you can put it on the market today and get a buyer tomorrow, with leasehold…. totally impossible. You have to get to the right people who would be interested in leasehold. And the people who would be the best in that situation would be the owners, if they have enough money. (Interview 13)

The sentiment clearly reflects interviewee opinion that ground leaseholds take longer to sell and at a price below seller expectation. The saleability problem may also be linked to a disproportionate level of ground leasehold mortgagee sales (Land Information New Zealand, 2015). Unfavourable saleability is often linked to rent-review discontent that is discussed in the following sub-section.

Obvious ground leaseholder dissatisfaction with ground rents was often encountered in the interviews. Interviewee 14 stated that because "… [ground rents] …are so outrageously high in their rental opinion everyone is just despondent about the whole thing." Firstly considered, in table format, are comments relating to interviewee surprise at ground rent increase levels.

Table 4.1 Semi-structured interview responses indicating surprise at the reviewed ground rent levels

Ground rent changes	Illustrative quotes
Indicating surprise at the reviewed rent levels	"At that time that guy bought it the ground rent was $3800 now it is $32,000 – my expectation is that it wouldn't go up that much, but I'd only bought it to get out. I thought it would go up to about 20." (Interview 2) "Years ago it used to be a basic rule of thumb of times 10 - say from $4000 to $40,000. But then the market has changed by that – you can't go on that." (Interview 3) "…the question is how far wrong are you going to get it, and if you are way wrong then you are left very vulnerable, that's the problem because there are so few options. No one had predicted this problem...." (Interview 6) "Most people … have figured it out that 5% of an awful lot of going to be an awful lot. But I think some people are still confused about their house – they might say hang on our house is this and our house is that and they forget that it is actually just the land that is part of this process of setting the lease." (Interview 7) "Oh I know what they said … the value had gone up astronomically and therefore the ground rent had to go up." (Interview 11) "It is just that total uncertainty where that rent is going to lie, so you can't really make an informed decision – realistically you can't." (Interview 14) "And that is the misunderstanding part – you start out with a rental clip and all of a sudden it is a Mt Everest climb." (Interview 15) "… Because we know in the past, before we had bought it, it had never gone up like that – it had gone up a few percent…" (Interview 19) "The lease coming to an end and the rent going up to a point where you cannot afford to pay it any longer – that is the major risk." (Interview 24) "It went from just under $6000 to $64,000. That is 10 times and that of course as my accountant says is the killer – it takes all the income basically until whence you have an opportunity to catch up." (Interview 25)

Surprise is the underlying sentiment expressed by the interviewees. Expressions like "… it had never gone up like that…" (Interview 19) or "[i]t is just that total uncertainty where that rent is going to lie…" (Interview 14), reflect this surprise. Therefore, there does not seem to be enough awareness of how rents are set.

Interviewee 7 expresses a view of observations on others where she says; "…they forget that it is actually just the land that is part of this process of setting the lease." Interviewee 7 observes then that people have a tendency to focus on other matters expressed as "…our house is this and our house is that…" Therefore, the lack of focus on rent review risk is based upon people's feelings about their home is an important observation.

The inability to estimate future ground rents is emphasised by the above quotations. The interviews clearly reflect that past rent review patterns or rules of thumb have proved to be an ineffective forecaster of future rent changes. Interviewee 6 perhaps best captures this sentiment with the comment; "the question is how far wrong you are going to get it." These interviewees reflect strongly therefore that the reviewed ground rent levels are a surprise.

4.1.2 Possible reasons for ground rent mis-estimation

The interviews underscored adversarial relationships between lessee and lessor. Sometimes particularly emotive language use captures this sentiment. Interviewee 21 is reflective of such dissatisfaction where he states "[t]he lessor may try and force you out, in other words, try and crank the rent which is what we are going through here. We will fight it and sort it out – that's a risk. Further discussion reinforces the opinions of interviewee 21:

> However, it depends how it is set and if you have an unscrupulous lessor like this developer who is trying to screw us out …What I am really hot on is an arbitration panel or referee being another valuer, you see the point is he could be a good customer of theirs – I never will. The last guy lent over his way. (Interview 21)

With words like "crank the rent" or "unscrupulous," clearly the relationship between lessee and lessor is strained. Occurrences of procedural rent review disputes are not new in the related literature. Crosby and Murdoch (2000), for example, outline that rent review processes for occupation (building) leases can be substantially improved. Interviewee 9 recommends procedural improvement emphasising better communication. "I think there needs to be more open communication and less… I mean it was really, really aggressive on their part and that's the thing." Therefore the existence of disputes between lessee and lessor is not surprising and is consistent with similar scholarship on occupation leases (Crosby & Murdoch, 2000).

Misleading real estate agent sales conduct is cited by some interviewees. Allegedly due to the provision of false information purchasers are led to make an uninformed decision. The following quotes capture this sentiment:

> I remember the agent said to me "look it will probably go up, it's due to, but it shouldn't be too significant you know. And I thought well if it goes up, what we are looking at, probably another $500 or something, I thought yeah ok. But, 2,400 and 16 dollars and 67 cents later (per month) and we had to pay it. (Interview 4)

> At the time of purchasing I wanted to know what the lease could be – the indications I got were so far wide of the mark – knowing what I know now it was an absolute avoidance of the question…… very little disclosure not from the lessor as well. (Interview 25)

Information disclosure is indicated as a problem by these interviewees. Both interviewees 4 and 25 allege inaccurate ground rent projection and avoidance caused them to purchase the ground leasehold. Interviewee 25 outlines that agent avoidance of questions meant he did not fully take account of the risks. Although the ground rent questions were being avoided, interviewee 25 did not seek further advice to help screen the information, such as assistance from a valuer.

There is reason to believe ground leasehold purchasers should check important facts when information is provided by a real estate agent. Real estate agents in New Zealand usually act for the seller who instructs the agent. Although they can act for purchasers this arrangement is not common. Purchaser vigilance of agent behaviour is further reinforced by public mistrust of real estate agents. Roy Morgan Research Limited (2015) indicates real estate agents are one of the least trusted professions. Comments attributing blame to real estate agents were not common, however. Revised conduct rules for agents may be the reason. Section 6.4 of the Real Estate Authority (2012) rules indicates that: "[a] licensee must not mislead a customer or client, nor provide false information, nor withhold information that should by law or in fairness be provided to a customer or client." Active enforcement and a register of complaints against agents further discourages unprofessional conduct (Real Estate Authority, 2017). Widespread misleading real estate agent conduct of ground lessee purchasers is therefore unlikely. Furthermore, some real estate agents may themselves fail to fully comprehend how ground rents are set. They may not have intentionally meant to mislead purchasers.

Criticism of valuers is the focus for some interviewees who cannot understand the valuation process. Interviewees 20 and 23 also indicate their displeasure in the following quotes.

> [O]ur understanding is that they have sat in an office with a valuer and on a flat piece of paper they have drawn the area, times it by whatever it is and they have differentiated the three different areas like the back, middle and the front and they are doing a blanket call – and because we are in the middle we're in line with the camping ground and everyone else that is in the middle – but we are supposedly table flat. (Interview 20)

> And that's where the issue really is – you can't say hang on the prices are plummeting and your rents going up – how do you figure that? And so – that's where the issue really is where um, it appears to not correlate at all with the selling price of properties, or the average selling price that isn't leasehold. (Interview 23)

Interviewee 20 asserts incorrect valuation procedures result in an unrealistic ground rent assessment for his property. He could not understand how his property could have the same ground rent as allegedly superior properties. His property is the one of a number of properties that is subject to a confidential arbitration decision. Interviewee 23 could not understand how rising ground rents can occur when the freehold market is falling. While there could be a timing issue explaining the possible increase, valuation misunderstanding issues clearly exist.

Property valuer independence and the arbitration resolution process is emphasised by interviewee 21 where he indicated "…the last guy [valuer/arbitrator] lent over his way." The incentive for further work allegedly makes the valuer acting as an arbitrator more prone to finding in favour for the lessor with a greater potential work source. In addition to interviewee 21, interviewee 14 also expressed concern with high arbitration costs and dissatisfaction with the rent review process.

> They tend to hide behind experts, valuers ok … in all due respect to valuers ….. the valuers we deal with tend to ignore us as laymen, but we are the ones who have to pay the rent and for us to go and get a valuer and legal advice and all that sort of carry on is certainly a no-brainer really in that the cost factor outweighs the justification for it. (Interview 14)

In addition to the cost issues as identified by interviewee 21 some alleged the lessor used tactics to frustrate the ground leaseholder. The lessor would obtain multiple opinions of value from different valuers. The lessor would then choose the valuation with the more favourable figure. According to interviewee 3: "[t]hey have gone through about 4-5 different valuers – in other words who comes up with the highest number – keep on. Which again is not fair – it is not ethical." The implication for the ground leaseholder is that they may not be able to obtain a valuer of their choice as that valuer has already acted for the lessor. This could create a conflict of interest situation for the valuer breaching valuer ethical codes (New Zealand Institute of Valuers, 1996). The ground leaseholder may therefore think they cannot obtain appropriate representation with fewer specialists to choose from. Not all interviewed thought the lessor had acted inappropriately. Interviewee ten for example stated "[t]he truth is they went out and got a bunch of valuations kind of in the middle to be honest…" Nevertheless, interviewee discussions regarding contentious rent reviews is no surprise.

In summary, ground rent mis-estimation is attributed by these interviewees to factors like real estate agent disclosure issues, or problems receiving appropriate valuation advice. These findings in part provide support for the asymmetric information argument. Not all interviewees, however, agreed that valuation or real estate agent issues are the most important causative reasons for ground leasehold problems, with further discussion contained in the following sections.

4.1.3 Ground leaseholders thinking concerning ground rent review levels

This sub-section details indications of ground leaseholder thinking when weighing decisions relating to ground rents. Unlike the previous sub-section, the focus here is not on external factors such as professional advice. Rather the consideration is on the internal decision-making processes of ground leaseholders. Explained following is the imagery associated with one's own home and the altruistic reasons for ground leasehold establishment. Other 'internal' reasons include relating of ground rent increases to CPI or a similar index level. Lastly considered is the tendency for ground leaseholders to positively correlate freehold price growth with ground leasehold price growth.

Previously mentioned, interviewee 7 discussed how ground leaseholders tended to focus on a sense of their own home being infallible to any adverse rent increase. "… [O]ur house is this and our house is that…" indicates that people could not see themselves in any difficultly. However, this was the only quotation of this specific nature related to the imagery of one's own home. The altruistic purposes of the ground lease establishment is another issue raised by interviewees. The following quotes capture the ground lessee sentiment.

> I went to the Māori Trustee who was the CEO in Hamilton and the rental and we knew what the rental was then, and there was a concern about Māori leasehold land, but he assured me at that point …. I think it was the Māori Affairs department was still under government control and he said it will be controlled, a controlled environment, so that gave us the confidence to go ahead with a leasehold purchase. (Interview 12)

> This may be a naïve perspective, however, given that it is owned by the church, gives some idea that they are not in there for the huge dollars – obviously they do make money but obviously they have some social conscious as well. (Interview 22)

These above interviewees therefore thought that the lessors would be more accommodating of the ground leaseholder point of view, in ground rent negotiations. Lessor obligations to their beneficiaries also need to be considered. Such issues are of a contentious nature as there will not necessarily be a ground rent level that will be reasonable to all ground leaseholders.

Some of the Kawhia interviewees indicated that the consumer price index (CPI) levels or similar index of price levels caused them to mis-estimate the ground rents. Auckland based interviewees did not mention CPI levels alone as a reliable method of ground rent estimation. Figure 3.3 shows Kawhia, is unlike Auckland without the rapid freehold price increases. Kawhia freehold property values have fallen in most years, with a modest rise in 2016 only. The outcome of a ground rent arbitration is not known, due to confidentiality requirements. Whether ground rent rises are justifiable or not, the interviewee thinking in the following table, is useful to consider given the specific location attributes.

Table 4.2 Kawhia interview responses indicating the linking ground rent expectations to changes in the consumer price index or similar.

Ground rent changes	Illustrative quotes
Linking to CPI or similar basis	"We can only speak with our own experience… the main risk appears to be an exorbitant increase in rental ….at the end of each 7 years it's reviewed." "Their increases are based far higher than the cost of living index – yeah." (Interview 12) "…technically you want steady Eddie – you would expect on a seven-year roll – 25 – 30% increase which is 3-4% CPI. And everyone can manage that…" (Interview 15) "When I came here my motivation was that if it was $880 now, it will probably go up 10% in the next lease thinking of CPI and those factors - so I sort of did a mental calculation – but now I'd probably be paying $1200 p.a. But I didn't expect it to be so disproportionate." (Interview 16) "Because of when you look at what rates you paid seven years ago to what you pay now. And so you do expect those sorts of increases and that's fair …." (Interview 17)

Regular announcements of reviews of the New Zealand official cash rate (OCR) or the Consumer Price Index (CPI) are reported prominently in the news media. Such releases often detail a particular percentage increase in prices, i.e. Wheeler (2017). People who are familiar with news reports will therefore be aware of these CPI or OCR levels. Kawhia respondents therefore tend to place importance on these CPI numbers (or similar) when considering ground rent increases, especially in light of a less buoyant property market as compared to Auckland, at the time of interview.

Interviewee 17 thought their ground rent increases are at similar levels to rates increases. Rates are a form of local government property tax that is raised on individual properties. So Interviewee 17's expectation of ground rent increasing as rates do, in effect is a form of local government price inflation. Interviewee 16's comment "I sort of did a mental calculation" is perhaps some of the closest wording that could be used to describe an incomplete thought process. In Kawhia, the use of CPI or similar factors is the way people judge the respective increases. Auckland ground lessees did not

indicate, to any large extent, that inflation like factors, was part of their thinking. Direct questions to Auckland ground lessees about inflation were not asked, as this may have biased the answers. Auckland interviewee ground rent review experiences have created strong awareness that the increases can exceed inflation levels. Therefore, CPI does not explain mis-estimation in all locations.

The tendency for purchasers to misunderstand the freehold to ground leasehold comparison is another reason offered. Freehold value increases will result in higher ground rents. Therefore, the tendency to think that a ground leasehold is a "good buy" compared to a freehold is flawed thinking. There were a number of quotes that reflect this phenomenon, contained within the following table.

Table 4.3 Semi-structured interview quotations indicating how people can misunderstand the freehold value to ground leasehold value relationship

	Illustrative quotes
Quotes indicating how there can be misunderstanding of the freehold to ground leasehold value relationship	"We felt that we understood the lessees interest in the land valuation – we understood that would change in the lease cycle and we understood that there was a time that that would be worth more and a time when that would be worth less, in terms of the worth to us financially. But again, laughs, we realise that is all good in theory, but when capital gains have shot up so fast that actually that is not the case at all and in fact our value that we hold in this place has disappeared because of that." (Interview 3) "There used to be people who didn't necessary understand the lease fully, so I guess those people who think we are getting this house for $200,000 or $300,000, what a bargain, may not have been fully aware of the implications of that in terms of the lease term and what that would mean when the lease term was up and that sort of thing so I think there are historically may have been people who have bought properties thinking wow – this is fantastic what a bargain and not understanding that in 6, 10 years' time they are going to be paying a whole lot more than now." (Interview 7) "There needs to be this realisation that the leasehold market is not the freehold market and there needs to be this clear difference between the two, and yeah both that education stream needs to be at both ends from real estate, from the board – because if they're truly looking for the right people then they need to tell prospective buyers what is entailed." (Interview 9) "Typically people would invest for capital gains I am sure, that's not, doesn't really play, it's more like a business proposition over a fixed period of time." (Interview 10) "I would like to emphasise the fact that honestly that over 50% of people that buy a leasehold are not really informed properly and don't really know the implications of what a lease does or what is involved…" (Interview 13) "I think with freehold you expected to get a capital gain and I think with this when we bought it we might get some capital gain, but obviously not as much. No one expected that last lot of rent rises to be as severe as they were…. That really set the cat amongst the pigeons…" (Interview 19) "There is no such thing as a good buy there. Historically there has been a property on the market there with an asking price of $215,000, 2.5 years later is down to $115,000, drops down to 85, 75 and then sells for 73. Its rateable value in terms of what the council is collecting rates on is $241,000 – Don't tell me that's a good buy because it's not and even the improvements value wouldn't cover what is on the building as the owners – the owner's interest in the property – so there is no such thing as a good buy." (Interview 20)

Emerging prominently therefore is the assertion that with freehold prices, so should ground leasehold prices increase. This is clearly problematic just prior to the next ground rent review where the ground leaseholder interest in the land usually reduces to around zero. Interviewee three was different from the others where she did realise the ground rents would rise, but not as much as eventuated. The other quotes point to widespread misunderstanding causing ground leaseholders to mis-estimate the value of their ground leasehold. In particular the idea that ground leaseholds are a "good buy" compared to freeholds is a common theme.

4.1.4 Discussion on how ground leaseholds can be advantageous

Not all interviewees held adverse opinions towards ground leaseholds. Discussed first is those ground leaseholders who indicated there should not be surprise at ground rent increases. Thereafter discussed are advantages including lifestyle, smaller mortgages and a hedge against falling freehold market conditions. Additionally some interviewees said ground leaseholds can be profitable.

4.1.4.1 Interviewees who highlighted that ground rental increases should be expected

Countering the findings of those who highlighted the surprise of ground rent reviews, some expressed that the rent reviews are expected. An attitude reflecting the need to be realistic in the market pervaded these interviews. One interviewee explanation of a prediction method emphasising that ground rents will likely exceed CPI growth is described. Additionally, opinion emphasising the need for awareness of increases in the freehold land market since the last ground rent review is made clear. Such freehold price increases already evident in the market, will lead to increased ground rents when

reviewed again. In this context there is no need for any forecasting, with most participants indicating the ground rent levels are within market parameters.

Table 4.4 Semi-structured interview responses where ground rent changes were as expected

Ground rent changes	Illustrative quotes
Ground rent changes were not viewed as a surprise.	"That one with Ngati Whatua … [the] advice that was given to people [was] put aside 2-3 grand. Well it was never going to be that. So when it came in at 8 grand everybody had a freak out "where are we supposed to get that money?" Well, to be fair, you should have saved it – you should have set it aside. The body corp should have been way more active – they should have had valuations done…" (Interview 8) "As long as you are realistic and they are you will sort it out, because the lease will always say: rent reviews, the two parties must get together to arrive at an agreement." (Interview 21) "You do not know where that is going to go; when we moved in we picked it to um, it was $4000 a year when we moved in (laughs)and I picked it to go to 25 and it went to 30. So I was pretty close, um but for someone you know who wasn't as lucky as that to plan that way it could be a bit of a disaster." (Interview 10) "The lease coming to an end and the rent going up to a point where you cannot afford to pay it any longer – that is the major risk." (Interview 24)

Interviewee 8 is a Cornwall Park ground leasehold owner and an experienced real estate agent. Having sold ground leasehold properties, he indicates a strong familiarity with this tenure type. The Ngati Whatua example quoted is not a property where other interviews have taken place. His opinion emphasises that people should be realistic and should know that ground rental will increase. Interviewee 8 explained that for his own property he felt many of the neighbours had been unrealistic. The ground rents had increased by a factor of ten over the 21-year time span between rent reviews, being reflective of the market. Nevertheless, Interviewee 8 did early in the discussion mention that if purchased cheaply just after the rent review the value of his ground leasehold would grow over time. The property could then be sold off at a profit if needed. His commentary is notable in that it does state that the increases are expected as they are consistent with the current market where he does

have much market knowledge. No forecasting is required, when market signals of strong freehold property growth clearly indicate growth in ground rents are evident.

Interviewee 21 shares a similar sentiment to interviewee 8 with his emphasis being on the need for ground leaseholders to be "realistic" in the market. "Commercially minded" is an expression used later in the interview to describe the people whom he recommends should buy ground leasehold properties. Interviewee 21 has a number of rental units on his property to hedge the risk, so an increase in ground rent will probably be able to be covered by his sub-tenants. However, many other ground leaseholds do not make good investments in his view, because there is very little or no opportunity to enhance the income the ground lessee receives. So, both interviewees 8 and 21 refer in similar terms to the need for ground leaseholders to obtain relevant information from the market and to be realistic.

Interviewee 10 was notable for explaining a method of ground lease forecasting. The interviewer requested further clarification after the interviewee mentioned the new ground rent was estimated reasonably accurately. After looking at long run inflation, "[I] added a couple of percent to it effectively, and I just fudged it up a bit …" There is no specific formula; however, as an estimate the Consumer Price Index (CPI) plus an allowance for property growth does appear logical. Although his formula provides a good ground rent increase estimate, he did admit it does rely on luck. Interviewee 8 addresses the issue price increases exceeding CPI that is clearly different to those interviewees from Kawhia.

Commentary from interviewee 10 is notable in that he does refer to a method of forecasting that is clearly explained. This is different to the interviewee 8 and 21 where the commentary as to the ground rental levels is based on a sense of reasonableness in the current market and a risk mitigating strategy. Interviewee 8 intends to sell after the ground leasehold increases in value. Conversely interviewee 21 expects his sub tenants will be able to cover any increases. Interviewee 10 is therefore quite notable for detailing how future ground rents can be estimated. Therefore, these interviewees discuss how ground rents are set within expected market parameters. Ground leaseholders need to be realistic in the market and take account of evident freehold growth.

4.1.4.2 Additional ground leasehold advantages

Many ground leaseholders talked about the lifestyle benefits of ground leaseholds. Interviewee 5 is typical of these with the comment that "…this one has served me well I must say – in terms of enjoyment of life - financially no – I have spent too much money on it…" Interviewee 23 also indicates "[w]e have had a really nice time at Rotoma, we have enjoyed being there – the people there now are thoroughly enjoying the place as well – it's been quite all right." The locations of many of the interviews are often scenic, such as having views of Cornwall Park or Lake Rotoma, consequently offering important lifestyle considerations.

Smaller mortgage sizes is another advantage of ground leaseholds, with purchase prices usually lower than for freehold properties. Changes in interest rates therefore do not represent the same risks as they do for freeholds. Given that freehold secured mortgages tend to be larger than ground leasehold mortgages, an increase in interest rates presents a greater risk for freeholds. Interviewee 22 highlights their logic in the following quote.

> In terms of the property market and if there is a crash and values go down, at least being leasehold I have higher equity in my property and I would be less likely to be forced to sell than I would if I was freehold (with a large mortgage etc.). And I would only lose the value of the house, apartment rather than the land so there are benefits as well. (Interview 22)

Falling freehold market conditions can be viewed as beneficial to the value of ground leaseholds by some interviewees. Lower freehold land values without a ratchet clause could lead to lower ground rents. This response type, although not common, is nevertheless an important observation. Interviewees 7 and 21 capture this idea based on their experiences.

> I have seen the market rocket – go up and up and up and then bang. I have seen it 4-5 times in my lifetime in 2002, just before it collapsed – it's gone past there now – took a long time to get up there again, and he'd picked that up now if that were leasehold and they were coming for review and it was down there … you wouldn't waste all that money. (Interview 21)

> With freehold you are at just as much whim of the market, but it depends which way it is going, if there was a huge crash tomorrow we would probably be jumping up and down screaming with excitement because the value in our property might actually recover a little bit. And then it might be seen as a good investment once again, but that's not looking likely in the near future.... (Interview 7)

Ground leaseholds can therefore insulate the ground leaseholder if the freehold market falls. Interrelated to the above benefits of lower freehold market conditions is purchase strategy. To avoid an adverse ground leasehold purchase timing of purchase and sale is important. Some even suggest how to profit from a ground leasehold purchase. Quotations that detail purchase strategy are contained in the following table.

Table 4.5 Semi-structured interview quotes on ground leasehold purchase strategies

	Illustrative quotes
Ground leasehold purchase strategies	"First step will be high [ground rent], next step will be pretty reasonable, and the third step you know is a gravy train…" (Interview 3) "That is the trap you have with leasehold that once you are in it is very hard to move. I would probably still have bought but sold earlier. The other thing we would have done is hedge our bets by buying an investment [freehold] property." (Interview 7) "I would have tried to buy when that guy tried to buy for $30 grand you know. Look at when rent reviews have just happened, there will be distressed sales – that is the best time to buy, you have got yourself a real long time period left, and whatever you buy look at it between now and the next ground rent review, and if you are going to walk away selling it for a dollar, are you happy?" (Interview 8) "Halsey complex there were a lot of distressed sales - people come in a bought it off plan and they paid pretty much freehold prices for it – they got caught up with the emotion of the whole thing where it was, the whole lot … not quite understanding leasehold – all of a sudden the ground rents kick in and you have to start paying the ground rents, and you get freaked out. And they sold them for like half and the people that came in and bought them the second wave are the ones laughing their heads off – they are making really, really good money on those." (Interview 8) "You have got to be realistic in your approach, and have a plan as far as how you are going to exit and how - you have to be clear on the reasons why you are buying as well, the condition of the house..." (Interview 9)

Implicit within this discussion are indications of when the property should be sold, prior to the next ground rent review. This strategy relies on some not fully accounting for the risks of a ground rent increase. Interviewee 8 in another quote for example comments that although ground rent review levels are reasonable in the market, he still intends to sell after the value goes up. Interviewee 3 also notes that prudent investors "… would only keep it for a short period of time and that was while the ground rent was low enough and the rent was high enough, so they made a bit of a profit."

Interviewee 8 identifies a profit-making strategy of buying after a ground rent review but selling prior to the next ground rent review. To clarify, this ground leasehold profit strategy relies on the purchase post ground rent review at a favourable price to the purchaser, such as in mortgagee sale circumstances. The ground leasehold would then be sold, prior to the next ground rent review to a purchaser who may not account for the ground rent increase. The Halsey complex is cited by interviewee 8 as such an example where such a profit-making strategy has been used. The Halsey complex is in central Auckland central business district and there have been no interviews with any of the ground leasehold owners within that development. However, the strategy on making a profit is made clear by interviewee 8. Those who use a strategy will likely have good insight into the ground leasehold market and have explicitly planned for the occurrence of increased ground rents.

This subsection presents information, which indicates that ground leaseholds can be an advantageous title form. Some interviewee comments indicate that ground leasehold follow a pattern where there is a period of favourable ownership, with low ground rents, or a “gravy train” as interviewee 3 describes it. With this identification of favourable periods of ownership with low ground rents, there is an implicit awareness that ground leaseholds have times where they are more valuable. That value is time dependent, i.e. close to a rent review the land value component falls as outlined in Figure 2.2. Added to the comments on lifestyle benefits through attractive locations and smaller mortgages means ground leaseholds can be advantageous for some ground leaseholders.

4.1.5 Semi-structured interview conclusions

Surprise at reviewed ground rent levels prominently emerges as an important issue from the interviews with ground leaseholders. Some of the reasons for the ground rent mis-estimation are the adversarial relationship between the ground leaseholder and lessor, real estate agent disclosure problems and an inability to receive appropriate valuation advice. Reasons such as the lack of disclosure from real estate agents could suggest information asymmetry as an explanation of ground leasehold purchaser behaviour. These problems are however, common to other property types, so what is of particular interest are the issues more unique to ground leaseholds.

Despite the many perceived disadvantages, there are some ground leaseholders who viewed ground leaseholds in a more positive way. Reasons include the provision of a superior lifestyle than otherwise could be had with a freehold property. Smaller mortgage size is another benefit. Advantageous timing strategy for both minimising the purchase price and maximising the sale price was also discussed. The ideal purchase time is post ground rent review with selling prior, which could result in a profit. Such strategies indicate that it is possible to make a fully informed ground leasehold purchase decision.

Because some interviewees expressed surprise at the reviewed ground rent levels and others did not, consideration of ground leaseholder thinking is undertaken. Some reasons relating to ground leaseholder thinking included misconstruing the altruistic reasons for the creation of the ground leasehold and expecting it to be extended to the ground leaseholder. Imagery associated with a person's home thereby suppressing rational thoughts of a ground rent increase, is another reason. Kawhia interviewees commonly indicated that inflation or inflation like factors, were at the forefront of their thinking. Conspicuously however, the tendency to believe ground leasehold prices are

favourable compared to freeholds, despite the timing, emerges as a common belief. Such a belief can be misleading, in circumstances where there has been freehold growth prior to a ground rent review. As Figure 2.2 demonstrates, in circumstances where there has been substantial freehold value growth, just prior to the ground rent review, the ground leasehold value falls.

The behavioural explanation of the availability heuristic (Tversky & Kahneman, 1973) offers the more compelling explanation of ground leaseholder behaviours. Interviewee indications are that ground leasehold buyers do not expect reviewed ground rents to be so high, and do not account for such risk when purchasing. The ground leasehold purchaser instead, places too much emphasis on how ground leaseholds are less costly to purchase, compared to freehold prices. To recap, the implications of freehold growth, prior to a ground rent review, is not considered carefully enough by the ground leaseholders because the direct freehold to ground leasehold value relationship is more "available."

Just prior to a ground rent review, in circumstances particularly of considerable freehold growth, means that there a substantial risk of purchasers paying too much for a ground leasehold. The statements of the interviewees, where they say people pay too much for their ground leaseholds, are important and they corroborate the findings of Lusk (1993); Myers (1948) and Sawyer (2015). The ground leasehold purchasers do not fully account for the risks of ground rent increases, and the availability heuristic of Tversky and Kahneman (1973) appears as the most plausible explanation.

In summary, the above use of the availability heuristic emerges as an important explanation of ground leaseholder behaviour. This is not to say that there are other issues that can at times be of influence. However, in the context of ground leaseholds, the availability heuristic appears to be a commonly encountered tendency for ground leaseholders to employ when assessing the purchase of a ground leasehold. Confirming if the availability heuristic use cannot be rejected as the reason for mis-estimation of ground leasehold value, is conducted in the follow-up experimental study.

4.2. The experiment results

This section firstly recaps the experiment design before summarising descriptive participant information. Prior to detailing the experiment results the statistical methods employed are described and the scenario data summarised. Discussion of both the experiment and the semi-structured interview findings is carried out together because the experiment design relies upon the interview findings. Further underlying the requirement for discussion of both sets of results together, is the post experiment scenario questions that are more relatable to the semi-structured interview style.

To briefly recap, the experimental investigation occurs in two stages. Firstly, all forty investors complete a realistic ground leasehold valuation scenario. Provided to them is freehold sales, a rent review clause and other pertinent details. The forty investors are then provided with either the treatment comprising a ground rent projection with freehold growth information, or the control without the freehold growth information. The focus is on comparing how these two groups of 20 investors differ between the scenarios one to two valuations. The scenarios and associated questions provided to investors can be viewed in the appendix, page 198. The table below summarises the design.

Table 4.6 Experiment Design

This table shows how the scenarios were carried out with all investors completing scenario 1 (S1), before completing either scenario 2 treatment ($S2_t$), or scenario 2 control ($S2_c$).

	S1	$S2_t$	$S2_c$
No. investors	20	20	
No. investors	20		20
Total	40	20	20

4.2.1 Summary information of investor participants

Details of the participants are provided in this section together with some comments on how the scenarios were conducted. In total 40 participants completed the scenarios, 17 being female and 23 male. The average age is 51.8 years for 39 participants, with one participant declining to record their age.

Scenarios completion occurred at a time and place of the participants choosing to enhance participation rates. Auckland accounted for 29 scenario completions while Hamilton accounted for 11 scenario completions. In order to confirm that each participant is an investor, the address of one rental property was recorded. Most investors owned their investment properties in their locations of where interviewed, although one of the Hamilton based investors owned their investment property in Auckland, while one of the Auckland investors owned a Wellington located property. Verification of each address against the owner's name, or company name occurred through QuickMap land information software and the New Zealand Companies office database.

On average each investor owned 3 additional investment properties to their usual place of residence, although one investor declined to provide the total number of investment properties he owned. Investment property addresses related to residential investment properties and there was no indication from the participants of ground leasehold ownership. A lack of ground leasehold ownership is likely given the relative small numbers of ground leaseholds at 1.4 % of all title types in New Zealand (Land Information New Zealand, 2015). Property related work experience is shown in the table following.

Table 4.7 Experiment participant Industry Experience

This table shows the types of property experience each participant had.

Experience type	Count
Residential Property Management	6
Director of Real estate Company	1
Legal property experience	1
Property author	1
Property Development	4
Residential sales	1
Valuation officer	1
Total	15

In summary, 37.5% (15/40) of the interviewees also have (or have had) careers related to the property industry. The reason for this extent of property experience is that property companies were reluctant to request client participation, due reasons such as confidentiality and not wishing to cause upset to their client relationships. They were willing to allow their investor staff, however, to complete the scenarios. The property experience tended to relate to residential management and freehold sales where there was no need for formal property education. The valuation officer was not a formally qualified valuer but had carried out Rating Valuations for a local council under supervision of Qualified Valuers.

In all but three cases the scenario completion occurred at a place of familiarity, such as house or workplace. The other three scenario completions occurred at Massey University, Albany campus. With the scenario design being based upon interviews with ground leaseholders the external validity is assumed to be a design strength. Internal validity is an inherent strength of the experimental method. Reducing bias is achieved through the certain procedures described herein. The researcher was present in all the scenarios, confirming the participants received no external assistance. Furthermore, participants were politely requested to not discuss the scenarios amongst themselves, if in groups. The results are therefore of 40 individual opinions. Some investors appeared nervous

that they had completed the scenarios "correctly" or not. If the researcher viewed completed scenarios, especially scenario one, in front of the investors the researcher's expression could infer a "correct" answer or not. So as not to bias the second scenario answers therefore, the researcher requested that the investors place the completed scenarios into the envelopes and did not view their answers in front of them.

4.2.2 Statistical test for the availability heuristic

Usually when testing data, there is a common assumption that the population will follow a normal distribution. In such a case, a parametric *t*-test would be used to indicate the degree of significance between the means of each treatment and control group. However, in the case of this experiment the sample size of 40 participants, raises uncertainty as to the conformance of the sample distribution to the population distribution. In such cases nonparametric tests can be used and are based upon a median value, rather than a mean (Wolverton, 2009).

Prior to testing the central research hypothesis, the Kolmogorov-Smirnov (K-S) test is used to help indicate if the two samples come from the same population. The K-S test statistic is represented by the formula as expressed in Bonnini, Corain, Marozzi, and Salmaso (2014), as follows:

$$KS = \sup_{x \in \mathcal{R}} | EDF_1(x) - EDF_2(x) | \quad (2)$$

KS is the K-S test statistic of the empirical distribution functions (EDF) of the two samples. The notation $\sup_{x \in \mathcal{R}}$ represents the supremum, also known as the least upper bound of the samples $EDF_1(x) - EDF_2(x)$. In summary, this formula represents the maximum absolute value difference between the cumulative distribution functions of each sample.

The K-S test statistic is used to compare to the expected population distributions. Bonnini et al. (2014) set out the null and alternative hypothesis for a two-sided K-S test, in order to test the sample distributions.

$$H_0 : \{F_1(x) = F_2(x), \forall x \in \mathcal{R}\} \quad (3)$$

$$H_1 : \{F_1(x) \neq F_2(x) \text{ for at least one } x \in \mathcal{R}\} \quad (4)$$

In this case F represents the distribution functions for the respective populations. Typically the critical KS values can be indicated by reference to tables, such as in Black (2010). Alternatively SPSS enables prompt K-S calculations.

In cases where data are suspected to be nonparametric, the Mann-Whitney test is an appropriate test of significance for the medians of the treatment and control groups. This test is the nonparametric equivalent of the parametric student *t*-test. The Mann-Whitney test ranks two independent groups and is used for the main research hypothesis. Each observation is assigned a rank out of the total number of observations for both groups (40). Each separate group ranking is then totalled and noted as T_1 and T_2. T_1 and T_2 *are* applied in separate calculations in order to derive the Mann-Whitney *U* statistic. The formula for the *U* statistic for T_1 is depicted as follows.

$$U = T_1 - \frac{n_1 - (n_1 + 1)}{2} \qquad 5$$

In this example n_1 represents the sample number (20). The chosen *U* statistic is the lowest value of the two groups. This statistic can then be compared to a critical value to determine if the statistic is significant. More precise measurement, however, is enabled through the IBM, SPSS software.

A downside of the Mann-Whitney test and nonparametric tests in general, is the lack of statistical power (Taylor, 2001). Therefore, the ability to reject the null hypothesis is less than the equivalent parametric student *t*-test. However, if the data is nonparametric in description then the Mann-Whitney test is more appropriate than the *t*-test.

4.2.3 Experimental scenario results

The experiment data gathered in order to test the hypothesis are contained in the table following.

Table 4.8 Scenario data generated from the experiments

This table displays the data collected from each participant. Firstly a ground leasehold valuation scenario (S1) was completed by all participants. Then participants completed either valuation scenario 2 treatment ($S2_t$) or scenario 2 control ($S2_c$). Of particular interest is the differences between S1 to $S2_t$ and S1 to $S2_c$

Participant	S1	$S2_t$	S1-$S2_t$	$S2_c$	S1-$S2_c$
1	144,000			0	144,000
2	410,000	430,000	-20,000		
3	180,000	40,000	140,000		
4	140,000			0	140,000
5	150,000			0	150,000
6	500,000	600,000	-100,000		
7	400,000			350,000	50,000
8	495,000			495,000	0
9	75,000	7,500	67,500		
10	150,000	145,000	5,000		
11	150,000	100,000	50,000		
12	480,000			385,000	95,000
13	450,000	520,000	-70,000		
14	350,000	280,000	70,000		
15	170,000			170,000	0
16	250,000			0	250,000
17	125,000			10,000	115,000
18	400,000	380,000	20,000		
19	100,000			30,000	70,000
20	100,000	0	100,000		
21	150,000	100,000	50,000		
22	350,000			250,000	100,000
23	350,000			350,000	0
24	280,000	0	280,000		
25	250,000	150,000	100,000		
26	360,000			320,000	40,000
27	350,000	150,000	200,000		
28	400,000			150,000	250,000
29	250,000	220,000	30,000		
30	105,000	140,000	-35,000		
31	480,000			450,000	30,000
32	180,000			80,000	100,000
33	280,000	180,000	100,000		
34	350,000	490,000	-140,000		
35	275,000			0	275,000
36	200,000			100,000	100,000
37	490,000			0	490,000
38	400,000			385,000	15,000
39	200,000	250,000	-50,000		
40	260,000	100,000	160,000		
Median	267,500	150,000	50,000	125,000	100,000
Minimum	75,000	0	-140,000	0	0
Maximum	500,000	600,000	280,000	495,000	490,000
Count	40	20	20	20	20

4.2.4 Investigation of the experiment hypothesis

The Kolmogorov-Smirnov (K-S) test indicates the distribution of value differences between the treatment and the control groups is $p = 0.329$, being above the threshold ($p > 0.05$). The two samples are therefore drawn from the same population. Given the sample size, the nonparametric Mann-Whitney test is appropriate. The research hypothesis focus is on value differences between the two groups of 20 participants. Value differences between scenario one to two (treatment) and scenario one to two (control) are compared in the following hypothesis.

Research Hypothesis: The value differences between scenario one and two with the freehold growth information, will be less than the value differences between scenario one and scenario two without the freehold growth information.

H_a: $V_{\text{diff S1-S2}_t} < V_{\text{diff S1-S2}_c}$

H_0: $V_{\text{diff S1-S2}_t} \geq V_{\text{diff S1-S2}_c}$

The null hypothesis is rejected. Value differences between the group receiving freehold growth information (*Mdn = 50,000*) differed significantly, and in the posited direction, from the group that did not receive the freehold growth information (*Mdn =100,000*), *U = 135, p = 0.0405.*

4.2.5 What did the post-experiment comments reveal about participant thinking?

Follow up questions probed the thought processes of participants, in keeping with the post-positivist research philosophy. In particular participants were asked to explain their thinking in the two scenarios and to indicate what information they assumed when making their decision. Given the scenario content, interviewees tended to comment on the rent review increases expressing surprise at the extent of ground leasehold increase. Additionally, there were other comments on the valuation method and investment related comments.

Many interviewees indicated surprise at the ground rent increases, similar to the interviewed ground leaseholders in the semi-structured interviews. The nature of this rent review surprise is captured in the following table.

Table 4.9 Post experiment investor comments indicating surprise at the projected ground rent levels

Ground rent changes	**Illustrative quotes**
Indicating surprise at the projected ground rent levels	"In scenario 2 $35K ground rent plus other costs (rates etc.) make this house completely unattractive financially and of zero interest to me." (Participant 16 - Control) "The rate was $3K… I believe it was reasonable, but at $35K that just too much." (Participant - 22 Control) "Seeing the ten-fold increase that was perhaps 2-3 times more than I was subconsciously assuming." (Participant 33 - Treatment) "[I Assumed] that rental incomes would increase in proportion to ground rent." (Participant 36 - Control)

Some participants additionally linked the rent review to ground leasehold valuation considerations. The increase in projected ground rents lead to many lowering their valuations, as captured by the quotations within the following Table 4.10.

Table 4.10 Post experiment investor quotes on impact of increased ground rents on ground leasehold value

Value impacts	Illustrative quotes
Quotes indicating impact of increased ground rent projection on ground leasehold value	"…[R]ent is way too high for me to pay it. That is why I put price even lower." (Participant 7 - Control) "The ground rent is significantly more in 2022 …. so I discounted my original figure by more to compensate for this." (Participant 14- Treatment) "$35 K is higher than I estimated review ground rent would be, hence I gave a lower valuation…" (Participant 26 - Control) "On knowing reviewed rent likely to be 35K I reduced my value substantially." (Participant 27 - Treatment)

The increased ground rent mostly meant reduced valuations were provided in scenario two, indicating the cash flow is of importance to their decision making. Some investors also discussed such issues as specific cash flow considerations such as property operating expenses as part of their though process. The link between cash flow and valuation is clearly made by many of the investors who undertook the valuation.

Rudimentary valuation methods were suggested, with many investors appearing to make their valuations based upon a feeling as to what the value should be. Often suggested was the replacement cost, or residual value of improvements including the house and other site improvements. "…I based my first offer on the cost to build…" is reflective of such opinion. (Participant 35 - Control). This thinking reflects the lack of land ownership by the ground leaseholder.

Some investors did appear well informed with participant 3, for example, explaining that he imputed a 5% to 6% ground rent to calculate a benefit rental. This type of comment, however, was not common. As previously noted, this thesis is concerned with the differences in response of participants to the information provided in the treatment and the control scenarios. As such it is not a conformance to a valuation model exercise specifically, although information is provided on ground leasehold valuation. This ground leasehold valuation information is provided, however, in order to better evaluate participant responses, especially given that ground leaseholds are a less common property type. In addition to valuation issues, some comments also had a greater emphasis on the investment perspective. Some of these comments are detailed in the following table.

Table 4.11 Post experiment investor quotes on ground leaseholds as an investment

Investment perspective	**Illustrative quotes**
Investor comments on ground leaseholds as an investment	"It does not make any economical sense to buy this. You are better off renting" (Participant 4- Control) "I do not think leasehold properties give you a stable feeling and would not be interested in one." (Participant 13 – Treatment) "Ground rents are a potential financial nightmare as the property cannot guarantee how much they will increase, potentially negating any investment in the house ..." (Participant 16 - Control) "The uncertainty around the ground rent and lack of freehold rights mean I would be unlikely to invest in one unless it were hugely discounted." (Participant 33 - Treatment) "I felt it should be reasonable to sell it for a higher figure with scenario 2 as it still is a very attractive property." (Participant 34 - Treatment) "Assume to get capital gain over the next ten to twenty years." (Participant 39 - treatment) "I personally wouldn't buy this property because lease rent went up 10 times." (Participant 40 - Treatment)

Ground leaseholds are an unfavourable investment type in the opinion of all but two participants detailed in the above quotations. Reduced cash flow means most participants viewed ground leaseholds adversely. Such a finding is not surprising, and indicates the experiment worked as anticipated.

Positive sentiment was indicated by some of the participants. Value increases in the second scenario were indicated by participant 34 and participant 39, with both receiving the treatment. In total 6 out of 20 in the treatment group, increased their second scenario valuations, while no control group members increased their valuations. There is evidence therefore, that the freehold growth treatment information does become available for investors when making their valuation decisions. The post-experiment comments proved a useful supplement to both the semi-structured interviews and experiment results. These post experiment comments help to confirm the previous semi-structured interview and experiment results. The experiment results and the post-experiment comments echoing the semi-structured interviews, proved reassuring that the correct design had been adopted.

Overall the experiment participant comments focused upon the value and investment perspectives, which was expected given their investor profiles. The insights are an important supplement to both the quantitative results of the experiment and the comments from the semi-structured interviews. There is confidence the experiment design reflects the ground leasehold purchase phenomena, given the convergence of views in both the semi-structured interviews and the post-experiment questions.

Chapter Five : Discussion of results

The results show a statistical difference between the treatment and control groups, and in the speculated direction. This result indicates that the availability heuristic provides an explanation of the behaviours of investors when they value a ground leasehold. To recap more specifically, the experiment showed that the value estimates the group receiving freehold growth information (*Mdn = 50,000*) differed significantly from the group that did not receive the freehold growth information (*Mdn =100,000*), *U = 135, p = 0.0405.* The availability heuristic (Tversky & Kahneman, 1973) provides a theory explanation for ground leaseholder purchase behaviour, in the circumstances of an impending ground rent review. The investors do not completely think through the implications of an impending ground rent review, preferring to think that with freehold price growth their ground leasehold will also increase in value, so as not to be adversely affected. Compared to a freehold purchase, a ground leasehold purchase requires more careful thinking, because the ground leasehold value calculation requires consideration of the ground rent to ground leasehold value relationship. The availability heuristic, manifested in freehold growth information, can change the behaviour of investors, where they do not think through the full consequences of a ground rent review.

The results of the experiment and the semi-structured interviews rule out the asymmetry information theory of Akerlof (1970) as a whole. The semi-structured interview results revealed that some ground leaseholders commented on specific reasons, such as difficulty in obtaining appropriate valuation advice, that points to an information asymmetry problem. The experiment results are based upon the two investor groups that had full information, yet each group showed systematically different valuation levels. The treatment, despite having more information, does not add any further useful information for a rational investor. The results therefore explain that the availability heuristic is the most appropriate theory explanation of ground leasehold purchase behaviour.

For the subsections that follow, the importance of the overarching mixed methods structure is discussed first. Second, the behavioural research, is examined particularly focusing on the availability heuristic of Tversky and Kahneman (1973). Lastly, the results are then considered in relation to the ground leasehold literature, which includes an outline of some possible reforms of the ground leasehold tenure system.

5.1 Discussion of the mixed methods research framework

This subsection discusses the results, encompassing both the qualitative and quantitative methods used in this thesis. First, a note on the overall mixed methods framework provides a context for how the results should be considered. Then, the post-experiment responses are compared to the semi-structured interview findings. Comparing these comments helps to understand the phenomena in a way that is consistent with the mixed methods framework.

The results are interpreted within a mixed methods framework, from a post-positivist philosophical perspective. The implications of this post-positivist philosophy are that the findings of the semi-structured interviews and the experiment should be viewed together as a combined whole, rather than as separate parts. While the results of this thesis are based to a large extent, on the quantitative results, there is also an important qualitative component that shaped the quantitative design. Both of the qualitative and quantitative research designs are focused upon the research question of whether investors mis-estimate the risks of a pending ground rent review when considering a ground leasehold purchase. A mixed methods research undertaking, focused around such a research question is viewed as a pragmatic and justifiable approach in the mixed methods research literature (Tashakkori & Teddlie, 1998). The critical realist ontology, enables quantitative and qualitative research methods to

be combined in a unified way (Tashakkori & Teddlie, 2010). Overall, there is a sound theoretical justification for mixed methods research in the literature, as has been applied to ground leaseholds in this thesis.

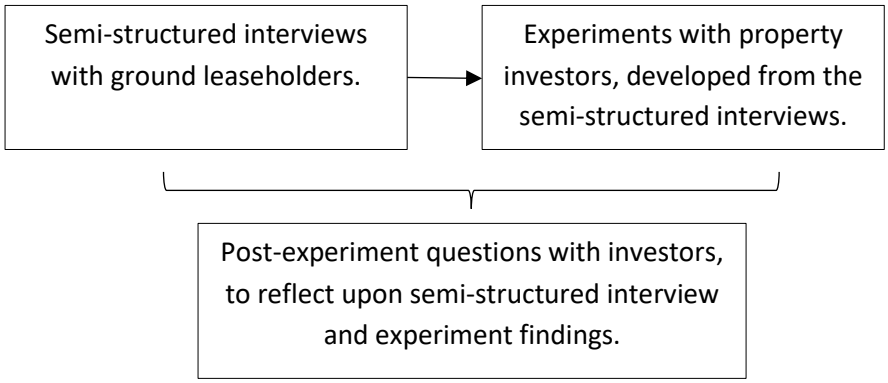
The mixed methods framework provides greater certainty that the results genuinely reflect the phenomena tested in the experiment. The experiment results supported the contention that when reminded of freehold growth, investors tend to believe the ground leasehold will not be adversely impacted, and indeed can be positively impacted, than if they were not reminded. There are the usual quantitative metrics, such as the median differences between the treatment and control groups justifying the result. In addition, there are the statements of those who have purchased a ground leasehold. These ground leaseholder statements, based upon all of their ground leasehold purchase experience, are a crucial addition to the New Zealand ground leasehold literature chapter. Without the foundation of the qualitative interviews, there may be a tendency to question if the experiment results reflect actual occurrences in the ground leasehold market.

The experiment design, based on a foundation of semi-structured interviews is consistent with a post-positivist epistemology, where quantitative results are not accepted at face value. As Tashakkori and Teddlie (2010) outline, a mixed methods research undertaking is "…an extension of everyday sense making…" where researchers, whether they be specialised qualitative or quantitative, make sense of different evidence types (p.819). The mixed methods research design adopted in this thesis, is essentially a formalisation of this 'sense-making process,' to better understand the ground leasehold market.

Reinforcing the semi-structured interviews and the experiment methods, were post-experiment questions. These post-experiment questions asked the investor participants to explain their thought process and any assumptions they made when completing the scenarios. The experiment results are therefore a further check, consistent with the post-positivist epistemology.

Figure 5.1 Summary of the mixed methods research framework

The following chart summarises the research process, emphasising that while the interviews and follow-up experiment are the main methods, they are not the only method employed. Post-experiment questions investigated how the participants used and reacted to the scenario information provided.



There was similarity between the semi-structured interview comments and the post-experiment comments. Table 4.1 indicates surprise at the reviewed ground rent levels by the semi-structured interviewees. Table 4.9 similarly shows comments where the experiment participants showed surprise. To appreciate the similarity a comparison in Table 5.1, follows.

Table 5.1 Comparison of selected semi-structured interviewees to post-experiment participant comments where surprise was expressed at reviewed ground rent levels

Semi-structured interviewee comments	Post-experiment participant comments
"At that time that guy bought it the ground rent was $3800 now it is $32,000 – my expectation is that it wouldn't go up that much, but I'd only bought it to get out. I thought it would go up to about 20." (Interviewee 2)	"In scenario 2 $35K ground rent plus other costs (rates etc.) make this house completely unattractive financially and of zero interest to me." (Participant 16 - Control)
"Years ago it used to be a basic rule of thumb of times 10 - say from $4000 to $40,000. But then the market has changed by that – you can't go on that." (Interviewee 3)	"The rate was $3K… I believe it was reasonable, but at $35K that just too much." (Participant - 22 Control)
"…the question is how far wrong are you going to get it, and if you are way wrong then you are left very vulnerable, that's the problem because there are so few options. No one had predicted this problem...." (Interviewee 6)	"Seeing the ten-fold increase that was perhaps 2-3 times more than I was subconsciously assuming." (Participant 33 - Treatment)
"… Because we know in the past, before we had bought it, it had never gone up like that – it had gone up a few percent…" (Interviewee 19)	"[I Assumed] that rental incomes would increase in proportion to ground rent." (Participant 36 - Control)

The notable element in these quotes is the similarity in comment type, with both groups expressing surprise at reviewed ground rent levels. Interviewee 15, from the semi-structured interviews, vividly captures sentiment that could be from either group when he said "…you start out with a rental clip and all of a sudden it is a Mt Everest climb." The investors who completed the experiment control in particular, responded in a way consistent with a "Mt Everest climb." However, participants who were provided with the treatment, adjusted their valuation higher than it otherwise would have been, due to the freehold growth information. Freehold growth, a manifestation of the availability heuristic, causes the investors to assess their ground leasehold valuations to a higher level than they otherwise

would. With a ground rent review pending, a higher ground leasehold valuation, when there is freehold growth, is not rational behaviour.

Further similarity in comment type related to ground leasehold valuation impacts. These comments required the participants to reflect upon the impact of ground rent increase on the valuation, not only their reaction to the ground rent. Table 4.3 and 4.10 contained quotations of similar substance, with some of these reproduced in a manner that aids comparison in the following Table 5.2.

Table 5.2 Comparison of selected semi-structured interviewee quotes to post-experiment participant comments regarding ground rent valuation issues

Semi-structured interviewees	Post-experiment participant comments
There needs to be this realisation that the leasehold market is not the freehold market and there needs to be this clear difference between the two, and yeah both that education stream needs to be at both ends from real estate, from the board – because if they're truly looking for the right people then they need to tell prospective buyers what is entailed (Interviewee 9)	"It does not make any economical sense to buy this. You are better off renting" (Participant 4- Control)
I would like to emphasise the fact that honestly that over 50% of people that buy a leasehold are not really informed properly and don't really know the implications of what a lease does or what is involved… (Interviewee 13)	"Ground rents are a potential financial nightmare as the property cannot guarantee how much they will increase, potentially negating any investment in the house ..." (Participant 16 - Control)
I think with freehold you expected to get a capital gain and I think with this when we bought it we might get some capital gain, but obviously not as much. No one expected that last lot of rent rises to be as severe as they were…. That really set the cat amongst the pigeons….. (Interviewee 19)	"The uncertainty around the ground rent and lack of freehold rights mean I would be unlikely to invest in one unless it were hugely discounted." (Participant 33 - Treatment)
"There is no such thing as a good buy there. Historically there has been a property on the market there with an asking price of $215,000, 2.5 years later is down to $115,000, drops down to 85, 75 and then sells for 73. Its rateable value in terms of what the council is collecting rates on is $241,000 – Don't tell me that's a good buy because it's not and even the improvements value wouldn't cover what is on the building as the owners – the owner's interest in the property – so there is no such thing as a good buy." (Interview 20)	"I personally wouldn't buy this property because lease rent went up 10 times." (Participant 40 - Treatment)

As with the ground rent review levels, there was much commonality between the semi-structured interviewees and post-experiment participants' comments. Both groups tended to lower their valuations. Investors who completed the experiment treatment were less inclined, however, to reduce their valuations by as much, given the tendency to rely on the availability heuristic when judging the

ground leasehold value. The semi-structured interviews captured this tendency with, for example, interviewee 19 reflecting that "… with freehold you expected to get a capital gain and I think with this when we bought it we might get some capital gain, but obviously not as much" (Interviewee 19 semi-structured interviews). The semi-structured interview content reflects the experiment results and further post-experiment statements, give greater confidence that the results reflect the ground leasehold phenomena.

The results pointed to the presence of the availability heuristic of Tversky and Kahneman (1973) rather than the affect heuristic (Finucane, Alhakami, Slovic and Johnson 2000). Consideration of the post-experiment comments did not reveal any thought process that gave weight to the affect heuristic. To use the words of Slovic, Finucane, Peters and MacGregor (2004), the investor participants do not appear to be relying on an "affect pool" of images regarding ground leaseholds and freeholds that impact upon their decision process (p.314). Therefore, the decisions the investors make are linked to the ability to recall using the availability heuristic and not images of ground leaseholds.

The post-experiment comments gave very few indications that ground rent review levels were as the participant expected, differing from some of the semi-structured interviews. Table 4.4, illustrates the type of comment in the semi-structured interviews, indicating that increased ground rents were no surprise. As interviewee 21 expressed; "[a]s long as you are realistic and they are you will sort it out, because the lease will always say: rent reviews, the two parties must get together to arrive at an agreement." These semi-structured interviewees who made these types of comment, often had property work experience or were somehow more experienced with ground leaseholds. These semi-structured interviewees therefore could draw upon more ground leasehold life experiences. By comparison the experiment participants may have only considered a ground leasehold at the time of

experiment completion. Furthermore, the semi-structured interviewees also tended to make longer comments than the experiment participants. These comments reflect the time taken to consider their ground leasehold that had real life consequences for them, compared to the experiment participants who were less emotionally impacted. A different type of research initiative, perhaps of a longitudinal design, could discover if over time, the experiment participants would alter their comments, reflecting a more carefully considered thought process. However, such further investigation is beyond the scope of this thesis.

The research design is one that ensures external validity is strong. The similarity in comments of the semi-structured interviews through with the post-experiment comments, gives confidence that the results reflect the phenomena. In essence the qualitative design components give credence to the quantitative results. The ground leasehold phenomena was initially investigated with ground leaseholder participants, who have lived experiences to best inform the experiment design. Strengthening the results further, is the investor participants who completed the experiment scenarios. Investors of course have purchased property, considered carefully property risk versus rewards and are mostly likely to reflect market place behaviours. Therefore, there is confidence that the results reflect authentic market place occurrences in the ground leasehold market.

In summary, the combined results of the semi-structured interviews, together with the experiment and post-experiment comments, point to the availability heuristic being the most compelling explanation of why investors tend to mis-estimate the risks of ground leaseholds. The expressions of surprise to ground rent increases is a genuine reflection of ground leaseholder emotions. This conclusion is arrived at after a careful design reflecting ground leaseholder opinion, confirmed by property investor participants. With the central ground leasehold problem explained in theory terms, solutions can be better designed with greater insight into ground leasehold problems.

5.2 The application of the availability heuristic to explain ground leaseholder behaviour

The landmark paper of Tversky and Kahneman (1973) is particularly relevant to explaining the ground leasehold purchase behaviour of investors, experiencing a ground rent review. While the results of the experiment are of particular focus given the common use of the experimental method amongst behavioural researchers, these results still need to be evaluated from a point of view that acknowledges the mixed methods framework.

The experiment design is consistent with papers that test the availability heuristic phenomena, i.e. Folkes (1988); Ofir et al. (2008); Pachur et al. (2012); Tversky and Kahneman (1973). The experiment is implemented when there is a ground rent review pending, in this case being in four years. In these ground rent review circumstances, a rational investor should be alert to the ground rent review risk. The rational investor's assumptions are the accepted null hypothesis settings, which are consistent with many behavioural studies, as noted by Kahneman (2003). The required thinking about how freehold property growth impacts ground rents, does present the investor with challenges, however, these challenges were not of an inconsistent standard that would be encountered in research of experimental design such as that in Tversky and Kahneman (1973). Therefore the design is based on a scenario that enables testing the hypothesis in a way that is consistent with the foundation research on the availability heuristic.

The design captures the thought process of investors when considering freehold value growth and ground leasehold value. The treatment statement, describing the freehold residential growth levels, requires careful thought in order to be a rational process. Essentially, the investor participants need to employ a type of thinking that is "…slower, serial, effortful and deliberately

controlled…"(Kahneman, 2003, p.1451). Such careful thinking should enable the investors to more carefully conclude that the freehold value growth information is already implied in an increased ground rent. The alternative hypothesis that investors are influenced by the possibility of freehold growth increasing, or at least moderating their ground leasehold valuations, proved to be a better predictor of their behaviour. Succumbing to the availability heuristic, implies the investors use an automatic form of thinking that is not the careful and methodical approach needed. Tversky and Kahneman (1974) refer to how some events are more retrievable, in this case freehold growth instances. Given the strong retrieval status of freehold property growth information, the investor mistakenly correlates increased freehold value growth with increased ground leasehold values, or at least ground leasehold values that are not substantially reduced. The availability heuristic of Tversky and Kahneman (1973) provides therefore, an accurate description of investor behaviour when purchasing a ground leasehold with a ground rent review pending.

The availability heuristic use can, in some situations, be beneficial. Kahneman (2003) provides the example of a master chess player where the availability heuristic use means quick and accurate decisions can be made. The benefits of substantial training enables the chess master to make optimal decisions. A follow-up ground leasehold study could investigate the impacts of substantial training on investor participant decision making to test if the impacts of training can reduce the impact of the availability heuristic. This training could for example, involve making the investors aware of the impact of freehold value growth on ground leasehold value when a ground rent review is pending. However, the focus of this thesis is on investors in a typical ground leasehold pricing situation where they will have a reasonable level of market knowledge, but may not have mastered all facets of the property market. In other words, the focus is upon explaining market behaviours currently encountered. For the typical property investor, however, the availability heuristic can result in systematic errors in assessing the ground leasehold value estimate.

The testing of the availability heuristic was based upon scenarios developed with ground leaseholders and conducted with property investor participants, within an overall mixed methods framework. When considering a theory that centres on cognitive processes, talking to ground leaseholders with purchase experience and discussing the consequences of their purchase, is an optimal way of assisting an experimental design. Certainly, the experiment choice of investors avoids any of the debate that involves the suitability of the readily obtainable students as participants, even if there is evidence supporting student use as participants (Sah, 2009). Overall, the participant choice is the most optimal way of reflecting actual market-place occurrences with ground leaseholds.

Parallels can be drawn between some of the statements of Tversky and Kahnema and the semi-structured interviews. Effectively the semi-structured interviews examined ground leaseholder statements as to their beliefs on ground leaseholds, that are expressed in words such as "I think that . . . ," "chances are," "it is unlikely that . . . ," as Tversky and Kahneman (1974) explain (p.1124). Such wording reflects the chance of uncertain events that Tversky and Kahneman (1974) use, and are similar to many of the views expressed by the interviewees in the semi-structured interviews. For example as interviewee 2 observes:

> At that time that guy bought it the ground rent was $3800 now it is $32,000 – my expectation is that it wouldn't go up that much, but I'd only bought it to get out. I thought it would go up to about 20." (Interviewee 2)

This statement of interviewee 2, and others, indicates how they considered the possibility and magnitude of a rent review increase, hinting that a non-rational thought process may have been used. There is, however, no definitive proof of such adoption of non-rational thought processes, because the statements may only reflect the interviewee choice of words rather than an actual process employed. The experiments that followed the semi-structured interviews, were therefore crucial to

test the behaviour of investors, particularly when the New Zealand ground leasehold literature is limited. Nonetheless there is an interesting correlation between the statements of Tversky and Kahneman (1974) indicating that heuristics might be used and the nature of statements in the semi-structured interviews.

The property economics research literature has been heavily influenced by the work of Kahneman and Tversky, as summarised in the paper of Kahneman (2003). For example, the concept of anchoring (Tversky & Kahneman, 1974) to an asking price or similar price indication, is featured in many property economics papers. Examples of value estimating focused papers, include Hansz and Diaz (2001), Scott and Lizieri (2012)and Tidwell and Gallimore (2014). This thesis contributes to this body of property research, with the particular characteristics of ground leaseholds in New Zealand being explained by the availability heuristic of Tversky and Kahneman (1973). It is noted that many of the existing behavioural property economics papers are usually concerned with properties of freehold tenure. Ground leaseholds are a tenure form that is prone to mis-estimation and are suited to this behavioural lens.

Overall, the results provide a good explanation of investor behaviours. The implications for those contemplating a ground leasehold purchase, is that even if they have experience in the property market, the behavioural shortcut of the availability heuristic may lead them to mis-estimate the risk associated with a ground rent review. The availability heuristic as a theory explanation of ground leaseholder purchase behaviour, when a ground rent review is pending, is an important finding.

5.3 Discussion of possible ground leasehold tenure reform

Ultimately the body of work outlined in Tversky and Kahneman (1974), together with the underpinning work of Simon (1955) and others, is concerned with people's inability to make fully rational decisions all of the time. While heuristics can, in many cases, lead to optimal decisions as pointed out by Kahneman (2003) those same heuristics can lead to sub-optimal decision making. This propensity for investors to make sub-optimal decisions due to the availability heuristic, when valuing a ground leasehold, in the context of an impending ground rent review, is an important finding.

The structure of freehold value based ground leasehold rent review clauses makes them susceptible to the availability heuristic. In particular the market set ground rent, being based on freehold land values with lesser government oversight of ground leasehold matters, is the ideal circumstances for a heuristic to manifest. The consequences of this behavioural bias, can be of a most serious nature for those who purchase ground leaseholds. The semi-structured interviews revealed that the implications of a ground rent review can adversely impact ground leaseholder lives.

The comparatively free market regulatory environment here, means that New Zealand ground leaseholds are an interesting case study for other countries to consider. The review of literature chapter, in part, details the differences in some international locations. Single or at least more concentrated land ownership such as that seen in Amsterdam, China, Helsinki, Hong Kong, Singapore and Sweden makes for a more consistent ground leasehold policy. Where there is a greater variety of owners, there can be more rights and protections for ground leaseholders, such as in England (Giglio et al., 2015; Ministry of Housing Communities & Local Government, 2018). Where there are ground rent reviews, they have been moderated so that the full impact of an increased market review is

moderated, such as in Finland (Tyvimaa et al., 2015). Recently in England and Wales, where there has been ground rent review controversy, the government is speedily proposing to attend to the various complaints e.g. banning the sale of new build housing of ground leasehold tenure (Wilson & Barton, 2019). Comparatively, New Zealand is inconsistent with the way its ground leaseholds are administered disadvantaging the ground leaseholder. The New Zealand ground leasehold market is freer but results in adverse ground leaseholder impacts.

In the New Zealand context, in order to overcome misunderstandings of the terms of ground leaseholds, freeholding the ground leasehold interest is a solution that has and is still being used. To illustrate, in Waitara, located in the Taranaki region of the north island of New Zealand, ground leaseholders can apply to freehold their ground leasehold (New Plymouth District Council, 2019). In the Hawkes Bay region of the north island of New Zealand, numerous ground leaseholds have been changed to freehold titles (Hawkes Bay Regional Council, 2019). Therefore, reduction in the number of ground leaseholds, by conversion to freehold, is one practical way of addressing the problems that ground leaseholds present.

While the freeholding of ground leaseholds is one possible solution, it may not be reasonable to compel all lessors into freeholding due to the special circumstances in New Zealand. One special reason for the creation of a ground leasehold establishment can involve the public benefit, for example the Cornwall Park in Auckland. Cornwall Park provides freely accessible public parkland which is funded by the surrounding ground leaseholds (Cornwall Park Trust Board, 2018). Another example of ground leasehold providing substantial public benefit was for the widows and orphans endowment in the St Johns area of Auckland (B. Dutton, personal communication, January 10, 2017). Ultimately, the St John's ground leaseholders were, however, given the opportunity to freehold their

ground leaseholds, with those that were not made freehold, eventually having the lessor interests on sold to a private organisation. Diversifying investments and the extensive amount of time required to manage the ground leaseholds, especially relating to ground rent reviews, were reasons that ultimately lead to the sale (B. Dutton, personal communication, January 10, 2017). In both the Cornwall Park and the St John's ground leasehold cases, the primary reason for the creation is the public benefit and any possible changes to ground leaseholds of a similar nature needs careful consideration to balance the public good.

Another matter of serious importance in New Zealand, is the special relationship that Māori lessors have to their land, such as at Kawhia. There, some of the semi-structured interviews were conducted. Interviewee 17 for example, detailed how the ground leasehold titles were over land that was formerly a pā (Māori village) site. Interviewee 17 explained that from very early times, it is not certain where people are buried, meaning that the local Māori people are particularly sensitive to what happens to their land. The crucial importance of the land and the special relationship Māori have to the land, is recognised in the Treaty of Waitangi, a founding document that concerns the sovereignty of New Zealand. The Treaty of Waitangi guarantees Māori the exclusive possession of their land, among other rights (Orange, 2013). Despite the Treaty of Waitangi, misunderstanding and conflict between European settlers and Māori over land, has been a defining issue in the history of New Zealand (King, 2003; Orange, 1987, 2013). Moreover, Māori have a strong sense of connection to their land which is intertwined with their cultural identity (Cain, Kahu, & Shaw, 2017). Consequently, Māori would be justifiably sensitive to any proposed changes to the tenure of their land. Therefore, freeholding the ground leaseholds on Māori land, is not likely to be a feasible option in most cases, due to the special relationship Māori have to their land. Any other forms of change to the ground leasehold titles on Māori land must be sensitively considered, with a fully consultative process undertaken.

Reform of the ground leasehold tenure system in New Zealand, cannot therefore follow other countries in every way, due to the special circumstances particular to New Zealand. In other countries there have been reforms favouring the ground leaseholder, for example, when the British government intervened to enable ground leaseholders to purchase of the freehold interest (Grover, 2014). In Holland reforms have allowed some ground leaseholders to enjoy more favourable ground rent payment terms (Korthals Altes, 2018). In summary, New Zealand cannot follow ground leasehold reforms internationally. Localised action is however, warranted to provide solutions in order to reduce the adverse impacts on ground leaseholders.

In the New Zealand context, a prohibition of new ground leasehold titles, where a regular ground rent is payable to the lessor, is strongly recommended. This would follow the proposals in England to prohibit new build houses on ground leasehold titles (Wilson & Barton, 2019). There are, however, circumstances in New Zealand where a new ground leasehold title is the most practical option, such as allowing Māori to generate income from their lands, but retaining their sense of identity inherently linked to that land through tribal ownership. In such instances a prepaid ground lease for a fixed period of time, such as that used in Singapore (Giglio et al., 2015), would avoid the confusing relationship between ground rent, freehold value and ground leasehold value, as demonstrated in this thesis. To clarify, a prepaid ground lease is one where the ground rent has been fully paid, as a lump sum, at the time of the initial ground leasehold purchase and there is no regular payment of ground rent. The purchase price can, depending on the length of time, be for a consideration that is close to freehold price. In general the longer the ground lease length, the closer the ground leasehold value will be to full freehold value. Giglio et al. (2015) show that for example, 100-year ground leaseholds are discounted by 10%, compared to freeholds of similar utility. The benefits of such a change to the ground leasehold system could mean near full-freehold sums of money would be raised for the lessor land owners, with the problems of the ground rent review system being avoided. Other possible ways

of reducing ground leasehold difficulties could include regular lessor reporting of current ground rents, or investigating to see if providing all ground leaseholders with the right of ground lease surrender is appropriate.

In New Zealand, it is recommended that the number of ground leasehold titles be reduced, where possible. Purchasing of the lessor's interest is occurring in Napier and Waitara. Reasons of public good and the special status of Māori to their land, means that any further changes should not be compulsory. A cost benefit study of the existing ground leasehold titles, in terms of the ground rent received, compared to full costs of obtaining the ground rent, may prompt consideration of a better way to manage the ground leaseholds. The Singaporean model where the ground rent is prepaid at the initial purchase, with no further ground rent payments due, is recommended because it avoids the mis-estimation problem. The ground lease length, can be set, based upon the requirements of the ground lessor, however, needs to be balanced with the existing ground leaseholder rights conveyed in the ground lease.

In addition to the Singaporean ground leasehold model, there could be other ways of managing ground leaseholds in New Zealand to aid ground leaseholder decision making. Ground rent reviews could be better managed by regular, perhaps yearly, public reporting of the ground rent for a typical residential site. This would reduce the unexpected nature of proposed ground rent increases at review time. Another option could be to enable the ground leaseholder to surrender their ground leasehold to the lessor, without financial penalty, at ground rent review time. In this option, there could be compensation for the improvements, depending on the wording of the ground lease. However, details of any changes to the ground leasehold tenure system, requires further research and consultation.

The thesis findings can assist in better informing policy decisions in other countries. In the United Kingdom, the government is considering a course of action for an estimated 100,000 existing ground leaseholds, where the ground rent is having a deleterious impact on ground leaseholders (Wilson & Barton, 2019). Rather than a ground rent review clause that doubles rents, ground rents are recommended to be reviewed by reference to a retail price index (RPI) (Wilson & Barton, 2019). If adopted, ground leaseholders would then have to link retail price increases to ground rents, a task that requires careful thinking, in order to avoid sub-optimal decision making. There is discussion as to the appropriateness for how the RPI index best represents prices (Levell, 2015). Furthermore, ground leaseholders may not understand that there can be risks associated with events that could impact upon retail prices, such as the possible withdrawal of the United Kingdom from the European Union. If the United Kingdom withdraws, some retail products could become scarce and more expensive. In conclusion, an RPI ground rent review clause thus provides a situation where ground leaseholders might otherwise be prone to employing a form of sub-optimal thinking when considering their ground rent review.

Other countries in general can learn from the New Zealand experience of ground leaseholds, when considering possible changes to their ground leasehold tenure systems. Authorities considering proposed changes advocated by lessor groups, who seek to maximise their ground rent profits, should note the findings of this thesis. Such proposed ground leasehold changes could take on many ingenious forms, however any innovation to the ground leasehold tenure system, does need careful consideration.

The lessons for other countries from this thesis about the New Zealand ground leasehold system are clear. Piecemeal formation of new ground leaseholds, in a lightly regulated market is not best practice. The New Zealand ground leasehold tenure system is effectively a case study in why laws concerning ground leaseholds should not be relaxed. The relatively lenient legislative settings for ground leaseholders have not been fit for purpose in the New Zealand experience, especially for ground rent reviews.

Any adoption of a ground rent payment, needs to recognise that when based upon freehold value, there is a propensity for market participants to mis-estimate the ground leasehold value. The New Zealand evidence of a relatively "free market" ground leasehold system, where the ground rent review clauses are set by the market, has resulted in genuine misunderstandings by the ground leaseholders. The New Zealand way of managing ground leaseholds is not recommended to be applied in other jurisdictions. The propensity for investors to rely upon the availability heuristic mechanism as outlined by Tversky and Kahneman (1973) and as applied in this thesis to the ground leasehold purchase decision, is too great.

5.4 Research Limitations

This thesis was limited by the type of data that was able to be collected, with a further limitation relating to the sample sizes. A full set of quantitative data relating to residential ground leaseholds was not obtainable. Ground leaseholds have additional data fields to residential freehold sales such as the current ground rent, reviewed ground rent level and other lease terms that are not collected by property data providers. However, such a limitation is uncommon, with for example Mandell 2002 only having 16 ground leasehold transactions. After the dissemination of the thesis findings access could be granted to otherwise confidential quantitative data. Such data provision could be from organisations who would appreciate the thesis intent that is to impartially explain ground leaseholder behaviours. A further limitation is the smaller sample size of the semi-structured interviews and the number of experiment subjects. Such smaller sample sizes in the experimental design (40) meant that non-parametric methods had to be employed to interpret the results. Parametric measures usually require larger data samples. Nevertheless, such use of non-parametric methods is often encountered in the literature, such as with the work of Hansz and Diaz (2001).

While the research design focused upon the ground leaseholder perspective, it is possible for there to be research with ground lessors (freeholders). Researching the ground lessor perspective was not the objective of the thesis. However, given the findings that ground leaseholders genuinely mis-estimate the extent of ground rent increases, understanding the attitudes of ground lessors (freeholders) to the findings could be informative. Possible suggestions for reform to the ground leasehold tenure system may be further refined.

5.5 Summary of the discussion chapter

The research of Tversky and Kahneman, has contributed much to the real estate literature, explaining many phenomena within the real estate economics field. Their paper entitled "Availability: A heuristic for judging frequency and probability," Tversky & Kahneman (1973) provides a theory explanation that explains the marketplace behaviours of ground leaseholders in this thesis. More specifically, in considering the purchase of a ground leasehold, when a ground rent review is pending, there is a tendency for the ground leaseholders to apply the availability heuristic. The availability heuristic is akin to a mechanism that short circuits the rational thought process, where the investor infers that their ground leasehold will not be so badly impacted, because residential freehold prices are increasing. The words of interviewee 7, from the semi-structured interviews capture the nature of how the availability heuristic impacts upon ground leasehold purchaser behaviour:

> I think there are historically, may have been people who have bought properties thinking wow – this is fantastic what a bargain and not understanding that in 6, 10 years' time they are going to be paying a whole lot more than now. We were certainly not in that case, we went in with our eyes fully open and knew what we were looking at, but we certainly did not anticipate this kind of increase (Interviewee 7).

The mixed methods research framework proved to be necessary because the ground leasehold literature was not clear as to which theory explanation to test. Hearing from interviewees, like interviewee 7 in the semi-structured interviews gave more confidence that the availability heuristic explanation was the correct theory to test. The semi-structured interviews could not, however, in themselves be of definitive proof, because there was still a motivation amongst the interviewees to

argue for a lower ground rent to reduce their household expenditure. However, after the experimental results were considered, this combined mixed methods design was the most optimal way of addressing the research question. The design also reflects the PhD student's research philosophy of post-positivism, where results of any one study are not necessarily accepted without further questioning that the results may be fallible (Maxwell & Mittapalli, 2010).

To summarise, the thought of freehold growth is too tempting for ground leaseholders who use the information in a way that results in a sub-optimal decision being made. The availability heuristic of Tversky and Kahneman (1973) thus provides a compelling explanation of the market place behaviour of ground leaseholds in New Zealand. The implications therefore, are that the ground leasehold lease system does not operate in a way that is reasonable to the ground leaseholder. The ground leaseholders are often genuinely surprised by the extent of ground rent reviews; it's more than simply a complaint against having to pay a higher ground rent.

Chapter Six : Conclusion

This section briefly summarises the research topic and conclusions, before outlining how the findings contribute to the overall knowledge of ground leaseholds. Policy recommendations and suggestions for future research directions are also made.

6.1 Conclusions and the research contribution

This thesis investigates ground leaseholds in the New Zealand context, in particular the critical risk of an impending ground rent review on ground leasehold value. In New Zealand ground lease rent is commonly set by reference to freehold land value, so if the freehold land values have substantially risen, ground rents will also increase upon review. The mixed methods research design involved semi-structured interviews, which aided formation of the follow-up experiment. The hypothesis was that investors mis-estimate the extent of an impending ground rent review, when estimating ground leasehold value. The research objectives have thus been met, with the semi-structured interviews providing useful insight to inform the experiment design. The experiment provides evidence as to the behaviour of investors when confronted with a ground rent review.

The experiment required investors to complete a ground leasehold valuation, both before and after a ground rent forecast is provided, either with (treatment) or without (control), freehold market growth information. To the rational investor the freehold market growth information is nothing that should cause them to change their ground leasehold valuation, because the ground rent is based upon freehold land value. However, if rational assumptions do not hold, as hypothesised from the semi-structured interviews, investors will value the ground leaseholds higher with the freehold growth information. Essentially the experiment design tests if investors succumb to the availability heuristic (Tversky & Kahneman, 1973) manifested in the form of freehold growth treatment information.

The crucial finding is that when reminded of freehold growth, investors adjust their ground leasehold valuations higher, than they would have if not reminded of the freehold growth. These results explain that when investigating a potential purchase of a ground leasehold, the ground leasehold purchaser thinking is influenced by the prospect of freehold growth. The semi-structured interviews indicated that ground leaseholds are viewed as a less expensive alternative to freeholds, so the freehold to ground leasehold manifestation of the availability heuristic is top of mind for the ground leaseholder. These results provide an important explanation as to why ground leasehold purchasers mis-estimate the rent review risks of ground leaseholds and is not just an attempt to save money at the lessor's expense.

The asymmetric information explanation (Akerlof, 1970) to a substantial extent, is ruled out as an explanation of ground leaseholder behaviours. The semi-structured interview results suggested the availability heuristic as the more likely cause for ground rent risk mis-estimation, with the experiment results confirming the availability heuristic reliance. Experiment participants in both the control and treatment groups had full information, yet each group provided systematically different results. Therefore, this thesis provides important theory explanation regarding ground leaseholder purchase behaviours, extending the availability heuristic application to ground leaseholds.

The implications of unanticipated ground rent increases for ground leaseholders, is a loss in perceived value of their ground leasehold. Ground leaseholders are often genuinely surprised by the increase in ground rents, realising too late that their ground leasehold value is less than expected. The human fallibility displayed by the availability heuristic has provided a genuine explanation of their ground leasehold purchase behaviour. The interrelationship between ground rent and ground leasehold value, requires careful thinking and is prone to mislead the ground leasehold purchaser. The increase at the time of ground rent review being perceived as too high is an honest ground leaseholder belief. Ground leasehold rent review procedures do not adequately allow for ground leaseholder thinking and the ground leasehold tenure form needs to be amended if appropriate.

The findings add to the knowledge of ground leaseholds from a behavioural economics perspective. The literature has numerous studies falling within the scope of a bounded rationality framework and with a specific real estate focus, such as Hansz and Diaz (2001). There are several studies that use ground leaseholds as a subject of research. Examples discussed include, Lally and Randal (2004); Asabere (2004); Boyle et al. (2009); or Giglio et al. (2015). However, there are few studies that specifically examine the ground leaseholder perspective and risk perception. Sawyer (2015) although of legal focus, mentions the ground leasehold to freehold misunderstanding in New Zealand. Mandell (2002) outlines in a Swedish context, how there could be possible asymmetric information problems with local government ownership of the ground lessor's interest. The Swedish situation of land ownership is different to New Zealand, in that there are multiple different ground lessors. The New Zealand ground leasehold is somewhat unique, with ground rents set by reference to freehold land values, includes many non-government land owners and has relatively few protections for ground leaseholders. The finding that investors and others are prone, contrary to rational behaviour expectations, to employ the availability heuristic when considering ground leasehold value, is of crucial importance. In summary the findings extend behavioural explanations to ground leaseholds, showing that investors are not fully able to account for the risk of an unanticipated ground rent increase. The lessons are, however, a caution to other jurisdictions on why regulations for ground leaseholds are needed, especially relating to ground rent reviews.

6.2 Policy recommendations and future research directions

The propensity for market participants to not fully account for the ground rent review risk when considering a ground leasehold purchase has important implications. Fundamentally, the residential ground lease, structured with a rent review clause based on freehold land value, is not fit for purpose. When purchasing a ground leasehold people make genuine mistakes about estimating ground rents, because their thinking is prone to the behavioural bias of the availability heuristic. Accordingly, policy makers in New Zealand should consider restricting new residential ground leaseholds that have a regular ground rent payment based upon freehold land values. Expanding the number of ground leaseholds converted to freehold, as is occurring in Napier and Waitara, is encouraged. Not all ground leaseholds can be converted to freehold, due to matters like the public benefit that ground leaseholds serve, however amending the title to a prepaid ground leasehold model, as has been used in Singapore, may provide a solution in some cases.

Useful lessons are provided for other countries suggesting they should not adopt ground leasehold tenure system settings as found in New Zealand. This ground leasehold tenure system, being characterised by freehold value setting ground rents, combined with relatively limited ground leaseholder protections, is fundamentally not a successful scheme for ground leaseholders. The evidence of the twenty five semi-structured interviews in this thesis, the legal observations of Sawyer (2015) combined with the government reports of Myers (1948) and Lusk (1993), provide ample evidence of ground leaseholder dissatisfaction.

Additional opportunities exist for further study of ground leaseholds. Topics could include interviews with ground lessors, to understand their concerns for improvement to the ground leasehold tenure system. Additionally, research that develops a framework for the surrender of ground leaseholds to the lessor without penalty and possibly with compensation for improvements, would be helpful. Further research could also involve testing if the availability heuristic is detectable in a scenario involving ground leasehold commercial property. Understanding the extent to which an increased ground rent is unexpected to ground leaseholders, could further enhance knowledge in this field.

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Appendix

A. Semi-Structured interview questions,

Introduction

Purpose to research leasehold (lessee's interest) property investments. This is not chiefly concerned with lessor's interest investments. The idea is that I ask you questions of a general nature that do not suggest the answer that I want – I want you to tell me how it is.

Preliminary questions:

a). What age group are you?

Less than 21 years
21- 30 years
31- 40 years
41- 50 years
51- 60 years
61- 70 years
71 – 80 years
81 years plus

b). Do you own, or have owned a leasehold property (lessee's interest such as where you own the house but not the land). If so how many and where were they?

c). If you do not own a leasehold property have you considered doing so?

d). Are you, or have you worked in a property (real estate) related field?

1. *Please describe the market for leasehold investment properties?*

2. *Who purchases leasehold properties and why?*

3. *Why do people choose leasehold properties as an investment – what is the motivation?*

   3a. How is this different to freehold property investment?

4. *What are the critical risks of leasehold property?*

   4a. How do these risks compare to freehold property risks?

5. *What kinds of decision-making processes do purchasers go through with leasehold property?*

6. *Do you have any information relating to any case studies on investor behaviour around this investment type?*

7. *Who are some of the key people in the leasehold market?*

8. *How do you judge if a ground leasehold (lessees interest) is a good buy or not?*

   8a. How does this compare to a freehold property investment?

9. *Considering your answers in 8 and 8a. how are other investors etc. different from you in terms of judging if a leasehold property is a good buy, or not? If so what do they think about when they buy?*

10. *So how are ground rents set for ground leasehold properties?*

11. *Can the ground rents set for your property change?*

    If they can change, then:

    11a. What is the process that enables ground rent changes?

    11b. What are such changes to the land rent based upon, i.e. is there any specific evidence that is needed?

    11c. Do you think other investors etc. differ in terms of their perception of the issues outlined in 11a and 11b?

12. *If you could go back in time (assuming you did purchase a ground leasehold), would you still buy a leasehold property?*

    12a. If so would there be anything specific you would tell yourself to carefully consider?

B. Information Sheet

These matters are required as per Massey University ethical guidelines.

1. Project Description and Invitation

Residential leasehold property and investor risk perception is the focus of this research. Leasehold property refers to the situation where an owner pays a ground rent, otherwise known as a lessee's interest.

Open ended questions will be used to understand investor perceptions. The intention is to not lead any respondent with a pre-prescribed set of questions.

Leasehold properties could be seen as providing part of an answer to housing affordability issues, however, understanding the current perception in the market is important, so their possible role can be better understood.

Your participation would be most welcomed in helping to improve understanding of this interesting property type.

2. Participant Identification and Recruitment

Residential property investor opinions are sought. Individuals and organisations will be asked to on forward this message on to investors.

Views from both investors who own or do not own a leasehold property are equally sought. The target is approximately 20 interviews.

At the end of the interview each investor interviewed will be provided with a small gift.

3. The interviews

Interviews will take approximately ½ an hour. Anonymity and confidentiality are guiding principles that will be adhered to. There will be no publishing of investor names in relation to the findings. No names will be recorded on the interview tape (if consented to). Only the interviewer will keep a record of those interviewed separately from the recording for cross referencing purposes. The list of names will be destroyed after this PhD is complete. Any publish research will refer to pseudonyms only.

The researcher and supervisors are employed 100% at Massey University, so there are not perceived to be any conflicts of interest.

4. Your Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study (specify timeframe);
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.
- ask for the recorder to be turned off at any time during the interview.

Project Contacts

Thank you for considering my research invitation. If you have any questions about my project, you should in the first instance contact the researcher. If the concerns are of a serious nature then my supervisors contact details are also provided.

The researcher

Alan Pope
School of Economics and Finance, Massey University, Albany
Tel: 9-4140800 ext. 43154
Email: a.pope@massey.ac.nz

Supervisors:

Professor Martin Young
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Tel: 6-356 9099 ext. 84062
Email: M.Young@massey.ac.nz

Dr Song Shi
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Committee Approval Statement

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director, Research Ethics, telephone 06 356 9099 x 86015, email humanethics@massey.ac.nz.

C. Participant consent form - individual

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name - printed

.....

D. Experiment valuation scenario questions, information sheet, participant consent form and an indication of procedure

Leaseholds

Introduction

I'm investigating ground leasehold properties. The owner of a ground leasehold house does not own the land and must therefore pay an annual rent for that land. The house (excluding the land), is sometimes called the lessee's interest. Ground leaseholds are common throughout New Zealand and are different to cross lease properties, that are effectively a form of freehold subdivision.

In order that I can reach sound conclusions about what property investors think, I'm assuming you're a property investor, or have been within the last ten years. By this I mean someone who owns an additional property to their usual place of residence. If you meet my definition, then I'd be very grateful if you can complete the questions that follow.

1. Your age

2. On the assumption you're a property investor can you please provide an address of one rental property. I'll need this so I can say to the PhD examiners my research concerns real property investors. Note that I'll hold the address information only **temporarily and then destroy** it once that confirmed with the Titles office/ Rating Valuation Roll. Until they're destroyed, this information will be treated with the **strictest of confidence.**[1]

3. Do you own other investment properties? If so how many (I don't need addresses for these)

4. Please circle what type of properties you invest in:

   Residential, commercial, industrial or other (please specify)

5. Are you involved (or have been) involved in property as your career – if so can you specify what occupation this is?

[1] Confirmed as an investor [ ]

6. Do you recommend that I should contact anyone else who may be able to complete this survey or assist in recruiting participants?

7. Do you own, or have you ever owned, a ground leasehold property? If so, please complete the following details:

Location (Town/city only)	
Lease length i.e. 21 years, 7 years etc.	Owner of the land (lessor)
Rent reviews,	Every _____ years

Why did you buy that leasehold property? Did you buy that property as a home to live in or as an investment?
If sold why?
Any other comments on your ownership of ground leasehold property

Next, I'd like you to please read the scenario information in the first envelope.

Anonymous estimate of value for the ground leasehold property 5 George Street, Jonesville

I'd like you to do your best to **estimate** the value of the house at 5 George Street, after using the information following only.

Scenario 1

The subject, 5 George Street is a 1950s, 3-bedroom brick house of 100 square-metres, in average condition. The site is 800 square metres of level contour, without subdivision potential. There are no problems with the property such as physical condition or the certificate of title. Jonesville is a made-up town (located close to Morrinsville in the mid –North Island) and is well regarded. Jonesville benefits from all the usual amenities such as good schools and shopping facilities.

5 George Street is a ground leasehold property, and this means that the land is not owned by the house owner. The ground lease started 1st January 2001. There are no onerous covenants or restrictions in the lease, although there is an annual ground rent to be paid. This ground lease is based on a 21-year term, but is perpetually renewable. In other words, the lease can be extended for a further 21 years, each time it expires. Currently the ground rent, set in January of 2001, is $3,600 per year.

The actual wording of the ground rent review clause reads as below – what it means is that the rent will be reviewed to the rental value of the land at the time and that rent will be paid for the next 21 years, and so on at all the future reviews (so it will next be due for review in January 2022).

> "not earlier than 9 months and not later than 3 months before the expiry by effluxion of time of any such period or as soon thereafter as may be, the leasing authority shall cause a valuation to be made by a person whom the leasing authority reasonably believes to be competent to make the valuation of the fair annual rent of the land for the next ensuing period of the term of the lease, so that the rent so valued shall be uniform throughout the whole of that ensuing period." (Sourced from section 22 of the Public Bodies Leasing Act 1969)

The only current available information to assist you, on the following page, are details of very recent sale prices of four 3-bedroom houses, all in similar streets and situated nearby. All the four sales were of freeholds, whereas the house you have to value is ground leasehold. Although most houses in this town are freehold, there is a small but growing number of ground leasehold ownerships. Please treat all estimations as tax neutral i.e. you do not need to add, or take off any additional tax. To be clear, you have looked exhaustively for other current information to assist, however, these freehold sales are all you have.

Based **ONLY UPON** the information supplied, please estimate the value for 5 George Street, as at 1 January 2018, **as a single number** (and not a range of numbers).

My **estimate** of the value for 5 George Street is $_____

NOTE that there is **NOT ONE RIGHT ANSWER** as I am interested in **YOUR OPINION.**

Your answers will be used in my work in anonymous form only.

Please see the following pages to view the sales information:

Freehold sales evidence

<table>
<tr><th>Address</th><th>Description</th></tr>
<tr><td>7 Queen Street

Sold November 2017 for $485,000</td><td>
<table>
<tr><td>Age of house</td><td>1950's</td><td>Condition</td><td>Average to below average</td></tr>
<tr><td>Floor area (m^2)</td><td>90</td><td>View</td><td>Localised – although shaded by neighbours trees</td></tr>
<tr><td>Site area (m^2)</td><td>825</td><td>Contour</td><td>Level</td></tr>
<tr><td>Zoning</td><td colspan="3">A standard residential zoning that does not allow subdivision</td></tr>
<tr><td>Other comments</td><td colspan="3">Painted brick cladding. Fair condition internally – needs redecoration.</td></tr>
</table>
</td></tr>
<tr><td>27 George Street

Sold October 2017 for $505,000</td><td>
<table>
<tr><td>Age of house</td><td>1940's</td><td>Condition</td><td>Average</td></tr>
<tr><td>Floor area (m^2)</td><td>102</td><td>View</td><td>Localised housing</td></tr>
<tr><td>Site area (m^2)</td><td>800</td><td>Contour</td><td>Level</td></tr>
<tr><td>Zoning</td><td colspan="3">A standard residential zoning that does not allow subdivision</td></tr>
<tr><td>Other comments</td><td colspan="3">Nice gardens enhance the street appeal, although in average condition.</td></tr>
</table>
</td></tr>
<tr><td>23 Miller Street

Sold October 2017 for $500,000</td><td>
<table>
<tr><td>Age of house</td><td>1940's</td><td>Condition</td><td>Average</td></tr>
<tr><td>Floor area (m^2)</td><td>100</td><td>View</td><td>localised</td></tr>
<tr><td>Site area (m^2)</td><td>809</td><td>Contour</td><td>Level</td></tr>
<tr><td>Zoning</td><td colspan="3">A standard residential zoning that does not allow subdivision</td></tr>
<tr><td>Other comments</td><td colspan="3">Average condition with reasonable street appeal.</td></tr>
</table>
</td></tr>
<tr><td>7 Smith Street

Sold November 2017 for $515,000</td><td>
<table>
<tr><td>Age of house</td><td>1940's</td><td>Condition</td><td>Average</td></tr>
<tr><td>Floor area (m^2)</td><td>115</td><td>View</td><td>localised</td></tr>
<tr><td>Site area (m^2)</td><td>783</td><td>Contour</td><td>Level</td></tr>
<tr><td>Zoning</td><td colspan="3">A standard residential zoning that does not allow subdivision</td></tr>
<tr><td>Other comments</td><td colspan="3">Interior redecoration has recently been carried out, average outside.</td></tr>
</table>
</td></tr>
</table>

Please view the location map and pictures of each house on the following page.

Jonesville Map and pictures of each house

5 George Street (Subject)

7 Queen Street

27 George Street

23 Miller Street

7 Smith Street

Map adapted from Quickmap data

Although the ground rent review in January 2022 is approximately four years away, it is likely that the new annual ground rent, fixed then, will be in the order of $35,000.

Knowing this, and assuming everything else remains the same, would you change your valuation, and if so, to what figure?

As before, please state your estimate of the value for 5 George Street, as at 1 January 2018, as a single number (and not a range of numbers).

My second **estimate** of the value for 5 George Street is $_____

NOTE that there is **NOT ONE RIGHT ANSWER** as I am interested in **YOUR OPINION.**

Your answers will be used in my work in anonymous form only.

Although the ground rent review in January 2022 is approximately four years away, it is likely that the new annual ground rent, fixed then, will be in the order of $35,000.

Having done further research on the market in the area, assume that you've also established that the annual growth in freehold house prices in this area has averaged 10% a year over the past four years - i.e. about 46% compounded in total – and these are predicted to rise by at least the same rate, or slightly more, in the next four years.

Knowing this, and assuming everything else remains the same, would you change your valuation, and if so, to what figure?

As before, please state your estimate of the value for 5 George Street, as at 1 January 2018, as a single number (and not a range of numbers).

My second **estimate** of the value for 5 George Street is $_____

NOTE that there is **NOT ONE RIGHT ANSWER** as I am interested in **YOUR OPINION.**

Your answers will be used in my work in anonymous form only.

It would help me if you could briefly explain your thinking in each of the two scenarios. Please write your comments in the space below.

Have you ever become aware of sale prices of ground leaseholds and if so can you remember how much they were (approximately) $_____?

Also, where exactly are these located and what type of properties are they: houses, apartments or other (please specify).

Reflecting upon your answers in the scenarios, please indicate what information you assumed when you made your valuation decisions.

INFORMATION SHEET – Ground Leasehold Valuation

These matters are required as per Massey University ethical guidelines.

1. Introduction

I am Alan Pope, a PhD student who is investigating investor valuations of ground leasehold properties. Ground leasehold property refers to the situation where an owner pays a ground rent for the land, otherwise known as a lessee's interest. I hope you can assist me complete my PhD research, by answering my questions.

2. Project Description and Invitation

Residential property investor responses to scenario questions is the focus of this research. Leasehold properties could be seen as providing part of an answer to housing affordability issues, however, understanding how investors perceive these properties is important, so their possible role can be better understood. Your participation would be most welcomed in helping to improve understanding of this property type.

3. Participant Identification and Recruitment

Knowledgeable opinions from residential property investors are sought. The definition of an investor for this study is someone who owns, or has owned, an additional property (not necessarily a leasehold), to their usual place of residence. Investor completion of at least 40 surveys is sought.

Recruitment of investors will be enabled through both people known to the researcher and by contacting organisations who may assist. If any other investors are known to you, I would be most grateful if you can pass on a request for participation.

4. Project procedure

Scenario and questionnaire completion will take approximately 20-30 minutes. Initially responses to some general questions are requested. After that scenarios involving the valuation of ground leaseholds is presented to each participant for completion.

At the end of the scenarios each investor interviewed will be provided with a small gift.

5. Data management

The data collected will principally be used to describe investor behaviours as a whole, rather than identifying an individual's response. Nevertheless, anonymity and confidentiality are guiding principles that will be adhered to, as far as New Zealand law allows. This includes:

- No publishing of investor names in relation to the findings. Only the PhD student will keep a record of participant names separately from the questionnaires for cross referencing. The list of names will be destroyed after this PhD is complete. Any publish research will refer to pseudonyms only.
- The PhD student will not discuss individual participant responses with anyone not connected to the research supervision or examination. For example, your responses will not be discussed with colleagues of yours.

The researcher and supervisors are employed 100% at Massey University, so there are not perceived to be any conflicts of interest.

6. Your Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study (specify timeframe);
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded.

Project Contacts

Thank you for considering my research invitation. If you have any questions about my project, you should in the first instance contact the researcher. If the concerns are of a serious nature, then my supervisors contact details are also provided.

The PhD researcher

Alan Pope
School of Economics and Finance, Massey University, Albany
Tel: 9-4140800 ext. 43154
Email: a.pope@massey.ac.nz

Supervisors:

Associate Professor Graham Squires
School of Economics and Finance, Massey University, Palmerston North
Tel: 6-356 9099 ext. 83552
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Email: M.Young@massey.ac.nz

Committee Approval Statement

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director, Research Ethics, telephone 06 356 9099 x 86015, email humanethics@massey.ac.nz.

Leasehold research

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name - printed

.....

An overview of the procedure for administering the scenarios

The researcher administered the survey to all forty participants. Completion of all of the scenarios occurred on an individual basis, without discussion and influence between the participants. The researcher was with the participants when they completed their scenarios, because, if not, there may be doubts that the participant completed the scenarios by themselves. The in person approach taken by the researcher aimed to ensure the credibility of the results.

Participants received an information sheet outlining their rights and a summary of the research. Discussion of key aspects contained in the information sheet included confidentiality or participant rights to withdraw from the study. The idea in raising participant rights is to give the participant confidence in the professionalism of the researcher to help increase completion rates. A pen was available to all participants, while a calculator was available upon request, although very few participants needed to the use it.

Introductory demographic information was then noted and the signed consent forms were collected in accordance with the ethics guidelines. Participant details recorded included age, investor type i.e. residential or commercial and number of investment properties owned. Collection of one investment property address enabled checking their name against an ownership database software called Quickmap to confirm their investor status. The recording of property work experience and ground leasehold ownership also occurred, as these participants could be more knowledgeable. After collection of the initial summary information, participants then completed the scenario questions.

Provision of the first and second scenario questions were within an envelope. The idea behind the envelope use was to make each activity in the envelope a distinct exercise, from the previous introductory or scenario questions. Upon completion, instructions contained on the envelope, directed the participant to place the completed scenario back in the envelope, before returning to the researcher. Furthermore, the researcher requested that there be no indication of what the estimate

of value was, in case the participant inferred anything regarding the researcher's demeanour. Focusing the participant on scenario completion in a non-biased way was the intention.

E. Low risk notification of human ethics letter

MASSEY UNIVERSITY
ALBANY

12 August 2015

Alan Pope
School of Economics & Finance
Albany Campus

Dear Alan

Re: Leasehold property and risk

Thank you for your Low Risk Notification which was received on 12 August 2015.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low risk notification has met the requirements and guidelines for submission of a low risk notification.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

> *"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Dr Brian Finch, Director (Research Ethics), telephone 06 356 9099, extn 86015, e-mail humanethics@massey.ac.nz".*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

B T Finch.

Brian T Finch (Dr)
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

cc Professor Paul Gallimore
School of Economics and Finance
Albany Campus

Professor Martin Young
Head of School of Economics and Finance
Palmerston North