THE POST-MOVE SATISFACTION OF INDIVIDUALS MOVING WITHIN NEW ZEALAND

BY

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Abstract

People who change their residence voluntarily do so primarily in order to improve their circumstances. A prevailing assumption in the literature is that migration will yield positive returns. A new body of literature now questions both the conceptual and empirical basis for this assumption noting that the range of outcomes and the mover's own individual assessments have often remained untested empirically.

In recent years students of migration have been attempting to redress the balance between understanding of the causes of migration on one hand and the way outcomes are distributed across movers on the other. With the increasing application of the large scale social survey the field is able to ask movers themselves to articulate the net returns to their own migration. The analysis of these subjective responses is the primary source of data used by the international literature on post-move satisfaction.

What the literature is now showing is that post-move satisfaction can range widely from the negative to the very positive. This is hardly surprising given that residential relocation is a major form of adaption the retrospective judgement of which depends both on expectations and different degrees of realisation. In my research I focus on how satisfied movers say they are with their outcomes of their move. I also address the degree to which levels of satisfaction with specific domains (social, employment, etc) is higher or lower than before the move. Both these questions have been asked in Statistics New Zealand's 2007 *Dynamics and Motivations for Migration Survey*, along with a wide range of personal, move related and contextual information. This internationally unique instrument which carries the responses of nearly 5000 movers within New Zealand forms the empirical base of my study.

The results are instructive. Respondents' satisfaction with the outcomes of internal migration *are* highly variable, and this variance is systematically related to the demographic and socio-economic characteristics of the movers. Post-move satisfaction at both the global and domain level is also sensitive to the characteristics of the move itself (whether within or between local labour markets and to distance). The locations involved, as well as changes in mover's personal circumstances over the period also influence the subjective evaluations of the move.

There are several reasons for looking closely at post-move satisfaction and why it varies. First, satisfaction has a close and well documented relationship to subsequent

moves. Getting the move ‘right’ may have an important impact on individual’s long term welfare as well as their community’s satisfaction as a whole. Second, changing dwellings is one of the major adjustments people make in realigning their lives, financially and socially and the ability of people to make accurate decisions which raise their perceived standard of living is important in facilitating well-being in general. The study of post-move satisfaction may also help us judge the optimal realignment of people and places. But in the short run it is probably the way that the post-move satisfaction literature is focussing our attention on the highly variable nature of outcomes of migration which is important. Understanding the reasons for this variability ushers in a new set of challenges to migration theory.

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Contents

List of Tables

List of Figures

Chapter 1. Introduction

Residential relocation is one of the primary ways people adapt to changes in their life circumstances. Adjustments can be made in-situ, but by changing address households are able to make a number of changes simultaneously: changing the type and location of dwelling, the character of the neighbourhood and even the city and region in which they live. The geographic literature has thoroughly documented the objective improvements in housing and neighbourhood quality that usually result from moving both within and between countries.

At the same time, the wider social sciences have come to recognise that there is another dimension to evaluation which can complement objective measures of human welfare, namely subjective well-being. The complementarity is not complete however because improvements in objective terms may not be replicated subjectively. People can view any given change in circumstances quite differently so that the objective and subjective can depart from one another. A reduction in levels of crime is a classic example where an objective reported measure may be accompanied by a wide variety of subjective appreciations based on people's fear of crime.

There are many examples in the literature where objective measures are not perfectly correlated with the subjective. Differences in clinical evaluations of a person's health often depart from their own subjective evaluations for example. The importance of such differences is that people act largely on their subjective interpretations of events. The propensity to engage in exercise for example may be more sensitive to a person's subjective appraisals of their level of fitness than clinical reports. Thus far, only a few scholars have appreciated the importance of this difference between the objective and subjective when it comes to understanding migration. What may appear on paper to be an improvement when someone moves from A to B may not be shared either in degree or kind by the mover themselves (or other members of the household) or indeed some outside funding agency responsible for supplementing housing income. Any subsequent adaption, such as a sequential move or decision to adapt the new dwelling or make other related decisions such as taking a loan out on the house, will reflect subjective appraisals alongside objective, third party, evidence.

Chapter 1. Introduction

We now have measures of the way large samples of people themselves appraise the success of their residential move. One of the avenues such surveys open up is the ability to document the distribution of subjectively perceived outcomes of events. Instead of simply assuming that people will be better off because the voluntary mover would not have moved otherwise, post-migration survey returns can tell us the range of outcomes returned by movers themselves. Some will deem their move a great success, others will report it a failure and most will be somewhere in the middle. What is important is that there is not just one outcome but a distribution of outcomes and these are only now being appraised by scholars in different countries in what is known as the post-move satisfaction literature.

My study contributes to that literature in several ways. First, I am able to draw on a state of the art post-migration survey whose construction was informed by a number of the early studies of post-move satisfaction. The sample size is large and covers internal moves within the small, relatively homogeneous country of under five million people making it a valuable laboratory in which to test a number of the early hypotheses in the literature.

Secondly, the research I report in this thesis is able to demonstrate the distribution of subjective appraisals of moving not just in terms of a global or overall measure of post-move satisfaction but in terms of specific domains important in the migration process: the implications economically for the mover, for their social life, their housing, their neighbourhood and so on.

Thirdly, I am able to systematically model the influence a wide range influences impinging on the satisfaction rating people give their move: in addition to the demographics of the mover, their gender, age and ethnicity, I am able to assess the influence of their income, work status and education, the distance they moved and in particular whether they just moved within the local labour market (LLM) or whether they changed from one LLM to another. I am also able to assess the impact of changes that took place in the course of the move: whether the move affected their income for example or was associated with a change in partnership. Until now we have had little idea how many of these features affected peoples' appraisals of the adjustment they made by changing their residence.

In a fourth contribution, I have been able to assess the relationship between the motivations people give for moving and the outcomes of their move. It has long been argued, in New Zealand particularly, that we know a great deal about who moves, where and when but not why. Broad consistencies of net flows from low to high wage regions, from areas with low to areas of high labour demand have lead us to infer motivations but without being able to prove them. Until the DMM survey the micro data necessary to identify what actually motivated people to move was unavailable let alone any subjective measures of outcome. The DMM survey explicitly asks about reasons and in this thesis I have been able to relate these reasons to the subjective outcomes movers report on the success of their move.

The post-move satisfaction research to date has shown that, following a move, the net satisfaction benefits of movers can range widely from the very negative to the very positive. While most movers report an increase in life satisfaction following a move, a minority of movers undertake moves that result in either no change in satisfaction, or a decrease in satisfaction. What we do not yet understand are the factors that are associated with this variation in satisfaction outcomes: how important is the age or life cycle stage of the mover? What role does their income and education level play? Do the circumstances surrounding their move, their location and reasons for moving make a difference? Does it matter how far they move?

Movers consider the relative satisfaction consequences of moving as opposed to staying, but they cannot do both and we cannot observe both. In some circumstances, moves may not be undertaken in order to realise an improvement in life satisfaction, but rather to avert a greater level of life dissatisfaction associated with remaining in a deteriorating situation. In other situations, an improvement in satisfaction may still fall well short of the mover's expectations and aspirations. Dynamic circumstances, expectations and aspirations all contribute to the evaluation that movers make regarding the effect of their move.

In this thesis, my primary focus is to evaluate how satisfied movers are with the outcomes of their move and why, in order to understand who are most satisfied with the outcomes of their move. The level of satisfaction reported by the mover is conceptualised as a reflection of a comparison the individual makes between the set of outcomes they realise relative to those they expected. The level of satisfaction will therefore reflect the accuracy with which they anticipated the costs and benefits of

moving, but will also be tempered by changes in their aspirations and the means to do so.

In addition to studying overall life satisfaction, post-move satisfaction researchers have also considered how satisfaction with specific life domains change over a period in which a move occurs. Studying domain satisfaction allows the evaluation of the areas in which particular movers improve their satisfaction through moving, and the particular circumstances in which they do so.

Existing post-move satisfaction research indicates that when moving, movers appear to prioritise satisfaction improvements in a limited number of domains leaving satisfaction in other domains unaffected by the move, or even sacrificed. Learning how different movers prioritise economic and employment satisfaction at the expense of other domains when moving will help us understand the contribution movement makes to particular areas of peoples' lives

In this study I use Statistics New Zealand's 2007 *Dynamics and Motivations for Migration Survey* to capture the level of satisfaction that movers express with the overall outcomes of their most recent move. I find that a substantial majority of movers report a positive level of satisfaction with the outcomes of their move. However, a minority of movers are not satisfied with the outcomes of their move. A further set of movers, while declaring global satisfaction, appear to move to realise improvements in only a limited number of domains. In general I find that the satisfaction of movers is systematically related to their demographic and socio-economic characteristics, the local context, the characteristics of the move and the changes in their personal circumstances over the moving period. The interactions between peoples' characteristics, location, the move itself and the perceived outcomes are both complex and contingent.

1.2 Study scope

The residential moves I study take place within New Zealand and as such originate and conclude within New Zealand's national boundaries between January 2005 and March 2007. Both intraregional and interregional moves are considered.

New Zealand is a long and thin country, comprised of two major islands and a number of smaller inhabited and uninhabited islands. At 268,680 km^2, the land area of New Zealand is approximately 10% larger than the United Kingdom (Statistics New

Zealand, 2005). Due to its long narrow shape, the distance between the two most distant points of its two main inhabited islands is over 40% longer that of mainland Great Britain, at approximately 1,400 km. This is, therefore, the maximum distance for which moves may traverse, approximate to the distance between Boston and Chicago or between Paris and Warsaw.

Figure 1.1: The study area: New Zealand

Source: Google maps, 2013

At December 31 2005, approximately halfway through this study period, the resident population of New Zealand population was estimated to be 4,161,000 residents and grew at approximately 1.1% per annum. Between June 2005 and June 2006, natural increase accounted for approximately three quarters of the country's population growth.

New Zealand is a highly urbanised country. With 86% of the population living in urban areas, most moves take place within and between urban areas. The population is also concentrated to the north of the country, with 76% of the population living in the North Island and 1.36 million people, 33% of the population, living in New Zealand's

most populous and second northernmost region: Auckland (Statistics New Zealand, 2013).

Within New Zealand, 360,483 people or 8.7% of those responding to the 2006 Census said that five years earlier, in 2001, they had lived in different region to the region they now resided[1]. Over half the population (54.8%) lived at a different residence in 2001, five years earlier. Māori were the most likely ethnic group to be living at a different address, as were those aged between 20 and 34.

Auckland experienced the largest net regional migration loss, however this was more than offset by natural increase and net external migration gain. The Canterbury region experienced the greatest net regional migration gain, receiving a net gain from each other region but Wellington (Statistics New Zealand, 2006c).

There were 1,471,746 private dwellings counted at the 2006 New Zealand Census, with the average household size 2.7 people. Two-person households were the most common household size, followed by single-person households (Statistics New Zealand, 2007b). The median income of individuals aged over 15 was NZ$24,400 (US$15,650) in 2006, with the median income of those aged between 25 and 59 above $30,000. Men and those with higher educational attainment also had higher median incomes (Statistics New Zealand, 2006b).

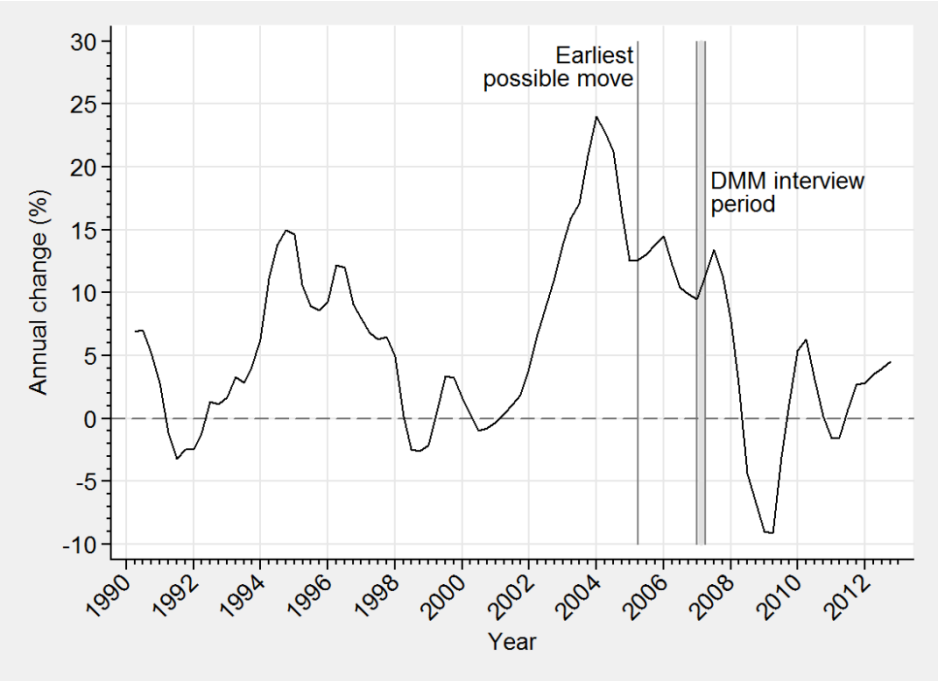
It is likely that the economic climate influences the residential relocation behaviour, including post-move satisfaction. The survey period used here occurred in the lead up to, but prior to, the Global Financial Crisis. At the time of the survey, the New Zealand economy was at the peak of a long, sustained, economic and housing boom. House prices were experiencing annual increases in value of 10% and higher (Reserve Bank of New Zealand, 2013). Average mortgage rates increased over the survey period, reaching 8% at its end (Reserve Bank of New Zealand, 2013).

In the five years prior to the end of the survey period, household debt grew at an annual rate in excess of 14% (Reserve Bank of New Zealand, 2013). Annual CPI inflation remained between 2% and 4% over the survey period, largely driven by increased housing costs (Reserve Bank of New Zealand, 2013, Statistics New Zealand, 2007a). While the cost of housing increased over the period of the survey, the labour

[1] These individuals may have moved multiple times, while additional individuals may have moved away and then back to the same residence during the period.

market was also strong. Unemployment remained below 4% and wage growth remained high at approximately 3% (Reserve Bank of New Zealand, 2013, Department of Labour, 2007).

Figure 1.2: Annual house price change, New Zealand, 1990 - 2012



Source: RBNZ 2013

During this period of strong economic growth, moves may be more likely to result in more positive outcomes for movers, as they feel increasingly wealthy and secure in their employment opportunities. But some of these positive outcomes may be offset by increasing expectations, and also increasing housing costs, particularly for those looking to purchase their first home.

1.2 Aim and objectives

The aim of my thesis is to explore the post-move satisfaction outcomes of individuals moving within New Zealand using a micro-behavioural quantitative approach. In the introduction I outline a number of opportunities that exist to further our knowledge of post-move satisfaction. In this section, I set out my research aims and objectives.

My thesis has three primary aims. The first is to explore the value of measuring the satisfaction that movers report as an outcome of their move. Previous research has found that different types of movers experience different degrees of change

in their satisfaction, but the satisfaction that movers have with the outcomes of their move is unknown.

My second aim is to understand the factors responsible for the variation in post-move satisfaction. These include the characteristics of the mover, their environment and the context in which the move takes place. In order to better understand the dynamics, I consider a number of factors that have not yet been considered by the post-move satisfaction literature such as how a mover's circumstances may have changed since they moved, including the length of time that has passed since the move.

My final aim is to expand on our understanding of how movers prioritise particular satisfaction domains over others and how this relates to their overall satisfaction with their move outcomes. I study the change in satisfaction movers experience across five post-move satisfaction domains.

1.3 Structure of thesis

The thesis is presented in 12 chapters. Chapter 2 introduces the residential relocation literature and my conceptual approach; why people move within and between LLMs and the frameworks that shape the expectations that the literature has about the outcomes that movers experience following a move. My conceptual approach studies the overall level of satisfaction that movers have with how things 'worked out following their move', rather than the net change in life satisfaction. In addition, I consider the change in domain satisfaction that occurs then individuals move.

In Chapter 3 I outline the data and methodology. The primary source is Statistics New Zealand's *Dynamics and Motivations for Migration* survey and the *Household Labour Force Survey*, which has been linked to a number of additional sample and population surveys. By using a range of datasets, linked by Statistics New Zealand's geospatial framework, I am able to include the spatial context as an argument in my account of post-move satisfaction.

In the second half of Chapter 3, I outline the satisfaction that movers report on the outcomes of their move and their intentions for a subsequent move. I also introduce the micro-behavioural framework I use to model the inter-personal variation in post-move satisfaction. I use OLS and logistic regression to estimate the association between the movers and the satisfaction they have with their move outcomes.

Chapters 4 through 10 are my key result chapters. I consider the attributes of the individual, their move and their environment in a cumulative manner. I start in Chapter 4 by measuring the association between distance moved and post-move satisfaction, in order to understand whether the influence of distance on the propensity to move corresponds to the satisfaction movers experience. I then add additional variables one by one to my model in order to explore their association with post-move satisfaction and how they modify the existing variables. Doing so allows me to unpack the complex relationship between individuals, their environments and the outcomes of their moves. The first additional variable I consider is LLM change.

Life satisfaction and residential satisfaction have been found to vary over time. Therefore it is probable the level of a mover's post-move satisfaction does too in the period following their move. I study how post-move satisfaction changes over time following the move in Chapter 5.

I then consider the socio-economic characteristics of the individual movers themselves. Because the life cycle is central to understanding the mobility behaviour of movers, in Chapter 6 I investigate how age and a mover's relocation history are related to their post-move satisfaction. However, ethnic groups in New Zealand exhibit very different age profiles and this may contribute to any observed age effects, therefore I consider the association ethnicity and nativity have with post-move satisfaction in Chapter 7. Another factor potentially influencing observed age effects could be the differences in the gender and cohabitation statuses of movers. In Chapter 8 I investigate the role these have on post-move satisfaction. In Chapter 9 I consider the last socio-economic characteristics of movers – their education levels and income.

The attributes of the mover's origin and destination locations may also have an association with the post-move satisfaction of movers. Therefore in Chapter 10 I evaluate how post-move satisfaction varies by the relative change in two key neighbourhood characteristics: the relative change in a mover's position within the urban hierarchy and their neighbourhood deprivation.

In Chapter 11 I study the final factor in my analysis - the motivations that the movers have for moving. By studying the different motivations that movers have for undertaking their move, I look at how these influence the satisfaction they experience

following their move, and in particular, the relative satisfaction they report across domains.

Finally, in Chapter 12 I bring the thesis to a close by reflecting on the importance of post-move satisfaction as a field of study and summarising the results of final model. In general, the subjective responses to the outcomes of mobility do appear to move in the expected direction. The results carry important considerations for how certain movers, or those undertaking particular types of moves, experience satisfaction with how their move works out, particularly the compromises some movers make in order to achieve the aims of their move. I finish by suggesting some improvements to the survey I used, which could further enhance its capabilities.

Chapter 2. Literature and conceptual approach

> "While geographical mobility is a ubiquitous social process in both developed and developing societies today, the consequences of migration for the perceived subjective well-being of people has been a neglected topic of research" (De Jong et al., 2002: p. 838)

2.1 Introduction

The residential relocation literature has focused primarily on how and why people move. Central to conceptualising how and why people move are assumptions about the outcomes movers expect to realise. While positive outcomes are assumed to motivate movements, the literature has been relatively unconcerned with actually quantifying the degree of satisfaction or benefit movers actually achieve as a result of their relocation. An exception is a small body of literature that addresses post-move satisfaction.

Post-move satisfaction research has almost exclusively focused on the change in life satisfaction resulting from the move. But while understanding the degree to which movers experience a change in life satisfaction is important, it does not tell us whether this change actually meets the outcomes expected by the mover. My approach, which seeks to understand whether movers are satisfied with the outcomes of their move, is an avenue of research that expands the existing literature and develops our understanding of the well-being outcomes of those who move.

In this chapter, I consider the theoretical underpinnings of post-move satisfaction and develop the conceptual framework that motivates the empirical analysis to follow. I start by noting the differences between intraregional mobility and interregional migration. I consider it critical to note the differences between the two from the outset, in order to continue to address both 'scales' of movement with their relative theoretical streams in parallel.

In order to position the study of post-move satisfaction within the residential relocation literature, I consider the more commonly studied determinants of moving. By doing so I explore the positive satisfaction expectations on which post-move satisfaction research is largely predicated. Most notably, moving is considered to occur when an individual or household anticipates that the move will lead to an improvement

in their circumstances. Dissatisfaction with existing circumstances is considered to be a key trigger for undertaking the decision to move process.

Once I have outlined these foundations, I consider the existing post-move satisfaction literature. Given the role of satisfaction in the decision to move process, moving residence may play an important role in improving the satisfaction of individuals and households. Existing post-move satisfaction literature finds that, overall, life satisfaction is higher following a move and amounts to a restoration of satisfaction following a period of dissatisfaction. While overall life satisfaction is higher following a move, specific areas of satisfaction (domains) may not experience the same degree of improvement. When moving, movers appear to prioritise improvements in particular areas of satisfaction that are important to their overall satisfaction with other areas of satisfaction either unaffected or even sacrificed.

I then visualise the conceptual frameworks utilised by existing post-move satisfaction research and progressively develop my alternative approach. The existing literature is focused on whether moving improves the life satisfaction of movers, in line with the assumptions inherent to residential relocation theory. With moves taking place amidst dynamic circumstances and situations, the change in satisfaction over a period where a move took place may reflect the dynamic circumstances of the individual moving to a greater extent than it reflects the degree to which the move itself improved the well-being of the mover. As a result, accurately measuring the effect of the move itself is difficult. I focus on how satisfied movers are with the overall outcomes of their move, rather than quantifying the relative change in satisfaction. In the process of making this subtle shift I identify the factors and circumstances that lead to movers experiencing satisfaction outcomes that are poorer than expected.

2.2 Residential relocation and scale considerations

The study of migration and mobility is the study of relocation and the associated changes in the individual's living situation. This relocation may occur at different scales, from international through to moves between regions within a country and moves within a city or neighbourhood. Each scale involves both unique and common considerations. Residential relocation also has a wide range of causes and outcomes. Furthermore, moves do not occur in a vacuum but rather amongst dynamic circumstances, expectations and aspirations. The complex interaction between the

individual, their surrounding environment, the factors that lead to their decision to move and their resultant outcomes following their move ensures that a greater understanding of the residential relocation process is multifaceted.

The study of both international and internal movements of people has been widely studied since Ravenstein's 1885 study of migration within the UK where he meticulously charted the flow of individuals and developed a number of 'migration laws' (Ravenstein, 1885, 1889). Today, the movement of people is studied by geographers, demographers, sociologists, psychologists, economists and political scientists. Furthermore, both macro and micro approaches have been used in order to better understand this process (Cadwallader, 1989b, Cadwallader, 1993, Cadwallader, 1989a). This wide range of interest has resulted in residential relocation literature being both broad and deep. Post-move satisfaction is a relatively new area of study that has evolved from the confluence of residential relocation and satisfaction research and as such, draws extensively from many areas of residential relocation literature in order to understand how post-move satisfaction varies across movers.

In a world with increasingly transnational labour markets, the distinction between the international and internal movement of individuals and households is becoming an increasingly arbitrary notion. Less divisive is the "international versus internal divide, which traditionally has divided the study of migration into virtually two separate camps" (King, 2012: p. 137). In some regard, the differences between local moves and those moves between regions within the same country may be greater than the differences between moves between regions and transnational moves across common markets, such as those provided by the Trans-Tasman Travel Arrangement and the European Union.

In my study, intraregional mobility and interregional migration are considered to be "behaviorally distinct" (Zax, 1994: p. 341), but a range of boundaries has been used to divide moves *between* regions from moves *within* regions. Distance cut offs are commonly used, as are statistical areas, which are often based on jurisdictional boundaries. Zax concludes that "a move is a migration when the worker leaves one housing-and-labor market to relocate to another" (Zax, 1994: 358). Therefore, interregional migration requires both a change in residential location and, if the mover is employed, a change in employment. By remaining in the same LLMs, movers are

able to retain their existing employment and are defined as intraregional movers. I therefore consider the two in parallel throughout my thesis.

2.3 Relocation determinants

While the study of interregional migration has been considered from many different perspectives, the movement of labour has been a central focus. Labour mobility is central to clearing the market for labour. As such, labour mobility is central to the efficient allocation of labour (Sjaastad, 1962). The labour supply will decrease in the low wage regions, as labour moves to regions with higher wages. Wages in the two regions adjust to restore market equilibrium. (For comprehensive summaries on the foundations of labour mobility see: Greenwood, 1975a, Ritchey, 1976)

The application of macroeconomic migration theory fails to explain one of Ravenstein's (1885) observations. That is, whenever there is a movement of people in the 'right' direction from one location to the other, there will be a smaller, but significant flow of people in the opposite direction (Ritchey, 1976). A general consensus has developed that, by itself, the flow of labour from low wage regions to those with high wages is a poor model of human migration (Sjaastad, 1962).

The classical labour market model of mobility has subsequently been both modified extensively by some researchers and shunned entirely by others in favour of non-economic perspectives (Greenwood et al., 1991). Some of those who have attempted to modify the classical labour mobility model have sought to improve the fit between the migration flows observed and those predicted by the model. Such modifications include the introduction of opportunity costs (Wadycki, 1974), industry variation (Gallaway, 1967), amenities (Graves, 1983, Knapp and Graves, 1989), housing costs (Berger and Blomquist, 1992, Cameron and Muellbauer, 1998, Withers and Clark, 2006) and the barriers to migration that low wage areas might induce (Vanderkamp, 1971). Accurately determining role of relative unemployment has proven more difficult (Greenwood et al., 1991).

At the microeconomic level, neoclassical economic theory has presumed that people move to improve their human capital. Human capital theory "suggests that individuals and society derive economic benefits from investments in people" (Sweetland, 1996: p. 341). In terms of its application to migration research, the human capital model "treats migration as an investment" (Yezer and Thurston, 1976: p. 693)

and "migration is interpreted as an investment in human capital, the returns of which accrue over the (working) lifetime of individuals" (Ritchey, 1976: p. 371). Workers move from labour markets with low wages to labour markets with higher wages because they can increase their wages. By treating migration as an investment, the decision to move is assumed to depend on the rational individual calculating that the benefits of moving outweighing the costs associated with moving (Sjaastad, 1962). Such was Sjaastad's economic focus that he contended that "we can safely ignore psychic costs [that is, the emotional or social costs of migration] since they involve no resource cost; likewise, we should ignore non-money returns arising from locational preferences to the extent that they represent consumption which has zero cost of production" (Sjaastad, 1962: p. 86). Lee (1966) refers to the costs of migration as intervening obstacles such as distance or transporting household goods, noting that the net benefit of moving "must be enough to overcome the natural inertia which always exists" (Lee, 1966: p. 51).

Interregional migrations are generally considered to be job *or* family related (Zax, 1994) and the majority of moves *aren't* made for employment reasons (Lu, 2002, Lundholm and Malmberg, 2006). Non-economic factors may play a much greater role in determining who moves and who does not move than Sjaastad's model assumed (Lansing and Mueller, 1967, Ritchey, 1976, Speare et al., 1982). Therefore, micro-behavioural approaches that consider more than just economic factors may improve our understanding of the migration process. The human capital approach has therefore been broadened to consider not just pecuniary factors but also non-pecuniary considerations. As a result, the neoclassical model of migration, also referred to as the net-benefit model, is no longer limited to purely economic considerations, but rather to the individual's circumstances as a whole. This is important because it acknowledges that, through moving, movers can experience improvements and make sacrifices across all areas of their life circumstance, be it employment, economic, housing, social or any other area (De Jong et al., 2002). Therefore, "individuals or households choose to move from one area to another if they believe there are positive net benefits over time from relocating" (Lu, 2002: p. 201). In other words, movers vote with their feet (Whisler et al., 2008).

Intraregional mobility

While interregional migration has been conceptualised primarily from a labour market perspective, intraregional mobility has been driven primarily by housing and

neighbourhood considerations. Economic theorists have centred on residential mobility as an adjustment in the consumption of housing. The re-distribution of households has been used to explain the clearing of urban housing and land use markets (White, 1988) and the behaviour of workers (Zax and Kain, 1991). The commuting behaviour of individuals and households and how observed patterns deviate from the most optimal patterns is often a prime focus (Hamilton and Röell, 1982).

Residential mobility has been linked theoretically to residential satisfaction as a measure of the suitability of a household's dwelling (and neighbourhood). According to this perspective, individuals improve their residential satisfaction by moving to a house and neighbourhood that better suits their needs (Speare, 1974).

There are a number of models that aim to explain the conditions under which a move to improve residential satisfaction will take place. The stress-threshold theory argues that moves are undertaken when dissatisfaction with a residence reaches a level untenable to the household as a whole (Wolpert, 1965, Brown and Moore, 1970). That is, mobility is a reaction to an unacceptable level of dissatisfaction. In the process of moving, a more appropriate residence is selected that better meets the need of the household, thus relieving the stress associated with living in an unsatisfactory home.

Housing decisions are adjustments made by individuals and/or households as they experience different needs and desires at different stages in their life. The shift from 'life cycle' (Rossi, 1955) to 'life course' (Stapleton, 1980) reflects an acknowledgment within the social sciences that individuals do not proceed through a single predestined path through life. According to the latter, individuals move through *differing paths* with distinct life 'stages', rather than a common 'model' life cycle.

The life course disequilibrium model suggests that it is the progression from one life stage to another that leads to a dissatisfaction threshold (Huff and Clark, 1978). In this context, inertia accumulates as individuals become increasingly attached to a particular location. Movement from one life stage to another is the impetus for an adjustment. The expected benefits outweigh the expected costs associated with relocating, thus increasing residential satisfaction (Winstanley et al., 2002).

The movement from one life stage to another is often the result of 'life events', any number of which may lead to a change in residential satisfaction. The birth of a child, which requires a larger house, or a house more suited to raising a child, is one

example. Likewise, the breakdown of a marriage may also lead to an untenable level of dissatisfaction. In Rossi's work, residential dissatisfaction is largely associated with the increase or decrease in a family's size (Rossi, 1955).

In a simple mover-stayer dichotomy such as that hypothesised by the sociologist Rossi, individuals and households have two options when their housing needs change, either staying or moving (Baum and Hassan, 1999). Individuals and households can avoid the need to move by adjusting their aspirations (and staying where they are) and/or they can also make adjustments to their existing house (Brown and Moore (1970). As a result, not all life events will lead to relocation and some types of people may be more or less likely to move. Those who voluntarily choose to move do so in order to realise better residential outcomes (Deane, 1990).

In what I consider to be complementary to the life course literature, the housing career discourse posits that individuals and households relocate on a path of successively better housing, potentially toward their model residence (Clark et al., 2003, Pickles and Davies, 1991, Gober, 1992). The progressively 'better' housing is frequently measured objectively, such as by the number of bedrooms, the floor area, or through cost as a measure of quality (Clapham, 2002). Subjective measurements based on the perception of the individual's change in their residential situation have been introduced more recently (Kleinhans, 2003).

> "As households grow and age they move through a series of different housing types. The 'housing career', as it is called, is shorthand for the successively larger (and more costly) housing that a family attempts to access as the size of the household grows and as the resources to purchase housing increase (Clark et al., 2003). The housing career, then, is a series of different dwellings that the household selects to meet their space and other needs" (Clark et al., 2006: p. 326).

The housing career model is complementary to the life course literature in that it indicates that movers progressively improve their situation through residential relocation. Even movers displaced from their previous residence through urban restructuring tend to move upwards in their housing career when provided priority rights within the housing market (Kleinhans, 2003).

Clark et al. (2006) suggest that there is also a parallel *neighbourhood* career. Not only do people move through a career of progressively better housing, but as their

ability to move to a more desirable or higher quality neighbourhood improves, they also seek to locate themselves within progressively better neighbourhoods.

An alternative conceptualisation uses the term housing pathways (Clapham, 2002). The housing pathways approach places greater emphasis on the heterogeneity of household choices, preferences and circumstances. However, mobility and the consumption of housing as a means toward a broader personal fulfilment remain the central idea.

Summary

In summary, the understanding of interregional migration and intraregional mobility has developed from quite separate theoretical perspectives. Interregional migration literature views migration from a labour adjustment perspective. By contrast, intraregional mobility has focuses on consumption adjustment, primarily of housing and neighbourhood services. Both have an explicit assumption that individuals and households move in order to improve aspects of their lives.

In the next section, I reflect on how the assumptions and expectations we have about why people move has influenced the way we study post-move outcomes and the relevance of subjective well-being and satisfaction as a measures of move outcomes. I also consider the extent to which existing research has measured the degree to which movers actually do realise net improvements in their situation following a move.

2.4 Post-move outcomes

There is a strong consensus amongst those considering the consequences of moving that there is a bias towards understanding determinants of moving, rather than the consequences associated with undertaking a move (De Jong et al., 2002). As Sjaastad noted in 1962, even from a macroeconomic perspective this bias been evident: ‘little has been done to determine the influence of migration as an equilibrating mechanism in a changing economy’ (Sjaastad, 1962). While gaining greater traction, to this day the bias towards what happens prior to the move rather than following the move remains (Lundholm and Malmberg, 2006).

Non-pecuniary outcomes have been even more neglected, despite the rise of micro-behavioural approaches (De Jong et al., 2002, Lu, 2002, Lundholm and Malmberg, 2006, Nowok et al., 2011). Considerably more attention has been paid to

why people move, rather than how they fare following the move. This lack of attention concerning how people fare following a move has motivated my thesis and why outcomes are measured in satisfaction terms as post-move satisfaction.

The net-benefit model focuses on people's thinking prior to the move, namely whether the benefits outweigh the costs associated with moving. The study of move outcomes focuses on what happens after the move, notably the degree to which it has been successful. Owing to its strong association with labour mobility and the flow of workers between regions, interregional migration research has been more biased towards the positive pecuniary outcomes associated with moving rather than studies covering mobility. The roles that housing, family and neighbourhood factors play in inducing intraregional moves ensures that non-pecuniary outcomes such as household size have been studied more widely at this more local scale. There is, however, a growing recognition within the interregional literature that economic gains are only one measure of move success (Champion, 1998b).

Satisfaction and Well-being

According to De Jong et al. (2002: p. 841), life satisfaction is "the most salient" subjective measure in relation to migration. Life satisfaction and the net-benefit models are theoretically linked, as noted by Ziegler (1981):

> "It is assumed that people view the migration decision as one of utility maximization, i.e., they migrate in order to become better off in some subjective sense." (Ziegler, 1981: p. 304)

Further impetus for measuring the satisfaction outcomes of moves has developed from an increasing shift amongst researchers and policy makers from economic success to measuring social progress through well-being (De Jong et al., 2002, Nowok et al., 2011, European Commission, 1994). While there have been considerable increases in economic output and in the real wealth of individuals and households during the second half of the 20th century, the well-being of individuals did not experience a corresponding rise (Diener et al., 1993, Diener and Seligman, 2004, Easterlin, 1974, Easterlin, 1995, Silver, 1980). This observation led to Easterlin's *paradox of affluence* (Clark et al., 2008b). For a cross-section of individuals, well-being has been found to increase only slowly with higher income above a certain level of affluence (Diener and Biswas-Diener, 2002, Veenhoven, 1991). With higher

incomes leading to only small improvements in well-being, the use of life satisfaction directly as a gauge of well-being has gained prominence.

In New Zealand, understanding and addressing the well-being of residents became a legislative requirement for local authorities under the 2002 Local Government Act, although references to 'well-being' were subsequently replaced by 'interests' under the Local Government Act 2002 Amendment Act 2012. The Amendment Act was introduced and passed by a conservative government, which considered the management of social, economic, cultural, environment well-being by local government as 'unrealistic' (New Zealand Government, 2012).

Nevertheless, not only does subjective well-being vary with the attributes of people, but well-being has been shown to vary amongst different areas after controlling for these attributes (Morrison, 2007, Morrison, 2011). In what Morrison referred to as the "*localisation* of the paradox of affluence" (Morrison, 2011: p. 1055), as Berry observed for the USA (Berry and Okulicz-Kozaryn, 2009) in New Zealand "the growth of the largest and densest cities is associated with a relative lowering of the subjective well-being" (Morrison, 2011: p. 1055), thus highlighting the importance of spatial context in understanding subjective well-being.

There are strong links between an individual's personality and their well-being, but individuals can, and do, undertake actions in order to change their satisfaction and their well-being (Lucas, 2007). The duration with which these changes persist is a matter of debate. Under the set-point theory of well-being, the subjective well-being of individuals has long been considered to be static over the long term. That is, individuals have an intrinsic level of well-being that they deviate from, but ultimately return to:

> "The central proposition of set-point theory is that adult individuals have differing but stable levels of subjective well-being; levels substantially due to personality traits and other factors which are partly hereditary or determined early in life. Adult subjective well-being is not supposed to change. Major life events can cause deviations from the set-point but their effects are usually transitory and, after a period of 'deviation', people return to their previous set-points." (Headey, 2010: p. 7)

As a result of analysis of the German Socio-Economic Panel Survey, Headey (2010) challenges the set-point theory. In contrast to the set-point theory, a substantial minority of members experienced major changes in subjective well-being that appear to

be long term changes. Furthermore, significant life events, such as unemployment (Clark et al., 2008a), can lead to long term changes in well-being.

Long term changes to satisfaction is important to Nowok et al. (2011): "it appears that happiness is shaped by both psychological factors and life circumstances (Easterlin, 2006). It implies that people can play an active role in increasing their own happiness by making considered choices within their life strategies" (Nowok et al., 2011: p.2). Therefore, whether movers experience long term improvements or temporary mitigation of dissatisfaction has important implications for not only understanding adjustments people make, but also for assessing policies that aim to improve the long term well-being of people and communities.

Repeat and return moves

While the literature has largely dealt with the determinants of residential relocation and the outcomes of these moves quite separately, recent studies of repeat and return migration have begun to bridge the gap between the two. What triggers residential movements and the subsequent satisfaction outcomes may be linked, and together may help us understand the propensity for future relocations (De Jong et al., 2002, Lu, 1998, Lu, 2002).

The process and outcomes of a previous move to the location from which the individual or household's next move will occur may therefore have *important implications for the determinants of the individual's next move* (Grant and Vanderkamp, 1986, Kau and Sirmans, 1976, DaVanzo, 1981). The outcome of a move is particularly important for subsequent relocation behaviour when the move does not 'work out' (DaVanzo, 1983). Moves that do not live up to the mover's expectations greatly increases the propensity of an additional move (Allen, 1979, Yezer and Thurston, 1976).

The field of repeat and return migration research has emphasised that residential relocation needs to be treated as an on-going process. That is, the movement of people does not begin once a decision to move has been made or end once a move has been initiated. Hence the importance of understanding post-move satisfaction.

Post-move satisfaction

Work by De Jong et al. (2002), Lu (2002) and Magdol (2002) mark a turning point in the study of post-move satisfaction as a topic in its own right. Following their

work a number of studies have investigated post-move satisfaction, including Barcus (2004), Lundholm and Malmberg (2006), Kettlewell (2010) Nowok et al. (2011) and Melzer (2011). Despite its attention, there are a fewer than ten published studies that have explicitly investigated the post-move satisfaction outcomes of those moving within a country.

Table 2.1, summarises these post-move satisfaction studies. The second column of the table lists the type of relocations considered, as many focus on a particular type, such as interregional migration or specifically urban to rural migration. The third column lists the type or types of satisfaction they evaluate. Columns four through seven discuss the characteristics of their dataset, namely when and where it took place, how many observations it contained. The two final columns list whether the data was cross-sectional or longitudinal and the statistical approach used.

Their most common focus is on the *change* in satisfaction that occurs over the period of time prior to and following a move. The earlier analysis undertaken between 2002 and 2006, such as that by De Jong et al. (2002) and Lundholm and Malmberg (2006) was cross sectional. In terms of outcomes, while most focused on life satisfaction, Magdol (2002) studied the impact of migration on the psychological well-being of men and women.

These post-move satisfaction studies based on cross-sectional data focused on individuals (or households) who have recently undertaken a move. Conceptually, post-move satisfaction literature has focused on two questions. First, whether movers are more satisfied following a move and second, why levels of satisfaction varies.

Work by De Jong et al. (2002) using Thailand National Migration survey and Lu (2002) and Barcus (2004), using the American Household Survey, considered only particular satisfaction domains. Lundholm and Malmberg (2006) consider a number of satisfaction domains, but also the overall level of satisfaction that the mover had with post-move satisfaction.

Table 2.1: Summary information of existing post-move satisfaction literature

Authors	Type of relocation	Type of satisfaction	Location	Year(s) covered	Dataset	Observations	Type	Method
De Jong et. al (2002)	Temporary and permanent labour force migration	Employment, living environment and community facilities	Thailand	1990-1992 (2)	National Migration Survey (NMS)	2,827 movers, 7,537 households total	Cross-section	Logistic regression
Lu (2002)	Intraregional mobility and interregional migration	Household and neighbourhood	USA	1989 (1)	American Household Survey (AHS)	7,910 mover households, 48,613 total households	Cross-section	Multinominal logit
Magdol (2002)	Intraregional mobility	Negative psychological well-being (depression)	USA	1987-1988 and 1992-1994 (5)	National Survey of Families and Households (NSFH)	5,315 movers, 10,008 total respondents	Cross-section	Linear regression
Barcus (2004)	Urban to rural migration	Neighbourhood	USA	1991 (1)	American Household Survey (AHS)	1,081 mover households, 59,492 total households	Cross-section	Multinominal logit
Lundholm and Malmberg (2006)	Interregional migration	Overall, service and facilities, living environment, livelihood, social life	Denmark, Finland, Iceland, Norway and Sweden	1999-2001 (2)	Unnamed survey undertaken by Umeå University	5,969 movers, 9455 total respondents	Cross-section	Ordinal logistic
(Knight and Gunatilaka, 2010)	Rural-urban migration	Life satisfaction (well-being)	China	2002/2003	Part of an unnamed national household survey	1930 movers	Cross-section	Linear regression
Kettlewell (2010)	Urban to rural migration	Life satisfaction (well-being)	Australia	2001-2007 (7)	Households, Income and Labour Dynamics in Australia (HILDA)	283 movers, 19,914 total respondents	Longitudinal	Dynamic fixed effects regression
Nowok (2011)	Internal Migration	Life satisfaction (well-being)	Britain	1996-2008 (12)	British Household Panel Survey (BHPS)	12,000 movers	Longitudinal	Fixed effects regression
Melzer (2011)	East Germany to West Germany migration	Life satisfaction (well-being)	Germany	1990-2007 (18)	German Socio-Economic Panel Study (SOEP)	650 movers, 8,233 total respondents	Longitudinal	Fixed effects regression

Despite the expectation of the net-benefit model, that movers should realise a net benefit from moving, De Jong found that, in each satisfaction domain, higher satisfaction following a move was only experienced by a minority of migrants in his Thai rural-urban migration study. Barcus (2004) focused on U.S. movers from urban to rural areas and found merely "52% of migrants rated their new location better" (Barcus, 2004. p. 655). Lu (2002), also using U.S. data, found that around half of movers rated their new housing conditions better than their previous housing and approximately 40% rated their neighbourhood as better. Therefore, even though movers are assumed to expect improved outcomes following their move, a significant proportion of movers experience lower post-move outcomes.

De Jong et al. (2002), argues that the use of life satisfaction as a single, global, dimension "obscures the possibility of different satisfaction patterns and variations in predictors" (De Jong et al., 2002: p. 841). Satisfaction dimensions, or domains, are areas of satisfaction, such as residential job or social life satisfaction and provide insight into the aspects of life satisfaction that moving influences. On the other hand, the use of specific dimensions of life satisfaction may tell us little of the overall success of the move. The use of overall satisfaction and specific domains of life satisfaction can retain both the detail and a measure of the general success in an overall subjective satisfaction context (Lundholm and Malmberg, 2006).

In what is the most comprehensive study of interregional post-move satisfaction using a cross-sectional dataset thus far, Lundholm and Malmberg (2006) found that, in the Nordic countries, at most, two thirds of movers reported better outcomes in each domain of post-move satisfaction, compared with before their move. Although fewer than half reported an improvement in their livelihood, 83% of movers felt better off overall following their move. This pattern indicates that when moving, and when determining the successfulness of a move, movers may be prioritising gains in some domains over neutral or even negative outcomes in others (Lundholm and Malmberg, 2006). Importantly, this prioritisation of domain satisfaction overwhelmingly leads to higher global levels of satisfaction.

These cross-sectional studies show that a number of factors influence the relative improvement in post-move satisfaction. Both Lu (2002) and Lundholm and Malmberg (2006) conclude that the socio-economic attributes of movers seem to have only a limited impact on the change in post-move satisfaction experienced by movers.

However, Magdol (2002) found that residential mobility has a negative psychological effect on women. In each study, attributes of movers are treated as static at the time of interview and the authors do not consider how changes in some socio-economic characteristics around the time of a move may influence post-move satisfaction outcomes.

While the socio-economic characteristics of movers have little impact on post-move satisfaction outcomes, different *types* of moves are associated with different *levels* of post-move satisfaction. For example, changes in tenure and housing characteristics are associated with different changes in residential satisfaction, as are moves within and between suburbs and cities (Lu, 2002) and within and between densely and sparsely regions (Lundholm and Malmberg, 2006). Access to social networks has also been associated with satisfaction outcomes that are more positive in nature.

The principal reason movers give for undertaking a move influences some of the satisfaction domains covered by Lundholm and Malmberg (2006). For example, moving for employment reasons is associated with a more positive change in livelihood satisfaction, while moving for environmental reasons is associated with a more positive change in living environment satisfaction. This would suggest that moving for a particular reason does tend to be associated with a better satisfaction outcome in the related satisfaction domain. However, this is not always the case, as evident from moves for social reasons, which appear to have no significant association with improved social life satisfaction. In some situations, moving for one reason may come at the expense of satisfaction in another satisfaction domain. For example, moving for environmental reasons may be associated with a less positive change in livelihood satisfaction.

According to Lundholm and Malmberg (2006), the voluntariness of a move also played a significant role in determining the change in satisfaction of movers. Individuals who felt that they moved because they wanted to, experienced a more positive change in satisfaction than those who moved despite not wanting to. This result suggests that some of those who do not realise an improvement in satisfaction may do so because they are forced into moving, rather than choosing to move for a net decrease in life satisfaction.

Since 2010, post-move satisfaction studies have drawn on longitudinal data in order to measure the change in life satisfaction or subjective well-being of individuals over time. For example, Kettlewell (2010) and Nowok et al. (2011) considered how the satisfaction of movers changed in the years prior to and following a move. In the case of Kettlewell (2010), the focus was on individuals who migrated from rural to urban areas and their life satisfaction was compared with those moving between rural areas. Nowok et al. (2011) considered both short and long distance moves, but seemed to have overlooked intraregional mobility. Melzer (2011) studied the post-move satisfaction of those who moved from East to West Germany.

These longitudinal studies also assume that movers will experience an increase in satisfaction following their move. In actuality, while life satisfaction did tend to be higher in the year following a move than it was in the year prior to the move, life satisfaction outcomes appear to be a restoration toward a long-term level of satisfaction rather than a permanent improvement. This outcome in particular suggests that individuals and households move as an adjustment to an unsatisfactory situation. They return to their long term average level of satisfaction rather than to a new higher level of satisfaction. Kettlewell (2010) found that the life satisfaction of some groups of movers, such as men moving from rural to urban areas, continued to decline following the move. By contrast, the life satisfaction of women moving from rural to urban areas increased over the four years following their move.

An important consideration to be aware of when studying the results of existing post-move satisfaction studies is that they only look at the change in life satisfaction over a period in which a move took place. They do not identify whether the changes in satisfaction over the period in which a move takes place are due to the move itself or due to the circumstances that those who move are in or both. Therefore, in the following section I consider the implications of the conceptual approach presently used.

Summary

In summary, the outcomes of residential relocation in general have been relatively neglected in migration research and satisfaction gained from moving even more so. A small but growing body of literature is now focused on the post-move satisfaction outcomes of movers and is beginning to redress the balance. One

motivation is the growing interest in the well-being of society and the way people adjust their well-being overtime.

Despite the widespread presumption that satisfaction will rise following a move, the existing literature finds that this is not always the case, even among voluntary movers. While a large majority of movers are more satisfied overall, this positive outcome appears to be short-lived and varies for different types of moves. In addition, changes in domain satisfaction and their association with corresponding life satisfaction merit further consideration, as movers appear to increase overall satisfaction through improvements in select domains.

2.5 Conceptual framework

In this section I present a conceptual framework that helps in appraising the post-move satisfaction literature. I then outline my own conceptual approach and develop an alternative approach to measuring the post-move satisfaction.

Conceptual framework of existing post-move satisfaction research

The assumption underlying the 'neoclassical migration model' is that movers will only move if they expect a positive outcome. Based on this presumption, post-move satisfaction research has focused on measuring the degree of change in satisfaction that movers experience when undertaking a move. However, neoclassical migration theory merely assumes a priori that movers will experience a positive move outcome, as individuals (or households) will only undertake a move when the benefits outweigh the costs.

Post-move satisfaction research attempts to create a more holistic measure of success, the results of which have led some to question the presumption of the neoclassical model: "contrary to the neoclassical migration theory assumption, results showed that migration was associated with decreased post-move satisfaction" (De Jong et al., 2002: p. 838) and "in certain contexts the outcome of migration in terms of subjective well-being can be negative[,] contrary to neoclassical theory" (Lundholm and Malmberg, 2006: p. 39). Those movers who do not experience positive satisfaction outcomes, they assert, illustrate that equating positive expectations with positive outcomes is incorrect.

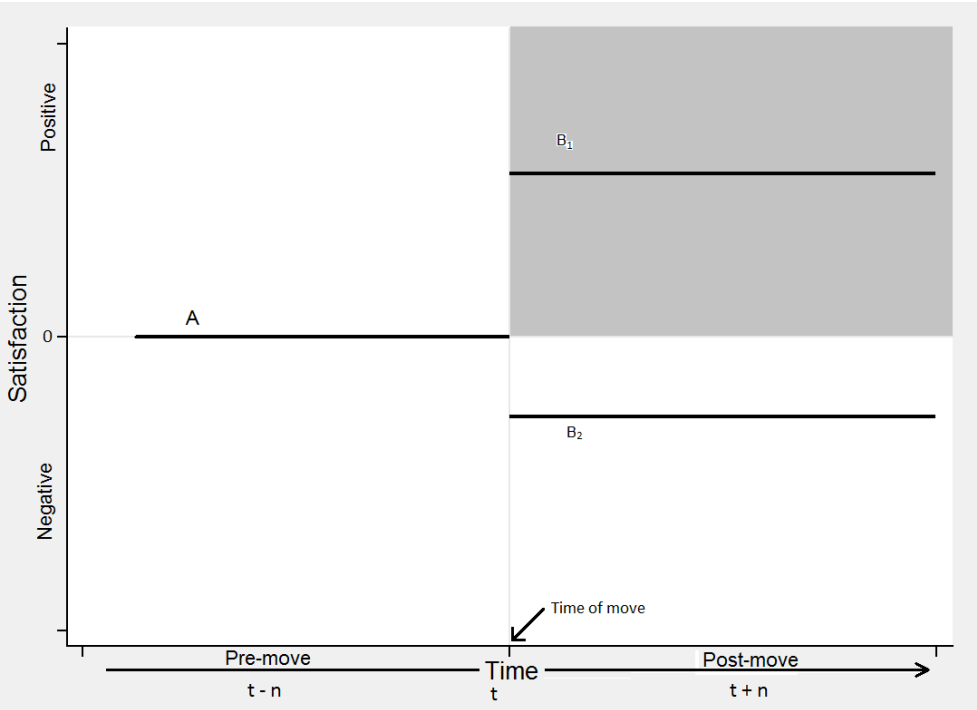
The issue is an empirical one. Neoclassical microeconomic theory asserts that rational individuals will calculate the costs and benefits associated with undertaking a move and act if they *expect* a positive outcome. "Individual rational actors decide to migrate because a cost-benefit calculation leads them to expect a positive net return, usually monetary, from movement" (Massey et al., 1993: p. 434). An unsuccessful move[2] does not equal a failure of the theory. The mover's expectations may not have been met because the mover either incorrectly estimated the costs and returns associated with moving, or their satisfaction was affected by unrelated and/or unforeseen events took place in the intervening period. The assumptions of the neoclassical model are only invalidated if it can be shown that movers moved despite *expecting* a negative outcome. It is not the validity of the assumption of the neoclassical stance that is relevant here. Rather, it is the degree to which the positive outcomes that are assumed to motivate mobility are realised in practice. Assembling evidence one way or the other has been one of the contributions of post-move satisfaction research.

Visualising existing models

In Fig 2.1 I introduce a graph, which I intend to progressively develop though this section of my thesis, in order to provide a visual representation of the methods used by me and others to model post-move satisfaction. The graph shows post-move satisfaction as measured by existing post-move satisfaction studies that use cross-sectional data. Negative and positive satisfaction is measured on the y axis and the time period before and after the move (t) is measured on the x axis.

[2] Where satisfaction decreases

Figure 2.1: Visualising existing post-move satisfaction models.

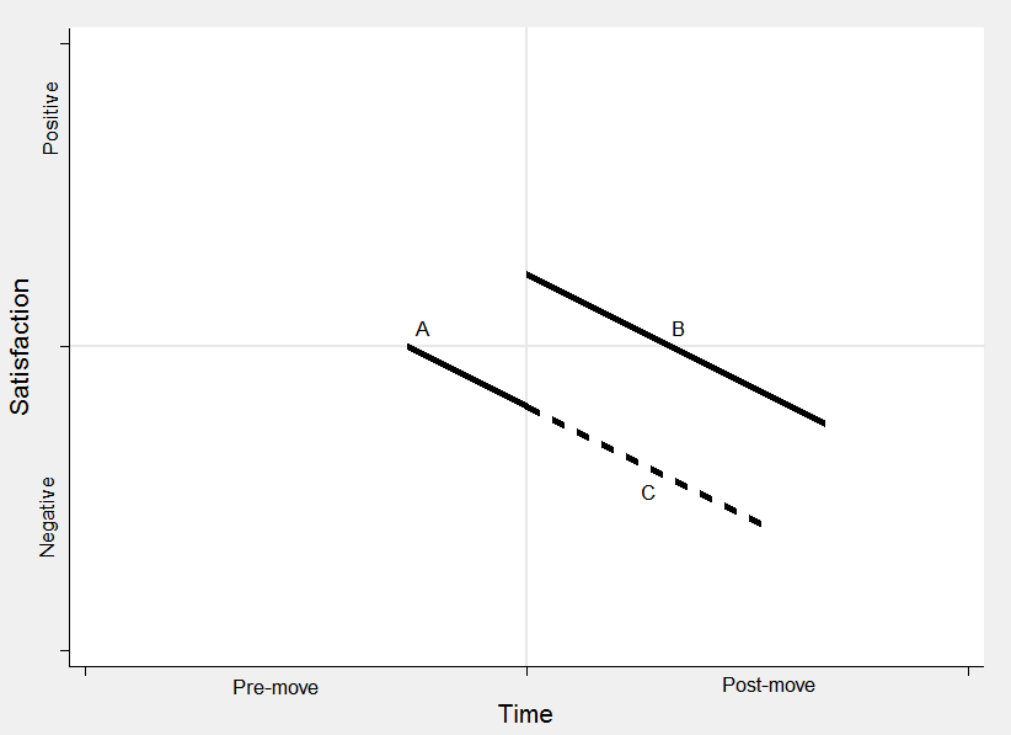


For cross-sectional studies, pre-move satisfaction is represented by line *A* at y = 0 prior to moving. On the basis of the neoclassical assumptions, movers are expected to report positive post-move satisfaction. That is, located somewhere in the shaded region of Figure 2.1, for example line B_1, where satisfaction is shifted upward following the move (the line may occur at any location within the shaded area). A level of post-move satisfaction below this grey region, for example line B_2, reflects a negative move outcome and constitutes an unexpected outcome that is not consistent with the costs outweighing the benefits. The difference between line *A* and B_1 or B_2 does not account for factors unknown prior to the move.

Consider, for example, a young worker who loses their job. Due to a lack of income and limited savings, the individual decides to return to the family home and in the process draws on the support of their parents. For the sake of simplicity, we assume that this move takes place within a single local LLM, so any employment decisions can be made independent of the decision to move. In this case, depicted in Figure 2.2, line *A* represents the satisfaction of a mover from the hypothetical point judged to be 'prior' to their move, until the point in time that they undertake the move. This line could represent the period from which the young unemployed worker decides to make the move and is subsequently able to exit their previous dwelling and move back to the

family home. Line *A* is intended to reflect the slope of their satisfaction, given the negative circumstances in which they find themselves[3].

Figure 2.2: Visualising changes in satisfaction amidst negative circumstances.



Line *B* reflects the individual's satisfaction *following* the move. As we can see, the process of moving shifted the young unemployed worker's satisfaction up, but the continued stress of being unemployed (and perhaps living back with his parents) ensures that his satisfaction continues to decrease[4]. If the individual is questioned about their move after line *B* crosses y = 0, then the move would be deemed by the existing literature to be contrary to the neoclassical/net benefit model[5]. Therefore, the change in satisfaction over a period in which a move took place may be just as much a reflection of an individual's situation as it is the benefits that are gained through moving. It is for

[3] In actuality, Nowok et al (2011) finds that satisfaction may increase leading up to a move, suggesting that movers may realise some benefits associated with moving prior to under taking the move, such as during the search process.

[4] In this simple example the two lines are assumed to be parallel, but it is quite possible that a move may result in both a shift and a rotation of the curve if benefits of moving reduce the rate at which dissatisfaction accrues – perhaps, in this example, because the move reduces the financial stress on the young worker. Furthermore, for simplicity this model avoids the need to calculate the net-benefit over time. For example, movers may be willing to accept lower satisfaction initially if they anticipate that it will lead to higher satisfaction over time.

[5] With longitudinal surveys run annually and cross-sectional surveys frequently questioning all individuals who moved in the previous two years, the period between moving and being questioned about their move can be up to two years apart.

this reasons that one needs to address non-move related effects and avoid using the term 'as a result of the move' when describing the post-move satisfaction.

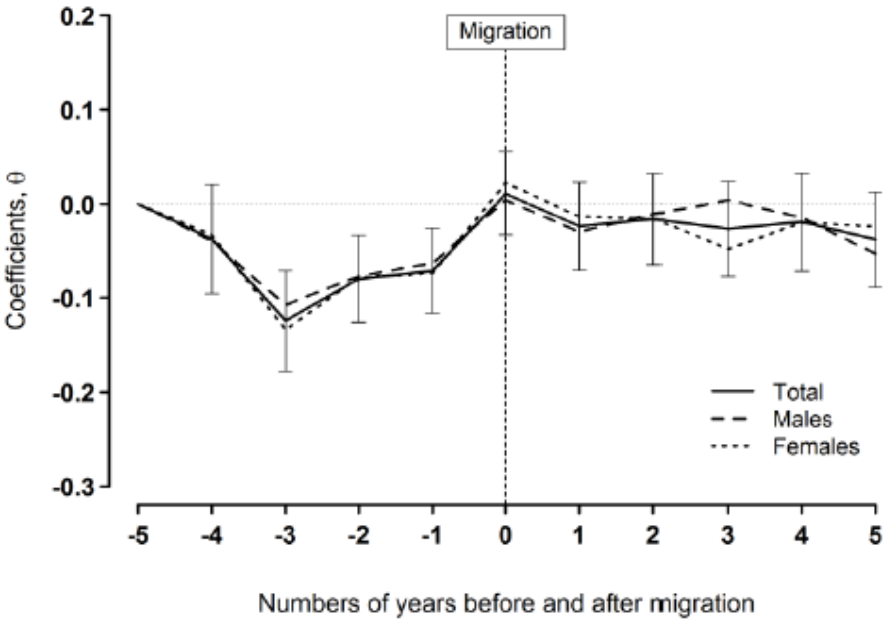
In figure 2.2, line C traces the individual's satisfaction had they *not* moved. Here we can see that even after line *B* crosses y = 0, at any given point in time the net benefit of moving over staying remains. The difference between line *B* and line *C* better reflects the neoclassical assertion that movers rationally move if the net benefits associated with moving are greater than those associated with staying put. Whenever *B* is greater than *C* at a given point following a move, then the net-benefits calculated by the rational mover were as expected or greater. Because existing literature focuses on the change in satisfaction before and after the move, the counterfactual is not-quantified and the difference between line *B* and *C* cannot be determined.

Even if *B* is less than *C* then a negative change in satisfaction is not necessarily contrary to the neoclassical model on which existing works are focused. Only the particular interpretation adopted by the existing post-move satisfaction literature is. As stated, the neoclassical model only considers that movers are rational and undertake a move because they *expect* a positive outcome, not whether these positive outcomes are realised or not. Neoclassical theory contends that the negative outcome merely indicates that the mover was incorrect in their assumptions. That is, the mover may have expected that line *B* would be higher than line *C*, but unanticipated circumstances led to it being below line *C*.

A further by-product of focusing on the change in satisfaction that occurs over the process of moving is that, when using cross-sectional approaches, it does not provide us with information as to which movers are satisfied with their situation following the move and which movers are not. That is, those movers who make the greatest gains in satisfaction may simply be the least satisfied prior to moving. They may also be relatively unsatisfied following the move. Such a situation could occur if the costs associated with undertaking a move are particularly great and a household has limited financial means, an example of which is if the mover had negative equity on a house in a depressed area. Alternatively, the mover may be at a point in their life where they are experiencing rapid increases in life satisfaction regardless of whether or not a move is undertaken. Despite making the greatest gains, these movers may still be further away from their expectations and aspirations than those who began relatively more satisfied and made a smaller gain to be relatively closer to their aspirations.

Not only cross-sectional, but existing longitudinal studies also do not quantify the degree to which the changes in satisfaction are a result of the move itself. But longitudinal studies are able to measure both the satisfaction of a mover at specific points in time and the change in satisfaction between these points. This enables the measurement of both the change in satisfaction and the levels of satisfaction that movers have before and following a move. Consider, for example, Figure 2.3, sourced from Nowok et al. (2011), which shows the change in satisfaction of men and women prior to and following a move. In this graph we can see that average life satisfaction declines below the long term average prior to a move. In the year following a move, life satisfaction returns more or less to the long term average. The interpretation of this result by Nowok et al. is that migration is an adjustment to negative life events. Moves are undertaken in order to return a mover to their long term set-point level of satisfaction. Whether the outcomes of the move fail, meet, or exceed their expected outcomes is unknown and not considered.

Figure 2.3: Subjective well-being of movers prior to and following a move, as graphed by Nowok et al. (2011) using longitudinal data.



Source: (Nowok et al., 2011: p. 10)

The existing longitudinal studies have only focused their attention toward why a very select range of characteristics are associated with a change in satisfaction following a move. These characteristics are most commonly gender (Kettlewell, 2010, Nowok et al., 2011) but also short and long distance moves (Nowok et al., 2011) and

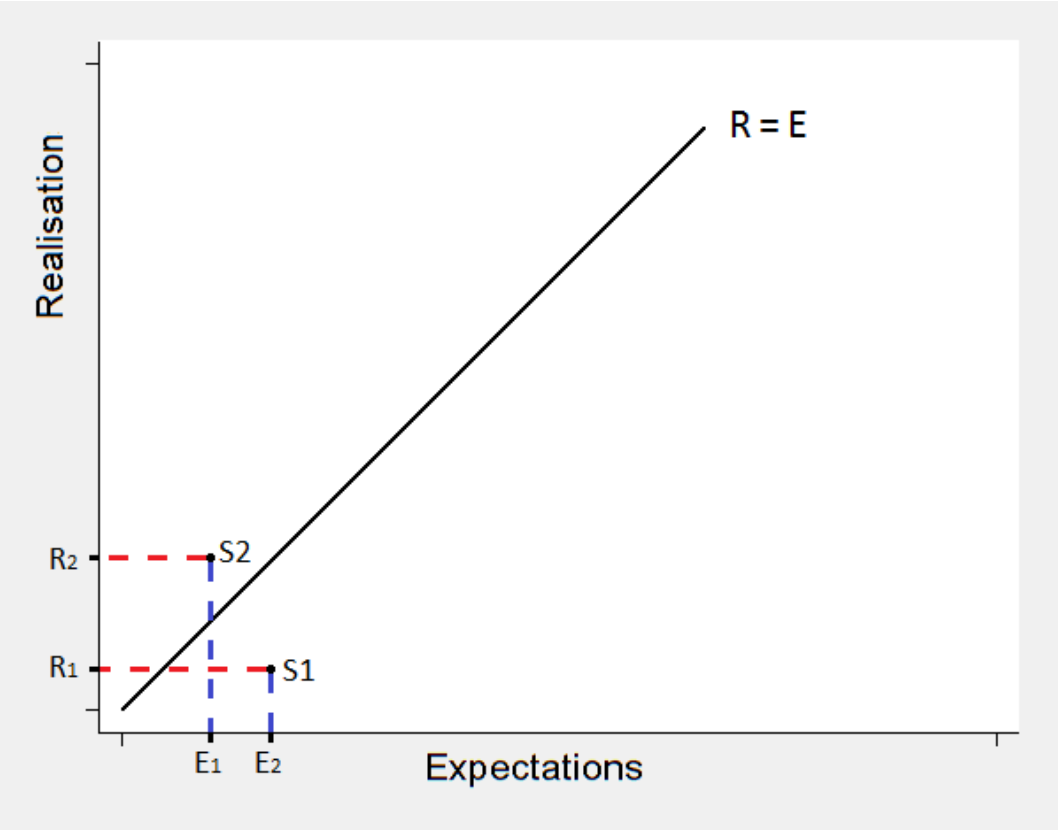
moves between rural areas and from rural to urban areas (Kettlewell, 2010). As a result, these approaches are limited in their ability to answer which groups of movers experience different changes in subjective well-being when moving.

Satisfaction with the outcomes a move

Instead of simply asking whether or not movers expected to have an increase in satisfaction as a result of their move, as all previous post-move satisfaction studies have done, one can ask movers to evaluate how successful they believe their move was. This allows us to better understand which movers are satisfied and not satisfied with the outcomes of the move. The level of satisfaction that a mover has with how things 'worked out' following a move, is a reflection of the individual's own comparison of the outcomes *relative* to their expectations, tempered by their aspirations and means. As such, the question focuses not on the degree of improvement in post-move satisfaction, but with the degree to which the move actually realises the mover's expectations.

In Figure 2.4, I provide a simple graphical representation of how I visualise post-move satisfaction. Rather than measure whether a mover is more or less satisfied following a move, I focus on the relationship between an individual's expectations and their realisations. In this graph, satisfaction (S) is the level of a mover's satisfaction with their move at a given time (t), and is the ratio of their expectations (E) and realisations (R). Both expectations and realisations are dynamic over time, meaning that they vary as the mover's circumstances change. Assuming appropriate metrics on both axes, the slope denotes R = E where movers' realisation equal their expectations with respect to the move. When S is below the diagonal, at *S1*, realisations are lower than expectations (R < E). When S is above the diagonal, for example *S2*, the individual's realisations exceed their expectations and R > E. The further away that *S* is from the slope R = E, the greater the degree of satisfaction or dissatisfaction.

Figure 2.4: Visualising post-move satisfaction as a product of expectations and realisations.



A mover's realisations and expectations are dynamic and subject to change following a move as they continue to evaluate the successfulness of their move. In Figure 2.5, I provide a visualisation of how move satisfaction may change over time. Line *S* represents the level of satisfaction over time (t). Moves are represented at points identified by M and satisfaction is therefore related to that residence. Line *S* could resemble the life-satisfaction findings of Clark and Onaka (1983), Kettlewell (2010), and Nowok et al. (2011)[6]. In this case, the difference between expectations and realisation increases following a move, with E becoming increasingly larger than R. Based on existing literature, it is plausible that the decision to move is made around when *S* is most negative and *S* moves towards R following the decision to move, thus implying post-move decreases to satisfaction.

[6] The line as drawn is purely for visualisation purposes: an actual line based upon the cited authors would likely remain closer to R = E for longer following a move before deviating from the line rapidly, resulting in a decision to move.

Figure 2.5: Visualising satisfaction as a product of expectations and realisations over time.

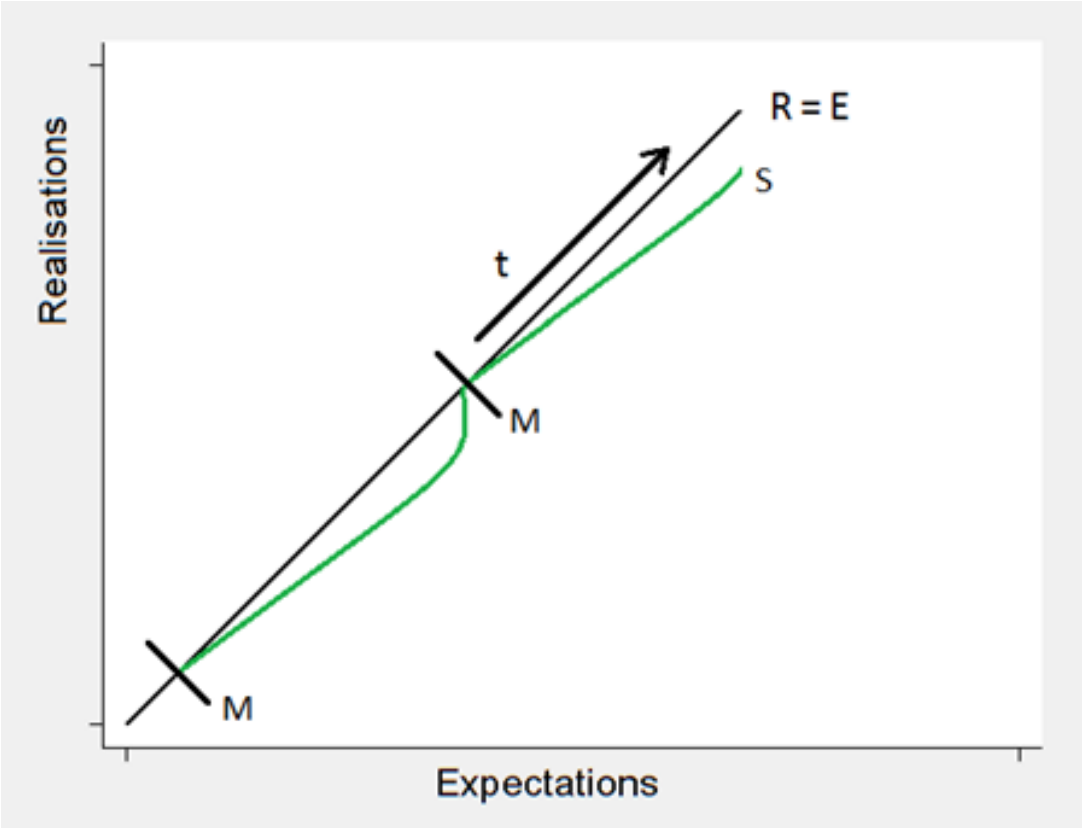
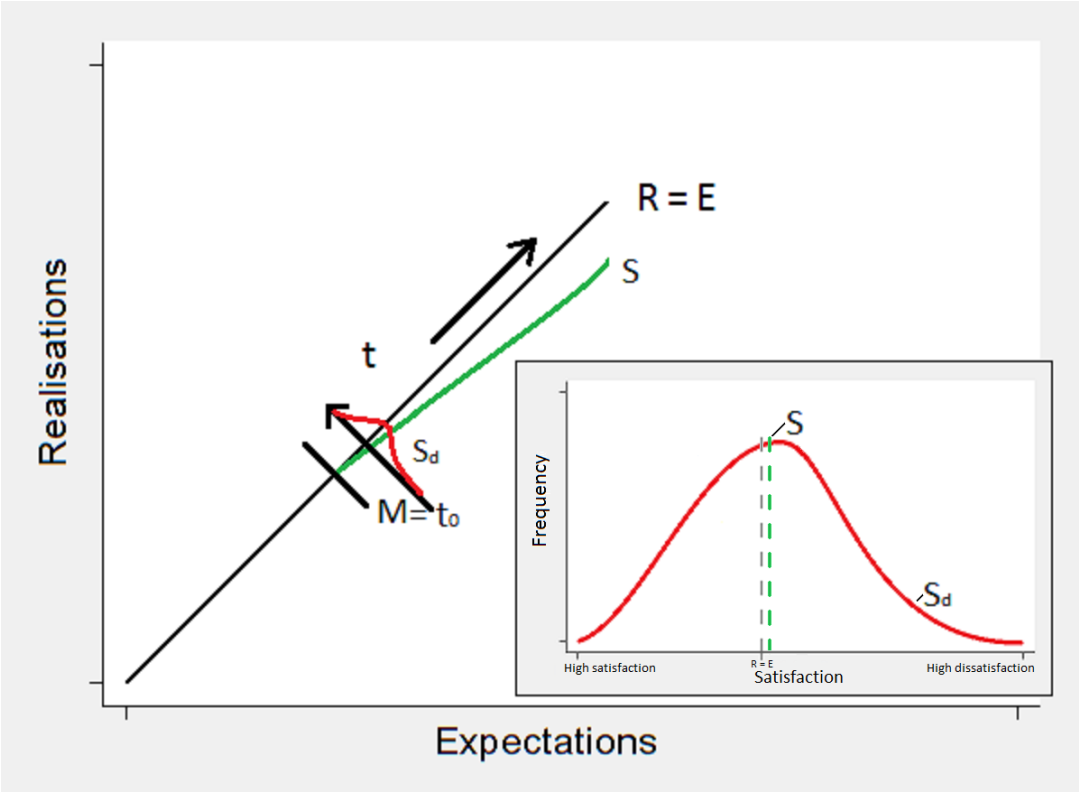


Figure 2.4 described the relationship between average satisfaction and realisations and expectations and Figure 2.5 the way these are likely to interact following residential moves over time. In Figure 2.6, I focus on the distribution of post-move satisfactions across a population of moves, as shown in the inset graph. The move itself occurs at M = t_0. S_d represents the distribution of the overall post-move satisfaction responses of a group of recent movers.

In Figure 2.6 we can see that the average level of satisfaction *S* is slightly below the slope of R = E on the main graph, because of the assumed increasing difference between expectations and realisation following the move. This is also reflected in the distribution of the satisfaction responses shown in the inset graph, with the mean response *S* slightly below the point where R = E.

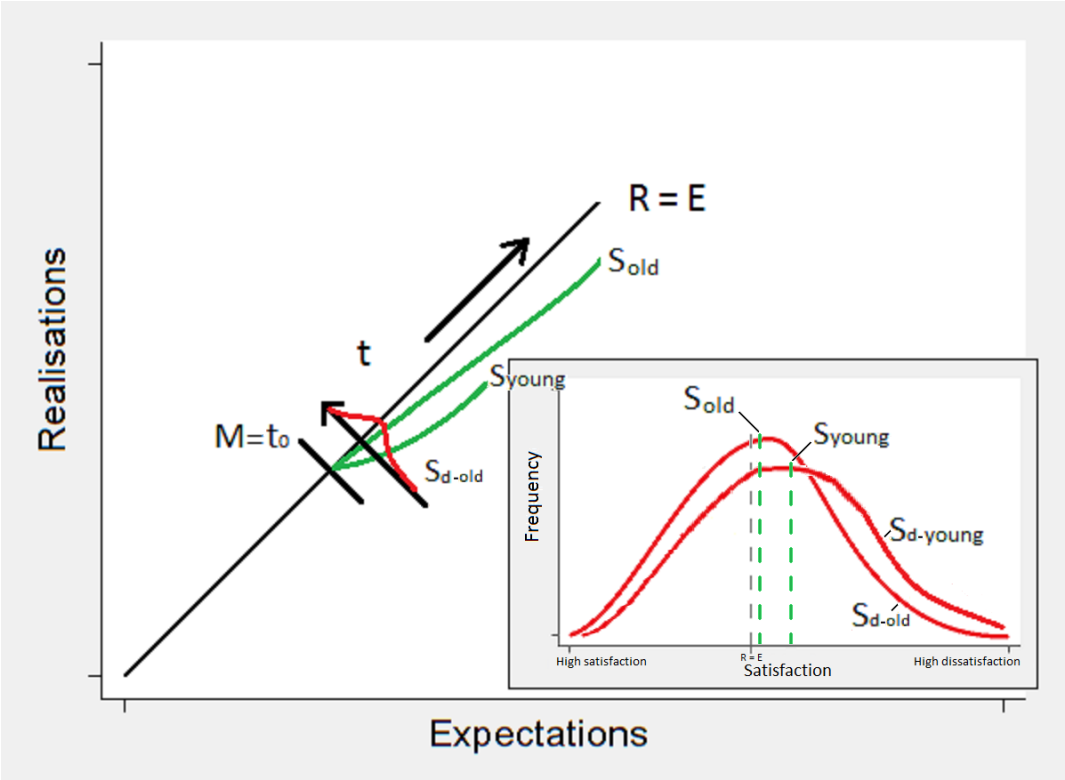
Figure 2.6: Visualising the distribution of post-move satisfaction over a population of movers



It is highly likely that different movers will experience different levels of satisfaction following a move. For example, in Figure 2.7, I provide an example of how the post-move satisfaction distribution of the young *may* differ from that of the old. In this hypothetical example, the young become, on average, less satisfied with their move faster than older movers. The faster decline in satisfaction is shown by the line S_{young} in the main chart and also reflected by the distribution of their satisfaction responses, $S_{d\text{-}young}$, in the inset graph[7]. In this scenario, the distribution of $S_{d\text{-}old}$ and $s_{d\text{-}young}$ show that younger movers are more likely to experience less satisfactory responses than older movers, because their satisfaction decreases faster following a move. This is reflected by S_{young} being further below R = E than S_{old}. In the following chapter, I go into greater detail about the data and methodology that I employ in order to model the satisfaction outcomes of those undertaking residential relocations.

[7] In order to keep the graph from becoming too busy, $S_{d\text{-}young}$ is not displayed on the main graph.

Figure 2.7: Visualising the measurement of different groups of mover's satisfaction and the distribution of their responses



Summary

Post-move satisfaction studies that are cross-sectional place great emphasis on the use of the net-benefit model. In this section, I have used conceptual graphs to visualise these cross-sectional approaches. While these approaches provide valuable information as to whether satisfaction improves over a period in which a move takes place, I show that they are a poor vehicle for testing the assumptions of the net-benefit model.

By contrast, longitudinal studies have the ability to show how satisfaction changes over time. Conceptually, they have also shied away from testing the applicability of the net-benefit model. Their focus has been on whether residential relocations represent a restoration of satisfaction following a period of dissatisfaction, or whether they reflect an improvement in long term satisfaction. However, by using fixed effects, these studies are limited in their ability to isolate different subgroups of movers.

I illustrated an alternative approach toward modelling post-move satisfaction. Rather than considering the change in satisfaction that occurs when a move is made, I instead focus on the satisfaction that movers have with the outcomes of their move. By

doing so, I am able to consider which characteristics and contexts are associated with move outcomes being more or less satisfactory to the mover.

2.6 Conclusion

In this chapter I started by exploring the bifurcation of internal migration into interregional migration and intraregional mobility. Due to the fundamental differences between moving home and moving both home and job, there are considerable differences between the two types of moves. However, because moves are considered to be undertaken in order to improve the situation of movers, the use of satisfaction provides an avenue from which to study both spheres concurrently.

The expectation that movers move because they anticipate positive outcomes has become a focal point for the body of post-move satisfaction literature. As a result, researchers have focused on measuring the change in life-satisfaction, or specific domains of satisfaction, before and after the move. Research shows that while most movers experience a positive change in their level of life satisfaction, a number of movers do not. While this is valuable for understanding whether their life satisfaction has improved over the period, it has been difficult to isolate the net returns to the move as such.

Instead I have focused on how satisfied movers are with how things worked out following their move, that is, the degree to which the move realised the mover's expectations about the move. A primary focus becomes identifying which types of movers experience different levels of satisfaction with the outcomes of their move.

In the following chapter, I introduce the data and methodology that I use to estimate the level of satisfaction that movers have with the outcomes of their move.

Chapter 3. Data and methodology

In order to identify the distribution of post-move satisfaction in New Zealand, I analyse a sample of individuals who undertook a permanent change of residence within New Zealand between March 2005 and March 2007. I study the factors that are associated with variations in the post-move satisfaction that these individuals expressed. I introduce the datasets that I use, outline the dependent and independent variables and the possible methods of analysis.

3.1 Data sources

My analysis draws primarily on the *Survey of Dynamics and Motivations for Migration in New Zealand*, undertaken by Statistics New Zealand in 2007 and is referred to hereafter as *the DMM survey* or simply, *the survey*. The survey was run in conjunction with Statistics New Zealand's long running quarterly *Household Labour Force Survey* (HLFS). In addition to these surveys I also utilise data from the Statistics New Zealand's *2006 Census of Population and Dwellings* (census) and *Urban and Rural Profile* classification, as well as the New Zealand Ministry of Health and Otago University's *New Zealand Deprivation Index* (deprivation index). I also utilise data on New Zealand's LLM catchments, which is derived from census commuting data. Together, these data allow me to investigate not just the characteristics of the mover, but also the characteristics of their move, where they move from and where they move to. I introduce each in turn[8].

The 2007 DMM Survey and HLFS

The DMM survey was appended as a supplement to the *Household Labour Force Survey* (HLFS) in the March 2007 quarter. As a supplement, the survey gains access to a pre-existing statistically representative sample of New Zealand households. The HLFS is a nationwide, quarterly survey, comprising of about 15,000 statistically representative households, equating to around 30,000 individuals over the age of 15 and is used to generate some of New Zealand's key economic indicators, such as the unemployment rate and labour force participation rate (Statistics New Zealand, 2009c). The HLFS collects information about the activities of households and individuals during a particular week and includes data on the characteristics of individuals, such as their

[8] They are also provided in Appendices 3, 4 and 5

age, gender, ethnicity and nationality, as well as the location of the household (Statistics New Zealand, 2009e, Statistics New Zealand, 2009c, Statistics New Zealand, 2009b, Statistics New Zealand, 2007c). I use these data, where applicable, to capture the socio-economic characteristics of movers and where they live.

Households which are selected to participate in the HLFS are interviewed quarterly for up to two years and as such respond to a total of up to eight interviews. The first interview is conducted face-to-face and subsequent interviews are conducted by telephone. Respondents to the HLFS survey were asked to participate in the DMM survey over the period 7 January to 7 April 2007, provided they were living in occupied private dwellings. Of the 88.7 per cent of respondents who responded to the HLFS in the March 2007 quarter, 87.8 per cent also responded to the DMM supplement, leading to an overall weighted response rate of 77.9 per cent, slightly below the target response rate. This 77.9 per cent of respondents resulted in a total sample size of 23,465 individual responses from 13,841 households.

Of these 23,465 sampled individuals, 24 per cent had moved within New Zealand over the two years prior to being interviewed. Those who had moved more than once in the two year period were only asked about the characteristics of their most recent move. Of those whose most recent move was within New Zealand, 4937 respondents were able to be subsequently geocoded using their street address. They represent 87% of all respondents whose most recent move was within New Zealand.

The DMM survey was explicitly designed to "investigate what motivates some people to move from one house to another, from one part of New Zealand to another, or to and from New Zealand, and what motivates people to stay where they are" (Statistics New Zealand, 2007c: p. 2). The survey was undertaken in order to provide a greater degree of information about internal migration in New Zealand than was previously available. Unlike other sources of information such as the census, the DMM survey was primarily focused on understanding the drivers and motivations for internal migration, as well as why some people move and others do not.

Respondents to the DMM survey who had moved within the previous two years were asked a range of questions relating to their move. In particular they were asked where they had moved from, their reasons for moving away from their previous location and their reasons for moving to their new location. Most importantly for this

inquiry, they were asked about their satisfaction with their move and how that satisfaction, in a number of domains, had changed relative to before their move. The DMM survey is therefore unique in that it asks a number of questions of the mover not yet addressed by migration researchers, within New Zealand and internationally. For example, the reason individuals give for moving is separated into the reasons for moving away from their place of origin and also the reasons for moving to their destination area. Individuals were also asked whether their income changed over the period and whether it was a result of their move.

Geographical framework

The survey fits within the wider Statistics New Zealand geographical framework, allowing the inclusion of a wide range of location specific data. The origin and destination locations of respondents to the survey can be calculated at the level of the meshblock and area unit[9] (Statistics New Zealand, 2011), as well as to clusters of area units which I later define as LLMs. The presence of a meshblock identifier allows for the inclusion of additional statistics to be appended if needed. Examples include population density and neighbourhood deprivation data derived from the 2006 Census.

The meshblock coding also enables the application of GIS techniques to compute other measures such as the distance moved. The distance of a move is approximated by taking the Euclidean distance between the centroids of the origin and destination meshblocks, or if unavailable, area units[10]. Using ArcGIS, I undertake the following estimation. The centroid of each meshblock and area unit was calculated as (x , y), where the x and y values of the centroids are the midpoint on the plane of the maximum extents of each East/West, North/South dimension:

(3.1) $(x , y) = ([\max(x) - \min(x)]/2 , [(\max(y) – \min(y)]/2)$.

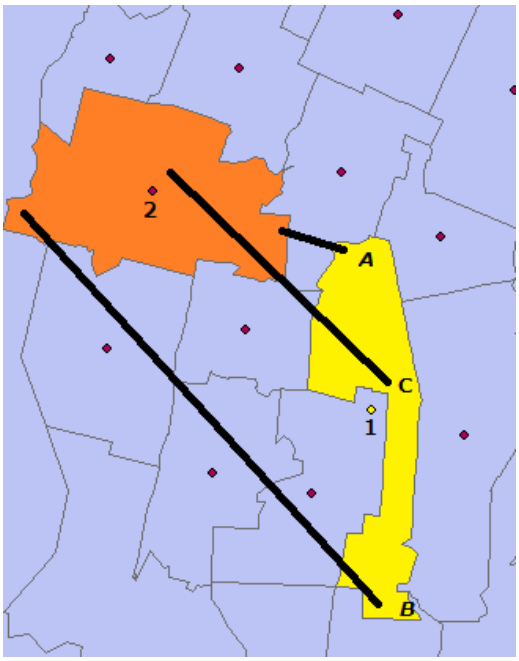
[9] The smallest geographic unit utilised in this project is the meshblock, which represent Statistics New Zealand's smallest spatial area. Meshblocks contain an average of approximately 60 individuals in rural areas and 110 individuals in urban areas, with urban meshblocks being roughly the size of a city block while in rural areas they may be considerably larger. Meshblocks cover the whole of New Zealand and are derived from population and household data from the 2006 Census. There are 41,376 meshblocks in total. Statistics New Zealand's second smallest statistical area is the area unit, which comprises of a number of complete meshblocks that combine to "be a single geographic entity with a unique name" (Statistics New Zealand, 2011). In urban areas, area units usually contain between 3,000 and 5,000 individuals.

[10] This approach of using centroids is also utilised by Goodyear and Ralphs (2009) in their modelling of journey to work data.

In other words, the x value is the midpoint between the most eastern value and most western value and the y value is the midpoint between the most northern value and the most southern value. Figure 3.1 illustrates using area units in Wellington City. The distance of the move between the centroids of the origin and destination area is then calculated using Euclidean distance:

(3.2) $Distance = \sqrt{(x_i - x_o)^2 + (y_i - y_o)^2}$

Figure 3.1: Calculating distance of moving using Euclidean distance between meshblock centroids, 2006 New Zealand Census.



While convenient, the use of centroids in this manner introduces a degree of error to the length of each move. The size of the error is dependent on a number of factors. The distance of the household from the centroid of the measured meshblock at both their origin and destination location influences the size of the error. For example, because of their larger meshblocks, the error is much more significant in rural areas than it is in urban areas. In irregular shaped meshblocks, as shown by the light shaded polygon in Figure 3.1, it is possible for the centroid (also shaded lightly) to be located *outside* the meshblock.

The size of the error is a proportion of the length of the move and is therefore greatest for short distance moves. In situations where an individual moves within a meshblock, the distance recorded is equal to zero, as there is no change in meshblock centroid. Because the natural logarithm of zero does not exist, when calculating ln(distance) moves within meshblocks are given a small nominal value of 100m.

Being a simple straight line calculation, Euclidean distance does not take into account the physical barriers such as the Cook Strait, which separates the North Island from the South Island, or non-linear configurations in transportation networks. I assume throughout that, for moves between meshblocks, the error associated with the estimated distances are randomly distributed about a mean of zero and not related to any of the arguments introduced.

New Zealand Census

Also incorporated in the dataset are data from Statistics New Zealand's 2006 Census of Population and Dwellings (Census), which was held on 7 March 2006[11]. The 7th of March 2006 fell roughly halfway through the two year period that movers were asked to recall in the DMM survey. The timing was deliberate and as a result, the data from the Census reflects a timely snapshot of the demographic, social and economic landscape of New Zealand at the time of most moves. Use of census data takes two forms: that utilised directly by me, and that used by other organisations to generate the New Zealand Deprivation Index and the Urban and Rural Profile.

Full 1996, 2001 and 2006 Census datasets were available throughout the exploratory and analytical process. In my final analysis, little census data was directly utilised, primarily because many of the factors of interest were included indirectly as components of the New Zealand Deprivation Index and the Urban and Rural Profile.

New Zealand Deprivation Index

The census is used to calculate the New Zealand Deprivation Index 2006, referred to here simply as the deprivation index. The deprivation index is calculated by the New Zealand Ministry of Health in conjunction with Otago School of Medicine Wellington following each census. It measures the relative level of socio-economic deprivation of an area and is used in funding formulas for a range of social services. A range of variables is used, including the individual and household income, home ownership, family support, employment, qualifications and transport accessibility within a location, as outlined in Table 3.1.

[11] New Zealand undertakes a census every five years, provides a snapshot of New Zealand on that day and the census is "used for policy-setting and implementation, research, planning and other decision-making" (Statistics New Zealand, 2006: p. 1).

Table 3.1: Description of the nine variables used to construct NZDep.

Deprivation domain	Census variables (in order of decreasing weight)
Income	Aged 1-64 years receiving a means-tested benefit
Income	Living in households with equivalised* income below an income threshold
Owned home	Not living in own home
Support	Aged under 65 living in a single-parent family
Employment	Aged 18-64 years and unemployed
Qualifications	Ages 18-64 years and without any qualifications
Living space	Living in households below an equivalised* bedroom occupancy threshold
Communication	With no access to a telephone
Transport	With no access to a car

*Equivalisation: methods used to control for household composition

Source: (White et al., 2008: p. 9)

The geographic framework of the deprivation index is built using grouped meshblock data. Statistics New Zealand's 41,376 meshblocks are aggregated into 23,786 NZDep2006 small areas, each comprising of at least 100 people. Thus, every meshblock has an NZDep value but may share a value with a group of one or more geographically connected meshblocks. The NZDep values are calculated as follows:

> "The NZDep2006 continuous score is a weighted sum of the nine variables created using a principal components analysis. This statistical method identifies weighted sums of variables that progressively account for the overall variation in the data.
>
> "The NZDep2006 index is the first principal component scaled to have a mean of 1000 index points and standard deviation of 100 index points. The index is the weighted sum of the variables that accounts for the most variation. Each variable in the sum is a proportion of people in a small area. Each proportion is standardised in eight age–gender groups (0–17 years, 18–39 years, 40–64 years, 65 years and over, for each gender) to the New Zealand population structure. This equivalises the small areas, so that some areas cannot be considered more deprived than others simply because their populations have different age structures." (White et al., 2008: pp. 9-10)

As a result, the deprivation index provides a standardised measure of the degree of socio-economic deprivation of small areas, interpreted by some as a neighbourhood. I have used this data to evaluate how the post-move satisfaction of movers varies when they change from "neighbourhoods" in different deprivation categories.

Local Labour Market Areas

The census also contains information about residents' travel to work and it is these data that has been used to partition the country into LLMs. From dwelling and workplace addresses, commuting flows have been generated for use in a number of applications (Goodyear and Ralphs, 2009). Using travel-to-work data from the 1991

Census, Papps and Newell (2002) quantified New Zealand's functional labour market catchments, following the algorithm developed by Coombes et al. (1986) and also used by (Casado-Díaz, 2000). The algorithm partitions the country based on the dominant commuting flows into and out of centres of employment.

One notable benefit of this approach is that all locations are included, regardless of whether they are a metropolitan area or rural. A further benefit from an analytical perspective is that these LLMs are non-overlapping, although this does "ignore[s] the competition between labour catchments that occurs in reality" (Papps and Newell, 2002: p. 9). My thesis uses an updated dataset using 2006 Census data, kindly provided by J. Newell.

In summary, the use of several sources of data for the study of post-move satisfaction has enabled me to derive information about the individual, their move, and the spatial environments that they occupy. As a result, I have been able to consider a broader range of factors, such as income change, deprivation and distance, in this single study than reported elsewhere in the post-move satisfaction literature. In the following section I introduce my dependent variables.

3.2 Measuring post-move satisfaction

Central to my analysis is the post-move satisfaction that respondents express following their move. In the following section I outline the satisfaction questions. Given the subtleties associated with each question asked, I start with overall post-move satisfaction and then consider the satisfaction domains.

The DMM survey studies six categories of post-move satisfaction. Respondents were asked to rate their level of satisfaction using a Likert scale with five ordinal categories as described below. Overall satisfaction asks how satisfied movers are with the outcomes of their move. As will be seen, this is a fundamentally new approach to measuring the post-move satisfaction of movers. In contrast, the five domains of satisfaction use the more traditional approach, considering the change in satisfaction in each domain relative to before the move took place. The five domains are outdoor environment satisfaction, housing satisfaction, employment satisfaction, standard of living rating and social life rating.

Overall satisfaction

Previous post-move satisfaction studies have quantified the degree to which movers are more or less satisfied with their life following a move. For example, "respondents were asked to assess if they consider themselves better or worse off after their move" (Lundholm and Malmberg, 2006: p. 38). In contrast, the survey used here does not ask movers to compare their overall level of satisfaction with life with the satisfaction they had prior to moving. Instead, they were asked about the level of satisfaction that they have with the *outcomes of their move*. Specifically:

> B19/EQ08 Overall Satisfaction: "Overall, how satisfied or dissatisfied are you with the way things have worked out since you moved: very satisfied, satisfied, equally satisfied and dissatisfied, dissatisfied or very dissatisfied?"

This satisfaction question is a measure of how satisfied the mover is with the way things have worked out *since* they moved. I consider the wording of this question to be open to slightly more interpretation by the respondent than a simple better or worse evaluation. As with measuring a change in overall satisfaction, it is up to the respondent to evaluate the factors that influence the overall level of satisfaction that they have with the outcomes for the move. In addition, I suggest that it is also up to the mover to determine what they take into account when evaluating the question. For instance, one mover may interpret satisfaction with the way things worked out as if they were better off as a result of the move, while another mover may interpret the question as if their move met their expectations or not. Some movers may include life conditions unrelated to the move, while others may not. I keep this in mind as I continue my analysis.

Satisfaction domains

The questions asked of satisfaction with the outdoor environment, housing, employment, standard of living and social life domains vary from that asked of overall satisfaction in the above question. For the five satisfaction domains, movers are explicitly asked how their current situation is compared to before they moved. This is in line with previous cross-sectional studies of post-move satisfaction. That is, the satisfaction question asked of each of the five domains makes a *direct comparison* with the relative level of satisfaction experienced before and after the move, while the "overall satisfaction" question above does not. Unlike other studies, such as De Jong et

al. (2002), these domains are not an amalgamation of a number of factors. The five domains include an employment domain, previously identified as an area of opportunity within the literature (Lundholm and Malmberg, 2006).

The first domain of satisfaction that movers were asked about was their satisfaction with the environment around them. Movers were given a definition of what to consider when evaluating their level of satisfaction and were asked how much better or worse their new surroundings were compared with their previous residence:

> B14/EQ03 Environment: "The environment includes the natural and man-made outdoor surroundings where you live, and in all the places you go to. Compared to before you moved, is the outdoor environment in the city, town or area [you live now/where you usually live] much better, better, about the same, worse much worse?"

Unlike the environment satisfaction, movers were not given a definition of what housing satisfaction is, perhaps because housing is a less ambiguous term. But as with environmental satisfaction, they were asked how much better or worse their housing situation was compared with prior to moving:

> B15/EQ04 Housing: "Compared to before you moved, is your housing now: much better, better, about the same, worse much worse?"

For employment satisfaction, only those movers who were in the labour market at the time of interview were questioned. They were asked how much better or worse their employment opportunities were compared to prior to moving:

> B16/EQ05 Employment: "Compared to before you moved, are your employment opportunities now much better, better, about the same, worse much worse?"

Like each of the satisfaction domains, the standard of living rating is measured by the mover's perception of whether or not their standard of living is better or worse compared with prior to moving. As with outdoor environment satisfaction, respondents were provided a guide to how to interpret standard of living.

> B17/EQ06 Standard of Living: **"**Standard of living is self-defined. It includes the circumstances in which people live, the economic resources they have access to and the goods and services that they are able to consume. Compared to before you moved, is your standard of living now: much better, better, about the same, worse much worse?"

The final post-move satisfaction domain is the mover's perception of how their social life has changed relative to before their move:

> B18/EQ07 Social Life: "Compared to before you moved, is your social life with family and friends now: Much better, better, about the same, worse much worse?"

In summary, movers were asked about their overall level of satisfaction with how things worked out following the move. This is in contrast to previous studies, where their life satisfaction prior to and following the move is compared, or where they are asked how their overall satisfaction has changed.

For domains only, movers were asked to compare their situation at the time of their interview with their situation before they undertook their move. Satisfaction domains that could be considered to be less well understood by movers were defined, but movers were afforded a broad scope from which they were able to interpret how they evaluated the importance of the specific components of each domain.

3.3 Issues measuring satisfaction

A major concern of researchers studying the validity of self-reported measures of happiness is accuracy of the subjective measure of well-being (Diener et al., 1993, Diener et al., 2002). This concern applies to post-move satisfaction as well, but is commonly omitted (Kettlewell, 2010). The first concern is whether subjective responses mirror objective measures of satisfaction. Self-reported measures of satisfaction have been found to closely reflect expert analysis and the objective measurement of factors such as the frequency with which individuals smile (Diener et al., 1993, Pavot et al., 1991, Sandvik et al., 1993).

The one-off, reflective nature of the DMM survey introduces potential inaccuracies, such as cognitive dissonance, where "people always try to avoid dissonance between their attitudes and behaviour" (Lundholm and Malmberg, 2006: p. 39). Festinger (1957) theorised that respondents are prone to answer in a manner that aligns their response with their behaviour. In the case of post-move satisfaction, cognitive dissonance may cause movers to be more likely to report a positive improvement in satisfaction as it would be aligned with their decision to move and affirm their decision-making. For example, movers who fail to meet their anticipated outcomes may rationalise their actual outcomes by retrospectively lowering their

anticipated outcomes. By retrospectively reducing their anticipated outcomes to match their realised outcomes, they reduce the dissonance that they experience.

Kettlewell (2010) notes that "the fact that the response is reflective creates difficulties due to psychological factors that prevent peoples' ability to accurately assess their previous state of well-being (Stone et al., 1999)" (Kettlewell, 2010: p. 190). Further, he cites Easterlin's (2001) work, which "demonstrates how evolving material aspirations may distort peoples' view of their wellbeing in the past" (Kettlewell, 2010: p. 190). If movers are unable to accurately determine their previous level of satisfaction then the reported change in domain satisfaction may therefore be inaccurate. I suggest that the overall level of satisfaction that movers have with the outcomes of their move avoids the possible upward bias which direct comparison of present with past satisfaction levels might bring.

In the DMM survey, movers were asked to report their overall level of satisfaction with the outcomes of the move after they were asked about their domain satisfaction. Because they were asked in the five preceding questions about their change in satisfaction in specific domains, it is possible that this may have had an influence on how some movers evaluated their overall level of satisfaction with the outcomes of their move. Some movers may have treated 'satisfied' and 'dissatisfied' as 'better' and 'worse' respectively.

As mentioned earlier, post-move satisfaction is measured using a five point Likert type scale. The scale ranges from "very dissatisfied" through a neutral response to "very satisfied" for overall post-move satisfaction and from "much worse off" and through a neutral response to "much better off" for each satisfaction domain. The use of Likert-type scales is a common psychometric method for measuring satisfaction and has been used widely for measuring residential satisfaction and almost exclusively by those studying post-move satisfaction. Likert scales are favoured by some for being a cognitively light method of self-reporting (Knowles and Nathan, 1997).

Despite the extensive use of Likert scales to measure satisfaction and post-move satisfaction, they are subject to possible central tendency bias, acquiescence bias and cross-cultural biases. Central tendency bias is the tendency of respondents to avoid using the outermost categories, effectively narrowing the band of responses. In the case of the 5 point Likert scale used by the survey, respondents would have a tendency to

shun the two most extreme responses in favour of the middle three, reducing the sensitivity of the scale.

Acquiescence bias is the tendency of respondents to favour positive answers, resulting in respondents reporting a higher level of satisfaction than they actually experience (Friborg et al., 2006, White and Mackay, 1973). Whether these criticisms outweigh the benefits of the cognitively light nature of Likert scales is a matter of intense debate. Knowles and Nathan (1997) found the bias created by cognitive demands is increased when the cognitive demand of a respondent is increased, supporting the use of such cognitively light methods. Strong acquiescence bias towards respondents favouring positive answers will result in higher post-move satisfaction than is evident in the population. A strong acquiescence bias may result in those who experience lower levels of post-move satisfaction reporting a higher level of satisfaction than they actually experience.

Dealing with movers from a range of cultural backgrounds may alter the distribution of biases across the population. Some groups of respondents may respond differently to those of other groups artificially influencing their reported satisfaction outcomes:

> "There are potential cultural differences in moderacy response styles, in which people from one culture are more likely to answer toward the center of a scale than are people from another (Chen et al., 1995). Translation errors can produce measures conveying different meanings across cultures (Brislin, 1970). Members of some cultures may have more familiarity with completing questionnaires than do others (Greenfield, 1997). It is plausible that members of some cultures may be more likely to disguise their responses behind a facade of modesty than are others (Heine et al., 2000)" (Heine et al., 2002: p. 904)

While I acknowledge the potential presence of these biases, the degree to which these biases occur in the case of this survey is unknown.

The survey's Likert scales run from 1 to 5. According to Cummins (2003a), there is a majority opinion within the study of life satisfaction that the number of points on a bi-polar Likert scale should *exceed* five and may in fact be much higher. Cummins discusses the optimum number points as follows:

> "On the dimensions of scale sensitivity it seems clear that more choice points are better (Andrews, 1984; Andrews and McKennell, 1980; Chang, 1994). But as the number of response options rises,

> measurement consistency decreases and the tendency for response-set increases, most particularly if the number of response-options exceeds people's ability to discriminate between them (Chang, 1994)." (Cummins, 2003a: p.228)

Therefore, while the DMM survey's use of a 5 point Likert scale is in keeping with other post-move satisfaction literature, it may lack the sensitivity that a 7 point or higher scale may reveal.

Within the study of post-move satisfaction, there is no standard number of points used in Likert scales. Data has been drawn by post-move satisfaction researchers from surveys that utilise scales varying between three to seven points. The American Housing Survey (AHS), of which Lu (2002) used the 1989 dataset and Barcus (2004) used the 1991 dataset, employed three points of variation; better, worse, or about the same for measuring satisfaction. The Thailand National Migration Survey, of which De Jong et al. (2002) used the 1992 survey, also used a three point scale of 'better, the same, worse' to measure post-move satisfaction. At the other end of the scale, Lundholm and Malmberg (2006) used a dataset that employed a 7-point likert scale. The British Household Panel Survey used by Nowok et al. (2011) also employed a 7-point Likert scale. Meanwhile, the German Socio-Economic Panel Study, used by Melzer (2011) and the Households, Income and Labour Dynamics in Australia survey used by Kettlewell (2010), asks respondents to place their well-being on a 1 - 10 point scale.

In summary, there are a number of potential biases that may affect the ability of the DMM survey to accurately measure the level of satisfaction that movers have with the outcomes of their moves. These include cognitive dissonance, central tendency bias, acquiescence bias, and cross cultural biases. In addition, the number of points on the Likert scale also justifies consideration.

3.4 Distribution of post-move satisfaction responses

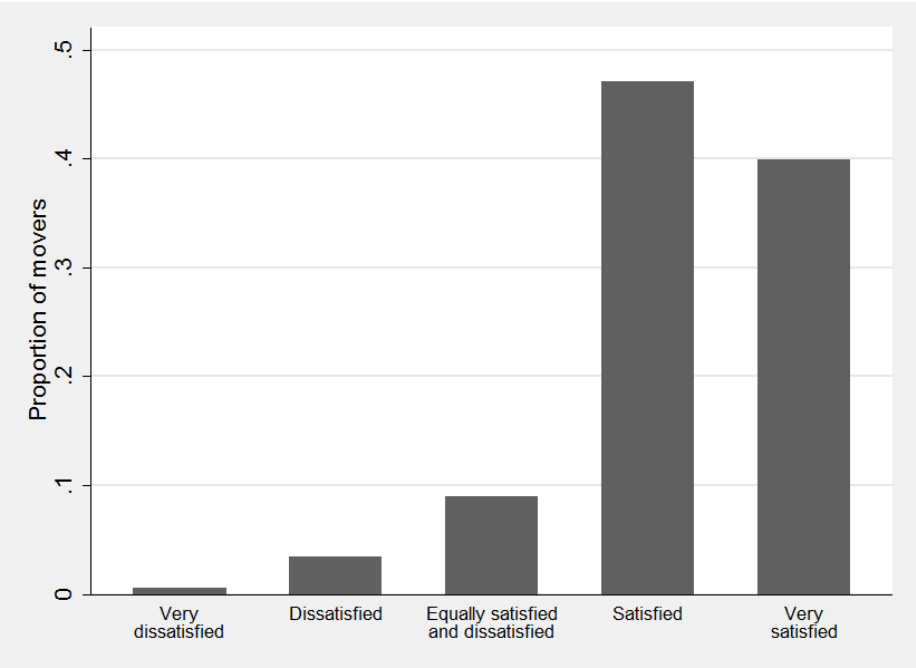
With the above considerations in mind, I describe the overall level of satisfaction that movers have with the outcomes of their move and how their satisfaction in specific satisfaction domains changed over a period in which a move takes place. Because overall post-move satisfaction is a measure of satisfaction with the overall outcome of the move and domain satisfaction is a measure of how much better or worse

off the mover was in particular domains compared with prior to moving, I consider both separately but note their relative distributions.

The results shown in Figure 3.2 illustrate that a majority of movers are either satisfied or very satisfied with the outcomes of their move. A total of 87% of respondents were represented by these two categories. The total proportion of movers who were dissatisfied or very dissatisfied with the outcomes of their move was only 4%. The remaining 9% of movers were equally satisfied and dissatisfied with the outcomes of their move. As a result, there is a very strong negative skew observed in the satisfaction that movers have with the overall outcomes of their move.

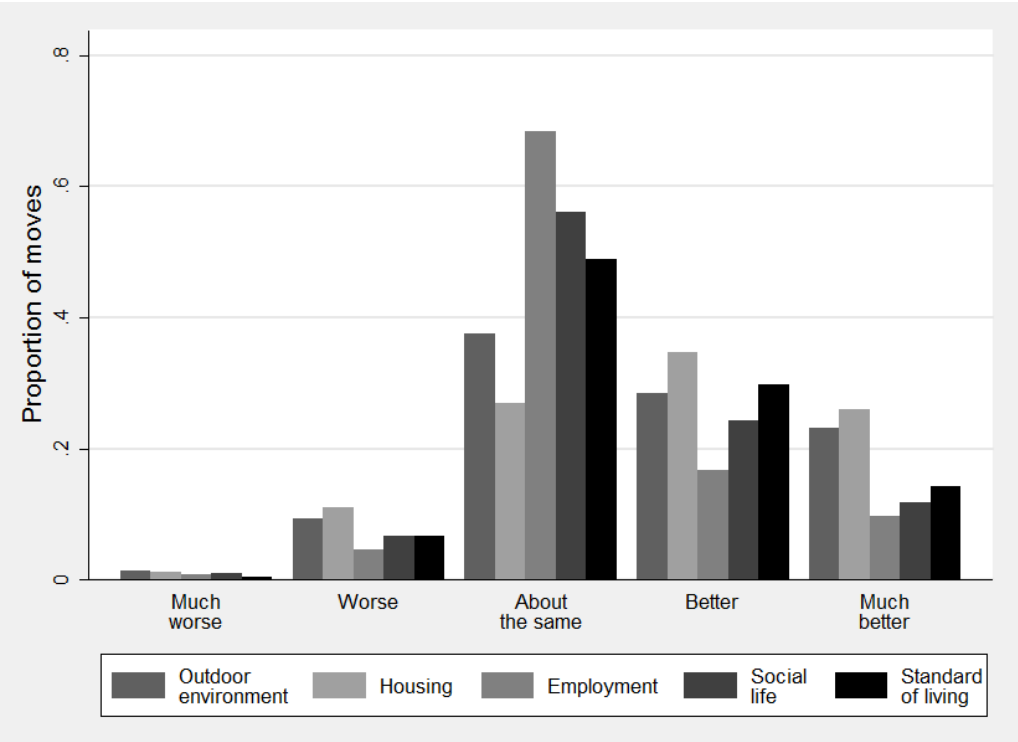
The change in satisfaction reported by movers was less negatively skewed in each satisfaction domain than it was for overall satisfaction with the move's outcomes. These outcomes are in line with previous studies. Apart from housing satisfaction, the most frequent response in each domain was a level of satisfaction that was about the same. The distribution of responses across all five satisfaction domains is shown in Figure 3.3 with the percentages provided in Table 3.2. While the responses are less negatively skewed, a negative skew remains with fewer movers reporting a negative change in satisfaction than a positive change. Additionally, there are variations in the distribution of responses across the satisfaction domains. In particular, movers more frequently reported a positive or negative change in housing satisfaction than in other domains. Outdoor environment shared a similar distribution, but was less pronounced. On the other hand, a greater proportion of movers reported no change in their employment satisfaction.

Figure 3.2: Distribution of overall post-move satisfaction responses



Source: Statistics New Zealand, 2007

Figure 3.3: Distribution of satisfaction responses by domain



Source: Statistics New Zealand, 2007

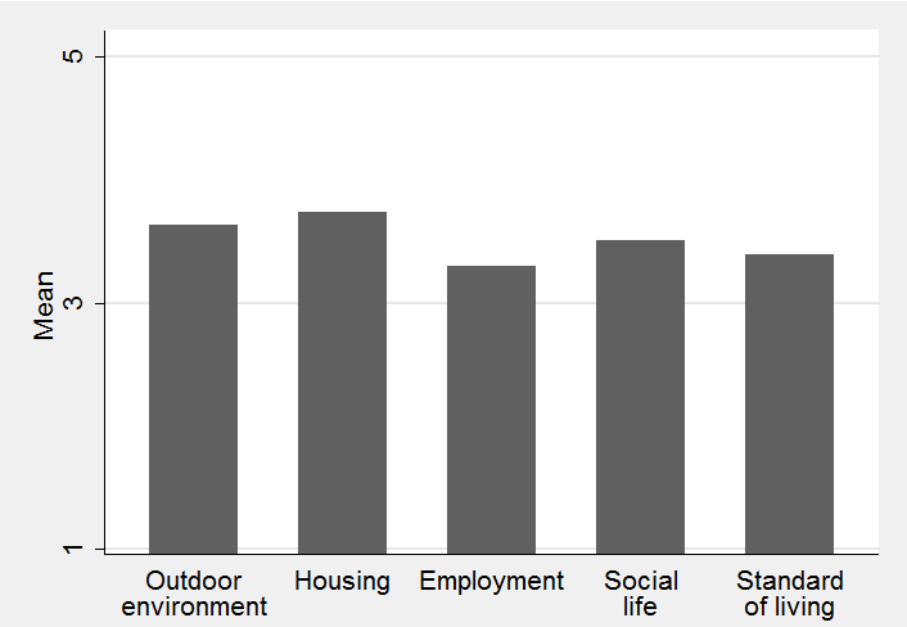
Table 3.2: Distribution of satisfaction responses by percentage

	Outdoor	Housing	Employment	Social Life	Standard of Living	Overall	
Much worse (1)	1	1	1	1	1	1	(1) Very dissatisfied
Worse(2)	9	11	5	7	7	3	(2) Dissatisfied
About the same (3)	38	27	68	56	49	9	(3) Equally satisfied and dissatisfied
Better (4)	29	35	17	24	30	47	(4) Satisfied
Much better (5)	23	26	10	12	14	40	(5)Very satisfied
Total	100	100	100	100	100	100	Total

Source: Statistics New Zealand, 2007

In Figure 3.4, I plot the average level of satisfaction change in these five satisfaction domains in a manner similar to Lundholm and Malmberg (2006: p. 38), but with overall satisfaction omitted given that it results from a slightly different question. Most interestingly, the four satisfaction domains that align with those found in Lundholm and Malmberg (2006) share an almost identical relative and actual level of average satisfaction. That is, housing satisfaction experiences the highest average level of satisfaction, followed in order by outdoor environment satisfaction, social life satisfaction and standard of living satisfaction. All are slightly above the middle value of three. The average change in employment satisfaction, unstudied by Lundholm and Malmberg (2006), represents the lowest average change in satisfaction.

Figure 3.4: Mean level of satisfaction with the outcome of moving, by domain



Source: Statistics New Zealand, 2007

In summary, the distribution of overall satisfaction responses exhibit a strong negative skew, with a substantial majority of movers satisfied with the outcomes of their moves. Domain satisfaction also exhibits a negative skew, but not to the same extent as overall satisfaction and there some variations in satisfaction responses across domains.

3.5 Modelling approach

My objective in the chapters that follow is to examine the level of post-move satisfaction that movers report and also the factors that are associated with different levels of post-move satisfaction. I consider both across the range of satisfaction domains. In order to do so, I start with the following generic equation for each post-move satisfaction domain:

(3.1) $y_i = \alpha + \beta \boldsymbol{X}_i + \varepsilon_i$

where y_i is the estimated level of satisfaction for the ith individual, $\mathbf{X}_i$ is the vector of the included independent variables and α, β and ε_i are estimates of the constant, slopes and error terms respectively.

I apply my estimation model using both OLS and logit regression in order to estimate the association that each factor has with my ordered, discrete dependent variable.

Multiple Regression

Agreement over the most appropriate method of estimating the determinants of subjective wellbeing, happiness or post-move satisfaction is by no means fixed within literature. In this section I outline my decision to use OLS regression instead of alternative methods of estimating post-move satisfaction and discuss the methods used in existing post-move satisfaction studies.

Within the post-move satisfaction literature, the predominant method of analysing cross-sectional data has been through the use of logit models. Ordinal logit models were utilised by Lundholm and Malmberg (2006) in their study of the post-move satisfaction of movers. Multinomial logit models have also been used, effectively treating the satisfaction responses as neither cardinal nor ordinal, but simply discrete. Barcus (2004), De Jong et al. (2002) and Lu (2002) each used multinomial logit models

to measure the probability of movers being either better off, or worse off, or about the same.

The remaining studies of post-move satisfaction used linear regression models for their ease of interpretation. The standard OLS models have been the predominant method of analysing residential satisfaction as well (Lu, 1999). Although the ordinal logit (or probit) models have been considered by some to be superior (Lu, 1999, McKelvey and Zavoina, 1975), as others have concluded, the results of the two methods are fundamentally comparable (Clark et al., 2008a, Ferrer-i-Carbonell and Frijters, 2004). The ease of interpreting its estimated coefficients is a key factor in researchers deciding to utilise OLS regression (Nowok et al., 2011, Ryan, 2012).

When researchers use OLS regression they assume that the dependent variable of satisfaction is cardinal in nature. For this to be the case, movers must have a common interpretation of each level of post-move satisfaction and also interpret the difference between successive levels of satisfaction equally (Ferrer-i-Carbonell and Frijters, 2004, Ng, 1997). For example, movers should have a common understanding of how satisfied 'very satisfied' is and also evaluate the difference between 'equally satisfied', 'dissatisfied' and 'satisfied' as being the same degree of difference as that between 'satisfied' and 'very satisfied'.

Ferrer-i-Carbonell and Frijters (2004) cite studies by Sandvik et al. (1993) and Diener et al. (1999), which show that, by observing others, individuals are able to determine and then interpret their emotional state, suggesting that "there is a common human 'language' of satisfaction and that satisfaction is roughly observable and comparable among individuals" (Ferrer-i-Carbonell and Frijters, 2004: p. 644). Furthermore, individuals associate a similar numerical value to satisfaction levels and the distribution of these numerical values tend to be relatively evenly spaced (van Praag, 1991). Movers have even been considered to evaluate their level of satisfaction as if the question asked was cardinal in nature (Schwartz, 1995).

McKelvey and Zavoina (1975) suggest that multiple regression does not model the true relation between the ordinal dependent variables and the independent variables. They conclude that the lumped nature of the dependent variable introduces a bias "into the estimate of β which is dependent on the distribution of the independent variable" (McKelvey and Zavoina, 1975: p. 119). This bias may underestimate the effect of some

variables. In measuring the residential satisfaction of individuals, Lu (1999) considered the use of both ordered logit and regression models. While he concluded that the "results from multiple regression models should be accepted with a grain of salt" (Lu, 1999: pp. 284) for the reasons stated by McKelvey and Zavoina (1975), both models showed largely similar results.

It is with these considerations in mind that I utilise the OLS regression model in my statistical modelling. For much of my initial exploratory work I utilised an ordered probit model and throughout my analysis, I continued to compare my OLS regression results with the probit model, and found no significant differences between the results of the two models.

Independent variables

I anticipate that the factors influencing the post-move satisfaction of movers will be both complex and contingent. Correspondingly, my initial model starts with only a single independent variable in the model, distance. As I consider subsequent factors that may be associated with different levels of post-move satisfaction, I add further independent variables to the model and consider their association both with post-move satisfaction and also the pre-existing independent variables. With each variable added, my model increases in complexity. The order with which I add additional factors is provided in Table 3.3, under three categories of variables, those pertaining to the move, the mover and the area. A full list of independent variables is given in Table 3.4

Table 3.3: Order that the independent variables are added, by category

Move		Mover		Area	
Distance	1	Age	4	Neighbourhood deprivation	9
LLM change	2	Ethnicity	5	Urban hierarchy	10
Time since move	3	Sex	6		
Reasons for moving	11	Cohabitation	7		
		Socio-economic status	8		

Table 3.4: Description of the independent variables used in the analysis of post-move satisfaction

Variable	Categories	Frequency (%) or mean
Distance	km [ln(km)]	61.4 (mean)
LLM change	No change*	78.4
	Change	21.6
Time since move	0-3 months	21.2
	3-6 months	15.3
	6-9 months	15.7
	9-12 months	13.2
	1-2 years*	34.4
Age	Years	36.9 (mean)
Dwellings in previous 10 years	Two	20.2
	Three	22.3
	Four	16.5
	Five or more*	41
Length at previous address	Years [ln(years)]	0.74(mean)
Ethnicity (movers were able to identify with multiple ethnicities)	European*	73.2
	Māori	15.6
	Chinese	3.3
	Indian	3.4
	Pacific	5.6
	Not otherwise Identified (n.i.e)	4.6
Place of birth	Overseas	22.8
	New Zealand*	77.2
Sex	Male	43.5
	Female*	56.5
Cohabitation status	Existing couple*	53
	New couple	5.2
	Different couple	0.6
	Still single	35.6
	Newly single	5.5
Education	None	22.7
	Secondary	24
	Post-School*	38.4
	Bachelor or higher	15
Income	Unknown	5.4
	Negative or $0	5.9
	$1-$20,000*	30.7
	$20,001-$40,000	30.4
	$40,001-70,000	21.5
	$70,000+	6.2
Income change (compared with one year earlier)	Increased	26.4
	Stayed the same*	60.1
	Decreased	13.5
Labour force status	Not in labour force*	25.7
	Unemployed	6.1
	Managers and professionals	26.3
	Trades and services	22.5
	Primary and secondary	13.1
	Unknown	6.4
Urban hierarchy change	Upward	13
	Lateral*	75.2
	Downward	11.8
Neighbourhood Deprivation change	Change in deciles	0 (mean)
Forced moves	Voluntary*	81
	Forced	19
Reasons for moving from previous address	Social	21.8
	Educational	3.9
	Employment	10.6
	Economic*	32.9
	Housing	18.3
	Environment	9.3
	Other	3.1
Multiple motives	One*	67.9
	Multiple	32.1

* Denotes reference category

Source: Statistics New Zealand, 2007

3.6 Summary

In this chapter I have introduced the scope of the study and discussed the sources of my data and my analytical approach. At the centre of my study is the 2007 *Survey of Dynamics and Motivations for Migration in New Zealand*, a cross-sectional analysis of a sample of over 26,000 New Zealanders. From this sample, the characteristics of approximately 4,900 movers and their moves are available. The DMM survey was supplemented by a number of additional datasets in order to provide information not only of the mover, but also the characteristics of the areas that they move from and to, and additional information about the move itself.

The distribution of responses to the post-move satisfaction question was found to be negatively skewed. The negative skew was particularly pronounced for overall post-move satisfaction, with 87% of respondents reporting a degree of satisfaction with the outcomes of their move. This distribution was expected and notably similar to the distribution of responses found in other surveys.

I then introduced my statistical model and reviewed the relative positive and negative factors associated with using OLS regression. I chose to utilise OLS regression techniques over logit (probit) or multinominal alternatives given the relative ease of interpretation compared with models such as ordinal logit, which treat the dependent variable differently. In order to understand the probability of a positive satisfaction outcome, I utilise logistic regression in key areas.

In order to understand the association between post-move satisfaction and each of the independent variables that I analysed, I outlined the categories and the order in which I would progressively add them to my models. In the following chapter, I start by only considering the association between post-move satisfaction and the most salient geographical variable, distance. In subsequent chapters I introduce successive variables. This sequential approach allows me to assess the degree to which each new variable is associated with the post-move satisfaction as well as how it contributes to altering the statistical influence of variables already in the model.

Chapter 4. Does distance matter?

4.1 Introduction

In this chapter I ask whether the geographical characteristics of an individual's move are associated with the satisfaction they express with their outcomes. Specifically, does satisfaction decrease with the distance of the move? So far, the influence of distance on post-move satisfaction has hardly been reported.

One of the reasons for the lack of attention to distance moved on post-move satisfaction could be the presence of movement within and between LLMs. Moves between LLMs tend to be longer in distance than moves within them. Moves have quite different characteristics in each case and therefore the effect of distance is likely to be conditional on the type of move itself. I explore this consideration below.

This chapter begins by introducing the reasons why distance may have an association with post-move satisfaction and then illustrates the distances that movers travelled when moving. The bimodal distribution suggests two separate types of moves, those within LLMs and those between them. After introducing LLM change, I test to see whether there is a statistically significant association between distance and post-move satisfaction.

4.2 Distance effects

The negative effect of distance on the likelihood of migration is probably the most established characteristic of migration; "*ceteris paribus*, the farther two regions are from each other, the lower will be the flow of migrants between them" (Schwartz, 1973: p. 1153). This inverse relationship between distance and mobility is captured in gravity model formulations of migration flows[12]. Under these models, migrant flows are inversely related to the square of distance (Alonso, 1978, Cushing and Poot, 2004, Greenwood, 1975a, Schwartz, 1973, Allen and Eaton, 2005). The relevant factor here is distance squared – the effect of distance is negative and its impact increases disproportionately with distance.

[12]According to the gravity model, the flow of migrants between two locations i and j = $\frac{Population_i \; x \; Population_j}{Distance^2}$

According to the migration literature, there are three reasons why movers tend to favour moving short distances and why longer moves may yield lower satisfaction. The first is diminishing information (Chan, 1996, DaVanzo, 1983, Gallaway, 1969, Nelson, 1959, Schwartz, 1973, Sjaastad, 1962). Diminishing information with distance is generally applied to job-search but has a more general applicability. Other things equal, the further away a location is, the less information the potential migrant will have, not just of potential job opportunities, but other characteristics of the location as well (Schwartz, 1973). As distance increases, the likelihood of making an accurate assessment of migration outcomes is therefore also likely to decrease, resulting in a higher probability of an unsatisfactory outcome. Yezer and Thurston (1976), effectively confirmed such a negative relationship. They found that moves of increasing distance resulted in higher proportions of follow-on migration, a likely indicator of a lower level of post-move satisfaction (De Jong et al., 2002, Lu, 2002).

The second reason that movers tend to favour shorter distances is psychic cost. Psychic costs are non-monetary costs associated with loss of attachment to friends, family and familiar locations. Psychic costs rise, "because people are often reluctant to leave familiar surroundings, family and friends" (Herzog and Schlottmann, 1981: p. 460). Moving further away reduces the contact with friends and family resulting in a loss of emotional and social capital. Furthermore, maintaining long distance contact also imposes an on-going monetary cost (Schwartz, 1973, Sjaastad, 1962, Herzog and Schlottmann, 1981). A decreasing amount of contact with friends and family from their previous residence could well have a significant effect on the social life satisfaction, unless movers are moving to locations with other friends and family, or quickly establish new ties.

The third reason for movers to favour shorter moves is the direct moving cost associated with relocating. Direct pecuniary costs associated with moving, such as increased transportation costs "of migrants and their belongings" (Herzog and Schlottmann, 1981: p. 460), increase with the length of the move undertaken. However, relative to information and psychic costs, these direct financial costs are generally considered to be relatively less important and may account for little of the deterrent effect of distance, at least on the probability of moving (Allen and Eaton, 2005, Maddox, 1960, Sahota, 1968, Schultz, 1975, Schwartz, 1973).

> "At the mean of the income and distance variables these percentages imply that the typical migrant would be indifferent between two destinations, one of which was 146 miles more distant than the other, if the average annual labor earnings were $106 (1947-49 dollars) higher in the more distant one. Marginal costs per mile of migration would have to be high indeed to reconcile this negative effect of distance with the present value of the earnings differential even at very high discount rates, particularly since the persons involved are already migrants and only their allocation over space is in question." (Sjaastad, 1962: p. 82)

In summary, diminishing information and increasing psychic costs are thought to have a greater impact on both the probability and outcomes of residential relocation as distance moved increases. I anticipate that this has a negative association with the post-move satisfaction of movers and will be reflected in a negative association between distance moved and post-move satisfaction. However, existing post-move satisfaction research suggests that those who move long distances experience higher satisfaction prior to, and following, a move, but this conclusion is limited by a small sample size. Therefore I first turn to the measurement of distance moved.

Measuring distance

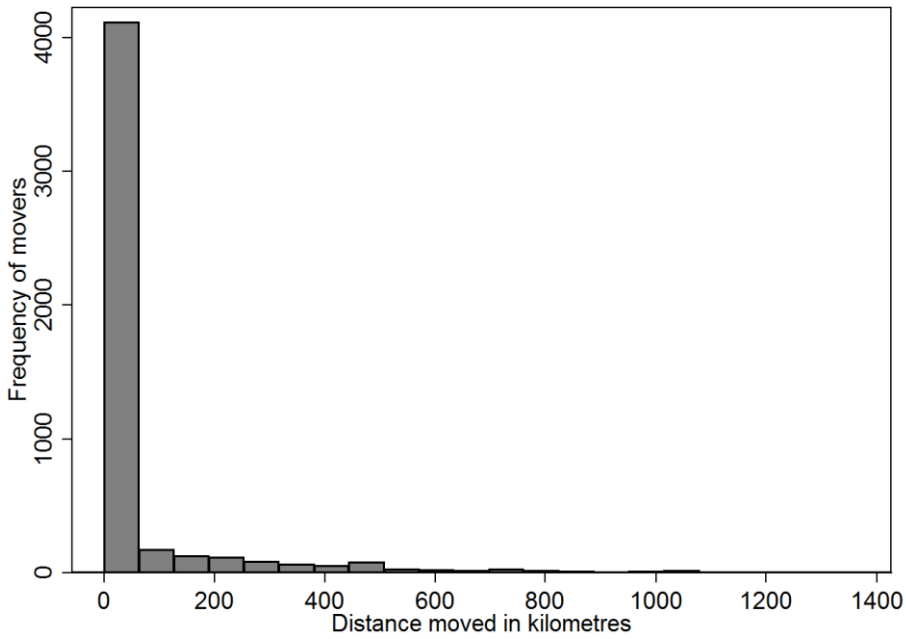
I calculate the distance covered by movers by calculating the distance between the centroid of the mover's origin and destination meshblocks. The length of moves captured by the DMM survey confirms the typical negative distribution found throughout the literature and is shown in Fig 4.1. Movers clearly exhibit a preference for shorter distances with nearly four fifths of all moves covering a distance of less than 30 kilometres. In fact, 16 per cent of all movers simply relocated within the same area unit[13].

An alternative representation is the natural log of distance, shown below in Fig 4.2. The greatest proportion of moves takes place across a distance of approximately 2-7km in length (between $\ln_e = 0.3$ and $= 1.95$). The slight peak around a natural log distance of 6 (e^6= 403km), may reflect moves between the main urban centres, such as between Wellington and Christchurch. This makes clearer the bimodal distribution

[13] For those movers who moved within their spatial unit (205 out of the 3,468 movers for which I have complete meshblock data) their measured distance is 0 km, as their origin and destination centroids are the same. This poses difficulties for calculating the log of distance as log(0) is undefined. In order to get around this issue of log(0), when calculating the log of distance 100m is added to each move that normally has a 0km distance. An implication of this is a cluster of movers reporting the same move length, which may be larger than moves between adjacent meshblocks where the distance between centroids is less than 100m.

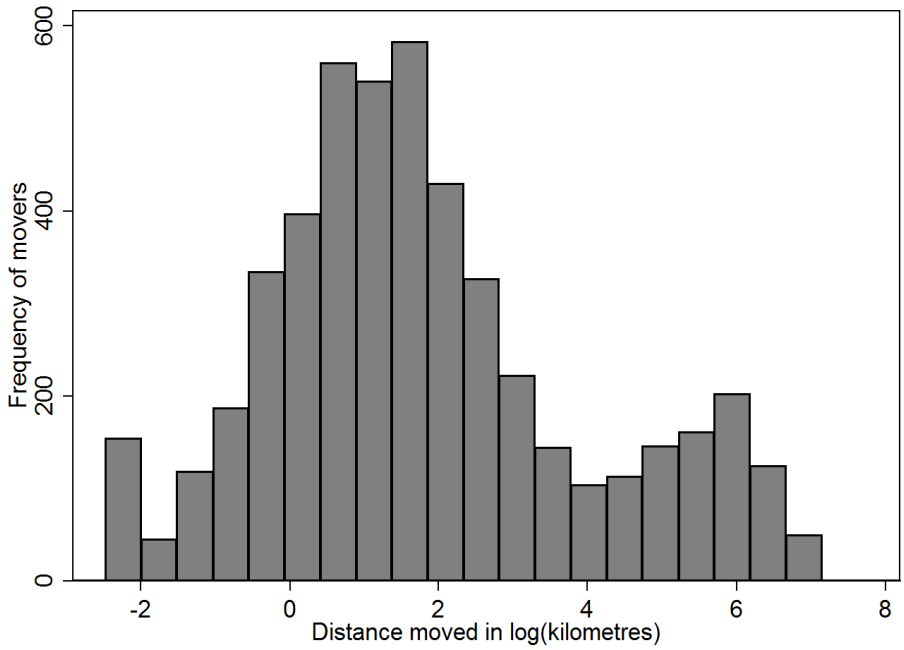
indicative of two distinct populations of intra-LLM movers on the one hand and the remaining inter-LLM movers on the other.

Figure 4.1: Distribution of movers by length of move, New Zealand, 2007.



Source: Statistics New Zealand, 2007

Figure 4.2: Distribution of movers by length of move in log kilometres, New Zealand, 2007.



Source: Statistics New Zealand, 2007

4.3 Moves within and between local labour markets

The bimodal distribution of move lengths suggests there are two 'scales' of move. There are behavioural differences between intraregional mobility and interregional migration and as a result they are usually analysed separately Zax (1994). There are also differences in the characteristics of individuals that increase their likelihood of 'migrating' in these two contexts (Huber and Nowotny, 2011, van Ommeren et al., 2000). It is reasonable to suggest therefore that there may be differences in the post-move satisfaction of the two sets of movers, those moving within LLMs and those moving between them.

Zax defines "a move is a migration when the worker leaves one housing-and-labor market to relocate to another" (Zax, 1994: p. 341). This is a general understanding and has been applied to the New Zealand context by a number of researchers including Papps and Newell (2002) and Morrison and Clark (2011). As Zax explains, moves between housing-and-labour markets are characterised or even defined by the change in residence being accompanied by a change in the location of employment. The additional work and stress of coordinating these two parallel adjustments, I suggest, is likely to have a significant negative effect on post-move satisfaction as compared with the 'simple' change of residence characteristic of the intra-urban move.

Moving within and between LLMs may also reflect different priorities. It is widely considered that moves within LLMs are primarily housing related, while moves between LLMs are employment and family related, but empirically we know that there is significant overlap between the two (Lu, 2002). Lu (2002) studied the self-reported change in housing neighbourhood quality of movers within the United States and found that respondents moving between LLMs were more likely to experience a negative change in quality in both these domains than movers who moved within a LLM. This finding suggests that movers may be sacrificing housing and neighbourhood quality for better outcomes in other areas, but Lu's findings tell us little about how this influences overall satisfaction outcomes, or whether these lower outcomes are expected by the mover or not.

What is important here is that any distinction between intra- and inter-LLM mobility should be based on crossing LLM boundaries and not merely some single

distance threshold. By separating moves over 25km in distance from moves less than 25km in distance, for example, Nowok et al. (2011) focused on the association between distance and life satisfaction rather than the association between the change in LLM and life satisfaction. The use of a single distance threshold is too crude a measure of LLM change.

More generally, intraregional or urban mobility considerations have been more or less completely excluded in favour of an interregional migration approach in the post-move satisfaction literature. One of the ways my study differs from the prevailing literature, therefore, is my explicit distinction between moves within and between LLMs.

Measuring moves within and between local labour markets

As mentioned in Chapter 3, New Zealand's labour-market catchments have been empirically identified by applying an algorithm which partitions commutes between settlements as described by Papps and Newell (2002), updated using 2006 Census data[14]. This algorithm is itself derived from that developed by Coombes et al. (1986), which identifies travel-to-work areas in Britain. The New Zealand labour market catchments are shown in Figure 4.3.

A total of 3,872 movers in the survey moved within the same labour market catchment and represent 78.4% of all movers. Only 1,065 moved between labour market catchments, representing 21.6% of movers over the two year survey period (Table 4.1).

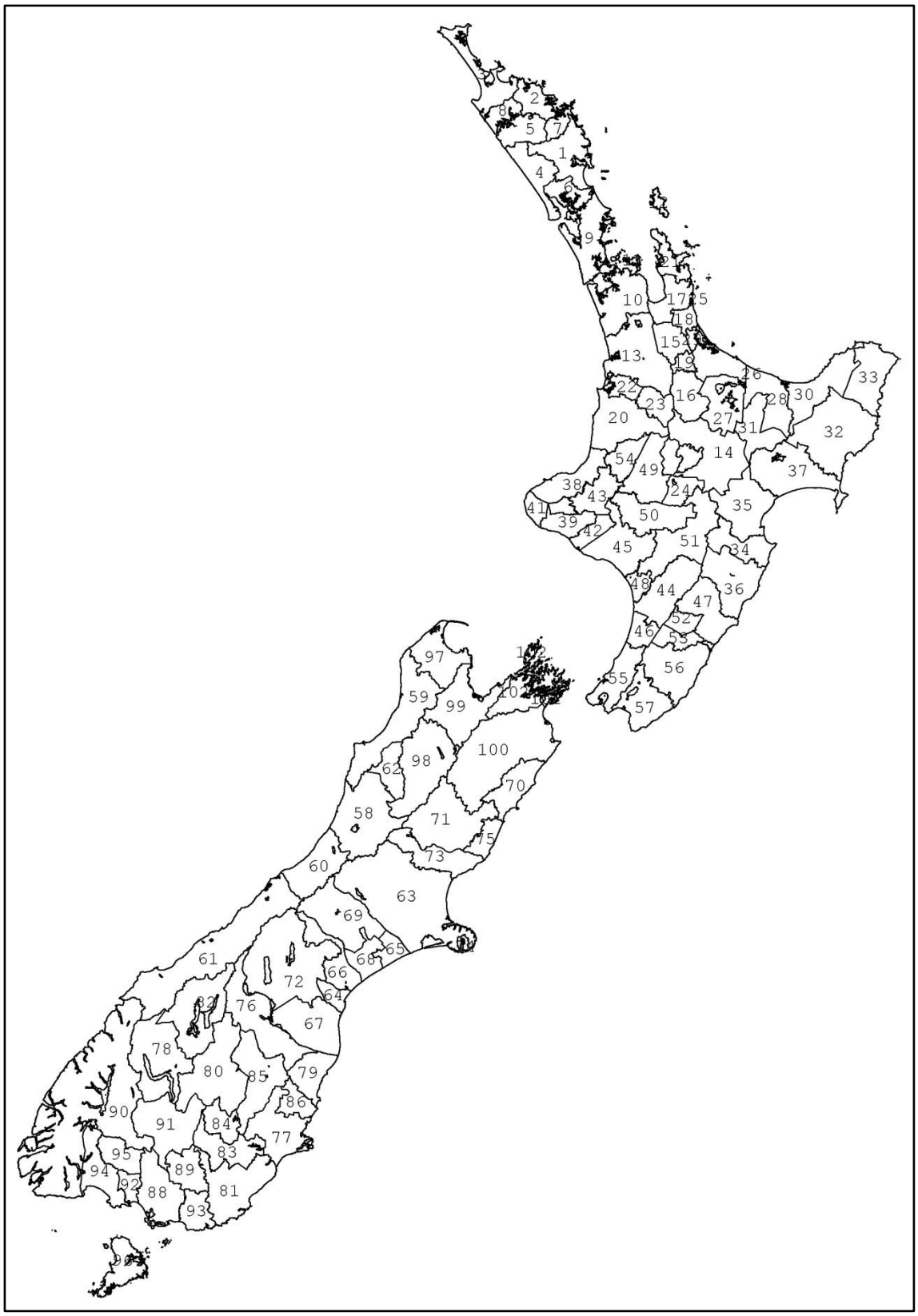
Table 4.1: Distribution of moves within and between local labour market catchments.

Labour Market Catchment	Frequency	Proportion
No Change	3,872	0.784
Change	1,065	0.216
Total	4,937	1

Source: Statistics New Zealand, 2007

[14] LLM definition using Papps and Newell's updated 2006 data is also used by Morrison & Clark (2011) in their work also studying the DMM survey and I use the same set of labour market catchments.

Figure 4.3: Labour market catchments (LLMs) of New Zealand, 2006.

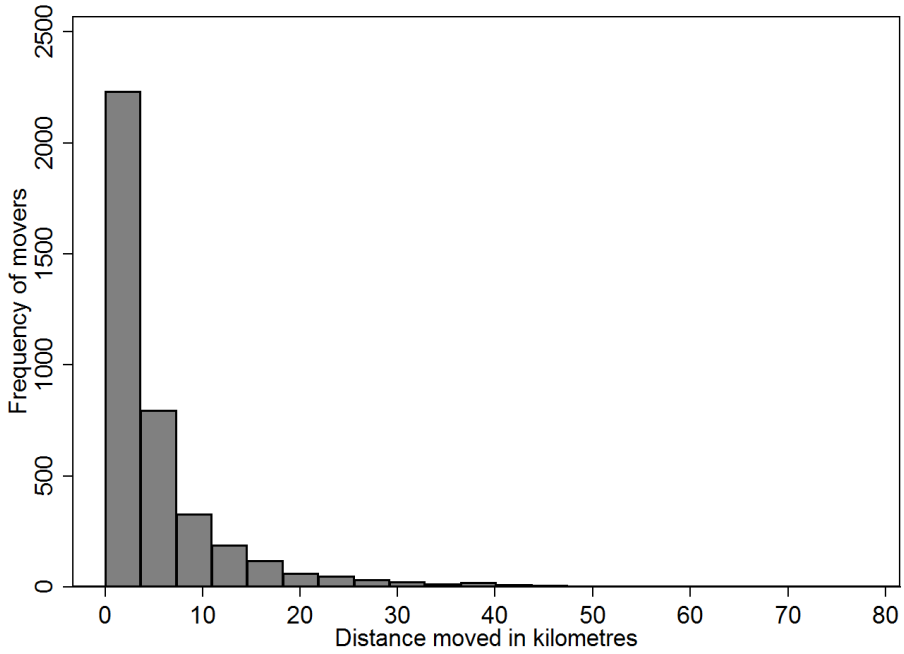


Note: The numbers in each polygon uniquely identify each local labour market and are provided in Appendix 1

The length of moves is highly skewed both for moves within and between LLMs. At both scales, movers are more likely to be moving shorter distances than they are longer distances. Figure 4.4 shows that those moves taking place within LLMs are also skewed toward very short moves (less than four kilometres in length), but within the LLM there is less positive skewing than all moves and therefore the tail becomes more apparent.

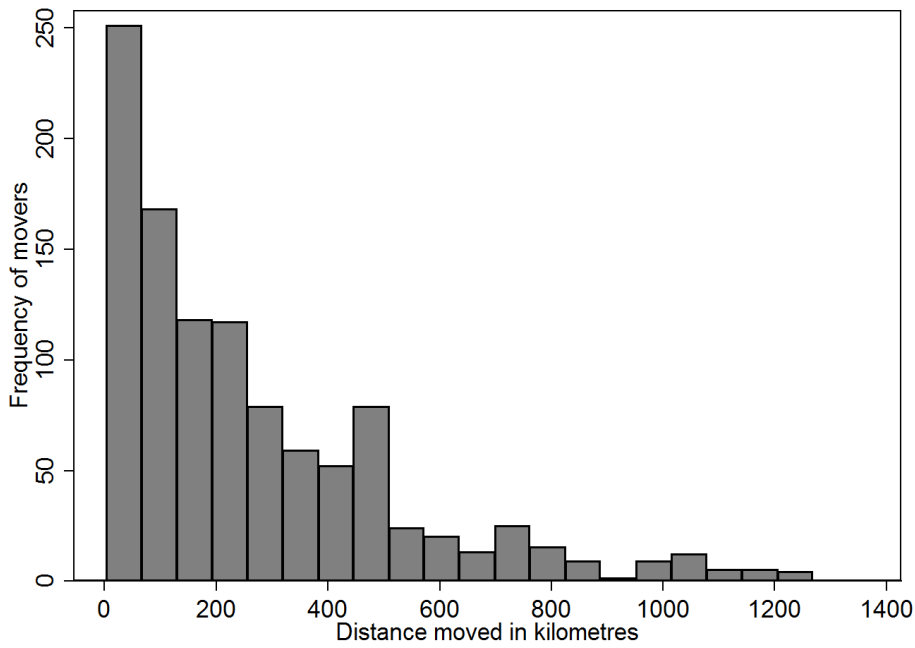
As shown in Figure 4.5, the distribution of moves taking place between LLMs is less skewed towards relatively short moves than those within LLMs. The slight peak around a natural log distance of 6 observed in Figure 4.2 is also apparent at approximately 450-500km, roughly the distance between Wellington and Auckland.

Figure 4.4: Distribution of moves within local labour markets by length of move, New Zealand, 2007.



Source: Statistics New Zealand, 2007

Figure 4.5: Distribution of moves between local labour markets by length of move, New Zealand, 2007.



Source: Statistics New Zealand, 2007

4.4 Results

Having introduced the way I measure distance moved and define the change of LLM, I can turn to how satisfaction with the outcomes of a move vary by distance. In the following section, I start by investigating the relationship between distance and post-move satisfaction. I consider overall post-move satisfaction and then turn to the five domains of post-move satisfaction. I compare both average satisfaction outcomes using a linear regression model and also the probability of a positive move outcome using logistic regression.

I then study the influence moving to another LLM has on the role played by distance and whether post-move satisfaction simply reflects the differences between moves within and between LLMs, or whether both distance and LLM change play a role.

In order to better understand the relationship between distance moved and the change in LLM, I utilise a number of linear regression models in order to tease apart the two components, using overall satisfaction. I settle on a model that separates moves within LLMs from moves between them and as with distance, model both average

satisfaction outcomes and the probability of a positive outcome in each satisfaction domain.

I start with a model that includes only the natural log of distance. My opening expectation is that decreasing information and increasing psychic costs with distance are likely to reduce the level of satisfaction following the move. The initial model involves applying the following linear regression model in order to estimate the change in average overall satisfaction as distance increases:

(4.1) $y_i = \alpha + \beta \ln(x_i) + \varepsilon_i,$

where y_i is the estimated mean overall post-move satisfaction of the ith mover, $\ln(x_i)$ is the natural log of the distance moved in kilometres and ε is the unexplained error.

The estimated coefficient of ln(distance) is negative, indicating that on average overall post-move satisfaction decreases as the natural log of distance increases. However, arithmetically, post-move satisfaction falls at a decreasing rate with the number of kilometres from origin.

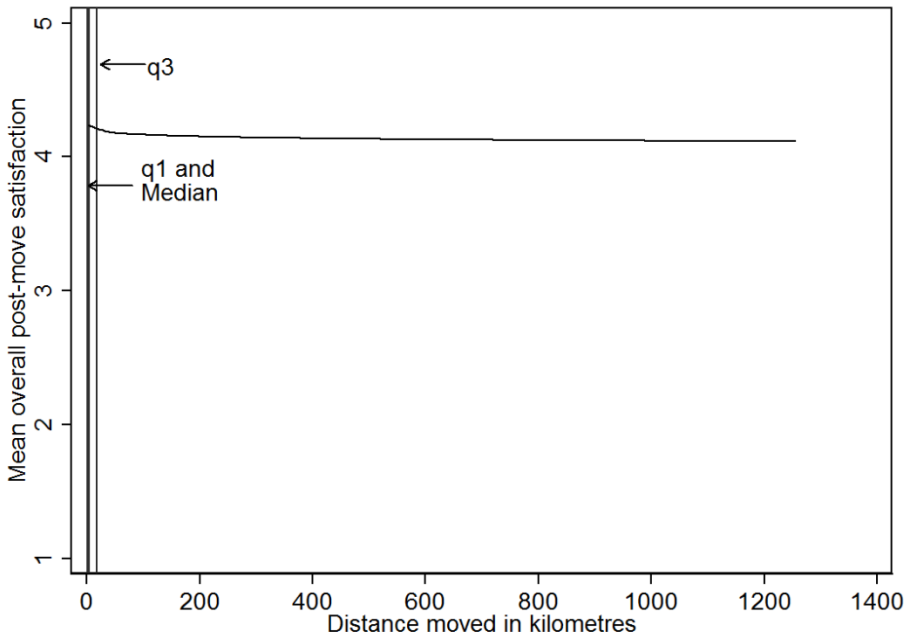
Table 4.2: Linear regression, impact of the log of distance on overall post-move satisfaction, New Zealand, 2007.

Survey: Linear regression			Number of obs		=	4912
Number of strata = 1			Population size		=	726860.85
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	6.65
			Prob > F		=	0.0114
			R-squared		=	0.0028
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	-0.0197285	0.0076528	-2.58	0.011	-0.034913	-0.004543
_cons	4.256791	0.0179915	236.6	0	4.221092	4.292490

Source: Statistics New Zealand, 2007

Figure 4.6 plots the predicted estimate of post-move satisfaction against distance and shows how post-move satisfaction becomes increasingly flat as distance increases. With a range of just 0.14 points on the y scale, the range of predicted average overall post-move satisfaction outcomes is small, but statistically significant. Average satisfaction remains above 4, which represents a satisfied response. The steepness of the slope is greatest across the short distances most people moved.

Figure 4.6: Predicted overall post-move satisfaction by length of move, New Zealand, 2007.



Source: Statistics New Zealand, 2007

Note: the STATA post-estimation procedure from the estimated regression model fits a median spline through the estimates as the lone plotted here.

An alternative way of measuring the 'success' of a move is whether the move meets or exceeds the mover's expectations. I proxy this as the probability that a mover will report a positive level of satisfaction with their outcomes following their move. That is, a successful move is one where the realisations of the move exceed the expectations of the move (R > E). I use the following logit regression model:

$$(4.2)\ ln\left(\frac{p}{1-p}\right)_i = \alpha + \beta \ln(x_i) + \varepsilon_i,$$

where, p is the predicted probability that the ith mover is satisfied with the outcome of the move, $\ln(x_i)$ is the natural log of the distance moved in kilometres and ε is the unexplained error.

In this logit model, the probability of a mover reporting a successful move also decreases as distance increases, again at a decreasing rate (Table 4.3). With a p value of 0.02, the result is statistically significant at the 5% significance interval. Moves of greater distance are associated with a lower probability of a successful move outcome. As with the linear regression results, the coefficient of -0.06 is small. With a one point increase in ln(distance), the odds of an unsatisfactory move are a mere 1.06 times more likely.

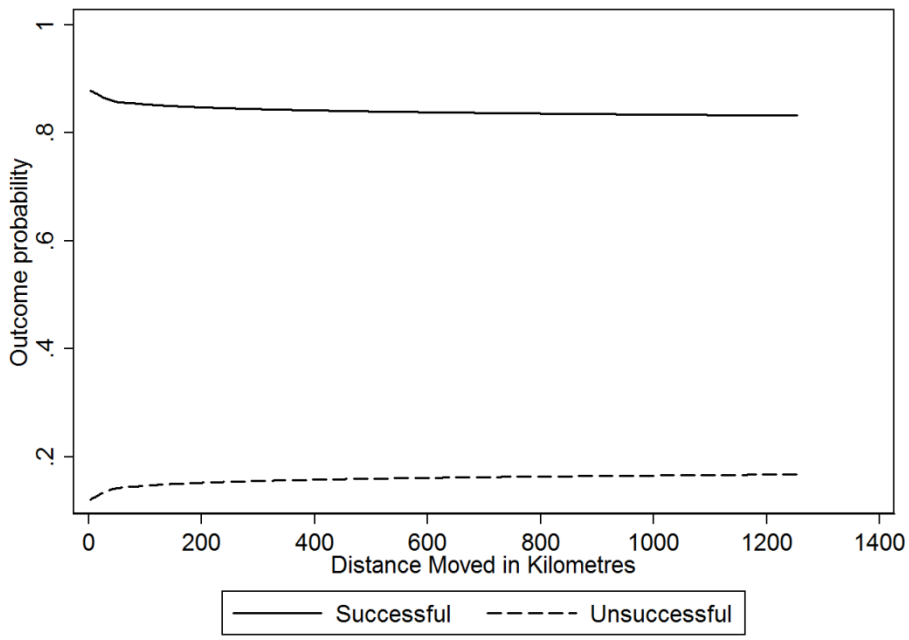
Table 4.3: Logistic regression, impact of distance on overall post-move satisfaction, New Zealand, 2007.

Survey: Logistic regression			Number of obs		=	4912
Number of strata = 1			Population size		=	726860.9
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	5.59
			Prob > F		=	0.0201
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	-0.0620496	0.0262525	-2.36	0.02	-0.114140	-0.009959
_cons	2.042815	0.0843489	24.22	0	1.875448	2.210181

Source: Statistics New Zealand, 2007

The substantive meaning of the equation is made clearer by plotting the estimated probabilities across the distance range in Figure 4.7. The change in probability is relatively small. The chance of a satisfactory move of any distance is above 80% and only those moving very short distances experience any noticeable change in the probability of a positive satisfaction outcome with the length of their move.

Figure 4.7: Predicted probability of overall post-move satisfaction outcome by length of move, New Zealand, 2007.



Source: Statistics New Zealand, 2007

My attention now turns to the five separate domains of satisfaction that the DMM survey recorded. I explore whether the level of post-move satisfaction in each domain has a similar relationship with distance as overall post-move satisfaction. Examining each domain is important because it is highly likely that different domains

will exhibit different sensitivities to distance and may in turn contribute unevenly to the negative effect distance has on overall post-move satisfaction.

I use the same linear regression equation as that used for overall satisfaction, equation 4.1, for each satisfaction domain. In contrast to overall satisfaction, which is measuring the level of satisfaction with 'how things turned out', domain satisfaction is a measure of the self-reported change in satisfaction, a measure used widely in the post-move satisfaction literature. Therefore, in looking at domains, I am considering whether the average mover is more or less satisfied following their move than they were prior to moving.

The results are reported in Table 4.4, and show that the natural log of distance has a statistically significant negative association the change in satisfaction across each domain: housing, employment and social life. The average change in satisfaction that movers have with their outdoor environment appears little affected by neither distance nor whether their standard of living had improved or not.

Table 4.4: Estimates from linear regression, impact of distance on satisfaction, by satisfaction domains, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	-0.0197*	-0.0008	-0.0631***	0.0473***	-0.0180*	-0.0126
_cons	4.257	3.646	3.851	3.231	3.427	3.552
N	4912	4899	4920	3875	4921	4917
F	6.65	0	29.54	34.43	4.1	2.3
r2	0.0028	0	0.0166	0.0182	0.002	0.001

legend: * p<0.05; ** p<0.01; *** p<0.001

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Average changes in satisfaction with housing and employment have notably different associations with distance compared with overall post-move satisfaction. Just as moves of increasing distance are associated with poorer satisfaction with how the move worked out, average post-move satisfaction in each satisfaction domain, other than employment satisfaction, also has a negative association with distance. At -0.063, the negative distance coefficient for housing satisfaction is three times larger than the coefficient of overall satisfaction and is statistically significant at $p < 0.001$.

Contrary to the other satisfaction domains, the natural log of distance has a positive coefficient of 0.0473 in relation to the employment satisfaction domain. Satisfaction with employment opportunities apparently increases (at a decreasing rate) with distance. In contrast to the findings of Nowok et al. (2011), but in line with their expectations, the association between the log of distance and social life satisfaction is

negative. The coefficient of -0.018 is similar in magnitude as the overall satisfaction response, as is the statistical significance.

A relatively similar pattern emerges when measuring the probability of a positive change in satisfaction in each domain using the equation 4.2. From Table 4.5, the probability of improved housing satisfaction decreases as move length increases, while the probability of improved employment satisfaction increases (at a decreasing rate) as move length increases. In both cases the outcome is highly significant. Unexpectedly, given the previous results from average post-move satisfaction, the probability that satisfaction with the outdoor environment increases with distance is positive and is significant at the 5% confidence interval.

Table 4.5: Estimates from logistic regression, impact of distance on satisfaction, by satisfaction domains, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	-0.0620*	0.0530*	-0.1241***	0.2212***	0.0225	-0.0069
_cons	2.0428***	0.0123	0.6833***	-1.3943***	-0.5905***	-0.1649**
N	4912	4899	4920	3875	4921	4921
F	5.586	5.786	37.25	87.21	1.382	1.382

legend: * p<0.05; ** p<0.01; *** p<0.001

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

If the distance decay effect is a factor of increasing information costs then, on average, less information about job opportunities further away does not translate into poorer employment outcomes for those in the labour market who undertake a move. On the other hand, information costs would appear to have a negative effect on housing satisfaction, with less information at greater distances resulting in poorer outcomes. Such a conclusion implies that with increasing move distances, movers appear to have greater information about their destination neighbourhood than their destination residence.

It is also possible that, as distance increases, movers who are in the labour market may be willing to sacrifice an improvement in housing quality for an improvement in outdoor environment quality and better employment opportunities. More likely, I suspect these results are reflective of the boundary between moves within LLMs and moves between them. Because moves within LLMs are not usually associated with a change in employment, employment satisfaction remains static. When moving between LLMs, I suggest that movers are more likely to experience a change in satisfaction. As more movers experiencing a positive change over a neutral change, this increases the probability of an improvement in employment satisfaction. Therefore, I

next consider whether these patterns between distance and satisfaction are due to moving within and between LLMs.

Moves within and between local labour markets

Moves between LLMs require both a change in residence and a change of employment[15], therefore it is quite possible that movers undergoing these changes will experience lower overall post-move satisfaction returns because they have to change both their job and their dwelling. Alternatively, if movers are able to improve both their employment and their housing, then the total change may compensate for the greater distance moved.

Table 4.6 below compares the average post-move satisfaction of those moving within and between LLMs. About three quarters of all movers moved within their LLM, while the remaining quarter of movers moved between LLMs. With an average satisfaction level of 4.24, overall post-move satisfaction is higher for those who moved within LLMs. Those who moved between LLMs had a lower average post-move satisfaction level of 4.15, as well as a greater variation in overall post-move satisfaction outcomes. It would appear that those moving between LLMs are less satisfied with the outcomes of their move than those who move within one.

Table 4.6: Summary statistics, overall post-move satisfaction by local labour market change, New Zealand, 2007

Labour Market Catchment Change	Overall post-move satisfaction		
	Mean	Std. Dev.	Freq.
Intra-LMC	4.244	0.784	3849
Inter-LMC	4.145	0.825	1063
Total	4.223	0.794	4912

Source: Statistics New Zealand, 2007

Because longer moves are more likely to be between LLMs[16], distance may be strongly correlated with LLM change. I regress post-move satisfaction on the binary variable where 1 indicates a move between LLMs and 0 otherwise:

$$(4.3)\ y_i = \alpha + \beta lmc_i + \varepsilon_i$$

where y_i is the estimated mean overall post-move satisfaction of the ith mover, lmc is the change in labour market catchment (LLM) and ε is the unexplained error.

[15] Although there is no way of confirming this with the DMM survey because questions on employment location before and after the move were not asked.

[16] That said there may also be considerable overlap between long intra-labour market moves and short inter-labour market moves.

As Table 4.7 shows, individuals who moved between LLMs returned a lower average level of overall post-move satisfaction than those who moved within LLMs (4.12 compared with 4.25), in line with my descriptive analysis[17]. While still small, the R^2 value of 0.0047 is higher than from that found when measuring distance, indicating that LLM change provides a better fit than distance moved. In addition, the statistical significance of using the change in LLM is stronger at p = 0.001.

Table 4.7: Linear regression, impact of local labour market change on overall post-move satisfaction, New Zealand, 2007.

Survey: Linear regression			Number of obs		=	4912
Number of strata = 1			Population size		=	726860.85
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	11.68
			Prob > F		=	0.0009
			R-squared		=	0.0047
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Within Labour Markets	(ref)					
Between Labour Markets	-0.1305082	0.0381942	-3.42	0.001	-0.206293	-0.054722
_cons	4.247571	0.0150968	281.36	0.000	4.217615	4.277526

Source: Statistics New Zealand, 2007

Given these findings, it would appear that LLM change is a better measure of overall post-move satisfaction than distance. I confirm this by performing a regression including both distance and labour region change as independent variables. The model takes the form of:

(4.4) $y = \alpha + \beta \ln(x)_i + \beta lmc_i + \varepsilon$

where y_i is the estimated mean overall post-move satisfaction of the ith mover, x is the distance moved in kilometres, and the binary lmc takes a 1 denoting a the change in labour market catchment and 0 otherwise, and ε is the unexplained error.

From Table 4.8 it is clear that moving to another LLM reduces the magnitude of the distance effect, moving to another LLM remains statistically significant at p > 0.05. Moreover, the presence of distance in the model has very little effect on the significance of the LLM change variable. In short, most, if not all, of the distance decay effect is due to differences between moves within- and moves between-LLMs, rather than due to the effects of increasing distance per se.

[17] The difference between average level of satisfaction in the descriptive results and the average level of satisfaction in the regression analysis is due to population weighting.

Table 4.8: Linear regression, impact of distance and local labour market change on overall satisfaction, New Zealand, 2007.

Survey: Linear regression			Number of obs		=	4912
Number of strata = 1			Population size		=	726860.85
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	5.79
			Prob > F		=	0.0042
			R-squared		=	0.0047
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
ln(Distance)	0.000021	0.0112657	0.00	0.999	-0.022333	0.022375
Within labour markets	(ref)					
Between labour markets	-0.130590	0.0567216	-2.30	0.023	-0.243139	-0.018049
_cons	4.247549	0.018322	231.83	0.000	4.211194	4.283904

Source: Statistics New Zealand, 2007

Underlying the previous regression analysis is the assumption that moves within LLMs and moves between LLMs have the same post-move satisfaction distance decay effect. That is, the marginal effect of distance affects movers at the same rate whether they are moving within or between LLMs. This may not be the case, so I next run regression analysis for intra-LLM and inter-LLM moves independently. The results of this regression analysis are provided in Table 4.9.

Table 4.9: Linear regression, impact of distance on overall satisfaction, by local labour market change, New Zealand, 2007.

Survey: Linear regression - Moves within labour markets						
Number of strata = 1			Number of obs		=	3849
			Population size		=	576794.98
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	0.26
			Prob > F		=	0.6146
			R-squared		=	0.0001
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	0.006203	0.0122781	0.51	0.615	-0.018160	0.03057
_cons	4.241247	0.0187744	225.91	0.000	4.203995	4.27850

Survey: Linear regression - Moves between labour markets						
Number of strata = 1			Number of obs		=	1063
			Population size		=	150065.86
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	0.75
			Prob > F		=	0.387
			R-squared		=	0.0016
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	-0.025690	0.0295678	-0.87	0.387	-0.084359	0.032979
_cons	4.244503	0.1371019	30.96	0.000	3.972463	4.516543

Source: Statistics New Zealand, 2007

Table 4.9 shows that once moves are separated by LLM change, the distance of the move does not have a significant effect on the average level of overall post-move satisfaction reported by movers, for either those moving within or those moving

between LLMs. While the two distance coefficients have opposite slopes, the statistically insignificant results mean I cannot conclude that average overall post-move satisfaction increases with distance for moves within or between LLMs.

This trend continues when studying the probabilities of satisfaction outcomes, which is also dependent on whether the move is within or between LLMs and not on the length of distance moved. As seen in Table 4.10, the effect of distance on the probability of a successful move outcome is insignificant when moves between LLMs are considered separately to moves within LLMs.

Table 4.10: Logistic regression, impact of distance on overall satisfaction, by local labour market change, New Zealand, 2007.

Survey: Logistic regression: Moves within labour markets

Number of strata = 1				Number of obs	=	3849
				Population size	=	576794.98
				Replications	=	100
				Design df	=	99
				F(1, 99)	=	0
				Prob > F	=	0.9801
Overall PMS		Jackknife				
	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	-0.0010655	0.0425116	-0.03	0.98	-0.0854177	0.0832867
_cons	1.999663	0.0835704	23.93	0	1.833842	2.165485

Survey: Logistic regression: Moves between labour markets

Number of strata = 1				Number of obs	=	1063
				Population size	=	150065.86
				Replications	=	100
				Design df	=	99
				F(1, 99)	=	0.97
				Prob > F	=	0.3273
Overall PMS		Jackknife				
	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Ln(Distance)	-0.1013478	0.1029563	-0.98	0.327	-0.3056355	0.1029399
_cons	2.174017	0.5093998	4.27	0	1.163257	3.184777

Source: Statistics New Zealand, 2007

In summary, the previously observed decrease in average overall satisfaction associated with moves of increasing length appears to be a by-product of longer moves being between LLMs and not within them. That is, satisfaction with the overall outcomes of the move does not decrease with distance, but rather reflects the difference in satisfaction outcomes of those moving within LLMs and those moving between LLMs.

Having considered overall post-move satisfaction, I next look at the relationship between LLM change, distance and post-move satisfaction in the five separate domains of post-move satisfaction. The average post-move satisfaction levels of movers moving within and between LLMs, for each post-move satisfaction domain, are outlined in Table 4.11. Average post-move satisfaction with housing shows the

greatest difference, with the average post-move satisfaction 0.34 points lower for moves between LLMs. Average post-move employment satisfaction is 0.23 points higher for those moving between LLMs than for those moving within LLMs. Social life, standard of living and outdoor satisfaction are all lower for those moving between LLMs, however the difference is very slight for outdoor satisfaction.

Table 4.11: Summary statistics, post-move satisfaction outcomes by labour market change and satisfaction domain, New Zealand, 2007.

Labour market change	Overall		Outdoor		Housing		Employment		Social life		Std. Living	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Within labour markets	4.244	(3849)	3.631	(3846)	3.798	(3860)	3.258	(3049)	3.413	(3859)	3.526	(3857)
Between labour markets	4.145	(1063)	3.630	(1053)	3.460	(1060)	3.487	(826)	3.308	(1062)	3.432	(1060)
N		4912		4899		4920		3875		4921		4917

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Given the findings of overall post-move satisfaction, I return to the linear regression equation 4.3, previously used to estimate the association between distance and overall satisfaction, and apply it to each satisfaction domain. As with overall post-move satisfaction, I estimate moves within LLMs separately to those that take place between them.

Table 4.12 provides a summary of the regression results across each domain of satisfaction for moves that take place within LLMs. While the natural log of distance was found to have a statistically insignificant association with overall post-move satisfaction, once moves are separated by LLM change, it only remains statistically significant for outdoor environment ($P < 0.01$) and employment satisfaction ($p < 0.05$). The positive coefficient of both domains indicates that, provided the move occurs within a LLM, moving further is associated with higher satisfaction with the outdoor environment and employment. Each of the remaining domains has a statistically insignificant relationship with distance.

Table 4.12: Estimates from linear regression, impact of distance on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	0.0062	0.0505**	-0.0263	0.0358*	0.0091	0.0164
_cons	4.2412***	3.6151***	3.8352***	3.2300***	3.4104***	3.5275***
N	3849	3846	3860	3049	3859	3857
r2	0.00012	0.00485	0.00123	0.0053	0.00024	0.0007
F	0.2552	7.315	2.202	4.889	0.3999	1.391

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Table 4.13 shows that the association between the natural log of distance and the probability of a positive move outcome shares an almost identical pattern as the average level of satisfaction. The probability of a positive change in outdoor environment and employment satisfaction both increase as the length of a move increases with a similar magnitude. With a more negative coefficient than outdoor environment satisfaction, at -1.4 compared with -0.06, for a move of a given length, the probability of a positive employment satisfaction outcome is less.

Table 4.13: Estimates from logistic regression, impact of distance on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	-0.0011	0.1658***	-0.0839	0.1747***	0.0583	0.0465
_cons	1.9997***	-0.0601	0.6719***	-1.3906***	-0.6195***	-0.2091***
N	3849	3846	3860	3049	3859	3857
F	0.00063	20.72	4.41	11.72	2.382	1.979

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The increase in outdoor environment satisfaction as distance increases is intuitive. In order to move to an area with a better outdoor environment, movers have to leave their existing neighbourhood. Doing so involves a longer move than simply moving within the same neighbourhood or suburb. Remaining within the same neighbourhood, it would follow, would leave the mover exposed to more or less the same outdoor environment as at the previous address. The positive association between distance and employment satisfaction may reflect a similar process; in order to realise better employment opportunities from a move, movers may be moving to neighbourhoods with better access to better employment.

Alternatively, higher satisfaction with increasing distance in both these domains may reflect a greater priority placed on improvement in these domains by those moving further within the same LLM. Improved employment and outdoor satisfaction may be a low priority for those moving shorter distances. The improvement in average outdoor environment and employment satisfaction that occurs with distance does not translate directly into better overall satisfaction.

When considering moves between LLMs, there is little observable significance between distance and post-move satisfaction. Table 4.14 shows that each satisfaction domain has a negative coefficient, indicating that the change in satisfaction does decrease – at a decreasing rate – as distance increases. However, standard of living satisfaction is the only domain in which the relationship is statistically significant.

Table 4.14 Estimates from linear regression, impact of distance on post-move satisfaction, moves between local labour markets, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	-0.0257	-0.0175	-0.0148	-0.0157	-0.0256	-0.0886*
_cons	4.2445***	3.6476***	3.5288***	3.5898***	3.4211***	3.9106***
N	1063	1053	1060	826	1062	1060
r2	0.00163	0.00044	0.00033	0.00045	0.00107	0.01618
F	0.7549	0.1988	0.09263	0.1713	0.5108	6.409

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The relative insignificance of distance amongst moves between LLMs is also apparent in terms of the probability of a positive outcome satisfaction. Table 4.15 shows that the natural log of distance has no statistically significant relationship with the probability of a positive move outcome.

Table 4.15: Estimates from logistic regression, impact of distance on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

	Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Ln(Distance)	-0.1013	-0.0217	-0.0038	0.0176	-0.0466	-0.1321
_cons	2.1740***	0.2197	-0.0267	-0.2347	-0.2797	0.4134
N	1063	1053	1060	826	1062	1060
F	0.969	0.06652	0.00216	0.03009	0.2917	2.628

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Given these results, it would appear that when moving between LLMs, any effects associated with decreasing information and increasing psychic costs as the distance of a move increases are either slight, or obscured by factors not yet accounted for. The decrease in the average level of satisfaction with standard of living indicates that moving to distant LLMs may have an increased financial cost, but I suspect it reflects different types of moves, that have yet to be identified.

4.5 Conclusion

It is clear that, with approximately 75 per cent of all residential relocations within New Zealand less than 60 kilometres in length and 80 per cent of moves taking place within LLMs, residential relocations in New Zealand are likely to be short in nature and take place within the same LLM. With literature suggesting that incomplete information and psychic costs are explanations of this distance decay effect, I started this chapter by assuming that incomplete information and psychic costs have a similar effect on post-move satisfaction outcomes, resulting in lower average satisfaction for movers of greater distance, and lower probabilities of a positive satisfaction response.

I find that when distance is the only independent variable used, there is a statistically significant negative relationship between distance and average satisfaction

with the outcomes of the move. The negative relationship also exists for housing and social life satisfaction, with longer moves experiencing less positive move outcomes. There is a statistically significant positive relationship between distance and post-move employment satisfaction. The probabilities of successful move outcomes in these domains reaffirm these findings.

Such findings would indicate that moving longer distances is associated with a decreasing effect, with greater costs and potentially less accurate decision making. However, distance accounts for only a small amount of the variation in the average level of overall satisfaction reported by the total mover population once LLM change is included in my model. When those moving within and between LLMs are modelled separately, it becomes apparent that distance has little significant association between distance and overall satisfaction with the way things worked out. A statistically significant association remains between distance and the outdoor, employment and social life outcomes of intra-LLM movers. For those moving between LLMs, moves of increasing distance are associated with poorer standard of living satisfaction.

These results, particularly the domain specific results, illustrate to me the need to separate moves that occur within LLMs from those that occur between them. The initial relationship between distance and satisfaction appears to be related to the differences between the two types of moves. I see little evidence to support my initial assumption that diminishing information and increasing psychic costs have a negative effect on the satisfaction outcomes of movers, although standard of living decreases when moving to more distant LLMs. By separating moves within LLMs from moves between LLMs it becomes apparent that some intricacies exist, such as improved outdoor and employment satisfaction associated with moving further within the same LLM. Moves within LLMs appear to have quite different mechanisms to moves between them.

In order to better understand these mechanisms, I need to further tease out the differences between the two and identify the additional factors that are associated with different levels of observed post-move satisfaction. My next step will investigate another fundamental component – how post-move satisfaction changes over time following the move. By retaining my existing framework of considering moves within and between LLMs separately, I am in a position to consider how the satisfaction of

individuals moving both within LLMs and between LLMs changes over time. It is from this foundation that I continue to expand my post-move satisfaction model.

Chapter 5. Changes in satisfaction following a move: the role of time

5.1 Introduction

The recent attention given to studying post-move satisfaction using longitudinal surveys by Kettlewell (2010) and Nowok et al. (2011), for example, has directed attention to the changes in satisfaction that movers experience both before and after their move. There is still much to be learned however. One area in particular that is unstudied is how the satisfaction with the outcomes of the move changes with time since the move.

In this chapter, I show how post-move satisfaction varies with the length of time a mover resides in their new residence. I came into the analysis with an expectation that the satisfaction outcomes reported by movers would change with duration in the new residence. Specifically, that post-move satisfaction would initially increase, before declining.

The reasoning behind this is four fold. First, psychologists have found that following a major event, or an external shock, satisfaction gradually returns to previous levels of satisfaction as individuals adapt to their new environment (Cummins and Nistico, 2002, Headey and Wearing, 1992), also referred to as hedonic adaption (Diener et al., 2006). Second, failed moves, that is, ones in which expectations are not met, are more likely to be followed by a 'correction' move. Correction moves include those unsuccessful moves which either return to their previous location or move onward to a new location (DaVanzo, 1983, Goldstein, 1964, Grant and Vanderkamp, 1984, Grant and Vanderkamp, 1986, Herzog and Schlottmann, 1982, Herzog and Schlottmann, 1983, Yezer and Thurston, 1976). For international return migration see Gmelch (1980).

Third, the well documented accumulation of residential stress as a determinant for residential relocation may influence post-move satisfaction outcomes for some time following the move (Huff and Clark, 1978). Finally, the process of assimilation at the destination may influence the post-move satisfaction as documented for both internal migrants (Borjas et al., 1992) and immigrants (Borjas, 1985, Chiswick, 1978).

The tendency for individuals to gradually return to previous levels of satisfaction following a move is based on research that finds an individual's satisfaction is, in the long term, in a state of homeostasis, also known as their set point. Headey and Wearing (1992) noted, for example, "that people who experienced a major life event that disrupted their levels of life satisfaction had a strong tendency to return to their previous levels over time" (Cummins, 2002: p. 37). As Headey and Wearing explained it, if each individual has an enduring long run level of subjective wellbeing, then we can assume that as the length of time following a move increases, their satisfaction will return to that level of satisfaction.

In anticipating how a homeostasis effect might influence overall post-move satisfaction, it is expected that in the time following the move variation in post-move satisfaction outcomes will reduce and settle around an average level of post-move satisfaction. If moves occur when the expected benefits outweigh the costs, then for a while at least, post-move satisfaction will be higher than the long term homeostasis level, only to return to the lower homeostatic level.

An alternative conclusion was made by Nowok et al. (2011). In testing set-point theory, where individuals make short-term deviations from an otherwise constant homeostatic level of satisfaction, they found that moving did not lead to an increase in life satisfaction above the long term set point. Rather, moving enabled unsatisfied individuals to return to *their* set-point level of satisfaction. They concluded that moving itself "may be a critical means for restoring an individual's level of social well-being, especially following previous stressful events" (Nowok et al., 2011: p.13). Nowok found that while movers returned to their set point level of satisfaction in the year following their move, these gains appeared to be temporary, because their satisfaction declined again over the first year.

As my own conceptualisation suggested in chapter 2, satisfaction is the difference between an individual's expectations, aspirations and their current situation (realisations) (Michalos, 1980). Individuals who have experienced a disappointing level of satisfaction following a move, as a result of miscalculating the expected costs and benefits of a move, for example, will adapt by adjusting their aspirations, their situation, or both (Deane, 1990).

'Correction' moves – subsequent moves that correct for an unsatisfactory move – can be considered as a response to an unsatisfactory level of satisfaction following a move (DaVanzo, 1981, DaVanzo, 1983). One consequence, as (Yezer and Thurston, 1976) observed, was that the "departure of unsuccessful migrants from a destination leaves a residual of successful lifetime migrants" (Yezer and Thurston, 1976: p. 702). In other words, movers who are unsuccessful are more likely to move again in order to 'correct' their unsatisfactory move, leaving in place an increased proportion of satisfied movers.

Grant and Vanderkamp (1986) considered outcomes that were unanticipated when the decision to move was made. Their work led to the *disappointment hypothesis*. According to this account, movers' initial expectations were overestimated, leading to a move taking place that failed to live up to the anticipated benefits. Grant and Vandercamp used income returns to the move and found that failure to realise expected incomes had a statistically significant but small effect on the subsequent migration behaviour of movers.

In a cross-sectional survey such as the DMM survey used in this study, the subsequent relocation of movers who are unsatisfied with the outcomes of their move is likely to result in the average post-move satisfaction of recent movers increasing over time, as only satisfied movers remain. For these reasons, considering individual moves in isolation from earlier or subsequent moves has been criticised for being 'artificial', because most people move more than once in their life (Nowok et al., 2011).

At the same time, not all movers who move again after a short period of residence are dissatisfied movers. As Grant and Vanderkamp (1986) point out, some individuals may *plan* to only stay a short period of time at their new residence before moving again. Other movers may move again as they accumulate additional information on new opportunities as a result of their intervening move.

If correction moves are the manifestation of dissatisfaction immediately following a move, then accumulative residential stress may be its longer term equivalent. While a destination may fulfil all the expectations and needs of a mover at the time of moving, over time changes in the residential needs of a mover and their household can lead again to an accumulation in residential dissatisfaction (Huff and Clark, 1978). At the same time, move inertia, which are factors such as social bonds

that increase the cost of moving, may also accumulate as the length of time following a move increases (Huff and Clark, 1978). This cumulative inertia may result in a decrease in satisfaction over time, as the satisfaction of movers' outcomes decrease, but not to the point where the benefits of a new move outweighs the increasingly higher costs attributable to the increased inertia. The fear of losing what they have may outweigh any prospective gains from moving.

Life course literature finds that significant life events, such as marriage, trigger residential relocations (Rossi, 1955). These life events are thought to result in sharp increases in residential dissatisfaction, leading to residential adjustment (Clark and Onaka, 1983, Hanushek and Quigley, 1978). Unexpected life events following the move may also influence a mover's satisfaction with how their move turned out. However, if movers are able to quickly adjust their circumstances in response to a change in circumstances, then this effect may be minimised.

5.2 Measuring duration of residence since move

Given the range of factors that could theoretically influence post-move satisfaction, I am very careful in formulating the design of my analysis and the hypothesis that I will test. I start by considering only the satisfaction that movers have with the outcomes of their move. My first expectation is that, following a move, the satisfaction that movers have with the outcomes of their move will decline with time as residential stress accrues out of the new dwelling.

Since some of those who experience unsatisfactory moves will adjust their situation by relocating again, in a cross-sectional survey the remaining, more satisfied movers will raise the observed average post-move satisfaction of the group. In addition, some initially dissatisfied movers may adjust or adapt to the new residence, in which case my second expectation will be the opposite of the first: post-move satisfaction will increase as the length of time following a move increases. The change in satisfaction over time is therefore largely dependent on how quickly movers realise the maximum benefits of moving, how quickly dissatisfied movers undertake correction moves and how quickly homeostasis and residential stress accrue following a move.

The DMM survey is cross-sectional, therefore it is important to note that changes in satisfaction over time are registering the average of the groups rather than the individual. Time since move is a representation of a cross-section of movers across

a number of time periods. As a result, the outcomes are highly likely to reflect compositional changes in the characteristics of movers in each group. For example, because unsatisfied movers can make adjustment moves when their move fails to meet their expectations, the residual of successful migrants as noted by Yezer and Thurston (1976) may reflect an increase in satisfaction over time when the satisfaction of the individuals who remained at their new address actually remained static.

Respondents are considered movers if they moved in the past two years. This means that the maximum length of time observed after the move is two years. The primary sources of data for measuring how post-move satisfaction changes within the two year period following a move are two 'time since move' variables. The first is the length at current address, spread across five time bins. This variable is generated from the response to Question B2:

"How long have you lived at your [current / usual] address?"

To prevent recall error, the mover was given assistance in determining when their move took place if they were initially unsure about when they last moved. I refer to this variable as the "*time since move*".

Table 5.1 shows the distribution of movers by the time that has elapsed since they moved. For this variable, the intervals provided by Statistics New Zealand are relatively limited. The first year since the move is divided into quarters, while the one to two year period since the move is restricted to a single one year category. However, while considerable detail is lost, it does reduce the difficulty in accurately recording the length of time that has elapsed for those whose move took place earlier.

Table 5.1: Summary statistics, overall post-move satisfaction by time since move variable, and local labour market change, New Zealand, 2007

Length at current address	Overall post-move satisfaction											
	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
0<3 Months	4.15	0.754	778	0.2	4.16	0.743	259	0.25	4.16	0.751	1037	0.21
3<6 Months	4.24	0.811	586	0.15	4.04	0.907	162	0.15	4.2	0.837	748	0.15
6<9 Months	4.34	0.731	626	0.16	4.11	0.832	144	0.14	4.3	0.756	770	0.16
9<12 Months	4.25	0.791	512	0.13	4.21	0.781	133	0.13	4.24	0.789	645	0.13
1<2 Years	4.25	0.807	1328	0.35	4.17	0.835	354	0.34	4.23	0.814	1682	0.34
Total[18]	4.24	0.784	3830	0.99	4.15	0.818	1052	1.01	4.22	0.793	4882	0.99

Source: Statistics New Zealand, 2007

[18] Values do not add to one due to rounding

From the table it is clear that the distribution of movers is skewed towards more recent moves, with 66 per cent of all movers moving within the 12 months before their interview. At 21%, more respondents had moved in the three months prior to being interviewed, than the other quarterly periods. The distribution is about the same for those moving within and between LLMs, although a higher proportion of moves between LLMs took place towards the end of the period.

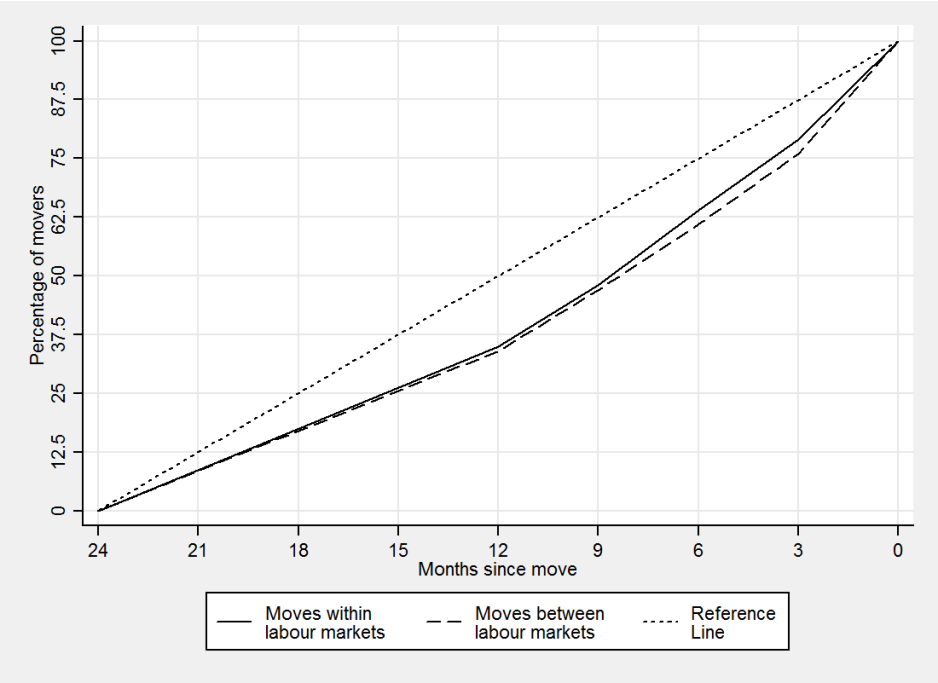
With the greatest number of surveyed individuals moving in the three months prior to the survey, it would seem that unsuccessful movers may have moved relatively soon after a previous move. Seasonal factors, such as the start of the calendar and academic year, may play a factor in the higher mobility rate in the three months prior to interview[19].

In Figure 5.1, I plot the cumulative frequency of moves by how long they have lived at their current address at the time of being interviewed. With the cumulative frequency of both moves within and between LLMs increasing, the positive skew is apparent.

In line with my second expectation, the average post-move satisfaction that the total mover population has with the outcomes of their moves is found to increase from 4.16 to 4.3 over the first nine months since moving, before declining to 4.23 after two years. This indicates that, composition effects aside, overall, post-move satisfaction may initially improve, before decreasing the longer a mover resides at their new address. Therefore, there appears to be a period where there is a lag in the realisation of the full benefits of the moving, or alternatively, a period of adjustment in which movers either adapt to their new surrounds, or adjust by moving again and leaving a residual of satisfied movers. After this period of adjustment, however, residential stress begins to accrue and post-move satisfaction levels of movers begins to decline.

[19] The DMM survey was undertaken in the March 2007 quarter. If the beginning of the year is associated with greater mobility, such as students moving to start university, this will be reflected in the distribution of movers. This time of year may also be the reason for the higher proportion of recent movers moving between labour markets.

Figure 5.1: Cumulative frequency of moves by time since move, moves within and between local labour markets, New Zealand, 2007.



Source: Statistics New Zealand, 2007

The range of average overall post-move satisfaction values is relatively limited, with less than 0.14 points separating the most satisfied group from the least satisfied. While average overall post-move satisfaction suggests the presence of a pattern, the standard deviation fluctuates between 0.75 and 0.84, indicating that the variation in the average level of overall post-move satisfaction does not reduce over time.

The difference in the post-move satisfaction outcomes between moves within and between LLMs is of interest. While the most recent movers report a similar level of average overall post-move satisfaction, regardless of whether they move within or between LLMs, those who moved between LLMs more than three months ago report lower levels of satisfaction than their intra-LLM counterparts. In addition, the satisfaction of movers who move between LLMs peaks three months later in the 9 to 12 month period. Quite why the satisfaction of those moving between LLMs is lowest in the three to nine month period, when it is increasing for those who moved within LLMs, is unclear. So too is the reason why the 'recovery', or increase in satisfaction, lags in comparison with moves within LLMs. I suggest that it might reflect the greater adjustments associated with moving between LLMs.

The survey also recorded the exact number of days that a mover has spent at their current address and I was successful in gaining access to this otherwise unreleased

information. In Question B4, respondents were asked *"What date did you move away from that [previous] address?"* The number of days between the move and the interview is the number of '*days since move*'. While this second variable is a more detailed measure, the two variables are not consistent across all movers. For some movers the 'time since move' is known but the 'number of days' is not and vice versa.

Table 5.2 shows the frequency of responses and their average overall post-move satisfaction, grouped into three month intervals[20]. As with the previous table, the number of movers in each group generally decreases as the length of time since move increases. The final group of movers, those who moved approximately 21-24 months prior to being interviewed, represent just 6.1% of the mover population, compared with 22.9% who moved in the three months prior to being interviewed. The results indicate that the drop in frequency observed in Table 5.1 continues across the groups in the 12-24 month period.

Table 5.2: Summary statistics, overall post-move satisfaction by days since move variable, moves within and between local labour markets, New Zealand, 2007

Length at current address	Overall post-move satisfaction											
	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
0<3 months	4.16	0.751	794	0.22	4.15	0.754	263	0.26	4.16	0.751	1057[21]	0.23
3<6 months	4.26	0.798	545	0.15	4.04	0.905	152	0.15	4.21	0.826	697	0.15
6<9 months	4.34	0.753	578	0.16	4.14	0.827	129	0.13	4.3	0.77	707	0.15
9<12 months	4.29	0.768	473	0.13	4.23	0.766	123	0.12	4.28	0.767	596	0.13
12<15 months	4.19	0.864	432	0.12	4.09	0.879	106	0.11	4.17	0.867	538	0.12
15<18 months	4.3	0.786	334	0.09	4.26	0.736	93	0.09	4.29	0.774	427	0.09
18<21 months	4.23	0.789	249	0.07	4.04	0.991	67	0.07	4.19	0.838	316	0.07
21<24 months	4.32	0.739	215	0.06	4.23	0.819	66	0.07	4.3	0.758	281	0.06
Total	4.25	0.782	3620	1	4.14	0.823	999	1	4.23	0.792	4619	1

Source: Statistics New Zealand, 2007

Figure 5.2 plots the cumulative frequency of those who moved within and between labour markets, by the number of quarters that have passed since the move took place[22]. Here we see again that the distribution of movers is skewed towards the more recently moved. By separating the previous one to two year category into quarters, the skew towards shorter moves observed in Table 5.2 is seen to continue across the entire period.

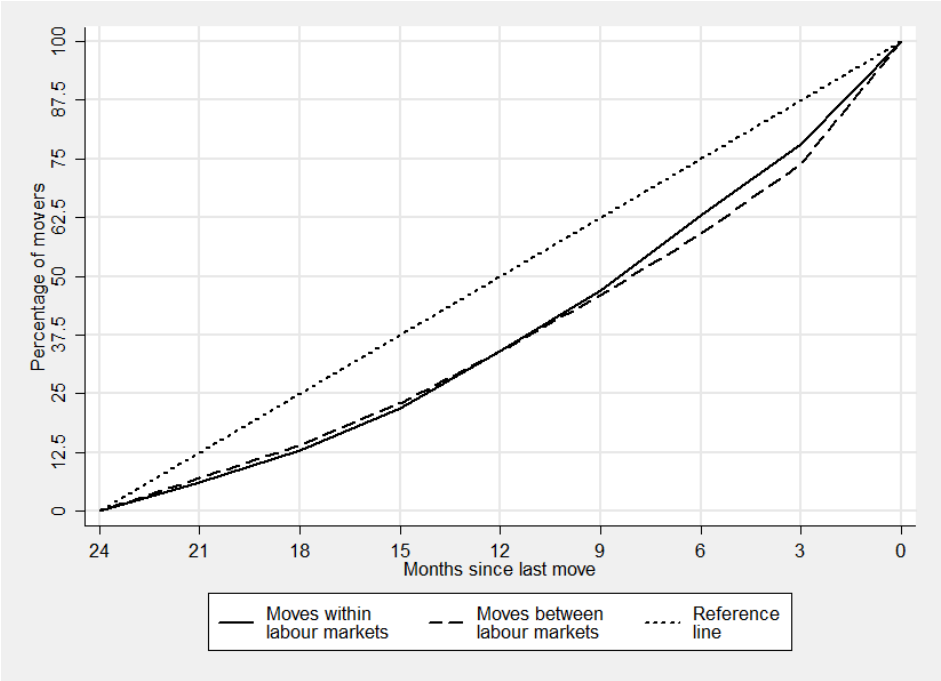
[20] In Table 5.2 I group each 3 month period by 91 days, resulting in small differences in the populations relative to the same period in the time since move variable.

[21] The higher frequency in this category is likely to reflect the variation noted above, resulting from taking 91 day intervals.

[22] In order to meet data confidentiality requirements the same 91 day periods used in Table 5.2 are employed, rather than plotting the results by individual days.

In contrast to Table 5.1, when the one to two year group is expanded into four three month groups, the overall rise and then decline of average overall post-move satisfaction across the two years period becomes less apparent. While the average level of overall post-move satisfaction increases during the first nine months, driven by moves within LLMs, average overall post-move satisfaction varies substantially for the four groups in the one to two year period. The variation is similar for both moves within and between LLMs, although the former group reports a higher level of post-move satisfaction. The standard deviation in each group continues to vary for those who moved between LLMs, but amongst those moving within LLMs it appears to peak in the first quarter of the second year, before declining again.

Figure 5.2: Cumulative frequency of moves by days since move, grouped by quarters, moves within and between local labour markets, New Zealand, 2007



Source: Statistics New Zealand, 2007

As shown by Table 5.2, the number of movers for which Statistics New Zealand has both the number of days since their move and their level of overall post-move satisfaction, is n=4619, 263 respondents fewer than for the 'time since move' variable (n=4882). Some movers appear less able to recall the specific date of their move and those who moved nine to 12 months before being interviewed were the most overrepresented in not knowing the date of when they moved.

In summary, the distribution of moves shows that there is a skew towards recent moves, with the frequency of moves decreasing as the length of time since

moving increases. This result indicates that either a number of individuals move rapidly following a previous move or that there are seasonal effects influencing when individuals move.

The two measures of the length of time since moving, time since move and days since move provide relatively similar post-move satisfaction averages. In both cases, the post-move satisfaction of moves within LLMs appears to rise in the first nine months following a move, before declining. The *days since move* variable indicates that this decline varies over the second year. Moves within and between LLMs experience similar variations in overall post-move satisfaction.

As a result of these summary statistics, I explore both the time since move variable and the days since move variable, in order to test whether the time since move is related to the level of post-move satisfaction.

5.3 Results

The summary data from my 'time since move' and 'days since move' variables appear to provide tentative support for my two expectations regarding the post-move satisfaction changes over time following a move. That is, that satisfaction will increase and then decrease following a move. I start by testing whether post-move satisfaction increases or decreases with the move-interview duration, by adding the days between the move and interview as a variable to my linear regression model from Chapter 4. Because of the observed differences in post-move satisfaction outcomes of those moving within and between LLMs, I continue to regress the two populations separately. As a result, the formula becomes:

(5.1) $y_i = \alpha + \beta \ln(x)_i + \beta dsm_i + \varepsilon_i$

where y_i is the estimated overall post-move satisfaction of the ith mover, ln(x) is the distance moved in the natural log of distance in kilometres, dsm is the number of days between the move and the interview and ε is the unexplained error.

The results of this OLS regression for moves within and between LLMs are displayed in Tables 5.3 and 5.4. For both moves within and between LLMs, post-average overall move satisfaction increases with the length of time that a mover has spent at their new address, however neither is statistically significant at $p < 0.05$. At 0.00020 for moves within LLMs and 0.00015 for moves between LLMs the coefficients

are small. Across the two year range, the difference in satisfaction associated with this variable is 0.14 points on the y scale for moves within LLMs and 0.11 for moves between them. The natural log of distance continues to be insignificant.

Table 5.3: Estimates from linear regression, impact of days since last move on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression			Number of obs		=	3620
Number of strata = 1			Population size		=	538283.11
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	2.21
			Prob > F		=	0.1155
			R-squared		=	0.0027
Overall PMS		Jackknife				
	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
(ln)Distance	0.0058001	0.0126719	0.46	0.648	-0.0193438	0.0309439
Days since move	0.0001953	0.0000989	1.97	0.051	-0.0000009	0.0003915
_cons	4.192567	0.0310199	135.16	0.000	4.131017	4.254118

Source: Statistics New Zealand, 2007

Table 5.4: Estimates from linear regression, impact of days since last move on overall post-move satisfaction, moves between local labour markets, DMM Survey, New Zealand, 2007

Survey: Linear regression			Number of obs		=	1000
Number of strata = 1			Population size		=	138844.22
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	0.39
			Prob > F		=	0.676
			R-squared		=	0.0029
Overall PMS		Jackknife				
	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
(ln)Distance	-0.0225891	0.0305909	-0.74	0.462	-0.083288	0.0381099
Days since move	0.0001509	0.0002001	0.75	0.453	-0.0002462	0.000548
_cons	4.186562	0.1328028	31.52	0.000	3.923053	4.450072

Source: Statistics New Zealand, 2007

The summary statistics of length of time at current address variable suggests that average overall satisfaction is more likely to be non-linear, peaking and then declining with time between the move and interview. However, when grouped by three month intervals, the days since move variable indicates that average overall post-move satisfaction increases, before fluctuating after nine months. Therefore I next test the extent to which adding the square of days since move increases the statistical accuracy of the previous model. In order to reduce the collinearity between the two terms, and therefore lower standard errors, I centre the number of days between move and interview (by subtracting the average number of days from each response and then squaring this centred measure). The linear regression equation therefore becomes:

$$(5.2)\ \mathrm{y} = \alpha + \beta \ln(x)_i + \beta Cdsm_i + \beta Cdsm_i^2 + \varepsilon$$

where y_i is the estimated overall post-move satisfaction for the ith mover, ln(x) is the natural log of the distance moved in kilometres, Cdsm is days since move centred by the average response, $Cdsm^2$ is the centred number of days squared and ε is the unexplained error.

The results for this linear regression are presented in Table 5.5 and 5.6. For moves within LLMs, the number of days since move and its square are positive and negative respectively and statistically significant. The coefficients indicate that post-move satisfaction rises as the time between the move and interview increases, but at a decreasing rate. The r-squared value increases from 0.0026 to 0.006. For moves between LLMs, the addition of the number of days since the move squared makes little impression.

Table 5.5: Linear regression, impact of days since last move^2 on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression			Number of obs		=	3620
Number of strata = 1			Population size		=	538283.11
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	3.86
			Prob > F		=	0.0117
			R-squared		=	0.0062
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
(ln)Distance	0.006402	0.0126460	0.51	0.614	-0.0186899	0.0314950
Days since move	0.000293	0.0001076	2.72	0.008	0.0000794	0.0005065
Days since move^2	-0.000001	0.0000004	-2.96	0.004	-0.0000020	-0.0000003
_cons	4.293261	0.0251026	171.03	0.000	4.243452	4.34307

Source: Statistics New Zealand, 2007

Table 5.6: Linear regression, impact of days since last move^2 on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Linear regression			Number of obs		=	1000
Number of strata = 1			Population size		=	138844.22
			Replications		=	100
			Design df		=	99
			F(1, 99)		=	0.33
			Prob > F		=	0.8002
			R-squared		=	0.0035
Overall PMS	Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
(ln)Distance	-0.020874	0.0306142	-0.68	0.497	-0.0816192	0.0398712
Days since move	0.000192	0.0002247	0.85	0.395	-0.0002539	0.0006379
Days since move^2	-0.000000	0.0000008	-0.61	0.544	-0.0000022	0.0000012
_cons	4.242964	0.1454958	29.16	0.000	3.954269	4.5316600

Source: Statistics New Zealand, 2007

With the average level of overall post-move satisfaction fluctuating in the second year, it is possible that grouping movers into categories by the number of quarters they have lived at their new address may better account for this variation. This

approach may also better account for unobservable factors[23] such as annual lease contracts, which may tie individuals to a particular residence or encourage a subsequent adjustment.

The model takes the following form:

$$(5.3)\ \ y_i = \alpha + \beta \ln(x)_i + \beta dsm_2 + \ldots + \beta dsm_8 + \varepsilon$$

where y_i is the estimated overall post-move satisfaction of the ith mover, ln(x) is the natural log of the distance moved in kilometres, $\beta dsm_{2\text{-}8}$ are dummy variables covering the number of quarters since the move took place and ε is the unexplained error.

The results for this linear regression are presented in Table 5.7 and 5.8. For those moves within LLMs, when the number of days since move is grouped by three month intervals, the fit improves. All but the 9 to 12 month since move group return a statistically significant (p <0.05) higher level of average overall post-move satisfaction than the zero to three month reference category. Over the first 15 months post-move, satisfaction clearly rises and then falls. However in the final nine months of the two year period, satisfaction recovers, fluctuating around 0.15-0.17 points higher than the most recent movers.

Table 5.7: Linear regression, impact of days since move by quarter on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	3620
Number of strata = 1				Population size		=	538283.11
				Replications		=	100
				Design df		=	99
				F(8, 92)		=	2.68
				Prob > F		=	0.0108
				R-squared		=	0.01
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.0086729	0.0125789	0.69	0.492	-0.0162864	0.0336323
Days since move	0<3 months	(ref)					
	3<6 months	0.1441672	0.0598916	2.41	0.018	0.0253291	0.2630052
	6<9 months	0.2168739	0.0510484	4.25	0.000	0.1155828	0.3181650
	9<12 months	0.1934896	0.0614519	3.15	0.002	0.0715557	0.3154235
	12<15 months	0.1053673	0.0639010	1.65	0.102	-0.0214260	0.2321607
	15<18 months	0.1794183	0.0765378	2.34	0.021	0.0275507	0.3312858
	18<21 months	0.1537251	0.0674461	2.28	0.025	0.0198975	0.2875528
	21<24 months	0.1776371	0.0873715	2.03	0.045	0.0042731	0.3510011
	_cons	4.1114870	0.0382816	107.4	0.000	4.0355280	4.1874460

Source: Statistics New Zealand, 2007

For those moving between LLMs, none of the days since move dummies are significant at p <0.05. While the r-squared value of the model is higher than in previous tests, and relative to model for moves within LLMs, the model remains a poor

[23] Unobservable to the survey due to the survey's design.

estimation of the level of satisfaction that movers have with the way things worked out following their move. The satisfaction of those moving between LLMs oscillates substantially over the two year period. Satisfaction initially falls, before recovering after 12 months and then continues to oscillate.

Table 5.8: Linear regression, impact of days since move by quarter on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	999
Number of strata = 1				Population size		=	138642.2
				Replications		=	100
				Design df		=	99
				F(8, 92)		=	0.95
				Prob > F		=	0.4807
				R-squared		=	0.0118
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0236282	0.0317116	-0.75	0.458	-0.0865508	0.0392944
Days since	0<3 months	(ref)					
move	3<6 months	-0.0805437	0.1072045	-0.75	0.454	-0.2932607	0.1321734
	6<9 months	0.0277451	0.1175905	0.24	0.814	-0.2055800	0.2610701
	9<12 months	0.1931228	0.1136105	1.70	0.092	-0.0323051	0.4185507
	12<15 months	0.0084909	0.1442637	0.06	0.953	-0.2777596	0.2947414
	15<18 months	0.1153150	0.1273189	0.91	0.367	-0.1373133	0.3679432
	18<21 months	-0.0484999	0.1643847	-0.30	0.769	-0.3746748	0.2776750
	21<24 months	0.1087847	0.1836178	0.59	0.555	-0.2555529	0.4731223
	_cons	4.2056660	0.1624858	25.88	0.000	3.8832590	4.5280730

Source: Statistics New Zealand, 2007

In order to keep the sample size as large as possible, and given the fluctuating satisfaction outcomes of the one to two year groups, I next test whether my time since move variable is comparable to days since move. The model using the length at current address variable takes the form

$$(5.4)\ y_i = \alpha + \beta \ln(x)_i + \beta tsm_2 + \ldots + \beta tsm_5 + \varepsilon$$

where y_i is the estimated overall post-move satisfaction of the ith mover, ln(x) is the natural log of the distance moved in kilometres, $\beta tsm_{2\text{-}5}$ are dummy variables covering the time since the move took place and ε is the unexplained error.

The results of the linear regression are shown in Table 5.9 and Table 5.10. This model predicts the satisfaction outcomes less accurately for both those moving within and those moving between LLMs, but the smaller number of variables and larger sample size ensures that the F-test is improved. For those moving within LLMs, the average level of post-move satisfaction increases in the nine months following the move to peak 0.23 points higher than those who moved most recently. Over the final 15 months of the two year period, satisfaction stabilises slightly below the peak, approximately 0.15 points higher than the reference group.

Table 5.9: Linear regression, impact of time since move on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	3830
Number of strata = 1				Population size		=	574011.6
				Replications		=	100
				Design df		=	99
				F(8, 92)		=	3.85
				Prob > F		=	0.0032
				R-squared		=	0.0087
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.0075507	0.0122145	0.62	0.538	-0.0166856	0.0317870
Time since	0<3 months	(ref)					
move	3<6 months	0.1557406	0.0564229	2.76	0.007	0.0437853	0.2676959
	6<9 months	0.2251343	0.0511379	4.40	0.000	0.1236656	0.3266031
	9<12 months	0.1467589	0.0612598	2.40	0.018	0.0252063	0.2683116
	1<2 years	0.1553159	0.0530110	2.93	0.004	0.0501305	0.2605012
	_cons	4.1038640	0.0381159	107.67	0.000	4.0282340	4.1794940

Source: Statistics New Zealand, 2007

For those moving between LLMs time since move, the length of time since the move occurred continues to have a weak association with the level of satisfaction that movers have with the outcomes of their move. The five per cent increase in the number of observations, combined with the slight variation in observations in each category, does not greatly alter the overall pattern, although relative to other movers, the most recent movers are slightly better off than previously observed.

Table 5.10: Linear regression, impact of time since move on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

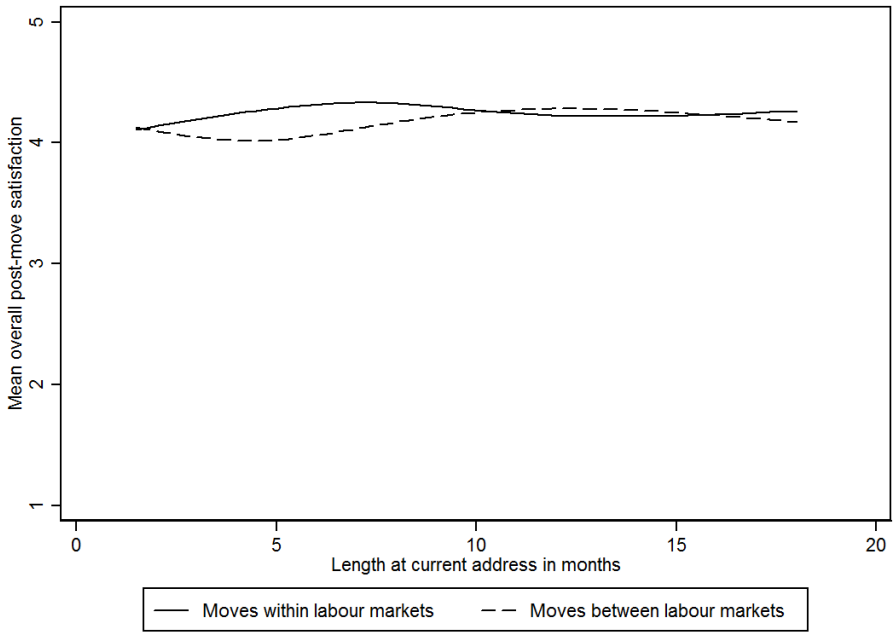
Survey: Linear regression				Number of obs		=	1052
Number of strata = 1				Population size		=	148800.19
				Replications		=	100
				Design df		=	99
				F(5, 95)		=	1
				Prob > F		=	0.4242
				R-squared		=	0.0089
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0203209	0.0290491	-0.70	0.486	-0.0779607	0.0373189
Time since	0<3 months	(ref)					
move	3<6 months	-0.1126562	0.1163834	-0.97	0.335	-0.3435861	0.1182737
	6<9 months	0.0196550	0.1164635	0.17	0.866	-0.2114339	0.2507439
	9<12 months	0.1346477	0.1112831	1.21	0.229	-0.0861620	0.3554575
	1<2 years	0.0461342	0.1141843	0.40	0.687	-0.1804322	0.2727005
	_cons	4.2037270	0.1523937	27.58	0.000	3.9013450	4.5061090

Source: Statistics New Zealand, 2007

The use of time since move as a measure of satisfaction reiterates the poor model of the post-move satisfaction outcomes of those moving between LLMs. It appears that when moving between LLMs, post-move satisfaction does not systematically change over the two year period following a move. For moves within LLMs, the satisfaction of movers conforms to my expectation that post-move satisfaction increases and then declines, however the decline is relatively small.

In Figure 5.3, I plot the predicted satisfaction by the length of time since the move. Using the midpoint values of each move period, the initial rise and then flat tail of those moving within LLMs is evident. The insignificant and oscillating satisfaction of those moving between LLMs can also be seen.

Figure 5.3: Estimated overall post-move satisfaction by length at current address, New Zealand, 2007



Source: Statistics New Zealand, 2007

The pattern of post-move satisfaction observed is consistent with what I expected, with post-move satisfaction rising and then declining. Although the estimation for moves between LLMs is not statistically significant, I note the lag before post-move satisfaction rises and then peaks.

Probability of a successful move

With average overall post-move satisfaction of those moving within LLMs rising and then stabilising in the two years following a move, I next consider how the probability of a positive level of overall post-move satisfaction changes over time. I do so by specifying the most recent model as a logit model (equation 5.4). The length of time since the move is measured using the five 'time since move' categories:

$$(5.5)\ ln\left(\frac{p}{1-p}\right)_i = \alpha + \beta \ln(x_i) + \beta \text{tsm}_2 + \ldots + \beta \text{tsm}_5 + \varepsilon_i,$$

where, p is the probability of a positive satisfaction outcome, ln(x) is the natural log of the distance moved in kilometres, $\beta tsm_{2\text{-}5}$ are dummy variables covering the time since the move took place and ε is the unexplained error.

The results from this logistic regression are shown in Tables 5.11 and 5.12. Interestingly, the logit of a successful move is not associated with the length of time between the move and the interview, regardless of whether people are moving within or between LLMs. That is, the change in the probability of a positive level of post-move satisfaction in the two years following the move, while generally negative, is not statistically different from zero.

Table 5.11: Logistic regression, impact of time since move on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Logistic regression					Number of obs	=	3830
Number of strata = 1					Population size	=	574011.6
					Replications	=	100
					Design df	=	99
					F(5, 95)	=	0.71
					Prob > F	=	0.6185
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0025661	0.0426924	-0.06	0.952	-0.0872770	0.0821449
Time since move	0<3 months	(ref)					
	3<6 months	-0.3263403	0.2315719	-1.41	0.162	-0.7858292	0.1331487
	6<9 months	-0.4952359	0.2729661	-1.81	0.073	-1.0368600	0.0463881
	9<12 months	-0.2441537	0.2688833	-0.91	0.366	-0.7776765	0.2893691
	1<2 years	-0.3179191	0.2245754	-1.42	0.160	-0.7635255	0.1276873
	_cons	-1.7230680	0.1815592	-9.49	0.000	-2.0833210	-1.3628160

Source: Statistics New Zealand, 2007

Table 5.12: Logistic regression, impact of time since move on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Logistic regression					Number of obs	=	1052
Number of strata = 1					Population size	=	148800.19
					Replications	=	100
					Design df	=	99
					F(5, 95)	=	0.84
					Prob > F	=	0.5226
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0866223	0.1056598	-0.82	0.414	-0.2962743	0.1230297
Time since move	0<3 months	(ref)					
	3<6 months	-0.2191356	0.3848257	-0.57	0.570	-0.9827132	0.5444421
	6<9 months	-0.0506905	0.3842844	-0.13	0.895	-0.8131941	0.7118132
	9<12 months	0.4139458	0.4080647	1.01	0.313	-0.3957430	1.2236350
	1<2 years	0.0992893	0.3627550	0.27	0.785	-0.6204953	0.8190738
	_cons	2.0756540	0.5561219	3.73	0.000	0.9721878	3.1791210

Source: Statistics New Zealand, 2007

In summary, the change in post-move satisfaction in the two year period following a move indicates that there are differences between those moving within and between LLMs. While average overall post-move satisfaction increases significantly for those moving within a LLM over the first nine months following a move and then stabilises 0.07 points below the peak level of satisfaction, there is no statistically

significant change in average satisfaction over time observed for those moving between LLMs.

With satisfaction rising over the first year there is evidence to suggest that reported post-move satisfaction increases as movers adjust to the outcomes of their move, or to their new location. With satisfaction then settling slightly below this peak, and remaining positive over the final 15 months, there is evidence to suggest that any accrual of residential stress does not translate into lower post-move satisfaction, or that those that do experience stress move again.

Domains of Satisfaction

In order to test the association between the time since move and post-move satisfaction, in each satisfaction domain, I first repeat the linear regression and then logit regression models for each domain of post-move satisfaction. I start by using the linear regression model 5.3 and then the logistic regression model 5.4.

The results of model 5.3, for each domain of post-move satisfaction, are produced as an estimates table, Table 5.13. Of the domains, the time since move only has a statistically significant association with housing and outdoor satisfaction, both of which experience a similar increase and then decline in average satisfaction, as found for overall post-move satisfaction.

Table 5.13: Estimates from linear regression, impact of time since move on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0076	0.0531**	-0.0252	0.0360*	0.0119	0.0179
Time since move	0<3 months	(ref)					
	3<6 months	0.1557**	0.1908*	0.2331**	0.0833	-0.0061	0.0236
	6<9 months	0.2251***	0.1872*	0.3031***	0.0221	0.027	0.1017
	9<12 months	0.1468*	0.126	0.1554	0.087	-0.0372	-0.0546
	1<2 years	0.1553**	0.0726	0.1461*	0.0619	-0.0793	-0.0141
	_cons	4.1039***	3.5106***	3.6767***	3.1785***	3.4357***	3.5199***
	N	3830	3828	3841	3032	3840	3838
	r2	0.00867	0.01004	0.01057	0.00767	0.00309	0.00398
	F	3.849	3.422	3.812	1.58	1.632	1.848

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Post-move satisfaction with housing follows an almost identical pattern to overall post-move satisfaction, with average post move housing satisfaction increasing sharply in the quarters following a move and the six to nine month group reporting the highest average post-move satisfaction. The difference between the most recent movers and those in the six to nine month group is greater than the difference in overall post-move satisfaction, with a 0.30 point difference as opposed to the 0.23 difference

between the average overall post-move satisfactions of the two groups. That housing satisfaction and overall satisfaction share such similar post-move satisfaction profiles following a move suggests that post-move satisfaction with the dwelling may have a considerable influence in driving changes in overall satisfaction for moves within LLMs.

Satisfaction with the outdoor environment peaks earlier than overall and housing satisfaction, in the three to six month group. The difference between this group and the most recent movers is smaller, at 0.19 points and less statistically significant. Adding the length of time since move to the post-move outdoor satisfaction model does not reduce the statistical significance of distance, suggesting that the increase in average post-move outdoor environment satisfaction with distance is not associated with longer distance movers staying longer or shorter at their new address than those moving shorter distances.

The change in the probability of a successful satisfaction outcome over the two years following a move is shown in Table 5.14. The change in housing satisfaction is highest amongst those who move three to six months after moving with the odds of an increase in satisfaction 1.57 times higher, but steadily declines with the difference between those who moved most recently and those who moved more than nine months ago becoming statistically insignificant.

Table 5.14: Estimates from logistic regression, impact of time since move on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0026	0.1722***	-0.0846*	0.1733***	0.0653	0.0484
Time since	0<3 months	(ref)					
move	3<6 months	0.3263	0.219	0.4486**	0.4066	-0.0643	0.0337
	6<9 months	0.4952	0.2365	0.4159*	0.0905	0.0138	0.2084
	9<12 months	0.2442	0.1664	0.2451	0.3609	-0.1061	-0.1656
	1<2 years	0.3179	0.0301	0.1733	0.4549*	-0.1903	0.0118
	_cons	1.7231***	-0.1672	0.4467***	-1.6942***	-0.5395***	-0.2274
	N	3830	3828	3841	3032	3840	3838
	F	0.7084	5.417	2.937	4.235	1.422	1.763

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The odds of a positive employment satisfaction outcome of those moving within LLMs is lowest in the first three months following a move, but the difference is only statistically significant for those who moved one to two years prior to being interviewed.

Table 5.15 shows the estimates table for each post-move satisfaction domain of those moving between LLMs. Again, satisfaction is generally unaffected by the length of time that a mover has spent at their new address, despite the coefficients often being considerable. The two exceptions are satisfaction with housing and the standard of living, where movers in the one to two year group report statistically higher satisfaction outcomes than the base group (zero to three months). At 0.43 and 0.26 points higher on the y scale respectively, the coefficients are also relatively large. It would appear that those who move to a new LLM and remain in their new house for more than a year experience substantially higher housing satisfaction on average than those who have lived a shorter period in their new residence.

Table 5.15: Estimates from linear regression, impact of time since move on post-move satisfaction, moves between local labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0203	-0.0102	-0.0001	-0.0199	-0.0234	-0.0794*
Time since move	0<3 months	(ref)					
	3<6 months	-0.1127	0.2582	0.1886	-0.0095	-0.0558	0.1245
	6<9 months	0.0197	0.0289	0.2486	0.2373	-0.1127	0.0574
	9<12 months	0.1346	0.1554	0.2782	-0.0735	0.185	0.1942
	1<2 years	0.0461	0.2683	0.4274*	-0.1356	-0.0061	0.2630*
	_cons	4.2037***	3.4592***	3.2141***	3.6240***	3.4123***	3.7253***
	N	1052	1042	1049	820	1051	1049
	r2	0.00895	0.01273	0.02391	0.0176	0.00792	0.03015
	F	0.9965	0.854	1.295	1.129	1.403	1.868

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Table 5.16 shows that the probability of a satisfactory level of post-move satisfaction follows an almost identical trend, although the only domain to experience a statistically significant association with the time since move is housing satisfaction. Movers who remained in their new house one to two years following their move reported a higher level of post-move satisfaction than the reference group.

Table 5.16: Estimates from logistic regression, impact of time since move on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0866	-0.0045	0.019	0.0027	-0.0565	-0.1264
Time since move	0<3 months	(ref)					
	3<6 months	-0.2191	0.4735	0.2603	-0.0778	-0.1403	0.1436
	6<9 months	-0.0507	0.2488	0.5546	0.2153	-0.4376	-0.0402
	9<12 months	0.4139	0.2405	0.4206	-0.2382	-0.073	0.0942
	1<2 years	0.0993	0.4638	0.7646*	-0.4508	-0.2769	0.4469
	_cons	2.0757***	-0.157	-0.564	-0.011	-0.0479	0.2098
	N	1052	1042	1049	820	1051	1049
	F	0.843	0.5924	1.248	0.9167	0.7934	1.653

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Given the literature surrounding the economic assimilation of migrants, I might have expected that the change in 'employment opportunity' satisfaction, that those

moving between LLMs reported, may have increased with the length of time since the move. The coefficients do not seem to indicate such a pattern, with the odds of a positive change in employment opportunities of those who moved one to two years ago 1.56 times lower than the most recent movers.

In summary, overall satisfaction housing satisfaction and outdoor environment appear to share similar post-move satisfaction profiles for moves within LLMs. This relationship suggests that the change in post-move satisfaction with housing and the outdoor environment may play a considerable role in driving the level of overall satisfaction that movers have with the outcomes of their move. Furthermore, it provides support for my hypothesis that the satisfaction that movers have with the outcomes of their move initially increases, before declining. The time frame with which this takes place indicates that movers can undertake moves quite soon following a move.

For moves between LLMs, average housing and standard of living satisfaction is statistically higher for those who have spent more than a year at their new address; however this does not result in a higher average level of overall post-move satisfaction.

5.4 Conclusion

My findings from the DMM survey suggest that even when limited to those who moved in the previous two years, the distribution of movers is skewed towards the most recent of moves. This may either be due to seasonal variations in the mobility of movers, or reflect the transience of some movers. For moves within LLMs, the overall satisfaction that movers have with the outcomes of their move increases following a move, before stabilising slightly below its peak. The association between satisfaction with the outcomes of the move and the length of time that has elapsed is not statistically significant for those moving between LLMs, but does suggest that there is a greater lag before satisfaction rises.

These results suggest that even when limited to moves that occurred with the previous two years, it does appear to matter in some cases when an individual is asked how satisfied they are following a move. For moves within LLMs, the significance of the length of time at a new residence is limited to overall, outdoor and housing satisfaction domains. For those moving between LLMs, the significance is limited to housing and standard of living satisfaction and then only the difference between those

who have spent between one and two years at their new residence and the most recent of movers.

There remains a question as to how much of the change in post-move satisfaction in each time since move group is actually due to the characteristics of the movers themselves, manifesting itself as a changes in satisfaction over time following a move. Given the literature surrounding the role of the life course and life events in influencing the residential satisfaction of movers I therefore turn my attention to the influence of age and move history on the post-move satisfaction outcomes of movers. Is the reason for the initial increase in satisfaction due to younger movers being more mobile and less satisfied?

Chapter 6. Age and move history

Migration research has found that there is an age effect on both the propensity to move and the post-move satisfaction outcomes of the move. While the propensity of individuals to move decreases with age, post-move satisfaction has been found to rise, only declining in retirement (Lu, 2002, Lundholm and Malmberg, 2006, Ritchey, 1976). As a result, younger movers are more likely to report lower levels of satisfaction following a move, despite being more likely to move.

In the previous chapter, I found that in some cases the overall satisfaction that movers had with the outcomes of their move varied by the length of time that had passed since the move took place. Less satisfied young movers, who move more frequently, may play a role shaping the association between recent movers and lower satisfaction with move outcome. In this chapter I consider the way that age is related to the post-move satisfaction outcomes in the New Zealand sample. I also consider the extent to which an individual's move history influences the post-move satisfaction of a move. Understanding how individuals have moved in the recent past may provide an indication as to whether it is the tendency of young movers to move more frequently that leads to their lower post-move satisfaction. The effect of move history, combined with age, may also account for some of the way post-move satisfaction varies over time following a move.

6.1 Age

A number of competing theories contribute to our understanding of why post-move satisfaction might change with age. Human capital theory, housing career and life course theory, each provide justification for an increase in post-move satisfaction with age. The basic concept is that as people age there are changes in the costs and returns of residential mobility and the rate at which they accrue. By measuring satisfaction with the overall outcomes of the move, the differential ability of movers of different ages to accurately evaluate the costs and benefits associated with a move is also likely to play a role.

When considering the lower satisfaction levels of young movers, I start by considering the human capital model. From an economic perspective, the most often cited benefits are higher wages resulting from moves between LLMs (Mincer, 1978,

Welch, 1975), however the concept may be applied more broadly to include concepts such as satisfaction outcomes. Younger workers may be more inclined to undertake moves where the benefits associated with moving only slightly outweigh the costs. This is because younger movers have a longer period of employment remaining over which to recover the move costs and realise the benefits associated with the move.

However, the propensity to move declines with age (Schwartz, 1976, Bell, 1996). By moving more frequently the young should therefore experience, and potentially anticipate, a shorter return period for each move. This raises the possibility that young movers are not undertaking marginal moves per-se, but are at a stage where high residential mobility results in a relatively rapid frequency of moves that each result in incremental improvements. While these moves may result in positive outcomes, the outcomes are nevertheless less positive than subsequent moves as individuals age and undertake fewer moves with greater benefits.

Importantly for my measure of overall satisfaction, DaVanzo (1983) suggests that when deciding to move, younger movers may simply be more likely to incorrectly estimate the outcomes of their moves than older movers. She contends that "younger people are usually less experienced decision-makers, may be less informed about opportunities at alternative locations and may process that information less efficiently" (DaVanzo, 1983, p. 556). The higher propensity of young movers miscalculating the anticipated returns to migration could have a significantly detrimental effect on the level of satisfaction that young movers have with how their move worked out. DaVanzo found that those under the age of 20 were much more likely to return to their previous location, or move to a new location within the first year following a move. She concludes that poorer decision-making amongst the young leads to the decision to move again, in order to rectify their situation. Therefore, the greater post-move satisfaction of older movers may be due to them possessing better information and previous experience in moving.

The 'life cycle', considered by academics such as Rossi (1955), Leslie and Richardson (1961), Graves (1979) and Ritchey (1976) was largely built around the premise that individuals moved through different stages in their life, each of which resulted in different residential needs. Although changed to the 'life course' in order to reflect the heterogeneous paths that individuals take across their lifespan, particular importance is still placed on the progression from one life stage to the next in triggering

residential change (Clark and Onaka, 1983). The circumstances of the young may be more likely to change because they are more likely to form relationships and start families. The result is residences that are no longer suitable and subsequent moves are undertaken, leading to a period relatively rapid residential relocation. As individuals age, they move from this period of rapid residential satisfaction change as their housing needs change to a period of relative stability. Hence the reduced rate of movement at middle age where the relative 'cost' of residential mobility rises (Fischer and Malmberg, 2001).

In my previous chapter I found that average post-move satisfaction fluctuated over the two year period following a move. It is possible that some of this fluctuation is a result of changes in the life course. With housing needs changing so rapidly amongst young movers, some of the lower post-move satisfaction reported by young movers may not be due to miscalculations made during the decision to move or due to moves with only a small anticipated net benefit. Rather, the rate of change in their residential needs between their decision to move and their interview may open up a gap between expectation and realisation and hence be manifest as lower post-move satisfaction.

When considering mobility determinants, McHugh et al. (1990) found that household satisfaction generally increases with age amongst homeowners, while mobility expectations decline - reflecting a housing career effect (Gober, 1992, McHugh et al., 1990, Pickles and Davies, 1985). The accumulation of housing capital across the life course results in cumulative gains in the quality of housing and neighbourhood that movers achieve as they move to successively better accommodation. The mobility rate of movers then declines as they reach the top of their career (Clark et al., 2006, Clark et al., 2003, Kendig, 1984). The housing and neighbourhood career theories support the idea that the period of high youth mobility leads to a rapid number of moves that each result in cumulative satisfaction gains that decreases in frequency over time.

Lu (2002) found that the age effect on post-move satisfaction in the United States differs between intra- and interregional migration; at the intra-urban level, older movers were more likely to report an improvement in their housing and neighbourhood quality following their move. However, older interregional movers reported lower housing quality and were more likely to report no change in the quality of their neighbourhood following their move.

In their work on the post-move satisfaction outcomes of Scandinavian migrants, Lundholm and Malmberg (2006) considered the effect of age on post-move satisfaction to be a result of the life course and housing career. By grouping movers into four age-groups (18-24, 25-44, 45-64, 65+), they found that the effect of age on overall satisfaction outcomes is non-linear, with overall satisfaction increasing with age, before falling among movers 65 and older. The authors conclude that this pattern is "a probable effect of the housing career" (Lundholm and Malmberg, 2006: p. 41).

Lundholm and Malmberg (2006) also found that different age groups experienced different patterns of satisfaction across the different domains. Living environment satisfaction following a move increases sharply from the 18-24 age group to the 25-44 age group, then continues to increase at a slower but more uniform rate as age increases. Satisfaction in services and facilities and social life drop for the 25-44 age group, while livelihood satisfaction is higher for this group. The authors suggest that an interpretation of this "may be that people in the age group 25-44, and especially the higher educated individuals, give priority to their professional careers and that many are also engaged in child-rearing, and have little time for social life and leisure activities" (Lundholm and Malmberg, 2006: p. 41).

In their longitudinal study considering the subjective well-being of movers, Nowok et al. (2011) did not consider the extent to which age is associated with a change in satisfaction over the period of a move. They did, however, find that age was associated with a general decrease in satisfaction of subjective well-being amongst male movers, while age squared was positive. Age squared was negative for female movers but age itself was insignificant. Kettlewell (2010) also found that the life satisfaction amongst Australian rural to urban movers increased with age for men, but decreased with age for women. Therefore, any results I have regarding the satisfaction with how things worked out following a move may be influenced by an underlying age effect. That is, if older individuals have higher life satisfaction in general, they may be more likely to report a higher level of satisfaction with how things worked out following their move.

In summary, while the propensity of individuals to move decreases with age, average post-move satisfaction tends to increase with age, at least amongst working aged adult movers. A number of concepts are thought to contribute to this change with age. First, the longer return period from which young movers can recover the net

benefits from undertaking a move may lead to them undertake moves where the immediate net benefits are smaller. However, younger movers also move more frequently, thereby reducing the return period. Inexperience may also contribute to lower post-move satisfaction amongst younger movers, as they are less able to accurately anticipate the actual costs and benefits when deciding to move.

6.2 Measuring age

Appended to the HLFS, the DMM survey utilises responses to Question D of the HLFS' household questionnaire, *"What was [respondent]'s date of birth"*, to measure the age of each respondent. From this response, each respondent's age is then measured in single year format at the start of the survey's reference week. I employ a number of different age groupings, from individual year groups to four age groups.

The age distribution of movers and average overall post-move satisfaction is outlined below in Table 6.1. The frequency column of the total mover group shows the age distribution of movers, which is very similar to the distribution of Australian movers found by Bell (1996). Younger movers represent a much higher proportion of movers than older movers. While the population of the survey peaks in the 40-50 age-group, the modal frequency of movers is much earlier, with the 20-24 year old age group representing 15% of all movers.

Table 6.1: Summary statistics of overall post-move satisfaction by age group and local labour market change, New Zealand, 2007

10 year age groups	Moves within labour markets				Moves between labour markets				Total moves				5 year age groups
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	
15-24	4.10	0.749	899	0.23	4.03	0.729	277	0.26	4.00	0.731	462	0.09	15-19
									4.14	0.748	714	0.15	20-24
25-34	4.24	0.792	1069	0.28	4.17	0.803	243	0.23	4.21	0.778	679	0.14	25-29
									4.25	0.810	633	0.13	30-34
35-44	4.30	0.774	867	0.23	4.15	0.887	231	0.22	4.26	0.798	596	0.12	35-39
									4.28	0.805	502	0.10	40-44
45-54	4.30	0.817	531	0.14	4.16	0.891	156	0.15	4.24	0.848	370	0.08	45-49
									4.31	0.821	317	0.06	50-54
55-64	4.32	0.772	261	0.07	4.31	0.916	78	0.07	4.25	0.873	189	0.04	55-59
									4.41	0.705	150	0.03	60-64
65-74	4.43	0.723	131	0.03	4.27	0.811	49	0.05	4.38	0.784	102	0.02	65-69
									4.38	0.706	78	0.02	70-74
75-84	4.32	0.848	81	0.02	4.38	0.669	21	0.02	4.35	0.801	69	0.01	75-79
									4.30	0.847	33	0.01	80-84
85-94	4.30	0.948	10	0	4.25	0.707	8	0.01	--	--	--	--	85-89[24]
									--	--	--	--	90-94
Total	4.24	0.783	3849	1	4.14	0.825	1063	1.01	4.222	0.794	4912	1	Total

Source: Statistics New Zealand, 2007

[24] Frequencies suppressed due to confidentiality requirements.

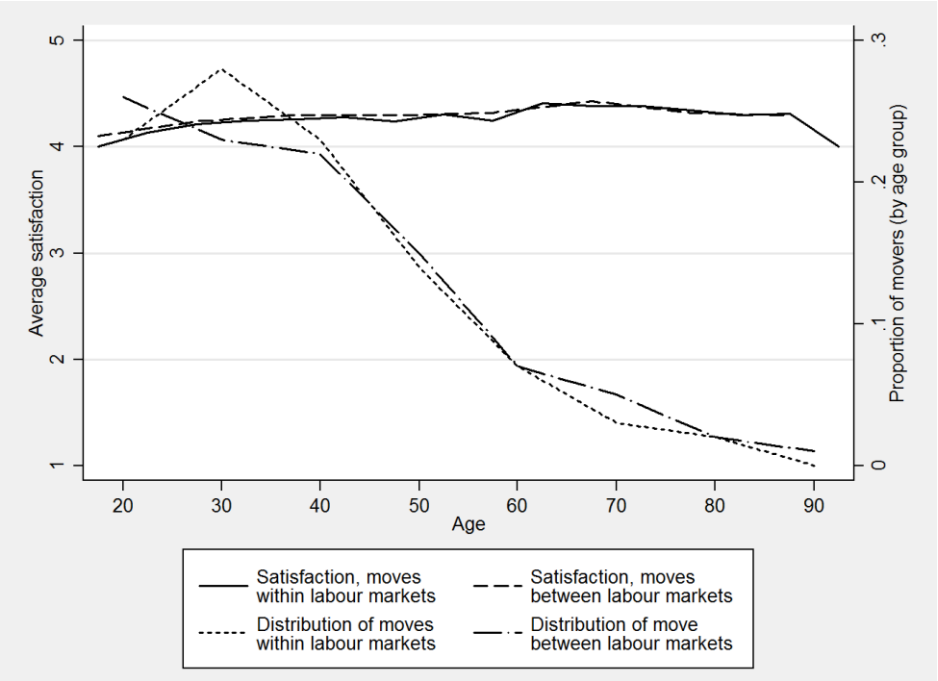
Table 6.1 shows that the youngest movers have a lower average level of post-move satisfaction than older movers. The mean level of overall post-move satisfaction reported by 15-19 year olds is 4.00 and amongst those aged 60-64 the mean level is its highest, at 4.41. While there is a positive relationship between age and post-move satisfaction, the slope does not appear to be linear. Mean overall post-move satisfaction amongst the youngest movers increases relatively sharply. Between 15 to 19 and 25-29 the post-move satisfaction rises from 4.0 to 4.21. The increase in post-move satisfaction with age then flattens out amongst those aged 30 to 60, fluctuating between 4.24 and 4.31. Between 55-59 and 60-64 there is a marked increase in post-move satisfaction, with the 60-64 age group experiencing the highest level of satisfaction of all age groups, with a mean value of 4.41. This high level of satisfaction decreases only slightly until 75 years of age.

The distribution of movers by age is similar for those moves take place within LLMs and those that take place between them, but there are also notable differences. The youngest movers, aged 15-24 comprise a slightly higher proportion of moves between LLMs (26%) than they do moves within them (23%), but this is reversed in the following 25-34 year old age group (23% to 28%). Individuals aged between 65 and 74 comprise a higher proportion of moves between LLMs (5%) than they do moves within them (3%). The distribution of movers and their satisfaction is plotted in Figure 6.1.

The higher proportion of 15-24 year olds moving between LLMs may be a result of moves for attendance at university and/or their initial entry into the labour market. The higher proportion of those aged 25-34 moving within LLMs may reflect the more dynamic stages of the life course. The higher proportion of 65-74 year olds moving between LLMs coincides with the ‘traditional’ retirement age and the start of superannuation pay-outs, and may reflect recent retirees making lifestyle moves.

Movers aged 15 to 24 years report the lowest level of post-move satisfaction, regardless whether they are moving within or between LLMs. However the rate of increase in post-move satisfaction with age varies between the two move scales. The average level of post-move satisfaction amongst those moving between LLMs plateaus around 4.15-4.17 between ages 25 and 54. A similar plateau for moves within LLMs occurs 10 years later with satisfaction of movers aged between 35 and 64 at approximately 4.3 on the 1-5 point scale. I suggest that this may be due to expectations increasing as fast as realisations as individuals progress through their career.

Figure 6.1: Distribution movers, and their average satisfaction, by age group and local labour market change, New Zealand, 2007



Source: Statistics New Zealand, 2007

The marked increase in post-move satisfaction observed in the total population around the age of retirement is also observed for moves both within and between LLMs, but with the same 10 year offset as previously observed. For those moving between LLMs, the increase in post-move satisfaction occurs 10 years earlier than for those moving within LLMs. I am unsure of the reason for this. While fluctuating, the satisfaction outcomes of those moving between LLMs remains higher into retirement than those aged under 55.

The above patterns indicate that the propensity to move decreases with age, but that there is an inverse relationship between age and satisfaction with how the move worked out. Two important life course periods, around when the young leave the family home and the older reach 'retirement age', appear to be associated with changes in the post-move satisfaction outcomes of movers. The association between age and satisfaction is subtly different for those moving within and between LLMs.

6.3 Age Results

In order to estimate the post-move satisfaction outcomes of different aged movers, I first look at how the level of overall satisfaction with the outcomes of the move varies with age, using OLS regression. I utilise age as a continuous variable. I

then consider how the probability of a positive satisfaction outcome varies using logistic regression.

Results from previous studies, in particular those by Lu (2002) and Lundholm and Malmberg (2006), indicate that it is highly possible that a quadratic curve may be a more appropriate method of modelling the post-move satisfaction outcomes of different aged movers. Age appears to rise and peak, before either declining or levelling off. A similar pattern was shown in Table 6.1. During the preliminary stages of my analysis, I therefore explored the relationship between post-move satisfaction and both age and age squared (after centring) and found that including both provided the best fit. The variables are appended to my existing formula:

(6.1) $y_i = \alpha + \beta X_i + \beta Cage_i + \beta Cage_i^2 + \varepsilon_i,$

where for the ith mover, X is the vector of the independent variables introduced earlier, Cage is the mover's age in years centred around the mean age, $Cage^2$ is the square of Cage and ε is the unexplained error.

The addition of the age variables enhances the fit of the model, both for moves within LLMs and those between them. As shown in Table 6.2, post-move satisfaction of individuals moving within LLMs peaks and then falls as age increases and it does so in a statistically significant manner. Distance remains statistically insignificant and the 9-12 month time period since move group becomes insignificant at $p<0.05$ for the first time. In general, each time since move variable has become less statistically significant. The inclusion of age variables accounts for some of the difference in post-move satisfaction between those who moved three months prior to being interviewed and those who moved between three months and two years prior to interview. I suggest that this is because the young are more likely to move more frequently.

Table 6.2: Linear regression, impact of age on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	3830
Number of strata = 1				Population size		=	574011.6
				Replications		=	100
				Design df		=	99
				F(7, 93)		=	8.19
				Prob > F		=	0.00
				R-squared		=	0.018
Overall PMS			Jackknife				
		Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.008909	0.0122929	0.72	0.470	-0.0154827	0.0333007
Time since	0<3 months	(ref)					
move	3<6 months	0.132825	0.0561656	2.36	0.020	0.0213802	0.2442697
	6<9 months	0.1974951	0.0530966	3.72	0.000	0.0921398	0.3028504
	9<12 months	0.1187284	0.0601093	1.98	0.051	-0.0005415	0.2379984
	1<2 years	0.1201042	0.0540979	2.22	0.029	0.0127622	0.2274462
Age	Centred age	0.0032616	0.0010660	3.06	0.003	0.0011463	0.0053768
	Centred age^2	-0.0001386	0.0000581	-2.39	0.019	-0.0002538	-0.0000233
	_cons	4.2120990	0.0448923	93.83	0.000	4.1230230	4.3011750

Source: Statistics New Zealand, 2007

For individuals moving between LLMs, the addition of age produces a positive age coefficient and a smaller positive age squared coefficient, indicating post-move satisfaction increases at an increasing rate following middle age. With an age coefficient of 0.006, the difference in the satisfaction of a 90 year old and a 15 year old that is associated with age is 0.425 points. The coefficient of age squared is not statistically significant, reflecting the more linear relationship. The size of the time since move and distance coefficients is little changed and continues to remain statistically insignificant.

Table 6.3: Linear regression, impact of age on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	1052
Number of strata = 1				Population size		=	148800.19
				Replications		=	100
				Design df		=	99
				F(7, 93)		=	2.06
				Prob > F		=	0.0556
				R-squared		=	0.0188
Overall PMS			Jackknife				
		Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0236984	0.0282343	-0.84	0.403	-0.0797215	0.0323246
Time since	0<3 months	(ref)					
move	3<6 months	-0.1481883	0.1062449	-1.39	0.166	-0.3590013	0.0626247
	6<9 months	-0.0075385	0.1113237	-0.07	0.946	-0.2284289	0.2133519
	9<12 months	0.1023550	0.1082868	0.95	0.347	-0.1125094	0.3172194
	1<2 years	-0.0056387	0.1107471	-0.05	0.959	-0.2253850	0.2141075
Age	Centred age	0.0056678	0.0023009	2.46	0.015	0.0011023	0.0102332
	Centred age^2	0.0000333	0.0001053	0.32	0.752	-0.0001755	0.0002422
	_cons	4.3026160	0.1587862	27.1	0.000	3.9875500	4.6176820

Source: Statistics New Zealand, 2007

Moves within LLMs appear to reflect a progression through either housing and neighbourhood careers, or reflect an accumulation and then drawing down of housing capital. While the accumulation of capital and progression through the housing career

may also apply to younger movers moving between LLMs, older movers may be relatively unaffected by the types of moves that are necessitated by the drawing down of housing capital or downsizing in later life. Wiseman and Roseman (1979) outline a typology of elderly migration that differentiates between local moves and migrations, and these results indicate that moving to a new LLM area represents a type of move that is more satisfying than relocating within their existing LLM. One reason could be that lifestyle migration could be driving interregional moves in retirement while moves within the LLM may be associated with downsizing and the drawing down of housing capital.

Do the above results mean that age is associated with a change in the probability of a mover experiencing a positive, or successful, level of satisfaction? I substitute the logit for post-move satisfaction of model 6.1 as follows:

(6.2) $ln\left(\frac{p}{1-p}\right)_i = \alpha + \beta \mathrm{X}_i + \beta Cage_i + \beta Cage_i^2 + \varepsilon_i,$

where p is the probability of a positive satisfaction outcome, X is the vector of the existing independent variables, Cage is the mover's age in years centred around the mean age, $Cage^2$ is the square of Cage and ε is the unexplained error.

The results presented in Table 6.4 indicate that the probability of a mover reporting a positive post-move satisfaction outcome does not follow the same pattern as average post-move satisfaction. The probability of a successful move is quite linear, each additional year of age decreasing the odds in favour of a positive satisfaction outcome by $e^{0.0108}$ = -1.01 times. Age squared is positive but insignificant and small, with a coefficient of less than 0.0002. In addition, both the size of the time since move coefficients decrease, as does their statistically insignificant significance.

Table 6.4: Logistic regression, impact of age on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Logistic regression					Number of obs	=	3830
Number of strata = 1					Population size	=	574011.6
					Replications	=	100
					Design df	=	99
					F(7, 93)	=	2.04
					Prob > F	=	0.0575
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0057605	0.0430663	-0.13	0.894	-0.0912134	0.0796924
Time since move	0<3 months	(ref)					
	3<6 months	-0.2718616	0.2322516	-1.17	0.245	-0.7326992	0.1889760
	6<9 months	-0.4330200	0.2772479	-1.56	0.122	-0.9831401	0.1171000
	9<12 months	-0.1792103	0.2720958	-0.66	0.512	-0.7191074	0.3606868
	1<2 years	-0.2344872	0.2294819	-1.02	0.309	-0.6898291	0.2208546
Age	Centred age	-0.0108430	0.0044539	-2.43	0.017	-0.0196805	-0.0020055
	Centred age^2	0.0001820	0.0002408	0.76	0.452	-0.0002958	0.0006597
	_cons	-1.9783990	0.2033280	-9.73	0.000	-2.3818460	-1.5749520

Source: Statistics New Zealand, 2007

When the model is applied to moves between LLMs, age and age squared both have a statistically insignificant effect on the probability of a positive move outcome. The size of the age coefficient is negative, at -0.011. The age squared coefficient is positive and larger, but still not statistically significant. Compared with moves within LLMs, the inclusion of age does not influence the size or statistical significance of the time since move variables as much and the time since move variables remain insignificant.

Table 6.5: Logistic regression, impact of age on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Logistic regression					Number of obs	=	1052
Number of strata = 1					Population size	=	148800.19
					Replications	=	100
					Design df	=	99
					F(7, 93)	=	0.8
					Prob > F	=	0.5922
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0947291	0.1047208	-0.9	0.368	-0.3025179	0.1130597
Time since move	0<3 months	(ref)					
	3<6 months	-0.2367454	0.37677	-0.63	0.531	-0.9843387	0.5108479
	6<9 months	-0.0473119	0.3721399	-0.13	0.899	-0.7857183	0.6910944
	9<12 months	0.4126105	0.4081041	1.01	0.314	-0.3971567	1.222378
	1<2 years	0.0867957	0.3648307	0.24	0.812	-0.6371076	0.8106989
Age	Centred age	0.0110511	0.0087134	1.27	0.208	-0.0062383	0.0283404
	Centred age^2	0.0004540	0.0004706	0.96	0.337	-0.0004797	0.0013878
	_cons	2.0927190	0.5833354	3.59	0.001	0.9352548	3.250183

Source: Statistics New Zealand, 2007

In summary, age appears to have a more significant effect on the post-move satisfaction of those moving within LLMs than it does on those moving between LLMs. While overall post-move satisfaction of those moving within LLMs rises with age

before peaking in the early 60s and then declining thereafter, it increases in a generally linear manner for those moving between LLMs.

Moving between LLMs, on the other hand, may be somewhat more removed from this housing career effect. Moves between LLMs later in life may be associated with lifestyle moves rather than residential downsizing. By being less likely to be in the labour force, older movers may be less likely to be affected by the additional considerations of moving both home and employment. A final conclusion may be that older movers may simply benefit from greater life experience and information, leading to a more efficient decision-making process.

Lundholm and Malmberg (2006) suggested that, across the life course, different satisfaction domains were important in determining the overall post-move satisfaction outcomes of movers. For example, young movers may place greater importance on improving employment satisfaction, while older movers may place greater importance on non-employment domains of satisfaction. Therefore, I turn my attention to how post-move satisfaction in each domain varies across the life course.

Satisfaction Domains

When studying the output of the OLS regression table below, I find that age has a much more significant effect on the domain specific post-move satisfaction outcomes of those moving within LLMs than it does for those moving between them. As seen in Table 6.6, age or age squared plays a statistically significant role in each post-move satisfaction domain when the move takes place within a single LLM. The statistical significance of either the age or age squared variable is particularly strong in each domain except employment satisfaction.

Table 6.6: Estimates from linear regression, impact of age on post-move satisfaction, moves within labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0089	0.0543**	-0.0242	0.0343*	0.0109	0.0163
Time since move	0<3 months	(ref)					
	3<6 months	0.1328*	0.1669	0.2115**	0.0986	0.0081	0.0454
	6<9 months	0.1975***	0.1543	0.2721**	0.0428	0.0411	0.1216*
	9<12 months	0.1187	0.0945	0.1259	0.1139*	-0.0215	-0.0322
	1<2 years	0.1201*	0.0346	0.1114	0.0910	-0.0582	0.0172
Age	Centred age	0.0033**	0.0004	-0.0003	-0.0014	-0.0039***	-0.0067***
	Centred age^2	-0.0001*	-0.0003***	-0.0003***	0.0002*	0.0000	-0.0001
	_cons	4.2121***	3.6459***	3.8045***	3.0728***	3.3817***	3.4438***
	N	3830	3828	3841	3032	3840	3838
	r2	0.018	0.01951	0.01901	0.01985	0.00771	0.0153
	F	8.193	6.376	5.772	3.129	4.266	6.507

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Domain specific satisfaction can be categorised into three distinct groups. The first group comprises outdoor environment and housing satisfaction domains. In both these domains, average post-move satisfaction is strongly quadratic, with a small and statistically insignificant age coefficient. Because age is centred, in these groups, the change in satisfaction becomes more positive with age amongst the youngest age groups, before peaking and then declining with age for older movers. Compared with overall post-move satisfaction with how the move worked out, the curve is steeper.

These results indicate support for the hypothesis that the housing career effect suggested in overall post-move satisfaction plays a significant role in the post-move satisfaction outcomes of individuals moving within a LLM. Movers are increasingly happy with their residence and neighbourhood but their change in satisfaction peaks around the age of 45, after which their satisfaction gains begin to diminish. I suggest that this is because as movers age, they get closer to their ideal residence and diminishing returns occur, until they leave the workforce and their moves then increasingly become adjustments to changing life circumstances. Furthermore, there is evidence of a parallel neighbourhood career effect as well, similar to that examined by Clark et al. (2006). For younger movers, as age increases they not only appear to have the means to move to a better house, but also a better house in a better neighbourhood.

The second group of domains comprises post-move satisfaction with social life and standard of living. The average increase in post-move satisfaction in these two domains declines with age in a linear fashion, although with a coefficient of -0.0067, the change in average post-move standard of living satisfaction decreases nearly twice as fast as average post-move social life satisfaction (-0.0039). It would seem that, relative to older movers, the greater improvement in social life and standard of living satisfaction of the youngest movers following a move do not translate into increased overall post-move satisfaction.

Finally, post-move employment satisfaction, comprising only those who are still in the labour force, seems to have its own relationship with age, as it is the only satisfaction domain to have a positive statistically significant aged squared coefficient. The average improvement in post-move satisfaction with employment decreases with age amongst working age movers, but the rate of decline slows amongst older workers. For movers in the labour market, it is the youngest movers who are making the greatest employment gains when they move, but these gains initially drop quickly with age and

average post-move employment satisfaction then begins to plateau into the 50s. It is highly likely that the increasingly small population of older movers who are still in the labour force influence the increase in satisfaction late into retirement.

These changes in average satisfaction have a similar impact on the probability of positive satisfaction outcomes following a move. Using the logistic regression model 6.2, the results for each satisfaction domain are shown in Table 6.7. In each domain, age has the same association with the probability of a positive satisfaction outcome as it did with the average change in satisfaction in each domain, although the magnitudes are generally greater. Another focal point is that for employment satisfaction, the inclusion of age and age squared increases the statistical significance of two time since move variables, with those who moved 1-2 years prior to being interviewed 1.82 times more likely than the most recent movers to experience a positive change in employment satisfaction.

Table 6.7: Estimates from logistic regression, impact of age on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0058	0.1746***	-0.0837*	0.1690***	0.0622	0.0448
Time since move	0<3 months	(ref)					
	3<6 months	0.2719	0.1876	0.4181**	0.4850	-0.0071	0.0896
	6<9 months	0.433	0.1897	0.3658*	0.1951	0.0759	0.2585
	9<12 months	0.1792	0.1225	0.1979	0.4982*	-0.0401	-0.1131
	1<2 years	0.2345	-0.0231	0.1191	0.5987**	-0.1051	0.0915
Age	Centred age	0.0108*	-0.0013	-0.003	-0.0005	-0.0131***	-0.0210***
	Centred age^2	-0.0002	-0.0005***	-0.0006***	0.0013***	0.0001	-0.0003
	_cons	1.9784***	0.0299	0.6667***	-2.2233***	-0.7864***	-0.4118**
	N	3830	3828	3841	3032	3840	3838
	F	2.045	6.056	4.387	7.251	4.628	5.473

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

While there are some statistically significant patterns emerging amongst those moving within LLMs, there remains stubbornly little difference between movers with different attributes when moving between them, at least at this stage. As shown in Table 6.8, while age does have the previously observed statistically significant effect on overall post-move satisfaction, it is not significant in any of the specific satisfaction domains. Indeed, other than age's statistically significant association with overall post-move satisfaction, the only statistically significant variables continue to be distance (for standard of living) and having spent between one to two years at their new dwelling (for standard of living and housing satisfaction).

Table 6.8: Estimates from linear regression, impact of age on post-move satisfaction, moves between labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0237	-0.0120	-0.0018	-0.0175	-0.0232	-0.0752*
Time since	0<3 months	(ref)					
move	3<6 months	-0.1482	0.1956	0.1324	0.0233	-0.0576	0.1532
	6<9 months	-0.0075	-0.0331	0.1946	0.2703	-0.1152	0.0730
	9<12 months	0.1024	0.0862	0.2207	-0.0444	0.1825	0.2115
	1<2 years	-0.0056	0.1714	0.3409*	-0.0871	-0.0092	0.3024**
Age	Centred age	0.0057*	0.0045	0.0048	-0.0043	-0.0002	-0.0070
	Centred age^2	0.0000	-0.0002	-0.0002	0.0000	0.0000	-0.0002
	_cons	4.3026***	3.6638***	3.3920***	3.5156***	3.4197***	3.6598***
	N	1052	1042	1049	820	1051	1049
	r2	0.0188	0.02431	0.03402	0.02198	0.00796	0.04145
	F	2.060	1.804	1.388	1.216	1.09	1.831

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

This pattern continues with regard to the probability of a positive change in satisfaction following a move. The inclusion of these age variables increases the probability that movers who have lived one to two years at their new address will have a positive change in standard of living satisfaction, relative to those who moved most recently.

Table 6.9: Estimates from logistic regression, impact of age on post-move satisfaction, moves between labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0947	-0.0063	0.0167	0.0186	-0.0534	-0.1147
Time since	0<3 months	(ref)					
move	3<6 months	-0.2367	0.4046	0.201	0.0742	-0.0965	0.2124
	6<9 months	-0.0473	0.1791	0.4999	0.3691	-0.4004	-0.0044
	9<12 months	0.4126	0.1625	0.3618	-0.1209	-0.0299	0.1322
	1<2 years	0.0868	0.3554	0.6752*	-0.2484	-0.2107	0.5535*
Age	Centred age	0.0111	0.0049	0.0056	-0.0258	-0.0058	-0.0222
	Centred age^2	0.0005	-0.0003	-0.0002	-0.0001	0.0000	-0.0006
	_cons	2.0927***	0.0748	-0.3781	-0.5113	-0.1810	0.0426
	N	1052	1042	1049	820	1051	1049
	F	0.7964	0.6397	0.8809	1.538	0.7408	1.758

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

These results indicate that some, but certainly not all, of the increase in post-move satisfaction of movers who have spent longer amount of time at their new location is due to the age of movers. The young, who are on average less satisfied, appear to be more likely to have moved recently and therefore reduce the average level of overall post-move satisfaction in the more recently moved groups. But controlling for the association of age does not account for all of the difference and the most recent movers are still less satisfied than those who have lived at their new location for between three months and two years following their move.

The differences in satisfaction between those moving within LLMs and those moving between them also bears deconstruction. My previous observation that older

migrants may be less affected by the housing and neighbourhood career appears to hold true. While the overall satisfaction of older movers undertaking moves within LLMs is associated with a pronounced decline in housing and neighbourhood satisfaction, this is not the case for those moving between them. Moving between LLMs later in life may be associated more with opportune moves than moves that are adjustments to changing, or possibly declining, life circumstances.

Summary

My analysis of the relationship between age and post-move satisfaction suggests that the post-move satisfaction outcomes of movers varies with age, but not consistently across satisfaction domains or across moves between and within LLMs. I find that for the given set of independent variables, the average post-move satisfaction of individuals moving within LLMs and the probability that they will experience a successful move does change with the age of the mover. Overall satisfaction initially increases with age, but peaks around the age of 60 and then declines. With post-move housing and outdoor environment satisfaction increasing with age and then decreasing, there is evidence that the housing career does affect the satisfaction that movers have with the outcomes of their move.

Amongst those who move between LLMs, post-move satisfaction does not vary as greatly. Only overall post-move satisfaction changes with age in a statistically significant manner. The greatest difference between the two types of moves occurs amongst the oldest movers, where satisfaction declines for those moving within LLMs, but continues to increase for those moving within them. I suggest that moves between LLMs are less influenced by the life course later in life.

6.4 Move history

When considering the effect of age on the post-move satisfaction outcomes, I noted that overall post-move satisfaction tended to be lowest amongst the young, who also tend to move most frequently and are most likely to be considered chronic movers (Bell, 1996). Therefore, it may not be age per se that reduces post-move satisfaction amongst young movers, but rather a result of their greater tendency to move more frequently and spend shorter periods of time at a given residence. On the other hand, frequent moving prevents the accumulation of residential stress from which to adjust. At the same time, there are specific life course events amongst young movers, such as

household formation and expansion, which can precipitate rapid change in residential needs. Previous residential moves may also improve the ability of movers to more accurately assess the relative costs and benefits associated with moving. Therefore, in the next section, I ask whether a mover's previous move history increases or decreases their satisfaction outcomes resulting from the move.

In the DMM survey, 'move history' is measured in two ways. The first is the number of dwellings that a mover has lived in in the past 10 years, referred to as move frequency, while the second is the length of time that a mover has lived at their previous dwelling, referred to as length, or duration, at previous address. In both questions temporary accommodation is excluded, being defined as "anywhere you might stay without notifying a change of address" (Statistics New Zealand, 2006d: p. 4).

The two measures of move history each address a separate dimension. In the case of the frequency with which a mover has relocated, the primary concern is how an increase in the frequency of moving alters post-move satisfaction through greater knowledge and experience in the relocation process, until, potentially, it is offset by the experiences of those undertaking repeated moves. The length of time that a mover spent at their previous address, on the other hand, considers how the accumulation of residential stress interacts with the cumulative inertia to influence the post-move satisfaction of movers. Both apply many of the concepts associated with repeat and return migration discussed in relation to how satisfaction changes with time following a move.

DaVanzo (1983) concluded that information plays a significant role in accurately determining the costs and benefits of moving and that the greater experience that older movers have in moving may lead to a greater understanding of the actual costs and benefits of moving. By measuring the number of moves in the past 10 years, I measure the extent to which variation in post-move satisfaction by age may be due to *recent* experience moving. This of course, leaves open for debate the extent to which life experience, through increasing age, influences post-move satisfaction.

The phenomena of movers who undertake many moves is referred to as chronic or hypermobile movers; the study of which often concentrates on the effect these movers have on migration flows (Goldstein, 1964, Morrison, 1971), neighbourhood ties and frequently the outcomes of their children (Scanlon, 2001). However, I focus on the

extent to which frequent moves reflect continued inability for a mover to accurately judge the outcomes of their move when deciding to move.

6.5 Measuring move frequency

The number of dwellings a person has resided in is computed from the responses to question AQ08: "In the last 10 years, how many dwellings have you lived in and thought of as your usual home?". As respondents to the survey who qualify as 'movers' have moved at least once in the past two years, they have lived in at least two residences, their origin dwelling and destination dwelling. A dwelling is counted twice if a respondent lived in the same dwelling on two separate occasions and if a respondent lived overseas the dwellings they lived in overseas are also included.

Table 6.10 shows that the largest group, 40.8% of movers reported living in five or more dwellings in the 10 years prior to the survey. I take two points from this. The first is that New Zealand movers are highly mobile – not only have around 20% of all respondents to the survey moved within New Zealand in the past two years, but 40% of those have lived in five or more dwellings in the past 10 years. The second is that, as a consequence, the survey does not isolate the population of very frequent movers from what is a large population of movers who moved at least four times in 10 years. This is somewhat unfortunate as this group of very frequent movers, often termed chronic movers, was of particular interest to me.

Table 6.10: Summary statistics, overall post-move satisfaction by number of dwellings in past ten years and local labour market change, New Zealand, 2007.

Dwellings past 10 years	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Two	4.26	0.796	739	0.19	4.22	0.774	244	0.23	4.25	0.791	983	0.20
Three	4.31	0.735	853	0.22	4.2	0.761	235	0.22	4.29	0.742	1088	0.22
Four	4.2	0.78	644	0.17	4.1	0.846	161	0.15	4.18	0.796	805	0.17
Five+	4.22	0.805	1586	0.41	4.1	0.879	409	0.39	4.19	0.823	1995	0.41
Total	4.23	0.784	3822	0.99	4.15	0.825	1049	0.99	4.21	0.794	4871	1.00

Source: Statistics New Zealand, 2007

Table 6.10 also shows that when it comes to move frequency, there are only slight differences between those moving within and between LLMs. Those moving between LLMs are more likely than those moving within LLMs to have only made the

one move in the past 10 years[25], while those moving within LLMs are more likely to have moved three or more times.

Regardless of whether they moved within or between LLMs, those who moved only once or twice in the 10 years prior to the survey reported higher average post-move satisfaction than those who moved three or more times. The difference is only small, only 0.1 points on the y scale lower than those who moved twice or less.

To test whether the patterns found in the summary statistics have a significant effect on overall post-move satisfaction, I add the number of dwellings that a mover has lived in during the past 10 years to my regression model. With previous move history expected to improve the knowledge movers take into the process, I anticipate that post-move satisfaction will rise with the number of moves undertaken. The model is as follows:

(6.3) $y_i = \alpha + \beta X_i + \beta Dwellings_{2i} + \ldots + \beta Dwellings_{5i} + \varepsilon_i$

where y_i is the estimate of the mean overall post-move satisfaction of the ith mover, X is the vector of the set of existing independent variables and $Dwellings_{2\text{-}5}$ are dummy variables each being a number of dwellings that the mover has lived in and ε_i is the unexplained error.

The inclusion of the number of dwellings that a mover has had lived at over the previous 10 years improves the model's fit for those moving within LLMs. As shown in Table 6.11, moving twice is associated with a higher post-move satisfaction than those moving once. However, those who move more than twice experience lower satisfaction in their last move. Including the number of dwellings that a mover has lived at in the past 10 years generally increases the significance that the length of time since move has on the post-move satisfaction outcomes of movers but reduces the significance and coefficient of age. Some, but not all, of the reasons younger movers experience lower overall post-move satisfaction appears to be due to their tendency to move more frequently.

[25] That is, their only move in the ten years prior to being interviewed is the move that they are surveyed about.

Table 6.11: Linear regression, impact of move frequency on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	3805
Number of strata = 1				Population size		=	570121.05
				Replications		=	100
				Design df		=	99
				F(10, 90)		=	7.55
				Prob > F		=	0
				R-squared		=	0.0204
Overall PMS			Jackknife				
		Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.0104328	0.0121403	0.86	0.392	-0.0136561	0.0345218
Time since	0<3 months	(ref)					
move	3<6 months	0.1345468	0.0555276	2.42	0.017	0.0243681	0.2447255
	6<9 months	0.2002008	0.0531512	3.77	0.000	0.0947372	0.3056643
	9<12 months	0.1215008	0.0561386	2.16	0.033	0.0101095	0.2328920
	1<2 years	0.1162111	0.0534188	2.18	0.032	0.0102166	0.2222055
Age	Centred age	0.0029474	0.0011217	2.63	0.010	0.0007216	0.0051732
	Centred age^2	-0.0001286	0.0000581	-2.21	0.029	-0.000244	-0.0000133
Dwellings	Two	0.0049435	0.0411687	0.12	0.905	-0.0767441	0.0866311
past 10	Three	0.0908349	0.0356887	2.55	0.012	0.0200207	0.1616491
years	Four	-0.0390685	0.0490877	-0.80	0.428	-0.1364691	0.0583321
	Five+	(ref)					
	_cons	4.1924450	0.0467286	89.72	0.00	4.0997260	4.2851650

Source: Statistics New Zealand, 2007

The number of moves that an individual has made in the 10 years prior to the survey has no statistically significant effect on the post-move satisfaction outcomes of those moving between LLMs. Table 6.12 shows that the insignificant coefficients do have a similar association with overall satisfaction as of those moving within LLMs, with those who have moved twice associated with the highest satisfaction relative to those who lived at five or more dwellings in the past 10 years. Despite the number of moves reducing the significance of age, the coefficients of age are not notably changed.

Table 6.12: Linear regression, impact of move frequency on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Linear regression				Number of obs		=	1042
Number of strata = 1				Population size		=	148008.99
				Replications		=	100
				Design df		=	99
				F(10, 90)		=	1.52
				Prob > F		=	0.1464
				R-squared		=	0.0204
Overall PMS			Jackknife				
		Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0237322	0.0289688	-0.82	0.415	-0.0812126	0.0337483
Time since	0<3 months	(ref)					
move	3<6 months	-0.1416918	0.1087709	-1.30	0.196	-0.3575168	0.0741332
	6<9 months	-0.0125798	0.1131758	-0.11	0.912	-0.2371451	0.2119856
	9<12 months	0.1037927	0.1108401	0.94	0.351	-0.1161382	0.3237235
	1<2 years	-0.0077693	0.1131488	-0.07	0.945	-0.2322811	0.2167424
Age	Centred age	0.0053816	0.0023578	2.28	0.025	0.0007032	0.0100600
	Centred age^2	0.0000251	0.0001097	0.23	0.820	-0.0001927	0.0002428
Dwellings	Two	0.0270389	0.1032911	0.26	0.794	-0.1779130	0.2319909
past 10	Three	0.0713410	0.0854865	0.83	0.406	-0.0982828	0.2409648
years	Four	-0.0116814	0.0995230	-0.12	0.907	-0.2091567	0.1857939
	Five+	(ref)					
	_cons	4.2827540	0.1652218	25.92	0.00	3.9549180	4.6105890

Source: Statistics New Zealand, 2007

These results may indicate that over the short term there is no advantage attributable to greater experience in moving. Certainly, less residential relocation experience does not appear to hinder the post-move satisfaction outcomes of movers who moved the most infrequently. The higher level of satisfaction reported by those who had only moved twice may be attributed to having a recent move from which to gain experience from, while not moving frequently enough to indicate that they are repeatedly miscalculating the outcomes of their move or moving amidst dynamic life conditions that require numerous relocations.

Length at previous address

I suggest that the length of time that a mover spent in their previous place of residence will improve our understanding of the association between a mover's history and their subsequent satisfaction outcomes. From the survey, the length of time spent at a mover's previous residence is computed from the responses to question BQ05: "How long did you live at your previous address [in years]?".

Table 6.13 shows the distribution and average overall post-move satisfaction of movers by the length of time spent at their previous address. Not surprisingly, given the frequency with which New Zealander movers relocate, 75% of the respondents to the survey who moved within New Zealand in the past two years spent less than five years at their previous address and 28% of movers lived at their previous address for less than one year.

Table 6.13: Summary statistics, overall post-move satisfaction by length at previous address and local labour market change, New Zealand, 2007.

Length at previous address	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
0<3 months	4.05	0.895	133	0.03	4.06	0.944	49	0.05	4.05	0.906	182	0.04
3<6 months	4.23	0.805	337	0.09	4.06	0.775	97	0.09	4.19	0.802	434	0.09
6<9 months	4.19	0.868	342	0.09	4.13	0.900	70	0.07	4.18	0.875	412	0.08
9<12 months	4.26	0.724	297	0.08	4.18	0.690	56	0.05	4.24	0.718	353	0.07
1<2 years	4.24	0.749	826	0.22	4.16	0.813	218	0.21	4.22	0.764	1044	0.22
2<3 years	4.24	0.813	505	0.13	4.21	0.761	136	0.13	4.23	0.802	641	0.13
3<4 years	4.33	0.687	282	0.07	3.96	0.993	85	0.08	4.25	0.779	367	0.08
4<5 years	4.23	0.705	184	0.05	4.1	0.775	60	0.06	4.20	0.723	244	0.05
5<10 years	4.33	0.779	472	0.12	4.24	0.823	127	0.12	4.31	0.790	599	0.12
10<20 years	4.27	0.787	292	0.08	4.21	0.798	107	0.10	4.26	0.790	399	0.08
20+ years	4.29	0.818	135	0.04	4.28	0.666	43	0.04	4.29	0.788	178	0.04
Total	4.25	0.785	3805	1	4.15	0.819	1048	1	4.23	0.794	4853	1

Source: Statistics New Zealand, 2007

There appears to be a positive but undulating relationship between the length of time that an individual lived at their previous residence and their mean level of satisfaction following their latest move. This is the case for both those moving within

and between LLMs. Movers who lived at their previous address for shortest period, less than three months, report the lowest average post-move satisfaction of below 4.07[26]. Post-move satisfaction initially rises sharply with the length of time spent at the previous address, but less sharply for moves between LLMs. Those who have spent the longest time at their previous address report levels of average post-move satisfaction that are amongst the highest (4.29 for moves within LLMs and 4.28 for those between them). Note, however, that these descriptive results do not control for age.

The table suggests that those who move again very rapidly after a previous move experience the poorest average outcomes as a result of the move. Amongst those who moved within LLMs, those who spent three or less months at their previous residence report the lowest level of satisfaction with 'how things worked out'. Post-move satisfaction is substantially higher amongst those who lived between three and six months at their previous address and remains high for subsequent groups.

The very short period of time between moves may hinder the decision-making process of movers and lead to a less than optimum move. While the move may still be an improvement on previous living conditions, it is perhaps not as much of an improvement, or as accurate a decision, as would be experienced if more time was given to the decision-making process. It is plausible that these moves occurred because the previous move was particularly unsatisfactory and any change in circumstance would be preferred to their previous situation. Alternatively, it may be inferred that the table is picking up evidence from the previous variable that those who move very frequently make numerous, less satisfactory moves.

For those moving from one LLM to another, average overall post-move satisfaction 'recovers' much more slowly, for average post-move satisfaction remains low for twice as long as those moves within LLMs. Only those who spent more than six months at their previous dwelling report an average post-move satisfaction above 4.06 points.

The longer period with which average post-move satisfaction remains low indicates that there may be a potential boundary effect. That is, when moving across LLMs, it may take longer to accrue the necessary information to accurately determine

[26] The most notable exception to this is that those movers who spent 3-4 years at their previous dwelling before moving **between** labour markets reported the lowest average post-move satisfaction of 3.96. It is not clear why this group is such a large deviation from the otherwise positive trend.

the costs and benefits of moving to the new LLM. When moving within the same LLM, the process may require less time, especially since the process usually requires simultaneous relocation of residence *and* employment.

There is a relatively sharp increase in average level of post-move satisfaction amongst those spending short durations of time at their previous address, followed by a period of slower increases in post-move satisfaction as duration at previous address increases. As duration at a previous address increases, the rate of increase in post-move satisfaction lessens at a decreasing rate. Applying the natural log of the length at previous address may be the most appropriate method of modelling this shape:

$$(6.4)\ \ y_i = \alpha + \beta X_i + \beta \ln(LAPA)_i + \varepsilon_i$$

where y_i is the estimate of the mean overall post-move satisfaction of the ith mover, X is the sum of the previous independent variables, ln(LAPA) is the natural log of the number of years spent at the previous address and ε_i is the unexplained error.

From Table 6.14, it is clear that while the length of time spent at the mover's previous dwelling has the expected positive relationship with overall post-move satisfaction, the difference from zero is not statistically significant. With a coefficient of 0.01 points, a one per cent increase in the length of time that a mover spent at their previous address is associated with an increase in satisfaction of 0.01 points.

Table 6.14: Linear regression, impact of length at previous address on overall post-move satisfaction, moves within local labour markets in New Zealand, 2007.

Survey: Linear regression					Number of obs	=	3782
Number of strata = 1					Population size	=	567012.26
					Replications	=	100
					Design df	=	99
					F(11, 89)	=	7.15
					Prob > F	=	0
					R-squared	=	0.0224
Overall PMS			Jackknife				
		Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.0101824	0.0122311	0.83	0.407	-0.0140867	0.0344516
Time since	0<3 months	(ref)					
move	3<6 months	0.1364828	0.0556705	2.45	0.016	0.0260205	0.2469452
	6<9 months	0.1988837	0.0532403	3.74	0.000	0.0932433	0.3045240
	9<12 months	0.1318449	0.0572861	2.30	0.023	0.0181769	0.2455128
	1<2 years	0.1163246	0.0524161	2.22	0.029	0.0123197	0.2203295
Age	Centred age	0.0028288	0.0011508	2.46	0.016	0.0005455	0.0051122
	Centred age^2	-0.0001358	0.0000589	-2.31	0.023	-0.0002526	-0.0000190
Dwellings	Two	-0.0149109	0.0525226	-0.28	0.777	-0.1191272	0.0893054
past 10	Three	0.0940948	0.0383594	2.45	0.016	0.0179814	0.1702081
years	Four	-0.0449604	0.0488735	-0.92	0.360	-0.141936	0.0520152
	Five+	(ref)					
ln(length at prev. address)		0.0099417	0.0156485	0.64	0.527	-0.0211083	0.0409917
	_cons	4.1941440	0.0479073	87.55	0.000	4.0990860	4.2892030

Source: Statistics New Zealand, 2007

The additional move history variable further improves the significance of the time since move variables, however. The rising and then falling pattern is further reinforced and becomes more defined. Age is only slightly influenced by the additional variable.

As shown in Table 6.15, for moves between LLMs, the coefficient of length at previous address is also not statistically different from zero. Contrary to my expectations given the summary statistics, the coefficient, at -0.01, indicates that an increase in the length of time that a mover spends at their previous address is associated with a decrease in the level of satisfaction that they have with how the move worked out. This may be due to the markedly lower level of satisfaction reported by those who had spent three to four years at their previous address.

Table 6.15: Linear regression, impact of length at previous address on overall post-move satisfaction, moves between local labour markets in New Zealand, 2007.

Survey: Linear regression				Number of obs		=	1040
Number of strata = 1				Population size		=	147682.11
				Replications		=	100
				Design df		=	99
				F(11, 89)		=	1.41
				Prob > F		=	0.1836
				R-squared		=	0.0208
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0229505	0.0289248	-0.79	0.429	-0.0803436	0.0344427
Time since	0<3 months	(ref)					
move	3<6 months	-0.1394691	0.1118112	-1.25	0.215	-0.3613267	0.0823885
	6<9 months	-0.0078495	0.1192325	-0.07	0.948	-0.2444326	0.2287336
	9<12 months	0.1203323	0.1163609	1.03	0.304	-0.1105529	0.3512174
	1<2 years	-0.0021611	0.1196991	-0.02	0.986	-0.2396700	0.2353478
Age	Centred age	0.0055004	0.0024869	2.21	0.029	0 .0005660	0.0104349
	Centred age^2	0.0000234	0.0001099	0.21	0.832	-0.0001947	0.0002415
Dwellings	Two	0.0378954	0.1103224	0.34	0.732	-0.1810082	0.2567990
past 10	Three	0.0731395	0.0954812	0.77	0.445	-0.1163159	0.2625949
years	Four	-0.0113846	0.1005158	-0.11	0.910	-0.2108299	0.1880606
	Five+	(ref)					
ln(length at prev. address)		-0.0089364	0.0342403	-0.26	0.795	-0.0768765	0.0590037
	_cons	4.2810560	0.1650464	25.94	0.000	3.9535680	4.6085440

Source: Statistics New Zealand, 2007

In short, the length of time that a mover has spent at their previous residence does not appear to influence the post-move satisfaction they obtain from their last move. For those moving between LLMs, age remains the only independent variable to have a statistically significant effect on the post-move satisfaction.

In summary, data from the DMM survey indicates that a substantial proportion of those who changed residence within New Zealand over a two year period move frequently and do so relatively soon after a preceding move. Summary statistics indicated that average overall post-move satisfaction may be highest for those who

move less frequently and lowest for those who moved very shortly following a previous move. However, regression analysis indicates that once other variables are accounted for, the length of time that a mover spent at a previous address does not have a statistically significant effect on the post-move satisfaction outcomes in a subsequent move, regardless of whether they are moving within or between LLMs.

Satisfaction Domains

I next consider whether post-move satisfaction outcomes vary with move history amongst the satisfaction domains. I apply the regression model (6.5) to the remaining domains of post-move satisfaction, as well as an updated logistic regression model. Table 6.16 indicates that for moves within LLMs, post-move satisfaction is more closely associated with the length of time that the individual spent at their previous address than the frequency with which they moved. Average post-move employment and social life satisfaction is highest amongst those who, in the past 10 years, made only one move prior to their most recent (0.11 and 0.10 points higher than those who made a total of four or more moves, respectively).

Table 6.16: Estimates from linear regression, impact of move history on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0102	0.0566**	-0.0221	0.0381*	0.0148	0.0188
Time since	0<3 months	(ref)					
move	3<6 months	0.1365*	0.1703	0.1889*	0.1071	0.0089	0.0425
	6<9 months	0.1989***	0.1646*	0.2744**	0.0487	0.0469	0.1324*
	9<12 months	0.1318*	0.1072	0.1271	0.1138*	-0.0252	-0.0264
	1<2 years	0.1163*	0.0414	0.1136	0.0945	-0.0556	0.0313
Age	Centred age	0.0028*	0.0009	0.0011	-0.0016	-0.0033**	-0.0053***
	Centred age^2	-0.0001*	-0.0003***	-0.0003***	0.0002*	0.0000	0.0000
Dwellings	Two	-0.0149	0.0979	0.0162	0.0430	0.0744	0.0510
past 10	Three	0.0941*	0.1011	0.0429	0.1082*	0.1012*	0.0374
years	Four	-0.0450	0.0351	-0.0723	0.0199	-0.0108	0.0180
	Five+	(ref)					
ln(length at prev. address)		0.0099	-0.0488*	-0.0496*	-0.0345*	-0.0454**	-0.0637***
	_cons	4.1941***	3.6322***	3.8542***	3.0580***	3.3816***	3.4701***
	N	3782	3780	3792	2996	3793	3789
	r2	0.02242	0.02269	0.02324	0.02732	0.01373	0.02289
	F	7.148	5.082	4.621	2.595	4.659	5.032

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The natural log of the length of time spent at the mover's previous address did not have a statistically significant effect on the average overall post-move satisfaction of those moving within LLMs. However, in each post-move satisfaction domain, the longer the mover spent at their previous residence, the less positive their reported change in satisfaction was likely to be. The relationship between the duration at the previous address and satisfaction outcome is particularly statistically significant for

social life satisfaction and, in particular, standard of living satisfaction. These results are in line with expectations, with moving after an increasingly long period of time spent at an address leading to a loss of accumulated ties with the house and the surrounding area and neighbours.

With a coefficient of -0.064, standard of living satisfaction is notably more sensitive to increased lengths of time at a mover's previous addresses than the other domains. A one per cent increase in the length of time spent at the previous address decreases the change in standard of living satisfaction of the new residence by 0.064 points. This indicates to me that those who move after an increasingly long period of time may be increasingly likely to be induced into doing so, due to a change in circumstances. The coefficient of employment satisfaction closest to zero at -0.035, indicating that for moves within LLMs, moving after a lengthy stay at a previous address is associated with a smaller decline in employment satisfaction change than the other domains.

When considering how the existing independent variables changed with the inclusion of move history, I find that while it does not greatly alter the size of the association between the length of time that has elapsed since the move and satisfaction, it does increase the statistical significance of several of the categories of the other variables. In addition, the association between age and satisfaction is only slightly reduced. The tendency for older movers to have spent longer periods of time at their previous address appears to be associated, to an extent, with their less positive social life satisfaction outcomes.

Table 6.17 shows a similar pattern for the probability of a positive change in satisfaction, again in line with expectations. Interestingly, when considering the probability of a positive change in satisfaction, employment satisfaction has the largest coefficients. Those who moved twice in the past 10 years were 1.66 times more likely to report a positive change in their employment opportunities than those who moved four or more times, while movers were 1.19 times less likely to experience a positive change in employment satisfaction for every one per cent increase in the length of time spent at their previous address.

Table 6.17: Estimates from logistic regression, impact of move history on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0027	0.1814***	-0.0853*	0.1867***	0.0754	0.0500
Time since	0<3 months	(ref)					
move	3<6 months	0.2711	0.2033	0.3736*	0.5319*	0.0129	0.0981
	6<9 months	0.4271	0.207	0.3624*	0.2316	0.0986	0.2888
	9<12 months	0.2539	0.1573	0.2105	0.4985*	-0.0409	-0.0912
	1<2 years	0.2004	-0.0088	0.127	0.6227**	-0.0851	0.1342
Age	Centred age	0.0085	-0.0007	0.0002	-0.0004	-0.0109**	-0.0174***
	Centred age^2	-0.0001	-0.0005**	-0.0006***	0.0012**	0.0001	-0.0003
Dwellings	Two	-0.13	0.2618	-0.0731	0.1814	0.1383	0.0844
past 10	Three	0.3972**	0.2459*	-0.0115	0.5102**	0.2612*	0.0915
years	Four	-0.1658	0.1574	-0.1055	0.1009	0.1363	0.1369
	Five+	(ref)					
ln(length at prev. address)		0.0720	-0.0990*	-0.0823	-0.1749**	-0.1237**	-0.1660***
	_cons	1.8946***	-0.0401	0.7883***	-2.3115***	-0.8164***	-0.3567*
	N	3782	3780	3792	2996	3793	3789
	F	2.364	5.007	3.31	8.493	5.088	4.752

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The move history of movers has a less statistically significant association with the post-move satisfaction outcomes of those moving between LLMs. As shown in Table 6.18, moving twice in the previous 10 years is associated with average post-move housing satisfaction 0.31 points higher than those who moved four or more times. Those who moved three times in the previous 10 years have a post-move employment satisfaction level 0.24 points lower than the base, the lowest of all groups.

Table 6.18: Estimates from linear regression, impact of move history on post-move satisfaction, moves between labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0230	-0.0115	-0.0020	-0.0122	-0.0212	-0.0739*
move	3<6 months	-0.1395	0.2183	0.165	0.0261	-0.0463	0.1772
	6<9 months	-0.0078	-0.0019	0.2424	0.2816	-0.0657	0.1253
	9<12 months	0.1203	0.1184	0.286	-0.0141	0.2476	0.2782*
	1<2 years	-0.0022	0.2056	0.4039*	-0.0722	0.0540	0.3663***
Age	Centred age	0.0055*	0.0054	0.0073	-0.0043	0.0025	-0.0043
	Centred age^2	0.0000	-0.0002	-0.0002	0.0000	0.0000	-0.0001
Dwellings	Two	0.0379	0.1516	0.1145	-0.0411	0.0529	0.1074
past 10	Three	0.0731	0.1363	0.3085*	0.1299	-0.0564	0.0903
years	Four	-0.0114	0.1672	0.1166	-0.2411*	-0.107	0.0060
	Five+	(ref)					
ln(length at prev. address)		-0.0089	-0.0727	-0.1352**	-0.0291	-0.1013*	-0.1243**
	_cons	4.2811***	3.6149***	3.3614***	3.5135***	3.4918***	3.6866***
	N	1040	1030	1037	811	1039	1037
	r2	0.02081	0.03206	0.06593	0.03617	0.02411	0.06541
	F	1.407	2.132	1.873	1.823	1.524	2.58

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Similar results are observed when considering how the move history of a mover is associated with the probability of a positive satisfaction outcome in each satisfaction domain. Where there is a statistically significant decrease in the average change in satisfaction there is also a decrease in the probability of a positive outcome.

Table 6.19: Estimates from logistic regression, impact of move history on post-move satisfaction, moves between labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0898	-0.0018	0.017	0.028	-0.0523	-0.1134
Time since	0<3 months	(ref)					
move	3<6 months	-0.1754	0.4549	0.2912	0.0632	-0.1054	0.2650
	6<9 months	-0.0398	0.2382	0.6199	0.3652	-0.3467	0.0644
	9<12 months	0.5251	0.2346	0.5296	-0.1139	0.0424	0.2427
	1<2 years	0.1024	0.4383	0.8316**	-0.2600	-0.1103	0.6543*
Age	Centred age	0.0124	0.0083	0.0102	-0.0276	0.0002	-0.0171
	Centred age^2	0.0005	-0.0002	-0.0001	-0.0002	0.0001	-0.0005
Dwellings	Two	-0.0418	0.1245	0.2997	-0.1285	-0.1289	-0.1779
past 10	Three	0.4347	0.2783	0.4659	0.1045	0.0745	0.2692
years	Four	0.3686	0.1245	0.2959	-0.7010*	-0.4036	-0.0146
	Five+	(ref)					
ln(length at prev. address)		-0.0654	-0.1550	-0.2703**	0.0253	-0.1819*	-0.1647*
	_cons	1.9713**	0.0306	-0.4461	-0.488	0.0039	0.0956
	N	1040	1030	1037	811	1039	1037
	F	0.7535	0.8019	1.453	1.94	1.395	2.957

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

In summary, the two methods of measuring the move history of respondents to the DMM survey – move frequency and duration at previous address – result in two contrasting sets of results. Average overall post-move satisfaction amongst those moving within LLMs was found to be higher for those who had moved only once in the past 10 years, but for those moving between LLMs, the same observed pattern was found to be insignificant. The change in satisfaction in the five satisfaction domains also followed overall post-move satisfaction. Average post-move satisfaction is highest for those who moved twice and is lowest for those who moved three times, although not for post-move standard of living satisfaction.

When move history was measured as the length of time spent at their previous address, overall post-move satisfaction was found to increase. However the five domains of satisfaction decreased, in some cases substantially with duration of previous residence, suggesting that the longer a mover spends at their previous address, the less positive their change in satisfaction is likely to be.

6.6 Conclusion

In this chapter, I considered how post-move satisfaction varied for movers of different ages and different prior relocation histories. There is a wide range of literature that considers age and residential relocation, with the higher propensity of younger migrants to undertake moves widely observed and discussed. However, only one study has explicitly considered the role of age on the change in satisfaction experienced by movers. It found that the overall improvement in satisfaction of individuals moving

between LLMs increased with age until retirement, then it fell. I therefore asked whether this was the case in New Zealand, and also whether it applied to both overall level of satisfaction that movers had with how things worked out following their move as well as with separate domains of satisfaction.

I found that the post-move satisfaction outcomes of movers varied across movers of different ages, with differences in the post-move satisfaction outcomes of those moving within and between LLMs. Amongst those moving within LLMs, average overall post-move satisfaction increased with age, before peaking and then declining amongst those in their seventies. I argue that this is evidence of either a housing and/or neighbourhood career effect. That is, satisfaction increases at a slowing rate as movers get closer to their ideal residence, before becoming less positive as they approach retirement and begin downsizing. For those moving between LLMs, post-move satisfaction increased with age amongst the working age population but, unlike those moving within LLMs, continues to rise amongst those aged over 65.

While the post-move satisfaction outcomes of those moving within LLMs rises with age across each of the satisfaction domains, movers between LLMs show statistically insignificant variations in post-move satisfaction in any of the satisfaction domains. The close relationship between outdoor, housing and overall post-move satisfaction amongst those moving within LLMs appear to somewhat support the conclusions of authors such as Lundholm and Malmberg (2006), who find that the housing career is influential in the overall post-move satisfaction outcomes of movers. In contrast, however, this relationship is not found amongst those moving between LLMs.

I then asked whether the frequency with which an individual moves and the duration they spent at their previous address may explain some of these outcomes. The variations in post-move satisfaction by age remain following the inclusion of move history. My evidence suggests that amongst those moving within a LLM a single prior move in the preceding 10 years may lead to higher overall, employment and social life satisfaction following a subsequent move. Moving less or more than this in the previous 10 years is associated with a lower level of post-move satisfaction. Amongst those moving between LLMs, the same pattern is only observed for post-move housing satisfaction. It is possible that the effect of recent move experience on post-move

satisfaction may be weakened as a result of not knowing how similar previous moves are to the most recent undertaking, while chronic movers may not be isolated.

The final findings of this chapter concern the change in post-move satisfaction as the length of time spent at previous residence increases. For both moves within and between LLMs, there is no statistically significant relationship between the length of time spent at the previous address and average overall post-move satisfaction following a move. When considering the outcomes of moves within a LLM by satisfaction domain, each domain has a negative relationship between the length spent at a mover's previous address and average post-move satisfaction.

I note that these associations exist perhaps because of the limited range of independent variables present in the model. A range of additional considerations needs to be both included and investigated in order to uncover any underlying factors that drive this housing career. Therefore, over the following several chapters I introduce a number of additional variables, such as ethnicity, gender, relationship status and income, which are likely to exhibit variations with age, and attempt to provide greater clarity on what is driving these observed age effects.

Chapter 7. Ethnicity

In this chapter, I explore the role that ethnicity and nativity play in influencing the post-move satisfaction outcomes of movers in New Zealand. Ethnicity is a demographic characteristic that is of particular interest in this study because of the different settlement histories, socio-economic characteristics, social networks and cultural values, which contribute to migration outcomes. The varied demographic characteristics of the different ethnic groups within New Zealand, for example the youthful Māori and Pacific Island populations, also play an important role in understanding the differing post-move satisfaction experiences of different ethnic groups.

The literature indicates that immigrants experience different move experiences to those who move within their country of their birth, be it because of the gradual adaption process immigrants face discrimination or factors associated with the spatial concentration of foreign born populations (Kritz and Nogle, 1994). A key focus of research into the relationship between ethnicity and residential relocation globally has been the selective segregation of some minority ethnic groups and the range of socio-economic correlates that can accompany segregation.

In this chapter I start by considering the association between identifying with certain ethnic groups and post-move satisfaction. I then note that the effect of being born overseas is particularly insignificant.

7.1 The theoretical considerations of ethnicity

The predominant ethnicity, European, comprised 67% of the population in the 2006 New Zealand Census. New Zealand also comprises three main minority ethnic groups; Māori, Asian and Pacific Islanders. Each of these minority ethnicities are characterised by fast growing, youthful populations, with the rapid increase of Asian migrants particularly fuelled by immigration into the country (Statistics New Zealand)[27].

European migration to New Zealand was significant in the nineteenth and the first half of the twentieth century. As a proportion of all migrants, European migrants

[27] http://statistics.govt.nz/Census/2006CensusHomePage/QuickStats/quickstats-about-a-subject/nzs-population-and-dwellings/ethnic-groups.aspx).

have decreased since 1945 (Ongley and Pearson, 1995), thus the European population in New Zealand is both predominant and established. The migration of Pacific Islanders to New Zealand occurred later and migrants were commonly unskilled; "migration from the Pacific Islands accelerated during the 1960s as the demand for low skilled or unskilled labor outstripped internal reserves, peaking in the early 1970s" (Ongley and Pearson, 1995: p. 782). Asian migration to New Zealand has increased significantly since 1986, resulting in a population of which a large number are recent migrants with a considerable number aged in their 20s (Goodyear, 2009). Unlike Pacific Islanders, skilled and wealthy Asian migrants have been targeted through immigration policy (Ward and Masgoret, 2008, Zodgekar, 2005).

Migration of different ethnic groups has occurred internally as well. During the 1950s and 1960s 'a large wave' of Māori moved from rural New Zealand to the periphery of urban centres (Morrison, 1995). This migration led to a "massive demographic change and social restructuring" (Barcham, 1998: p. 304). The social restructuring during this period led to a loss in traditional social networks and the construction of new urban networks (Barcham, 1998).

The importance of social networks on influencing residential relocation of immigrant groups at the interregional level has been established in the literature, with immigrant groups more likely to relocate to areas with established or growing populations of their own ethnicity (Kritz and Nogle, 1994, Mare et al., 2007, Chiswick and Miller, 2004, Bartel, 1989, Funkhouser, 2000). In New Zealand, "the density of migrant networks have a large impact on where recent and earlier migrants choose to settle. In particular, migrants are more likely to settle in LLMs with a larger proportion of the previous immigrant population from their same region of birth are living" (Mare et al., 2007: pp. 21-22). Once the strength of region of birth networks are controlled for, their results showed that migrants are more likely to settle in areas with similarly skilled migrants. As a result, migrants to New Zealand may not necessarily move to LLM areas that offer better employment outcomes as might the general population (Mare et al., 2007). Social ties that come with physical proximity may be more important to migrants than economic and employment outcomes.

Minority ethnic groups that have limited social networks resulting from recent entry into the country or movement within the country may experience decreased satisfaction when moving locally. These poorer outcomes may be mitigated by residing

within a spatially concentrated population around a common ethnicity. Such enclaves are thought to boost social networks and lead to strong local ties, which may in turn, discourage longer distance migration (Zhou and Logan, 1991). Stronger social networks may lead to higher post-move satisfaction if movers are able to realise better information about their intended move and support from their social network, but their highly localised nature may also serve to restrict mobility (Hagan, 1998).

Cultural differences in the way individuals interact and interpret space and place may also lead to variation in the outcomes associated with moving. For example, Davey and Kearns (1994) argue that there are cultural differences in how Māori and non-Māori view home and their neighbourhood:

> "It is easy to assume a universal acceptance of the meaning of 'home' (Kearns and Smith, 1994 [sic]). For Māori, the land or whenua, rather than a house, is home. People who belong to a locality are tangata whenua, or people of the land… Another important concept in understanding the land/home connection for Māori is turangawaewae which is literally 'a place to stand', an ancestral place of belonging and a place to which one returns. This is linked to the concept of papakainga which traditionally encompasses the spirit (wairua) of a place. Wairua includes both the physical environment of the home and emotional dimensions of attachment." (Davey and Kearns, 1994: p. 74)

A closer affinity with not only their physical residence but also the area surrounding them may increase the importance that Māori place on the local neighbourhood. Moving away from areas with which they have ancestral connections or have formed a tight affinity to and with which they feel they belong may have a greater social and cultural cost. Alternatively, past dislocation from traditional ancestral lands may potentially result in a lack of attachment with a location and greater dissatisfaction. Returning to locations with which the mover has ancestral connections may result in highly beneficial outcomes.

The desire of all ethnic groups to reside near other members of their ethnic group may result in residential segregation that occurs as a result of the voluntary behaviour of all movers (Clark, 1992). A substantial literature has focused on the geographic segregation of ethnic groups, as reviewed by authors such as Clark (1986b) and Charles (2003). Explanations as to the cause of residential segregation include those that "place primacy on persisting prejudice and/or discrimination" (Charles, 2003: p. 176), which are consistent with the place stratification model of residential

segregation. Residential sorting through social class status, is defined by Charles (2003) as congruent with the spatial assimilation model, and I consider the specific role of socio-economic sorting on satisfaction outcomes later in my thesis.

Discrimination and prejudice occurring along immigrant and ethnic minority lines may lead to concentrated poverty as a result of a racially segregated housing market (Massey et al., 1987, Massey and Denton, 1993, South and Crowder, 1997, South and Deane, 1993). Such segregation may in turn limit the options for movers and therefore artificially limit their post-move satisfaction outcomes rather than be seen to foster strong local ties, particularly if it forces groups into particular socio-economic strata.

Such is the uncertainty over the net positive or negative effect of residential segregation along ethnic lines on the relative post-move satisfaction outcomes of movers that I am drawn to the following conclusion that I still consider to hold true:

> "For the present we must concede that there are multiple reasons for residential patterns, and these causes – which include economic status, social preferences, urban structure and discrimination – require further unbiased evaluation in concert." (Clark, 1986b: p. 123)

Existing research suggests that New Zealand does not experience extreme racial segregation (Johnston et al., 2003), but migrants into New Zealand do typically settle in the large urban areas before moving to other locations, frequently down the urban hierarchy (Plane et al., 2005). In their migration to the urban centres and to New Zealand, Māori and Pacific Islanders usually settled in lower socioeconomic areas on the urban fringe (Morrison, 1995). Johnston et al. (2005) conclude that the greater the proportion of Māori and Pacific Islander population in a location, as is the case in Auckland and Wellington, the higher the residential segregation of these two ethnicities.

Yet while there does not appear to be an extreme level of racial segregation as in other countries, minority populations within New Zealand, particularly recent immigrants, have been found to experience discrimination when seeking housing and employment (Bedford et al., 2001, Ward and Masgoret, 2007, Zodgekar, 2005). Those most likely to experience such discrimination are those from 'non-traditional' sources; countries other than the UK, USA/Canada and Australia. Discrimination may occur for these ethnic groups, particularly those born overseas, and influence their post-move

satisfaction outcomes through the artificial limitation of residential and employment opportunities.

In studying the residential assimilation of Asian Americans, White et al. (1993) conclude "that it is not so much immigrant status as ethnic group membership, reflecting unique historical and structural circumstances, that determines the degree of residential assimilation" (White et al., 1993: p. 112). The effect of being born overseas may therefore have little if any influence on the mobility outcomes of movers and I am eager to test this empirically in the New Zealand context.

Variation in post-move satisfaction outcomes experienced by different ethnic groups may be due to variations in their relative socio-economic characteristics, such as age, educational attainment or income level, rather than an inferred causal link due to '*being'* a particular ethnicity. While there may be factors endogenous to each ethnic group that influence their post-move satisfaction, the socio-economic differences both between and within different ethnic groups are likely to play a role in influencing the observed post-move satisfaction outcomes of ethnic groups. For example, when exploring the age profiles of New Zealand's main ethnic groups as reported in the 2006 New Zealand Census, Goodyear (2009) finds significant differences both between the top level ethnic groups and within them. Notably, the age profile of Europeans living in New Zealand has a greater proportion of older individuals than other ethnic groups, while Māori and Pacific peoples have a high proportion of people under 20 years of age and there is a large peak in the proportion of Asians aged between 20-24 years.

Socio-economic status may also vary significantly amongst different ethnic groups, but also within them. For example, while Māori are generally found to have on average a lower socio-economic status than non-Māori, there is also great variation in the socio-economic status amongst Māori:

> "There is on average disparity between Māori and non-Māori along a range of socio-economic outcomes and this disparity is stable or falling. At the same time Māori ethnicity is a particularly poor statistical predictor of socio-economic success or failure and there is considerable overlap between Māori and non-Māori outcomes. It is sole Māori with low literacy, poor education, and living in geographical concentrations that have socio-economic problems, not the Māori ethnic group as a whole." (Chapple, 2000: p. 115)

Pacific Islanders are significantly over-represented amongst households experiencing serious housing needs (National Housing Commission, 1988). The Pacific population is characterised by a lack of formal qualifications and unskilled or semi-skilled workers. Some of this higher prevalence of serious housing needs is due to marginalisation in the housing market as a result of a drop in demand for unskilled workers (Milne and Kearns, 1999). But expectations within parts of the Pacific Islands community, particularly those who have moved to New Zealand, to participate in cultural practices such as the remittance of money, food and clothing and hosting other family members in New Zealand can result in greater economic hardship than that measured by gross individual or family income (Milne and Kearns, 1999). The higher priority of these cultural issues may place greater difficulty in satisfying the housing needs of the household.

Perhaps unsurprisingly, given the limited study of post-move satisfaction, the post-move satisfaction of different ethnic groups is largely unstudied, but in New Zealand, different ethnic groups have been associated with different levels of subjective well-being (Morrison, 2011). Ethnic minorities are more likely to be renters (Statistics New Zealand, 2009d), partly because they are younger, and renters can and do move more frequently, and often involuntarily (Boheim and Taylor, 2002)[28]. In terms of the self-reported change in housing and neighbourhood quality, work by Lu (2002) suggests that the effect of ethnicity on housing and neighbourhood outcomes following a move is actually more positive for black Americans than it is for white and non-black minorities, although he notes this effect is largely insignificant. This may suggest that the move behaviour of black Americans is a positive adjustment to the perceived discrimination and segregation perceived by the likes of Massey, Gross et al. (1994) and any discrimination at the destination of the move does not necessarily result in a negative satisfaction outcome.

In summary, there is considerable diversity in the migration histories of different ethnic groups in New Zealand. The different migration histories between ethnic groups may lead to differences in the way they move and, as a result, lead to different post-move satisfaction outcomes. Issues such as residential segregation, discrimination and tenure mix may occur along socio-economic and also geographic

[28] Tenure status was not included in the DMM survey.

lines. But such experiences are thought to be racially or ethnically based, rather than due to being born outside of New Zealand.

7.2 Modelling ethnicity

Using self-identified ethnicity from the HLFS, I identify the relative levels of post-move satisfaction experienced by movers of different ethnicities. In the HLFS, the ethnicity question is asked as follows:

"What is [respondent]'s ethnic group?"

It is important to note that respondents can identify with more than one ethnicity and as a result, may be represented in more than one ethnic group. In the HLFS, respondents can select among the following 10 ethnic groups: European, New Zealand Māori, Samoan, Cook Island Māori, Niuean, Tongan, Other Pacific, Chinese, Indian or Other. The dataset provided to me by Statistics New Zealand aggregates these groups into six categories: European, Māori (containing New Zealand Māori), Pacific Islander (containing Samoan, Cook Island Māori, Niuean, Tongan, Other Pacific), Chinese, Indian and 'other ethnicities'. These categories can be considered 'level one' groupings, however they do vary from current Statistics New Zealand classifications.

In the provided dataset, those who report being Chinese or Indian are also included in the 'other ethnicities' group. These ethnicity responses therefore counted twice. For my analysis, I replace this variable with a *not otherwise identified* group, in which those who have not identified with one of the five ethnic groups are represented[29]. Therefore, my calculation in effect underrepresents those who identify with an ethnicity that is not one of the five main ethnicities, as any mover who identifies with one of the five represented ethnic groupings will not be counted in this derived category[30].

Because movers are allowed to select multiple ethnicities, the sum of movers in each ethnic category, at 5185, is greater than the total mover population of 4912, but somewhat less than I would have anticipated. The complexity of measuring ethnicity is highlighted by Callister et al. (2007a) in their report on ethnic intermarriage in New

[29] This indicator implies that they are not represented by one the main ethnic groups, not that the individual did not report their ethnicity.

[30] Estimates available from the data provided indicate this undercount to total 13 movers or approximately 5% of those who identify with an ethnicity other than the main five: total 'Other ethnicities' – (Indian indicator + Chinese indicator) = 238 movers, while 'Not otherwise identified' = 225 movers.

Zealand and further in the group's work on developing tools for health outcome analysis (Callister et al., 2007b). Unlike race:

> "Ethnicity is not fixed. People in New Zealand, as in other countries, may change the ways in which they identify themselves over time or they may identify themselves differently in different environments. Many aspects of an individual's circumstances affect how they identify their ethnicities and this may differ markedly from how a third party might identify them. Some of these aspects are important for the interpretation of data." (Didham et al., 2005: p. 3)

Therefore, each ethnicity response is a binary variable indicating whether, at the time of interview, the individual identified with that ethnic group or not.

Ethnicity Results

It is with these above considerations in mind that I investigate the variation in the post-move satisfaction outcomes associated with identifying with each ethnic group. Table 7.1 shows the mean overall post-move satisfaction, frequency and proportion of movers by ethnic group. The table suggests that movers from different ethnicities within New Zealand experience different levels of overall post-move satisfaction. Movers who identify themselves as European report the highest average level of post-move satisfaction with an average of 4.27 while identification as a Pacific Islander is associated with the lowest average at 3.98. These two ethnic groups stand out. Ranging from 4.10 to 4.16 points, the average level of overall post-move satisfaction of Māori, Chinese, Indian and 'other' movers is within .06 points of each other.

Table 7.1: Summary statistics, overall post-move satisfaction by ethnicity and local labour market change, New Zealand, 2007

Ethnic	Moves within labour markets				Moves between labour markets				Total moves			
group	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
European	4.30	0.776	2781	0.68	4.17	0.83	817	0.73	4.27	0.791	3598	0.69
Māori	4.12	0.822	594	0.15	4.02	0.877	170	0.15	4.10	0.835	764	0.15
Indian	4.16	0.737	137	0.03	4.07	0.94	28	0.03	4.16	0.773	165	0.03
Chinese	4.11	0.626	132	0.03	4.10	0.608	30	0.03	4.11	0.621	162	0.03
Pacific	3.99	0.842	231	0.06	3.95	0.846	40	0.04	3.98	0.841	271	0.05
Not ident.	4.14	0.783	189	0.05	4.14	0.723	36	0.03	4.14	0.771	225	0.04
Total	4.24	0.787	4064	1	4.13	0.835	1121	1	4.22	0.799	5185	1

Source: Statistics New Zealand, 2007

When considering how different groups fare moving within and between LLMs, European movers have the greatest difference in average satisfaction between the two move types. At 4.17 points the average post-move satisfaction of Europeans moving between LLMs is 0.13 points lower than it is for those moving within them (4.30). The difference in Māori satisfaction is slightly smaller at 0.10 points (4.12 for

those moving within LLMs compared with 4.01). At 73%, European movers make up a higher than expected proportion of movers between LLMs (68%). By comparison, Indian, Chinese, Pacific Islanders and those not otherwise identified are underrepresented in moves between LLMs and report smaller differences in average post-move satisfaction outcomes between the two move scales[31].

By adding each ethnicity variable to my existing models, I begin to explore the differences in the post-move satisfaction[32].

(7.1) $y_i = \alpha + \beta X_i + \beta Ethnicity_{1i} + \ldots + \beta Ethnicity_{6i} + \varepsilon_i$

where y_i is the estimate of the mean overall post-move satisfaction of the ith mover, X is the vector of the independent variables analysed to date, $Ethnicity_{1\text{-}6}$ are dummy variables identifying the ethnicities that a mover identifies with and ε_i is the unexplained error.

The negative ethnicity coefficients in Table 7.2 show that when moving within LLMs the overall post-move satisfaction of the reference group, Europeans, is significantly higher than the four other main ethnic groups. My regression results confirm that Pacific Islanders experience the poorest post-move satisfaction outcomes relative to European movers. Relative to the effect of identifying with European ethnicity, identifying with Pacific ethnicity reduces overall post-move satisfaction by 0.25 points. The post-move satisfaction of Pacific peoples is only slightly lower than that reported by Chinese movers, whose satisfaction is 0.24 points lower than Europeans. The difference between Europeans and those not otherwise identified is not statistically different from zero.

[31] Indian movers report a difference in post-move satisfaction similar to Māori movers between the two move scales.

[32] I note that additional socio-economic characteristics such as income, employment status and gender are likely needed to fully absorb the exogenous characteristics of each ethnic group.

Table 7.2: Linear regression, impact of ethnicity on overall post-move satisfaction, moves within local labour markets, New Zealand, 2007.

Survey: Linear regression				Number of obs		=	3782
Number of strata = 1				Population size		=	567012.26
				Replications		=	100
				Design df		=	99
				F(16, 84)		=	6.84
				Prob > F		=	0
				R-squared		=	0.0371
Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	0.0057160	0.0119220	0.48	0.633	-0.0179398	0.0293719
Time since	0<3 months	(ref)					
move	3<6 months	0.1247638	0.0526490	2.37	0.020	0.0202968	0.2292308
	6<9 months	0.1859275	0.0511487	3.64	0.000	0.0844373	0.2874177
	9<12 months	0.1112579	0.0536407	2.07	0.041	0.004823	0.2176927
	1<2 years	0.0966082	0.0489582	1.97	0.051	-0.0005354	0.1937518
Age	Centred age	0.0017120	0.0011640	1.47	0.145	-0.0005977	0.0040217
	Centred age^2	-0.0001403	0.0000584	-2.4	0.018	-0.0002561	-0.0000245
Dwellings	Two	0.0115777	0.0541615	0.21	0.831	-0.0958905	0.1190459
past 10	Three	0.0994301	0.0393764	2.53	0.013	0.0212989	0.1775614
years	Four	-0.0319799	0.0486783	-0.66	0.513	-0.1285683	0.0646085
	Five+	(ref)					
ln(length at prev. address)		0.0064918	0.0160263	0.41	0.686	-0.0253077	0.0382914
Ethnicity	European	(ref)					
	Māori	-0.1673988	0.0421587	-3.97	0.000	-0.2510508	-0.0837468
	Indian	-0.1740648	0.0845864	-2.06	0.042	-0.3419026	-0.006227
	Chinese	-0.2354039	0.0450368	-5.23	0.000	-0.3247668	-0.1460411
	Pacific	-0.2479425	0.0761121	-3.26	0.002	-0.3989654	-0.0969195
	Not ident.	-0.1256462	0.0798676	-1.57	0.119	-0.2841208	0.0328283
	_cons	4.2631780	0.0457610	93.16	0.000	4.1723780	4.3539780

Source: Statistics New Zealand, 2007

Adding the ethnicity indicators to my model reduces the size and significance of the other independent variables, with the noted exception of those who had made one or two moves prior in the previous 10 years. In particular, the previously statistically significant positive linear effect of age becomes considerably smaller (from 0.0028 to 0.0017) and insignificant, even at the 5% confidence level. The significance of age squared, however, becomes hardly greater with the addition of the ethnic groups and the age satisfaction curve of chapter 6 increases more slowly (recall Table 6.14). The shallower curve indicates that post-move satisfaction increases at a slower rate with age when ethnicity is considered, but falls at approximately the same rate. As expected, ethnicity absorbs some of the age effect.

The different age profiles of the ethnic groups helps account for some of the increase in post-move satisfaction with age that I observed in chapter 6, with the previously positive effect of age being partly a composition effect generated by the presence of an older, more satisfied European population.

By contrast, the relationship between post-move satisfaction and ethnicity amongst those moving between LLMs is notable for a lack of influence. The lack of

significance could be due to the smaller sample of those moving between LLMs[33], as previous studies such as (Nowok et al., 2011) have also encountered. However, it is more likely to do with differences in the nature of adjustment of the different ethnicities as they adjust their housing within a LLM. Both Māori and Pacific Island populations are more likely to be renters, which combined with lower incomes gives them less control over when they move and where. For the given independent variables there is no significant difference in overall post-move satisfaction outcomes amongst different ethnic groups, although relative to Europeans, Chinese movers exhibit a large negative coefficient at 0.24 points.

Table 7.3: Linear regression, impact of ethnicity on overall post-move satisfaction, moves between local labour markets, New Zealand, 2007

Survey: Linear regression

Number of strata = 1	Number of obs	=	1040
	Population size	=	147682.11
	Replications	=	100
	Design df	=	99
	F(16, 84)	=	1.06
	Prob > F	=	0.4096
	R-squared	=	0.0253

Overall PMS		Coef.	Jackknife Std. Err.	t	P>|t|	[95% Conf. Interval]	
Distance	(ln)Distance	-0.0233292	0.0283864	-0.82	0.413	-0.079654	0.0329956
Time since	0<3 months	(ref)					
move	3<6 months	-0.1374488	0.1161310	-1.18	0.239	-0.3678779	0.0929804
	6<9 months	0.0080605	0.1229465	0.07	0.948	-0.235892	0.252013
	9<12 months	0.1434718	0.1198145	1.20	0.234	-0.0942661	0.3812098
	1<2 years	0.0027188	0.1217694	0.02	0.982	-0.2388981	0.2443356
Age	Centred age	0.0050603	0.0026689	1.90	0.061	-0.0002354	0.0103559
	Centred age^2	0.0000233	0.0001110	0.21	0.834	-0.0001968	0.0002435
Dwellings	Two	0.0326569	0.1081254	0.30	0.763	-0.1818874	0.2472013
past 10	Three	0.0930939	0.1010112	0.92	0.359	-0.1073343	0.293522
years	Four	-0.0157996	0.0980773	-0.16	0.872	-0.2104061	0.178807
	Five+	(ref)					
ln(length at prev. address)		-0.0069352	0.0346133	-0.20	0.842	-0.0756155	0.0617452
Ethnicity	European	(ref)					
	Māori	-0.1006481	0.0869585	-1.16	0.250	-0.2731926	0.0718965
	Indian	-0.2445958	0.2523067	-0.97	0.335	-0.7452271	0.2560355
	Chinese	0.0301210	0.1446863	0.21	0.836	-0.2569681	0.3172101
	Pacific	0.0410207	0.1610964	0.25	0.800	-0.2786295	0.3606709
	Not ident.	0.0308046	0.1226968	0.25	0.802	-0.2126525	0.2742616
	_cons	4.2885830	0.1652704	25.95	0.000	3.9606510	4.6165160

Source: Statistics New Zealand, 2007

Furthermore, not one independent variable in Table 7.3 has a statistically significant relationship with post-move satisfaction. At the same time, the positive slope of age remains positive but no longer significant at the 5% confidence level. Table 7.3 clearly shows that the current model is therefore a particularly poor predictor of the overall post-move satisfaction of those moving between LLMs in New Zealand.

[33] Of those moving between local labour markets 40 identified as Pacific Islanders, compared with 231 of those moving within them, as shown in Table 7.1.

Domains of post-move satisfaction.

With the mixed significance of ethnicity on the post-move satisfaction outcomes of movers, my attention shifts to the relationship between ethnic group and each post-move satisfaction domain. Given the generally higher post-move satisfaction outcomes reported by European movers, my initial expectation was that Europeans would also be associated with higher post-move satisfaction in most domains. However, the results shown in Table 7.4 suggest that identifying with a non-European ethnicity is associated with a more positive change in satisfaction in the five individual domains. While identifying with a non-European ethnicity does not lead to a statistically significant increase in post-move satisfaction across all ethnicities in all satisfaction domains, the pattern is nevertheless stark for in all but Māori outdoor satisfaction, the ethnicity coefficients are positive rather than negative.

Table 7.4: Estimates from linear regression, impact of ethnicity on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0057	0.0605**	-0.0194	0.0435**	0.0175	0.0225
Time since	0<3 months	(ref)					
move	3<6 months	0.1248*	0.1798*	0.1936*	0.1070	0.0183	0.0497
	6<9 months	0.1859***	0.1762*	0.2806***	0.0507	0.0544	0.1387*
	9<12 months	0.1113*	0.1207	0.1322	0.1232*	-0.0167	-0.0148
	1<2 years	0.0966	0.0539	0.1214	0.1009	-0.0402	0.0444
Age	Centred age	0.0017	0.0012	0.0013	-0.0005	-0.0028*	-0.0047***
	Centred age^2	-0.0001*	-0.0003***	-0.0003***	0.0002*	0.0000	0.0000
Dwellings	Two	0.0116	0.0783	0.0039	0.0163	0.0615	0.0346
past 10	Three	0.0994*	0.0877	0.034	0.0976	0.0936*	0.0313
years	Four	-0.032	0.0089	-0.0904	0.0074	-0.0277	0.0048
	Five+	(ref)					
ln(length at prev. address)		0.0065	-0.0465	-0.0483*	-0.0307*	-0.0431*	-0.0614***
Ethnicity	European	(ref)					
	Māori	-0.1674***	-0.0297	0.0126	0.0660	0.1059	0.1101*
	Indian	-0.1741*	0.3244**	0.1587	0.3170**	0.1095	0.1674
	Chinese	-0.2354***	0.0317	-0.0245	0.1424	0.0735	0.0626
	Pacific	-0.2479**	0.2055*	0.1330	0.2433**	0.0628	0.1197
	Not ident.	-0.1256	0.1819*	0.1774	0.1082	0.2422**	0.1250
	_cons	4.2632***	3.5958***	3.8273***	3.0128***	3.3344***	3.4250***
	N	3782	3780	3792	2996	3793	3789
	r2	0.03715	0.03042	0.02645	0.04283	0.02107	0.02768
	F	6.837	5.035	4.315	4.314	3.913	4.525

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Indian and Pacific Islander movers both experience a more positive change in outdoor environment and employment satisfaction, relative to before the move, relative to the European base. The satisfaction Indian movers gain from a change in their outdoor environment and their employment satisfaction is 0.32 points higher on the five point post-move satisfaction scale than Europeans, while the outdoor environment and employment satisfaction of Pacific Islanders is 0.2 and 0.24 points higher. Moving within a LLM represents a greater improvement in satisfaction with the standard of

living for Māori, 0.11 points higher than this domain registers for Europeans. Movers who do not identify with any one of the five main ethnic groups appear to experience the greatest improvement in social satisfaction, 0.24 points greater than that of Europeans, while also experiencing similar outdoor environment increases as Indian and Pacific Islanders.

The higher domain specific post-move satisfaction returns experienced by non-Europeans continues amongst those who have moved between LLMs, although as shown in Table 7.5, the statistical significance is generally reduced. Where the difference between ethnic groups is statistically significant, the magnitude of the difference in outcome is much greater than experienced amongst those moving within LLMs. For example, compared with European movers, the average level of post-move satisfaction with social life amongst Chinese and Pacific peoples is half a point higher on the 1-5 point post-move satisfaction scale.

Table 7.5: Estimates from linear regression, impact of ethnicity on post-move satisfaction, moves between local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0233	-0.0051	-0.0129	-0.0113	0.0055	-0.0619
Time since	0<3 months	(ref)					
move	3<6 months	-0.1374	0.1925	0.1878	-0.0036	-0.1016	0.1612
	6<9 months	0.0081	0.0024	0.2016	0.2632	-0.0822	0.0951
	9<12 months	0.1435	0.1184	0.2266	-0.0589	0.2242	0.2521
	1<2 years	0.0027	0.1930	0.3982*	-0.0923	0.0238	0.3500**
Age	Centred age	0.0051	0.0064	0.0082	-0.0035	0.0044	-0.0030
	Centred age^2	0.0000	-0.0002	-0.0001	0.0000	0.0000	-0.0001
Dwellings	Two	0.0327	0.1263	0.1433	-0.0472	0.0188	0.0938
past 10	Three	0.0931	0.1521	0.2790*	0.1149	-0.0808	0.0571
years	Four	-0.0158	0.1594	0.1142	-0.2259*	-0.126	-0.0091
	Five+	(ref)					
ln(length at prev. address)		-0.0069	-0.0646	-0.1425**	-0.0313	-0.0936*	-0.1178**
Ethnicity	European	(ref)					
	Māori	-0.1006	0.0725	0.2151*	0.1579	0.0862	0.1369
	Indian	-0.2446	-0.3192	0.1839	0.1103	0.3824	0.3967*
	Chinese	0.0301	0.3586	-0.2937	0.0707	0.5285*	0.2608
	Pacific	0.041	0.2538	0.1248	0.1682	0.5263*	0.1573
	Not ident.	0.0308	0.3423	0.5645*	-0.1165	0.1499	0.4493**
	_cons	4.2886***	3.5555***	3.3806***	3.5111***	3.3349***	3.5871***
	N	1040	1030	1037	811	1039	1037
	r2	0.0253	0.04483	0.08659	0.04293	0.04715	0.08305
	F	1.056	1.778	1.81	1.834	2.224	2.934

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

For Māori, Indian, Chinese and Pacific Islanders, the statistical difference in satisfaction relative to European movers is limited to a single domain each, be it housing, social life or standard of living satisfaction. This may indicate that when moving between LLMs, each ethnic group tends to prioritise satisfaction in a particular domain, or alternatively, that the domains where pre-move dissatisfaction is notably higher varies by ethnicities.

For each ethnicity, the domain in which they experienced higher satisfaction relative to Europeans when moving between LLMs is not the same as experienced when moving within. Ethnic groups seem to separate differently from Europeans depending on whether they move within or between LLMs. For instance, while the post-move employment satisfaction of Pacific Islanders is higher than Europeans when moving within LLMs, this is not the case when moving from one LLM to another.

At this stage in my analysis, it is unclear how much of the difference between ethnicities is intrinsic to each ethnic group and how much reflects differences in the otherwise unobserved socio-economic characteristics of each ethnic group. Some of the previously quantified age effects are diminished with the inclusion of the ethnic groups, indicating that the age profiles of the different ethnic groups, and potentially the relative socio-economic characteristics of each group, contributed to the previously observed age effects.

The main point that I take away from the estimates at this stage of the modelling process is that Europeans are most satisfied with how things have turned out overall following a move, but experience smaller improvements in the specific satisfaction domains. One interpretation of this result is that non-Europeans make the greatest absolute gains, that is, they benefit the most from moving, but because of lower pre-move satisfaction, their overall satisfaction with how things worked out remains lower. Another interpretation is that while non-Europeans make the greatest satisfaction gains when moving, they are also more likely to over-estimate the outcomes of their move or simply have higher aspirations and expectations.

The statistical significance of the satisfaction differences between Europeans and non-Europeans is generally limited to one or two domains per ethnic group. Because of this, another interpretation is that movers of non-European ethnic groups are less likely to realise broad satisfaction gains due to cultural or socio-economic considerations.

In summary, a number of patterns emerge from the analysis of post-move satisfaction results by ethnicity. While the average level of post-move satisfaction is positive across all domains and all ethnic groups, it is apparent that on average movers of all ethnicities are satisfied to some degree with how things worked out following a

move and experience a net average improvement in domain satisfaction following the change of residence.

Non-European ethnic groups, despite having lower levels of overall post-move satisfaction, appear to benefit the most in particular domains as a result of their move. European post-move satisfaction is higher than other ethnicities for overall post-move satisfaction and generally lower than other ethnicities in the specific domains. Given the wording of the questions on satisfaction outcomes, it is possible that moving is a process in which ethnic groups such as Māori and Pacific Islanders can make considerable improvements in their situation, but this still leaves them further away from their desired circumstances.

7.3 Modelling nativity

Exploring the association between ethnicity and post-move satisfaction exposes another layer, namely, whether being born in New Zealand plays a role in the post-move satisfaction outcomes of the different ethnic groups. The survey asked whether respondents were born in New Zealand or in another country. Question HQ03:

"What country were you born in?"

From this question, I differentiate those movers who were born in New Zealand and those movers who were born overseas. One particular challenge with this variable is that the question does not allow for the differentiation between recent immigrants and migrants who have lived in New Zealand for a considerable length of time. With different ethnic groups experiencing different immigration histories, the average length of time spent in New Zealand by those not born in New Zealand may be greater for some ethnic groups such as Europeans than for others such as Pacific islanders or, in particular, Chinese.

From Table 7.6, it appears that when taking the entire internal mover population as a whole, New Zealand born movers experience a greater average level of overall post-move satisfaction than those movers who were born overseas. For all moves, the average reported level of overall satisfaction reported by movers born in New Zealand, at 4.23 points, is a relatively small 0.04 points higher than those born overseas (4.19 points). 77% of all movers were born in New Zealand.

Table 7.6: Summary statistics, overall post-move satisfaction by nativity and labour market change, New Zealand, 2007

New Zealand born	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Overseas	4.19	0.777	913	0.237	4.18	0.785	205	0.193	4.19	0.779	1118	0.228
NZ	4.26	0.785	2935	0.763	4.14	0.835	858	0.807	4.23	0.799	3793	0.772
Total	4.24	0.784	3848	1	4.14	0.825	1063	1	4.22	0.794	4911	1

Source: Statistics New Zealand, 2007

When limited just to those moving within LLMs, the difference in the average satisfaction of the two groups is slightly greater at 0.07 points, with New Zealanders more satisfied (4.26 points). In contrast, for those moving between LLMs, overseas born movers report an average level of post-move satisfaction 0.04 points higher than their New Zealand born counterparts at 4.18 points.

Despite experiencing a higher average level of post-move satisfaction, overseas born movers comprise a smaller proportion of the inter-LLM population (19.3%) than they do the intra-LLM population (23.7%). Put another way, New Zealand born movers comprise a greater proportion of moves between LLMs than they do amongst moves within them even though they experience, on average, relatively poorer satisfaction outcomes. The model is as follows:

$$(7.2)\ y_i = \alpha + \beta X_i + \beta BornNZ_i + \varepsilon_i$$

where y_i is the estimate of the mean overall post-move satisfaction of the ith mover, X is the vector of the independent variables introduced so far, BornNZ identifies whether the individual is born in New Zealand (1) or not (0) and ε_i is the unexplained error.

When added to my OLS regression model, however, the difference in the post-move satisfaction outcomes of those born in New Zealand and those born overseas is small and is not statistically significant. There is little, if any, change in the ethnicity coefficients, indicating that the higher relative overall satisfaction of Europeans is not a result of any differences in the proportion of them being born in New Zealand.

While being born in New Zealand does not influence the average level of post-move satisfaction, being born in New Zealand does lower the probability of experiencing an increase in social life satisfaction following the move, although again this result is only significant at $p < 0.05$. This may indicate that when moving within a LLM, overseas born movers may be more likely to move locally in order to strengthen their social networks.

Just as there was little difference in the average level of post-move satisfaction outcomes of different ethnic groups or between those born in New Zealand and those born outside New Zealand, there is little difference in the probability of a successful move result. It is only those who do not identify with one of the main ethnic groups that experience a difference in the probability of a successful move outcome, and only in the post-move employment satisfaction domain, where they are 3.28 times more likely than Europeans to report a either no change or a decrease in employment satisfaction relative to prior to the move.

7.4 Conclusion

In this chapter I have considered how the post-move satisfaction outcomes of different ethnic groups and those born in New Zealand and overseas differ. I started by outlining some of the reasons why there may be differences in the satisfaction outcomes of movers from different ethnic groups. Different immigration and internal migration histories may have implications on the outcomes of movers by shaping where individuals have settled and how their social networks are distributed. The cultural differences in how different ethnic groups interact may influence their outcomes as they move. Discrimination and residential segregation of ethnic groups may also have an influence on the satisfaction outcomes of movers by constraining the opportunities of movers, but their existence in the New Zealand context is debated. Variations in the demographic and socio-economic characteristics of ethnic groups may also influence the satisfaction outcomes experienced when moving. The relative age profiles of the various ethnic groups may be associated with some of the observed age effects. Socio-economic characteristics yet to be accounted for may have an as yet unobserved association, and any conclusions need to be made with these in mind.

I find that there are some differences in the average post-move satisfaction outcomes of movers depending on the ethnic status(es) they identify with, as well as their probability of a successful move outcome. Given the absence of many socio-economic characteristics, it is unclear whether these differences are endogenous to particular ethnic groups or rather due to the yet unobserved socio-economic differences. The inclusion of ethnic status does result in the overall post-move satisfaction associated with age being diminished slightly once the differences between ethnic groups are accounted for.

For both moves within and between LLMs, identifying with an ethnic minority is associated with a lower level of overall satisfaction with how things worked out following the move. But while non-Europeans are less satisfied with how things worked out following a move, they report more positive changes in satisfaction in each of the remaining satisfaction domains. The differences in post-move satisfaction outcomes between ethnic groups tend to occur amongst moves within LLMs, rather than amongst those occurring between LLMs. Amongst moves within LLMs, those who identify with a Non-European ethnic group tend to report a greater improvement in specific satisfaction domains following a move relative to European movers, but also tend to report lower overall satisfaction relative to European movers.

While there are differences in the tabulated post-move satisfaction outcomes between New Zealand born and overseas born movers, my regression models indicate that in most domains of satisfaction, the differences between New Zealand born and overseas born movers do not appear to be a result of being born overseas. This is the case for both moves within LLMs and for moves between them. The exception is of course social life satisfaction, where for the given independent variables, movers who are born outside of New Zealand report lower probabilities of improvement in post-move social life satisfaction for moves within LLMs. This may be indicative of the importance of tight, localised social networks desired by foreign born movers or simply unobserved characteristics.

For those who identify with a non-European ethnicity, residential mobility may well be one way of tangibly improving aspects of their residential situation. The lower overall satisfaction with how things worked out following their move reported by non-European ethnic groups may be more reflective of lower life satisfaction prior to moving, or alternatively, reflective of increasing expectations and aspirations resulting from moving. In the following chapters I continue to unravel the factors attributed to these observed satisfaction outcomes.

Chapter 8: Gender and cohabitation differences

In the last chapter, I examined the role that ethnicity and being born overseas had on post-move satisfaction. I found that there was an association between post-move satisfaction and ethnicity, but being born overseas had very little association. In this chapter I consider the influence that gender, cohabitation and changes to cohabitation have on the satisfaction outcomes of movers. Conceptually, these are addressed in the family and tied migration literatures. The study of gender as a factor in determining differences in residential mobility and migration has been of particular interest to researchers, but little has been said about possible differences in their subjective outcomes.

While women are considered to be more mobile than men, a considerable body of literature has focused on the lower average economic returns experienced by female movers (Cooke, 2008, Mincer, 1978, Boyle et al., 2003, Boyle et al., 2001). Gender bias within the household relocation decision-making process is thought to drive these lower returns, even in dual-earner households (Cooke, 2008).

Only lately have male and female movers actually been asked to express how they feel about the outcomes they have experienced (Nowok et al., 2011, Lu, 2002, Lundholm and Malmberg, 2006, De Jong et al., 2002). Questions still remain. For example, the effect of cohabitation on the post-move satisfaction of men and women has been considered across both genders and found to be positive. However, importantly for tied migration research, it has not been asked whether men and women benefit *differently* from cohabitation. *Changes* in cohabitation and their influence on post-move satisfaction have also yet to be studied. In this chapter I consider both.

Contemporary work studying the effects of gender on migration outcomes has focused mainly on the economic and employment differences in migration outcomes. From a post-move satisfaction perspective, economic and employment outcomes are only one possible measure of outcomes. Researchers such as Brett (1982) have considered the gendered well-being outcomes of job related moves and, more recently, the gendered well-being outcomes of moves in general (Magdol, 2002). While residential mobility research has found that women usually experience less positive economic outcomes as a result of migration (Boyle et al., 2001, Cooke et al., 2009, Butler et al., 1973), the post-move satisfaction literature shows that results are quite

mixed (Barcus, 2004, Brett, 1982, Lu, 2002, Lundholm and Malmberg, 2006, Magdol, 2002).

In terms of economic outcomes, women tend to be worse off when a family unit moves between LLMs, with males experiencing better income and career returns from migration relative to women (Mincer, 1978, DaVanzo, 1976). Female movers experience lower income and hourly rates, lower positions, fewer hours (as in a move from fulltime to part-time employment), higher unemployment rates and a higher prevalence of withdrawal from the labour market, at least in the short-term (Boyle et al., 2003, Boyle et al., 2001, Taylor, 2007, Withers and Clark, 2006, DaVanzo, 1976, Mincer, 1978, Sjaastad, 1962).

Work on the gender outcomes of migration undertaken in the 1970s was largely based on a family centred human capital approach Cooke (2008), which led to the notion of 'tied' migration orientated around male lead migration and the 'trailing wife'. A move was conceptualised as being based on the net expected economic outcomes of the household with the decrease or loss of income and/or employment by one individual in the household being offset by a greater net increase in income by others and in the family unit as a whole[34] (Mincer, 1978). For the traditional nuclear family with a male breadwinner, women were thought to be generally forced into 'adjusting to', or accepting, less positive outcomes for themselves in order to maximise the outcomes of the primary household earner and (hence) the household as a whole.

However, a subsequent study has argued that the human capital approach to migration outcomes of families fails to account for all of the poorer move outcomes of wives. Instead, migrations were found to favour a husband's migration outcomes even when their wives held similar or higher occupational status (Lichter, 1980, Lichter, 1983).

Focus also now shifted from the 'traditional nuclear family unit' to a more heterogeneous set of household unit types. In his review of family migration, Cooke (2008) noted that, "as the empirical evidence mounted that the human capital explanation for the trailing wife effect was not adequate, Shihadeh (1991) and Bielby and Bielby (1992) offered an alternative theoretical explanation based upon gender role

[34] Provided the individual losses are not as large as to 'undermine family integrity' (Mincer, 1978: p. 770).

theory" (Cooke, 2008: p. 260). This gender effect suggests a bias in the moving decision-making process, where the economic and labour outcomes of husbands is given greater importance than those of a wife, even when the household's net benefits associated with a move for a wife's employment are positive.

If post-move satisfaction of women was directly linked to their post-move outcomes as tied movers then they would experience lower levels of post-move satisfaction than their male counterparts. Gender inequality in the relocation decision-making *process* would also be expected to result in lower post-move satisfaction outcomes. But of course, not all moves are undertaken by family units. In many cases, moving is an individual affair unbound by the consideration of a partner.

Research into the well-being and satisfaction outcomes experienced by movers finds that the relative mobility outcomes of women are mixed. Magdol (2002) asked whether female movers experienced worse psychological health following a move, because they were exposed to a greater amount of stress. Magdol concludes that "moving may contribute a small amount to gender differences in depression, but depression itself may be the more significant issue" (Magdol, 2002) 554. That is, depression as a manifestation of extreme dissatisfaction is higher amongst women than men, and higher amongst women who move than those who do not. Her study also uncovered gender differences in both exposure to, and the methods of coping with, stress. Female movers, she argued, were more affected by a lack of presence of family and friends following a move and this may indicate that female movers are more acutely affected by longer distance moves than their male counterparts.

Barcus (2004), found that women moving from urban to rural destinations in the United States are less likely than men to report an improvement in their residential quality following a move. On the other hand, Lu (2002), studying intra- and interregional moves in the United States, uncovered insignificant differences in the outcomes of male and females.

Based on analysis of the British Household Panel Survey (BHPS) Nowok et al. (2011) is adamant that, "the happiness of women, who are more often tied migrants, does not seem to be dented even though their career opportunities may become more limited" (Nowok et al., 2011: p. 12). However, they noted that "The sample size for longer distance [>25km] migrants is small, however, and so some caution is required to

limit reading too much into trends for this group" (Nowok et al., 2011: p. 12). It is likely these findings reflect moves within LLMs, which are far less socially and economically disruptive than moves between them.

There is evidence that men and women may experience varying levels of post-move satisfaction across different domains of satisfaction. Lundholm and Malmberg (2006) in their study of Scandinavian migration, found that women are more likely to report higher post-move satisfaction in nearly all of the domains of satisfaction that they study: living, environment, service and facilities, livelihood and social life. Yet they found that female overall post-move satisfaction is not significantly different from that reported by males. Lundholm and Malmberg (2006) suggest that with women having been found to experience relatively poorer income and career outcomes as a result of migration, poorer satisfaction outcomes in these satisfaction domains – which they did not measure – may reduce the overall post-move satisfaction reported by women to levels similar to those reported by men (Lundholm and Malmberg, 2006).

Many researchers control for the effect of either marriage (De Jong et al., 2002, Lu, 2002) and/or cohabitation (Lundholm and Malmberg, 2006, Nowok et al., 2011) on post-move satisfaction in their model. Controlling for marriage or cohabitation potentially accounts for some effects of the 'tied' migration experienced by women who do not live alone, but with the exception of Nowok et al. (2011), who looks at the fixed effect of partnership status, implies that the effect of cohabitation is the same for both male and female movers.

Lu (2002) found that married movers had a higher probability of having a better home than unmarried movers when moving within a region, but were less likely to have the same housing consequences when moving between regions. In the Nordic countries, couples experienced higher post-move outcomes than those who are not cohabiting with a partner following their move (Lundholm and Malmberg, 2006). Couples in the Nordic countries may, therefore, have access to a greater range of resources than single individuals. These resources may include a wider joint knowledge of destinations and a reduction of risk with the ability of one member to secure employment while the other continues to search for appropriate employment. Nowok et al. (2011) found that men and women who are married or living as a couple had higher life satisfaction than those who were not married or living as a couple.

In summary, there is a relative disconnect between the standard economic outcomes associated with moving, such as wages and employment, and the post-move satisfaction outcomes as they are measured for both men and women. Migration is usually associated with poorer economic and employment outcomes for women. But there is little observed gender differences in overall post-move satisfaction outcomes associated with moves. Domain satisfaction may be important in reconciling this difference, but the link between post-move employment satisfaction and overall post-move satisfaction requires additional research. In the DMM survey, opportunity exists to measure not just whether cohabitation is associated with higher post-move satisfaction of both men and women, but to also consider how cohabitation affects the differences in the post-move satisfaction of men and women. The New Zealand survey also opens the opportunities to examine how gender and cohabitation interact in modifying satisfaction across the domains.

8.1 Measuring gender

I start my analysis into role of gender and cohabitation on the post-move satisfaction with the differences between men and women. Table 8.1 tabulates the average post-move satisfaction responses of males and females, distinguishing once again between moves within and between LLMs.

Table 8.1: Summary statistics, overall post-move satisfaction by gender and local labour market change, New Zealand, 2007

Sex	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Female	4.26	0.788	2195	0.57	4.17	0.805	580	0.55	4.25	0.793	2775	0.56
Male	4.22	0.776	1654	0.43	4.11	0.848	483	0.45	4.19	0.795	2137	0.44
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: Statistics New Zealand, 2007

On average, females moving within New Zealand experience higher overall post-move satisfaction than males, with a mean of 4.25 >4.19 on the 1-5 point scale. The higher average post-move satisfaction reported by women applies to moves within and between LLMs: a difference of 0.04 and 0.06 respectively. Both men and women are less well off when changing LLMs, but, the reduction is greater for men.

I had anticipated women to be less well off when moving between LLMs, assuming greater sensitivity to detachment from friends and family and decision-making asymmetry leading to poorer individual economic outcomes. However, moves between LLMs require both a change in workplace and a change of residential address.

Moving both house and workplace may place greater stress on men if they are more likely to work, particularly if they believe the success of the move is determined by increases in their employment. In addition, as Lundholm and Malmberg (2006) suggest, either men are not as good at maintaining their social life following a move between regions or they are undertaking types of moves that result in less positive social life outcome.

Results

In order to analyse the relationship between gender and post-move satisfaction I add gender to my OLS regression model, so my regression formula becomes:

(8.1) $y_i = \alpha + \beta X_i + \beta Gender_i + \varepsilon_i$

where y_i is the overall post-move satisfaction of the ith mover, X refers to the set of previously added independent variables and the right parameter is the effect of being male (1) over female (0), ε_i is the unexplained error.

Given the increasing complexity of the models, I modify my presentation and progress straight to the coefficient table for all satisfaction domains. The results in Table 8.2 indicate that for moves that take place within LLMs, the negative coefficient of being male is only -0.05 and the difference is not statistically significant at p = 0.05. At least on the basis of the controls already in place, it appears that men and women experience similar levels of post-move satisfaction when moving within the LLM.

In domain satisfaction, amongst those moving within LLMs, being male is associated with a less positive change in housing satisfaction, 0.10 points lower than females. Male movers are also associated with a less positive change in outdoor satisfaction, although the difference between the genders is not statistically significant. I also find that while the change in employment satisfaction of men is more positive, at 0.05 points, the difference is also not statistically significant. So, in short, at the domain level, it is only the male's lower satisfaction with the new house that prevails.

Table 8.2: Estimates from linear regression, impact of gender on post-move satisfaction, moves within local labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0063	0.0619***	-0.0173	0.0418*	0.0176	0.0226
Time since	0<3 months	(ref)					
move	3<6 months	0.1227*	0.1833*	0.1974**	0.1039	0.023	0.0512
	6<9 months	0.1832***	0.1751*	0.2776***	0.0522	0.0573	0.1395*
	9<12 months	0.1106*	0.1209	0.1322	0.1244*	-0.0154	-0.0144
	1<2 years	0.0948	0.0557	0.1222	0.1026	-0.0364	0.0456
Age	Centred age	0.0017	0.001	0.001	-0.0005	-0.0029**	-0.0048***
	Centred age^2	-0.0001*	-0.0003***	-0.0003***	0.0002*	0.0000	0.0000
Dwellings	Two	0.0141	0.0796	0.0071	0.0155	0.0594	0.0341
past 10	Three	0.1030**	0.0921	0.0412	0.0949	0.0928*	0.0313
years	Four	-0.0298	0.0089	-0.09	0.0077	-0.0309	0.0038
	Five+	(ref)					
ln(length at prev. address)		0.0056	-0.046	-0.0481*	-0.0315*	-0.0411*	-0.0607**
Ethnicity	European	(ref)					
	Māori	-0.1715***	-0.0247	0.0161	0.0625	0.1176*	0.1141*
	Indian	-0.1722*	0.2768*	0.1025	0.3598**	0.0611	0.1497
	Chinese	-0.2313***	-0.0115	-0.0745	0.1836	0.0265	0.0456
	Pacific	-0.2473**	0.1814	0.1043	0.2664***	0.0386	0.1109
	Not ident.	-0.1287	0.1338	0.1176	0.1567	0.2012*	0.1095
Place of	Overseas	-0.0036	-0.0697	-0.0861	0.0667	-0.0615	-0.0231
birth	New Zealand	(ref)					
Gender	Female	(ref)					
	Male	-0.0524	-0.0618	-0.1049**	0.0544	0.0193	0.0027
	_cons	4.2917***	3.6779***	3.9427***	2.9341***	3.3706***	3.4409***
	N	3781	3779	3791	2995	3792	3788
	r2	0.03833	0.03202	0.03008	0.04551	0.02188	0.02775
	F	7.111	4.719	4.462	3.949	3.659	3.966

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

For moves between LLMs, shown in Table 8.3, male post-move satisfaction is even lower than moves within (-0.13 > -0.05) and at slightly higher level of significance. In summary then, it is males whose post-move satisfaction is lower for moves within but primarily between LLMs.

For those moving between LLMs, men still experience a less positive change with respect to housing, as well as with outdoor satisfaction. The change in employment satisfaction remains but is not statistically significant. In contrast to those individuals moving within LLMs, when moving between them, it is males who experience notably less positive change in social life satisfaction, 0.17 points lower than women.

Lundholm and Malmberg (2006) suggested that higher satisfaction in non-economic domains experienced by women may be offset by lower economic and employment outcomes relative to men. At this stage, my findings indicate that there is evidence to suggest that this may be the case, but not conclusively so.

Table 8.3: Estimates from linear regression, impact of gender on post-move satisfaction, moves between labour markets, New Zealand, 2007.

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0205	-0.0026	-0.012	-0.0127	0.0094	-0.06
Time since	0<3 months	(ref)					
move	3<6 months	-0.1346	0.1886	0.1922	-0.0056	-0.1044	0.1644
	6<9 months	-0.0008	-0.006	0.1995	0.2696	-0.0957	0.0900
	9<12 months	0.1367	0.1145	0.2246	-0.0517	0.2156	0.2491
	1<2 years	-0.0048	0.1905	0.3940*	-0.0864	0.0168	0.3447**
Age	Centred age	0.0053*	0.0065	0.0083	-0.0040	0.0046	-0.0028
	Centred age^2	0.0000	-0.0002	-0.0001	0.0000	0.0000	-0.0001
Dwellings	Two	0.0228	0.1211	0.1378	-0.0408	0.0096	0.0867
past 10	Three	0.1005	0.1587	0.2811*	0.1092	-0.0699	0.0619
years	Four	-0.0243	0.1532	0.1101	-0.2170*	-0.1352	-0.0151
	Five+	(ref)					
ln(length at prev. address)		-0.0045	-0.0613	-0.1423**	-0.0337	-0.0891*	-0.1166**
Ethnicity	European	(ref)					
	Māori	-0.0975	0.0908	0.2073*	0.1555	0.1066	0.1356
	Indian	-0.2652	-0.4229	0.2245	0.1077	0.2663	0.4014
	Chinese	0.0043	0.2516	-0.2551	0.0723	0.4061	0.2623
	Pacific	0.0562	0.2331	0.148	0.1458	0.5137*	0.1739
	Not ident.	0.0154	0.2697	0.5922*	-0.1224	0.0681	0.4519*
Place of	Overseas	-0.0397	-0.1411	0.0462	0.0096	-0.1637	-0.0029
birth	New Zealand	(ref)					
Gender	Female	(ref)					
	Male	-0.1296*	-0.1089	-0.0422	0.0957	-0.1758*	-0.0829
	_cons	4.3759***	3.7137***	3.3620***	3.4580***	3.5408***	3.6243***
	N	1040	1030	1037	811	1039	1037
	r2	0.03181	0.04896	0.08719	0.0454	0.05712	0.08517
	F	1.344	1.776	1.706	1.669	2.115	2.972

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Lundholm and Malmberg (2006) also posited that men are either not as good at maintaining their social life following a move between regions, or they are undertaking types of moves that results in less positive social life outcome. With moves between LLMs having a less positive influence on the social lives of men relative to women, my results support these suggestions at this stage.

8.2 Measuring cohabitation

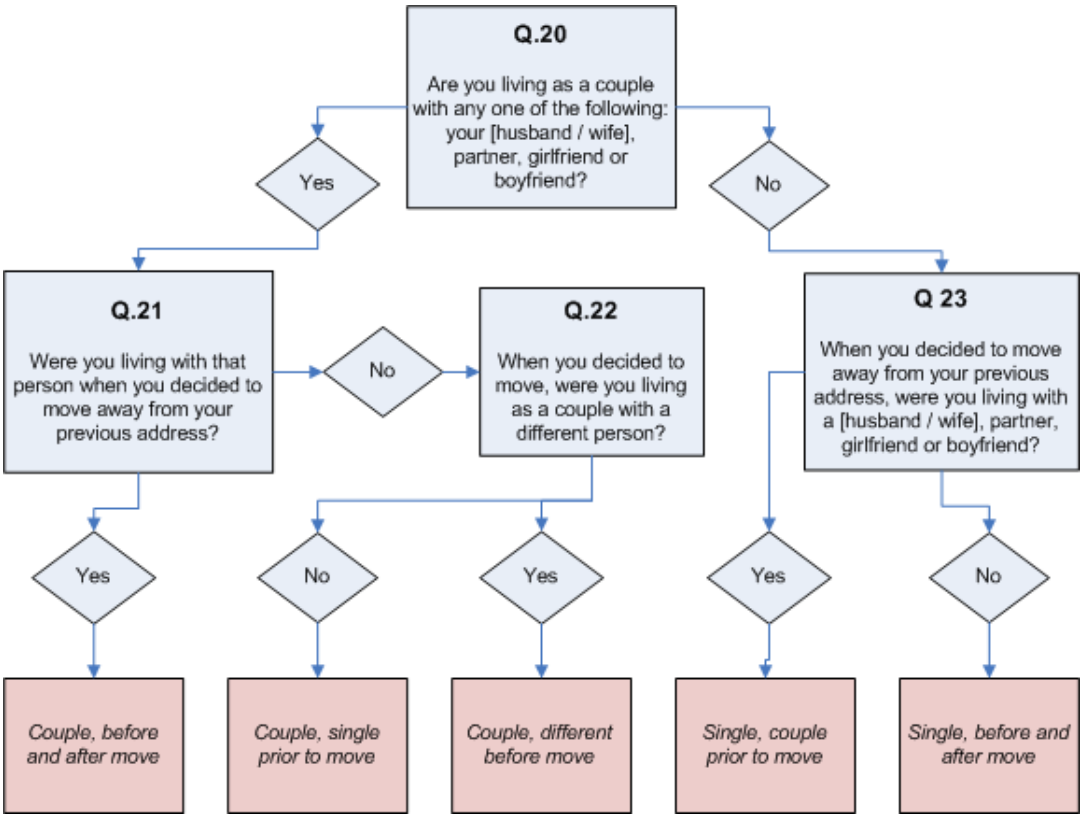
Given the perceived importance of the family decision-making process in determining the outcomes of men and women following a move (Bielby and Bielby, 1992, Shihadeh, 1991), I continue my analysis by introducing cohabitation into the model. I question whether the differences between men and women observed in my previous model are influenced by whether movers move as a couple or not.

The survey included four questions regarding the cohabitation status of movers prior and following a move. The calculation of cohabitation status is shown in Figure 8.1. All respondents who indicated that they had moved residence in the previous two years were asked question B20:

"Are you living as a couple with any of the following: your [husband / wife], partner, girlfriend or boyfriend."

Depending on their response, each mover was subsequently asked one or two further questions in order to determine their cohabitation status both when they decided to move and when they were interviewed following their move.

Figure 8.1: Flow diagram outlining the calculation of cohabitation status, DMM survey, 2007.



From these questions I am able to determine five different relationship statuses that measure the change, or lack thereof, in the cohabitation status of each mover. I use these to create the following cohabitation statuses[35]:

[35] While I am easily able to calculate the gender and cohabitation statuses of respondents from the survey at the time they decide to move and again at the time of their interview following their move, I note that in each category a number of different cohabitation transitions may have occurred within the intervening period. For example, consider those who were not living with a partner when they decided to move or when they responded to the survey. At first glance it might be expected that none of the movers in this category cohabited with a partner at any point following their decision to move. However, it is possible that the initial move was a household creation move involving two individuals living apart moving in together, followed by the cohabiting partner moving out prior to the survey. Therefore, while the respondent is not listed as having cohabited, it is quite possible the initial decision to move involved another person. In this regard, there is a degree of inaccuracy inherent in this measure of cohabitation that may not be resolved until reasons for moving are included.

‘Couple, before and after’ - movers who were living together as couple with another person at the time they decided to move and are still living together with that person at the time of interview.

‘Couple, single prior to move’ – movers who were not living with someone when they decided to move, but at the time of interview are now living as a couple with another person.

‘Couple, different before move’ - movers who were living together as a couple when they decided to move, but at the time of the interview they are now living with a different person.

‘Single, couple prior to move’ – movers who were living as couple with another person when they decided to move but who were single at the time of being interviewed. This group can be defined as cohabitation dissolution.

‘Single before and after move’ – movers who were not living in a relationship with another person when they decided to move and at the time of interview.

The distribution of movers by cohabitation category is shown in Table 8.4. Two groups predominate: the most populous group, making up approximately half the mover population (53.0%), are those who were cohabiting with the same person when they decided to move and at the time of interview. The second largest group with 35.6% of movers, are those who were single prior to moving and at the time of interview. Therefore, over 88% of movers had the same cohabitation status when they decided to move and when they were interviewed.[36] The remaining 12% represent those who at the time of being interviewed reported a cohabitation status that was different to when they decided to move. Those who are ‘newly single’ (having previously been cohabiting with a partner when deciding to move) and those who are newly cohabiting couples (having been single when deciding to move) comprise only 5% of the mover population each. Less than one percent of movers were cohabitating with a different partner from the one they lived with when deciding to move.

[36] Although as noted, it is possible that they changed cohabitation status during the intervening period.

Table 8.4: Summary statistics of overall post-move satisfaction by cohabitation status and local labour market change, New Zealand 2007

	Male				Female				Total moves			
Cohabitation	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Existing Couple	4.32	0.744	1215	0.569	4.34	0.767	1388	0.501	4.331	0.756	2603	0.530
New Couple	4.23	0.738	115	0.053	4.22	0.791	142	0.051	4.224	0.768	257	0.052
Different Couple	4.17	0.857	18	0.008	4.46	0.660	13	0.004	4.292	0.793	31	0.006
Still Single	4.01	0.826	696	0.326	4.14	0.804	1052	0.379	4.088	0.815	1748	0.356
Newly Single	3.84	0.893	92	0.043	4.08	0.842	178	0.064	3.998	0.867	270	0.055
Total	4.19	0.807	2136	0.999	4.24	0.804	2773	0.999	4.218	0.805	4909	0.999

Source: Statistics New Zealand, 2007

Several new patterns appear when I tabulate overall post-move satisfaction for each cohabitation group. Existing couples report the highest average level of satisfaction at 4.33 points, with the satisfaction new couples and different couples less than 0.11 points lower. Movers who are cohabiting with a partner following a move therefore report higher average levels of overall post-move satisfaction than those who are not cohabiting with a partner. The 'newly single' report the lowest average satisfaction at 4 points, 0.33 points lower than existing couples and those who did not cohabit with a partner when they decided to move and when they undertook the interview are 0.24 points less satisfied at 4.09 points. Like ethnicity, I think there is a general satisfaction component here, in that those with higher life satisfaction are also likely to be more satisfied with how things worked out following their move. I equate this to being closer to their aspirations.

The difference between genders is greatest amongst the single[37], most notably the newly single, where the satisfaction of female movers is 0.24 points higher than newly single men. Females have higher average overall post-move satisfaction than males in all but one cohabitation type, new couples, perhaps indicating that while they are typically more satisfied, they are more likely to make adjustments, or benefit less, when establishing a relationship.

Due to the higher propensity for female movers to be single following their move than males, the average satisfaction of female movers is lower than it would be if the mover's cohabitation status is taken into account. However, overall, this is offset by the much lower level of satisfaction exhibited by men who are single following their move.

[37] 'Different couples' is highest but may be skewed by small frequency

The difference in average satisfaction across the cohabitation statuses of men and women who moved within and between LLMs is also informative, if more complicated. Table 8.5 illustrates that for existing couples, the difference in post-move satisfaction between males and females is quite small. At 0.01 points on the y scale higher, males (4.27) are slightly better off of average than females (4.26) when couples undertake a migration between LLMs. In comparison, when moving within a LLM males (4.34) are on average 0.02 points less satisfied than their female (4.36) counterparts.

Table 8.5: Summary statistics of overall post-move satisfaction by gender, cohabitation status and local labour market change, New Zealand 2007

	Moves within labour markets				Moves between labour markets				Total moves			
Cohabitation status, by gender	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Existing Couple,Male	4.34	0.72	957	0.249	4.27	0.829	258	0.243	4.32	0.744	1215	0.247
Existing Couple,Female	4.36	0.766	1115	0.29	4.26	0.768	273	0.257	4.34	0.767	1388	0.282
New Couple,Male	4.25	0.721	92	0.024	4.13	0.815	23	0.022	4.23	0.738	115	0.023
New Couple,Female	4.21	0.806	109	0.028	4.24	0.751	33	0.031	4.22	0.791	142	0.029
Different Couple,Male	---	---	---	---	---	---	---	---	---	---	---	---
Different Couple,Female	---	---	---	---	---	---	---	---	---	---	---	---
Still Single,Male	4.04	0.828	517	0.134	3.93	0.814	179	0.168	4.01	0.826	696	0.142
Still Single,Female	4.16	0.796	827	0.215	4.08	0.834	225	0.212	4.14	0.804	1052	0.214
Newly Single,Male	3.88	0.849	73	0.019	3.68	1.057	19	0.018	3.84	0.893	92	0.019
Newly Single,Female	4.11	0.829	134	0.035	4.00	0.889	44	0.041	4.08	0.843	178	0.036
Total	4.24	0.784	3848	1	4.14	0.825	1061	1	4.22	0.794	4909	1

Source: Statistics New Zealand, 2007

The reverse is true amongst new couples, with average male post-move satisfaction lower when moving between LLMs (4.13 between to 4.25 within) while average female post-move satisfaction is higher (4.24 between to 4.21 within). Those who are single following a move continue to report lower average post-move satisfaction than those who are cohabiting with a partner, both when moving within and between LLMs. Single males are less well-off than females. The negative effect of moving between LLMs is more pronounced for males who are single following their move, particularly those who are newly single.

Tables 8.5 indicates a complex relationship between gender, cohabitation, LLM change and post-move satisfaction. There is evidence to suggest that overall there may be a tied migration effect, with females cohabiting with a partner relatively worse off compared to their male counterparts when moving between LLMs. However, any 'tied' effect seems to be more than offset by the higher average satisfaction related to being in a relationship. As a result, cohabitation tends to increase the average level of overall post-move satisfaction for both genders, but overall, the increase appears greater

for males than females. Female movers, it seems, do benefit from cohabitating with a partner, just not as much as males.

Results

To test the effect of cohabitation status on the post-move satisfaction outcomes of movers, I add the cohabitation variables to my OLS regression model. Again, the key question from the literature that I ask is whether women benefit less from the move and whether this is because women who move with a partner benefit less. Therefore, the model takes the form:

(8.2) $y_i = \alpha + \beta X_i + \beta Gender.Cohabitation_i + \varepsilon_i$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X are the preceding independent variables and Gender.Cohabitation is the difference between each gender and cohabitation status and being a female in an existing relationship and ε_i is the unexplained error.

The linear regression table for moves within LLMs is presented in Table 8.6. With the inclusion of relationship status by gender, instead of simply gender alone, my regression model accounts for slightly more of the variation in overall post-move satisfaction ($R_{cohabitation}^2 = 0.057 > R_{gender}^2 = 0.038$). For the given variables, women who cohabited with their partner before and after the move have the highest level of satisfaction with how things worked out following move. While less satisfied, the difference between these women and other movers who are cohabiting with a partner following a move is statistically insignificantly different to zero. It would appear that females who live with a partner following a move do not benefit less than their male counterparts.

All movers who are single following the move show a negative level of satisfaction compared with females in an existing cohabitation partnership, with men more so. Movers who were newly single following the move were worse off than those who were single prior to the move. With a coefficient of -0.43, the association between overall post-move satisfaction and being both male and being 'newly single' appears to compound for newly single men. These large coefficients therefore reference the importance of relationship status in post-move satisfaction.

The results are not dissimilar to the previous influence of cohabitation on overall post-move satisfaction or those found when considering the impact of gender on post-move satisfaction. Women in existing cohabitation relationships tend to have a higher level of satisfaction than those who are single following their move, with 'singles' experiencing less positive improvements in outdoor, housing and standard of living satisfaction. Men in existing relationships have a less positive increase in housing satisfaction, 0.07 points lower.

Unlike overall post-move satisfaction, statistically significant differences are not only limited to those who are single following a move in these two domains. Men and women in newly cohabiting partnerships also experience a statistically significant lower level of satisfaction relative to the base, 0.42 and 0.34 points less positive respectively. This less positive satisfaction suggests couples establishing a household do so by sacrificing gains in their housing and outdoor satisfaction, perhaps as a result of starting at the bottom of the housing ladder.

Table 8.6: Estimates from linear regression, impact of relationship status on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0087	0.0664***	-0.0128	0.0432*	0.0188	0.0243
Time since move	0<3 months	(ref)					
	3<6 months	0.1184*	0.1791*	0.1949*	0.1051	0.0183	0.0498
	6<9 months	0.1689**	0.1667*	0.2672**	0.0546	0.0576	0.1340*
	9<12 months	0.0946	0.1222	0.1309	0.1285**	-0.0170	-0.0218
	1<2 years	0.0849	0.0565	0.1293	0.1090*	-0.0374	0.0416
Age	Centred age	0.0015	0.0001	0.0002	-0.0008	-0.0032**	-0.0051***
	Centred age^2	0.0000	-0.0002*	-0.0002	0.0002	0.0000	0.0000
Dwellings past 10 years	Two	0.0293	0.0903	0.0235	0.0141	0.0556	0.0406
	Three	0.1119**	0.1034	0.0517	0.0925	0.0940*	0.0378
	Four	-0.0079	0.0190	-0.0734	0.0042	-0.0300	0.0150
	Five+	(ref)					
	ln(length at prev. address)	0.0008	-0.0514*	-0.0548**	-0.0307*	-0.0396*	-0.0638***
Ethnicity	European	(ref)					
	Māori	-0.1589***	-0.0184	0.0320	0.0603	0.1103	0.1227*
	Indian	-0.1908*	0.2554*	0.0751	0.3590**	0.0735	0.1367
	Chinese	-0.2114***	-0.0074	-0.0538	0.1827	0.0414	0.0614
	Pacific	-0.2343**	0.1978*	0.1355	0.2662***	0.0378	0.1225
	Not ident.	-0.1049	0.1415	0.1414	0.1532	0.2014*	0.1161
Place of birth	Overseas	0.0166	-0.0503	-0.0544	0.0654	-0.0531	-0.0099
	New Zealand	(ref)					
Cohabitation status by gender	Existing Couple, Male	-0.0152	-0.0296	-0.0724*	0.0548	0.0393	0.0077
	Existing Couple, Female	(ref)					
	New Couple, Male	-0.0418	-0.4245**	-0.5187***	0.0395	0.1534	-0.0509
	New Couple, Female	-0.1077	-0.3384***	-0.4933***	-0.1651*	-0.2918*	-0.2086*
	Different Couple, Male	-0.1768	0.1957	-0.4955	-0.1891	-0.0453	-0.4254
	Different Couple, Female	-0.3308	-0.2343	-0.3592	-0.0046	-0.1910	-0.0932
	Still Single, Male	-0.2625***	-0.2703***	-0.3576***	0.0792	0.0189	-0.1290*
	Still Single, Female	-0.1374***	-0.1291**	-0.2085***	0.0424	0.0519	-0.1139*
	Newly Single, Male	-0.4377***	-0.2325	-0.6318***	-0.0019	0.0304	-0.1475
	Newly Single, Female	-0.2304**	-0.2389*	-0.2865*	-0.0397	0.2782**	-0.0400
	_cons	4.3128***	3.6972***	3.9792***	2.9314***	3.3424***	3.4606***
	N	3781	3779	3791	2995	3792	3788
	r2	0.05677	0.04531	0.0537	0.04965	0.03167	0.03413
	F	5.887	4.204	6.232	3.839	3.378	3.853

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

When considering moves between LLMs, similar results to those of intra-LLM moves are found. As seen in Table 8.7, females in an existing cohabitation partnership report higher overall post-move satisfaction than all but one other cohabitation group[38]. Again, men and women who are single following a move generally have a lower level of post-move satisfaction than women in existing couples and the effect is statistically significant. Those who are living with a partner following their move do not experience a lower level of post-move satisfaction that is statistically significantly different from zero.

Most noticeable from the regression analysis is the size of the coefficient for newly single males. At -0.734 the difference between women in existing relationships and newly single males is substantial and much larger than the other cohabitation categories.

Including the cohabitation status of movers by gender clearly improves the model's ability to account for the variation in overall post-move satisfaction outcomes of movers, with a much improved R^2 value of 0.062. The inclusion of cohabitation status renders all prior variables statistically insignificant, including the association between age and overall post-move satisfaction weakening. For the variables currently considered, it seems that the satisfaction outcomes of movers is largely predicated on whether or not the individual is living with a partner following the move or not.

But while women in existing couples experience more positive changes to their housing satisfaction relative to other movers when moving within a LLM, they do not do so in such a systemically significant manner for moves which occur between LLMs (perhaps due to the smaller sample size). There are a number of notable observations. Once cohabitation status is added to my model, it becomes apparent in Table 8.11 that when moving between LLMs, men and women in existing relationships benefit differently from moves that take place between LLMs. As noted by Lundholm and Malmberg (2006), men in existing relationships experience a less positive change in social life satisfaction following the move, but experience a more positive change in employment satisfaction, with the size of the two coefficients (0.22 and 0.20) appearing to almost cancel each other out.

[38] Females in a different relationship report a statistically significant higher level of post-move satisfaction than those in existing relationships, from a small population.

Table 8.7: Estimates from linear regression, impact of relationship status on post-move satisfaction, moves between local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0139	0.001	-0.0081	-0.0085	0.0159	-0.0581
Time since move	0<3 months	(ref)					
	3<6 months	-0.1149	0.1942	0.1856	0.0066	-0.1171	0.1666
	6<9 months	-0.0311	-0.0318	0.1739	0.2449	-0.1084	0.0607
	9<12 months	0.1272	0.1075	0.2139	-0.0654	0.1997	0.2352
	1<2 years	-0.0205	0.1756	0.3746*	-0.1074	0.0068	0.3197**
Age	Centred age	0.0037	0.0055	0.0072	-0.0056	0.0047	-0.0040
	Centred age^2	0.0001	-0.0002	-0.0001	0.0000	0.0000	-0.0001
Dwellings past 10 years	Two	0.0690	0.1593	0.1648	-0.0077	0.0193	0.1374
	Three	0.1035	0.1741	0.2848*	0.0961	-0.0571	0.0790
	Four	-0.0089	0.1759	0.1205	-0.2060*	-0.1391	0.0077
	Five+	(ref)					
	ln(length at prev. address)	-0.0171	-0.0698	-0.1501***	-0.0436	-0.1002*	-0.1270**
Ethnicity	European	(ref)					
	Māori	-0.0804	0.1041	0.2176*	0.1790	0.1002	0.1607
	Indian	-0.2661	-0.4164	0.2316	0.1001	0.2713	0.3878
	Chinese	-0.0699	0.2105	-0.3045	0.0135	0.4321	0.1819
	Pacific	0.0446	0.2228	0.1581	0.1768	0.5519*	0.1754
	Not ident.	-0.0162	0.2496	0.5685*	-0.1547	0.0343	0.4285*
Place of birth	Overseas	-0.0255	-0.1323	0.0626	0.0095	-0.1597	-0.0015
	New Zealand	(ref)					
Cohabitation status by gender	Existing Couple, Male	-0.0572	-0.0739	0.0096	0.1983*	-0.2165*	-0.1254
	Existing Couple, Female	(ref)					
	New Couple, Male	-0.2475	-0.5664	-0.1128	0.0189	-0.5075	-0.4194*
	New Couple, Female	-0.0688	-0.0530	-0.0973	0.0886	-0.4854	-0.0599
	Different Couple, Male	-0.0309	0.5400	-0.3289	-0.6535	-0.1235	-0.0950
	Different Couple, Female	0.5507*	-0.3795	0.0792	0.3809	0.2876	-0.4953
	Still Single, Male	-0.3543**	-0.2360	-0.2009	0.0184	-0.1137	-0.2836*
	Still Single, Female	-0.1617*	-0.1361	-0.1667	-0.0679	0.0141	-0.3009**
	Newly Single, Male	-0.7341*	-0.5233	-0.3772	-0.4487*	-0.5116*	-0.6435***
	Newly Single, Female	-0.2036	-0.0751	0.0746	-0.1735	0.0385	-0.2565
	_cons	4.3839***	3.7344***	3.3693***	3.4541***	3.5568***	3.7306***
	N	1040	1030	1037	811	1039	1037
	r2	0.06228	0.05957	0.09596	0.06376	0.07071	0.107
	F	1.859	1.548	1.371	1.942	1.879	3.752

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The differences in the post-move employment and standard of living satisfaction appear to support family migration theory. That is, when couples migrate together, women who are in the labour force following a move experience poorer employment opportunities. But, on average, female partners share in the family unit's standard of living outcomes. Furthermore, individuals who move with a partner, or move in with a partner, experience a more positive improvement in their standard of living satisfaction. It appears that in living together, movers experience more positive changes in their standard of living outcomes following a move that takes place between LLMs.

Given the declining association between age and post-move satisfaction with the addition of cohabitation status, combined with some life course effects such as the lower housing and outdoor environment satisfaction of new couples, it would appear that for moves within LLMs, cohabitation status is picking up life course effects more

effectively than age. That is, the interactions between sexes and between cohabitation types better reflect the life course than age alone.

8.3 Conclusion

In this chapter, I explored the effect of gender and cohabitation on post-move satisfaction. The key questions from the literature that I explored were whether women experienced weaker post-move satisfaction outcomes than men, and then how this result was modified by recognising the relationship dynamics that accompany the move. There is a focus on family migration within migration literature, with a particular emphasis on whether women are worse off when moving, due to being tied to the migration decisions of their partners. I started my analysis by first including gender to my regression model, in order to see whether it is men or women who report higher post-move satisfaction outcomes following a move.

My analysis showed that, for the given variables in the model to date, women experienced greater satisfaction with how things worked out following their move than men and this effect was much larger and more statistically significant for moves between LLMs than within. Women also reported a more positive change in post-move housing satisfaction when moving within a LLM and social life satisfaction when moving between LLMs. The more positive change in employment satisfaction associated with being male was not statistically significant for either moves within or between LLMs.

I then asked whether cohabitation influenced the post-move satisfaction outcomes of women. In comparing the post-move satisfaction outcomes of men and women by cohabitation status, both at the time when the decision to move was made and when interviewed following the move, a number key points became apparent. The satisfaction of men and women who were living with a partner following a move was not statistically different from women who lived with the same partner before and after moving. On the other hand, movers of both genders who were single following a move had statistically lower post-move satisfaction, regardless of whether they were newly single or single when they decided to move. Furthermore being either male or being newly single resulted in acutely lower post-move satisfaction and for newly single men the effect appears compounded with newly single reported the lowest average post-move satisfaction.

These results indicate that living with a partner following the move generally leads to higher overall post-move satisfaction. However, male movers either realise the greatest benefits associated with living with a partner following a move, or inversely, realise the greatest negative effects associated with not living with a partner following a move. The former interpretation may provide evidence of tied mobility effects and can be seen to be supported by the fact that men who move as a couple report significantly higher employment satisfaction than women while men who are newly single are worse off.

Of course, what is not yet considered are the economic and employment experiences of movers. In order to further develop my understanding of how the differences in post-move satisfaction of men and women vary, I shall continue to monitor the change in effects associated with gender in the following chapters.

Chapter 9. Education and income

In the previous chapter I studied the differences in post-move satisfaction experienced by male and female movers and by cohabitation status. I found that the cohabitation effects may be reflecting life course effects. One potential source of endogeneity could be the economic characteristics of movers within each group. In this chapter I consider the associations between education, income and the post-move satisfaction of movers within New Zealand. These two economic characteristics are some of the most studied within the wider residential mobility and migration literature, yet their relationship with post-move satisfaction has received relatively little attention.

I start by exploring the theoretical underpinnings that shape my expectation of how education might influence post-move satisfaction. The more educated have been found to be more mobile than the less educated and are likely to experience more positive outcomes when moving. I study whether this translates to more positive post-move satisfaction among higher educated movers.

I then focus on the association that income has with post-move satisfaction. Both income at the time of interview and also a change in income over the past year may influence the post-move satisfaction of movers, and if so, how that affects post-move satisfaction. I also investigate whether this change in income is a result of the move or not.

9.1 Education

The study of residential migration has paid considerable attention to the influence of varying levels of educational achievement on both migration behaviour and their outcomes. Education increases the propensity of individuals to move, as well as influencing the distance moved (Schwartz, 1973, Schwartz, 1976, Sjaastad, 1962). Education has also come under consideration in the study of repeat and return migration (DaVanzo, 1983, Miller, 1977, Schultz, 1975) and the study of post-move satisfaction (Lundholm and Malmberg, 2006).

Educational attainment of movers may also influence their level of post-move satisfaction. First, higher educational achievement may reflect a greater ability to collect and process information regarding a move, thus decreasing the probability of an unsuccessful move. Secondly, educational achievement may result in differences in the

type of move that a mover undertakes and thereby either enhancing or negating the information effect. Third, offsetting these influences is the observation within the general happiness literature that has shown that education can also raise expectations, thus reducing satisfaction and well-being (Morrison, 2011).

There is widespread evidence to suggest that the higher educated are more likely to have greater information when undertaking the decision to move. According to Schwartz (1973, 1976), the more highly educated are thought to be better able to search for employment when moving between LLMs; "the efficiency hypothesis suggests that the search-production function is technologically more efficient as education increases; that is, given the cost of search, more-educated individuals gain more information on faraway jobs" (Schwartz, 1976: p. 702). Schwartz also notes that education may reduce the psychic effect associated with increasing distance. At the same time, a greater propensity to move further does not guarantee that the higher educated will experience a more positive subjective appraisal of overall satisfaction for a given distance.

Support for the premise that the highly educated experience more positive move outcomes, or at least a greater propensity to experience a successful move outcome, comes from research into repeat and return migration. Research by Miller (1977) found that movers who have undertaken two moves to new locations over a 10 year period are more likely to be highly educated, while over the same period of time less educated movers are much more likely to have returned to their previous location, the inference being that those who return to their previous location are more likely to have incorrectly calculated the relative outcomes of the initial move, resulting in an adjustment move back to their previous address. DaVanzo (1983) also studied the effect of educational attainment as a factor in influencing repeat and return migration, finding that the less educated are much more likely to make a return move to their previous location within a year of moving. Citing work by Schultz (1975), DaVanzo suggests "a superiority of more educated people to process information efficiently" (DaVanzo, 1983: p. 555).

If the influence of education on the post-move satisfaction outcomes of movers is fundamentally distance based, then the difference in the satisfaction outcomes of individuals by educational achievement may be smaller for those moving within LLMs. Research suggests that there may be important differences in the mobility behaviour by

individuals with different levels of educational achievement moving within LLMs. Using a panel study of residents of Rhode Island between 1967 and 1979, Speare and Goldscheider (1987) and Speare et al. (1982) found that the residential mobility of movers varied with educational achievement. Individuals with a higher level of educational attainment were more mobile than those with a lower level of educational attainment and this propensity remained for both moves within Rhode Island and also interstate migration.

Such differences in propensity to move may hint at subsequent differences in move outcomes, but studies also suggest that educational attainment may also result in the sorting of movers by educational attainment within LLMs. In their study of American movers, South and Crowder (1997) find that higher educational attainment leads to a higher propensity to move from the city to the suburbs. According to the researchers, the greater propensity of the higher educated to move to the suburban ring of metropolitan areas represents a greater propensity to move to, on average at least, more affluent neighbourhoods:

> "On average, the socioeconomic status of most suburban areas is considerably higher than that of their central-city counterparts. Suburban communities are also likely to share features such as physical environments, prestige, and school systems that are superior to those in the central city." (South and Crowder, 1997: p. 528)

The highly educated may experience more favourable post-move satisfaction outcomes across a number of satisfaction domains such as outdoor environment. But such outcomes may be as a result of the highly educated to attain higher income. Notwithstanding the effect of income, such is the role of educational achievement in determining the residential sorting of racial groups within metropolitan areas that educational attainment, along with higher income, has been found to play an important role in influencing the neighbourhood preferences of movers and therefore neighbourhood segregation (Clark, 2009). With educated African-Americans much more likely to move to the suburbs than uneducated African-Americans (South and Crowder, 1997), it is possible that the effect of ethnicity on post-move satisfaction outcomes may be explained by the educational attainment of movers, rather than their ethnicity.

Due to the positive information effect and a predominance of moves to better neighbourhoods, higher levels of education may lead to better outcomes when moving.

However, Lundholm and Malmberg's (2006) study of the post-move satisfaction outcomes of Scandinavian interregional movers found that movers with higher education experienced lower overall post-move satisfaction when moving between regions. Furthermore, the higher educated also experienced lower post-move satisfaction in the services and facilities and social life domains. Therefore, rather than benefitting from a greater ability to estimate the relative costs and benefits of moving, they conclude that highly educated movers may be more willing to sacrifice their overall satisfaction following a move in return for more positive career outcomes and have little time for social life activities. The conclusion by Lundholm and Malmberg (2006) that highly educated movers may be more willing to sacrifice their overall satisfaction following a move in return for more positive career outcomes (which also may accrue over a long future period), highlights the complexity associated with quantifying post-move satisfaction as it is set up in the DMM survey.

When comparing the effect of education on the post-move outcomes of both those moving between regions and those moving within them, Lu (2002) also found that college educated movers were less likely to experience positive post-move housing and neighbourhood outcomes following their move. Those without a high school diploma generally reported the highest probability of a successful move. The decrease in the probability of a successful outcome experienced by the highly educated is one of several results that "seem to defy intuition" (Lu, 2002: p. 213). While the findings are generally consistent whether moves take place within or between LLMs, the difference is greater for those moving between regions than those moving within regions.

In summary, the residential migration literature suggests that through greater access to information, movers with higher educational achievement may experience higher post-move satisfaction. The lower probability of an unsuccessful move is thought to be due to a greater ability to access information during the decision-making process. Furthermore, movers with higher educational attainment have also been found to generally move to more affluent neighbourhoods, a movement that highlights the close relationship between income and education achievement. However, studies examining the post-move satisfaction outcomes of movers find that higher education leads to lower post-move satisfaction outcomes, suggesting that better economic outcomes may not translate directly into positive post-move outcomes, possibly because

they move with higher expectations and the returns to moving may take many more years to materialise in the case of movers with tertiary education.

Measuring Education

I classify four levels of highest educational attainment. Those without at least a high-school qualification (1) and those whose highest qualification is either a high school qualification (2), a post-school qualification lower than a bachelor's degree (3), or a bachelor's or post-graduate level qualification (4).

I use questions Q27 – Q31 from the HLFS survey, to which the DMM survey has been grafted. Therefore I am measuring their educational achievement following the move, rather than the level of educational achievement each mover had accumulated when deciding to move. My measure is of the level of education they have accumulated by the time of the interview and therefore *after* they have undertaken their move. The number of movers who gained a qualification following their move is likely to be very low but may nevertheless underestimate those with higher qualifications.

In Table 9.1, I tabulate the summary statistics of movers by the highest educational achievement of each mover. Movers with a post-school qualification lower than a bachelor's degree comprise the greatest proportion of movers at 38.4%. They make up a higher proportion of moves between LLMs (39.4%) than moves between them (38.1%). Movers with a university degree are the least common mover and make up a greater proportion of those moving within LLMs (15.4%) than those moving between them (13.4%).

Table 9.1: Summary statistics, overall post-move satisfaction by educational achievement and local labour market change, New Zealand, 2007

Highest	Moves within labour markets				Moves between labour markets				Total moves			
qualification	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
None	4.18	0.826	872	0.227	4.08	0.827	241	0.227	4.16	0.827	1113	0.227
Secondary	4.22	0.78	918	0.239	4.1	0.734	261	0.246	4.19	0.771	1179	0.24
Post-School	4.26	0.788	1468	0.381	4.17	0.88	419	0.394	4.24	0.81	1887	0.384
Graduate	4.35	0.703	591	0.154	4.25	0.809	142	0.134	4.33	0.726	733	0.15
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: Statistics New Zealand, 2007

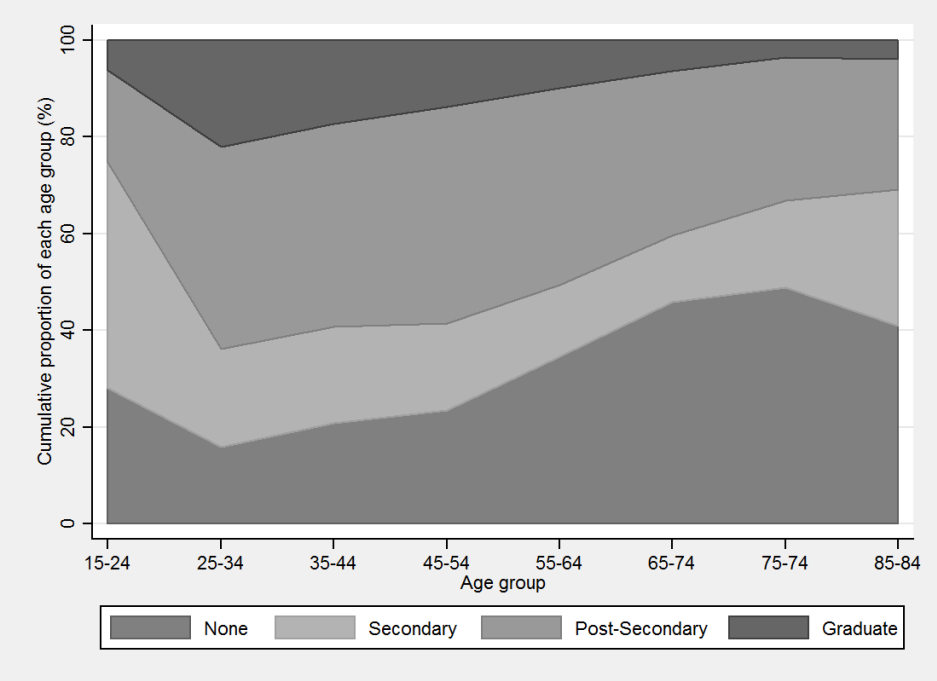
Across all movers, there is a positive relationship between average overall post-move satisfaction and educational attainment. Those with no formal qualifications reported an average level of overall post-move satisfaction of 4.16 points on the 1-5 Likert scale, while the average overall post-move satisfaction of university graduates

was 4.33 points. The range in average overall post-move satisfaction is the same for those who moved within and between LLMs at 0.17 points.

While the highly educated have been considered to be more likely to move long distances in this sample, they are more likely to move within their LLM. Despite their lower satisfaction, the less educated do not appear to be any less well-off subjectively than other groups when moving between LLMs.

When measuring education, I note two considerations that may influence the accuracy of my results. The first factor that may reduce the independence of educational attainment is the way education varies by age. As can be seen by Figure 9.1, educational attainment of movers decreases substantially with age, which is also a feature of the whole population. The effect of compulsory attendance at school until the age of 15, introduced in 1964 under the Education Act 1964 and then increased to 16 under the Education Act 1991, accords with the higher prevalence of older movers to have no formal educational qualifications. Furthermore, the proportion of movers with graduate and post-secondary qualifications also decreases with age above 25 and in a progressive manner, reflecting increasing rates of University attendance. The lower educational attainment of younger movers who are still in school can also be seen by the lower post-school education rates in the 15-24 age group.

Figure 9.1: Educational achievement of movers by age group, New Zealand, 2007



Source: Statistics New Zealand, 2007

The other important consideration is that, when measuring the effect of education on post-move satisfaction outcomes, there is a tendency for education levels to mirror income levels (Card, 1999). Therefore, the effect of education on mobility patterns closely resembles that of income (Clark, 2009), as it does, although to a lesser extent, in the happiness literature. Therefore, I am careful to note that the observed effect of education on post-move satisfaction at this point may have a strong connection to income of movers. Higher educated individuals may experience better or worse outcomes not due to their level of information and better knowledge, but as a result of earning more and having better financial means.

Results

I have progressed my thesis by adding additional variables to my regression models and I continue this approach by appending educational attainment to my existing model, which now takes the form:

(9.1) $y_i = \alpha + \beta X_i + \beta Education_{1i} + \ldots + \beta Education_{4i} + \varepsilon_i$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X are the preceding independent variables and $\beta Education_{1\text{-}4}$ is the level of educational attainment and ε_i is the unexplained error.

When added to my regression model, educational attainment is found to have little association with the post-move satisfaction outcomes, shown in Table 9.2. While there is a positive relationship between education and overall post-move satisfaction (column 3), but the effect of each education group relative to those who have a post-school qualification is not statistically significant. University graduates are only 0.07 points more satisfied than those with a lower post-school qualification while movers with no school qualifications are the least satisfied at 0.03 points lower than those with a lower post-school qualification. Certainly the order of the effect of education levels is consistent with a positive effect of education.

Table 9.2: Estimates from linear regression, impact of education on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0091	0.0660***	-0.012	0.0429**	0.0188	0.0239
Time since	0<3 months	(ref)					
move	3<6 months	0.1193*	0.1761*	0.1950*	0.1043	0.0146	0.0446
	6<9 months	0.1712**	0.1637*	0.2627**	0.0519	0.0504	0.1261*
	9<12 months	0.0942	0.1172	0.1268	0.1231*	-0.0246	-0.0308
	1<2 years	0.0836	0.0541	0.1332	0.1126*	-0.0367	0.0404
Age	Centred age	0.0017	0.0000	-0.0006	-0.0019	-0.0039***	-0.0057***
	Centred age^2	0.0000	-0.0002*	-0.0002*	0.0002	0.0000	0.0000
Dwellings	Two	0.0386	0.092	0.0044	-0.0013	0.0413	0.0303
past 10	Three	0.1208**	0.1074	0.0375	0.0849	0.0851	0.0333
years	Four	0.001	0.0218	-0.082	-0.0048	-0.0366	0.0113
	Five+	(ref)					
ln(length at prev. address)		0.0003	-0.0506*	-0.0523*	-0.0297*	-0.0371*	-0.0614***
Ethnicity	European	(ref)					
	Māori	-0.1461***	-0.0192	0.0066	0.0349	0.0878	0.1041*
	Indian	-0.2080*	0.2538*	0.0875	0.3746**	0.0881	0.1487
	Chinese	-0.2191***	-0.0041	-0.042	0.1956*	0.0558	0.0751
	Pacific	-0.2236**	0.199	0.106	0.2427**	0.0172	0.1071
	Not ident.	-0.1091	0.1434	0.1477	0.1569	0.2092*	0.1236
Place of	Overseas	0.0254	-0.0497	-0.0644	0.0558	-0.0631	-0.0182
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.0189	-0.0316	-0.0689*	0.0571	0.0412	0.008
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.0443	-0.4314**	-0.5117***	0.041	0.1512	-0.0575
	New Couple, Female	-0.106	-0.3391***	-0.4970***	-0.1683*	-0.2952**	-0.2122*
	Different Couple, Male	-0.1796	0.1867	-0.5133	-0.2082	-0.0651	-0.4464*
	Different Couple, Female	-0.3476	-0.2264	-0.3377	0.0318	-0.1608	-0.0629
	Still Single, Male	-0.2565***	-0.2681***	-0.3668***	0.0728	0.0131	-0.1321*
	Still Single, Female	-0.1361***	-0.1264**	-0.2082***	0.048	0.0546	-0.1100*
	Newly Single, Male	-0.4382***	-0.2307	-0.6309***	-0.0069	0.0328	-0.1444
	Newly Single, Female	-0.2271**	-0.2391*	-0.2935*	-0.0378	0.2725**	-0.0449
Highest	None	-0.0335	-0.0218	0.1459**	0.0993*	0.0786	0.0443
education	Secondary	-0.0125	-0.0562	0.0037	-0.0398	-0.052	-0.0791
	Post-School	(ref)					
	Graduate	0.0758	-0.0166	-0.0179	-0.0672	-0.0688	-0.0737
	_cons	4.2898***	3.7129***	3.9743***	2.9516***	3.3690***	3.4955***
	N	3781	3779	3791	2995	3792	3788
	r2	0.05868	0.04578	0.05683	0.05581	0.03557	0.03731
	F	5.82	3.806	5.535	3.831	3.551	3.663

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Despite the positive relationship with overall post-move satisfaction, education tends to have a negative effect on all the post-move satisfaction domains. The differences are insignificant for those with some education, in most domains. In the case of housing and employment satisfaction, those without a high school qualification (none) report the most positive change in post-move satisfaction following their move within their LLM. The association between not having a high school qualification and housing satisfaction is positive, 0.14 points more positive than those who have a post-school qualification. For employment satisfaction, the association is also positive, with the satisfaction of those with no high school qualification 0.10 points more positive.

There is less association between education and post-move satisfaction when moving between LLMs and differences between the education levels show less

statistical significance Table 9.3. For the given independent variables, the educational achievement of movers has a very weak independent relationship with the overall post-move satisfaction outcomes of movers, or is masked by unobserved factors.

Table 9.3: Estimates from linear regression, impact of education on post-move satisfaction, moves between local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0144	0.0013	-0.0098	-0.0069	0.021	-0.0576
Time since	0<3 months	(ref)					
move	3<6 months	-0.1209	0.1695	0.1672	0.0072	-0.113	0.1499
	6<9 months	-0.0304	-0.0491	0.1872	0.2518	-0.1316	0.0627
	9<12 months	0.1239	0.0749	0.2083	-0.0643	0.174	0.2185
	1<2 years	-0.0226	0.1663	0.3680*	-0.1084	0.0096	0.3140**
Age	Centred age	0.0036	0.0048	0.0069	-0.0052	0.0046	-0.0043
	Centred age^2	0.0001	-0.0002	-0.0001	0	0	0
Dwellings	Two	0.0688	0.1389	0.1726	-0.0059	-0.0105	0.132
past 10	Three	0.1061	0.1728	0.3026*	0.1062	-0.0649	0.0929
years	Four	-0.0047	0.1908	0.1384	-0.2022*	-0.1357	0.0267
	Five+	(ref)					
ln(length at prev. address)		-0.0164	-0.0668	-0.1477***	-0.0426	-0.0998*	-0.1247**
Ethnicity	European	(ref)					
	Māori	-0.0852	0.058	0.2114*	0.1789	0.0596	0.1368
	Indian	-0.2682	-0.4127	0.2186	0.0993	0.2862	0.3822
	Chinese	-0.0633	0.2394	-0.2872	0.0138	0.4266	0.1964
	Pacific	0.0474	0.212	0.1782	0.1867	0.5184*	0.1811
	Not ident.	-0.0153	0.2687	0.5676*	-0.148	0.0624	0.4401*
Place of	Overseas	-0.0255	-0.1491	0.0689	0.0138	-0.1885	-0.0075
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.0569	-0.0924	0.0069	0.1806*	-0.2700**	-0.1525
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.2476	-0.5675	-0.1195	0.0087	-0.5205	-0.4326*
	New Couple, Female	-0.0686	-0.0335	-0.1016	0.0899	-0.4505	-0.05
	Different Couple, Male	-0.0484	0.454	-0.3802	-0.6564	-0.1394	-0.1531
	Different Couple, Female	0.5470*	-0.4075	0.0691	0.378	0.2621	-0.517
	Still Single, Male	-0.3511**	-0.2405	-0.1849	0.0161	-0.143	-0.2823*
	Still Single, Female	-0.1611*	-0.1511	-0.1617	-0.0731	-0.0167	-0.3105**
	Newly Single, Male	-0.7354*	-0.5533	-0.378	-0.4550*	-0.5611**	-0.6674***
	Newly Single, Female	-0.2095	-0.1319	0.0637	-0.1821	-0.0197	-0.2936
Highest	None	0.0257	0.2148	-0.0066	-0.0895	0.065	0.0231
education	Secondary	-0.0212	-0.1223	-0.1098	-0.0966	-0.1711	-0.1819*
	Post-School	(ref)					
	Graduate	0.0275	-0.0244	0.0947	-0.057	-0.3186*	-0.0482
	_cons	4.3802***	3.7618***	3.3661***	3.4852***	3.6737***	3.7800***
	N	1040	1030	1037	811	1039	1037
	r2	0.06278	0.07035	0.09954	0.06569	0.08659	0.1146
	F	1.732	1.828	1.324	1.907	2.037	3.339

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

For those moving between LLMs, there is tentative evidence that those with higher levels of education do sacrifice social life satisfaction when migrating. Being a university graduate has a large negative association with post-move social life satisfaction, with a coefficient of -0.31. However, any sacrifice of social life satisfaction does not result in a more positive change in satisfaction in any other measured domains, even though overall post-move satisfaction is positive.

As with the effect of ethnicity, it appears that those education groups who make the greatest gains in specific domains of post-move satisfaction nevertheless

report the lowest levels of overall satisfaction following the move. The inclusion of education reduces some of the positive effects being Polynesian has on post-move employment satisfaction, from which I infer that some of the difference between European and Polynesian residential mobility outcomes are attributable to the lower education levels of Polynesian movers.

The more positive change in post-move employment satisfaction experienced by those with no education moving within a LLM appears to be consistent with my tentative observation that residential mobility helps to improve the outcomes of less advantaged groups. On the other hand, the lower post-move social life satisfaction experienced by the most qualified when moving between LLMs supports the findings of Lundholm and Malmberg (2006) that highly educated movers appear prepared to sacrifice their social life satisfaction (at least in the short run). In the New Zealand context, this sacrifice of social life is not associated with a higher level of overall post-move satisfaction, suggesting that it is not being compensated for by gains in satisfaction in other domains.

In summary, the above analysis suggests that for the given independent variables included in my regression, educational attainment does not appear to play a substantial or systematic role in contributing to higher overall post-move satisfaction with the outcomes of a move. There is evidence to suggest that the education levels of movers may affect post-move satisfaction in specific domains such as social life, housing and employment satisfaction, but there is little evidence of domain substitution.

The results for overall post-move satisfaction outcomes may seem to run counter to wider migration expectations that greater educational achievement will lead to better move outcomes in income or job prospects when moving between LLMs. However, the gap between enhanced objective measures of return is not positively reflected in subjective measure among those with higher education – in part because of higher expectations, but also because their returns to investment take longer to materialise.

9.2 Income

In this section, I study the link between positive economic outcomes, in the form of income, to positive post-move satisfaction outcomes. At a macro level, it is the flow of labour between regions, directed by wage differentials, that have historically

been considered to be the primary cause of internal migration, at least amongst economists and economic geographers (for example: Greenwood, 1975a, Ritchey, 1976). According to the economic literature, it is contended that migration between LLMs is reflective of regional unemployment and wage differentials. Labour, in the form of workers, moves from regions with low wages and high unemployment to regions with high wages and low unemployment, with movers attempting to maximise their returns when moving (Ritchey, 1976). In the process, labour supply decreases in the low wage regions and labour supply increases in the regions with high wages. As labour moves, wages and labour supply adjust to restore market equilibrium (Greenwood et al., 1991).

Notwithstanding some empirical support for the above regional labour adjustment model, by itself it is a poor model of human migration in general (Sjaastad, 1962). The classical model of labour mobility has therefore been both modified extensively by some researchers and shunned entirely by others namely in favour of non-economic drivers (Greenwood et al., 1991). Some of those who have attempted to modify the classical labour mobility model have sought to improve the fit between the migration flows observed and those predicted by the model. Such modifications include the introduction of opportunity costs (Wadycki, 1974), industry variation (Gallaway, 1967), amenities (Graves, 1983, Knapp and Graves, 1989), housing costs (Berger and Blomquist, 1992, Cameron and Muellbauer, 1998, Withers and Clark, 2006) and the barriers to migration that low wage areas might induce (Vanderkamp, 1971) among others.

In the case of Sjaastad (1962), the movement of labour from low wage regions to high wage regions has microeconomic foundations in that it could be by the motivations of movers themselves. To the individual, labour mobility is considered as an investment, as in the human capital/investment theory of migration. According to some, the human investment approach is an excellent method of modelling internal migration, from which income plays an important role:

> "It is clear that those factors which economic theory tells us ought to be important in explaining differential labor force migration flows (i.e. differences among labor markets in job opportunities and incomes) are in fact found to have the expected effects and are capable of explaining a considerable share of the variance. " (Fields, 1976: p. 413)

But for all of the literature and rhetoric on the role that labour mobility plays in fuelling the flow of migrants between LLMs, many researchers consider the income of an individual per se to play only a limited role as a motivator of their migration behaviour and of both the objective and subjective outcomes of the move. Certainly through all of the modifications to the classical labour mobility model, the role of income appears to play an increasingly smaller role. Even when considered from a net household outcome, many researchers contend that demographic, geographic and social considerations may play a more substantive role in the migration process:

> "Clearly, there are many, many reasons for families to migrate. This research indicates, beyond doubt, that economic gain is only one of the many motivations." (Withers and Clark, 2006: p. 287)

For moves within LLMs, the role that a change in income has on mobility is focused largely on its relationship with residential satisfaction, with emphasis placed on the role of life course changes rather than income itself (Clark and Onaka, 1983, McCarthy, 1976, Quigley and Weinberg, 1977, Rossi, 1955). Justification for the focus on life course change rather than income is furthered by Clark and Withers (2002). They found that, based on data from the Panel Study of Income Dynamics (PSID) survey, income does not change amongst moves within LLMs. That is, movers do experience an improvement in income despite the fiscal expense of moving house. As Zax (1994) noted, residential and workplace adjustments largely substitutes and changing both are much less common than when the move takes place between LLMs. Any change in income may simply be a reflection non-move related changes in circumstances prior to, or following, a move occurring. Alternatively, the impending loss of employment and resultant loss of income may result in a forced move. Such situations would see a change in income simply reflect other changes in circumstance, rather than drive post-move satisfaction outcomes itself.

The potential effect of income change in influencing the perceived success of a move may be diminished by our understanding of how income interacts with well-being and satisfaction. According to Diener et al. (1993), the happiness of an individual at a given time is reflective of their present level of income, rather than whether their income has changed. That is, an individual who has experienced an increase in income will not be happier than another earning a similar but steady level of income, but this has never been tested on the evaluation of a move.

Any change in well-being through a change in income could be considered to be the difference in well-being for two given levels of income. The difference in satisfaction between income levels, however, may itself be small. For a cross-section of individuals, satisfaction has been found to increase only slowly with higher levels of income (Diener and Biswas-Diener, 2002, Veenhoven, 1991) above a certain level of income. This effect has been described as the diminishing marginal utility of income.

The quite reasonable assumption that individuals with higher income experience higher post-move satisfaction may not hold true given the marginal utility of income. For most movers, the greater selection of desirable housing and resulting higher post-move satisfaction may be entirely offset by greater aspirations. The diminishing marginal utility of income indicates that the change in income when moving may have a greater effect on the post-move satisfaction outcomes of lower-income movers than it does on those with higher incomes. A move that allows a mover to realise an income that satiates a basic level of affluence may result in substantially greater post-move satisfaction.

So while there is a strong labour mobility proposition for higher wages to be a driver of migration and a measure of a successful move, the relationship between income and the subjective assessment of post-move satisfaction outcome by the individual may be at best slight. Certainly, those studies of post-move satisfaction that have considered income have found a corresponding weak relationship. Lu (2002) finds that income has an expected positive effect on self-reported residential quality, but the effect is insignificant. Alternatively, Barcus (2004) finds that income has a U-shaped relationship with middle income movers reporting the lowest residential quality when moving from urban to rural areas. Like Lu, the effect of income on post-move outcomes is not significant.

In summary, the migration and mobility literature indicates that despite the classical theory of wage differentials driving migration, the income of a mover does not have a substantial role in post-move satisfaction. One reason for this may be the marginal utility of income, where increasing income does not lead to higher life satisfaction. I seek to further clarify this understanding by testing it within the New Zealand context.

Measuring Income.

I investigate two aspects of income. The first, which has received some attention by post-move satisfaction research, is how gross income is related to the post-move satisfaction expressed by movers. The second, which has not been addressed by other post-move satisfaction research, is how a *change* in gross income following the move modifies the relationship between income and post-move satisfaction.

Both the measurement of gross income and the measurement of gross income change are sourced directly from the survey and because I am addressing income change, the economic conditions of New Zealand over the time of the survey bear reiteration. In the 24 months leading up to the March quarter when the survey was undertaken, New Zealand experienced strong economic growth. As outlined in my introduction, the Global Financial Crisis (GFC) is considered to have affected New Zealand only shortly after the completion of the survey (Bedford, 2008). Therefore, the survey took place at the crest of economic activity and the income outcomes of respondents to the HLFS can be considered to be reflective of those experienced during the later stages of a long financial boom. With incomes rising and a tight labour market, increases in income were therefore more likely than during a flatter or even declining economy.

From the DMM survey, gross personal income takes the form of question HQ04:

> "The last question is about your personal income for the 12 months ending today. Thinking about your income, from all sources, before tax or anything else taken out of it, which of the following categories does your income fit into?"

The responses have been grouped into the six categories outlined in Table 9.4:

Table 9.4: Summary statistics, overall post-move satisfaction by gross income and local labour market change, New Zealand, 2007

Gross Income	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Unknown	4.24	0.768	203	0.053	4.1	0.796	60	0.056	4.21	0.775	263	0.054
Negative or zero	4.14	0.786	221	0.057	4.15	0.675	68	0.064	4.13	0.76	289	0.059
1-20k	4.13	0.809	1124	0.292	4.03	0.851	386	0.363	4.11	0.821	1510	0.307
20,001-40k	4.24	0.781	1190	0.309	4.13	0.848	303	0.285	4.22	0.796	1493	0.304
40,001-70k	4.36	0.748	862	0.224	4.31	0.81	192	0.181	4.35	0.759	1054	0.215
70,001+	4.45	0.718	249	0.065	4.5	0.575	54	0.051	4.46	0.694	303	0.062
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: DMM Survey, Statistics New Zealand

Question HQ04 asked all respondents to the survey for their gross income summed over the twelve months prior to the interview. The level of income reported by individuals will cover different periods relative to the move itself because respondents moved at different points in time during the previous 24 months. The proportion of income earned prior to and following the move will depend on when the move actually occurred relative to the 12 month period prior to interview. The reported level of income for an individual who moved between one and two years prior to being interviewed will entirely reflect their post-move income. On the other hand, for the most recent movers, the gross level of income reported in question HQ04 may reflect very little of the level of income following the move. As a result, question HQ04 does not reflect the pre-move income of all movers, which may represent the means with which they were able to finance their move, nor does it reflect the true post-move income of all movers. Rather, it varies depending on how long ago a mover undertook their move.

Across all movers, post-move satisfaction shows a positive relationship with income as measured above. Those who earned between $1 and $20,000 over the previous 12 months report lower post-move satisfaction, at 4.11 points, than those who did not earn any income, a negative income, or do not know how much they earned in the previous 12 months. In contrast, those earning more than $70,000 a year report a high level of average overall post-move satisfaction at 4.46. This is a difference between the lowest and highest income categories of 0.35 points.

When separated by moves within LLMs and moves between, them same the pattern remains. The difference in overall post-move satisfaction between those earning the least (4.03 points) and those earning the most (4.5 points) is greater, at 0.47 points, for those moving between LLMs is higher.

Change in income

How might a change in income influence the post-move satisfaction? Along with measuring the gross income level of respondents, the survey also asked those who had moved in the previous two years whether their income had changed following their move. Question FQ08 reads:

> "Did your personal annual income increase, decrease or stay the same after you moved?"

The tabulated responses to Question FQ8 are presented in Table 9.5. Across all movers, a majority of close to 60% of movers reported that their income when interviewed was about the same as it was prior to moving. Only 13% of all movers reported a decrease in income compared with two years earlier, while nearly twice as many reported an increase in gross income.

Table 9.5: Summary statistics, overall post-move satisfaction by change in income and local labour market change, New Zealand, 2007.

Income	Moves within labour markets				Moves between labour markets				Total moves			
Change	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Increased	4.33	0.757	964	0.253	4.2	0.808	319	0.302	4.3	0.772	1283	0.264
About same	4.24	0.776	2469	0.649	4.17	0.799	454	0.43	4.23	0.78	2923	0.601
Decreased	4.08	0.862	372	0.098	4.04	0.884	282	0.267	4.06	0.871	654	0.135
Total	4.24	0.784	3805	1	4.15	0.826	1055	1	4.22	0.794	4860	1

Source: DMM Survey, Statistics New Zealand

For the total mover population, the difference in average post-move satisfaction between the three groups accords with what we would expect intuitively: an increase in income is associated with a more positive change in satisfaction compared with those whose income remains the same, while a decrease in income is associated with a less positive change in overall post-move satisfaction. With a mean level of satisfaction of 4.30, those movers who reported an increase in income were on average 0.07 points more satisfied on the 1-5 scale than those whose income remained about the same. Those movers who reported a decrease in income reported a mean level of post-move satisfaction that, at 4.06, was 0.17 points lower than those whose income remained the same. These results show that movers appear to be more sensitive to a loss in income than a gain in income or that a decrease in income is perhaps likely to be larger than an increase in income. This result is also quite consistent with loss aversion or prospect theory more generally (Kahneman and Tversky, 1984).

As expected from our knowledge of the differences between moves that occur within LLMs and moves that occur between them, income is much more likely to change when moving between LLMs than it is when moving within one. Table 9.5 indicates that those moving between LLMs are much more likely to experience a decrease in income following their move (27% of interregional movers, compared with only 10% of intraregional movers), but their satisfaction is not much lower (4.04 compared to 4.08). In comparison, those moving between LLMs are more likely to report an increase in income than those moving within (30% compared with 25%), but their average level of overall post-move satisfaction (4.20) remains similar to those whose income did not change (4.17).

There are two weaknesses with this measurement of income change. First, the question does not ask respondents to indicate the degree of income gain or loss. The second weakness of this simple measure of income change is that it is unclear whether the income change was a direct result of the move or not. However, the survey design recognised this and also asked whether it mattered whether the increase or decrease was a result of the move or not. Question FQ09 from the DMM survey asks movers whether their change in income reported in FQ08 was a result of their move:

"Was this increase/decrease [from FQ09] related to your move?"

The responses to the question, along with those who reported no change in income, are tabulated in Table 9.6 and tell a revealing story. Compared with those whose income did not change, post-move satisfaction is 0.2 points lower when a *negative* change in income is a result of the move, but when a *positive* change in income is a result of the move, post-move satisfaction is not higher. Movers are dissatisfied when a move results in a poorer level of income, I suggest because they are moving further away from their expectations. When the move results in a higher level of income, I suggest that their expectations are rising as fast as their realisations.

Table 9.6: Summary statistics, overall post-move satisfaction by change in income and local labour market change, New Zealand, 2007.

Income Change	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
+ as a result	4.29	0.801	212	0.055	4.17	0.824	212	0.199	4.23	0.814	424	0.086
+ not as a result	4.35	0.741	748	0.194	4.28	0.775	107	0.101	4.34	0.745	855	0.174
No change	4.24	0.776	2469	0.641	4.17	0.8	454	0.427	4.23	0.78	2923	0.595
- as a result	4.01	0.93	149	0.039	4.03	0.904	210	0.198	4.03	0.914	359	0.073
- not as a result	4.13	0.816	218	0.057	4.07	0.828	72	0.067	4.11	0.818	290	0.059
Don't know	4.09	0.883	53	0.014	4.13	0.641	8	0.008	4.1	0.851	61	0.012
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: DMM Survey, Statistics New Zealand

It is in those whose income changed as a result of the move where the most substantial differences in post-move satisfaction between moves within and between LLMs are found. At 20 per cent of all moves between LLMs each, roughly the same number of movers experienced a drop in income as a result of moving between LLMs as did experience an increase. These proportions are four to five times greater than their respective proportion of moves within LLMs. Relative to movers whose income did not change, those moving between LLMs appear to be less affected by a change in income as a result of the move than those moving within the same LLM.

Results

In order to test the role of both gross income and also income change, my linear regression model takes the following form:

(9.2) $y_i = \alpha + \beta X_i + \beta GrossIncome_{1-6i} + \beta \Delta Income_{1-6i} + \varepsilon_i$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X_i are the preceding independent variables, plus an additional control of labour force participation and occupation. $GrossIncome_{1\text{-}6}$ is the gross income of the mover over the past 12 months, $\Delta Income_{1\text{-}6}$ is the change in income reported by the mover associated with the move or not and ε_i is the unexplained error.

For moves within LLMs, the results from the above regression model are shown in Table 9.7. For the given independent variables, increasingly higher levels of gross income is associated with increasingly higher overall satisfaction with how the move worked out when individuals move within LLMs, but not in a statistically significant manner. Post-move satisfaction relative to those earning between $1 and $20,000 increases with each income bracket. Gross income also has a positive association with housing satisfaction, but again the association is not statistically significant.

Relative to those movers who did not experience a change in their income, an increase in income is associated with a higher level of overall post-move satisfaction, whether the increase is a result of the move (0.13 points) or not (0.10 points). A decrease in satisfaction, in comparison, has a much larger negative association with overall satisfaction when the drop is a result of the move (-0.20 points) than it does when the decrease in income is not a result of the move (-0.05 points).

When examining the association between income change and the reported change in domain satisfaction, increases in income, and decreases in income, influence different domains differently. A positive change in income resulting from the move has a large, statistically significant positive association with each satisfaction domain except outdoor environment. Consistently, a decrease in income due to the move is associated with lower housing satisfaction, 0.30 points lower that of those whose income did not change. Their satisfaction also falls lower in each of the other satisfaction domain except employment.

Table 9.7: Estimates from linear regression, impact of income change on post-move satisfaction, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0074	0.0666***	-0.0123	0.0371*	0.0187	0.0244
Time since move	0<3 months	(ref)					
	3<6 months	0.098	0.1699	0.1770*	0.0972	-0.0013	0.0294
	6<9 months	0.1469**	0.158	0.2472**	0.0373	0.0361	0.1065
	9<12 months	0.0685	0.1101	0.1119	0.1044*	-0.0461	-0.0628
	1<2 years	0.0492	0.0381	0.108	0.0762	-0.0657	-0.001
Age	Centred age	0.0030*	0.0003	0.0004	-0.0012	-0.0035**	-0.0047**
	Centred age^2	0.0001	-0.0002*	-0.0001	0.0001	0	0
Dwellings past 10 years	Two	0.0479	0.0967	0.009	-0.011	0.0442	0.0386
	Three	0.1186**	0.1034	0.036	0.0653	0.0794	0.0223
	Four	0.0057	0.0217	-0.0803	-0.0069	-0.0316	0.0089
	Five+	(ref)					
ln(length at prev. address)		-0.0063	-0.0527*	-0.0561**	-0.0277*	-0.0371*	-0.0651***
Ethnicity	European	(ref)					
	Māori	-0.1116**	-0.0174	0.0139	0.0246	0.0997	0.1098*
	Indian	-0.1918*	0.2493*	0.0876	0.3351**	0.1082	0.1305
	Chinese	-0.1743**	-0.007	-0.0109	0.2039*	0.0816	0.0786
	Pacific	-0.1947**	0.2071*	0.1225	0.2311**	0.028	0.1097
	Not ident.	-0.0845	0.1401	0.1558	0.1523	0.2242*	0.1194
Place of birth	Overseas	0.0174	-0.0382	-0.0603	0.0493	-0.0615	-0.0183
	New Zealand	(ref)					
Cohabitation status by gender	Existing Couple, Male	-0.0436	-0.0217	-0.0946*	0.0694	0.0396	0.0251
	Existing Couple, Female	(ref)					
	New Couple, Male	-0.0588	-0.4283**	-0.5418***	0	0.1385	-0.0654
	New Couple, Female	-0.1211	-0.3210**	-0.4904***	-0.1422	-0.2905*	-0.1925
	Different Couple, Male	-0.1256	0.2343	-0.4676	-0.1779	-0.0197	-0.3912*
	Different Couple, Female	-0.3615	-0.1918	-0.306	0.0389	-0.1245	-0.0209
	Still Single, Male	-0.2503***	-0.2535**	-0.3710***	0.0937	0.0185	-0.1074
	Still Single, Female	-0.1291***	-0.1287**	-0.2021***	0.0393	0.0577	-0.1076*
	Newly Single, Male	-0.4838***	-0.2322	-0.6608***	0.0095	0.0259	-0.135
	Newly Single, Female	-0.1845*	-0.2307	-0.2510*	-0.0355	0.2967**	-0.0157
Highest education	None	0.0179	-0.0233	0.1599**	0.0888	0.0986	0.045
	Secondary	0	-0.0582	0.0085	-0.0275	-0.0423	-0.0757
	Post-School	(ref)					
	Graduate	0.0222	-0.0276	-0.0475	-0.0295	-0.0897	-0.0879
Occupation	Not in labour force	(ref)					
	Unemployed	-0.0847	0.0361	0.0815	-0.0908	-0.1022	-0.0791
	Managers & professionals	0.1329*	-0.0893	-0.0019	-0.0812	0.075	0.0129
	Trades & services	0.1134	-0.0713	0.002	-0.0216	0.0262	-0.0102
	Primary & secondary	-0.0634	-0.1404	-0.0251	-0.012	-0.0007	-0.0392
	Unknown	0.0104	-0.0288	0.0625	-0.2012*	0.1319	0.0188
Income level	Unknown	0.0132	-0.0071	0.0774	0.0098	-0.0317	0.0553
	Negative or zero	0.0547	0.0682	0.0942	0.0069	-0.1045	0.0796
	1-20k	(ref)					
	20,001-40k	0.0481	0.0507	0.0578	-0.0072	-0.0779	0.0104
	40,001-70k	0.07	0.0228	0.1291	-0.0476	-0.0417	-0.0682
	70,001+	0.1076	0.1116	0.1379	-0.1041	-0.0684	-0.045
Change in income	No change	(ref)					
	+ (result of move)	0.1296*	0.1672	0.1814*	0.4886***	0.2257**	0.3174***
	+ (unrelated to move)	0.1025**	0.0394	0.0455	0.1142**	0.0601	0.1731***
	- (result of move)	-0.2005*	-0.2102	-0.2958*	0.0224	-0.1534	-0.1911
	- (unrelated to move)	-0.056	-0.0152	-0.0744	-0.1240*	-0.0843	-0.1047
	_cons	4.1774***	3.7419***	3.9075***	3.0307***	3.3765***	3.5085***
	N	3776	3774	3786	2991	3787	3783
	r2	0.07954	0.05194	0.06473	0.096	0.04605	0.05507
	F	6.719	3.129	4.52	4.49	3.07	3.982

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

The changes in domain satisfaction associated with those whose income increased, but not as a result of the move, also experienced more positive changes in

their satisfaction outcomes, but to a lesser extent. For those movers whose income decreased, but not as a result of the move, the only domain in which they experienced a statistically significant difference in satisfaction change was employment satisfaction.

In terms of the existing variables, I find that the inclusion of these economic variables reduces the negative association between identifying as Māori and overall post-move satisfaction from 0.16 points less than Europeans in Chapter 8 to only 0.11 points less. There is little change in the association between identifying with the other ethnic groups and satisfaction outcomes.

As shown in Table 9.8, for those moving between LLMs, the association between gross income and post-move satisfaction is similar to that experienced by those moving within LLMs. Progressively higher levels of income are associated with an increasingly more positive view of how things worked out following the move, while changes in satisfaction are statistically speaking less influenced by the gross income of movers. The one exception is housing satisfaction, with individuals in increasingly higher income groups experience a *less* positive change in housing satisfaction, 0.36 points lower than those earning between $1 and $20,000. Despite having the most positive association with overall satisfaction, movers earning over $70,000 also experienced lower outdoor environment, social life and standard of living satisfaction, but the results are not statistically different from zero

The association between income change and post-move satisfaction when the individual is moving between LLMs also has a number of notable differences compared with moves within LLMs. First, despite comprising a larger proportion of movers, an increase in income is not associated with a positive level of overall satisfaction that is statistically different from zero. In fact, an increase in income that is related to the move is associated with a lower level of satisfaction with the overall outcomes of the move. The lower level of satisfaction is surprising, given the much more positive change in employment satisfaction that they report, but may be explained by their less positive change social life satisfaction. An increase in income that is not a result of the move is associated with a more positive change in standard of living satisfaction. It seems that a positive change in income is associated with more improved employment opportunities, but there is evidence to suggest that in order to realise these positive outcomes, sacrifices are made in other areas of life satisfaction. With overall

satisfaction lower than those who did not experience a change in satisfaction, it is possible that the cost of these less positive changes may be unexpected.

Table 9.8: Estimates from linear regression, impact of income change on post-move satisfaction, moves between local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0016	0.0009	0.0025	0.0038	0.0177	-0.0479
Time since	0<3 months	(ref)					
move	3<6 months	-0.1603	0.14	0.0863	-0.1191	-0.1279	0.0248
	6<9 months	-0.1043	-0.0583	0.0392	0.0678	-0.1129	-0.0749
	9<12 months	0.065	0.0414	0.1133	-0.1071	0.1381	0.1148
	1<2 years	-0.0837	0.1419	0.2754	-0.178	-0.0067	0.2130*
Age	Centred age	0.003	0.0043	0.0082*	-0.002	0.0034	-0.0014
	Centred age^2	0.0002	-0.0003	-0.0001	0.0000	-0.0001	-0.0001
Dwellings	Two	0.102	0.1375	0.174	0.023	-0.0395	0.1429
past 10	Three	0.1138	0.1829	0.2649*	0.081	-0.0553	0.0678
years	Four	0.0167	0.1791	0.2022	-0.0514	-0.1417	0.1064
	Five+	(ref)					
ln(length at prev. address)		-0.0244	-0.0544	-0.1253**	-0.0486	-0.0742	-0.1104**
Ethnicity	European	(ref)	¤				
	Māori	-0.0202	0.0665	0.2218*	0.1277	0.0317	0.1397
	Indian	-0.2677	-0.4489	0.1133	0.0506	0.2343	0.2736
	Chinese	-0.0388	0.2388	-0.3368	-0.3006	0.422	0.0416
	Pacific	0.0751	0.2108	0.204	0.1799	0.5114*	0.1625
	Not ident.	-0.0347	0.2548	0.5517*	-0.1047	0.0292	0.4211**
Place of	Overseas	-0.0269	-0.1319	0.0414	-0.0439	-0.1567	-0.0501
birth	New Zealand						
Cohabitation	Existing Couple, Male	-0.131	-0.0156	0.0235	0.0834	-0.1806*	-0.1830*
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.2374	-0.5632	-0.1354	0.0224	-0.5261*	-0.4342*
	New Couple, Female	-0.0708	-0.0697	-0.1149	0.2234	-0.5036	-0.0181
	Different Couple, Male	-0.0111	0.4848	-0.2745	-0.3828	0.0166	0.0592
	Different Couple, Female	0.4314*	-0.4191	-0.0831	0.1907	0.3287	-0.7386
	Still Single, Male	-0.3349**	-0.2124	-0.1675	0.0413	-0.151	-0.246
	Still Single, Female	-0.1825*	-0.1778	-0.1639	0.016	-0.0554	-0.2749**
	Newly Single, Male	-0.7994*	-0.541	-0.4091	-0.3759*	-0.4945*	-0.6550***
	Newly Single, Female	-0.2154	-0.0607	0.1355	-0.1477	0.021	-0.2274
Highest	None	0.0636	0.1912	-0.0213	-0.0473	0.0002	0.0506
education	Secondary	-0.0088	-0.0944	-0.0944	-0.1313	-0.1668	-0.1621
	Post-School	(ref)	¤				
	Graduate	-0.0573	0.0216	0.0691	-0.1057	-0.2732	-0.0513
Occupation	Not in labour force	(ref)					
	Unemployed	-0.1521	-0.1036	0.1584	0.2077	0.0469	0.0262
	Managers & professionals	0.0448	-0.0898	0.16	0.0494	-0.111	-0.0307
	Trades & services	0.1437	0.116	0.3111	-0.0462	-0.1241	0.0763
	Primary & secondary	0.0033	-0.1674	0.1504	0.0619	-0.1518	0.0799
	Unknown	0.0442	-0.0245	-0.1543	-0.1803	0.1082	-0.1031
Income level	Unknown	0.0345	0.0712	-0.1481	-0.0726	-0.2249	-0.0669
	Negative or zero	0.1374	0.0523	0.1468	0.1092	0.0529	0.2811*
	1-20k	(ref)					
	20,001-40k	0.0921	0.019	-0.124	0.1074	0.0405	0.101
	40,001-70k	0.2504*	0.0888	-0.1771	-0.0422	-0.0269	0.0217
	70,001+	0.3504*	-0.4888	-0.3631*	0.1281	-0.4206	-0.2176
Change in	No change	(ref)					
income	+ (result of move)	-0.0641	-0.0951	-0.0485	0.7484***	-0.2768*	0.3078**
	+ (unrelated to move)	0.0935	-0.0099	0.4072**	0.1445	0.1274	0.5360***
	- (result of move)	-0.2299*	-0.1498	-0.3746**	-0.2158	-0.155	-0.1724
	- (unrelated to move)	-0.2051	-0.0126	-0.2258	-0.0585	-0.1181	-0.0843
	_cons	4.2686***	3.8431***	3.4539***	3.3982***	3.8464***	3.7410***
	N	1039	1029	1036	810	1038	1036
	r2	0.104	0.09446	0.1633	0.2284	0.1203	0.1884
	F	1.672	1.426	1.88	4.138	1.765	4.134

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Experiencing a decrease in income as a result of the move has, again, a more negative association with the change in domain satisfaction that movers report than those whose decrease in income was not a result of the move. A decrease in income that was not a result of the move had a closer negative association with the reported change in employment satisfaction for moves within LLMs. However, for those moving between LLMs, the reverse is true, with the employment satisfaction of those who experienced a decrease in income as a result of the move less positive.

Perhaps the biggest influence that gross income and income change have on my regression models is that they greatly increase the models' fit. In the case of the change in employment satisfaction of those moving between LLMs, the r^2 increases from just 0.066 to 0.228. The large improvements to the fit of the models are not limited to just employment satisfaction or moves between LLMs, although the largest improvements in the fit of the models are made for those moving between LLMs. The observed economic outcomes clearly play an important role in estimating the satisfaction outcomes of movers, particularly those moving between LLMs.

The inclusion of the econonomic characteristics of movers in my model also provided interesting insight into the differences of the previously considered personal characteristics of movers. As more economic characteristics were included, the differences between European and non-European movers generally decreased. It would appear that lower socio-ecomonic characteristics account for some of the lower overall post-move satisfaction reported by Māori and Pacific Islanders.

Summary

In this section I have considered the role that income plays in the overall post-move satisfaction outcomes of movers. I considered not only the gross income of movers, but also the change in income that movers experienced when moving both within and between LLMs. These two measures provide insight into not just the role of income on post-move satisfaction, but also the differences in measuring both change in satisfaction, and overall satisfaction with how things worked out following the move.

The results indicate that movers who earn the most also tend to report the highest level of overall post-move satisfaction when they move, particularly for those moving between LLMs. However, gross income does not have a strong statistical association with the changes in satisfaction in the individual domains. Change in

income, on the other hand, does have a statistical association with both overall satisfaction and changes in domain satisfaction. These results indicate that when moving, it is not just the overall level of income that influences domain satisfaction change, but rather, the relative change in the income of the mover, and in particular whether or not the change in income is as a result of the move or not.

9.3 Discussion

In this chapter, I have investigated how the inclusion of two key labour and economic characteristics of indivudual movers improve my regression model and affect satisfaction movers express with the outcome of their move, whether they moved within or between LLMs. I have found that the differences in educational achievement of movers made little difference to the way they judged the outcome. That said, movers with no formal educational qualifications did experience the highest post-move housing satisfaction when moving within LLMs (both the size of this effect and the statistical significance changed very little with the addition of income). Therefore, I conclude that any ability of educated movers to evaluate the relative costs and benefits associated are offset by other factors, such as a willingness to compromise satisfaction in some satisfaction domains, potentially in return for objective outcomes that accrue over a longer period of time.

The relationship between post-move satisfaction and income appears more complex, perhaps owing to the multitude of measures investigated. Movers with higher incomes do seem to experience higher satisfaction with how things worked out following their move when moving. However, there is little difference between income brackets in each post-move satisfaction domains across income ranges.

A change in income also has a significant positive association with the post-move satisfaction outcomes of individual movers. For all movers, an increase in income had a smaller positive effect on overall, and housing post-move, satisfaction than the negative effect of a decrease in income. This is consistant with a stronger effect of *loss* on satisfaction more generally.

The inclusion of these economic factors greatly improves the fit of my regression models. However, the characteristics of the mover's physical environment have yet to be incorporated. Therefore, in the following chapter I consider the urban

hierarchy and neighbourhood deprivation, as I investigate the role that these geographical factors play in determining the satisfaction outcomes of movers.

Chapter 10. Urban hierarchy and deprivation

In this chapter I focus on the relative importance of the mover's origin and destination locations in their post-move satisfaction. The characteristics attributable to the environment of the individual and the family can play a key role in behaviour (Ellen and Turner, 1997). Neighbourhood quality has long been considered an important element of residential satisfaction (Amérigo and Aragonés, 1997) and moving is the primary way in which people can adjust their environment to better fit their needs (Clark et al., 2006). However, in practice, moving to a new neighbourhood or city may yield a mixture of outcomes, improving satisfaction in some areas of life, while reducing it in others.

Therefore, in this chapter I begin by asking whether moves across the urban hierarchy influence the post-move satisfaction outcomes of movers and then ask the same question with respect to neighbourhoods with different levels of socio-economic deprivation, either within or between cities.

10.1 Urban hierarchy

Study of the urban hierarchy has been a particular interest of geographers and migration researchers. The urban hierarchy is the ranking of settlements based on the size of their populations. Settlements of different size offer different levels of access to economic and social opportunities (Smailes, 1944, Dickinson, 1932). These different characteristics in turn shape the behaviour, outcomes and patterns of residential relocation (Chhetri et al., 2009).

Residents of large urban centres will have greater access to a wider range of goods and services, including employment opportunities and at least among more specialist occupations, higher wages (Wheaton and Lewis, 2002). For both reasons, workers tend to migrate up the urban hierarchy to larger urban centres (Kim, 1991). The in-migration of migrants to larger and more central settlements creates a 'self-reinforcing' process as in-migration improves economic growth. As economic growth continues, it leads to further inward migration (Greenwood, 1973, Greenwood, 1975b).

While larger urban areas are considered to offer better employment opportunities, they are also generally regarded to be more expensive to live in than rural areas (Alonso, 1971, Kim, 1991). As population increases, so to do housing costs

(Glaeser et al., 2006). Alonso (1971) suggests that even if it is not more expensive, the greater access to goods and services in large cities raises the expectations of residents. This is one of the reasons why very large, dense, urban areas have also been associated with lower subjective well-being in New Zealand (Morrison, 2011).

Ravenstein's 1885 and 1889 work into the laws of migration developed two key conclusions on the behaviour of migrants that appear to support the assumption that large, central settlements will have positive characteristics that make them attractive for movers. A third conclusion, however, tempered this association. First, migrants tend to move step by step up the urban hierarchy:

> "The inhabitants of the country immediately surrounding a town of rapid growth, flock to it; the gaps left in the rural population are filled up by migrants from more remote districts, until the attractive force of one of our rapidly growing cities makes its influence felt, step by step, to the most remote corner of the kingdom" (Ravenstein, 1885: p.199).

In 19th century Britain when Ravenstein was writing, moves were taken in small steps up the urban hierarchy to progressively larger settlements. Second, longer moves, tended to be toward "great centres of commerce or industry" (Ravenstein, 1885: p.199), so that large urban areas exerted greater influence over a wider geographical area.

However, Ravenstein also found that a strong current of migration in one direction leads to a flow of migrants in the opposite direction. Migrants sometimes return back to previous locations, creating a counter-steam of migrants (Goldstein, 1964, Niedomysl and Amcoff, 2010, Ravenstein, 1885). This third finding suggests that while most movers may anticipate better outcomes by moving to larger urban centres, a proportion of movers may experience better outcomes moving in the opposite direction.

While Ravenstein agreed that movement in 19th century Britain occurred predominantly up the urban hierarchy, recent evidence from the late 20th century suggests that the predominant flow of migrants is down the urban hierarchy (Bedford et al., 1999). The movement of individuals and households across the urban hierarchy in a post-industrial world may have changed in nature from the rapidly urbanising country Ravenstein was observing (Plane et al., 2005).

Between 1911 and 1971, migration within New Zealand contributed to nearly all of the urbanisation of New Zealand (Gibson, 1973). During the 1970s, research

indicated that the movement of workers was also toward major urban areas. Dominated by movement to the urban growth centre Auckland, migration was also frequent between other major urban areas such as Christchurch and Wellington (Hampton and Giles, 1976, Poot, 1986).

During the 1980s and 1990s, New Zealand underwent large structural changes, redefining both the economy and society. While Auckland's population continued to grow and the urban area increased in primacy, the proportion of New Zealand's population living in urban areas changed little. Smaller urban centres such as Tauranga and Nelson, both of which are well known for their warm and sunny climates, experienced stronger growth (Le Heron and Pawson, 1996). Bedford et al. (1999), studying moves within New Zealand, found that the number of moves down the urban hierarchy, that is moves from large to smaller places, are significantly greater than moves up the hierarchy. Plane et al. (2005) studying moves within the US found similar patterns of counter-urbanisation.

Counter-urbanisation is a particular subset of internal moves associated with movements out of the major dense metropolitan LLMs into the smaller towns and villages (Champion et al., 2009, Champion, 1989, Champion, 2003). While counter-urbanisation has been studied since significant flows of migrants to rural locations was first observed in the 1960s, it still lacks a common definition with a particular problem defining what qualifies as a counter-urbanisation move (Phillips, 2010, Mitchell, 2004, Halliday and Coombes, 1995). For an overview see (Champion, 1998a).

Although receiving limited attention in New Zealand, net flows in favour of counter-urbanisation have been identified (Bedford et al., 1999). The evidence originally assembled from the 2001 census (Didham, 2003) has been updated following the 2006 census (Didham, 2007). The essential feature of this New Zealand experience is of a net flow out of the largest urban centres whose growth is maintained primarily through natural population growth and net international migration.

The reason for net flows down the urban hierarchy has not been clearly identified in New Zealand. The popular assumption is that people's quality of life is enhanced by moving to smaller centres, in which case we would expect moves to areas with lower population density would be accompanied by increases in life satisfaction.

This is the general argument behind 'down-shifting', for example (Chhetri et al., 2009). Downshifting is the search for simpler, less materialistic lifestyles and is often associated with movement from cities to more peripheral locations; the substitution of a 'richer life' instead of a 'life of the rich' (Chhetri et al., 2009). A downshifter, according to Chhetri et al, is "someone who voluntarily makes a long-term change in their lifestyle, other than planned retirement, which reduces her or his income" (Chhetri et al., 2009) p 53. This geographical component has been captured more broadly in the Australian context by the term 'Sea change', the migration of people to coastal and rural areas or smaller towns from larger cities (Burnley, 1988, Burnley, 2003). The term 'The Big Shift' captures the same idea (Salt, 2001).

The magnitudes of this phenomenon are significant. The Australian Institute nationwide survey on downshifting for example (Hamilton and Mail, 2003), reported that, "nearly one-quarter of the adult population age between 30 and 59 years had downshifted within a period of 10 years, suggesting that almost a quarter of the Australian working population were abandoning a consumerist culture for a non-materialistic and simpler lifestyle" (Chhetri et al., 2009: p. 57).

An inference from these downward flows is that movers down the urban hierarchy would experience greater post-move satisfaction. Chhetri et al. (2009) used a Quality of Life Survey to examine whether there were any differences in satisfaction levels between downshifters and non-downshifters in Queensland (this specific comparison was made because no question in the instrument available to them compared satisfaction levels before and after the move). However, contrary to expectations, counter-urbanisation was not found to have universal positive outcomes for movers. Downshifters reported a significantly lower level of satisfaction than non-downshifters, "especially with respect to satisfaction with the amount of money available to them, independence or freedom, and employment" (Chhetri et al., 2009: p. 51). This result appears to be consistent with the US experience, where only about half (52%) of those who moved from urban to rural areas "rated their new location better" (Barcus, 2004 p. 655). In another study, the urban hierarchy had little effect on the reported level of post-move housing and neighbourhood quality outcomes (Lu, 2002). In the Nordic countries, downward migration has been found to have a small negative, but insignificant, association with overall satisfaction. Movement from sparsely to

densely populated areas led to lower satisfaction with the living environment and higher satisfaction of services and facilities (Lundholm and Malmberg, 2006).

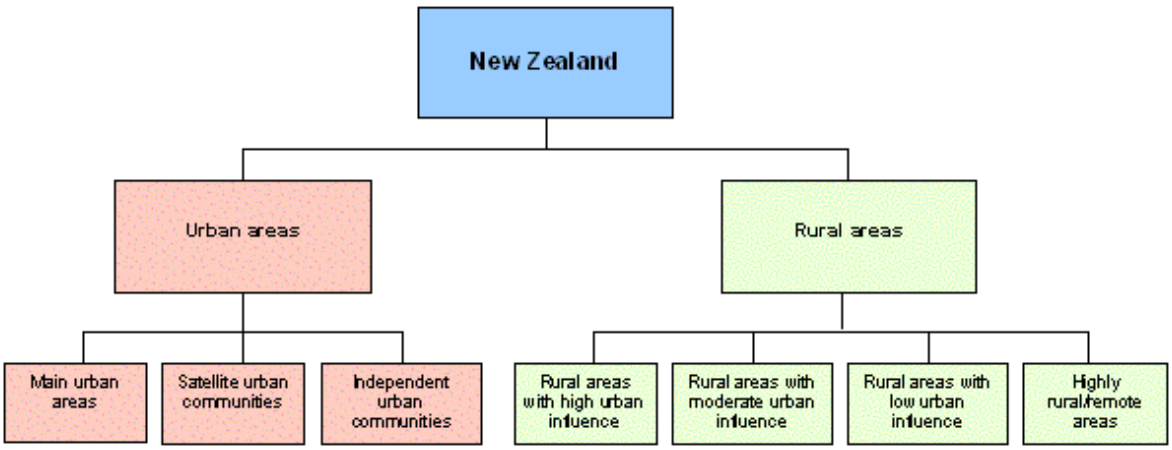
In summary, migration flows have traditionally flowed toward large urban centres, with workers attracted by the better employment outcomes resulting from greater agglomeration effects. Recent evidence suggests that a majority of moves flow down the urban hierarchy.

Identifying the urban hierarchy

The relative characteristics of a location are measured by considering not just the population size of a region. The usual residence address of individuals and their workplace address is also compared in order to incorporate the influence of surrounding areas (Statistics New Zealand, 2009a).

The result is an urban-rural profile that identifies major urban areas, hinterlands, independent urban communities and highly remote rural areas. The various levels of urban-rural profile are presented in Figure 10.1 and is accompanied by a brief description on the categorisation process that Statistics New Zealand follows.

Figure 10.1: Process diagram outlining Statistics New Zealand's Urban Rural Profile

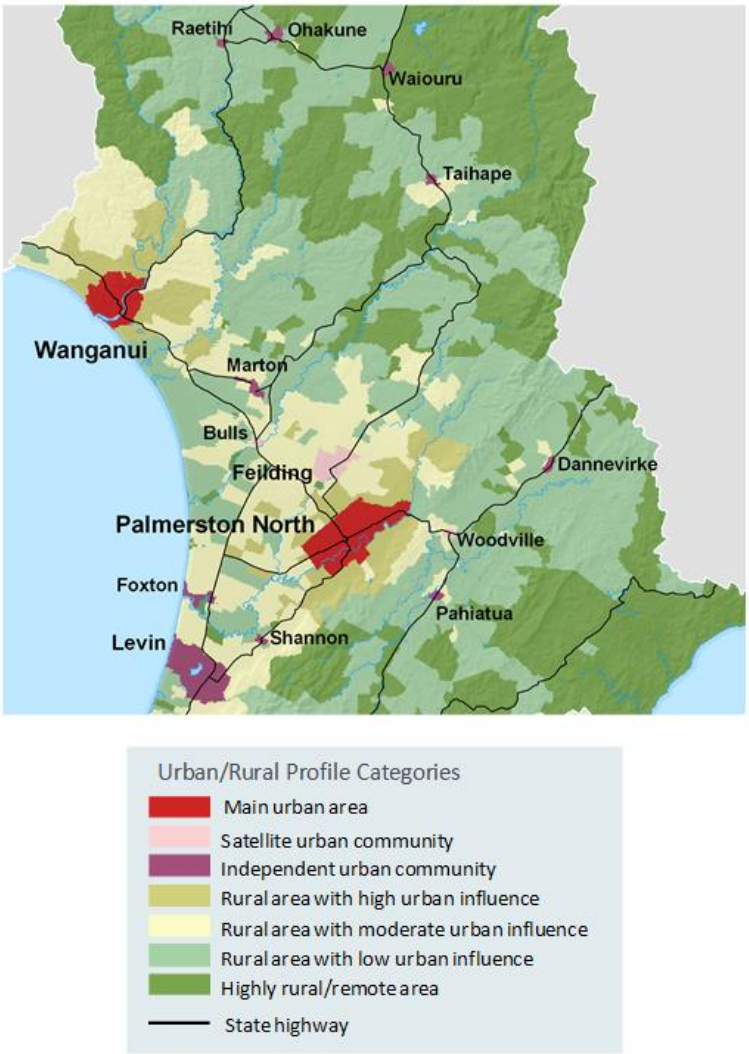


Source: Statistics New Zealand

Areas are classified as urban if they are an urbanised settlement with a population of 1000 residents or larger, or else they are classified rural. The methodology behind the sub-classification of urban areas differs from that used to sub-classify rural areas. Urban areas are classified by their size and interaction with other larger urban areas, while rural areas are classified by the degree to which they are dependent on urban areas for their employment. Figure 10.2 provides an example of how the urban/rural profile categories are geographically distributed across the

Wanganui/Manawatu region of New Zealand. Because of the differences in how LLMs and urban hierarchy levels are calculated, it is possible to remain within an LLM and still change urban hierarchy level. For example, a mover could live slightly outside the Palmerston North main urban area and be in a rural area with high urban influence and still remain in its labour market catchment.

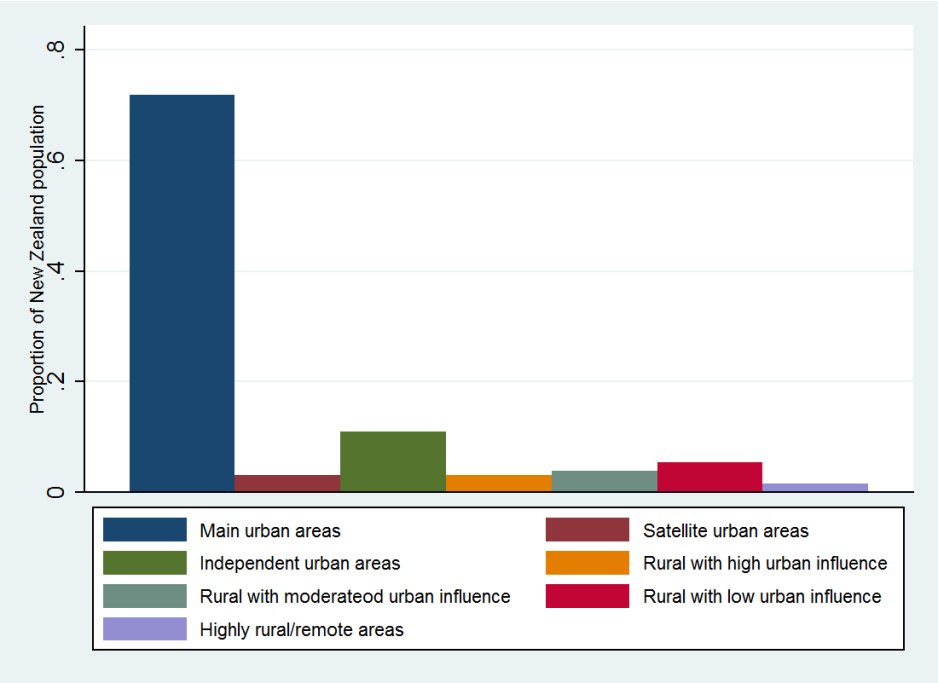
Figure 10.2: Geographical spread of the Urban/Rural Profile, Wanganui/Manawatu Region, New Zealand, 2006



Source: (Bayley and Goodyear, 2005)

As shown in Fig 10.3, New Zealand is a highly urbanised country and in 2006 71.8% of New Zealanders lived in the main urban areas. The second most populous group, those living in independent urban areas, comprised just 11% of the population. The total rural population is only 14% of the total New Zealand population.

Figure 10.3: New Zealand population distribution by Statistics New Zealand's Urban/Rural Profile, 2006

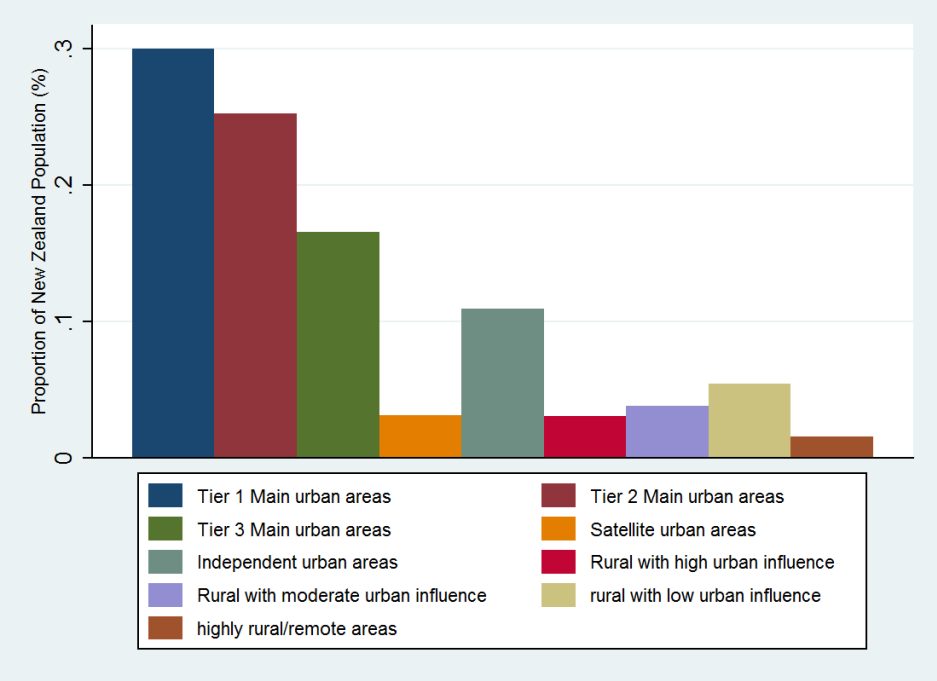


Source: Statistics New Zealand

Since Statistics New Zealand utilises a single category for the country's 16 largest urban centres in its urban rural profile, I suggest there are still clear differences between the characteristics of these main urban centres that may have a significant effect on the post-move satisfaction levels of movers. For example; Auckland is New Zealand's primate city, and arguably New Zealand's only 'global' city (Taylor et al., 2010), but using Statistics New Zealand's urban-rural profile, Auckland is categorised as similar in characteristics to Napier-Hastings, which does not even have an international airport.

To account for the differences between these main urban areas and to provide a greater spread of the population, I divide the main urban area category into three tiers. Reflecting its global and primate city status, the Greater Auckland urban area is allocated a 'global city' tier one, while the Wellington, Christchurch, Hamilton and Dunedin, urban areas are elevated to tier two as major metropolitan areas. The remainder of New Zealand's Main Urban Areas are allocated as tier three urban areas. As a result, the distribution of the New Zealand population in 2006 is as shown in Figure 10.4:

Figure 10.4: New Zealand population distribution by revised Urban/Rural Profile, 2006



Source: Statistics New Zealand

Each of the nine settlement types present in the above settlement typology is positioned on a nine-point scale from 1 to 9. Highly rural areas are situated at the bottom at 9 while the large urban centre of Auckland is located at the top at 1. By measuring the relative ranking of a mover's settlement of origin and destination, we can measure both the direction and magnitude of the moves up and down the urban hierarchy. Specifically

(10.1) $(UH_d - UH_o) = \Delta UH$

where UH_d is the destination (on the nine point ordinal scale), UH_o is the origin and ΔUH is the change in urban hierarchy level.

According to 10.1, ΔUH will be positive in the case of downward moves, and negative in the case of upward moves. For example with Auckland = 1 and Rural = 9, someone moving from a rural mesh block to one in Auckland will experience a downward move of magnitude 1-9 = -8. Or in the case of Figure 1 for example, moving from Palmerston North to Fielding would be an example of 5-2 = 3.

In constructing this measure I am making the assumption that a move, say between Hamilton and Auckland, carries the same weight as between a highly remote rural area and rural area with a low level of urban influence; both = 1. The other implicit assumption involved in using the formula in 10.1 is that a move of one unit

down the urban hierarchy has the same effect on satisfaction as a unit move up the scale.

My preliminary analysis indicated that the optimal measure of urban hierarchy change was to a three level classification in which moves are either up, within the same level (lateral), or down the urban hierarchy. The summary statistics for the urban hierarchy change are provided in Table 10.1 and show that the majority of moves take place within the same level - there is no change in urban hierarchy level for 75.2% of all moves. In contrast to expectations, slightly more individuals moved up the urban hierarchy scale (13%) than down it (11.8%).

Table 10.1: Summary statistics, overall post-move satisfaction by change in urban hierarchy, and local labour market change, New Zealand, 2007

Direction of	Moves within labour markets				Moves between labour markets				Total moves			
U/H change	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Upward	4.2	0.827	211	0.055	4.08	0.818	426	0.401	4.12	0.822	637	0.13
Lateral	4.24	0.780	3452	0.897	4.1	0.865	241	0.226	4.23	0.787	3693	0.752
Downward	4.31	0.804	186	0.048	4.24	0.802	396	0.373	4.26	0.803	582	0.118
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: Statistics New Zealand

The proportion of moves in each hierarchy category is much more evenly distributed for those moves between LLMs, with only 22.6% of movers remaining in the same urban hierarchy level following their move. Again slightly more movers move up the urban hierarchy scale (40.1%) than move down it (37.3%). At 4.26 points, the average level of overall post-move satisfaction was highest for those who moved down the urban hierarchy, closely followed by those who moved within the same urban hierarchy level (4.23). At 4.12 points, those who moved up the urban hierarchy reported the lowest average level of overall post-move satisfaction.

When comparing moves within and between LLMs, the result becomes clearer. In both cases, the difference between a lateral move and moving down the urban hierarchy is greater than moving upwards. That is, in contrast to total moves, moving down the urban hierarchy appears to be more beneficial than moves upwards are detrimental. The reason for this is apparent; individuals moving within LLMs are more satisfied than those moving between them and they also represent a much greater number of those moving laterally, increasing its total average.

Testing the effect of urban hierarchy change

I test the significance of the observed differences between those moving up, down and laterally across the labour as follows:

(10.2) $y_i = \alpha + \beta X + \beta UHchange_{1i} + \beta UHchange_{3i} + \varepsilon_i$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X the the vector of the preceding independent variables and $UHchange_{1,3}$ takes a 1 if change in urban hierarchy level is positive, or negative respectively, against the base (lateral moves) and ε_i is the unexplained error.

I present the results first for those moving within and then between LLMs. Table 10.2 shows the results of the regression analysis across all satisfaction domains for those moving within their LLM. Moving up *or* down the urban hierarchy resulted in higher overall post-move satisfaction compared with those who do not change their position within the urban hierarchy, but in both cases the difference is statistically insignificantly different from zero.

The most instructive results apply to the domains in general. Moving down the urban hierarchy has the opposite effect of moving up. As one would expect both theoretically and intuitively, moving down the urban hierarchy is associated with lower post-move employment and social life satisfaction, but greater satisfaction with post-move outdoor environment, housing and standard of living. Moving up the urban hierarchy, on the other hand, is associated with lower satisfaction with outdoor environment, housing and standard of living but higher employment and social life satisfaction. Although the results accord with expectations, it is only with respect to outdoor environment satisfaction that the estimates are statistically significantly different to zero and here the differences are large; moving down the urban hierarchy raises post-move satisfaction with the outdoor environment by 0.51 points relative to those moving laterally. Those moving up the urban hierarchy were 0.56 points less satisfied. In other words, the difference in outdoor environment satisfaction between those moving up and down the urban hierarchy is greater than an entire satisfaction category on the 1-5 scale.

Table 10.2: Estimates from linear regression, impact of change in urban hierarchy, moves within local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0028	0.0661***	-0.0130	0.0380*	0.0168	0.0270
Time since	0<3 months	(ref)					
move	3<6 months	0.0976	0.1577	0.1751*	0.0989	0.0002	0.0272
	6<9 months	0.1470**	0.1608*	0.2476**	0.0372	0.0358	0.1071
	9<12 months	0.0682	0.1123	0.1122	0.1047*	-0.0467	-0.0619
	1<2 years	0.0483	0.0205	0.1052	0.0777	-0.0637	-0.0039
Age	Centred age	0.0030*	0.0012	0.0005	-0.0013	-0.0037***	-0.0045**
	Centred age^2	0.0001	-0.0002*	-0.0001	0.0001	0.0000	0.0000
Dwellings	Two	0.0449	0.0951	0.0085	-0.0088	0.0432	0.0399
past 10	Three	0.1172**	0.0981	0.0351	0.0661	0.0795	0.0220
years	Four	0.0037	0.0333	-0.0789	-0.0081	-0.0340	0.0122
	Five+	(ref)					
	ln(length at prev. address)	-0.0065	-0.0538*	-0.0562**	-0.0279*	-0.0370*	-0.0652***
Ethnicity	European	(ref)					
	Māori	-0.1123**	-0.0230	0.0130	0.0249	0.1003	0.1091*
	Indian	-0.1897*	0.2476*	0.0876	0.3346**	0.1093	0.1292
	Chinese	-0.1693**	0.0038	-0.0087	0.2017*	0.0822	0.0779
	Pacific	-0.1928*	0.1986	0.1209	0.2310**	0.0297	0.1073
	Not ident.	-0.0802	0.1410	0.1564	0.1502	0.2258*	0.1173
Place of	Overseas	0.0169	-0.0357	-0.0601	0.0482	-0.0622	-0.0173
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.0436	-0.0175	-0.0939*	0.0687	0.0391	0.0259
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.0570	-0.4214**	-0.5405***	-0.0010	0.1385	-0.0651
	New Couple, Female	-0.1208	-0.3378***	-0.4928***	-0.1392	-0.2882*	-0.1958
	Different Couple, Male	-0.1317	0.1676	-0.4781	-0.1701	-0.0126	-0.4016*
	Different Couple, Female	-0.3562	-0.1404	-0.2979	0.0321	-0.1292	-0.0139
	Still Single, Male	-0.2494***	-0.2407**	-0.3691***	0.0922	0.0171	-0.1052
	Still Single, Female	-0.1289***	-0.1235**	-0.2013***	0.0381	0.0572	-0.1066*
	Newly Single, Male	-0.4827***	-0.2067	-0.6569***	0.0060	0.0230	-0.1308
	Newly Single, Female	-0.1829*	-0.1831	-0.2442*	-0.0425	0.2902**	-0.0063
Highest	None	0.0168	-0.0250	0.1595**	0.0887	0.0985	0.0452
education	Secondary	0.0005	-0.0548	0.0090	-0.0283	-0.0423	-0.0755
	Post-school	(ref)					
	Bachelor+	0.0218	-0.0255	-0.0474	-0.0305	-0.0901	-0.0873
Income	Unknown	0.0160	0.0051	0.0795	0.0071	-0.0323	0.0561
level	Negative or zero	0.0558	0.0547	0.0925	0.0049	-0.1024	0.0762
	1-20k	(ref)					
	20,001-40k	0.0480	0.0453	0.0571	-0.0071	-0.0772	0.0093
	40,001-70k	0.0710	0.0171	0.1283	-0.0474	-0.0405	-0.0701
	70,001+	0.1076	0.0863	0.1343	-0.1028	-0.0649	-0.0502
Change in	No change	(ref)					
income	+ (result of move)	0.1299*	0.1576	0.1801*	0.4900***	0.2272**	0.3153***
	+ (unrelated to move)	0.1032**	0.0437	0.0464	0.1137**	0.0597	0.1736***
	- (result of move)	-0.2018*	-0.2212	-0.2975*	0.0231	-0.1524	-0.1926
	- (unrelated to move)	-0.0576	-0.0039	-0.0728	-0.1239*	-0.0866	-0.1012
Occupation	Not in labour force	(ref)					
	Unemployed	-0.0837	0.0286	0.0805	-0.0915	-0.1008	-0.0813
	Managers & professionals	0.1338*	-0.0967	-0.0029	-0.0814	0.0763	0.0110
	Trades & services	0.1150	-0.0760	0.0016	-0.0232	0.0273	-0.0119
	Primary & secondary	-0.0629	-0.1262	-0.0229	-0.0153	-0.0027	-0.0366
	Unknown	0.0111	-0.0175	0.0642	-0.2041*	0.1306	0.0205
Urban	Up	0.0432	-0.5626***	-0.0761	0.0609	0.0959	-0.1362
Hierarchy	Lateral	(ref)					
change	Down	0.0607	0.5119***	0.0827	-0.0654	-0.0448	0.0672
	_cons	4.1764***	3.7477***	3.9082***	3.0329***	3.3755***	3.5101***
	N	3776	3774	3786	2991	3787	3783
	r2	0.07987	0.07974	0.0653	0.09681	0.04683	0.05652
	F	6.554	4.88	4.429	4.259	2.909	3.786

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

These results reflect that I am capturing people who move to the edge of cities that they live in; either ex-urban or newly built suburbs. By undertaking these moves, but remaining within the influence of their LLM, it would appear that they are able to enjoy the less urbanised environment while experiencing only small, insignificant, changes to their other satisfaction levels. Overall, the nicer outdoor environment does not make them more satisfied with the outcomes of their move.

Moves between LLMs address the central concern of the counter-urbanisation literature, because these people change settlements. It is salient therefore that Table 10.3 shows that there is no statistical difference in the overall post-move satisfaction of those moving up, down or laterally across the urban hierarchy, once all of the existing controls are in place. This suggests that strong composition and selection effects channel different types of people up and down the urban system. Unlike moves within LLMs, the association with moving up the urban hierarchy is negative as the previous literature suggests; 0.03 points lower than moving laterally. Correspondingly, moving down the urban hierarchy is associated with a much higher level of overall satisfaction, 0.15 points higher than lateral moves, but neither results are statistically significant.

Of special interest again are the results for the domains of satisfaction. For moves between LLMs, changes in urban hierarchy level have a similar effect on outdoor environment satisfaction as moves within LLMs: moving down the urban hierarchy is associated with higher post-move satisfaction with the outdoor environment, by 0.37 points relative to moves at the same level. Moving up the urban hierarchy is associated with a less positive change in post-move outdoor environment satisfaction, by 0.41 points. Again this result is consistent with what we would expect conceptually.

In contrast to moves within LLMs, when people do change settlement size, post-move employment, social life and standard of living satisfaction is affected. Moving up the urban hierarchy is associated with a more positive change in employment satisfaction, 0.31 points higher than those who do not change their position on the urban hierarchy scale and consistent with cost of living differences, standard of living satisfaction is 0.18 points less positive. Moving up or down the urban hierarchy reduces the social life satisfaction of movers relative to those who do not change their position on the urban hierarchy scale but the effect is only statistically significant for those moving down with a coefficient of -0.25.

Table 10.3: Estimates from linear regression, impact of change in urban hierarchy, moves between local labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0046	0.0201	-0.0012	-0.023	0.0352	-0.036
Time since	0<3 months	(ref)					
move	3<6 months	-0.1692	0.0951	0.0740	-0.1058	-0.1242	0.0103
	6<9 months	-0.1102	-0.0756	0.0310	0.0661	-0.1030	-0.0762
	9<12 months	0.0501	-0.0135	0.0918	-0.0991	0.1555	0.0986
	1<2 years	-0.1016	0.0715	0.2514	-0.1571	0.0116	0.1942*
Age	Centred age	0.0033	0.0057	0.0085*	-0.0047	0.0034	-0.0008
	Centred age^2	0.0002	-0.0002	-0.0001	-0.0001	-0.0001	-0.0001
Dwellings	Two	0.0907	0.0931	0.1595	0.0513	-0.0271	0.1315
past 10	Three	0.1028	0.1413	0.2493*	0.0994	-0.0432	0.0568
years	Four	0.0000	0.0799	0.1796	0.0000	-0.1419	0.0705
	Five+	(ref)					
ln(length at prev. address)		-0.0241	-0.0516	-0.1248**	-0.0509	-0.0743	-0.1090**
Ethnicity	European	(ref)					
	Māori	-0.0128	0.1116	0.2323*	0.1107	0.0287	0.1536
	Indian	-0.2274	-0.3163	0.1681	0.0138	0.1804	0.3056
	Chinese	-0.0270	0.2330	-0.3211	-0.2875	0.3841	0.0284
	Pacific	0.0801	0.1981	0.2105	0.2109	0.4916*	0.1533
	Not ident.	-0.0276	0.2626	0.5614*	-0.1086	0.0106	0.4181**
Place of	Overseas	-0.0205	-0.1080	0.0507	-0.0626	-0.1658	-0.0454
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.1283	0.0048	0.0281	0.0819	-0.1804*	-0.1762*
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.2341	-0.5420	-0.1306	0.0139	-0.5265*	-0.4257*
	New Couple, Female	-0.0680	-0.0099	-0.1102	0.2015	-0.4837	0.0110
	Different Couple, Male	-0.0273	0.3920	-0.2972	-0.3226	0.0162	0.0251
	Different Couple, Female	0.3502*	-0.6755	-0.1914	0.2645	0.4355	-0.8030*
	Still Single, Male	-0.3526**	-0.2617	-0.1908	0.0630	-0.1253	-0.2564
	Still Single, Female	-0.1869*	-0.1864	-0.1701	0.0187	-0.0477	-0.2751**
	Newly Single, Male	-0.8364*	-0.6616**	-0.4585	-0.3342*	-0.4482*	-0.6850***
	Newly Single, Female	-0.2253	-0.0720	0.1225	-0.1298	0.0423	-0.2251
Highest	None	0.0592	0.1915	-0.0264	-0.0576	0.0120	0.0552
education	Secondary	0.0092	-0.0355	-0.0701	-0.1371	-0.1916	-0.1472
	Post-school	(ref)					
	Bachelor+	-0.0626	-0.0010	0.0619	-0.0798	-0.2701	-0.0576
Income level	Unknown	0.0112	-0.0200	-0.1779	-0.0205	-0.2051	-0.0958
	Negative or zero	0.1188	-0.0086	0.1226	0.1046	0.0721	0.2584
	1-20k	(ref)					
	20,001-40k	0.0850	-0.0187	-0.1332	0.1349	0.0416	0.0876
	40,001-70k	0.2356	0.0088	-0.1964	0.0049	-0.0233	-0.0054
	70,001+	0.3477*	-0.5072	-0.3668*	0.1511	-0.4212	-0.2232
Change in	No change	(ref)					
income	+ (result of move)	-0.0624	-0.0767	-0.0464	0.7382***	-0.2721*	0.3176**
	+ (unrelated to move)	0.0988	0.0016	0.4141***	0.1551	0.1170	0.5375***
	- (result of move)	-0.2346*	-0.1569	-0.3810**	-0.1996	-0.1464	-0.1724
	- (unrelated to move)	-0.1978	0.0406	-0.2158	-0.0894	-0.1143	-0.0647
Occupation	Not in labour force	(ref)					
	Unemployed	-0.1521	-0.0776	0.1591	0.1961	0.0569	0.0334
	Managers & professionals	0.0686	0.0251	0.1933	-0.0031	-0.1236	0.0068
	Trades & services	0.1528	0.1796	0.3242	-0.0766	-0.1207	0.0998
	Primary & secondary	0.0230	-0.0690	0.1773	0.0129	-0.1593	0.1149
	Unknown	0.0628	0.0337	-0.1291	-0.1948	0.0840	-0.0879
Urban hierarchy	Up	-0.0288	-0.4085**	-0.0414	0.3191**	-0.1115	-0.1806*
change	Lateral	(ref)					
	Down	0.1509	0.3683**	0.1999	-0.0269	-0.2514*	0.0627
	_cons	4.2444***	3.7817***	3.4202***	3.3955***	3.8906***	3.7308***
	N	1039	1029	1036	810	1038	1036
	r2	0.1132	0.186	0.1733	0.2558	0.1281	0.2023
	F	1.994	5.393	1.996	4.21	1.811	3.728

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Chapter 10. Urban hierarchy and deprivation

Summary

My analysis of the relationship between post-move satisfaction and the nature of the move support the findings of previous studies by Chhetri et al. (2009), Lu (2002), Barcus (2004) and Lundholm and Malmberg (2006) by confirming that moves up the urban hierarchy are not associated with a higher or lower levels of overall post-move satisfaction. Whether moving within LLMs or between them, the overall level of satisfaction that movers express with how things worked out following their move is largely unaffected by whether the move is up, down, or laterally across the urban hierarchy. The significant differences come with the domains.

The results indicate that movers to new LLMs make personal gains from some agglomeration effects. Greater employment opportunities afforded by larger urban centres appear to lead to higher employment satisfaction following a move. Better communication and transportation services offered in urban centres may allow those in urban areas to maintain social relations with the mover's origin destination. Larger urban areas may also offer a broader range of social facilities while higher urban densities may increase proximity to local family and friends. Moving to less urban areas may result in greater isolation from friends and family.

My results also support the findings that the urban hierarchy does have different influences in different satisfaction domains. For example, the urban environment of larger urban areas appears to lead to less satisfying outdoor environments than less urban locations. With urban areas also leading to reductions in the level of standard of living reported by movers, I suggest that higher costs, or perhaps greater access to goods and services, associated with living in large urban areas, place a greater perceived pressure on household budgets. The lower costs associated with living in less urban areas may also allow movers to live in better quality neighbourhoods.

Having considered the effect a change in urban hierarchy level has on the post-move satisfaction of movers, I turn my attention to how differences in the socio-economic characteristics of a mover's origin and destination neighbourhoods influence their post-move satisfaction. Just as larger urban areas provide greater access to employment and services, but may be associated with poorer environmental and standard of living outcomes, I expect the socio-economic characteristics of

neighbourhoods to also influence the satisfaction of movers following a move. In particular, given higher living costs are associated with living in more urban areas, I use the next section to explore whether the poorer ratings for outdoor environment satisfaction is due to upwards movers mitigating some of the higher costs by moving to poorer neighbourhoods in these larger settlements.

10.2 The role of neighbourhood deprivation

> 'All households, American or European, want to live in good quality houses and in neighbourhoods that feel safe and provide both access to jobs and the amenities that ameliorate the stresses of urban living. Parks and other green spaces are an important part of making environments attractive, but so too is the presence of friendly neighbours and the absence of crime and deteriorating physical structures' (Clark et al., 2006: p. 323)

As with a number of areas in which this thesis is concerned, the study of neighbourhood effects in influencing social behaviour and individual and aggregate outcomes of movers has received considerable attention. Individuals in areas with high levels of neighbourhood deprivation have been found to experience a wide range of negative outcomes including poorer long term employment and economic outcomes and higher dissatisfaction (Buck, 2001, Durlauf, 2004, Ellen and Turner, 1997, Parkes et al., 2002, Pickett and Pearl, 2001). A wide range of other associations between neighbourhood effects and mobility have also received attention (Bailey and Livingston, 2008, Bergström and van Ham, 2010, Clark et al., 2006, Clark and Morrison, 2012, Feijten and van Ham, 2009, South and Crowder, 1997, South et al., 2011).

According to Clark et al. (2006) and Ellen and Turner (1997), people want to live in 'good' neighbourhoods. Evidence shows that movers do appear to value moving to less deprived areas and vote with their feet. A significant number of Dutch households achieve improvements in the socioeconomic status of the neighbourhood when moving. While often in conjunction with improvements in housing quality, neighbourhood improvements also occur in the absence of housing improvement, suggesting that movers have both housing and neighbourhood careers (Clark et al., 2006).

Bailey and Livingston (2008) identified a net flow of migration toward less deprived areas. But they also found "that migration flows do tend to reinforce spatial segregation as expected, increasing the concentration of groups with low educational

attainment in the more deprived areas" (Bailey and Livingston, 2008: p. 957). Race and the prevalence of poor neighbourhoods with a metropolitan area also influences the probability that moves will reinforce these patterns (South et al., 2011). Using the same survey as my thesis, Clark and Morrison (2012) show that movement tends to reinforce existing distributions of socio-economic groups across the city.

Living in a neighbourhood experiencing a decrease in socio-economic status does not increase the move intentions of residents, but perceptions of neighbourhood deterioration do (Feijten and van Ham, 2009). van Ham and Manley (2010) suggest that because neighbourhood effects are only significant for home owners and not social renters, poorer employment outcomes arise from selection effects rather than caused by observed neighbourhood effects. That is, neighbourhoods with high deprivation experience poorer aggregate employment outcomes because those residents who are most likely to experience unemployment select "deprived neighbourhoods as dwellings in these neighbourhoods are relatively affordable" (Feijten and van Ham, 2009: p. 279).

While not all 'poor' people live in poor neighbourhoods (Blakely and Pearce, 2002), the self-sorting of less affluent movers to more affordable areas indicates that moving to more affluent neighbourhoods may improve neighbourhood satisfaction. Residents tend to rate high income areas more positively than areas with lower income, regardless of their own socio-economic class (Stipak and Hensler, 1983). People also prefer to have affluent, well-educated neighbours (Harris, 1999) and negative relationships with neighbours negatively affect neighbourhood satisfaction (Parkes et al., 2002). Perceived personal safety has been found to have an important influence on neighbourhood satisfaction (Lee, 1981, Parkes et al., 2002) and neighbourhood deprivation is closely associated with higher crime rates (Krivo and Peterson, 1996, Sampson and Wilson, 1995, Wilson, 2012). Moving to more affluent neighbourhoods should therefore improve post-move satisfaction.

Amenities play a role in influencing the residential satisfaction of movers; "dissatisfaction can result from a change in the needs of a household, a change in the social and physical amenities offered by a particular location" (Speare, 1974: pp. 175). The relationship between neighbourhood socio-economic deprivation and amenities is discussed by Stafford and Marmot (2003); "the ability of wealthier, more powerful individuals to attract high quality amenities and services enhances the area for all residents" (Stafford and Marmot, 2003: pp. 357-358). Thus, the socio-economic

deprivation of neighbourhoods should reflect both the relative desirability of a location and the quality of the built environment.

Relative neighbourhood socio-economic deprivation levels have been found to be strongly associated with the health outcomes of individuals and there are at least modest community effects on health (Pickett and Pearl, 2001). Neighbourhood deprivation may therefore reflect the higher likelihood of an individual living in a deprived neighbourhood having poorer health outcomes. According to Pickett and Pearl (2001), the effect of the neighbourhood on health outcomes may be either indirect or direct:

> 'Neighbourhood socioeconomic context might affect health either directly, if simply living in a deprived neighbourhood is deleterious to health, or indirectly through such mechanisms as the availability and accessibility of health services, healthy foods or recreational facilities, environmental pollution, normative attitudes towards health, and social support. Measures of neighbourhood socioeconomic status can therefore be viewed as both proxies for unmeasured mechanisms or as actual exposures in their own right, or both.' (Pickett and Pearl, 2001: p. 120)

Stafford and Marmot (2003) also found that the impact of a low socio-economic neighbourhood is felt most strongly by the poorest individuals. Psychological distress is associated with high density apartments and high rise buildings in low socioeconomic areas (McCarthy et al., 1985).

Michalos and Zumbo (2002) found health outcomes had a significant indirect effect on the satisfaction outcomes of individuals through its effect on health satisfaction. In their study using the United States Centers for Disease Control and Prevention indicators of health status, general health accounted for 51% of variation in health satisfaction. Health satisfaction then accounted 30% of the variation in satisfaction with the overall quality of life (Michalos and Zumbo, 2002).

In summary, evidence indicates that neighbourhood deprivation plays a role in channelling the migration behaviour of migrants. While movers seek good neighbourhoods, spatial sorting ensures not all moves are made to less deprived areas. Neighbourhood deprivation influences the satisfaction that residents have with their neighbourhood, with those living in high deprivation areas the least satisfied. Moving to more affluent neighbourhoods should therefore improve post-move satisfaction.

Measuring deprivation and change in deprivation

In order to quantify the relative change in neighbourhood deprivation that the mover made in their move, I use the following formula:

(10.3) $\Delta Dep = DDD - ODD$,

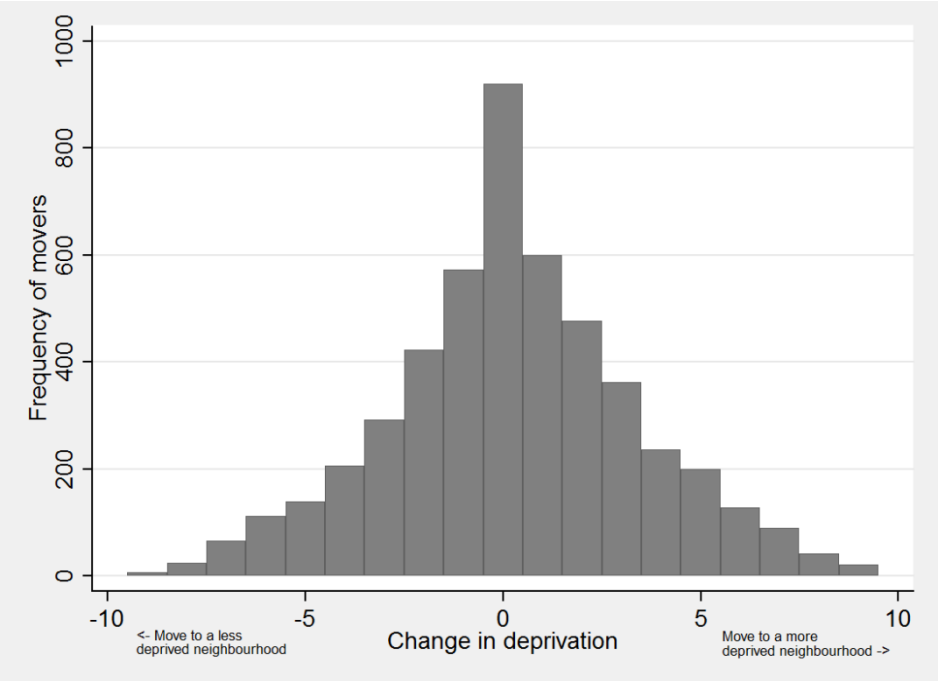
where ΔDep is the change in deprivation decile, DDD is the deprivation decile of the destination location of a move and ODD is the deprivation decile at the origin location of a move.

A deprivation decile value of 10 indicates an area with a deprivation score in the most deprived 10 per cent of areas in New Zealand, and thereafter, a positive ΔDep value indicates a move to a *more* deprived area than the mover came from. A negative value indicates a move to a less deprived area. For example, an individual moving from the most deprived area to the least deprived area will experience a ΔDep equal to 1 – 10 = -9.

As with my urban hierarchy change scale, this measure of urban hierarchy change assumes uniformity in effect across the range of deprivation outcomes. That is, that moves from an area in the tenth decile (most deprived) to an area in the ninth decide results in the same satisfaction outcomes as moves from an area in the second decile to an area in the first decile (least deprived). The use of deciles, however, further challenges this assumption, as the range of deprivation *scores* across the very last, most deprived, decile is greater than all other deciles (see: Clark and Morrison, 2012)

Figure 10.6 shows the spread of moves by deprivation change (ΔDep). It shows that most movers tend to move to areas with relatively similar levels of socioeconomic deprivation to those they left (18.7%). The proportion of movers in each category decreases with the change in deprivation level and less than half a per cent of movers (0.4%) moved from the least deprived to most deprived area (and vice versa).

Figure 10.6: Distribution of moves by change in neighbourhood deprivation, New Zealand, 2007



Source: Statistics New Zealand, 2007

Table 10.4 shows the change in neighbourhood deprivation resulting from moves within and between LLMs. Both exhibit a similar distribution to Figure 10.6, but a greater proportion within LLMs took place within the same deprivation band (20.5%) than moves to another LLM (12.2%). A similar proportion of moves within and between LLMs results in a move to a less deprived area (37.4% and 37.3%). Interestingly, while over half of all moves between LLMs are moves to more deprived areas (50.4%), only 42.1% of moves did so within LLMs.

Table 10.4 also shows the way average post-move satisfaction change varies across the range of deprivation change scores with diminished sample size contributing to greater variation in the more extreme changes of area. There is also little linear change in average post-move satisfaction across the range of values, although for moves within LLMs, moves to less deprived areas do appear to have higher in post-move satisfaction, averaging around 4.3, than moves to less deprived areas, averaging around 4.2.

Table 10.4: Summary statistics, overall post-move satisfaction by change in neighbourhood deprivation, and local labour market change, New Zealand, 2007

Direction and size of NzDep change		Moves within labour markets				Moves between labour markets			
		Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Less	-9	4.2	0.837	5	0.001	--	--	--	--[39]
Deprived	-8	4.44	0.727	16	0.004	--	--	--	--
	-7	4.29	0.816	49	0.013	4.24	0.752	17	0.016
	-6	4.38	0.658	93	0.024	3.74	1.046	19	0.018
	-5	4.36	0.673	92	0.024	4.21	0.72	47	0.044
	-4	4.34	0.696	163	0.042	4.21	0.717	42	0.04
	-3	4.38	0.714	236	0.061	4.05	1.079	55	0.051
	-2	4.35	0.689	325	0.085	4.11	0.934	97	0.091
	-1	4.28	0.746	460	0.12	4.21	0.821	112	0.105
No Change	0	4.16	0.85	790	0.205	4.18	0.775	130	0.122
	1	4.2	0.819	474	0.123	4.12	0.779	125	0.118
	2	4.2	0.811	370	0.096	4.18	0.814	106	0.1
	3	4.23	0.767	265	0.069	4.26	0.754	97	0.091
	4	4.16	0.84	176	0.046	4.23	0.698	60	0.056
	5	4.23	0.802	142	0.037	4.07	0.769	58	0.055
	6	4.41	0.689	79	0.021	4.23	0.722	48	0.045
	7	4.14	0.846	65	0.017	3.54	1.103	24	0.023
More	8	4.15	0.619	33	0.009	3.89	0.601	9	0.008
Deprived	9	3.69	0.855	13	0.003	3.88	0.835	8	0.008
total		4.24	0.784	3846	1	4.14	0.825	1063	1

Source: Statistics New Zealand, 2007

These results indicate that those who move from one LLM to another are less likely to move to a neighbourhood similar to the one they moved from. They are more likely to move to a neighbourhood with higher deprivation than is the case for intra-LLM movers. At the same time, while those moving between LLMs have a higher proportion of moves to more deprived areas, their lower average level of post-move satisfaction is more evenly distributed across the entire range of moves to more and less deprived areas. This may imply that when moving to another LLM, movers are less influenced by the quality of their neighbourhood than those moving within one.

Results

To test whether changes in neighbourhood as a result of moving influence post-move satisfaction I add deprivation change to my OLS regression model:

(10.4) $y_i = \alpha + \beta X_i + \beta \Delta Dep_i + \varepsilon_i$

where for the ith mover, y is the measure of the overall post-move satisfaction, X is a vector of the preceding independent variables, the variable ΔDep is the change in deprivation ranging from -9 to +9, and ε_i is the unexplained error.

The negative coefficient of deprivation change in Table 10.5 shows that as people move from less deprived to more deprived areas their overall post-move

[39] Values are suppressed to meet Statistics New Zealand's confidentiality requirements

satisfaction decreases. At the same time, the estimated coefficient is small (-0.014), with the difference in overall post-move satisfaction of those moving from the least deprived to the most deprived areas only a quarter of a point (0.252) less satisfied than those moving in the opposite direction.

When it comes to the individual domains, change in neighbourhood deprivation as a result of moving within LLMs is more likely to affect outdoor environment and housing post-move satisfaction. As expected, satisfaction in these two domains decreases as movers relocate from relatively less deprived neighbourhoods (0.08 points and 0.06 points respectively). Moving to a less deprived area is associated with higher satisfaction, not just with the area around the mover, but with the house itself. Moving to a less deprived area also results in higher standard of living satisfaction.

The drop in standard of living satisfaction, combined with the drop in housing and outdoor environment satisfaction, may suggest that moves to increasingly more deprived areas may be responses to poorer life events. These life events may require sacrifices to be made both in the quality of area with which the mover lives and the quality of the house they occupy. On the other hand, moves to increasingly less deprived may be associated with more positive life events which enable improvements to both the area in which a mover resides and the house they occupy. Both these outcomes appear to strongly support both housing career and life course theory. Deprivation change does not have an impact on employment or social life satisfaction, with neither statistically different from zero.

Table 10.5: Estimates from linear regression, impact of neighbourhood deprivation change on post-move satisfaction, moves within labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0039	0.0717***	-0.0081	0.0392*	0.0180	0.0293
Time since move	0<3 months	(ref)					
	3<6 months	0.0963	0.1441	0.1610*	0.0992	0.0091	0.0239
	6<9 months	0.1415**	0.133	0.2255**	0.0367	0.0334	0.0980
	9<12 months	0.0622	0.0833	0.0888	0.1037*	-0.0520	-0.0711
	1<2 years	0.0450	-0.0016	0.0906	0.0761	-0.0646	-0.0104
Age	Centred age	0.0030*	0.0013	0.0008	-0.0013	-0.0038***	-0.0043**
	Centred age^2	0.0001	-0.0001	-0.0001	0.0001	0.0000	0.0000
Dwellings past 10 years	Two	0.0378	0.059	-0.0225	-0.0129	0.0386	0.0270
	Three	0.1115**	0.066	0.0082	0.0624	0.0772	0.0106
	Four	0.0024	0.013	-0.0929	-0.0122	-0.0285	0.0077
	Five+	(ref)					
ln(length at prev. address)		-0.0072	-0.0575*	-0.0594**	-0.0288*	-0.0380*	-0.0665***
Ethnicity	European	(ref)					
	Māori	-0.1146**	-0.0329	0.0041	0.0256	0.0985	0.1058*
	Indian	-0.1805*	0.3091**	0.1375	0.3408**	0.1046	0.1470
	Chinese	-0.1475*	0.1288	0.0917	0.2154*	0.0887	0.1180
	Pacific	-0.1928*	0.2085	0.1320	0.2342**	0.0257	0.1091
	Not ident.	-0.0755	0.1783*	0.1854*	0.1469	0.2211*	0.1267
Place of birth	Overseas	0.0165	-0.0303	-0.0572	0.0461	-0.0681	-0.0188
	New Zealand	(ref)					
Cohabitation status by gender	Existing Couple, Male	-0.0423	-0.0058	-0.0860*	0.0713*	0.0387	0.0291
	Existing Couple, Female	(ref)					
	New Couple, Male	-0.0486	-0.3747**	-0.5034***	0.0072	0.1455	-0.0489
	New Couple, Female	-0.1225	-0.3460***	-0.4998***	-0.1393	-0.2902*	-0.1986
	Different Couple, Male	-0.125	0.1992	-0.4521	-0.1651	-0.0105	-0.3912
	Different Couple, Female	-0.3343	-0.0210	-0.2020	0.0527	-0.1166	0.0265
	Still Single, Male	-0.2437***	-0.2064**	-0.3422***	0.0986	0.0194	-0.0941
	Still Single, Female	-0.1214**	-0.0827	-0.1654**	0.0435	0.0586	-0.0916
	Newly Single, Male	-0.4623***	-0.0995	-0.5734***	0.0133	0.0372	-0.0947
	Newly Single, Female	-0.1772*	-0.1514	-0.2123	-0.0362	0.2886**	0.0037
Highest education	None	0.0154	-0.0329	0.1521**	0.0868	0.0981	0.0414
	Secondary	0.0031	-0.0442	0.0208	-0.0281	-0.0393	-0.0709
	Post-school	(ref)					
	Bachelor+	0.0299	0.0132	-0.0177	-0.0266	-0.0752	-0.0726
Income level	Unknown	0.0145	0.0017	0.0747	0.0057	-0.0325	0.0533
	Negative or zero	0.0578	0.0503	0.0839	0.0037	-0.0825	0.0770
	1-20k	(ref)					
	20,001-40k	0.0470	0.0400	0.0520	-0.0087	-0.0784	0.0068
	40,001-70k	0.0670	-0.0050	0.1117	-0.0510	-0.0456	-0.0784
	70,001+	0.1040	0.0729	0.1231	-0.1048	-0.0716	-0.0560
Change in income	No change	(ref)					
	+ (result of move)	0.1306*	0.1635	0.1833*	0.4856***	0.2272**	0.3170***
	+ (unrelated to move)	0.1080**	0.0744	0.0694	0.1172**	0.0610	0.1842***
	- (result of move)	-0.2005*	-0.2087	-0.2900*	0.024	-0.1507	-0.1892
	- (unrelated to move)	-0.0594	-0.0072	-0.0796	-0.1251*	-0.0902	-0.1035
Occupation	Not in labour force	(ref)					
	Unemployed	-0.0862	-0.0045	0.0699	-0.0995	-0.1046	-0.0866
	Managers & professionals	0.1334*	-0.1029	-0.003	-0.0829	0.0713	0.0096
	Trades & services	0.1143	-0.0823	-0.0002	-0.0242	0.0255	-0.0129
	Primary & secondary	-0.0627	-0.1284	-0.0201	-0.0159	-0.0053	-0.0358
	Unknown	0.0098	-0.0307	0.0588	-0.2056*	0.1260	0.0171
Urban hierarchy change	Up	0.0782	-0.3947***	0.0546	0.0861	0.1474	-0.0755
	Lateral	(ref)					
	Down	0.0367	0.3866***	-0.0200	-0.0839	-0.0627	0.0226
Deprivation change		-0.0144**	-0.0763***	-0.0618***	-0.0108	-0.0100	-0.0265***
	_cons	4.1775***	3.7447***	3.9044***	3.0338***	3.3834***	3.5110***
	N	3773	3771	3783	2990	3784	3780
	r2	0.0834	0.1386	0.1018	0.09919	0.04844	0.06614
	F	6.452	7.395	6.503	4.061	2.7	5.377

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

In terms of the model as a whole, including deprivation change reduces the association between urban hierarchy change and post-move satisfaction with the outdoor environment. With change in neighbourhood deprivation in the model, the negative association between outdoor environment satisfaction and moving up the urban hierarchy decreases from -0.56 to -0.39, while the positive association of moving down the urban hierarchy decreases from 0.51 to 0.39. It would therefore appear that the positive association of moving to a less urban area within the same LLM reflects a greater ability to access less deprived areas. Likewise, the negative effect of moving to areas of greater urban density appears to reflect the pressure to purchase housing in more deprived areas.

While changing neighbourhoods has a statistically significant effect on the post-move satisfaction outcomes of those moving within LLMs, Table 10.6 also shows that moving up or down the scale has little statistical effect on those moving between LLMs. This may be due to the smaller sample size. With a coefficient of -0.04, post-move housing satisfaction *does* increase as individuals move to increasingly less deprived areas and decreases as they move to increasingly more deprived areas. For every one point less upward and one point more 'downward' that a move involves, post-move housing satisfaction deceases by 0.04 points. Post-move standard of living exhibits a similar association with deprivation change. Moves toward more deprived areas are associated with a decrease in the standard of living (by 0.03 points in this case). A change in neighbourhood deprivation does not change a mover's satisfaction with their new neighbourhood when moving between LLMs. It does, however, correspond with a change in their satisfaction with their new house and satisfaction with their standard of living.

Table 10.6 Estimates from linear regression, impact of neighbourhood deprivation change on post-move satisfaction, moves between labour markets, New Zealand, 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0047	0.0201	0.0038	-0.0216	0.0336	-0.0327
Time since	0<3 months	(ref)					
move	3<6 months	-0.1690	0.0949	0.0610	-0.1021	-0.1199	0.0020
	6<9 months	-0.1102	-0.0756	0.0295	0.0737	-0.1024	-0.0768
	9<12 months	0.0503	-0.0138	0.0774	-0.0981	0.1604	0.0876
	1<2 years	-0.1014	0.0711	0.2310	-0.1584	0.0178	0.1815*
Age	Centred age	0.0033	0.0057	0.0087*	-0.0045	0.0034	-0.0008
	Centred age^2	0.0002	-0.0002	-0.0001	-0.0001	-0.0001	0.0000
Dwellings	Two	0.0909	0.0928	0.1433	0.0490	-0.0221	0.1223
past 10	Three	0.1026	0.1415	0.2604*	0.1028	-0.0467	0.0648
years	Four	0.0001	0.0798	0.1755	-0.0021	-0.1404	0.0680
	Five+	(ref)					
ln(length at prev. address)		-0.0241	-0.0515	-0.1187**	-0.0497	-0.0763	-0.1048**
Ethnicity	European	(ref)					
	Māori	-0.0125	0.1113	0.2134*	0.1043	0.0349	0.1408
	Indian	-0.2279	-0.3157	0.2000	0.023	0.1701	0.3271
	Chinese	-0.0285	0.235	-0.2142	-0.2579	0.3494	0.0995
	Pacific	0.0801	0.198	0.2109	0.2090	0.4916*	0.1539
	Not ident.	-0.0272	0.2621	0.534	-0.1195	0.0199	0.3996**
Place of	Overseas	-0.0205	-0.1081	0.0471	-0.0662	-0.1645	-0.0476
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.1283	0.0049	0.0292	0.0822	-0.1811*	-0.1744*
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.2338	-0.5425	-0.1535	0.0075	-0.5189	-0.4399*
	New Couple, Female	-0.0676	-0.0104	-0.1364	0.1952	-0.4752	-0.0053
	Different Couple, Male	-0.0266	0.3909	-0.3533	-0.3375	0.0348	-0.0114
	Different Couple, Female	0.3492*	-0.6741	-0.1151	0.2896	0.4109	-0.7529*
	Still Single, Male	-0.3528**	-0.2614	-0.1748	0.0679	-0.1303	-0.2449
	Still Single, Female	-0.1871*	-0.1861	-0.1526	0.0241	-0.0533	-0.2627**
	Newly Single, Male	-0.8369*	-0.6609**	-0.4201	-0.3215*	-0.4606*	-0.6589***
	Newly Single, Female	-0.2253	-0.0720	0.1224	-0.1253	0.0425	-0.2242
Highest	None	0.0594	0.1913	-0.0421	-0.0652	0.0174	0.0441
education	Secondary	0.0092	-0.0353	-0.0639	-0.1339	-0.1935	-0.1428
	Post-school	(ref)					
	Bachelor+	-0.0621	-0.0018	0.0223	-0.0892	-0.2566	-0.0842
Income level	Unknown	0.0107	-0.0193	-0.1419	-0.0079	-0.2168	-0.0719
	Negative or zero	0.1184	-0.0080	0.1498	0.1168	0.0634	0.2751*
	1-20k	(ref)					
	20,001-40k	0.0846	-0.0181	-0.1030	0.1463	0.0320	0.1076
	40,001-70k	0.2354	0.0090	-0.1865	0.0116	-0.0266	0.0020
	70,001+	0.3470*	-0.5062	-0.3137	0.1721	-0.4386	-0.1888
Change in	No change	(ref)					
income	+ (result of move)	-0.0626	-0.0764	-0.0263	0.7435***	-0.2785*	0.3312***
	+ (unrelated to move)	0.0986	0.0018	0.4259***	0.1560	0.1134	0.5454***
	- (result of move)	-0.2350*	-0.1562	-0.3454**	-0.1887	-0.1577	-0.1488
	- (unrelated to move)	-0.1978	0.0407	-0.2137	-0.0894	-0.1146	-0.0642
Occupation	Not in labour force	(ref)					
	Unemployed	-0.1520	-0.0778	0.1474	0.1936	0.0606	0.0231
	Managers & professionals	0.0688	0.0249	0.1799	-0.0094	-0.1198	-0.0020
	Trades & services	0.1528	0.1795	0.3178	-0.0775	-0.1186	0.0952
	Primary & secondary	0.0233	-0.0694	0.1543	0.0065	-0.1518	0.0994
	Unknown	0.0626	0.0340	-0.1125	-0.1850	0.0784	-0.0769
Urban hierarchy	Up	-0.0289	-0.4083**	-0.030	0.3228**	-0.1153	-0.1738*
change	Lateral	(ref)					
	Down	0.1510	0.3681**	0.1916	-0.0308	-0.2489*	0.0575
Deprivation change		0.0005	-0.0007	-0.0391**	-0.0112	0.0128	-0.0260*
	_cons	4.2448***	3.7811***	3.3919***	3.3824***	3.8995***	3.7109***
	N	1039	1029	1036	810	1038	1036
	r2	0.1132	0.186	0.1899	0.2575	0.13	0.2123
	F	1.912	5.182	2.738	4.275	2.03	3.951

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

In summary, I expected post-move satisfaction to be influenced by the changes in the level of neighbourhood quality. With households aspiring to live in 'good' neighbourhoods and neighbourhood satisfaction low amongst residents in high deprivation areas, I expected that moving to less deprived areas would lead to improvements in post-move satisfaction. My results show that for moves within LLMs this is indeed the case. Moving from increasingly less deprived neighbourhoods to increasingly more deprived neighbourhoods is associated with lower post-move satisfaction in each domain except employment and social life. Moving from increasingly less affluent areas to increasingly more affluent areas does result in positive post-move satisfaction outcomes for movers, although the effect is smaller for those moving between LLMs, where only post-move housing and standard of living satisfaction are affected negatively.

10.3 Conclusion

The inclusion of urban hierarchy change and neighbourhood deprivation into my post-move satisfaction model has provided insight into the impact of changing locations. While migration has long been considered to be associated with moves to larger and more urbanised centres, counter-urbanisation moves are becoming more prevalent. However, clearly downshifting is not without its downsides for while satisfaction does rise when moving down the urban hierarchy, in other domains satisfaction rises when moving upwards.

The association between urban hierarchy change and post-move satisfaction is greatest for outdoor environment satisfaction. Moving to less urbanised areas is associated with greater satisfaction with the mover's surrounding area, regardless of whether the move is between or within the same LLM. While movers clearly prefer rural surrounds to cityscapes, among those for those moving within LLMs, any change in neighbourhood quality reduces the size of this association. Some of the allure of less urban areas, I suggest, is associated with their higher costs and opportunity to access upward moves to higher socio-economic communities.

In Chapter 8 I suggested that some of the less positive change in outdoor satisfaction that new couples reported may be a result of moving to less desirable neighbourhoods in order to establish a home and potentially enter the property ladder. The inclusion of neighbourhood deprivation change supports my suggestion, reducing

the size of the negative association between new couple coefficients and outdoor environment satisfaction.

Moving to a different LLM in a more urbanised area may be associated with a more positive change in employment satisfaction, but apparently at the expense of a less positive change in the mover's perceived standard of living. While movements to larger centres may be associated with higher living costs, moves to less urban areas may bring greater social isolation and a less positive change in social life satisfaction.

Moving to increasingly more deprived areas may often be an adjustment to either a negative change in circumstances or a sacrifice in return for better circumstances in the future. Unexplained so far is the degree to which the observed associations between post-move satisfaction and movements up and down the urban hierarchy and within centres might reflect particular reasons movers give for undertaking a move. In turn, in the following chapter I study the reasons movers give for moving.

Chapter 11. Motivations for moving

The foregoing chapters have primarily focused on objective factors that might influence the post-move satisfaction of movers, such as the distance moved and how long ago the move took place, the attributes of the movers themselves and the relative attributes of the areas they moved from and to. In this penultimate chapter I consider the reasons that individuals give for why they undertook their move.

Elsewhere, the reasons that individuals have for moving house have been found to have substantial impact on their satisfaction outcomes, both in influencing the overall satisfaction and also their post-move satisfaction in specific domains. A number of different conceptual typologies have been followed in order to categorise move motivations and these vary depending on whether people move within or between LLMs (Clark and Onaka, 1983, Lundholm et al., 2004). The DMM survey offers a unique opportunity to re-examine the main findings in the literature and test how post-move satisfaction is contingent on prior reasons for moving. Specifically, how the different motives expressed by movers are related to the levels of satisfaction their move brings.

I start by investigating the influence that forced or involuntary moves have on post-move satisfaction. Moves that are involuntary are of particular interest because we can no longer assume that the mover anticipates that the benefits associated with moving will outweigh the costs. Movers who are forced into moving may not necessarily move because it represents a positive move, but simply because they have no choice and *have* to move.

I then consider why people move, paying particular attention to the association between each major reason for moving category, as well as overall and domain satisfaction. For example, whether a move that was for housing reasons leads to higher post-move satisfaction in the housing domain than one undertaken for employment related reasons.

11.1 Forced moves

A central assumption in mobility research is that people will only move if the benefits associated with moving are expected to outweigh the costs. That is, if a potential move is expected to result in a net positive outcome, then the individual or

family unit will undertake the move, otherwise they will remain at their current address. Such an assumption is only meaningful if moves are undertaken *voluntarily*. Having said this, movers who are forced to move are often able to take advantage, or make the most, of the move and seek a destination that better suits their needs (Kleinhans, 2003, Newman and Owen, 1982, Stokols and Shumaker, 1982).

For the majority, however, the involuntary move is likely to have been unexpected and therefore "bypassed the planning stage" (Rossi, 1955: p. 114). The need to find alternative accommodation may lead to a less well considered move and, if not leading to a negative change in satisfaction, then certainly a less positive level of satisfaction is likely, certainly than those who chose to move on their own terms.

Forced intraregional moves have been defined as moves "forced on the household either by other persons or events, or required by decisions made by the household regarding non-housing matters" (Rossi, 1955: p. 103) or "necessitated by events those beyond the control of the household" (Clark and Onaka, 1983: p. 49) that result in the forced loss of the housing unit. A key attribute is, therefore, moves which are necessitated by an agent external to the household. With my analysis focusing on the *individual* I expand this to not only include those agents external to the household, but to include agents within the household that are external to the individual themselves.

In the case of studies by Rossi (1955) and Clark and Onaka (1983), categorising forced moves from the reasons given by the mover for moving is difficult. An alternative approach is to ask the mover to indicate the degree of voluntariness of their move. Lundholm et al. (2004) and Lundholm and Malmberg (2006) use this method to directly assess the impacts of forced migrations using a sample of interregional movers in the Nordic counties. In their study, 85% of interregional movers indicated that they moved because they wanted to. The 15% who did not reported a considerably less positive change in their overall, and domain, satisfaction

Measuring forced moves

The survey I draw on did not ask movers how voluntary they perceived their move to be. However, it is possible to select reasons for moving that are involuntary. For example, a move that was initiated because the household's main wage earner was transferred to another city could be seen as a forced move. A move that was initiated because a mover's previous residence was no longer affordable to them, perhaps

because they lost their job or their rent increased, could also be considered a forced move. In this thesis I define forced more as being induced by the actions of an outside actor and because I am considering the post-move satisfaction of the individual, this may be an employer, landlord or a family member.

Table 11.1 shows that at 81%, slightly over four fifths of all movers move for reasons identified as being voluntary, only a little lower than the 85% identified by Lundholm and Malmberg (2006). Of those who moved between LLMs, 85.1% reported moving for reasons that I identified as being voluntary. A smaller percentage of those moving within LLMs, 79.9%, reported moving for reasons identified as voluntary.

Table 11.1: Summary statistics, overall post-move satisfaction by forced moves and local labour market change, New Zealand 2007.

Type of move	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Voluntary	4.28	0.762	3074	0.799	4.17	0.818	905	0.851	4.26	0.776	3979	0.81
Forced	4.11	0.852	775	0.201	3.97	0.852	158	0.149	4.08	0.853	933	0.19
Total	4.24	0.784	3849	1	4.14	0.825	1063	1	4.22	0.794	4912	1

Source: Statistics New Zealand, 2007

With an average level of post-move satisfaction of 4.08 points, movers who were forced to undertake a move reported post-move satisfaction that was 0.18 points lower than movers who undertook a voluntary move (4.26). The difference between voluntary and forced moves was greater for those moving between LLMs (0.2) than it was for those moving within LLMs (0.17 points), but the difference is not great.

Regression results

In order to test the association between satisfaction and forced and voluntary moves, I start by estimating the following model:

$$(11.1)\ y_i = \alpha + \beta X_i + \beta Forced_i + \varepsilon_i$$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X is a vector of the preceding independent variables and Forced takes 1 if the reasons implied a forced move and zero otherwise, ε_i is the unexplained error.

The estimates table from the regression analysis, for those moving within LLMs, is provided in Table 11.2 show that forced moves were associated with a statistically significant lower level of overall post-move satisfaction -0.14 against the base of voluntary moves. Across the satisfaction domains, however, moving for a reason identified as being forced only has a statistically significant negative association with housing satisfaction, being 0.14 points less positive than voluntary moves.

Table 11.2: Estimates from linear regression, impact of forced moves on post-move satisfaction, moves within local labour markets, New Zealand 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0024	0.0720***	-0.0098	0.0391*	0.0178	0.0286
Time since	0<3 months	(ref)					
move	3<6 months	0.1015	0.1431	0.1660*	0.0994	0.0098	0.0259
	6<9 months	0.1451**	0.1323	0.2290**	0.0368	0.0339	0.0994
	9<12 months	0.0679	0.0821	0.0942	0.1039*	-0.0513	-0.0689
	1<2 years	0.0498	-0.0026	0.0952	0.0763	-0.064	-0.0086
Age	Centred age	0.0030*	0.0013	0.0007	-0.0013	-0.0038***	-0.0044**
	Centred age^2	0.0001	-0.0001	-0.0001	0.0001	0.0000	0.0000
Dwellings	Two	0.0344	0.0599	-0.0262	-0.0129	0.0381	0.0254
past 10	Three	0.1094**	0.0664	0.0063	0.0625	0.0769	0.0098
years	Four	0.0011	0.0132	-0.0941	-0.012	-0.0287	0.0071
	Five+	(ref)					
ln(length at prev. address)		-0.0081	-0.0574*	-0.0601**	-0.0289*	-0.0381*	-0.0668***
Ethnicity	European	ref)					
	Māori	-0.1122**	-0.0335	0.0067	0.0261	0.0988	0.1069*
	Indian	-0.1868*	0.3107**	0.1304	0.3398**	0.1037	0.1442
	Chinese	-0.1614**	0.1322	0.0768	0.2145*	0.0868	0.1121
	Pacific	-0.1964**	0.2094	0.1273	0.2342**	0.0252	0.1075
	Not ident.	-0.0882	0.1812*	0.1722	0.1462	0.2194*	0.1214
Place of	Overseas	0.012	-0.0292	-0.0622	0.0457	-0.0687	-0.0208
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.0415	-0.006	-0.0852*	0.0713*	0.0388	0.0294
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.0481	-0.3748**	-0.5032***	0.0075	0.1456	-0.0488
	New Couple, Female	-0.1242	-0.3458***	-0.5010***	-0.1392	-0.2903*	-0.1991
	Different Couple, Male	-0.0876	0.1914	-0.4159	-0.1626	-0.0058	-0.3763
	Different Couple, Female	-0.2824	-0.0327	-0.1482	0.0561	-0.1095	0.0487
	Still Single, Male	-0.2234***	-0.2111**	-0.3215***	0.1001	0.0222	-0.0855
	Still Single, Female	-0.1039**	-0.0867	-0.1473**	0.0447	0.061	-0.0841
	Newly Single, Male	-0.4020***	-0.1128	-0.5116***	0.0177	0.0453	-0.0693
	Newly Single, Female	-0.125	-0.1629	-0.1599	-0.0323	0.2957**	0.0258
Highest	None	0.0133	-0.0324	0.1501**	0.0866	0.0978	0.0406
education	Secondary	-0.0004	-0.0435	0.0174	-0.0282	-0.0397	-0.0723
	Post-school	(ref)					
	Bachelor+	0.0266	0.014	-0.0211	-0.0267	-0.0756	-0.0739
Income level	Unknown	0.0081	0.0035	0.0669	0.0054	-0.0335	0.0499
	Negative or zero	0.0635	0.0492	0.0892	0.0039	-0.0818	0.0791
	1-20k	(ref)					
	20,001-40k	0.0481	0.0397	0.0533	-0.0085	-0.0782	0.0074
	40,001-70k	0.0645	-0.0044	0.1091	-0.0512	-0.0459	-0.0795
	70,001+	0.0956	0.0748	0.1144	-0.1052	-0.0727	-0.0596
Change in	No change	(ref)					
income	+ (result of move)	0.1246*	0.1649	0.1769*	0.4852***	0.2264**	0.3144***
	+ (unrelated to move)	0.1051**	0.0752	0.0663	0.1171**	0.0606	0.1829***
	- (result of move)	-0.2040*	-0.208	-0.2935*	0.0236	-0.1512	-0.1906
	- (unrelated to move)	-0.0619	-0.0065	-0.0829	-0.1258*	-0.0907	-0.1046
Occupation	Not in labour force	(ref)					
	Unemployed	-0.0885	-0.0041	0.0669	-0.0992	-0.105	-0.0878
	Managers & professionals	0.1307*	-0.1022	-0.0065	-0.083	0.0708	0.0081
	Trades & services	0.1074	-0.0807	-0.0078	-0.0244	0.0245	-0.016
	Primary & secondary	-0.0664	-0.1274	-0.0245	-0.016	-0.0059	-0.0375
	Unknown	0.0126	-0.0312	0.0608	-0.2052*	0.1263	0.0179
Urban	Up	0.0731	-0.3932***	0.0478	0.0857	0.1466	-0.078
hierarchy	Lateral	(ref)					
change	Down	0.0335	0.3874***	-0.0234	-0.0841	-0.0632	0.0212
Deprivation change		-0.0151**	-0.0762***	-0.0625***	-0.0108	-0.0101	-0.0268***
Forced	yes	-0.1358**	0.0309	-0.1427**	-0.0097	-0.0187	-0.0588
	_cons	4.2037***	3.7384***	3.9330***	3.0355***	3.3871***	3.5227***
	N	3773	3771	3783	2990	3784	3780
	r2	0.08793	0.1388	0.1047	0.09922	0.04852	0.06687
	F	6.407	7.105	6.335	4.018	2.607	5.11

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Table 11.3: Estimates from linear regression, impact of forced moves on post-move satisfaction, moves between local labour markets, New Zealand 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0016	0.0223	0.0037	-0.0192	0.0375	-0.0311
Time since	0<3 months	(ref)					
move	3<6 months	-0.1666	0.0964	0.061	-0.1005	-0.117	0.0042
	6<9 months	-0.1018	-0.0694	0.0295	0.0768	-0.092	-0.0715
	9<12 months	0.0535	-0.0122	0.0774	-0.0926	0.1641	0.0896
	1<2 years	-0.089	0.0801	0.2309	-0.1496	0.0333	0.1885*
Age	Centred age	0.0031	0.0056	0.0087*	-0.0047	0.0032	-0.0008
	Centred age2	0.0002	-0.0002	-0.0001	-0.0001	-0.0002	0.0000
Dwellings	Two	0.0886	0.0916	0.1433	0.0496	-0.0252	0.1212
past 10	Three	0.0971	0.1381	0.2605*	0.1021	-0.0538	0.0629
years	Four	0.0039	0.0833	0.1755	0.0033	-0.1357	0.0702
	Five+	(ref)					
ln(length at prev. address)		-0.0247	-0.0521	-0.1187**	-0.0502	-0.077	-0.1047**
Ethnicity	European	(ref)					
	Māori	-0.0189	0.1058	0.2135*	0.099	0.027	0.1377
	Indian	-0.232	-0.3189	0.2000	0.0178	0.1652	0.325
	Chinese	-0.0355	0.2301	-0.2141	-0.2605	0.3407	0.0967
	Pacific	0.0717	0.1923	0.211	0.2065	0.4817*	0.1501
	Not ident.	-0.0177	0.2692	0.5339	-0.1135	0.0321	0.4044**
Place of	Overseas	-0.0131	-0.1023	0.0471	-0.0575	-0.1551	-0.0444
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.1382	-0.0029	0.0293	0.0764	-0.1935*	-0.1791*
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.252	-0.5566*	-0.1534	-0.0015	-0.5419*	-0.4479*
	New Couple, Female	-0.0903	-0.0274	-0.1363	0.1828	-0.5038	-0.0152
	Different Couple, Male	-0.0072	0.4048	-0.3534	-0.3271	0.059	-0.0003
	Different Couple, Female	0.4366*	-0.609	-0.1155	0.3434	0.521	-0.7099*
	Still Single, Male	-0.3553**	-0.2632	-0.1748	0.065	-0.1336	-0.2451
	Still Single, Female	-0.1824*	-0.1832	-0.1526	0.0257	-0.0473	-0.2591**
	Newly Single, Male	-0.8213*	-0.6493*	-0.4202	-0.3107*	-0.4409*	-0.6501***
	Newly Single, Female	-0.1878	-0.0443	0.1222	-0.1053	0.0898	-0.2045
Highest	None	0.0537	0.1869	-0.0421	-0.0703	0.0102	0.0413
education	Secondary	0.0145	-0.0321	-0.0639	-0.1332	-0.1867	-0.1398
	Post-school	(ref)					
	Bachelor+	-0.0728	-0.0101	0.0224	-0.0945	-0.2701	-0.0889
Income level	Unknown	0.0156	-0.0153	-0.142	0.0024	-0.2104	-0.0696
	Negative or zero	0.1272	-0.0035	0.1498	0.1186	0.075	0.2776*
	1-20k	(ref)					
	20,001-40k	0.0838	-0.019	-0.103	0.1459	0.0311	0.1071
	40,001-70k	0.2283	0.0033	-0.1865	0.0081	-0.0356	-0.0011
	70,001+	0.3456*	-0.5078	-0.3137	0.1744	-0.44	-0.1891
Change in	No change	(ref)					
income	+ (result of move)	-0.0698	-0.0816	-0.0262	0.7388***	-0.2874*	0.3285***
	+ (unrelated to move)	0.1012	0.0039	0.4259***	0.1574	0.1167	0.5471***
	- (result of move)	-0.2396*	-0.1596	-0.3454**	-0.1916	-0.1634	-0.1505
	- (unrelated to move)	-0.1936	0.0436	-0.2137	-0.0862	-0.1093	-0.0637
Occupation	Not in labour force	(ref)					
	Unemployed	-0.1591	-0.083	0.1474	0.1937	0.0517	0.0172
	Managers & professionals	0.0607	0.019	0.1799	-0.013	-0.13	-0.0071
	Trades & services	0.1427	0.172	0.3179	-0.082	-0.1313	0.0901
	Primary & secondary	0.0124	-0.0774	0.1543	0.0008	-0.1654	0.0942
	Unknown	0.0411	0.0181	-0.1124	-0.1981	0.0515	-0.0873
Urban	Up	-0.0344	-0.4121**	-0.03	0.3165*	-0.1221	-0.1773*
hierarchy	Lateral	(ref)					
change	Down	0.1455	0.3636**	0.1916	-0.0389	-0.2558*	0.0547
Deprivation change		0.0005	-0.0008	-0.0391**	-0.0111	0.0128	-0.0261*
Forced	yes	-0.1851*	-0.1382	0.0008	-0.1094	-0.2332*	-0.091
	_cons	.2649***	3.7978***	3.3918***	3.3882***	3.9246***	3.7187***
	N	1039	1029	1036	810	1038	1036
	r2	0.119	0.1879	0.1899	0.2588	0.136	0.2134
	F	2.326	4.949	2.634	4.174	2.073	3.878

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Table 11.3 shows the post-move satisfaction estimates of those who moved from one LLM to another. They show a less positive level of overall post-move satisfaction, 0.19 points less than those who moved for voluntary reasons. Unlike moves within LLMs, a forced move does not have a significant association with decreased housing satisfaction. Instead, forced moves are associated with a less positive change in social life satisfaction, 0.23 points lower than base of voluntary movers.

The addition of the forced move dummy variable hardly disturbs coefficients of the other variables among those changing LLMs. For those moving within LLMs, however, there are notable changes in the associations between post-move satisfaction domains and relationship status. In particular, the reduction in the negative association between satisfaction and being single following a move, especially for those movers who were living with a partner prior to their move. The negative coefficient associated with newly single men decreasing from -0.46 to -0.40 and the negative coefficient associated with newly single women decreasing from -0.18 to -0.13 and becoming statistically insignificant.

The results in this section show that while forced movers still report some satisfaction with overall outcome of their move, when compared with those who move voluntarily they are far less satisfied. Moreover, whether moving within or between LLMs, satisfaction of both voluntary and forced movers closely associated with a particular domain. I would have anticipated forced moves to have a more broadly distributed negative effect on the post-move satisfaction across domains. In reality, it is housing satisfaction that is most affected by the forced nature of the move. And for those moving to another LLM it is the social life that is most affected.

11.2 Motivations for moving

My introduction into the role that motivations for moving play in post-move satisfaction began with work by Lu (2002) and Lundholm and Malmberg (2006). Lu (2002) introduces the concept of net benefit in the opening paragraph of his paper, while also familiarising the reader with the differences between intraregional and interregional moves:

> "Migration research is predicated on assumptions that people move because they believe they will be better off elsewhere and that intra-

> urban relocation (residential mobility) is motivated by household reasons (for example, moving from renting to owning, or from a small to a bigger home), while interregional migration is more influenced by employment opportunities or family considerations (Rossi, 1995; Clark, 1982, 1986).” (Lu, 2002: p. 201)

Despite the analytical distinction between interregional migration and intraregional mobility that Lu (2002) refers to, he finds that the reasons movers give for moving appear among the reasons for both types of mover. While housing related reasons were the most common reasons given for moving within LLMs at over 40%, a similar proportion of movers cited housing or family related reasons for their move. Likewise, while job related moves are the most prevalent reason for moving between LLMs, housing related reasons were as frequently cited by movers as family related moves.

These findings are reinforced by studies of interregional migration. Of new and return migrants moved to Montana, for example, employment and family reasons were found to be the two most common categories, but together only account for 56% of all movers. A substantial minority of movers moved for environmental or other reasons (Reichert, 2002). Moving for employment reasons feature much less prevalently than either social or environmental motives within the Nordic countries of Denmark, Finland, Iceland, Norway and Sweden as well as varying across the life course and by the length of the move (Lundholm et al., 2004).

Moving between LLMs for employment reasons does not necessarily come at the expense of satisfaction other areas. Instead, moves are used as a way of satisfying needs over a variety of domains (Lu, 2002, Lundholm and Malmberg, 2006). At the same time, in terms of domain satisfaction, “there seems to be a coherence between stated motives and what aspects migrants are satisfied with” (Lundholm and Malmberg, 2006: p. 43). Therefore, while moving for a particular reason is associated with more positive outcomes in the relevant domain, the association is far less clear when it comes to changes in overall satisfaction with the outcome of the move.

If moving for a specific category of reasons leads to a correspondingly higher level of post-move satisfaction in that domain, then we might expect that moving for multiple reasons would therefore lead to higher post-move satisfaction across a range of domains as Swedish research suggested:

> "A well-considered migration decision is more likely to lead to a positive result and to include economic as well as other deliberations. Such migration decisions would be based on several rather than just one motive." (Lundholm and Malmberg, 2006: p. 36).

Lundholm and Malmberg (2006) found that multiple motives do lead to a more positive change in overall and living environment satisfaction. However, having multiple reasons for moving could simply reflect a broader, more comprehensive state of life dissatisfaction and may simply reflect greater potential for a positive move outcome.

There is of course another consideration, namely rationalisation (Festinger, 1957). Take the hypothetical young worker from Chapter 2, who recently lost their job and with little life savings moved back in with their family. When asked about the main reason for moving, this mover could offer two reasons: because they lost their job and were unable to afford their existing house, or alternatively, because they were moving in order to move back in with their family. One might argue that the former response might be the more accurate answer; however the latter might be more palatable to the mover. There is no way using cross sectional surveys for me to weigh the level of cognitive dissonance.

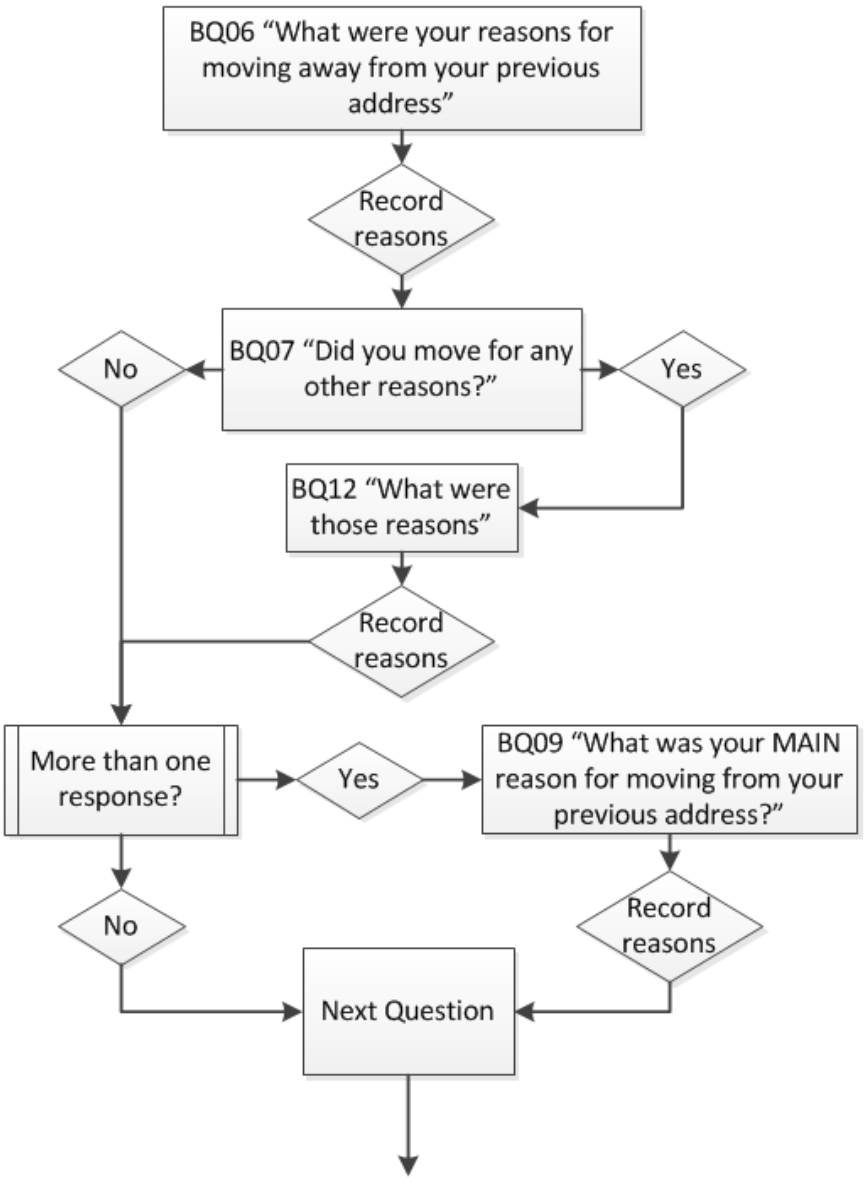
In summary, the motivations that lead individuals to move are likely to vary both between movers and also between moves within and between LLMs. Moves within LLMs are thought to be primarily influenced by life course events and progression through the housing career, while move between LLMs are thought to primarily be for employment reasons. However, evidence indicates that the division is not as clear cut, with the motivations not confined to one type of move.

Measuring the motivations for moving

The DMM survey considers the reasons for moving from the mover's previous address[40]. Movers were also prompted to select up to ten reasons for moving, but in practice, very few offered more than a handful of reasons. The question structure is shown in Figure 11.1.

[40] The survey also asks reasons for moving to their new area, but my preliminary data analysis found that the sample size was reduced when including the latter. In addition, this is the question used by those whose research I am comparing, with none studying both questions.

Figure 11.1: Flow chart showing the reasons for moving from a previous address, New Zealand, 2007.



Individual responses to BQ09 were then sorted by Statistics New Zealand as part of their processing into 78 categories[41]. These categories were then aggregated into 35 level two categories and seven level one categories. The seven level one categories are as follows: social, education, employment, economic, housing, environmental and 'other reasons'. By contrast, the American Housing Survey used by Lu (2002) and (Barcus, 2004) contains 16 possible reasons for moving. In order to explore the residential consequences of migration, Lu collates these 16 possible reasons into four

[41] A full list of the level three categories is listed in Appendix 2.

main categories; job, family, housing and other reasons for moving. Lundholm and Malmberg (2006) used education, employment, environment and social motives.

So why did respondents to the survey choose to move from their previous place of residence? The most prevalent primary reason that movers within New Zealand gave for moving was economic in nature Table 11.6, accounting for 32.9% of movers within New Zealand. Social reasons were the main reason given for moving in 21.8% of moves and housing reasons in 18.3% cases.

Table 11.6: Summary statistics, overall post-move satisfaction by reason for and local labour market change, New Zealand, 2007.

Reason for moving from previous address	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
Social	4.13	0.792	796	0.21	4.15	0.846	255	0.245	4.14	0.805	1051	0.218
Educational	4.2	0.749	101	0.027	3.93	0.766	89	0.086	4.07	0.766	190	0.039
Employment	4.22	0.739	189	0.05	4.14	0.798	324	0.312	4.17	0.777	513	0.106
Economic	4.28	0.768	1463	0.386	4.2	0.879	128	0.123	4.27	0.777	1591	0.329
Housing	4.29	0.779	822	0.217	4.31	0.66	65	0.063	4.29	0.771	887	0.183
Environment	4.32	0.813	308	0.081	4.15	0.897	140	0.135	4.27	0.843	448	0.093
Other	4.07	0.87	111	0.029	4.16	0.754	38	0.037	4.09	0.841	149	0.031
Total	4.24	0.783	3790	1	4.14	0.823	1039	1	4.22	0.793	4829	1

Source: Statistics New Zealand, 2007

There are differences in the reasons that individuals move within and between LLMs. Economic (38.6%) and housing reasons (21.7%) are most frequently given main reason for moving within LLMs. Social reasons are the third most commonly cited: cited by 21% of individuals moving within LLMs.

The reasons are different for those moving between LLMs, where employment (31.2%) and social reasons (24.5%) are the most commonly given. Environmental reasons are also more commonly given when moving between LLMs at 13.5%. Economic and housing reasons are much less prevalent at 12.3% and 6.3% respectively.

Across all moves, those whose main reason for moving was housing related report the highest level of average post-move satisfaction at 4.29 points on the 1-5 point scale, with a similar average satisfaction amongst those moving within (4.29) and between LLMs (4.31). Those who move for economic reasons or environmental reasons also report a relatively high level of average overall post-move satisfaction (4.27), with average post-move economic satisfaction at 4.28 points and environment satisfaction at 4.32 points for moves within LLMs. However, when moving between LLMs the average post-move economic and environment satisfaction in these categories is lower at 4.2 and 4.15 points respectively.

The greatest difference in post-move satisfaction within and between LLMs has to do with education. Those who move within a LLM for educational reasons have a level of satisfaction of 4.2, which 0.27 points higher than reported by those moving between LLMs.

Only one group of movers had higher average overall post-move satisfaction when moving between LLMs. Those who moved for reasons other than those categorised were on average 0.09 points more satisfied when moving between LLMs compared with those who moved within them (4.16 > 4.07 points).

Table 11.7 shows the proportion of movers who gave more than one reason for moving. Slightly over two thirds of all movers, 68%, provided only one reason for undertaking their move. A greater proportion of those who moved between LLMs gave more than one reason for moving from their previous address, 37.6% compared with 30.5%.

Table 11.7: Summary statistics, overall post-move satisfaction by number of reasons given for moving from previous address and local labour market change, New Zealand 2007

Number of reasons for moving	Moves within labour markets				Moves between labour markets				Total moves			
	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.	Mean	Std. Dev.	Freq.	Prop.
One	4.21	0.805	2650	0.695	4.12	0.81	658	0.624	4.19	0.807	3308	0.679
Two or more	4.31	0.728	1165	0.305	4.19	0.845	397	0.376	4.28	0.761	1562	0.321
Total	4.24	0.783	3815	1	4.16	0.82	1055	1	4.22	0.793	4870	1

Source: Statistics New Zealand, 2007

With an average overall satisfaction rating of 4.28 points on the 1-5 satisfaction scale, the one third who gave more than one reason for moving from their previous address had a higher average overall post-move satisfaction level than those who only gave one reason (4.19 points). Individuals who moved within LLMs returned a higher satisfaction when citing more than one reason for moving than those moving between them, a 0.10 point difference.

These tabulated statistics support the hypothesis advanced by Lundholm and Malmberg (2006) that post-move satisfaction outcomes are more favourable in situations where more than one reason is given for moving. Whether moving within LLMs or between them, multiple reasons for moving are associated with higher average post-move satisfaction, more so for those changing LLMs. Having more reasons to move may make the decision to move between LLMs easier, or a more positive migration outcome may lead respondents to venture more than one reason.

Results

In what is the final addition to my linear regression model, I add motivations for moving as well as a dummy variable indicating whether moves took place for multiple reasons:

(11.2)

$$y_i = \alpha + \beta X_i + \beta Motivation_{1i} + \ldots + \beta Motivation_{7i} + \beta NumReasons_i + \varepsilon_i$$

where y_i is the measure of the overall post-move satisfaction of the ith mover, X contains preceding independent variables, $Motivation_{1\text{-}7}$ are dummy variables identifying the category for moving, NumReasons takes a 1 if citied multiple reasons were offered for moving and zero otherwise and ε is the unexplained error.

Table 11.8 shows the association between each reason for moving category and overall and domain post-move satisfaction as well as the estimated association between having more than one reason for moving.

There is no statistically significant difference in the overall satisfaction movers report across the motivation categories, relative to those who moved for economic reasons. The primary category reason individuals give for moving from a residence, does not appear to influence their satisfaction outcomes when moving to another address within the same LLM.

When it comes to individual domains however, moving within a LLM for employment reasons does have a positive effect on employment satisfaction. At 0.40 points, the improvement in post-move employment satisfaction associated with those moving for employment reasons is more positive than any other category of reasons for moving. Interestingly, those moving for education reasons experienced lower housing satisfaction, 0.32 points less than those moving for economic reasons.

While moving for social reasons is not associated with a statistically significant improvement in social life satisfaction, or a more positive level of overall satisfaction, it is associated with a 0.25 point reduction in outdoor environment satisfaction and a 0.20 point reduction in housing satisfaction, for which I infer some compensation across the domains. People were prepared to sacrifice gains in some areas to gain a higher return in the same sphere.

Table 11.8: Estimates from linear regression, impact of the reasons for moving and number of reasons given, moves within labour markets, New Zealand 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	0.0029	0.0746***	-0.0022	0.0285*	0.012	0.0305
Time since	0<3 months	(ref)					
move	3<6 months	0.1107*	0.1538	0.1645*	0.0826	0.021	0.0292
	6<9 months	0.1582**	0.1363*	0.1979*	0.0342	0.0438	0.0854
	9<12 months	0.0862	0.0961	0.0952	0.0917*	-0.0355	-0.0614
	1<2 years	0.0584	0.0222	0.0931	0.0729	-0.0431	-0.0032
Age	Centred age	0.0027	-0.0002	-0.0008	-0.0014	-0.0035**	-0.0044**
	Centred age^2	0.0001	-0.0001	-0.0001	0.0001	0.0000	0.0000
Dwellings	Two	0.0467	0.0697	-0.0109	-0.0177	0.037	0.0274
past 10	Three	0.1193**	0.0719	0.0333	0.0515	0.0787	0.0166
years	Four	-0.0008	0.0238	-0.0652	-0.0132	-0.0457	0.0009
	Five+	(ref)					
ln(length at prev. address)		-0.01	-0.0578**	-0.0595**	-0.0277*	-0.0421*	-0.0695***
Ethnicity	European	(ref)					
	Māori	-0.1108**	-0.0136	-0.0088	0.0305	0.1054	0.1139*
	Indian	-0.1877*	0.3266**	0.1461	0.3193**	0.098	0.1568
	Chinese	-0.1643**	0.1714	0.1323	0.1559	0.0653	0.1321
	Pacific	-0.2075**	0.2130*	0.1107	0.2200**	0.0225	0.103
	Not ident.	-0.1005	0.1945*	0.1844*	0.1406	0.1863*	0.1088
Place of	Overseas	0.0175	-0.0208	-0.0582	0.0277	-0.0589	-0.0148
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.0444	-0.009	-0.0862*	0.0886*	0.0299	0.0192
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.0371	-0.2820*	-0.3719**	-0.0226	0.108	-0.0438
	New Couple, Female	-0.0994	-0.2223*	-0.3529**	-0.145	-0.3024**	-0.1848
	Different Couple, Male	-0.0616	0.3176	-0.2639	-0.1939	-0.0239	-0.3501
	Different Couple, Female	-0.2373	0.1608	0.0441	0.0577	-0.0864	0.0992
	Still Single, Male	-0.2177***	-0.1826*	-0.2771**	0.08	0.0258	-0.0654
	Still Single, Female	-0.0927*	-0.0679	-0.1188*	0.0548	0.0505	-0.0828
	Newly Single, Male	-0.3810***	-0.0161	-0.3958***	0.0325	0.0303	-0.0582
	Newly Single, Female	-0.1068	-0.0899	-0.0686	-0.0313	0.2906**	0.0412
Highest	None	0.0142	-0.0243	0.1529**	0.0905	0.0997	0.0395
education	Secondary	0.0041	-0.0331	0.0186	-0.027	-0.046	-0.0771
	Post-school	(ref)					
	Bachelor+	0.0342	0.018	-0.0211	-0.0294	-0.0733	-0.0799
Income level	Unknown	0.0107	0.0181	0.0759	-0.0236	-0.0402	0.0574
	Negative or zero	0.0712	0.0718	0.1138	0.0005	-0.0718	0.086
	1-20k	(ref)					
	20,001-40k	0.0471	0.0336	0.0537	-0.023	-0.075	0.014
	40,001-70k	0.0594	0.0075	0.1236	-0.0803	-0.054	-0.0738
	70,001+	0.103	0.0799	0.1258	-0.1605*	-0.086	-0.0596
Change in	No change	(ref)					
income	+ (result of move)	0.1224*	0.1359	0.1751*	0.4391***	0.2353**	0.3425***
	+ (unrelated to move)	0.1009**	0.0804	0.0715	0.1141**	0.0655	0.1876***
	- (result of move)	-0.1992*	-0.1522	-0.1956	-0.0342	-0.157	-0.1772
	- (unrelated to move)	-0.0575	-0.0062	-0.0834	-0.1265*	-0.0926	-0.1004
Occupation	Not in labour force	(ref)					
	Unemployed	-0.0885	-0.0044	0.0783	-0.1052	-0.1062	-0.0894
	Managers & professionals	0.1338*	-0.0797	0.0068	-0.0906	0.0746	0.0111
	Trades & services	0.1161	-0.0626	0.0089	-0.0476	0.0321	-0.004
	Primary & secondary	-0.0486	-0.1112	-0.0124	-0.0688	0.0044	-0.0223
	Unknown	0.023	-0.0189	0.0759	-0.2226*	0.1273	0.0243
Urban	Up	0.0645	-0.3623***	0.088	0.0804	0.1358	-0.0717
hierarchy	Lateral	(ref)					
change	Down	0.0251	0.3934***	-0.0255	-0.0615	-0.0488	0.0368
Deprivation change		-0.0140**	-0.0746***	-0.0604***	-0.0109	-0.0099	-0.0264***
Forced	No	(ref)					
	yes	-0.1387**	0.0758	-0.0829	-0.0233	-0.007	-0.0517
Main	Social	-0.0407	-0.1718***	-0.2003**	0.0268	0.0428	-0.0201
reason for	Education	-0.0293	-0.2495	-0.3218**	-0.0671	0.1428	-0.0481
moving	Employment	-0.0378	0.0116	-0.0429	0.4045***	0.0636	-0.0931
	Economic	(ref)					
	Other	-0.0401	-0.1583	-0.2202*	-0.0456	-0.0225	-0.1146
	Housing	-0.0393	0.1003	0.2076**	-0.0783*	-0.0225	0.0411
	Environment	0.023	0.1193	0.0124	-0.0287	-0.0178	-0.0252
Number of	One	(ref)					
reasons	Multiple	0.0737*	0.2132***	0.1370**	-0.0186	0.1053**	0.0694
	_cons	4.1690***	3.5755***	3.8015***	3.1214***	3.3426***	3.4830***
	N	3739	3737	3750	2964	3750	3746
	r2	0.09075	0.1605	0.1272	0.1238	0.05405	0.07112
	F	5.245	8.081	6.274	3.409	2.956	3.902

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Similarly in housing, movers appear to sacrifice satisfaction in one domain in order to more positive satisfaction in another. Moving for housing reasons is associated with more positive change in post-move housing satisfaction, 0.24 points higher than those moving for economic reasons and where in employment satisfaction is 0.08 points lower.

The association between the satisfaction of movers and the whether they cited multiple reasons for moving appears to be stronger than the main reason given for moving. As would be expected, multiple reasons for moving is associated with a level of overall satisfaction that is 0.07 points higher than movers who only provided a single reason for moving. In addition, multiple reasons for moving also have a positive association with outdoor environment, housing and social life satisfaction. Movers who move within a LLM and give more than one reason for doing so also report broader improvements in their satisfaction outcomes. This might indicate that they were dissatisfied in a wider range of areas prior to moving. On the other hand. as Lundholm and Malmberg (2006) suggest, movers who gave multiple reasons for moving may have been able to make a more considered move that better met their expectations and led to an outcome that led to broad positive outcomes.

Table 11.9 shows that the motivations for moving from a residence also have little association with the overall post-move satisfaction of those moving between LLMs.

Table 11.9: Estimates from linear regression, impact of the reasons for moving and number of reasons given, moves between labour markets, New Zealand 2007

		Overall	Outdoor	Housing	Employment	Social Life	Std. Living
Distance	(ln)Distance	-0.0013	0.02	0.0145	-0.0134	0.041	-0.0152
Time since	0<3 months	(ref)					
move	3<6 months	-0.1853	0.0749	0.0251	-0.0897	-0.1236	-0.0559
	6<9 months	-0.1197	-0.0984	-0.001	0.0963	-0.1071	-0.1327
	9<12 months	0.0398	-0.0353	0.0382	-0.0676	0.1614	0.0308
	1<2 years	-0.1054	0.0556	0.1896	-0.1236	0.0339	0.1301
Age	Centred age	0.0029	0.0042	0.0061	-0.0026	0.0033	-0.0031
	Centred age^2	0.0002	-0.0002	-0.0001	-0.0001	-0.0002	-0.0001
Dwellings	Two	0.0795	0.0853	0.1527	0.0992	-0.0442	0.1607
past 10	Three	0.0850	0.1221	0.2486*	0.1268	-0.0743	0.0695
years	Four	-0.004	0.0839	0.1613	0.006	-0.1455	0.0745
	Five+	(ref)					
ln(length at prev. address)		-0.0206	-0.0415	-0.1123**	-0.0645	-0.0715	-0.1026**
Ethnicity	European	(ref)					
	Māori	-0.0515	0.0805	0.1381	0.1338	0.0280	0.0717
	Indian	-0.2384	-0.3131	0.2472	0.0194	0.1402	0.3649
	Chinese	-0.012	0.2640	-0.216	-0.3111	0.3536	0.066
	Pacific	0.0461	0.1523	0.2132	0.2377	0.4927*	0.1551
	Not ident.	-0.0017	0.2916	0.4800	-0.0834	0.0418	0.4133*
Place of	Overseas	-0.0044	-0.0927	0.0552	-0.0748	-0.1542	-0.0332
birth	New Zealand	(ref)					
Cohabitation	Existing Couple, Male	-0.1388	-0.0220	-0.0076	0.1099	-0.2122*	-0.1932*
status by	Existing Couple, Female	(ref)					
gender	New Couple, Male	-0.3129	-0.6035*	-0.2635	0.0686	-0.5535*	-0.5174**
	New Couple, Female	-0.1304	-0.0744	-0.2386	0.3172	-0.5256	-0.019
	Different Couple, Male	0.1887	0.2072	0.3946	-0.222	0.4469	0.4267
	Different Couple, Female	0.4290*	-0.5812	-0.1122	0.4056	0.5343	-0.6021
	Still Single, Male	-0.3622***	-0.275	-0.2111	0.1243	-0.1424	-0.2397*
	Still Single, Female	-0.1904*	-0.1995	-0.166	0.0943	-0.0659	-0.2226*
	Newly Single, Male	-0.8334*	-0.6520*	-0.4235	-0.325	-0.4478*	-0.6549***
	Newly Single, Female	-0.2227	-0.1025	0.0564	0.0314	0.0751	-0.2051
Highest	None	0.0476	0.1692	-0.0822	-0.0405	0.0231	0.0078
education	Secondary	0.0397	-0.027	-0.0702	-0.1021	-0.1736	-0.1225
	Post-school	(ref)					
	Bachelor+	-0.0604	-0.0012	0.0098	-0.0741	-0.2651	-0.0929
Income level	Unknown	-0.0009	-0.0218	-0.2368	0.0324	-0.2098	-0.1347
	Negative or zero	0.1606	0.0456	0.1863	0.0829	0.1007	0.2681
	1-20k	(ref)					
	20,001-40k	0.0914	-0.0157	-0.1251	0.1587	0.0468	0.0819
	40,001-70k	0.2161	0.005	-0.1743	-0.0062	-0.041	-0.0348
	70,001+	0.3373*	-0.4896	-0.3105	0.1329	-0.4348	-0.2304
Change in	No change	(ref)					
income	+ (result of move)	-0.0279	-0.0337	0.0512	0.6394***	-0.2540*	0.3712***
	+ (unrelated to move)	0.0983	0.0006	0.3935**	0.1626	0.1272	0.5299***
	- (result of move)	-0.2263	-0.1558	-0.3290**	-0.2164	-0.1504	-0.122
	- (unrelated to move)	-0.1885	0.0427	-0.2018	-0.1024	-0.085	-0.0482
Occupation	Not in labour force	(ref)					
	Unemployed	-0.1315	-0.0512	0.1666	0.1916	0.0652	0.0189
	Managers & professionals	0.1034	0.0548	0.1595	-0.0153	-0.0966	-0.0154
	Trades & services	0.1492	0.1772	0.3122	-0.0625	-0.1276	0.0743
	Primary & secondary	0.0295	-0.0328	0.1499	-0.0207	-0.1461	0.0858
	Unknown	0.0642	0.0549	-0.113	-0.167	0.0619	-0.0611
Urban	Up	-0.0334	-0.4045**	-0.0177	0.3087*	-0.1275	-0.1784*
hierarchy	Lateral	(ref)					
change	Down	0.1485	0.3475**	0.2216	-0.0212	-0.2670*	0.0600
Deprivation change		-0.0011	-0.0025	-0.0392**	-0.0093	0.0102	-0.0246*
Forced	yes	-0.2095*	-0.1584	0.0078	-0.0591	-0.2441*	-0.1084
Main	Social	0.0616	0.0679	0.1669	-0.0826	-0.0882	0.0024
reason for	Education	-0.1419	-0.0965	-0.0894	-0.0573	-0.0873	-0.4239**
moving	Employment	-0.1127	-0.0948	-0.0009	0.1934	-0.1629	-0.0192
	Economic	(ref)					
	Other	0.0235	0.0495	-0.0072	0.1117	-0.0703	-0.0336
	Housing	0.0721	0.1303	0.6921**	-0.1923	-0.0807	0.4200*
	Environment	-0.0343	0.1646	0.1136	-0.2730	-0.0887	-0.0405
Number of	One	(ref)					
Reasons	Multiple	0.034	0.0714	0.0595	0.0184	0.0550	0.0380
	_cons	4.2706***	3.7564***	3.2741***	3.2907***	3.9775***	3.6758***
	N	1031	1021	1028	803	1030	1028
	r2	0.1293	0.194	0.2193	0.2801	0.1414	0.2443
	F	2.126	4.055	2.627	4.367	2.1	3.854

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Statistics New Zealand, 2007

Despite the small sample size, there are still some differences in the post-move satisfaction outcomes of those moving for different reasons between LLMs. Compared with moves that took place for economic reasons, post-move standard of living satisfaction is 0.42 points lower for those who moved for education reasons, but 0.42 points higher for those moving for housing reasons. Those moving for housing reasons were also much more satisfied in their housing satisfaction following the move, with satisfaction 0.69 points higher than those moving for economic reasons. Moving for employment reasons is associated with higher satisfaction with employment opportunities following a move, but again the result is not statistically significantly different from the reference reason, 'economic'.

While moving for multiple reasons is associated with a consistently positive coefficient of between 0.03 and 0.08 across each satisfaction domains, the results are also not significantly different from zero. If would seem that when moving between LLMs, moving for multiple reasons are not associated with more positive satisfaction outcomes.

The lack of statistically significant variations in the satisfaction outcomes of those moving for different categorical reasons was also reflected in my logistic regression analysis. That is, the reasons that movers give for undertaking their move also has little association with the probability that their move be satisfactory or not. It is for this reason that I do not include it.

11.4 Summary

In this chapter I assessed the additional effect reasons people gave for moving might have in accounting for differences in post-move satisfaction. Both forced moves and the motivations that movers have for undertaking a move have been previously considered within the post-move satisfaction literature. Forced moves are of notable interest because they have been found to be the 'most important' factor explaining the variation in the satisfaction outcomes of migrants. Furthermore, forced moves induce an inherent caveat to the underlying assumption of residential relocation theory that must be accounted for. In the case of forced moves, individuals and households move not because they expect positive outcomes, but because they are unable to remain at their present dwelling. Those who move involuntarily may still benefit from moving;

however, it is just that their satisfaction may not be as positive as those whose moves are not forced upon them.

Across various domains of satisfaction I find a less statistically significant association between forced moves and the change in satisfaction that individuals report. However, I find notable differences in the outcomes of forced movers moving within and between LLMs. Having to move within a LLM is associated with lower satisfaction with the housing outcomes, either because the individual has 'bypassed' the planning stage and made a more rushed move or for involuntary reasons such as diminished income.

For those moving between LLMs, it is social life satisfaction that appears most negatively associated with forced moves, suggesting an adverse dislocation of social ties. Movers, it seems, are less likely to benefit socially from their move when they are forced into undertaking their move.

In the second half of this chapter, I considered the reasons why individuals moved, how many moved for multiple reasons and how these two factors are associated with the post-move satisfaction of movers. The literature suggests people move mainly for housing reasons when moving within LLMs, and for employment and family reasons when moving between them. The reasons people give for moving, however are considerably more diverse.

The DMM survey shows that the overall level of satisfaction that movers have with the way things worked out following their move does not vary significantly across the different reason for moving categories. Nevertheless, the change in housing satisfaction is more positive for those who move for housing reasons as is the change in standard of living satisfaction (and it is plausible that an improved standard of living enables moves to take place for housing reasons).

Individuals who provide multiple reasons for migrating have been thought to be more measured movers, advancing both economic and non-economic reasons for undertaking their move. By taking a broader, well considered approach to moving, they end up experiencing more positive satisfaction outcomes than those who move for only a single reason. This may be the case for the 30% of movers who move for multiple reasons within a LLM. With more positive changes in outdoor environment, housing and social life satisfaction, these 'well considered' movers do appear to experience

broader improvements in their satisfaction than those who move for a single reason only. For the 37% of movers who move between LLMs for multiple reasons, the positive association with overall satisfaction is smaller and not statistically significant.

Through studying the reasons that motivated individuals to undertake their move and studying the association between these reasons and their satisfaction outcomes, I am aware of some possible limitations in categorising motivations for moving in the given format. Such is the heterogeneity within each motivation category that I feel that the differences within each category are likely to be more important in developing our understanding of post-move satisfaction than top level categories alone. We still have a great deal to learn in linking reflections on reasons to patterns of outcomes.

Chapter 12. Conclusion

Patterns of internal migration have been carefully described for well over half a century in New Zealand and for twice that period in a number of European countries. The reasons for the regularities are more difficult to depict but collectively the hundreds of studies addressing the circumstances associated with both aggregate and individual level mobility have identified several regularities, the distance decay effect being among them. Far less attention has been paid to the consequences of the migration streams both in the aggregate, the places of loss and those of gain, for those who migrate and those who do not. Nevertheless, here again there have been advances most notably in tracking the impacts of changing labour supply on local wage structures and unemployment.

Notwithstanding this progress, migration studies face one further frontier, namely the distributional patterns of the subjective experience of migration itself. Stories of individual migrants and their families are plentiful, with many forming classics in our literature. The gains and losses, the joys and hardships have all been chronicled. What we have only just begun to appreciate in the late C20th is the distribution of these well-being consequences of migration across the spectrum of subjectively appreciated outcomes. The proportion who can point to the success of their move, who can identify only some positive features and that fraction who can only record the failures their decision to move have brought.

We can now trace these distributions in aggregate and in subgroups, by place and by characteristics of movers themselves. We can do these new things because of the presence of very large social surveys whose application internationally has generated a cohort of scholars who can through the presence of very similar instruments, compare their results from country to country. They can apply the same statistical models in attempts to understand why migration has worked for some and not others, and to do so from the perspective of the movers themselves. This new group of scholars define as their point of difference their focus on post-move satisfaction. My thesis is motivated by and contributes to that small but growing body of migration literature.

Post-move satisfaction

Post-move satisfaction is a new and long overdue extension of migration research, into the way migrants themselves evaluate, on a standard instrument, the move they have just undertaken. With fewer than 10 published papers our knowledge of how movers benefit from moving is therefore still in its infancy. My thesis, with its 12 chapters, touches the other studies multiple times and at different points, offering similar findings from a new country on many occasions but contrary interpretations in others.

With 87% of the approximately 4900 movers covered in the DMM survey reporting a positive level of satisfaction with the outcomes of their move, movers are typically satisfied with the outcomes of their move, but for the remaining proportion of movers, the satisfaction outcomes are either neutral or negative. Domain satisfaction is much more normally distributed around a no change in satisfaction response, although it still has a negative skew.

The potential for varied findings starts with the conceptual framework on which post-move satisfaction studies begin. It is a somewhat fragile platform which reflects some of the uncertainty characteristic of the wider literature on subjective well-being more generally. On the one hand the academy has accepted both the validity and accuracy of the standard measures of subjective well-being, both of affect (happiness) and cognitive or reflective well-being (satisfaction with life). It is the satisfaction dimension that is the point of departure for students of post-move satisfaction.

While occupying a relatively safe haven of scholarship there remain on-going issues around the meaning of satisfaction as reported by agents who have just experienced an event like moving. In chapter 2 I report the general consensus that levels of satisfaction (as typically reported on a Likert scale) reflect the gap between anticipated or expected outcomes of the event and the realisation or achievement of those expectations. Meeting expected goals yields satisfaction while shortfalls diminish them. My chapter 2 offers a graphical depiction of this relationship.

While widely recognised in the subjective well-being literature, this gap between anticipated and realised achievement remains a post-event presumption. Rarely if ever are agents expectations measured along with their later outcomes and differences estimated. Instead, cross sectional surveys are used to measure either

changes in satisfaction or the satisfaction outcomes of an event, like moving with no knowledge of the levels of anticipation or realisation involved. This leaves a considerable amount of 'noise' present in any attempt to account for the variation in satisfaction expressed by movers about the outcomes of their move. We cannot tell whether this arises from high expectations or low realisations or both. Nor can we tell, other than by post-hoc reasoning, why some groups are more likely to feature at either end of these extremes than others. The well-educated are often believed to begin an event with high expectations and return low levels of satisfaction because of this rather than because they failed to achieve at some absolute level.

In practice, post-move satisfaction researchers roll the pre-move distribution of aspirations and post-move distribution of realisations into the random error term assuming for the most part that they are uncorrelated with any of the major arguments they end up testing. To the extent their distribution results from personality factors (optimism for example) then a random distribution of such influences might be an acceptable assumption, but at the end of the day for most part this remains an assumption implicit in the survey instruments used by post-move satisfaction researchers. I return to these and several other limitations at the end of this chapter.

Accounting for the distribution of post-move satisfaction

My approach in this thesis has been to identify and define the factors that might lead to the variations in the post-move satisfaction of different types of movers within New Zealand over the two year period 2005-2007. It is these steps which I report in chapters 4 through 11.

In chapter 3 I introduce the data and methodology and show how my study derives from and uses the Statistics New Zealand's 2007 *Dynamics and Motivations for Migration Survey* (DMM). As its name suggests the survey is designed to understand both the motivations for peoples' migration within (and to) New Zealand, details of the changes of addresses themselves as well as the antecedent moves, prospective moves and subjective judgements of both.

The DMM survey's design draws on the surveys used by several previous studies of post-move satisfaction including those applied in the Nordic countries. In addition to complementing these surveys the New Zealand instrument has unique features of its own. The survey not only utilises the detailed set of demographic and

employment questions used in the *Household Labour Force Survey* but it also captures *change* in both the relationship status of movers over the period of the last move as well as changes in their income.

The survey draws on Statistics New Zealand's geospatial framework which has allowed me to access the areas sampled respondents move to and from. The timing of the survey to run a year either side of the 2006 census means that I also have access to the variables captured in that instrument as well. This has allowed Statistics New Zealand to draw on several census based variables to construct the 2006 neighbourhood deprivation index which I use to track upward and downward mobility in socio-spatial terms. The fact that both origin and destination are also tied to cities and rural areas means that my study could also explore the statistical relationship between moving up and down the country's urban hierarchy on post-move satisfaction.

The other source of flexibility the census provided had to do with the journey to work question asked of census respondents. By connecting the home with the workplace this variable, reported by all working individuals, allowed the construction of LLMs on the basis of 2006 commuting patterns and hence the distinction between moves within and between them. This turns out to be of fundamental importance both conceptually and empirically in the study.

The factors I explore in my attempt to explain patterns of post-move satisfaction are several-fold. I have arranged them in terms of their likely degree of endogeneity as it relates to post move well-being. Personal attributes such as gender, age and ethnicity cannot be affected by the nature of the move itself and in that sense they lie outside or exogenous to the variation in such outcomes. Other variables such as change in income clearly have an endogenous element.

The study itself is based around a regression of the ordinal responses to a single subjective well-being question about the overall level of satisfaction associated with the move. More specifically the answer to the question whether movers are satisfied with the way 'things worked out' following their move. Therefore rather than consider the change in satisfaction that the mover experiences, I instead consider the satisfaction they have with the outcomes of their move.

One of the strengths of the DMM survey is that it also asks similar questions about the five domains over which move outcomes are typically grouped: outdoor

environment, housing, employment, social life, and standard of living. However, the question asked of domains differs slightly from that asked of overall satisfaction, in it asks the degree of change in each satisfaction domain, rather than their satisfaction with their outcomes.

I model overall post-move satisfaction separately from post-move satisfaction in each domain separately. Ultimately the two are linked but not in a fully understood way and of particular interest in the study is evidence of what the literature refers to as 'domain substitution', the higher satisfaction accorded one domain as compensation for weak returns in another. That these compensatory patterns are somehow evened out in an overall satisfaction response is one of the interesting unexplored questions to emerge from the study.

My primary mode of analysis is OLS regression in which variables I expect to influence post-move satisfaction and domain satisfaction are entered sequentially. How one arranges the entry of these various factors into a regression model is as much an art as a science. In addition to issues of endogeneity I have isolated variables such as distance moved in order to prioritise the study's geographical focus. Where applicable and as a check I have also estimated logistic regression models largely in order to post-estimate the probability that the mover will experience a positive level of overall satisfaction or a positive change in their domain satisfaction as a result of their move. While there has been some discussion over the most appropriate method of estimating the determinants of subjective well-being, there is a general consensus that essentially the same results can be obtained from using linear regression (as opposed to ordinal logit or probit) but with the additional advantage of ease with which the estimated coefficients can be interpreted.

My thesis is divided into eight results chapters, in order to consider the incremental effect of bringing in additional factors that might influence the distribution of impacts of the move. I begin with what in the migration literature has been the primary geographic influence on the probability of migration, namely distance moved. And I question whether, in addition to influencing the probability of making a move of any given distance also affects the migrant's subjective evaluation of the impact of the move. I note that the moves that individuals and households make within New Zealand are typically very short with only a fifth of moves taking place across a distance of more than 30 kilometres. My initial conclusions were that individuals who moved long

distances did indeed report lower post-move satisfaction than those who move shorter distances a result which appeared to confirm distance decay effects in both prior information and psychic costs of breaking social ties.

However I soon discovered that the negative effect of distance on the satisfaction derived from the move was not due to increasing distance per se, but rather to the fact that some people crossed into another LLMs while others simply moved within. Returns to moving between LLMs were generally lower hence the negative effect of distance. Within the two types of moves, distance had little effect on post-move satisfaction, a result that remained even after the addition of various demographic controls and events that accompanied the move itself.

As the literature has amplified, moving within and between LLM are quite distinct, the latter typically involving a change in employment as well as a dwelling, at least for the working age population. The above result notwithstanding, the distance someone moved did raise satisfaction with the outdoor environment and employment satisfaction, in the first case because moves are often down the rent gradient towards the periphery of the city where land is cheaper and because different LLMs can offer a change in employment opportunities.

Over time, there is also likely to be variation in the satisfaction that an individual has with the outcome of their move, as they adjust to their new circumstances, but also begin to accrue residential stress. This temporal adjustment is the subject of chapter 5. As relevant questions enter the lexicon of longitudinal surveys so our ability to track changes in satisfaction can extend from a single post-move assessment to multiple assessments at successive time periods after the move. This allows the researcher to track changes the subjective impact of moving has as the time since the move increases. While this is not possible in the cross sectional survey available here, I have made an initial attempt to see whether the broad expectations of the way hedonic adaptation takes place apply to movers interviewed at successive time periods since their move – the length of time that has elapsed since the move took place. The controls on composition go some way to meeting the limitations of cross sectional estimates.

My results suggest that the overall satisfaction that movers report with the outcomes of their move initially increase following the move, that is, they are higher for

those residents who have spent longer at their new address. The result is only significant for those moving within LLMs and their post-move satisfaction peaks six to nine months following their move. In inferring such a result I am conscious of the possibility of selection effects, so that the positive relationship between time since moving and post-move satisfaction may reflect a higher propensity for those less satisfied with their move, often younger movers, to relocate again and therefore not remain present among the longer stayers after the move. For these movers between LLMs, there is no statistically significant effect of time following the move on post-move satisfaction.

One of the enduring results of migration research is the profound influence of age on the propensity to migrate in any given instance and to migrate again, the young moving far more often than the old. What is less well known is the fact that age also influences the level of satisfaction movers report about their move. Younger movers not only have a much greater propensity to move, but they also experience lower satisfaction outcomes. The two may be related because the conditions that precipitate moves at a young age, their lack of experience and higher propensity to move again contribute to lower reported satisfaction which in turn may contribute to the need to adjust residence once again.

At the same time, this association between post-move satisfaction and age is different for those moving within and between LLMs. Amongst moves within LLMs, overall satisfaction with how things worked out following a move increases with age until shortly after the age of 65 after which it begins to decline. The change in housing and outdoor satisfaction that movers report also follows a very similar pattern, suggesting a potential housing and/or neighbourhood ‘career’ effect. As movers age, they move progressively closer to their ideal house in their ideal neighbourhood, before possibly downsizing in their retirement. (Later I suggest that age may of course proxy for events that occur at particular life stages and how including cohabitation status of movers can cause age specific effects on post-move satisfaction to diminish.)

Amongst moves between LLMs, post-move satisfaction follows a more linear relationship with age. Whereas the overall satisfaction of those moving within LLMs starts to decline later in life, it continues to rise amongst those moving between LLMs.

To the extent that age is related to other factors affecting post-move satisfaction their presence in the model will modify its effect. Such is the case when we include ethnicity in the equation; because Māori and Pasifika populations are younger their lower post-move satisfaction experiences absorb some of the age effect.

When it comes to the domains, I found that the effect of age is only statistically significant for social life and standard of living satisfaction, both of which have a negative association with age and indicate that young movers experience the greatest improvements in these domains when moving within LLMs.

Another theme in the migration literature is the influence chronic movers have on distributions of migration propensities and durations of residence. Relatively little is known about their relative levels of post-movement satisfaction. This is important because an initial supposition would be that it is a perpetual dissatisfaction that is precipitating their relatively higher movement rate. My results in the second half of chapter 5 suggest that the move history of individuals does have its own association with post-move satisfaction. For both moves within and between LLMs, the overall satisfaction that movers have with the outcomes of their move is highest for those who made only a single move in the ten years prior to their most recent move. The result is only statistically significant for those moving within LLMs however. The longer a mover lives at their previous address, however, the smaller their gains are in each domain of post-move satisfaction.

Another enduring question asked in migration research has to do with the way in which membership of a minority ethnic group affects migration behaviour. In Chapter 6 I consider the influence of ethnicity and nativity on post-move satisfaction. After controlling for age and income and other socio-demographics that separate ethnic groups from one another it may still be the case that discrimination and/or the positive returns to proximity to like others may limit the scope ethnic minorities as well as immigrants to New Zealand gain from moving within the country. My results suggest that overall; Europeans report higher returns to moving than ethnic minorities, although the significance and magnitude of the difference is greater for those moving within LLMs than between them, perhaps due to the larger numbers moving within local markets. In a result worth following up, while Europeans are more satisfied with how things turn out following a move, non-Europeans report a great increase in several domains.

Also, as I am able to show later in the study, the poorer overall outcomes are not simply a reflection of ethnic minority groups being less educated and poorer, or moving to more deprived areas. However, this result could be because European movers have a higher life satisfaction prior to their move and are therefore even small changes have a greater positive effect. By being initially less satisfied, non-Europeans make the greatest gains in satisfaction through the move process, observed in the domains, but nevertheless remain further from where they aspire to be, observed by their lower overall satisfaction with how things worked out. In the absence of direct measures of both aspirations and realisations however such interpretations remain quite speculative.

One of the most recent and vigorous debates in the migration literature has to do with the unit of analysis itself, particularly the dynamics and interactions within members of the same household when they change residence. I address a number of these debates in chapter 8 when I discuss possible effect gender and cohabitation on post-move satisfaction.

The role of tied migration, where a partner moves not for their own benefit but in order for their partner to realise theirs, is a frequently raised issue within migration literature. The literature has identified the presence of gender biases in the migration decision-making process, where it is postulated that women experience poorer outcomes, even in dual earner households. However, in contrast to objective measures of outcomes such as the poorer employment opportunities experienced by women following a move, the subjective outcomes are different, for women have been shown not return lower post-move satisfaction than their male counterparts. While my results support this observation they also uncover the role the particular relationship and its dynamics play.

The inference that this last result involves an appreciation of gains to the wider relationship is supported by the fact that the greatest difference in post-move satisfaction is not between males and females in existing relationships, but rather between those who cohabit following a move and those who do not. Newly single men are notably less satisfied with the outcomes of their move, while men who were single prior to and following their move are also less well off. I argue therefore that there are clear satisfaction benefits associated with moving with a partner. Further, while male movers appear to benefit the most from this association, the satisfaction benefits of

cohabitation that women experience more than outweigh any compromises that they make for their partner.

In chapter 9 I turn to the role of economic attributes of movers, their income and related characteristics such as their occupation, labour force status and their education. In the literature individuals who are highly educated have been found to have an increased propensity to move. Through a greater ability to obtain and process information relating to the move, movers with higher levels of education may be more likely to accurately evaluate the relative costs and benefits associated with moving and maximise their returns accordingly. In contrast to their propensity to move however, previous studies have found that higher educated movers experience less positive post-move satisfaction. In the text I speculate on the potential presence of inter-temporal substitution where by such migrants pursue career returns at the expense of immediate satisfaction outcomes.

In what is quite a different result, I found that the above result did not apply to the post-move experience of the highly educated who move within LLMs. These are, however, consumption adjustments, involving a change of dwelling and not the source of employment. Movers with less education also experience such gains in post-move satisfaction, in both housing and employment domains.

Amongst those moving between LLMs there is a less clear relationship between post-move satisfaction and education. The satisfaction of movers appears to have little relationship with the educational status of movers. Again this may be subject to the same confounding influence which stalks the subjective well-being literature, namely that high education raises aspiration which in turn requires higher absolute gains to realise them, any shortfall in which reduces satisfaction.

With the lack of any clear association between education status and satisfaction, I also compared associations between post-move satisfaction and income. Once again I found that the gross income of the mover had only a weak association with the degree to which any given change of address made a difference. Again, this could be because those who earn the most also have higher expectations.

What I did find, however, was a difference between the movers *change* in income and how they reported the returns to their move. Whether the mover experienced a change in their income, and whether this change in income was a result of

the move or not did play a role statistically. Amongst those moving within LLMs, it appears that a higher level overall post-move satisfaction is associated with a positive change in income regardless of whether the change was as a result of the move or not. But movers whose income decreased as a result of the move are much less satisfied than those whose income decreased for reasons other than the move itself. This leads me to believe that those who move as an adjustment to worsening life circumstances do evaluate success according to whether it meets their expectations or not.

When it comes to change in income over the moving period, there is a difference between measuring overall satisfaction on one hand and the change in domain satisfaction on the other. An increase in income is associated with more positive moves across satisfaction domains, but with the one exception, namely the less positive social life satisfaction of those moving between LLMs. This suggests that moving for higher wages may be undertaken at the expense of the individual's social life and may offset any of the initial improvements associated with the higher level of income.

In chapter 10 I turn to two questions each of which has a literature of its own. The first is the phenomena of counter-urbanisation, the tendency of a population to move away from the largest urban settlements. The second is the relationship between neighbourhood deprivation and internal migration, notably the extent to which gains or losses in neighbourhood quality following migration matter. Historically, there has been a flow of migrants toward more urbanised towns and cities. However, an increasing proportion of movers (outside the retirement ages) are eschewing the urbanised environment and downshifting for a better life in more rural locations. Such moves often come at the expense of economic returns; it is therefore of interest to ascertain how these collective influences are manifest in the post-move satisfaction experiences of those moving up and down the urban hierarchy.

Contrary to the expectations of some counter-migration theories, moving down the urban hierarchy did not lead to higher overall satisfaction with how things worked out following the move. However, the association between post-move satisfaction and moving up or down the urban hierarchy did vary between satisfaction domains. In the case of moves within LLMs, moves up the urban hierarchy lead to less positive change in outdoor environment satisfaction, while moves down lead to more positive changes in this domain.

When moving across the urban hierarchy, movers experienced lower satisfaction in some domains and higher satisfaction in others. Moving down the urban hierarchy, and to a new LLM, leads to a more positive change in outdoor environment satisfaction, but at the apparent expense of employment and social life satisfaction. A similar move up the hierarchy leads to a more positive change in higher employment satisfaction, but seemingly at the expense of their standard of living and outdoor environment satisfaction.

The second question asked in chapter 10 concerned the impact of changing neighbourhood quality on post-move satisfaction and especially interesting here is the interaction between neighbourhood choice and movement up and down the urban hierarchy. By and large, people want, and aspire, to live in good neighbourhoods with nice neighbours. Moving to a major urban centre in order to earn a higher wage may lower well-being returns if the higher living costs in the larger city forces the mover into a lower quality neighbourhood. The reverse could also be argued.

Even with controls in place moves to increasingly more deprived neighbourhoods are indeed associated with poorer overall satisfaction with the outcomes the move, but this association is limited to moves within LLMs. It is also associated with a less positive change in outdoor environment, housing and standard of living satisfaction. Moving to a more affluent neighbourhood also appears to be associated with a move to a more satisfying house. While present the effect amongst those moving between LLMs is less marked but moves to more deprived neighbourhoods remain associated with poorer housing and social life satisfaction.

Of particular interest in chapter 10 is the way in which movements up the urban hierarchy were associated with moves down the neighbourhood quality hierarchy generating a net decline in post-move satisfaction. The compromises between the domains of satisfaction which moves to larger centres engender is therefore one of the areas in which post-move satisfaction can play a stronger role, especially as countries like New Zealand experience continued growth of the very largest centres at the expense of smaller settlements around the country.

In Chapter 11 I consider the final set of factors in my regression model, the reasons that movers give for moving. These have been left until last because of the considerable endogeneity likely between post-move outcomes and the reasons for the

move. The reasons for moving can in many instances preclude the likely nature of the move outcome. This is particularly true of those whose move is not in any way voluntary. Moves who are forced into changing address violate a central tenant of migration theory namely that moves are undertaken because the mover considers that the expected benefits outweigh the expected costs. While movers may take advantage of the opportunity to find a new residence that better fits their current needs, involuntary moves are likely to be unexpected and lead to a less well considered move.

As expected, I found that forced moves are associated with less satisfactory outcomes relative to voluntary moves. While movers may be able to make the most of a move, they are nevertheless not as well off as if they had moved on their own terms. When moving within a LLM, housing satisfaction is the only satisfaction domain to have a less positive change in satisfaction. For those moving between LLMs, it is social life of those forced to move which is sacrificed as represented in their lower satisfaction in this life domain.

Outside the realm of forced moves, moving for a reason in a particular category, such as housing reasons, could have a different association with the overall outcomes than a move that is undertaken for employment reasons particularly if moves in some categories come at the expense of satisfaction in unrelated satisfaction domains. My results indicate, however, that the reasons that movers give for undertaking their move have little association with the overall level of satisfaction with how things worked out in that domain. I suggest therefore that heterogeneity within each of the large ‘reasons for moving’ categories I use outweighs the differences between each group and that more applicable divisions the reasons for moving may expose more variation. Cognitive dissonance may also be a factor, as movers internally rationalise their move but this is not a measurable influence with the instrument at hand.

In summary, the primary contribution of my thesis lies in its detailed exploration of the subjective response to moving. In this respect it joins a small international literature entitled post-move satisfaction whose perspective complements a literature on migration outcomes whose evidence draws exclusively from what can be measured objectively; changes in absolute and relative income, job satisfaction, labour force participation and subsequent movement are examples. These outcome measures are not those voiced by the migrants themselves and as research in other domains has shown, increases in objectively measured returns such as income are not always

correlated to the same degree with positive increases in satisfaction or happiness. A whole literature on the economics of happiness has grown out of the lack of such a correlation between a country's increase in per capita income and its average levels of happiness.

We are at the very earliest stages of exploring the possible insight adopting a subjective approach to evaluating migration outcomes may have both conceptually and empirically. What my research has shown, using a state of the art New Zealand survey, is firstly that the post-move satisfaction measures do behave roughly in the manner expected: other things equal, being forced to change address yields a much lower change in satisfaction overall as well as by domain, than a move taken voluntarily. Moves to larger urban centres may raise subjective returns in some domains like employment, but lower them in others such as housing. The need to compromise on neighbourhood quality in the face of higher housing costs is reflected in lower gains to extra-housing contexts. Minority ethnic groups uniformly experience lower subjective returns to moving, the young also see fewer subjective gains following their move than older movers. More frequent movers are similar even when controlling for possible joint effects with age and ethnicity.

In short, subjective responses to the outcomes of mobility do appear to move in the expected direction and as such may have a complementary role to play in measuring outcomes of population mobility. The challenge therefore is how to harness these results so they can be more carefully interpreted. The frontiers are shared with subjective well-being research more generally. They involve a better fix on anticipated returns and perceived realisations in light of them. They involve the monitoring of various stages in the adjustment process, in what the subjective well-being literature refers to as hedonic adaption. Moving is planned and hence anticipated for the most part and subjective responses therefore begin well before the move. They also track after the move and the experience is assimilated and the impact of the exogenous shock – the new dwelling and neighbourhood and even city – are absorbed and adjusted to by the migrant. Cross sectional surveys like the DMM are a start but they only take us so far. The next step for New Zealand is a longitudinal survey that incorporates the need to track residential change in its design. It is appropriate therefore that I end the thesis with a brief discussion of some of the limitations of the DMM survey with the hope that the ideas might help in the development of a successor.

Limitations of the DMM survey

Notwithstanding the frontier nature of the DMM survey and the considerable support in its access that Statistics New Zealand offered there remain a few limitations which I encountered in my work. I appreciate that the survey had constraints, particularly time wise, which it had to operate within. However, two key factors were missing from the survey and therefore my analysis. The place of an individual's work prior to and following a move, and asking whether the individual moved jobs at the same time as they moved, is one area in which the survey could provide greater information on the behaviour of those moving within and between LLMs.

Tenure, and tenure change was also (inadvertently I know) omitted from the final list of questions, an omission which has made it difficult to compare results with international surveys which explicitly take tenure into account. Tenure is of fundamental importance in understanding the frequency of moving as well as who moves when and to what locations. Without its presence in this survey I have not been able to explore the role it might have played in raising or lowering subjective returns to moving within the two main tenure markets.

The survey's satisfaction questions ultimately provided my thesis with a novel avenue of research, but there are a number of potential improvements that could be made. First, the survey may have benefitted from using a wider scale of responses, instead of the 5 point scale, in order to tease greater detail out of the satisfaction responses of movers. There are also a set of related well-being questions which could have been asked which would have provided a multidimensional understanding of the returns to migration. Second, the different wording of the questions on overall satisfaction and domain satisfaction dictated, to a degree, the approach that I took and made comparisons between the overall satisfaction and domain satisfaction more complicated. A further question asking about the change in overall satisfaction may have provided some very interesting results.

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Appendix 1: Local Labour Markets Areas

LMC	Local labour market name	LMC	Local labour market name
1	Whangarei	53	Nireaha-Tiraumea
2	Kerikeri	54	Otangiwai-Heao
3	Kaitaia	55	Wellington
4	Dargaville	56	Masterton
5	Kaikohe and South Hokianga	57	South Wairarapa
6	Rehia-Oneriri	58	Grey
7	Moerewa	59	Buller
8	Hokianga North	60	Hokitika
9	Central and North Auckland	61	Whataroa
10	Greater Manukau	62	Inangahua
11	Waiheke Island	63	Christchurch
12	Great Barrier Island	64	Timaru
13	Greater Hamilton	65	Ashburton
14	Taupo	66	Geraldine
15	Matamata-Piako	67	Waimate
16	South Waikato	68	Hinds
17	Thames	69	Mt Somers
18	Waihi	70	Kaikoura
19	Matamata	71	Amuri
20	Waitomo	72	Opuha
21	Te Rerenga	73	Hurunui
22	Otorohanga	74	Okains Bay
23	Kiokio-Korakonui	75	Cheviot
24	Turangi	76	Aviemore
25	Whangamata	77	Dunedin
26	Tauranga	78	Queenstown
27	Rotorua	79	Oamaru
28	Whakatane	80	Alexandra
29	Katikati	81	Clutha
30	Opotiki	82	Wanaka
31	Murupara	83	Tuapeka
32	Gisborne	84	Teviot
33	East Cape	85	Maniototo
34	Hastings	86	Waihemo
35	Napier	87	Ranfurly
36	Central Hawke's Bay	88	Invercargill
37	Wairoa	89	Gore
38	Taranaki	90	Te Anau
39	Hawera	91	Waikaia
40	Stratford	92	Fairfax
41	Kahui	93	Toetoes
42	Whenuakura	94	Te Waewae
43	Douglas	95	Wairio
44	Palmerston North	96	Stewart Island
45	Wanganui	97	Golden Bay
46	Horowhenua	98	Murchison
47	Dannevirke	99	Nelson
48	Marton	100	Blenheim
49	Taumarunui	101	Picton
50	Waimarino-Waiouru	102	Pelorus-Northern Marlborough Sound
51	Taihape	103	Chatham Islands
52	Pahiatua		

Appendix 2: Reason for moving from a previous address categories

SOCIAL
[I] Marriage/to live with partner
[F] Breakdown of marriage/relationship
[A/F]To move in with/follow partner
[F] To move with parent(s)
[F] To move with other family member
[F] To move with other person/people
[I] To live with family
[I] To live with friends
[A] To live closer to family
[A] To live closer to friends
[A] To live closer to family and friends
[A] To move away from family
[A] To move away from friends
[F] To move away from former spouse or partner
[A] To move away from other people n.e.c
[I] To set up home independently
[Z] Other social reasons

EDUCATION
[I] Moved for own education
[F] Moved for partner's education
[A] Move for child's education
[I] Moved because education completed
[Z] Other educational reasons

EMPLOYMENT
[I] To start a new job
[I] To take up a promotion or an opportunity for higher income
[I] Transferred or relocated by employer
[F] Retrenchment/redundancy
[I] Employment contract ended
[I] Season ended/seasonal employment ended
[F] Lost job for other reasons
[A] To look for a job
[A] Move for better employment opportunities/business opportunities
[A] To live closer to workplace
[I] Retirement
[Z] Other employment or work related reasons

ECONOMIC
[F] Rent increased
[F] Mortgage increased
[F] Other costs of previous dwelling are too high
[F] Moved because change in personal or economic circumstances meant dwelling no longer viable
[A] Moved because wanted to upgrade to better housing
[A] Moved from rental into own purchased dwelling
[A] Moved from rental into new dwelling built by/for respondent

ECONOMIC (CONT)
[A] Sold dwelling and purchased another dwelling
[A] Sold dwelling and built new dwelling
[A] Sold dwelling and moved to rental
[A] Sold dwelling n.e.c
[F] Notice given by landlord
[F] Landlord sold the dwelling
[F] Expiry of lease or rental agreement
[A] Because public housing (state or council) became available
[A] Subsidised housing/other housing was provided by employer
[Z] Other economic or financial reasons

HOUSING
[A] Previous dwelling too small
[A] Previous dwelling too large
[A] Dissatisfied with condition of previous dwelling
[A] Dissatisfied with other characteristics of previous dwelling
[A] Dissatisfied with previous dwelling in general
[A] Dissatisfied with characteristics of previous section/land
[Z] Other housing reasons

ENVIRONMENT
[A] Not satisfied with previous neighbourhood/neighbours
[A] Not satisfied with previous suburb/town/city/regions
[A] Not satisfied with climate
[F] Personal or other's heath reasons
[A] Not satisfied with availability of services and facilities/distance from them
[A] Not satisfied with previous lifestyle
[A] Not satisfied with safety of environment
[A] Not satisfied with natural environment
[Z] Other environmental reasons

OTHER REASONS
[Z] Undefined
[A] To travel overseas/OE
[A] To travel
[Z] No particular reason
[A] Wanted a change
[Z] Other reasons not elsewhere classified
[Z] Don't know
[Z] Refused to answer
[Z] Response unidentifiable
[Z] Response outside scope
[Z] Not stat

Appendix 3: DMM Survey Questionnaire

Survey of the Dynamics and Motivations for Migration in New Zealand

Final: 1.12.2006

Introduction
Now we have some questions about why people move house, or go overseas, and why others stay where they are.

Section A: to be answered by all respondents

1. Can I confirm your current address, that is the address where you USUALLY live. Is it: [Read out HLFS Sampled Address] ?
   - yes go to 3
   - no go to 2
   - DK go to 2
   - RF go to 2

2. What is the address of the dwelling where you USUALLY live?

   Record street number and street name
   Record suburb or rural locality
   Record city, town or district
   Record region (optional)
   DK
   RF

3. At the time of the last Census, on the 7th of March 2006, were you LIVING in New Zealand?
   - yes go to 4
   - no go to 5
   - DK go to 6
   - RF go to 6

4. Where did you USUALLY live at that time? Can you tell me the address? Select one
   - HLFS address
   - another address: record
     - Complete as many fields as possible
     - Street number and street name
     - Suburb or rural locality
     - City, town or district
     - Region (optional)
   - DK go to 6
   - RF go to 6

Now go to question 6

5. What country were you USUALLY living in on the 7th of March 2006?
   Record the first three letters of the country name, select name from the list then press 'Enter' to continue
   DK
   RF

6. At the time of the 2001 Census, on the 6th of March 2001, were you LIVING in New Zealand?

yes	go to 7
no	go to 8
DK	go to 9
RF	go to 9

7. Where did you USUALLY live at that time? Can you tell me the address? Select one

HLFS address

another address: record

Complete as many fields as possible
Street number and street name
Suburb or rural locality
City, town or district
Region (optional)

same address as in March 2006
DK
RF

Now go to question 9

8. What country were you USUALLY living in on the 6th of March 2001?

Record the first three letters of the country name, select name from the list then press 'Enter' to continue
DK
RF

9. Temporary accommodation is living in a place that is **NOT** your usual home for a short time. It includes holiday accommodation and anywhere else you might stay without notifying a change of address.

NOT counting temporary accommodation, in the last 10 years, that is since [*Month Year*], how many dwellings have you lived in and thought of as your USUAL home. Is it:

Read out categories below

one	go to question D1
two	
three	
four	
or five or more?	
DK	
RF	

Interviewer notes

If the respondent has lived in the same dwelling on two separate occasions, then that dwelling should be counted twice.

If the respondent has lived overseas during the last 10 years, then they should count the dwelling(s) they lived in overseas. However, temporary accommodation should be excluded.

If the respondent asks what day of the month 10 years ago, specify 10 years ago from today.

Computer Decision Box:

If address in response to A4 is different from current address go to B1
If the response to A9 is one then go to D1.
All other respondents go to A10

10. In the last two years, that is since the [*dd*th of *Month Year*], have you changed your usual address?

yes	go to B1
no	go to D1
DK	go to A11
RF	go to A11

11. Have you lived at your [current / usual] address since the [*dd*th of *Month Year*]?

yes	go to D1
no	go to B1
DK	go to Computer Decision Box following question F4
RF	go to Computer Decision Box following question F4

Interviewer notes

If respondent has difficulty, ask him / her if there is anyone else in the household, or any documents, that could confirm how long he / she has lived at current address.

Documents could include a rent book, bank statements showing rent or mortgage payments, receipts for moving expenses, a Tenancy Agreement, or other documents that show the date you moved in.

Notes about this questionnaire

In this paper questionnaire:

Black text is text that is read out to the respondent.
Blue text is not read out to the respondent.

Question text that is contained within square brackets represent inserts. The Blaise software that we use is programmed to insert the appropriate data, or word(s), depending upon the respondent's answers to previous questions, which have been specified in advance.

Section B: to be answered by all respondents who have moved in the last 2 years

1. During the last two years, that is since the [*dd th of Month Year*], have you arrived in New Zealand after LIVING overseas?

Don't count arriving in New Zealand after holidays or short trips away.

yes go to Section C
no go to 2
DK go to 2
RF go to 2

2. How long have you lived at your [current / usual] address?

Less than three months
3 months or more, but less than 6 months
6 months or more, but less than 9 months
9 months or more, but less than 12 months
1 year or more, but less than 2 years
2 years or more Edit. R to confirm amount of time lived at current address. If confirmed as 2 years or more, **go to question D1**.
DK
RF

3. NOT counting temporary accommodation, where did you usually live before moving to your [current / usual] address?

Complete as many fields as possible
Street number and street name
Suburb or rural locality
City, town or district
Region (optional)

DK
RF

Interviewer Notes

Temporary accommodation is defined as living in a place that is not your usual home for a short time. It includes holiday accommodation and anywhere else you might stay without notifying a change of address.

We want to know the address of the place the respondent thought of as their usual home, before they moved to their current address.

If respondent cannot recall the full address, record as much detail as s/he can recall.

If R was travelling around NZ, and insists they had no 'usual home or residence' then ask where they usually lived before that.

4. What date did you move away from that address?
Record day, month and year as accurately as possible.
If date given was more than two years ago, ask R to confirm date of move.
If move is confirmed as being more than two years ago, **go to question D1**

DK
RF

5. How long did you live at your previous address?
If the respondent lived there more than once, ask them to tell you about the last time they lived there.

Less than three months
3 months or more, but less than 6 months
6 months or more, but less than 9 months
9 months or more, but less than 12 months
1 year or more, but less than 2 years
2 years or more, but less than 3 years
3 years or more, but less than 4 years
4 years or more, but less than 5 years
5 years or more, but less than 10 years
10 years or more, but less than 20 years
20 years or more
DK
RF

6. What were your reasons for moving away from your previous address?
Record all reasons as accurately as possible.

7. Did you move away for any other reasons?
yes specify
no go to next computer decision box

8. What were those reasons?
Record all reasons as accurately as possible.

Computer Decision Box: If more than one reason was specified in question 6 or if the total number of reasons specified in questions 6 and question 8 is greater than one, go to question 9. Otherwise go to question 10.

9. What was your MAIN reason for moving away from your previous address?
Record reason as accurately as possible.

DK
RF

10. What were your reasons for choosing to live in the suburb, town or area where you currently live?

Record all reasons as accurately as possible.

11. Did you choose to live in this suburb, town or area for any other reasons?

yes go to 12
no go to next computer decision box

12. What were those reasons?

Record all reasons as accurately as possible.

Computer Decision Box: If more than one reason was specified in question 10 or if the total number of reasons specified in questions 10 and 12 is greater than one, go to question 13. Otherwise go to question 14.

13. What was your MAIN reason for choosing to live in this suburb, town or area?

Record reason as accurately as possible.

DK
RF

14. The environment includes the natural and man-made outdoor surroundings where you live, and in all the places you go to. Compared to before you moved, is the outdoor environment in the city, town or area [you live in now / where you usually live]:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

15. Compared to before you moved, is your housing now:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

16. Compared to before you moved, are your employment opportunities now:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
Not applicable / not seeking employment
DK
RF

17. Compared to before you moved, is your standard of living now:
Standard of living is self-defined. It includes the circumstances in which people live, the economic resources they have access to and the goods and services that they are able to consume.

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

18. Compared to before you moved, is your social life with family and friends now:
Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

19. OVERALL, how satisfied or dissatisfied are you with the way things have worked out since you moved:
Read out categories below

Very satisfied
Satisfied
Equally satisfied and dissatisfied
Dissatisfied
Very dissatisfied?
DK
RF

20. Are you living as a couple with any one of the following: your [husband / wife], partner, girlfriend or boyfriend?

yes go to 21
no go to 23
DK go to 23
RF go to 23

21. Were you living with that person when you decided to move away from your previous address?

yes go to next computer decision box
no go to 22
DK go to 22
RF go to 22

22. When you decided to move, were you living as a couple with a different person?

yes
no
DK
RF

Now go to next computer decision box

23. When you decided to move away from your previous address, were you living with a [husband / wife], partner, girlfriend or boyfriend?

yes
no
DK
RF

Computer decision box: From HLFS interview, does R have any qualifications? If "yes", go to 24. If "no", go to 25.

24. Have you completed any of your qualifications since the 1st of January 2005?

yes
no
DK
RF

25. When you decided to move were you:

Read out categories below

working for pay or profit? go to 26
not employed, but seeking paid work? go to 27
not employed and not seeking paid work? go to 27
DK go to 27
RF go to 27

26. What was your occupation at that time?

If the respondent had more than one job, ask for their occupation in their MAIN job only.
MAIN job is the (paid) job the respondent usually works the most hours in.

Current HLFS occupation is: [occupation as reported in HLFS]

==========

same as current HLFS occupation
a different occupation – specify
DK
RF

27. Did your personal annual income increase, decrease or stay about the same after you moved?

increased go to 28
decreased go to 28
stayed about the same go to 29
DK go to 29
RF go to 29

28. Was this [increase / decrease] related to your move?

yes
no
DK
RF

29. Are you planning to move within the next two years?

yes go to question E1
no go to question F1
Thinking about it, but not sure go to computer decision box following question F4
DK go to computer decision box following question F4
RF go to computer decision box following question F4

Section C: to be answered by all respondents who have arrived from overseas within the last 2 years

1. What country did you LIVE in before coming to New Zealand?
   We want the country the respondent USUALLY lived in before coming to New Zealand.

   Record the first three letters of the country name, select name from the list, then press 'Enter' to continue

   DK
   RF

Interviewer Note
If the respondent has lived in a number of countries, we want the last country they usually lived in before coming to NZ.

2. How long did you live in [country selected in C1]?
   If the respondent lived in the country on and off, we want the total amount of time they lived there. Don't count short trips away.

   Less than three months
   3 months or more, but less than 6 months
   6 months or more, but less than 9 months
   9 months or more, but less than 12 months
   1 year or more, but less than 2 years
   2 years or more, but less than 3 years
   3 years or more, but less than 4 years
   4 years or more, but less than 5 years
   5 years or more, but less than 10 years
   10 years or more, but less than 20 years
   20 years or more
   DK
   RF

Computer Decision Box: Was Australia selected in question C1? If 'yes' go to question C3. If 'no' go to question C4.

3. What state in Australia did you live in before coming to New Zealand?
   Do not read out. Select one

   New South Wales
   Queensland
   Victoria
   South Australia
   Western Australia
   Tasmania
   Northern Territory
   Australian Capital Territory
   DK
   RF

4. What date did you arrive in New Zealand?

We want the date the respondent first arrived to live in New Zealand.
If date was more than two years ago, ask R to confirm date.

DK
RF

Computer Decision Box:
Was date more than two years ago from date of interview? If "yes", an Edit is triggered.

If confirmed date was more than two years ago and if "another address" is selected in response to question A4, go to question B2.
OR
If confirmed date was more than two years ago and if response to question A10 is "yes" go to question B2.
OR
If confirmed date was more than two years ago and if response to question A10 is "no" go to question D1

5. NOT counting temporary accommodation, after you arrived in New Zealand, where did you settle down to live?

Record the address of the place the respondent considered to be their first home or usual address

Temporary accommodation is defined as living in a place that is not your usual home for a short time. It includes holiday accommodation and anywhere else you might stay without notifying a change of address.

==========

HLFS address

		Complete as many fields as possible
another address:	record	Street number and street name
		Suburb or rural locality
		City, town or district
		Region (optional)

DK
RF

6. What were your reasons for coming to New Zealand?

Record all reasons as accurately as possible

7. Did you come to New Zealand for any other reasons?

yes go to 8
no go to next computer decision box

8. What were those reasons?

Record all reasons as accurately as possible

Computer Decision Box: If more than one reason was specified in question 6, or if the total number of reasons specified in questions 6 and 8 is greater than one, go to question 9. Otherwise go to question 10.

9. What was your MAIN reason for coming to New Zealand?
Record reason as accurately as possible

DK
RF

10. How long have you lived at your current address?

Less than three months
3 months or more, but less than 6 months
6 months or more, but less than 9 months
9 months or more, but less than 12 months
1 year or more, but less than 2 years
2 years or more Edit: Confirm amount of time with respondent
DK
RF

11. What were your reasons for choosing to live in the suburb, town or area where you currently live?
Record all reasons as accurately as possible

12. Did you choose to live in this suburb, town or area for any other reasons?
yes go to 13
no go to next computer decision box

13. What were those reasons?
Record all reasons as accurately as possible

Computer Decision Box: If more than one reason was specified in question 11, or if the total number of reasons specified in questions 11 and 13 is greater than one, go to question 14. Otherwise go to question 15.

14. What was your MAIN reason for choosing to live in this suburb, town or area?
Record reason as accurately as possible

DK
RF

15. The environment includes the natural and man-made outdoor surroundings where you live, and in all the places you go to. Compared to the outdoor environment in [country selected in C1], is the outdoor environment in the city, town or area [you live in now / where you usually live now]:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

16. Compared to your housing in [country selected in C1], is your housing now:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

17. Compared to your employment opportunities in [country selected in C1], are your employment opportunities now:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
Not applicable / not seeking employment
DK
RF

18. Compared to your standard of living in [country selected in C1], is your standard of living now:

Standard of living is self-defined. It includes the circumstances in which people live, the economic resources they have access to and the goods and services that they are able to consume.

Read out categories below

Much better
Better
About the same

Worse
Much worse?
DK
RF

19. Compared to your social life with family and friends in [country selected in C1]. Is your social life with family and friends now:

Read out categories below

Much better
Better
About the same
Worse
Much worse?
DK
RF

20. OVERALL, how satisfied or dissatisfied are you with the way things have worked out since you came to New Zealand:

Read out categories below

Very satisfied
Satisfied
Equally satisfied and dissatisfied
Dissatisfied
Very dissatisfied?
DK
RF

21. Are you living as a couple with any one of the following: your [husband / wife], partner, girlfriend or boyfriend?

yes	go to 22
no	go to 24
DK	go to 24
RF	go to 24

22. Were you living with that person when you decided to come to New Zealand?

yes	go to next computer decision box
no	go to 23
DK	go to 23
RF	go to 23

23. When you decided to come to New Zealand, were you living as a couple with a different person?

yes
no
DK
RF

Now go to next computer decision box

24. When you decided to come to New Zealand, were you living with a [husband / wife], partner, girlfriend or boyfriend?

yes
no
DK
RF

Computer decision box: From HLFS interview, does R have any qualifications? If "yes", go to 25. If "no", go to 26.

25. Have you completed any of your qualifications since the 1st of January 2005?

yes
no
DK
RF

26. When you decided to come to New Zealand were you:

Read out categories below

working for pay or profit? go to 27
not employed, but seeking paid work? go to 28
not employed and not seeking paid work? go to 28
DK go to 28
RF go to 28

27. What was your occupation at that time?

If the respondent had more than one job, ask for their occupation in their MAIN job only.
MAIN job is the (paid) job the respondent usually works the most hours in.

Current HLFS occupation is: [occupation as reported in HLFS]

==========

same as current HLFS occupation
a different occupation – specify
DK
RF

28. Did your personal annual income increase, decrease or stay about the same after you came to New Zealand? Do not read out. Select one

increased go to 29
decreased go to 29
stayed about the same go to 30
DK go to 30
RF go to 30

29. Was this [increase / decrease] a result of coming to New Zealand?

yes
no
DK
RF

30. Are you planning to move within the next two years?

yes	go to question E1
no	go to question F1
Thinking about it, but not sure	go to computer decision box following question F4
DK	go to computer decision box following question F4
RF	go to computer decision box following question F4

Section D: to be answered by all respondents who have not moved in the last 2 years

1. How long have you lived at your [current / usual] address?

Less than 2 years Edit to confirm date. go to question B1
2 years or more, but less than 3 years
3 years or more, but less than 4 years
4 years or more, but less than 5 years
5 years or more, but less than 10 years
10 years or more, but less than 20 years
20 years or more
DK
RF

2. What are your reasons for staying in the same suburb, town or area over the past two years?
Record all reasons as accurately as possible

3. Have you stayed in this suburb, town or area for any other reasons?
yes go to 4
no go to next computer decision box

4. What are those reasons?
Record all reasons as accurately as possible

Computer Decision Box: If more than one reason was specified in question 2 or if the total number of reasons specified in questions 2 and 4 is greater than one, go to question 5. Otherwise go to question 6.

5. What was your MAIN reason for staying in the same suburb, town or area over the last two years?
Record reason as accurately as possible

DK
RF

6. The environment includes the natural and man-made outdoor surroundings where you live, and in all the places you go to. How satisfied or dissatisfied are you with the outdoor environment in the city, town or area [you live in / where you usually live]:
Read out categories below

Very satisfied
Satisfied
Equally satisfied and dissatisfied
Dissatisfied
Very dissatisfied?
DK
RF

7. How satisfied or dissatisfied are you with your housing:
   Read out categories below

   Very satisfied
   Satisfied
   Equally satisfied and dissatisfied
   Dissatisfied
   Very dissatisfied?
   DK
   RF

8. How satisfied or dissatisfied are you with your employment opportunities:
   Read out categories below

   Very satisfied
   Satisfied
   Equally satisfied and dissatisfied
   Dissatisfied
   Very dissatisfied?
   Not applicable / not seeking employment
   DK
   RF

9. How satisfied or dissatisfied are you with your standard of living:

   Standard of living is self-defined. It includes the circumstances in which people live, the economic resources they have access to and the goods and services that they are able to consume.

   Read out categories below

   Very satisfied
   Satisfied
   Equally satisfied and dissatisfied
   Dissatisfied
   Very dissatisfied?
   DK
   RF

10. How satisfied or dissatisfied are you with your social life with family and friends:
    Read out categories below

    Very satisfied
    Satisfied
    Equally satisfied and dissatisfied
    Dissatisfied
    Very dissatisfied?
    DK
    RF

11. OVERALL, how satisfied or dissatisfied are you with having stayed in the same place over the last two years:

Read out categories below

Very satisfied
Satisfied
Equally satisfied and dissatisfied
Dissatisfied
Very dissatisfied?
DK
RF

12. Are you living as a couple with any one of the following: your [husband / wife], partner, girlfriend or boyfriend?

yes go to 13
no go to 15
DK go to 15
RF go to 15

13. Were you living with that person two years ago from today?

yes go to next computer decision box
no go to 14
DK go to 14
RF go to 14

14. Two years ago, were you living as a couple with a different person?

yes
no
DK
RF

Now go to next computer decision box

15. Two years ago from today, were you living with a [husband / wife], partner, girlfriend or boyfriend?

yes
no
DK
RF

Computer decision box: From HLFS interview, does R have any qualifications? If "yes", go to 16. If "no", go to 17.

16. Have you completed any of your qualifications since the 1st of January 2005?

yes
no
DK
RF

17. Two years ago from today, were you:
Read out categories below

working for pay or profit? go to 18
not employed, but seeking paid work? go to 19
not employed and not seeking paid work? go to 19
DK go to 19
RF go to 19

18. What was your occupation at that time?
If the respondent had more than one job, ask for their occupation in their MAIN job only.
MAIN job is the (paid) job the respondent usually works the most hours in.

Current HLFS occupation is: [occupation as reported in HLFS]
==========

same as current HLFS occupation
a different occupation – specify
DK
RF

19. Compared to two years ago, has your personal annual income increased, decreased or stayed about the same?

increased go to 20
decreased go to 20
stayed about the same go to 21
DK go to 21
RF go to 21

20. Was this [increase / decrease] related to staying in the same place over the last two years?
yes
no
DK
RF

21. Are you planning to move within the next two years?
yes go to question E1
no go to question F1
Thinking about it, but not sure go to computer decision box following question F4
DK go to computer decision box following question F4
RF go to computer decision box following question F4

Section E: All respondents planning to move within the next two years

1. Are you planning to move:

Read out categories below

Select one. If the respondent is seriously considering more than one, and is undecided, then select all that apply.

11 within the same city, town or area that you are currently living in?
12 elsewhere in New Zealand?
13 to Australia?
14 to the United Kingdom?
15 or to another country?

88 DK go to 5
99 RF go to 5

Computer Decision Box:
If only 11 is selected go to question 5
If only 12 is selected go to question 2
If only 13 is selected go to question 3
If only 14 is selected go to question 5
If only 15 is selected go to question 4

If more than one of 11 to 15 are selected go to question 5.

2. Where in New Zealand are you planning to move to? – specify

If unsure of spelling ask: Can you spell that for me please?

Record name of city, town or area. Be as specific as possible.

Do NOT abbreviate the names of places.

If respondent is seriously considering more than one destination, first select the destination most likely. Then press "Enter" and select the second most likely destination.

DK
RF

Responses will be auto-coded post interview.

Go to question 5

3. What state in Australia are you planning to move to?

If respondent is seriously considering more than one state, select the two states most likely. The state most likely should be selected first.

If respondent does not know the state, but can give you the name of a city, town or area, select "other" and specify the name of the city, town or area. Up to two places (those most likely) can be recorded.

New South Wales
Queensland
Victoria
South Australia
Western Australia
Tasmania
Northern Territory
Australian Capital Territory

Other – specify
DK
RF

Go to question 5

4. What country are you planning to move to?

Record the first three letters of the country name, select name from the list then press 'Enter' to continue

If respondent is seriously considering more than one country, first select the country most likely. Then press "Enter" and select the second country most likely.

If the respondent cannot specify a country, but can specify a part of the world e.g., "Europe" or "South America", then record "other" and press "Enter" to record a text response.

DK
RF

5. When are you likely to move?

In 6 months or less
More than 6 months and up to 12 months
More than 12 months and up to 18 months
More than 18 months and up to 2 years
In more than two years Triggers Edit. go to F1
DK
RF

6. What are your reasons for moving?
   Record all reasons as accurately as possible

7. Are you planning to move for any other reasons?
   yes go to 8
   no go to next computer decision box

8. What are those reasons?
   Record all reasons as accurately as possible

Computer Decision Box: If more than one reason was specified in question 6 or if the total number of reasons specified in questions 6 and 8 is greater than one, go to question 9. Otherwise, go to question F5.

9. What is your MAIN reason for planning to move in the next two years?
   Record reason as accurately as possible

   DK
   RF

Now go to computer decision box following question F4

Section F: All respondents not planning to move within the next two years

1. What are your reasons for staying in the same suburb, town or area over the next two years?

Record all reasons as accurately as possible

2. Are you staying in this area for any other reasons?

yes go to 3
no go to next computer decision box

3. What are those reasons?

Record all reasons as accurately as possible

Computer Decision Box: If more than one reason was specified in question1 or if the total number of reasons specified in questions 1 and 3 is greater than one, go to question 4. Otherwise go to next computer decision box.

4. What is your MAIN reason for staying in the same suburb, town or area over the next two years?

Record reason as accurately as possible

DK
RF

Computer Decision Box: Was country of birth coded as "14 Asia" or "19 Other" in the HLFS Household Questionnaire (HQ) during first HLFS interview?
If "yes" go to question 5, if "no" go to question 6.

5. What country were you born in?

Record the first three letters of the country name, select name from the list then press 'Enter' to continue

DK
RF

6. The last question is about your personal income for the 12 months ending today. Thinking about your income, from all sources, before tax or anything else is taken out of it, which of the following categories does your income fit into?

Read out categories below

A loss
Zero Income
$1 - $5,000
$5,001 - $10,000
$10,001 - $15,000
$15,001 - $20,000
$20,001 - $30,000
$30,001 - $40,000
$40,001 - $50,000
$50,001 - $70,000
$70,001 - $100,000
More than $100,000
DK
RF

END
7. That is all the questions. Thank you very much for taking part in this survey. I'd like to assure you that the information you have given will be kept confidential.

Appendix 4. HLFS Household Questionnaire

Statistics New Zealand
TATAURANGA AOTEAROA

LF/HQ/01
APRIL 2005

HOUSEHOLD LABOUR FORCE SURVEY

HOUSEHOLD QUESTIONNAIRE

THE INFORMATION RECORDED ON THIS QUESTIONNAIRE IS SUBJECT TO THE CONFIDENTIALITY PROVISIONS OF THE STATISTICS ACT, 1975.

REFERENCE NUMBER

SURVEY PERIOD — QUARTER — WEEK

ADDRESS

INTERVIEWER NUMBER

THIS QTR — PARTICIPATION CODE — LAST QTR

THIS QTR / NEXT QTR — INTERVIEW MODE — AREA CODE — TELEPHONE NUMBER — BEST TIME — ANY BAD DAYS? — COMMENTS

PERSON NO.	NAME	SCOPE LAST QTR	DATE OF BIRTH	SEX	ETHNIC GROUP	COUNTRY OF BIRTH	YEARS IN NZ	MARITAL STATUS	RELATIONSHIPS	SCOPE THIS QTR
A	B	C	D	E	F	G	H	I	J	K
			What was ...'s date of birth? DD MM YY		What is ...'s ethnic group?	In what country was ... born?	How many years has ... lived in NZ?	What is ...'s present marital status?	What is ...'s relationship to REFERENCE PERSON? RELN FAMILY	

CONTINUATION SHEET USED

CHECKLIST
ASK/CONFIRM TELEPHONE NO.

ASK/CONFIRM BEST TIME TO CALL OR TELEPHONE

Appendix 5. HLFS Individual Questionnaire

Statistics New Zealand
TATAURANGA AOTEAROA

LF/PQ/02R
APRIL 2005

HOUSEHOLD LABOUR FORCE SURVEY PERSONAL QUESTIONNAIRE

THE INFORMATION RECORDED ON THIS QUESTIONNAIRE IS SUBJECT TO THE CONFIDENTIALITY PROVISIONS OF THE STATISTICS ACT 1975.

REFERENCE NUMBER
PERSON NUMBER
SURVEY PERIOD
PROXY NUMBER
PERSONAL PARTICIPATION CODE

1. Does ..... usually live at (THE ADDRESS AT THE SAMPLED DWELLING)?

   11 ☐ YES

   12 ☐ NO → **Q4**

2. Will ..... be staying at (THE ADDRESS AT THE SAMPLED DWELLING) tonight?

   21 ☐ YES → **Q9**

   22 ☐ NO

3. Will ..... be away from (THE ADDRESS AT THE SAMPLED DWELLING) for more than six weeks altogether?

   31 ☐ YES → **NO FURTHER QUESTIONS**

   32 ☐ NO → **Q9**

4. Does ..... usually live in New Zealand?

   41 ☐ YES → **Q5**

   42 ☐ NO → **NO FURTHER QUESTIONS**

5. Where does ..... usually live?

   NUMBER AND STREET NAME

   .....

   SUBURB

   .....

   CITY/TOWN

   .....

6. What type of dwelling is (STREET ADDRESS GIVEN IN Q5)? (I mean, is it a private house or some other kind of dwelling?)

   61 ☐ PRIVATE DWELLING (E.G. HOUSE, FLAT)

   62 ☐ NON-PRIVATE DWELLING (E.G. HOTEL, MOTEL) → **Q9**

   63 ☐ INSTITUTION (E.G. PRISON, HOSPITAL) → **NO FURTHER QUESTIONS**

7. Will ..... or any other usual resident of (STREET ADDRESS AS GIVEN IN Q5) be staying there any of the nights this week, starting Sunday the .....?

   71 ☐ YES

   72 ☐ NO → **Q9**

8. Will ..... be away from (STREET ADDRESS AS GIVEN IN Q5) for more than six weeks altogether?

   81 ☐ YES → **Q9**

   82 ☐ NO → **NO FURTHER QUESTIONS**

9. INTRODUCTORY STATEMENT

   I would like to ask about the seven days starting with Sunday the ....., that is last week.

10. Last week did ..... do any work for pay or profit in a job, business or farm?

    101 ☐ YES → **Q13**

    102 ☐ NO

11. Last week did ..... have a job, business or farm that ..... was away from because of sickness, holidays or any other reason?

    111 ☐ YES → **Q17**

    112 ☐ NO

12. Last week did ..... work without pay in a family business or farm?

    121 ☐ YES

    122 ☐ NO → **Q50**

13. Did ..... have more than one paid job last week?

131 ☐ YES

132 ☐ NO → **Q15**

14. Did ..... have more than one paid job last week as a result of changing jobs?

☐ YES

☐ NO

15. How many hours did ..... actually work on each of the following days last week? Include overtime, but exclude time off.

Starting with	Hours in MAIN job	Hours in OTHER jobs
Sunday?		
Monday?		
Tuesday?		
Wednesday?		
Thursday?		
Friday?		
Saturday?		
TOTAL		

Then ..... worked

151 ☐ hours in ..... (MAIN) job, AND

152 ☐ hours in ..... OTHER JOBS, that is a total of

153 ☐ hours in ALL JOBS

16. Was the total number of hours ..... worked last week ..... usual number of hours?

161 ☐ YES → **Q19**

162 ☐ NO

17. How many hours does ..... usually work each week, including overtime, in (ALL) ..... job(s)

171 ☐ HOURS IN MAIN JOB

172 ☐ HOURS IN OTHER JOBS

173 ☐ HOURS IN ALL JOBS

18. What was the main reason ..... did not work ..... usual total number of hours last week?

1801 ☐ HOLIDAYS

1802 ☐ OWN INJURY OR ILLNESS

1803 ☐ PERSONAL OR FAMILY RESPONSIBILITIES

1804 ☐ OVERTIME

1805 ☐ INDUSTRIAL DISPUTE

1806 ☐ NOT ENOUGH WORK / SHORT TIME / TEMPORARY LAYOFF - EXPECT TO RETURN

1807 ☐ BAD WEATHER / MECHANICAL BREAKDOWN

1808 ☐ GLIDE TIME / FLEXITIME / SHIFT WORK / DEMANDS OF JOB

1809 ☐ CASUAL WORK / ON CALL / SEASONAL / RELIEVING

1810 ☐ CHANGED / TERMINATED JOB

1811 ☐ OTHER

SPECIFY .....

19. Would ..... prefer to work more hours than ..... usually works per week?

191 ☐ YES → **Q19a**

192 ☐ NO

193 ☐ DON'T KNOW

→ **Q21**

19a. In the last four weeks has ..... done any of the following to get more hours:

19a01 ☐ Asked ..... current employer for more hours?

19a02 ☐ Looked at job advertisements in newspapers?

19a03 ☐ Written, phoned or applied in person to an employer?

19a04 ☐ Contacted a private employment agency?

19a05 ☐ Contacted Work and Income?

19a06 ☐ Placed advertisements about a job?

19a07 ☐ Contacted friends or relatives about a job?

19a08 ☐ Taken steps to set up ..... own business?

19a09 ☐ Contacted career advisors or vocational guidance officers?

19a10 ☐ Anything else?

SPECIFY .....

19a11 ☐ NONE OF THE ABOVE

19b. If more hours had been available last week could ..... have worked them?

19b1 ☐ YES

19b2 ☐ NO

20. What is the main reason ..... is not working more hours?

201 ☐ NO SUITABLE CHILDCARE

202 ☐ NOT ENOUGH SUITABLE FULL-TIME WORK

203 ☐ NOT ENOUGH SUITABLE PART-TIME WORK

204 ☐ PERMANENT INJURY / DISABILITY

205 ☐ FINANCIAL CONSIDERATIONS

206 ☐ FAMILY CONSIDERATIONS

207 ☐ OTHER

SPECIFY .....

21. In ..... (MAIN) job last week, was .....

211 ☐ Working for wages or salary?

212 ☐ An employer of others in ..... own business?

213 ☐ Self-employed and not employing others?

214 ☐ Working without pay in a family business?

22. In ..... (MAIN) job last week, what was ..... occupation?

.....

.....

.....

23. In ..... (MAIN) job last week, what were the main tasks or duties?

.....

.....

.....

.....

24. Who was ..... employer (IN ..... MAIN JOB) last week?

NAME .....

.....

ADDRESS .....

.....

.....

.....

25. What was the main activity of the place in which ..... worked (IN ..... MAIN JOB) last week?

.....

.....

.....

25a. In the last three months has ..... occupation changed?

25a1 ☐ YES

25a2 ☐ NO

26. At any time in the last four weeks has ..... been looking for another job?

261 ☐ YES

262 ☐ NO → **Q28**

27. Has ..... been looking for full-time work (that is, 30 hours or more per week) or part-time work?

271 ☐ FULL-TIME WORK

272 ☐ PART-TIME WORK

28. Has ..... obtained any school qualifications?

281 ☐ YES

282 ☐ NO → **Q30**

29. What is ..... highest school qualification?

2901 ☐ PRIMARY PROFICIENCY EXAMINATION

2902 ☐ NZ SCHOOL CERTIFICATE IN ONE OR MORE SUBJECTS, OR NATIONAL CERTIFICATE LEVEL 1, OR NCEA LEVEL 1

2903 ☐ NZ SIXTH FORM CERTIFICATE IN ONE OR MORE SUBJECTS, OR NATIONAL CERTIFICATE LEVEL 2, OR NCEA LEVEL 2

2904 ☐ NZ UNIVERSITY ENTRANCE BEFORE 1986 IN ONE OR MORE SUBJECTS

2905 ☐ NZ HIGHER SCHOOL CERTIFICATE, OR HIGHER LEAVING CERTIFICATE

2906 ☐ UNIVERSITY ENTRANCE QUALIFICATION FROM NZ UNIVERSITY BURSARY

2907 ☐ NZ A OR B BURSARY, SCHOLARSHIP, OR NATIONAL CERTIFICATE LEVEL 3, OR NCEA LEVEL 3

2908 ☐ NZ SCHOLARSHIP (FROM 2004)

2909 ☐ OTHER **NEW ZEALAND** SCHOOL QUALIFICATION

SPECIFY.....

2910 ☐ **OVERSEAS** SCHOOL QUALIFICATION

SPECIFY.....

30. Has ..... obtained any qualifications since leaving school?

301 ☐ YES

302 ☐ STILL AT SCHOOL → **NO FURTHER QUESTIONS**

303 ☐ NO → **Q32**

31. What qualification(s) has ..... obtained since leaving school?

3101 ☐ TRADE CERTIFICATE, OR ADVANCED TRADE CERTIFICATE

3102 ☐ NURSING CERTIFICATE OR DIPLOMA

3103 ☐ NEW ZEALAND CERTIFICATE OR DIPLOMA

3104 ☐ TECHNICIANS CERTIFICATE

3105 ☐ LOCAL POLYTECH CERTIFICATE OR DIPLOMA

3106 ☐ TEACHERS CERTIFICATE OR DIPLOMA

3107 ☐ UNIVERSITY CERTIFICATE OR DIPLOMA BELOW BACHELOR LEVEL

3108 ☐ BACHELORS DEGREE

3109 ☐ POSTGRADUATE DEGREE, CERTIFICATE OR DIPLOMA

3110 ☐ OTHER QUALIFICATION

SPECIFY .....

32. In the last week has ..... studied or worked towards a qualification?

IF ON TERM / SEMESTER BREAK TICK YES

321 ☐ YES

322 ☐ NO → **NO FURTHER QUESTIONS**

33. If ..... was studying full time, would this qualification take three months or more to complete?

FULL-TIME MEANS STUDYING AN AVERAGE OF 20 HOURS OR MORE A WEEK. STUDY INCLUDES CLASSROOM TIME, ASSIGNMENTS AND REVISION

331 ☐ YES

332 ☐ NO

NO FURTHER QUESTIONS

50. Does ..... have a job to start at a definite date in the future?

501 ☐ YES

502 ☐ NO → **Q52**

51. When will ..... be starting work in ..... new job?

511 ☐ 4 WEEKS OR LESS → **Q62**

512 ☐ MORE THAN 4 WEEKS

52. At any time in the last four weeks has ..... been looking for paid work?

521 ☐ YES → **Q58**

522 ☐ NO

53. Last week was ..... main activity:

531 ☐ Studying?

532 ☐ Retired?

533 ☐ At home looking after children?

534 ☐ At home not looking after children?

535 ☐ Doing something else?

SPECIFY .....

54. If ..... had been offered a job, would ..... have started last week?

541 ☐ YES → **Q55**

542 ☐ NO

543 ☐ DON'T KNOW

544 ☐ DEPENDS (SPECIFY)

→ **Q54a**

.....

.....

54a. If ..... had been offered a job, would ..... be able to start work in the next four weeks?

54a1 ☐ YES → **Q55**

54a2 ☐ NO

54a3 ☐ DON'T KNOW

54a4 ☐ DEPENDS (SPECIFY)

→ **Q56**

.....

.....

55. What is the main reason ..... hasn't been looking for work in the last four weeks?

5501 ☐ WAITING FOR SEASON TO START OR TO START A DEFINITELY ARRANGED JOB → **Q64**

5502 ☐ OWN ILLNESS OR INJURY

5503 ☐ ATTENDING EDUCATIONAL INSTITUTION

5504 ☐ NO NEED TO WORK

5505 ☐ ILL HEALTH OF OTHERS

5506 ☐ UNABLE TO FIND SUITABLE CHILD CARE

5507 ☐ BELIEVE LACK SKILLS OR WRONG AGE

5508 ☐ BELIEVE NOT ENOUGH SUITABLE WORK AVAILABLE IN AREA

5509 ☐ TEMPORARY LAYOFF - WITHOUT PAY - EXPECT TO RETURN

5510 ☐ WAITING TO HEAR FROM EMPLOYERS ABOUT JOB

5511 ☐ OTHER

SPECIFY .....

56. Does ..... intend to look for work within the next two years?

561 ☐ YES

562 ☐ NO

563 ☐ DON'T KNOW

→ **Q64**

57. When does ..... intend to start looking for work?

571 ☐ WITHIN 3 MONTHS

572 ☐ 3 MONTHS TO 1 YEAR

573 ☐ OVER 1 YEAR

→ **Q64**

50. Does ..... have a job to start at a definite date in the future?

501 ☐ YES

502 ☐ NO → **Q52**

51. When will ..... be starting work in ..... new job?

511 ☐ 4 WEEKS OR LESS → **Q62**

512 ☐ MORE THAN 4 WEEKS

52. At any time in the last four weeks has ..... been looking for paid work?

521 ☐ YES → **Q58**

522 ☐ NO

53. Last week was ..... main activity:

531 ☐ Studying?

532 ☐ Retired?

533 ☐ At home looking after children?

534 ☐ At home not looking after children?

535 ☐ Doing something else?

SPECIFY .....

54. If ..... had been offered a job, would ..... have started last week?

541 ☐ YES → **Q55**

542 ☐ NO

543 ☐ DON'T KNOW

544 ☐ DEPENDS (SPECIFY)

→ **Q54a**

.....

.....

54a. If ..... had been offered a job, would ..... be able to start work in the next four weeks?

54a1 ☐ YES → **Q55**

54a2 ☐ NO

54a3 ☐ DON'T KNOW

54a4 ☐ DEPENDS (SPECIFY)

→ **Q56**

.....

.....

55. What is the main reason ..... hasn't been looking for work in the last four weeks?

5501 ☐ WAITING FOR SEASON TO START OR TO START A DEFINITELY ARRANGED JOB → **Q64**

5502 ☐ OWN ILLNESS OR INJURY

5503 ☐ ATTENDING EDUCATIONAL INSTITUTION

5504 ☐ NO NEED TO WORK

5505 ☐ ILL HEALTH OF OTHERS

5506 ☐ UNABLE TO FIND SUITABLE CHILD CARE

5507 ☐ BELIEVE LACK SKILLS OR WRONG AGE

5508 ☐ BELIEVE NOT ENOUGH SUITABLE WORK AVAILABLE IN AREA

5509 ☐ TEMPORARY LAYOFF - WITHOUT PAY - EXPECT TO RETURN

5510 ☐ WAITING TO HEAR FROM EMPLOYERS ABOUT JOB

5511 ☐ OTHER

SPECIFY .....

56. Does ..... intend to look for work within the next two years?

561 ☐ YES

562 ☐ NO

563 ☐ DON'T KNOW

→ **Q64**

57. When does ..... intend to start looking for work?

571 ☐ WITHIN 3 MONTHS

572 ☐ 3 MONTHS TO 1 YEAR

573 ☐ OVER 1 YEAR

→ **Q64**

65. In ..... last job, was .....

651 ☐ Working for wages or salary?

652 ☐ An employer of others in ..... own business?

653 ☐ Self-employed and not employing others?

654 ☐ Working without pay in a family business?

66. In ..... last job, what was ..... occupation?

.....

.....

.....

.....

67. In ..... last job, what were the main tasks or duties?

.....

.....

.....

.....

68. In ..... last job, who was ..... employer?

NAME .....

.....

ADDRESS .....

.....

.....

.....

69. In ..... last job, what was the main activity of the place in which ..... worked?

.....

.....

.....

.....

70. Why did ..... leave ..... last job?

7001 ☐ LAID OFF / DISMISSED / MADE REDUNDANT

7002 ☐ RETIRED

7003 ☐ DISSATISFIED WITH JOB OR CONDITIONS

7004 ☐ PERSONAL OR FAMILY RESPONSIBILITIES

7005 ☐ OWN HEALTH OR INJURY

7006 ☐ RETURNED TO STUDIES

7007 ☐ TEMPORARY OR SEASONAL JOB / END OF CONTRACT

7008 ☐ TRAVEL / TOOK A HOLIDAY / RESIGNED TO HAVE A BREAK

7009 ☐ MOVED HOUSE / SPOUSE TRANSFERRED

7010 ☐ OTHER

SPECIFY .....

71. Has ..... obtained any school qualifications?

711 ☐ YES

712 ☐ NO → **Q73**

72. What is ..... highest school qualification?

7201 ☐ PRIMARY PROFICIENCY EXAMINATION

7202 ☐ NZ SCHOOL CERTIFICATE IN ONE OR MORE SUBJECTS, OR NATIONAL CERTIFICATE LEVEL 1, OR NCEA LEVEL 1

7203 ☐ NZ SIXTH FORM CERTIFICATE IN ONE OR MORE SUBJECTS, OR NATIONAL CERTIFICATE LEVEL 2, OR NCEA LEVEL 2

7204 ☐ NZ UNIVERSITY ENTRANCE BEFORE 1986 IN ONE OR MORE SUBJECTS

7205 ☐ NZ HIGHER SCHOOL CERTIFICATE, OR HIGHER LEAVING CERTIFICATE

7206 ☐ UNIVERSITY ENTRANCE QUALIFICATION FROM NZ UNIVERSITY BURSARY

7207 ☐ NZ A OR B BURSARY, SCHOLARSHIP, OR NATIONAL CERTIFICATE LEVEL 3, OR NCEA LEVEL 3

7208 ☐ NZ SCHOLARSHIP (FROM 2004)

7209 ☐ OTHER **NEW ZEALAND** SCHOOL QUALIFICATION

SPECIFY.....

7210 ☐ **OVERSEAS** SCHOOL QUALIFICATION

SPECIFY.....

73. Has ..... obtained any qualifications since leaving school?

731 ☐ YES

732 ☐ STILL AT SCHOOL → **NO FURTHER QUESTIONS**

733 ☐ NO → **Q75**

74. What qualification(s) has ..... obtained since leaving school?

7401 ☐ TRADE CERTIFICATE, OR ADVANCED TRADE CERTIFICATE

7402 ☐ NURSING CERTIFICATE OR DIPLOMA

7403 ☐ NEW ZEALAND CERTIFICATE OR DIPLOMA

7404 ☐ TECHNICIANS CERTIFICATE

7405 ☐ LOCAL POLYTECH CERTIFICATE OR DIPLOMA

7406 ☐ TEACHERS CERTIFICATE OR DIPLOMA

7407 ☐ UNIVERSITY CERTIFICATE OR DIPLOMA BELOW BACHELOR LEVEL

7408 ☐ BACHELORS DEGREE

7409 ☐ POSTGRADUATE DEGREE, CERTIFICATE OR DIPLOMA

7410 ☐ OTHER QUALIFICATION

SPECIFY .....

75. In the last week has ..... studied or worked towards a qualification?

IF ON TERM / SEMESTER BREAK TICK YES

751 ☐ YES

752 ☐ NO → **NO FURTHER QUESTIONS**

76. If ..... was studying full time, would this qualification take three months or more to complete?

FULL-TIME MEANS STUDYING AN AVERAGE OF 20 HOURS OR MORE A WEEK. STUDY INCLUDES CLASSROOM TIME, ASSIGNMENTS AND REVISION

761 ☐ YES

762 ☐ NO

NO FURTHER QUESTIONS