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**Bi-Directional Impacts of Economic, Social
and Environmental Changes and the New
Zealand Housing Market**

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Abstract

This report was prepared for the Centre for Housing Research Aotearoa New Zealand (CHRANZ). The aim of this study is to identify a set of housing research projects addressing two related topics. First, the impact of economic, social and environmental changes on housing in New Zealand's non-metropolitan regions; and second, the economic, social and environmental impacts of the New Zealand housing market. Identification of these projects is designed to help CHRANZ in developing and prioritising its research agenda pertaining to policy-relevant housing research within New Zealand. By doing so, we aim to outline coherent programmes of research that develop a comprehensive body of knowledge about the housing sector and its interactions with other key elements of society. The study suggests a set of research questions leading to coherent programmes of research, rather than to answer the research questions. We concentrate on posing questions that are of policy concern. Some are matters of current official policy concern. Others relate to issues that non-official sources consider should be of policy concern or which we judge may become of official concern in future years. Thus our analysis is informed by current policy priorities, but seeks to take a strategic look also at forthcoming priorities that may emerge over the next five years.

JEL classification

R21 (Housing Demand); R31 (Housing Supply and Markets)

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Housing markets, Housing policy

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1 Executive Summary

1.1 Housing Interactions with Economy, Society and Environment

Our aim is to identify a set of housing research projects that together constitute coherent research programmes designed to help understand the economic, social and environmental impacts of the New Zealand housing market and the impact of economic, social and environmental changes on housing, especially in non-metropolitan regions.

Housing research is crucial to broader policy-making since housing is the fulcrum around which many economic and social factors are balanced. All people need to be housed. The nature of that housing, and of the neighbourhood in which they are housed, affects their well-being and those of others around them. Outcomes of certain population groups, particularly children and other vulnerable groups, may be linked to their housing circumstances. Economic forces have a major bearing on these housing outcomes; and housing market developments have strong macroeconomic effects. Housing issues impinge crucially on environmental outcomes through urban sprawl, in-fill effects (especially on infrastructure), energy usage, and transport requirements.

The breadth of these interactions underlie the importance of adopting multi-disciplinary approaches to understanding the nature of housing interactions with economic, societal and environmental issues. For instance, full understanding of the environmental interactions requires reference to urban planning and architectural design as well as to economic approaches that emphasise individual decisions.

1.2 A Framework for Analysis

Given the complexity of these interactions we outline a framework for thinking about the issues and for prioritising them. The housing sector is dynamic, being subject to constantly changing economic, social and environmental influences. People shift between houses both within a location and between locations. They make decisions with a view to their future circumstances. A "snapshot" view of the housing sector misses the impact of these dynamic factors.

Our emphasis is on the life-cycle of individuals and households, and on the life-cycle of the housing stock. We outline typical housing decisions made by individuals from the time they leave the family home right through their lifetime. This personal life-cycle perspective indicates why people may shift location at various times of life, when and why they may rent or buy, and the constraints they may face in doing so. Adoption of this life-cycle approach¹ does not mean that all individuals and households follow the same, or even similar, patterns to one another. Indeed one of the advantages of describing "typical" patterns is the ability then to identify "atypical" patterns. Frequently, it is these atypical occurrences which are associated with problems in the housing sector that may require a policy response; for instance, when people at a certain life stage are unable to make the transition to the next typical stage even where they desire to do so. All individuals, however different from one another nevertheless undergo a life-cycle that results in changing housing needs. No matter how different an individual or household may be from the norm, their "housing career" must still be interpreted in dynamic, rather than static, terms.

The house life-cycle emphasises the long-lived effects of housing structures. These structures may deteriorate and/or be renovated over time but, in most cases, they last for decades in the same location. The individual life-cycle and the house life-cycle together help determine housing outcomes now and in the future. For instance, if young adults in a particular location (e.g. a university town) are normally accommodated in older houses, then house construction decisions taken 30-60 years ago may be key to determining the availability of appropriate housing for this population segment now. Decisions taken now - for instance with regard to energy efficiency of new homes - will affect the housing stock for another 60 or more years.

¹ Some people refer to this approach as following the life-course rather than the life-cycle. We are agnostic as to the terminology and follow the latter, which is the more frequent usage.

1.3 Research Themes and Empirical Information

The myriad of interactions between housing and economic, social and environmental changes raises a host of policy issues. We discuss these issues under nine themes:

- Overview of the Housing Sector;
- Understanding Life-Cycle Patterns;
- Housing Market Determinants (Including Determinants of Rents);
- Housing Market Effects on, and Interactions with, the Wider Economy;
- Social Implications of Housing;
- Specific Housing Implications for Maori and Pacific Island Peoples;
- Housing Assistance;
- Interactions of Housing with Environment, Sprawl and Land Availability;
- Building and Associated Regulatory Issues.

These themes are derived from extensive discussions with people involved with housing from policy, industry and NGO perspectives. They are also informed by New Zealand and international academic literature and by empirical evidence that we present. We discuss a range of issues within each of these themes and list potential research topics under each theme. In total, we suggest over 80 potential research topics that examine interactions between housing and economic, social and environmental factors. This breadth of potential research indicates the importance and breadth of the issues and the lacunae in our understanding.

1.4 Research Priorities

Having indicated the breadth of potential research in the field, we concentrate on prioritising potential research in order to construct a coherent programme of research that is relevant to future policy-making. In order to ensure policy relevance, our priorities are informed by the principles and priorities established in the recent draft New Zealand Housing Strategy, in the government's

Sustainable Development objectives, and in CHRANZ's research priority framework. We adopt three additional principles in forming our priorities:

- Overview research of the housing sector is important to conduct early on;
- Research arising from major trends affecting housing is vital;
- Research should focus on areas with big gaps and big opportunities (i.e. the research should meet an important unmet information need, be feasible and be cost effective).

The result of adopting these principles is to recommend prioritised research projects that include overviews of the housing sector (providing breadth of understanding), accompanied by in-depth research on particular aspects of housing relating especially to major trends and sustainable development.

Briefly², we recommend overview research that:

- Presents an overall description of the entire NZ housing market;
- Documents the age, quality and type of the housing market;
- Compiles a comprehensive description of Maori housing circumstances;
- Describes life-cycle pathways that people take through the housing market;
- Examines mature rental markets in other countries, drawing lessons for NZ;
- Examines the rationale and effectiveness of central and local government involvement in housing.

In dealing with major trends, we recommend in-depth research into the impacts of demographic changes and international trends³ on house prices and rents across different locations. We also recommend in-depth research into the rental market. This market has become considerably more important for meeting housing needs in the past decade and is likely to remain important, but it is relatively under-studied in New Zealand. We recommend research into the

² Fuller descriptions are presented in section 7.

³ Especially Australian property developments and international house lending practices.

determination of rents, decisions on rental supply and (in future⁴) the effect of Accommodation Supplement changes on rentals. In each case, we anticipate the research would analyse differential impacts across locations.

Three recommended studies relate both to economic and social aspects of housing across different locations. They examine the relationship between job creation and housing changes, the demarcation of house prices and rents across areas indicating trends in polarisation of housing, and the effect of community and industry closures on housing and other outcomes in non-metropolitan regions. In each case, we would expect policy implications to be drawn from the research. A further location-oriented study examines the effects of international migration developments on low income communities, particularly those dominated by Maori and Pacific Island peoples.

Four recommended studies relate explicitly to government's sustainable development goals.⁵ One major recommended study investigates the effects of housing on children's educational and other outcomes. Three studies relate to specific environmental outcomes, relating to interactions between urban sprawl, in-fill housing, infrastructure provision, regulation and energy efficiency of housing.

Each of these in-depth studies would provide important information regarding key social, economic and environmental interactions with the housing sector. They would complement the overview studies which would provide clear understanding of the breadth of remaining issues, that are capable of being informed by further in-depth research.

Finally, we draw together a number of these prioritised projects into two recommended research programmes. These programmes can feasibly be undertaken over the next two years and their findings would feed into policy deliberations on issues of current major importance.

⁴ The future aspect to this recommendation is to enable evaluation of the effects of recently announced changes to Accommodation Supplement, so providing a richer experience relative to former studies of the issue.

⁵ Most of the recommended studies have relevance for the New Zealand Housing Strategy and CHRRANZ priorities and principles.

The first programme, *Understanding Housing System Developments*, concentrates on identifying the proximate and underlying determinants of the marked decline in home ownership in New Zealand.

The analysis would cover the influence of demographic trends, changing preferences towards home ownership, and modelling the factors causing changes in housing affordability reflected in rising land and house prices and rising rentals. A number of disciplinary approaches would be required including qualitative research (e.g. focus groups and/or surveys), descriptive statistical research, urban planning and institutional research, and analytical statistical research.

The second programme, *Understanding Links Between Housing and Economic and Social Outcomes*, concentrates on determining the nature of interactions of housing, work and educational opportunities. The research would analyse the degree of regional mis-match between housing and work and between housing and educational opportunities, the proximate causes of the mis-matches, the length that they occur, and the nature of the adjustment processes (including effectiveness of policy responses).

2 Aims

The aim of this study is to identify a set of housing research projects addressing two related topics:

- The impact of economic, social and environmental changes on housing in New Zealand's non-metropolitan regions; and
- The economic, social and environmental impacts of the New Zealand housing market.

Identification of these projects is designed to help CHRANZ in developing and prioritising its research agenda pertaining to policy-relevant housing research within New Zealand. By doing so, we aim to outline coherent programmes of research that develop a comprehensive body of knowledge about the housing sector and its interactions with other key elements of society.

Underlying this aim is the importance of understanding the characteristics and dynamics of the housing sector in relation to a wide range of outcomes that are important to individuals' well-being. All residents need shelter as a basic requirement. But the importance of housing extends much beyond basic needs. The suitability of an individual's house and the characteristics of surrounding neighbourhood housing has significant impacts on outcomes for an individual. This is especially so for children's outcomes. The diversity of housing that is required to house a diverse population makes analysis of housing suitability particularly complex. However there are some common features underlying housing choices that we highlight below. An understanding of these common features assists in identifying typical and atypical characteristics and dynamics of the housing market. Often it is the atypical characteristics which point to issues that may need to be addressed by policy.

The relationship of housing with other aspects of people's lives - work, community, education - means that housing cannot be considered in isolation. The study of interactions amongst these elements is a vital part of a coherent housing research programme. The fixed location aspect of individual houses means also that a strong geographic element must be considered in dealing with housing issues. It also introduces a need for urban planning perspectives to be incorporated in studying housing neighbourhoods. Coupled with these aspects is the effect that

housing has on the environment and the effect that the environment has on housing. Housing constitutes a large economic sector by itself and so its impact on (as well as its impact from) the wider economy must be understood so as to understand the full policy implications of matters relating to the housing sector. At the individual house level, architectural and engineering issues are important to consider in assessing the relationship between housing and the environment. For these reasons, we adopt a fairly broad definition of housing and of housing research, and see roles for alternative disciplinary approaches to housing research. Interactions of housing with the broader economy, society and environment both within locations and across locations are elements of the resulting research programme. We note here that the definition of "location" depends on the issue that is being addressed. By stating that a house is specific to a location, we mean that it is fixed in one spot. When analysing intra-urban commuting, location refers to the suburb of the urban area in which the house (and work or other establishment) is situated. When analysing migration patterns, location refers to the broader urban (or rural) area pertaining to the migration inflows and outflows. This usage ties in with the hierarchy of location decisions discussed in the life-cycle model in section 4.

The study has the overall objectives of identifying a set of inter-related housing research projects addressing the economic, social and environmental impacts of the New Zealand housing market, and identifying a set of inter-related housing research projects addressing changing housing need in New Zealand's non-metropolitan regions. We examine the two-way interactions between housing and the broader economy, society and environment.

The terms of reference for this study specify that the impacts of economy/society/environment on housing should be covered with reference just to *non-metropolitan* regions. In using the term "non-metropolitan" it is easiest to state which regions we exclude from consideration. We exclude the Auckland, Wellington and Christchurch urban areas whenever we discuss non-metropolitan areas. Some other cities such as Hamilton, Dunedin, Napier-Hastings and Palmerston North are intermediate areas that we touch on only in passing. All other areas are considered non-metropolitan for the purposes of this study. However, because we are examining two-way interactions, our discussion also

includes mention of impacts which affect housing in metropolitan regions; our prioritised research questions regarding the effects of relevant changes on housing focus mainly on non-metropolitan impacts.

The purpose of the study is to create a set of research questions leading to coherent programmes of research, rather than to answer the research questions. We concentrate on posing questions that are of policy concern. Some are matters of current official policy concern.⁶ Others relate to issues that non-official sources consider should be of policy concern or which we judge may become of official concern in future years. Thus our analysis is informed by current policy priorities, but seeks to take a strategic look also at forthcoming priorities that may emerge over the next five years.

⁶ As noted, for instance, in the recent New Zealand Housing Strategy (Housing New Zealand Corporation, 2004). Also see New Zealand. Ministry of Housing (2002, 2003) and Housing New Zealand Corporation (2002, 2003a, 2003b)

3 Methodology and Key Research Steps

Identifying relevant issues is the key starting point for this project. Accordingly, we have devoted considerable attention to discussing housing policy issues with a wide range of interested parties. A list of organisations with which we have discussed these issues (frequently with several people involved within an organisation) are listed in Appendix A. From these discussions we have distilled a considerable body of issues to be addressed. We outline these issues in section 5 below. In doing so, we do not explicitly refer to individuals' or organisations' concerns (a) in order to protect privacy, and (b) because many of the issues were discussed by multiple parties.

The issues we discuss have also been informed by a range of academic studies dealing with housing issues in New Zealand, Australia, United Kingdom and North America. These studies have helped in defining issues, some of which are already under consideration within New Zealand and others which are currently less focused upon here.

The housing issues which we deal with, and which have been highlighted by others, are diverse. This diversity provides a rich agenda for research but also presents a challenge in interpretation and prioritisation. In particular, without a reference framework it is sometimes difficult to interpret whether a particular observed fact represents a "problem to be addressed", or is a typical part of a dynamic system that is providing a solution to existing imbalances. As an example, are current high house prices problematic, or are they signalling to the construction industry that new housing needs to be brought on-stream, with the result that future house prices may fall? As another example, are housing waiting lists problematic, or is it inevitable that mis-match arises in any market situation (as in the labour market) and so a waiting list for housing inevitably co-exists with housing vacancies?

To provide a framework for interpreting issues such as these, we start our analysis, in section 4, with a discussion of housing from a life-cycle perspective. This perspective incorporates the dynamic interactions of people's housing choices as they age with the market (and policy) responses to these choices. It also highlights the life-cycle of the housing stock itself and the

importance that this has for understanding the suitability of the housing stock in different locations. These life-cycle perspectives indicate phenomena which we might expect to see in a well-functioning housing market, even though a "snapshot" view of the market might interpret such phenomena as problematic. It also helps to isolate phenomena which might be viewed as problematic - either because the market (or policy) is working poorly in response to emerging imbalances or because externalities⁷ emerge which magnify problems experienced at the individual level.

Section 5 presents the list of issues arising from our policy discussions and literature search which may be amenable to future policy-relevant research. The literature to which we refer is useful in identifying what may be known (or not known) already on particular topics, both in New Zealand and internationally. The issues are categorised in several groups which are informed by the framework in the previous section.

In section 6, we present some additional, but preliminary, empirical evidence on some of these topics to elucidate their nature further and to provide additional platforms for focusing future research.

Section 7 brings the foregoing analysis together by prioritising potential research topics. We set out a number of principles that guide our prioritisation process and then list key projects that we judge best meet these principles. The resulting prioritised research projects form a coherent (and feasible) programme of research into the interactions of housing with the economy, society and environment that meet pressing issues in the field. We bring a number of these prioritised research projects into two research programmes that we consider would shed considerable light into matters of current and future policy concern.

⁷ The term "externalities" refers to the effects of one party's actions on another party that are not fully taken into account by the first party when making its decisions. For instance, housing overcrowding may increase parking congestion in a neighbourhood. Overcrowding is then said to have a negative externality.

4 **Dynamic Life-Cycle Framework**

Housing choices are dynamic and have long-lived implications. In order to understand many observed features of the housing sector, it is important to have a framework for thinking about how individuals and households may behave as they progress through the housing market over their lifetime. This understanding is important for policy formulation since it highlights the way that people might wish to behave, either through conscious decision-making or through following social norms. Policy can then work in tandem with people's aspirations rather than at cross-purposes to them.

The life-cycle provides a useful framework for analysing many issues concerning the bi-directional relationship between housing and economic, environmental and societal issues. The life-cycle pertains both to the life-cycles of individuals and households, and to the life-cycle of the housing stock itself. Both are long-lived (although different types of house structure have different life expectancies, with differing quality over the life of the dwelling).

An emphasis on the personal and house life-cycles translates into research and policy terms as a focus on transitions and on the long-lasting dynamic implications of decisions taken with respect to housing and the factors affecting housing. Naturally, there is a diversity in the circumstances of individuals and households, just as there is considerable diversity of houses. Despite this heterogeneity of experiences (across people and across time) each person undergoes a life-cycle and their housing needs change over the course of that life-cycle. Understanding the diverse circumstances of people across the life-cycle (especially those that differ markedly from more typical situations) is important for highlighting and interpreting particular housing issues that may warrant policy attention. Thus the life-cycle approach is as important for identifying atypical developments as it is for tracing out the typical dynamics and transitions over individuals' lifetimes.

4.1 Individual and Household Life-Cycle⁸

An individual starts life within some family environment which determines their initial housing status. Most young people make no explicit housing choice until at least their later teenage years. The housing situation of their parent(s) or caregiver(s) determines their dwelling status. Their early housing situation may, however, be a crucial determinant of current and future outcomes for the individual child. For instance, educational, health and anti-social outcomes may each be affected by the personal housing circumstances of the child (e.g. by housing quality impacting on health status). These outcomes may also be affected by community characteristics in which that housing is located (potentially with externalities stemming from the quality of other houses in the neighbourhood).

Once a child is ready to leave home he/she faces a number of choices. They may decide to stay in the same town and pursue work or educational (or benefit) opportunities in that town. Or they may decide to leave for another location to pursue those opportunities. The choice of regional location is a crucial decision at this stage of life. It will be affected by many factors including: work/education opportunities in different locations; natural and social amenities in those locations; housing costs, availability and quality in different locations; other costs of living in different locations; transport costs and links both to the original home location and between housing and work/education opportunities in potential locations; and links with family and friends in prospective locations.

Normally, a young adult leaving home has relatively low income and little or no capital, so begins their independent housing in a rented property. If the chosen location has suitable vacant rental properties available (where suitability is influenced by cost, quality, location, transport links, etc) the newcomer helps to bring the rental market towards balance in terms of supply and demand. If, however, there is a shortage of suitable rental properties, the newcomer places pressure on the rental market resulting in upward movement in rents and/or house prices. This pressure may result in one or more of: overcrowding (e.g. more flatmates than desirable in existing rental properties); the purchase of an existing

⁸ Life-cycle approaches to housing are embedded in work across a number of different disciplines, including demography, economics, geography, psychology and sociology. Here we provide a synthesis relevant to the issues at hand, rather than relying on any one strand of these approaches.

owner-occupied house by a (private or state sector) landlord in order to increase the rental stock; or building of additional housing stock for a landlord to rent out. Alternatively, the "newcomer" may postpone or cancel the proposed location shift.

Each of these responses has different overall effects on housing outcomes over different timeframes. Overcrowding and/or postponing a shift has immediate personal and social impacts on the people concerned. Purchase of an owner-occupied house for rental takes some time (e.g. 3-6 months) and does not directly enlarge the overall housing stock; thus any housing shortage is reflected elsewhere (e.g. in a shortage of owner-occupied dwellings - if that market previously had a balance between demand and supply).⁹ Building of an additional rental dwelling enlarges the stock of dwelling rentals without diminishing the housing stock elsewhere and so shifts the rental market towards balance. It has other effects, however, including utilising land - so contributing either to in-fill or to sprawl - and increasing demand on local infrastructure (including transport networks, sewerage, electricity, gas, etc) and demand for local amenities. Thus environmental, as well as social and economic, impacts arise.

In some respects, migrants to New Zealand can be considered similarly to young adults starting out on their housing "careers". Frequently, migrants will enter rental housing in their initial foray into the New Zealand market, with location choices driven by similar factors to those driving a young adult's location choice. However, migrants may already be in a family grouping and so demand for initial house type may well differ from that of a young adult. Also, there may be greater migrant demand for housing located near work opportunities rather than educational opportunities (except for migrants with school-aged families, where school choice could be a crucial factor in the presence of zoning restrictions). Further, some migrants will be on moderately high incomes and may already have capital from sale of a house in another country.

⁹ In this respect, we note that increasing the supply of state rentals by way of purchasing existing dwellings does nothing directly to alleviate overall housing shortages; it moves existing imbalances from one group to another. Indirectly, such a move will cause prices of existing dwellings to shift (upwards) and so raise demand for construction of new dwelling.

They may enter the housing market directly (or at least quickly) via the owner-occupied category through purchase of an existing house or building a new dwelling. Refugees are likely to be similar to the young adult in terms of low income and lack of capital, but may also be in a family situation so needing a larger house, despite being hampered by lack of capital and poor income-earning opportunities (often because of language difficulties). They may also face different types of (intentional or unintentional) discrimination by renters than faced by young adults born in New Zealand.

As in the labour market, young adults tend to shift house relatively frequently as perceived opportunities and constraints change. They are more mobile than other population segments and can experiment in a number of dimensions (living arrangements, education, work, international migration, etc) resulting in greater mobility. During this period, they are likely to choose to remain in rented accommodation at the lower end of the housing market.

Two key life-cycle events are then likely to impact on a person's choice of housing type. (These events may occur at different times for different people and, for some people, may not occur at all. But if and when the events do occur, similar considerations will tend to be faced by each individual.)

The first event is employment in a reasonably secure job, or at least employment in a town offering reasonably secure ongoing employment opportunities in an occupation or industry seen as a long-term prospect by the individual. For instance, a young adult trained in marketing may shift to Auckland where he/she sees ongoing employment opportunities, even if not within the same firm. Corresponding with this development is often a rise in current or prospective income for the individual.

The second life-cycle event is the choice to have a family and to place roots in a location where they wish that family to become established. The two events may, of course, be related.

As in the choice of educational opportunity, a regional component is highly significant in determining the housing choice associated with either or both of these events. The decision to shift to a particular region is the highest tier in a hierarchy of decisions. Once that decision is taken, the housing choice within that

region follows without over-riding the original regional choice, except *in extremis* (if housing is simply not available at any realistic price in the desired location).

We conjecture that the location decision in relation to these life-cycle events will often be to shift to (or within) a city that is growing relatively strongly, so offering a greater range of opportunities than other locations. In some cases, the choice will be to move (permanently or semi-permanently) offshore, especially if prospective overseas locations are growing strongly relative to domestic alternatives (e.g. in the 1990/91 New Zealand recession, almost 2% of New Zealand's labour force migrated to Australia¹⁰).

Housing-related decisions taken around these life-cycle events will often involve a conscious choice to change the nature of housing tenure from rental to owner-occupied. This is particularly likely to be the case with the onset of children, since owning a home provides a more secure environment for raising a family and provides a "natural hedge", ensuring that desired housing characteristics for the family will be maintained over time. However the choice can only be activated if affordability and finance constraints allow. The life-cycle approach is useful here for identifying the atypical situations where a household with secure work opportunities and a young family does not follow the transition to owner-occupation. The causes of this atypical behaviour can then be teased out (e.g. as to whether affordability considerations or preference reasons are the primary cause of the decision).

Any change from one owner-occupied home to another involves significant transactions costs (much more so than the change from one rental property to another). Thus the choice to enter the owner-occupied market segment is often made only once an individual or family sees itself as being likely to settle in a particular community for a substantial period. Factors that change the likelihood of moving from one location to another in the relatively near term are likely to discourage people from entering the owner-occupied market.

Over recent decades, young adults have entered higher education in considerably greater numbers than previously, when the norm was to enter the workforce straight from school (in 2001, 38% of 25-29 year olds had post-school

¹⁰ Grimes et al (2000).

qualifications compared with just 26% of 55-59 year olds, illustrating the substantial increase in post-school study over the intervening 30 years). This move to greater tertiary education has enlarged many people's employment options across different locations and so is a factor in delaying the decision to enter owner-occupied housing. Another factor is the greater delay in entering marriage and/or having children. Prolonged education and greater overseas travel while young also means that people choose to build less capital early in life than was the norm in past years. This choice increases the constraint they face when young in affording the deposit for owner-occupied accommodation. Nevertheless, while the dynamics may have changed, the desire of people to become owner-occupiers as they settle down in employment and family status apparently remains strong.

The mortgage market (generally in the form of bank-provided credit) enables people to borrow against expected future income and so purchase a house which they can pay off over their working life. In essence, the borrower is making an investment decision and, following this decision, saves a portion of their subsequent income through the mechanism of paying off the mortgage.

This bringing forward of housing consumption (followed by savings via mortgage repayments) means that table mortgage repayments will often be high as a proportion of income in early years, with a lower ratio in later years as the (nominal) household income rises. Banks normally place a ceiling on the proportion of income which an individual or family can devote to debt servicing. Households may therefore face a cashflow constraint which prevents them acquiring their desired house, especially when they are still on relatively low incomes. This can occur even though they may be able to afford the dwelling over the course of their lifetime given their lifetime income prospects. These constraints will be particularly relevant in times of high interest rates (e.g. mid-1980s) or at times when house prices have risen strongly relative to current incomes (e.g. as at present). In such circumstances, individuals may be forced to accept a lower quality dwelling than desired and later "trade up" as their incomes rise.

The life-cycle dynamics are such that young adults and maturing adults who are entering their more stable work and family years tend to move to growing

towns offering strong educational, work and income prospects.¹¹ This dynamic means that the supply of houses has to increase in these locations in order to maintain balance between demand and supply. This occurs in the owner-occupied market segment as well as in the rental segment. Thus pressures for greater in-fill and/or sprawl, and for more infrastructure and amenities, result in these locations.

Typically, as a household's income rises they move from rental housing to a "starter" owner-occupied dwelling (which may be an apartment, or terrace or semi-detached house) to larger family homes through their prime aged work years. A household's preferred house location within a region may well change as their circumstances change. Prior to children, a location handy to work and/or transport links may be most important. As children enter school years, location near desirable schools (especially with strict regulations pertaining to school zoning areas) may become most important. This places pressures on house prices in certain areas, tending to segment the market between those able and willing to pay a premium (e.g. for location within a desirable school zone) and those unable and/or unwilling to pay the premium.¹² Educational, health and/or crime outcomes may become linked to certain specific locations determined by factors such as school zones or proximity to certain amenities and infrastructure.

Once children have left home, the remaining household will frequently decide to shift again. Lifestyle considerations may favour a shift closer to desired amenities if the household desires to stay within the same region.

People also move down the housing hierarchy due to personal circumstances. In terms of life-cycle dynamics, this is most likely to happen in three sets of circumstances.

The first set of circumstances is breakup of the family. In such circumstances, each partner's income is less likely to support the previous housing quality and a shift downwards within the housing market may result. For those without capital, the result may also be a shift back to rental accommodation from

¹¹ See Maré and Timmins (2003, 2004) for preliminary evidence that this is the case. One of our proposed research questions is designed to investigate the empirical basis for these trends more closely.

¹² See McClay and Harrison (2003) for preliminary evidence on the school zone premium in Christchurch.

owner-occupied housing; unclear future personal options increases the likelihood of a shift to rental housing, at least for a period.

The second set of circumstances is the onset of retirement. Once children have left home and income from employment falls or disappears, couples/ individuals can reassess their housing needs. At the same time, they can reassess the choice of region in which they wish to retire. The choice made in early adulthood to locate near desired work options is now less relevant, or even obsolete. Other factors - such as proximity to a warm climate, coast, family or Iwi links - may predominate. Relocation based on climate or coastal location may be favoured by many, leading to a population trend of growing numbers of older people shifting to such locations. Some of these locations may be metropolitan centres, but many will be in non-metropolitan areas. The same impacts as observed above - increased demand for housing, infrastructure and amenities - are likely to result in each case.

The relocation at this stage may be in response to family or Iwi links. However, the effects may be quite different depending on where those links are. If they are in popular locations, the same pressures as described above will arise. However if they are in non-metropolitan locations which have not experienced strong population pressures, a major issue may be to find housing of suitable quality amongst the (possibly many) houses vacant in the relevant area. The possibility of vacant houses arises in rural areas as a result of the moves, discussed above, of young adults to locations with greater educational and work opportunities. This process may have freed up houses that are not re-inhabited quickly and which are left to deteriorate as maintenance is foregone.

A third set of circumstances, relevant especially to non-metropolitan areas, may cause housing upheaval. These circumstances arise where a major employer in a relatively remote location closes down or cuts back its workforce. Employment options in the immediate area are limited and people who had earlier made the decision to locate (or stay located) near the large employer now have to assess their next best option. It may be to stay in the location and look for alternative (probably lower paid) work or move onto a benefit, or to shift location to an area where work or retraining opportunities are more prevalent. The pressures of the latter course of action are similar to those associated with young

adults, except in one respect. It is quite possible that the household which intends to shift in these circumstances includes children. The difficulty of resettling into a location with greater work opportunities means that the costs which have to be met by the relocating household can be very high. Also, the lifetime over which such costs can be amortised will be shorter. As a result, the household may have to relocate to the least desirable parts of a larger centre, with potential negative effects for family, and especially for children's, outcomes.

The discussion above of life-cycle dynamics and housing has largely concentrated on "typical" movements. As already noted, identification of these typical patterns helps to identify atypical patterns for certain people. A number of groups of people require alternative housing paths.

One such group are elderly people who have to move into sheltered care once they can no longer manage independent living. The housing needs of this group will become more important in aggregate terms as they come to constitute a greater proportion of the population over the next three decades.

A second group comprises mental health clients and people with mental disabilities. In past decades, many such clients were housed in various forms of institution. The closure of many institutions and a greater preference for independent living has raised the need for suitable housing for these people throughout their lifetime. Regulatory issues (e.g. surrounding boarding house requirements), availability of suitable accommodation types, and housing support for people unable to earn sufficient income to afford normally priced housing, will help determine the quality and degree of imbalance in this market segment.

4.2 Housing Life-Cycle

Houses are long lived assets, although different types of houses have different life expectancies.¹³ Because of their longevity, houses also undergo a life cycle that is relevant to understanding housing issues. As with people, houses are diverse, but there are key life-cycle characteristics relevant to all houses. In particular, significant persistence is built into the supply of housing since (other than mobile homes) each house - once built - remains specific to a particular

¹³ Throughout this document we use the word "houses" to refer to any type of dwelling, not just to stand-alone residences. At times, we make specific reference to certain types of dwelling such as apartments or mobile homes.

location. Further, each house will depreciate and requires maintenance in order to sustain it as a habitable dwelling.

A new house may be purpose-built for a prospective owner, meeting their needs at that time, or it may result from a more speculative investment by a construction firm aimed at prospective purchasers. Typically, the signal for builders to construct new houses is an increase (or the prospect of an increase) in house prices for existing dwellings within the location.

In order to be able to build new houses, the supply of people with skills relevant to the house construction industry must be sufficient within or near the relevant location. Where these skills are in short supply relative to demand, the signal to attract extra construction workers will be through higher wages/salaries for those involved in the construction sector.¹⁴ If construction resources are in short supply nationally, the result may be a shortage of construction workers elsewhere as the resources shift to locations with the greatest imbalances.

Another key requirement for housing supply to keep up with demand in growing areas is an availability of land. Connected to this requirement is a supportive regulatory framework enabling either in-fill housing construction to occur or new subdivisions to be opened up.

If land availability is squeezed either because of topographic factors or regulatory constraints, the result will be a bidding up of land values, feeding through to the price of existing dwellings (and rents) in the location. Suitable urban planning is crucial in order to ensure that appropriate zoning and regulatory policies are in place well before pressures for new house construction emerge in expanding regions.

Once the new house is built and the first owner takes possession, the house and its owners will age. The house may become less suitable for that owner, and the owner will sell and move on. At the time of sale, the house is no longer the same commodity that it was when it was built. Its materials will have weathered, its style may no longer be fashionable, and the desirability of its

¹⁴ There may also be an effect of drawing in unqualified (and sometimes untrained) labour to the construction industry which may result in a deterioration of construction quality. This latter effect will be most severe in areas in which building codes are not strictly enforced.

location may have changed as its neighbourhood and other neighbourhoods have matured.

The new owner will therefore not necessarily be similar to the original owner in terms of income, social status, etc. In some cases, the desirability of the neighbourhood may have increased over time if the area becomes more fashionable. In this case, a new owner may decide to upgrade the quality of the house, through renovation and/or extension. The status and income of second or subsequent owners may then be higher than the original owner.

Typically in many cities, however, houses tend to migrate towards the lower parts of the housing hierarchy as they age (except where the neighbourhood or house style has become more fashionable). In the case of the typical house that tends towards the lower part of the hierarchy with age, we might find that the initial owner-occupier is replaced by a "lower status" and lower income owner-occupier. The house may then change hands a number of times until owner-occupiers find the house less desirable than does a landlord, who purchases the house as a rental property. The life-cycle may then again be such that the house follows an ageing trajectory whereby the perceived quality of tenants¹⁵ and level of rents declines over time reflecting the state of the house and of the neighbourhood.

Finally, the landlord may find that the value achieved by renting out the property (to low income tenants) is less than the value obtainable by demolishing the house and rebuilding on the same site. In making such a decision the landlord will have to factor in costs of maintenance, which may itself be related to the quality of tenants. The landlord will also have to factor in the dependability of rental payments (i.e. probability of default) which may be related to tenant quality.

In locations with declining populations (especially some rural areas), some houses will be left uninhabited and may become run-down or derelict. Maintenance, even of inhabited houses in the location, may be postponed owing to a lack of income, or as a rational response so as to reduce the capital tied up in

¹⁵ The perception here is in the eyes of the landlord; see Smith and Fraser (2004).

a house in a relatively undesirable location. In this case, the ageing process may be brought forward relative to the process in a strongly growing community.

This housing life-cycle forms a crucial back-drop for understanding the mix of housing quality and availability in particular locations (noting that housing is virtually always location-specific). The importance of the housing life-cycle in interpreting housing-related policy issues has been studied extensively both theoretically and empirically in the United States context.¹⁶

As an example, if it is the norm that houses generally become appropriate for low income tenants say 40 years after construction, then the events of 40 years ago have a major bearing on the availability of low income rental housing today in a particular location. In a rapidly growing location, there will be comparatively few older houses available and hence there is a greater likelihood of a housing shortage for low income households. This would be the case even if new construction in the location was keeping up with the housing demand of newly migrating higher income households. Further, higher income households may be prepared to pay a premium for houses in a desired location, including lower quality houses, so shifting the income/status of residents in a neighbourhood upwards relative to previous norms. This further exacerbates the housing shortage for those on low incomes in these locations. Given the length of the housing life-cycle, it may take decades for the mix of the housing stock to become appropriate for the needs of all demographic groups in such a location. In the interim, a sustained period of homelessness or overcrowding may be the outcome.

In addressing policy issues, this housing life-cycle needs to be borne in mind. Neglect of its importance could lead to superficial analyses that ignore the effects of long-lived dynamics in the housing market.¹⁷

¹⁶ In particular, see Sweeney (1974) and O'Flaherty (1995, 1996).

¹⁷ For instance, O'Flaherty's (1995, 1996) analysis of the phenomenon of homelessness in the United States, uses this framework. By doing so, it adds considerable depth to the treatment of this subject relative to the treatment by Jencks (1994) which does not include explicit reference to the housing life-cycle.

4.3 Life-Cycle Insights

These descriptions of life-cycle approaches to housing set the scene for categorising policy-relevant issues requiring research. This we do in the next section. Before doing so, however, we draw attention to particular insights derived from the above analysis.

The first insight is that the life-cycle framework places the emphasis on individuals' and households' opportunities, constraints and decisions throughout their life, rather than just examining their circumstances at a particular "snapshot" in time. The framework also highlights the inter-dependence of individuals' and households' housing decisions with decisions over locational choice, and of the history of the housing stock in each location. Further, it indicates potential interactions between the personal and house life-cycles. For instance, some elderly people may (for whatever reason) be locked into staying in an old and deteriorating house, leading to health and other potential problems.

The response of the housing stock to demand factors is important for people's choices. Factors affecting housing supply such as infrastructure provision, regulations of various kinds (e.g. on land development, in-fill limitations, and housing quality) and availability of skilled construction labour have impacts on the speed of the supply response. Hence they affect the price and availability of houses facing people in different locations at various stages of their life-cycle. While supply is important, no clear distinction has been made according to the source of the supply response. Thus we have not singled out housing response from private suppliers, the state or third sector organisations. Each of these responses may be important but the division between them is a subsidiary issue for the housing sector compared with the overall determinants of housing demand and housing supply. (Specific supply responses will nevertheless be important for meeting needs of particular groups. For example, mental health clients may face particular needs that are not being met by the private housing market.)

The second insight from the life-cycle framework is that there is a process of switching houses and accommodation types through one's lifetime. Consequently, as in the labour market, individuals (whether buyers, sellers, landlords or tenants) will at times have to undergo a process of search to find

suitable accommodation and/or suitable tenants or purchasers. In any market involving search, there is a flow of new commodities (houses) coming onto the market and a flow of new people searching for them. A snapshot taken at any point in time will reveal vacant properties and unhoused individuals/families, sometimes in the same location. In the housing context, there will be a flow of new construction in train to meet new demand.

The existence of vacancies, new construction and unmet housing demand at the same time should not be taken as a sign of inefficiency. It is an inevitable part of a well-functioning dynamic market.

Instead, policy issues are likely to arise where individuals (and, particularly, families) have *prolonged* spells of unmet accommodation needs, especially at times when others flow in and out of the market at normal speeds. In these cases, investigation needs to be undertaken into the specific problems faced by these individuals or families, or wider groups of people facing the same problems. The issue may not be a housing problem *per se*; the unmet housing need may be a manifestation of a separate problem.

Policy issues may also arise when certain properties (possibly in less desired non-metropolitan areas) remain vacant (and possibly deteriorating) for long spells. While this occurrence may be a rational individual response by an owner in order to disinvest from housing in that location, it may not necessarily be socially optimal in the presence of unmet demand elsewhere, especially where that demand is supported by other policy actions. As an example, availability of income support for those living in highly pressured housing markets may encourage people to locate to such markets and away from declining regions, with consequent declines in housing quality in these latter regions.

A third insight, is that policy-makers (and researchers) may be particularly interested in cases in which life-cycle housing choices result in externalities - positive or negative. For instance, positive externalities from housing may arise where housing choices (e.g. stable house ownership in an area) result in increased social capital, with a resulting lowering of social problems in a community. Conversely, the formation of ghettos, or of relatively disadvantaged suburbs, may lead to social (educational, health, crime) problems that necessitate

broader policy responses. If this is the case, policy-makers need to understand the role of housing decisions in contributing to these externalities in order to devise ways of addressing the underlying issues.

Observance of the principles of the Treaty of Waitangi imply that government will be interested in externalities which pertain especially to Maori. Further, our historical constitutional responsibilities imply that government will also be interested in externalities that pertain especially to Pacific Island communities. These matters are reflected, together with the broader insights from the life-cycle framework, in the taxonomy of issues that follows in section 5.

5 Policy Relevant Research Issues

In this section we outline key issues that have arisen with respect to housing in our discussions with relevant New Zealand agencies and in our reading of international and domestic academic and policy-related materials on the subject. We highlight topics which have policy relevance for New Zealand. We also highlight, where relevant, the implications that the life-cycle perspective has for interpreting the relevant issues.

The topics are listed under nine sub-sections:

- Overview of the Housing Sector;
- Understanding Life-Cycle Patterns;
- Housing Market Determinants (Including Determinants of Rents);
- Housing Market Effects on, and Interactions with, the Wider Economy;
- Social Implications of Housing;
- Specific Housing Implications for Maori and Pacific Island Peoples;
- Housing Assistance;
- Interactions of Housing with Environment, Sprawl and Land Availability;
- Building and Associated Regulatory Issues.

At the end of each sub-section, we present - as bullet-points - potential research topics that arise from the issues discussed in that sub-section. Some topics relate also to evidence presented in section 6. Prioritisation of topics is conducted in section 7.

5.1 Overview of the Housing Sector

There is no overall picture of the New Zealand housing sector that people can access.¹⁸ Many people are focused on particular issues relevant to themselves, their agencies or their research. For instance, some are mostly interested in social housing policies, others in the construction of new housing, others in housing needs of a particular location, others in the energy efficiency of the housing stock. There appears to be more understanding of, and work into, the situation of a minority of the population with housing problems, rather than the

¹⁸ The recent study by DTZ New Zealand (2004a) does, however, go a considerable way to meeting some of these information needs.

majority whose housing needs are being met. In part this is understandable, but in order to develop sensible policies to meet these unmet needs, an understanding of the whole sector is required lest those policies impact negatively on other parts of the sector.¹⁹

No part of the housing sector can be understood and interpreted in isolation. The housing sector exists across a continuum of ages, locations, quality, prices, etc (see section 4). It exhibits different tenure structures and meets a continuum of different needs for people at different parts of the life-cycle across different communities. Every part of these continua interact with the other parts and generally cannot be considered in isolation. For instance, one cannot interpret the policy implications of subsidising a certain category of home ownership or rental by a certain population sub-group, without understanding how this will impact on demand for certain types of houses, supply of new and existing houses, house prices, and hence the effects of policy across the wider housing system. The interactions within the sector (and with other sectors) are often not well articulated in research or policy documents.

One study that contributes to this understanding in a factual manner is the study by DTZ New Zealand (2004a), which examines the structure of the New Zealand housing market. The data attached to that study, and also the data available from Leung-Wai and Nana (2003), provide a basis for a more complete description of the entire housing sector. An overall picture of the New Zealand housing sector would usefully provide indicators of the overall size of the housing sector in terms of housing capital (relative to other stocks of capital in the economy), the service flow of housing (the rental value of the existing housing stock) and a comparison of the housing sector's size relative to other major sectors in New Zealand (e.g. the sheep and beef sector, high-tech manufacturing, education, health, etc). This comparison would be helpful in terms of informing policy priorities, allocation of research spending, training, etc.

¹⁹ The history of rent controls is an example where well-meaning policies designed to correct one (affordability) problem created even more severe problems in the wider rental market.

Research Topics

- Prepare an overall description of the entire NZ housing sector (current with some history) covering: owner-occupied and rental houses plus second (holiday) houses; location; density; demographics; house age; construction; state vs private ownership; family trust and company ownership of dwellings; funding (mortgage finance); prices; affordability. How big is the sector (e.g. compared with education or health sectors)?
- Analyse the implications for the housing market of having a fairly large but geographically diverse country with a small population. Do these circumstances inevitably lead to segmented housing markets? Are there similar examples elsewhere (Sweden, Norway?) that could form useful comparators?
- Maintain a website with up-to-date data links to all relevant housing data [with Statistics NZ].

5.2 Understanding Life-Cycle Patterns

The life-cycle perspective outlined in section 4 indicates the importance of understanding the life-cycle housing choices of individuals of different cohorts across different locations. It also indicates the importance of recognising the life-cycle of the housing stock itself when analysing housing issues.

In understanding life-cycle patterns we need to recognise that changes in the number of households in any region are a result of either natural increase or moves between different locations. The relative importance of each may differ with the spatial scale being considered. In terms of long-distance migration, employment is probably the most important determining factor,²⁰ compared to moves at the metropolitan level, which are more likely to be determined by an attempt to improve housing and environmental conditions, or be the result of changes in family circumstance.²¹ Factors that are important in determining the propensity to move include a change in marital status, retirement, the number of pre-school children, previous tenure and income and credit constraints. Factors that are important in location decisions include the crime rate, local school

²⁰ See for example (Maré and Timmins 2003, 2004).

²¹ See Meen (2001) for example.

quality, the unemployment rate, pollution, the availability of parkland, household overcrowding and the existence of derelict properties.

With respect to individuals there is no study in New Zealand which traces through the typical housing choices made by individuals and households through their lifetime. A longitudinal analysis of these choices would be valuable in highlighting typical housing transitions that people make through their lifetime. This would help gauge what is normal, and what is unusual or problematic, when we look at a snapshot of housing outcomes. Three longitudinal surveys exist in New Zealand of varying lengths and in different locations which could be used to examine these transitions: the well-known Dunedin and Christchurch surveys, and the lesser known New Zealand Council for Educational Research survey, "Competent Children", based around Wellington.²² Use of data relating to three different cities over three different time periods would help to add understanding of what is typical behaviour and what is not. However, it may be difficult to distinguish from these sources what is location-specific and what is cohort-specific²³ where differences between survey outcomes arise.

Another approach would be to undertake a retrospective (once-only) longitudinal survey asking people to trace through their housing "careers" either from birth or from late school years (the latter would probably yield more dependable data). This approach would enable data to be gathered on different cohorts in a variety of locations. It would yield a rich database with regard to housing choices, but without the rich supporting data that the existing longitudinal surveys contain on other socio-economic, education and health outcomes. An additional approach would be to analyse repeated cross-sectional census cohort data to illuminate typical housing transitions.

Several issues that have been highlighted with regard to housing developments in New Zealand reflect the importance of life-cycle factors. One such issue concerns home ownership rates. Ownership rates have declined markedly in New Zealand over the past two decades from 71.4% in 1981 to

²² The new longitudinal Survey of Family, Income and Employment (SoFIE) conducted by Statistics New Zealand may also be of great use in the future. It collects data on mortgage, rent and rate payments as well as a wide range of other individual and household socio-economic data.

²³ The three longitudinal surveys were begun at different times and so refer to three different age cohorts.

68.0% in 2001 (Statistics New Zealand). Life-cycle and related demographic issues are likely to have contributed to this decline.

For instance, family formation (mother's age at birth of first child) now occurs considerably later than it did previously. If the ownership decision is associated with family formation, the effect will be to lead to a larger cohort of renters who are in the pre-family formation stage. In addition, changing proportions of people in different age groups will affect the overall ownership rate. A change in the length of time that people spend in education represents another form of change to life-cycle patterns. It is now normal for school-leavers to undergo some years of post-secondary education rather than enter the workforce. This represents a change to the life-cycle pattern and so affects patterns of home ownership (reduced early years in the workforce reduce the capital available to people to invest in housing at an early age). A change in ethnic proportions also changes the ownership rate if life-cycle dynamics work differently across ethnic categories. For instance, if Maori have a greater likelihood of renting when working outside of their Iwi base (turangawaewae) - because they wish to own property in their turangawaewae to which they can return, rather than own property outside it - then a greater proportion of Maori will tend to lower the overall ownership rate.²⁴

A comprehensive study of the impact of these changing life-cycle and demographic aspects on the home ownership rate would be useful. It would help in understanding the causes of the drop in home ownership and help predict whether this was likely to continue or to revert towards previous levels. The "unexplained" component of the home ownership fall could then be isolated and explained by other (economic or taste) factors. The study would have to be multivariate in nature so as to capture the interaction of changing ethnicity, incomes, education, travel options, etc. (Examination of each factor in isolation could yield misleading or incomplete indications.)

The life-cycle is also relevant to required house sizes, both of individual households and across the whole population within any given location. As relative cohort sizes change in a location (due to past baby booms and busts, and due to

²⁴ This factor was suggested to us by Maori that we interviewed; it is an issue that could usefully be subjected to further research - see section 5.6.

past migration) and as ethnic mixes change (with implications for household sizes in a location) it may well be the case that the existing housing stock now has either too many large (or small) houses or too few. Some types (sizes) of houses may be in short supply in some locations as a result. A stock-take of such discrepancies would be useful across all locations. In analysing the results, the causes of any discrepancies must be interpreted in terms of past housing (and demographic) decisions.²⁵

Historic norms of rent:house price and rent:income have recently been disrupted with a resulting squeeze in housing affordability.²⁶ This affects the timing of life-cycle transitions. The issue that this raises is whether these ratios have changed permanently (or, at least, on a long term basis) or whether they will revert to prior norms. If the former is the case, the implication is that quite different housing transitions might become the norm relative to past behaviour. In that case, the average proportion of renters and people occupying different types of owner-occupied houses may also change in a permanent manner. If the latter is the case, the current situation may be abnormal and former rates and types of home ownership and rental behaviour may be reasserted. Understanding which of these occurrences is more likely will help inform housing policy in the medium term.

Research Topics

- Present a stylised picture of how different people move through the housing market over their lifetime as their needs, tastes and incomes change; how this sets in train house demand, price and house supply reactions; how pressures and interventions (e.g. Accommodation Supplement) in one segment interact with other segments.²⁷ Then use census data and/or longitudinal survey data (Christchurch, Dunedin, CER²⁸, or a new backward looking survey) to trace through housing decisions of cohort(s) over long periods. Examine the standard and non-standard life-cycle patterns of house ownership. Why do these paths

²⁵ Suggested solutions, of course, must be forward-looking.

²⁶ DTZ New Zealand (2004b).

²⁷ Jameson and Nana (2004) observe that although information about housing tenure options is available, information about the *transition* amongst alternatives is less developed and there is little information regarding pure preferences.

²⁸ Council for Educational Research Competent Children longitudinal survey.

exist? What are they determined by (how do they relate to theoretical predictions; what constraints do they imply)? Are there standard migration paths at certain ages (e.g. elderly to Bay of Plenty; young to university towns)? Do those on benefits differ in their behaviour? Have patterns changed over time as sizes and prices of houses changed? What are the factors that influence the choice of location?

- Examine why price:rent and rent:income ratios have diverged from historical norms. To what extent have demographic changes caused these ratios to alter? Will the ratios return to the norm (with what dynamic and long run implications)? If not, what are the effects on life cycle housing patterns compared with the past? Isolate locations where the ratios have become most stretched, examine why, and examine the implications specific to these locations.
- What is housing affordability, and how does it relate to households' lifetime income? How should it be measured? Is affordability a 'housing problem' (house prices well in excess of housing costs), a finance problem (inability to borrow against future lifetime income), or is it a poverty problem (low lifetime income)?
- What explains "house sellers" vs "house sitters"²⁹ (noting that sellers are required for a liquid market) taking account of demographic and geographic factors? Does new housing turn over faster than older housing; if so, why and what are the implications?
- What are the trends in multiple home ownership (both for household baches and rental properties)? What implications do these trends have?
- Examine how the supply of large houses has changed in various locations relative to demographics of groups that typically have large families (e.g. Maori/Pasifika)?
- How much does it cost to house an extra person in different locations? What are the implications of this for families' choice of location?
- Examine supply and demand of retirement accommodation and smaller independent houses suitable for older people; and compare with

²⁹ By "house sitters" we mean those people that do not shift house, especially when they might be at a life-stage where a typical transition would be to shift house.

relevant demographic changes. Is there an implied problem now or in the future (noting the life cycle of the housing stock)?

- Have changes in the financial sector (lower deposit ratios, Kiwibank initiatives, etc) helped or hindered affordability?

5.3 Housing Market Determinants (Including Determinants of Rents)

House prices and rents are crucial determinants of people's well-being given the large share that housing costs represent of most household budgets. This makes it important to understand what determines the price of different types of houses in different parts of NZ. In particular, it is important to understand what is determining prices in "hotspot" locations and in "coldspot" locations (where the opposite housing and economic trends are observed) since these are the locations which are most likely to be experiencing housing stresses of various forms (potentially related to life-cycle and migration factors).³⁰

One important aspect to examine in light of recent global developments, is whether house prices (especially in "hotspots") are being affected by international house price developments. Evidence in section 6 suggests that international economic developments impact on local house prices, but there is no evidence as to whether international house prices are having such an effect.

Another important aspect to examine is the interactions between the housing and financial markets. Debt (mortgage) funded house purchase has increased materially since financial deregulation and changes are still occurring (e.g. with lower deposit requirements imposed by banks). Thus one impact of driving house prices upwards may be a maturing of financial markets, especially the appetite of banks to lend for housing purposes. Bank prudential regulation, in particular the capital requirements imposed by the Reserve Bank of New Zealand, may be having an effect on bank lending patterns, impacting ultimately on house prices.

³⁰ Motu has examined the determinants of house prices regionally across New Zealand (at Regional Council and Territorial Local Authority levels) but that research has not focused specifically on "hotspot" or "coldspot" locations.

In examining house prices by location, it is important to understand the impact of "ripple" effects.³¹ These effects may occur, for instance, as migrants land in Auckland. Other regions, especially those near Auckland (or possibly those that are similar to Auckland - e.g. other large cities), may then experience house market and other economic effects.³² Ripple effects may also occur in response to other types of shock (e.g. commodity price shocks) that impact initially on one location or a limited number of locations. Understanding the impacts of such ripples is important for determining where and how housing pressures may arise in certain secondary locations (e.g. Hamilton) after a shock to a primary location (e.g. Auckland) and for determining how existing pressures in the primary locations may dissipate over time.

The rental market is increasing in New Zealand, being the flip-side to the fall in the rate of home ownership. However the rental market appears to be quite immature in its structure. For instance, recent CRESA research shows that the market is dominated by small landlords, many of whom could almost be considered "hobbyist" landlords. According to this research, increasing numbers of investors are owning houses to rent out; but there is little information in the New Zealand context of what determines landlords' choices and hence what their future choices with regard to rental properties might be. More information is also required on whether most landlords are actually "up to the job" in terms of the skills required to be a successful and socially responsible landlord.³³

If life-cycle or other factors are responsible for a permanent shift in the home ownership (and hence rental) rate in New Zealand, then it is important to understand how the rental market structure might develop over time and how this might affect that market. One way of investigating this issue, is to compare the New Zealand rental market structure with more mature rental markets elsewhere. This may indicate whether regulatory and related issues need to be examined in light of international experience.

As discussed above, rents appear to be well away from traditional norms relative to house prices (rents appear "too low") and incomes (rents appear

³¹ Also known, technically, as "spatial autocorrelation."

³² Some aspects of this process were examined in Grimes et al (2003).

³³ See Smith and Fraser (2004).

"too high"). The ratios may differ for houses in different locations and/or at different parts of the value spectrum, and hence for different population groups. Standard financial theories can be applied to the rental housing market to help interpret the observed regional and national phenomena. The rental rate of return is the sum of the period's rate of capital gain and the period's rent-price ratio [RPR]. Financial market efficiency requires that the total expected rate of return be identical across similar areas. Thus an area with a low (high) RPR should have a high (low) rate of capital gain. This can be tested across locational housing markets within New Zealand.³⁴ In an efficient market, the house price equals the present discounted value of future rents. This relationship can be shown to imply that the current period's RPR should be low (high) in "up-and-coming" (declining) areas. For instance, if the RPR in a relatively deprived area is lower than in an equally deprived area, the former's prospects are (theoretically) better than the latter's. Historical data can be used to test whether this indicator has empirical validity. If it does, it would be a useful indicator for regional housing and social policy, highlighting which deprived areas might need the most attention.

Rental supply is very different (and sometimes inadequate) in different regions and for different demographic and income groups, as noted in recent CRESA research. While rental shortages may be historically explicable, arising from the house life-cycle, the reality of shortages remains and needs to be addressed. Understanding the impact of potential policy reactions - both immediately and over the housing life-cycle - is important for policy.

One such policy reaction is the Accommodation Supplement (AS). Theoretically, an increase in the AS should be reflected in rises in low (and mid) tier rents but evidence on these effects is sketchy.³⁵ An understanding of these effects is vital for policy formulation and useful for understanding the complementarities of different housing segments. The recent increase in AS will provide an ideal "policy experiment" which can be evaluated in future (perhaps in two years time) to estimate how the AS impacts on rents in different locations over time.

³⁴ Capozza and Seguin (1996) test this relationship across regional markets in the USA and reject market efficiency. Case and Shiller (1988, 1989, 2003) adopt a different approach to testing rental market efficiency, testing whether regional house price changes are predictable from past changes. They find evidence of predictability that should not exist in an efficient market.

³⁵ See Stroombergen (2003) and Johnson (2003).

Research Topics

- Examine whether international property and financial trends are impacting on the NZ property market. In particular, to what extent are Australian property developments impacting on NZ house prices, especially in desirable locations (e.g. coastal and scenic areas) and in urban areas. In addition, to what extent are international house lending practices influencing the behaviour of NZ mortgage lenders (e.g. to reduce deposit requirements for housing loans)? What implications do each of these trends have for various aspects of economic policy?
- Estimate the determinants and dynamics of house prices in specific "hotspot" and "coldspot" locations using rigorous methodology that incorporates specific reference to localised factors.
- Examine local house sales dynamics in depth to increase understanding of the role of generalised and localised "fads" in the housing market. Examine the implications of the results for policy.
- Examine effects of migration (external and internal, including students) to Auckland on Auckland housing markets and on other housing markets, both near Auckland and further afield. Extend the analysis to examine the effects of other localised shocks on other regions.
- Examine a range of mature rental markets in other countries and see what implications or directions this suggests for the future NZ rental market? What economic/regulatory issues need to be considered to improve outcomes?
- What determines rentals? What are the long run and dynamic relationships with house prices, expected capital gains, interest rates and other (domestic and international) investment markets? Are the relationships consistent across NZ or do they differ by location or value of house; if so, why and with what implications? What happens to rents (and/or house prices) when expected capital gains level off in places where they are currently high? Do rent price ratios predict "up-and-coming" and declining areas; if so, what do current rent-price-ratios imply for the prospects of particular areas?

- Examine rental supply across geographic locations and across demographic groups. What do these relationships imply about adverse selection or moral hazard effects, or other factors which may impede efficient provision of rental housing? Why does there seem to be a problem with rental availability for low income households; is it a moral hazard effect, an adverse selection effect, income effect, or are there other reasons? Is it related to the lack of diversifiability because of "hobbyist owners" (especially if damage/ default rates rise at low end)? Do landlords who own more houses have lower average housing values/rents (as predicted by diversification and adverse selection argument)?
- Why are there so few listed companies (or mutual funds) providing low-end rental supply in NZ. Is it different overseas? Does government provision (or threat of regulation, e.g. rent control) at low end stifle this market?
- Rework earlier studies investigating whether AS has a long-term effect on rents and/or house prices in about two years time. (This time period should allow the full effects of the recent increase in AS increase to flow through to the market, and so be amenable to evaluation.)

5.4 Housing Market Effects on, and Interactions with, the Wider Economy

People require houses and transport links to fill jobs and to attend educational institutes. Hence there are inevitable interactions between housing and the wider economy. The location of houses, jobs, educational institutes and transport links have to be considered together.³⁶ For instance, it could be quite feasible for people to commute from relatively cheap non-metropolitan areas such as Huntly to Auckland if a fast rail system were operative (potentially less than a one hour commute to the centre of Auckland) but this is not feasible with current transport connections. Similarly, students might commute from Huntly to Waikato University in Hamilton if cheap buses were provided on a regular basis but not if the transport costs were excessive.

³⁶ See for example Bradbury and Chalmers (2003) and O'Connor and Healy (2002).

There are additional interrelationships between urban development, education and skill levels. Glaeser and Saiz (2003) find a strong connection between skills and housing price growth within metropolitan areas and suggest that skills are important because they increase productivity at the metropolitan level and amenities at the very local level. Skills may also be important in disadvantaged areas as their presence enables quicker adjustment to painful economic shocks. The provision of basic quality education for example, may both produce and attract the educated which has implications for local amenities and the quality of the housing stock.

Over the past two decades, at least, Auckland agglomeration has been occurring in housing as well as industry. Employment has increased greatly in Auckland and so has housing (within the broader Auckland region) in order to house the requisite workforce. The strong property price rise in the Auckland market, however, indicates that housing growth has not kept pace with the increased demand of the expanded population. In addition, commuting time has increased for many people in the region implying an increasing mis-match between the location of people's work and the location of their housing, and/or greater stress on transport links. Wellington has suffered similar trends, albeit with lesser intensity. An examination of the patterns of development (employment, housing, transport) within and surrounding large cities would inform future urban planning issues as to how to coordinate expansion in each of these aspects.

Mis-match of the type just described happens also in certain desirable "hotspot" locations such as Queenstown/Wanaka and Nelson. In these smaller non-metropolitan areas, the housing mis-match can rapidly become problematic as the scale of required labour quickly outstrips the available housing. The short-term result is labour shortage (especially for low income workers who cannot afford hotspot housing) combined with greater housing overcrowding (as witnessed both in Nelson and Queenstown). The longer term effect is for relatively novel solutions to arise. For instance, New World supermarket in Queenstown has purchased properties which they make available as multi-tenant flats for their workforce. Investigation of both the short term and longer term

responses to such mis-matches in non-metropolitan fast-growing locations would contribute to understanding the development prospects of these locations.

Greenfields developments in non-metropolitan areas also need to be considered in conjunction with housing needs. In the past, Kawerau's designers considered both the location of the industrial plant and the location of housing for the plant's workforce and associated service workers. More recently, other new rural or semi-rural developments have been planned, for instance the new Northland prison. It is important that this type of development be accompanied by consideration of housing and transport needs, but it is less obvious that this urban planning work has been done comprehensively. An examination of the housing and transport links to current, planned and past greenfields developments would assist policy-makers and planners in thinking about the complete needs of such new developments.

At the broader macro-economic level, there are key links between housing and items of vital interest for policy-makers. For instance, investment in housing takes resources away from other forms of investment. If capital investment for industry is in short supply, this diversion of resources to housing may be a factor in hindering economic development. People have to be housed, so this issue relates not so much to whether new housing investment is needed, but rather relates to the efficiency of that investment - for instance, is there a locational mis-match which requires houses to be built in some locations when vacant housing is available elsewhere? If this mis-match does occur but is a matter of choice (or simply a matter of history) then there may not be a policy issue. But if new housing development is being spurred on as a result of government subsidy (e.g. of housing or transport in Auckland) then this "unnecessary" building of houses in the face of vacant housing elsewhere does need to be factored into the policy equation. For example, rather than subsidising housing in high priced locations such as Auckland, it may be preferable to have policies that subsidise industries in lower priced non-metropolitan locations that have vacant housing available.

The increasingly high price of housing in metropolitan and "hotspot" locations has the effect of raising household debt levels. Reserve Bank evidence shows that household debt as a proportion of household incomes has risen to

record levels.³⁷ This high household debt has implications for national indebtedness, which has risen as a result. In turn, this high level of national indebtedness (to foreigners) is estimated (in recent Reserve Bank research) to place a significant risk premium on New Zealand interest rates. This raises the cost of borrowing for all New Zealanders, which exacerbates the effect of high housing costs on productive investment elsewhere in the economy.

The high household debt also has major implications for households' other expenditure patterns. Referring back to the life-cycle model, households now are likely to borrow more extensively than in previous times to enter the owner-occupied housing market. Unless there are perfect capital markets (e.g. a complete absence of bank-imposed servicing constraints) - which is not the case - the effect will be to lower households' expenditures on other items until their housing debt is reduced substantially. For poorer households, in particular, and for households with initially high levels of student debt, this may have major effects on their expenditures, and their expenditure choices, for significant periods, with broader economic effects.³⁸

Another macroeconomic effect of house price pressures is their effect on the dynamics of macroeconomic cycles. Rising house prices occur in tandem with rising prices of non-tradeable goods generally. Under an inflation-targeting regime as adopted in New Zealand (and many other developed countries) the rise in non-tradeables inflation must be offset by a fall in inflation of tradeable goods (exports and imports). This occurs by way of exchange rate appreciation, induced generally by a monetary policy tightening (interest rate rise). In turn, the high exchange rate has a negative impact on the export sector. If prolonged, this fall in export profitability may damage the economy's productive potential.³⁹ In housing policy terms, the implication here is that support for housing at a time of housing stress (other than through increasing the overall stock of houses) may flow through to higher house prices (e.g. if housing costs are subsidised) and thereby to a higher exchange rate and thence damage to the export sector. Consideration of such macroeconomic effects is important in evaluating housing assistance effects.

³⁷ See Reserve Bank of New Zealand (2004)

³⁸ For the effects of rents on households' food purchases, see Cheer et al (2002).

³⁹ Grimes et al (2000); and Reserve Bank of New Zealand (2004).

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- Examine where jobs have been created (using census data, e.g. since 1991), where educational institutions have been established or enlarged, and where houses (of different types) have been built. Consider (census) commuting patterns and implications for mis-match of houses/jobs/education/transport. What are the effects of mis-matches and what potential policy responses are there (e.g. nodal housing developments)?
- Examine links between education/skills, house price growth and provision of amenities at mesh-block (or area-unit) level.
- How have housing requirements of greenfields developments in non-metropolitan areas (e.g. Kawerau or new Northland prison) been handled in NZ and elsewhere, with lessons for future developments?
- Document the chances of finding work in areas with lowest housing (and overall living) costs. To what extent have rural houses been converted into tourist quarters, so reducing availability to seasonal workers? What are the implications for the links between housing and labour market and benefit policies?
- How does housing policy (including assistance) contribute to/ penalise/ subsidise Auckland's growth relative to other centres. What is the effect on the cost of living in Auckland of this agglomeration, especially arising from the influence of housing policies? Should policy have these effects (both on Auckland and elsewhere)?
- Document the link between house prices, household and national debt; link to current and projected patterns of student debt. How much housing debt is for owner-occupied housing, rental housing, and for general business borrowing (if data availability permits; data is available in Australia, but may not be in NZ). Are there impacts of bank regulation (e.g. bank capital requirements) and bank lending practices on housing finance availability and house prices?
- Examine effects of house prices and debt on households' savings and other expenditures (especially by household income and demographic group, and for owner-occupiers and renters).

- Examine the impact that house price pressures have on interest rates and the exchange rate and hence on other sectors (and vice versa). What implications does this have for policies that impact on house price determinants (e.g. migration policy, housing assistance policies) and also for policies that react to house prices?
- Undertake an analytical study of whether investment in housing takes resources away from other capital investment in the economy, to ascertain whether conceptually there is a problem. If so, does evidence suggest it is a large problem, and does/can public policy contribute to, or mitigate, it?

5.5 Social Implications of Housing

Housing research is crucial to broader policy-making because housing is a fulcrum around which both economic and social considerations are balanced. One cannot consider the economic implications (discussed above) in isolation from the social impacts of housing. In considering the interactions between housing and various social outcomes it is important to consider both ‘shelter’ and ‘non-shelter’ characteristics of housing. ‘Shelter’ outcomes can include features such as tenure, security of tenure, dwelling quality, affordability and location. ‘Non-shelter’ outcomes include health,⁴⁰ education, employment, crime, social cohesion, income/wealth inequality, and locational advantage. Two interrelated concepts that have gained widespread use as mechanisms for understanding socio-economic phenomena are social capital and neighbourhood effects. Social capital has been defined as social connectedness from which arise norms of trust and reciprocity (Putnam with Robert Leonardi and Raffaella Y. Nanetti, 1993).⁴¹

⁴⁰ Health is an extremely important non-shelter outcome associated with housing. There is already a comprehensive stream of work being undertaken within New Zealand that is examining the links between housing and health outcomes. The Wellington School of Medicine and Health Sciences has a programme "He Kainga Oranga: Housing and Health Research Programme", see <http://www.wnmeds.ac.nz/academic/dph/research/housing/Index.html>. This programme examines the impact of the indoor environment on health, and hopes to identify and evaluate housing interventions related to housing resulting in health improvements. Because of the comprehensive nature of this programme, we concentrate more in this study on other non-shelter outcomes of housing, particularly with respect to education outcomes.

⁴¹ There is a large and growing literature on social capital in which definitions abound. The idea is not new; Adam Smith discussed the concept in his 1759 work *The Theory of Moral Sentiments*, the first sentence of which is “How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it” (Smith,

Neighbourhood effects refer to the idea that the characteristics of neighbourhoods can have an independent effect on 'non-shelter' outcomes (such as the educational attainment of children).

One way in which the housing-social interaction can be seen is in the commitment to a particular location/community. The extent of the commitment may depend on the type of tenure. For example, residents can spend time improving the civic quality of their homes and community, through for example, being vigilant against crime, participating in the running of local institutions, voting in local elections or monitoring local government activity. This generates positive spillovers for the community. However those that own their own home may benefit more (through an increase in property values) than those who rent, and may therefore expend greater civic effort.⁴²

Investments in social capital tend to be specific to a community/neighbourhood, so that social capital may be lost if the residents associated with the investments move away (Glaeser et al, 2002).⁴³ The physical design of buildings and the space between them may also impact on social capital in a community. Glaeser and Sacerdote (1996) find that residents of large cities and individuals who live in apartment buildings are more likely to socialise with their neighbours. If the physical structure of housing developments are of poor quality, for example, this may result in the stigmatisation of particular areas as places to be avoided. This in turn may lead to a change in the characteristics of residents towards more transient or low-income renters who have less interest in maintaining the physical condition of the properties.

1976). The web of connections in family, community, school, religious and voluntary associations that govern human behaviour fascinated Smith. It should be noted that apart from conceptual vagueness, efforts to establish the empirical salience of social capital have suffered from serious identification problems which mean many of the claims made with regard to social capital may be unjustified (Durlauf, 2002). For example it is necessary to distinguish between social capital effects and the influence of any other group characteristics on individuals. See Furstenberg and Hughes (1995), Brock and Durlauf (2001) and Durlauf (2002) for further discussion of these issues. One of the better empirical attempts to understand social capital using experimental data can be found in Glaeser et al (2000).

⁴² DiPasquale and Glaeser (1999) find that after controlling for income, education and a range of other variables, homeownership increases the probability of voting in local elections, the number of non-professional organisations a household belongs to, and the probability of knowing the identity of the school board head. See Hoff and Sen (2004) for a model of homeownership and segregation with neighbourhood effects. See Galster et al (2002) and Glaeser and Sacerdote (1996) on crime.

⁴³ Glaeser et al (2002) find that social capital is higher among home owners due to the lower mobility of homeowners.

Neighbourhood influences are believed to be important in understanding phenomena such as the persistence of poverty or the spatial segregation of communities by income and housing tenure.⁴⁴ There are a number of ways in which neighbourhoods may affect individual behaviour. For example, the accumulation of students from less affluent backgrounds may affect the skills and resources at the disposal of local school boards, which may impact on the quality of a child's education, and so may further reduce the attractiveness of the neighbourhood. Role model and peer group effects are examples of social interactions in which the behaviour of one individual in a neighbourhood is influenced by the characteristics of older members or peer group members. Thus the formation of relatively disadvantaged communities may result in social problems such as increased crime, poor health and education.⁴⁵ Understanding the effects of housing conditions on such social outcomes (for children and for adults) is crucial in order to plan the appropriate scale of policies designed to improve housing conditions, especially in lower housing quality areas. It is however, possible that apparently disadvantaged areas serve functions that may not be apparent from a "snapshot" view. For example particular neighbourhoods may serve as a 'landing-pad' for new migrants who then move on to other areas. Therefore it is necessary to understand the level of 'churn' in such areas; is it the same people staying in disadvantaged communities?

In considering neighbourhood effects, it is particularly important to examine the relationship between housing quality and children's outcomes, especially in the areas of health and education. For instance, a child living in a poor quality house in an otherwise "quality" neighbourhood, may suffer health problems⁴⁶ and may also be living in conditions where it is difficult to study.

⁴⁴ See Durlauf (2004) for a review of the neighbourhood effects literature. Bridge et al (2003) discusses neighbourhood effects, and the linkages between housing and crime, education, community cohesion, health and the labour market in Australia. See also Arthurson and Jacobs (2003) and Wacquant (1999).

⁴⁵ See for example Cutler and Glaeser (1997) who find that blacks in the U.S. are significantly worse off in segregated communities than they are in non-segregated communities in terms of high school graduation rates, earnings and being a single mother. Their attempts to deal with causality suggest that the causal direction runs from ghettos to failure. They also note that segregation may have benefits as well as costs. For example the exodus of the middle class can leave those remaining without role models or "social buffers".

⁴⁶ See for example, Howden-Chapman and Carroll (2004) and McNicholas et al (2000).

The type of tenure may also have an effect on child outcomes.⁴⁷ As another example, a child living in a suitable house but in a run-down neighbourhood may be affected by health outcomes of other children (e.g. through communicable diseases)⁴⁸ and anti-social behaviour of others. The nature of neighbourhood effects may vary across cities and non-metropolitan areas as a result of quite different environmental and economic surroundings. Given the high rate of turnover in the rental market,⁴⁹ investigating the effects of frequent shifting on the health and education of children is an important area of potential research.

A related issue is tenure transition. Research in the U.S. has found that the probability of moving into owner-occupation for couples increases with the level of income and the number of earners in the household.⁵⁰ If the propensity of low-income households to move is lower than higher income households this may mean that low-income households become “trapped” in declining areas. There is evidence that low income/low skilled groups have smaller local labour market areas, it may also be the case that low-income households have smaller housing market areas.⁵¹

Understanding the relationship between labour market changes and the housing market is also of critical importance. Widening income inequality – including spatial polarisation – may be an important factor in understanding developments such as declining homeownership.⁵² Changes in the labour market such as the increased casualisation of work and the increase in part-time work may also be important.

It has been argued that higher rates of homeownership in many western countries in recent decades have acted to increase the rate of unemployment

⁴⁷ Green and White (1997) find that the children of homeowners stay in school longer than children of renters and that daughters of homeowners are less likely to have children as teenagers than daughters of renters. Haurin et al (2002) use four waves of data from the U.S. National Longitudinal Survey of Youth, and find that owning a home compared to renting leads to a higher quality home environment, holding everything else constant and after controlling for a wide range of socio-economic and demographic variables. They find improvements in reading, math skills, and reductions in child behaviour problems.

⁴⁸ See for example Leventhal and Brooks-Gunn (2000).

⁴⁹ New Zealand. Ministry of Housing (2003)

⁵⁰ See Clark and Dieleman (1996) who use longitudinal data from the US Panel Study of Income Dynamics (PSID).

⁵¹ Meen (2001).

⁵² See Yates and Wulff (1999), Yates (2002) and Bridge et al (2003) for evidence on income polarisation and the consequences for housing in Australia.

because homeowners are faced with high transaction costs making them less mobile than private renters (Oswald, 1999).⁵³ Bradbury and Chalmers (2003) examine the extent to which unemployed households move to increase their likelihood of leaving income support and gaining paid work. The study finds that unemployed people in the private rental market are more likely to move than those in the public rental market or homeowners. They also find that people with low skill levels tend to live in areas of higher unemployment, where housing costs are relatively low.

One key housing development in recent years, especially in major cities, has been the development of greater housing intensity (more units and people per unit of land area).⁵⁴ In land use, transportation and energy use terms, this development may be contributing to greater efficiency of resource usage. However the social impacts of this greater housing intensity must be considered.⁵⁵ In some overseas cities, greater intensity is associated with ghettos. In others, high intensity is associated with fashionable high-priced housing. Understanding how intensity leads to (and/or results from) either of these extremes is crucial for future planning purposes. For instance, it may be that the quality of amenities available in different neighbourhoods has a strong determining effect on the well being of residents and hence on the future evolution of a neighbourhood.

By studying such aspects, lessons may be drawn as to what factors determine the demand for the apartment sub-market and whether the demand for various segments of this market is sustainable.⁵⁶ The reason for understanding the sustainability dimension relates back to the housing life cycle. If, for instance, there is unsustainably high construction of new apartments in high-density developments, the effect will be to lower prices in this sub-market. As a result,

⁵³ See also Flatau et al (2003) who uses Australian data.

⁵⁴ In some cases this has come about as a result of deliberate policy initiatives with the view that 'compact cities' provide a solution to many urban problems (Healy and Birrell, 2004).

⁵⁵ See Gregory and Hunter (1995), Yates and Wulff (1999), Yates (2002) and Healy and Birrell (2004). Glaeser and Sacerdote (2000) find that building structure alters behaviour with large apartment buildings increasing the connection people have with their neighbours, but reducing connections with other residents and the streets. They find a strong association between large apartment buildings and street crime. See also Vallance et al (2002) who undertake survey work in Christchurch to elicit people's experience of in-fill housing. Many noted the more efficient use of public transport and the protection of fringe land as positive results of a more concentrated urban form. However negative experiences included reduced privacy, increased pollution and noise and a loss of community spirit because people did not really know the people living in the in-fill.

⁵⁶ Morrison with Scott McMurray (1999) examines the growing demand for apartments in the Wellington central business district.

this sub-market will attract a high proportion of lower income households; and it is possible that under these conditions concentrated ghettos could arise. Decisions now on housing intensity may therefore determine the potential social conditions of an area in generations to come.

The social implications of the rise in the apartment sub-market associated with greater housing intensity needs to be examined more deeply in other respects as well. In particular, it is important to have an understanding of the implications for children growing up in high-density environments. Longitudinal surveys incorporating children's outcomes of those growing up in high-density environments (as well as a control group from a low density environment) would be invaluable here. Investigation of whether the NZCER *Competent Children* survey includes such groups would be warranted.

One age-group that may be particularly important to study with respect to their housing situation is the young adult age-group (e.g. 17-25 years). Often, the needs of this age-group are less intensively studied than those of children. However, this is an age-group where significant life-cycle transitions are occurring and where the potential for outside factors to impinge on lifetime outcomes are considerable. Economic and social changes impact heavily, and often initially, on this group. For instance, the accommodation patterns of this age-group have shifted over recent decades - initially living mainly at home, then mainly in multi-tenant flats, and increasingly back at home. Social attitudes, family relationships, educational patterns, student debt (and allowances) and housing availability all impact on these developments. The housing needs of young adults are likely to vary considerably across regions, and possibly also across ethnicity, education and social class.

An understanding of whether the housing stock reflects these diverse and changing needs is important for understanding outcomes of this age-group. It is important also for planning development and location of tertiary educational institutions. For instance, the Southland Polytechnic expansion has helped to soak up the excess housing stock in Invercargill, whereas the university expansions in Auckland have exacerbated the housing shortage in that city.

Two groups that have particular housing difficulties are people with various forms of mental health problems and those with some form of mental disability. Deinstitutionalisation over the past two decades has created a significant shelter need for these two groups. The housing life-cycle and past institutionalisation of these people means that independent houses suitable for these groups have typically not been required and so are now not available in large supply. Currently, boarding houses, council flats, and similar accommodation sources are being used heavily by these groups. Investigation of whether these accommodation sources are appropriate and whether their supply is adequate and sustainable is important in determining whether the needs of these vulnerable groups in society will be met in future.

Statistically, certain identifiable groups of people (defined, for instance, by age or ethnic categories) have higher average "negative" characteristics relating to the housing market. For instance, a certain defined group may have a high average default rate for rents; or a certain defined group may have high average damage rates to property or, on average, have a higher propensity to exhibit other anti-social behaviours. Landlords may consciously, or sub-consciously, be reluctant to rent properties to people in such groups.⁵⁷ Many individuals within the particular defined group will not exhibit the same negative characteristics as shown by the group average, but they may be unable to demonstrate to landlords that this is the case. In this situation, adverse selection behaviour implies that people in these groups may be discriminated against in rental markets. This will tend to be the case even if "objectively" the individual concerned is a responsible tenant. Understanding the prevalence of such behaviour, and the reasons behind it, can help in devising ways to support good tenants to access appropriate accommodation. For instance, enhancement of bond arrangements may help improve on the existing situation.

With the rise in anti-social behaviour since the 1960s in many countries (including New Zealand) has come a new housing development: the gated community. These developments are prominent in the United States, but also seen

⁵⁷ CRESA research demonstrates that landlords tend to have a hierarchy of preferred tenant groups, which roughly corresponds inversely to the rental housing desires of the respective groups (e.g. landlords prefer to rent to high income professionals, but high income professionals tend to be mainly owner-occupiers) (Smith and Fraser, 2004).

in the UK and elsewhere. Security is tight in these developments and an air of exclusivity is bred in relation to them. Gated communities appear to meet the needs of their residents. However, the broader social implications of such developments need to be considered for planning purposes. Do these developments have negative spin-offs for other neighbourhoods - for instance, through an air of "deprivation"? Do they impinge on commonly accepted civil liberties in terms of common access to residential streets? Do they re-create the segregation of cities such as Detroit where whites live in one block, blacks in the next and neither group is to be seen walking in the other block? Investigation of the social effects of gated communities in other countries, and an understanding of their development and prospects in New Zealand, may be an important strategic housing issue to look at given that their advent would have effects over a number of decades.

One form of gated community that already exists in New Zealand, and which is becoming more common, is retirement communities. These developments do not have the same divisive connotations as exclusive gated developments, being seen to meet a need primarily for semi-sheltered accommodation of older persons. However, questions remain as to whether they are socially desirable. Their existence and popularity implies that they meet the needs of the older persons within them better than do other available housing options. But they may result in a withdrawal of older people from general community activity with potential negative effects both for the older people themselves and for the community more broadly. A greater understanding of the social implications of these developments, in New Zealand and elsewhere, would be useful for longer term planning purposes.

In researching the net benefits of retirement communities, consideration has to be given to the options for housing older people. This group, in particular, may find negative neighbourhood effects (such as existence of crime and other anti-social behaviour) particularly troublesome. The elderly living in low-income neighbourhoods may be most affected in this way; retirement communities may be especially appropriate for the needs of this group.

Retired people who are living in high socio-economic areas may face other problems. In particular, if they are income poor but asset rich, they may face special problems of affording high local authority rates levied off the value of their property. Currently, some local authorities are examining a scheme to allow such people to defer rates payments until after death, leaving them as a liability of their estate. The implications of being asset-rich and income-poor on the elderly (and potentially for others on fixed incomes, e.g. some separated parents) is worthy of study so as to inform both local authority decisions over rating collection and also for informing policy-making with regard to the setting of benefits for people facing this situation.

A further problem facing asset-rich and income-poor older people, is that their wealth tends to be tied up principally in owner-occupied housing. This occurs as a result of their life-cycle housing needs, including their desire to remain in their family (or retirement) home. The reverse annuity market is almost inactive in New Zealand, but could provide significant income for older people, whose living standards are diminished by low income relative to a situation with an active annuity market. Investigation into past and current attempts to unlock housing wealth through this vehicle in New Zealand, and comparison with overseas experience, would be useful in understanding the New Zealand situation, and potentially for enhancing social outcomes for this group without disrupting their life-cycle housing needs

The reason that many older people face the situation just described is that they have built up a stock of housing wealth by being long-term owner-occupiers. One consequence of lower home ownership rates in recent years is that an increasingly significant proportion of future retirees may not build up a stock of housing wealth. If long-term renters save in other ways, e.g. through financial instruments, this situation may not be problematic, and may even be beneficial as it enables people to liquidate assets in future without altering their housing status. A more likely scenario for many people, however, is that lifetime savings will be lower than for previous cohorts leading to greater retirement income problems for the future generation. Given the importance of the superannuation situation in New Zealand since the mid-1970s, understanding the ramifications of such developments both for superannuation policy and for the specific circumstances of

individuals is vital. For instance, if major negative fiscal or social effects were envisaged, there may be a stronger case for moves to encourage home ownership in favour of rental accommodation amongst working aged groups.

One effect of the rise in house prices relative to incomes is the drop in home ownership rates that has been discussed. Another effect of rising housing costs relative to incomes, especially in some locations, is to affect the locational decision of some people. In particular, people who are in occupations with pay scales that are heavily influenced by national factors (e.g. teachers and nurses) may be priced out of certain areas. If this is the case, there are implications for the provision of relevant services in those areas. The impact may be favourable for the provision of services in non-metropolitan areas if people in such occupations choose to reside in less expensive areas. However, if the choice of such groups is instead to choose to live overseas, the effect on service provision may be negative in most or all areas of New Zealand. Interaction of housing costs (which is the principal source of differential living costs across New Zealand) and pay setting is key to understanding appropriate methods for setting wages in certain sectors.

Another key interaction of location with housing occurs with respect to major closures in non-metropolitan areas. In particular, community closures (such as a community hospital or school) and large industry closures affect house prices and residents in non-metropolitan locations heavily. Frequently, housing in such locations has been built in association with the particular community service or industry. Other replacement services or industries are not located nearby (unlike a closure in a large city) and so a portion of the existing housing stock becomes redundant and prices fall heavily. (The closure of the Patea freezing works in Taranaki is one example; reductions of the workforce at Kawerau is another.)

The implications of this risk of closure for the desirability of home ownership in such locations needs to be considered carefully. A fundamental tenet of investment is to diversify one's portfolio by having assets spread across many different asset classes. For most New Zealanders, owner-occupied housing is hugely dominant in their wealth portfolio.⁵⁸ This appears to contradict the need for diversification but is not necessarily as problematic as it appears, at least for

⁵⁸ Evidence is available from the statistics on the Reserve Bank of New Zealand website (www.rbnz.govt.nz).

people in metropolitan areas. The reasons are two-fold. First, house-ownership is a natural hedge for a household's lifetime demand for housing services, especially if that demand is likely to remain in the same location as the house that is owned. Second, cities are themselves diversified in terms of their industry mix and so their economic fortunes (and that of their housing stock) embody a high degree of diversification. Non-metropolitan areas do not exhibit the same diversification properties, and people may be forced to leave them in search of work, so the house may not even be a good hedge against future housing needs. Consequently, it may not be optimal (in a risk sense) for residents in areas with poorly diversified industries to own their own homes; when they do so, they expose their human and non-human capital to the same shocks. Understanding these issues has major implications for policies relating to home ownership versus rental assistance in non-metropolitan areas. Government could be inadvertently increasing the risk for non-metropolitan residents if it supports their moving from rental accommodation to an owner-occupied dwelling.

Research Topics

- Has greater demarcation of house prices/rents by area (using different area definitions) and greater concentration of income by area been occurring? Are these developments associated with each other? Do they indicate a trend towards more or less polarisation in housing by location? If so, why has this occurred; for instance, have these developments been associated with trends towards greater housing intensity in certain areas? How do NZ developments compare with other countries' experiences (e.g. Australia) and what are the social and economic implications?
- Examine cost of housing across locations and compare with average wages and wages of particular occupations. Has wage dispersion increased across locations to reflect housing costs; is this different in nationally-determined occupations as opposed to locally determined ones? What impacts are there in hotspots for people such as shearers, tourist workers, pickers, construction workers and other workers?

- What are the moving propensities of low-income households? Do low-income households become “trapped” in declining areas? Is labour mobility constrained by homeownership?
- Does income polarisation contribute to housing polarisation in terms of tenure type and location? What are the feedbacks?
- What are the interactions between the labour market and the housing market? What role does housing play in facilitating or hindering labour market access? What is the impact of labour market change on housing affordability? What is the impact of housing affordability on labour supply and mobility? To what extent does cheap housing (public or private) attract people to areas where they have little chance of finding employment?
- Analyse whether there is substitution in other current expenditures arising from changing housing costs. If so, does this have negative social consequences (e.g. towards use of lower priced but dirtier fuel, or to lack of heating or low house maintenance)?
- Do children (especially of low-income and/or sole parent families) live disproportionately in low house price areas; has this proportion changed over time? What implications are there for the provision of services or other measures to ensure that poor children's outcomes are avoided and disadvantage is not perpetuated? How are children's outcomes (e.g. health/education/crime) affected by the quality and suitability of the house in which they reside, and does transience cause worse outcomes? Does renting/owning make for any distinction in children's outcomes?
- Why do areas characterised by concentrations of low-incomes, depressed housing prices, multiple social problems and poor labour market outcomes develop, while other initially similar areas do not? How do they ‘work’? For example do people at the bottom move around within poor areas or do they move up? Who moves into spaces created at the bottom as people filter out? Do the worst areas attract people with ever more concentrated problems leading to greater problems at the bottom? Does the condition of areas affect people

directly and/or do the type of people living in an area determine its conditions?

- What are the mechanisms by which disadvantaged areas create economic problems? Are their development related to the provision (or lack of) public services? What role does limited residential mobility play in the development of spatial concentrations of serious disadvantage? What is the role of the built environment? What impact does residential density have on disadvantaged communities and to what extent do intensification policies concentrate socially disadvantaged households in particular locations?
- Do neighbourhood effects and social capital exist? How can they be measured? Are they important in understanding non-shelter outcomes related to housing?
- Examine the bi-directional links between school zones and housing quality. I.e. do established 'quality' schools try to maintain a high priced catchment, and does the school zone affect how much people pay for a house? Has the relationship changed across different school zoning regimes (NZ has had 3 different legal regimes relating to school zoning in the past decade)? Do school zones (and hence any impact of housing in school zones) affect children's educational performance?
- Document living arrangements of young adults over time (e.g. using census data for relevant groups). Examine whether current needs are being met and/or where key gaps are apparent.
- Examine the impact of housing conditions on crime and other anti-social outcomes (e.g. drug dependence), after adjusting for reverse causality and joint impacts from third factors.
- Document growth in gated communities overseas and in NZ. What has driven the overseas developments and what social implications have they had? Are similar patterns occurring here; will they lead to gated communities in NZ, with what implications for social outcomes and planning regulations?
- Examine international evidence on social impacts of retirement communities and relate to NZ conditions and expected developments.

- Examine proportions of the elderly that live in low-priced and in high-priced areas. What social policy implications need to be considered?
- Document the state of the reverse annuity market in NZ and compare with overseas. Analyse why it is so inactive here, concentrating on whether any housing market or regulatory factors are constraining it.
- Examine wealth and savings behaviour of owner-occupiers and renters (accounting for other factors, e.g. age, income, etc). Assess whether wealth (and debt) of future retirees will depend on their home ownership status. What are the implications for housing and for savings/superannuation policies? What will be the impacts of these trends on future social welfare expenditures?
- Examine NZ and international evidence as to whether people from certain groups find it more difficult to find rental housing. How can the problem be overcome while minimising distortions to rental provision?
- Examine NZ and international work on the social implications of apartment living. Analyse any available data on outcomes for children living in apartments relative to those in detached houses.
- What has been the stability of the apartment market relative to other market segments offshore and in NZ? What implications do demographic projections (including for international students) have for the apartment market?
- Compare quality of local amenities available to houses across NZ and Australia (e.g. water, sewerage, communications, roading). To what extent do certain NZ communities suffer from negative neighbourhood externalities caused by amenity shortage (or other reasons)? Are there other, otherwise similar communities, that do not suffer from these problems? What planning and other implications arise?
- Analyse how community closures (e.g. of schools, hospitals) and key industry closures (e.g. rural freezing works) affect house prices, wealth, resident numbers and resident composition (e.g. families with children) in non-metropolitan areas. What are the implications of the risk of closures on the desirability of home ownership in rural areas? Poor quality housing is likely in declining areas since lack of maintenance is

a rational way to reduce investment in housing in these areas. Analyse whether this does occur and whether policy responses (e.g. Rural Housing Programme) affect it. What are the implications for health and other outcomes?

- Conduct an in-depth study of the housing circumstances and needs of mental health clients, with analysis of how well different options cater for their needs (noting the new legislation being introduced for boarding houses).

5.6 Specific Housing Implications for Maori and Pacific Island Peoples

It is commonly accepted that housing quality for Maori and for Pacific Island peoples is, on average, worse than for most other segments of the population. It is also the case that certain historical attachments make Maori housing issues distinctive; for instance attachment to the home area (turangawaewae) of a person's Hapu and Iwi. However, there is no comprehensive study of Maori housing circumstances, likely future Maori housing needs and broader issues relating to Maori housing. Nor is there a similar study for Pacific peoples (Pasifika) within New Zealand. Comprehensive studies of the housing situation and needs of these communities are required to inform policy in the housing area and to link to other studies relevant to the situation of these population groups.⁵⁹

Such a study would contain greater depth for Maori and Pasifika in dealing with certain issues than would be contained in the study proposed in section 5.1 above describing the overall New Zealand housing market. It may also broaden the subject matter to issues specific to these population groups.

Certain other studies proposed above will pertain especially to Maori and Pasifika and so would require in depth treatment of their circumstances. For instance, any study on the effects of transience on an individual's (especially children's) outcomes may be particularly relevant to Maori given the relatively

⁵⁹ Ted Douglas, Noria Parata, Whata Winiata, and Charles Waldegrave have each contributed work in this direction, but no comprehensive study is available.

high proportion of Maori households that move house.⁶⁰ As another example, community and industry closures in predominantly Maori rural areas may affect Maori disproportionately, not just because they are represented heavily in that area, but also because their Iwi attachment to the area make them more reluctant to seek work and housing elsewhere. Community closures may diminish the ability of older Maori to return to their *turangawaewae* upon retirement (e.g. if the local hospital has closed, or if local services have dissipated).

Over-crowding may be particularly important for Maori and Pasifika, and studies of over-crowding would have to take specific issues into account. For instance, recent work at the University of Waikato indicates that Maori already resident in a city such as Hamilton may bear traditional responsibilities to house *whanau* (broadly defined) who move to the city from the *hapu* area. The "visitor" may be attending a local education institution or be seeking work; either way, the visit may be prolonged (months or years) rather than a few days as may be more common in Pakeha society. Thus, even for relatively well-off Maori, over-crowding may result for quite some time. Similar issues arise for Pacific peoples with new arrivals from the islands or from out of town relatives.

Maori ties to their land and historical ownership patterns create specific issues which must be understood in order to interpret their housing circumstances. One key aspect is the Maori concept of *turangawaewae* (home area). It has been mooted that one reason for relatively low Maori home ownership (over and above income and demographic effects) is that Maori with strong ties to their Iwi may wish to rent while living in the city rather than own their own (city) home. This may be the case, for instance, where a Maori household has moved from a non-metropolitan area to a metropolitan area to find work, but intends to shift back to their home area at some stage in the future.

It is also the case that *papakāinga* (Maori multiple-owned) land creates difficulties with respect to Maori obtaining finance, especially for off-site development. Thus a Maori household which initially lives on *papakāinga* land

⁶⁰ Empirical evidence surrounding Maori migration is mixed. Using data from the 1991 census, Vaithianathan (1995) found that Maori are more likely to move than non-Maori, however living within an *iwi* area tends to reduce Maori mobility. Preliminary work by Maré and Timmins (2004) finds that the presence of Maori in an area is associated with lower mobility. Both of these studies use area-level data however; given the heterogeneity of migration decisions, analysis using unit record data is needed to gain a fuller understanding of migration patterns.

and then moves to the city may be unable to use their former house as security for the deposit on a house in the city. The same constraints exist in terms of using papakainga land as collateral for commercial development, especially off-site. Frequently, small business proprietors who are house owners use the equity in their house as collateral for commercial loans.⁶¹ However Maori who communally own land may be constrained from so doing. If this is the case, the form of home ownership (communal versus individual) may stand in the way of Maori economic development. Analysis of this issue is particularly relevant to regional and national economic development agencies.

Financial issues (collateral and low income) also appear to have contributed to poor maintenance of much Maori rural housing. This creates two sets of problems. First, it exacerbates the problems associated with households (particularly children) living in poor quality accommodation. Second, it creates an issue for families and retirees who wish to return to their home area. The poor standard of housing in these areas may diminish their choices, forcing them either into sub-standard accommodation or to stay in another location when they would prefer to be in their own Iwi area.

In some cases (e.g. Ngai Tahu) the local Iwi acts as a third sector provider of housing in their local area. An evaluation of the effectiveness of such operations, and the issues that are being addressed by these operations, would inform a number of issues discussed above, pertaining specifically to Maori housing circumstances.

The circumstances of other population groups may impact materially on Maori and Pasifika housing circumstances. In particular, one effect of new migrants (especially refugees and low income migrants) is to compete for lower quality housing. This housing is currently predominantly housing Maori and Pacific households. The result of the increased pressure on this market segment is to bid up rents and prices of these houses, given that their supply is limited through the housing life-cycle by decisions taken perhaps decades before. The resulting rise in housing costs, and possibly also the community dislocation that can arise, is likely to have negative effects for Maori and Pasifika households.

⁶¹ Fabling and Grimes (2003).

Examination of the extent of this problem, and the policy implications that it may have (for immigration as well as housing policies) would usefully shed light on whether this is a major problem now or in the foreseeable future.

Research Topics

- Maori housing circumstances (including urban/rural, rental/ownership, house size, quality, house value and location differences). Use long term demographic projections of Maori and other competing housing groups (e.g. low income groups such as migrants) to identify emerging trends and issues. In each case distinguish between Maori living within their Iwi area and those that are not (or distinguish between urban and rural Maori) to assess the effects that these differences have on housing circumstances.
- Examine dynamics of predominantly Maori and Pasifika suburbs in 1991 through to 2001 (census data) to see how these have changed ethnically and by previous location of dwellers (to pick up migrants). Have Maori/Pasifika moved out to other suburbs; if so, where and why? Has an inflow of international migrants to the relevant suburbs been associated with Maori and Pasifika migration from these suburbs over the period? Have house prices and rent changes been associated with these developments, and what has the impact been on new house building and hence housing density.
- Ensure that Maori and Pasifika aspects are incorporated into any study on the effects of housing transience on personal (esp. children's) outcomes, with special emphasis on the social and economic reasons for that transience. Does the effect differ between Iwi-based and non-Iwi-based Maori, or between NZ-born and immigrant Pasifika families?
- Document rural housing quality of Maori vs non-Maori, distinguishing between housing on papakainga and other land.
- Use financial theory and overseas experience to indicate ways that multiply-owned land can be used as collateral for different project types (e.g. for business borrowing). How effective and widespread is Iwi housing provision? Does it resolve multiple ownership issues? Could it be extended to extracting capital for non-housing purposes?

- Examine the degree to which over-crowding is a result of extended whanau/family commitments (e.g. hosting relatives from out of town for long periods) and multiple generation families. Has this worsened since the initial post-war period as the age structure of the Maori population has changed and as urbanisation has increased. What are the implications?
- Draw out implications of community and industry closures for the ability to return home to one's turangawaewae after retirement.
- Examine the impact of Maori living away from their Iwi base on their choice between renting/buying. Do Maori living in their Iwi area have higher ownership rates than Maori living away (adjusting for other factors)? Do urban Maori display different preferences for buying relative to other ethnic groups after adjusting for income, age, etc?

5.7 Housing Assistance

Housing has such pervasive economic and social impacts that it is inevitable that governments will be involved in the sector in some form. For instance, it appears to be the case that government is involved in the housing sector in all (or virtually all) OECD countries and in many other countries as well. However, other sectors are also vital for human well-being, and government plays a lesser role in some of these sectors (e.g. food) than it does in housing. This raises the question of what should determine the government's approach to interventions related to the housing sector.

One way of setting a framework for tackling this issue is to pose, and then answer, the question: "Why do we have state involvement in housing but not (much) in food provision?" Answers to this question may relate to effects of housing on children, consumer information issues, environmental issues, social capital issues, urban planning issues such as co-ordination of urban renewal,⁶² and/or some other factors. By spelling out the reasons within a clear framework, the nature of desired government involvement within the sector may be more clearly focused and delineated than at present. This would enhance the targeting and effectiveness of public policy delivery in this field. It might enable clearer

⁶² See HNZC urban renewal projects on www.hnzc.co.nz

evaluation of certain existing housing assistance programmes, for instance of Accommodation Supplement (AS), which is currently a mainstay of housing assistance in New Zealand. In this respect, it is important to examine how well the AS works in achieving the goals set for it.⁶³ Further, it is necessary to ask how its effectiveness in meeting these goals compares with the effectiveness of other housing assistance options.

This approach may also help in answering difficult policy questions such as what should happen to individuals and households when former recipients of housing support no longer meet the initial assistance criteria because their need has become less. The answer to this question will depend on what the rationales for government involvement in housing are in the first place. If, for instance, the rationale is purely to assist housing affordability, the response may be to discontinue housing assistance once the initial need is no longer there. However, if the form of assistance is by way of state house provision and the rationale includes building social capital through housing choices, then it becomes more difficult to "move people on" from the state house when their need is no longer strong; such a move would dissipate social capital. In each case, the effects on individuals' incentives (e.g. to move to a higher income bracket) must also be considered closely. These issues need to be taken on board in the design of the initial housing assistance, and not just after the fact as individuals progress beyond being in need, consistent with a life-cycle perspective on housing issues.

There is also a need to consider what happens to people once they become homeowners. Keeping people in homeownership may be equally as important as getting people into homeownership. In the UK, 50% of the homeowners who are poor became poor some time after house purchase (through loss of job, illness etc) but were not poor when they first bought a house (Williams, 2004). Possible policy responses may include home equity insurance or mortgage payment protection insurance.⁶⁴ Such policies may allow households

⁶³ As noted earlier, a reassessment should wait for two to three years to enable consideration of the effects of recent changes.

⁶⁴ See Shiller and Weiss (1994, 1998) for a discussion of the former and Ford et al (2004) for a discussion of the latter. Barr (2001) and Shiller (2003) discuss the need to recognise risk as an essential element of public policy making and the role of insurance policies in ameliorating uncertainty.

to better manage risk and prevent people from needing more direct state assistance.

The discussion here implicitly takes housing to be a central government concern. In many overseas jurisdictions, however, housing is primarily a local authority role. In New Zealand, responsibilities are split between central and local government, with considerable emphasis on the former. The rationales for government involvement, coupled with each country's unique constitutional and historical situation will help provide direction for the appropriate allocation of various housing roles between local and central government. A comprehensive review of this issue may well be overdue in New Zealand.

In some circumstances, social housing assistance and related issues may also fall to the not-for-profit sector. The role of Iwi authorities in provision of housing in New Zealand has been noted above. In the past, groups such as Housing Trusts have also played a role in New Zealand. However, their effectiveness was limited, possibly as a result of government (or macroeconomic) policy; possibly for other reasons. Given the importance of third sector housing initiatives in some countries, a re-evaluation of their usefulness and potential in New Zealand is warranted.⁶⁵

To the extent that housing assistance proves to be necessary, it is important to consider the ways in which such assistance impacts on both shelter and non-shelter outcomes. The link between housing assistance and non-shelter outcomes may be direct or indirect. An example of a direct link would be a home modification programme for the elderly or disabled which leads to improved physical and mental health. Rent assistance that increases locational choice or increases the amount of disposable income available for meeting work-related expenses (such as child care) might result in improved employment possibilities. Public housing may improve tenure security and reduce forced mobility, thereby improving the educational opportunities of children. There are also questions to be addressed regarding the relative impacts of demand side versus supply side assistance policies.⁶⁶

⁶⁵ The Family Centre in Wellington has had involvement in this field, and the issue is highlighted in the recent government Draft Housing Strategy (Housing New Zealand Corporation, 2004).

⁶⁶ DiPasquale (1999) examines the role of housing assistance on housing supply.

Research Topics

- Which population groups require assistance, what forms of assistance are needed and what is the duration of the assistance? In addressing this issue, one needs to consider both 'shelter' and 'non-shelter' outcomes associated with housing. Affordability is just one shelter outcome. What is the role also of housing assistance in affecting physical and mental health status, education, labour market outcomes, crime, community participation and social cohesion, income/wealth distribution, poverty, and locational disadvantage?
- Examine the rationale for government involvement in housing analytically (rather than empirically) with reference, *inter alia*, to effects of housing on children's outcomes and other outcomes (e.g. health), interaction of housing with social capital, quality standards (especially given the importance of home ownership to household wealth). Document the effectiveness of local authority assistance and regulation in NZ (absolutely and relative to central government). What are the implications for future assistance and regulatory powers, especially as to whether they should reside mainly at local or central government level?
- Examine the scale and effectiveness of different forms of 3rd sector housing provision internationally and in NZ. How have they worked; what problems, causes and solutions have there been; could such schemes be used more extensively in NZ?
- How effectively does AS improve housing affordability of an individual - both *ceteris paribus* and once all feed-through effects (to rents and prices) are incorporated? Are other mechanisms - e.g. various home ownership schemes - capable of improving the situation (after incorporating feedbacks across the entire housing market)? Examples include "bulk purchase" options, rent-to-buy schemes, sweat-equity schemes, mortgage insurance provision (especially for low income households), long-term fixed interest mortgages, index-linked mortgages (which reduce up-front payments).

- How fast are people who are in need (especially HNZN categories A and B) being housed and how has this changed over time? If it has changed, why is this and is it location dependent?⁶⁷
- Examine incentive issues surrounding cessation of housing assistance for individuals no longer in need; examine social capital/community effects of forcing people to move out of existing homes if their circumstances improve.
- How effective have HNZN's urban renewal projects (e.g. Aranui in Christchurch and others) been in terms of improving housing and neighbourhood quality? Have there been successful private sector initiatives; if so, how has their effectiveness compared with HNZN initiatives?
- What, if any, policies are needed to assist existing homeowners stay homeowners in times of personal adversity?
- Are special housing assistance policies required for the elderly and, if so, what form should the policies take?
- Are special housing assistance policies required to prevent homelessness and, if so, what form should the policies take?

5.8 Interactions of Housing with Environment, Sprawl and Land Availability

Housing interacts with the physical environment in a number of ways, notably through land use and energy usage. The latter arises both directly, via the energy usage of households in different types and location of house, and indirectly, through the location of housing relative to work, education and other amenities and hence on transport costs. The effects of the environment on housing also underscore an interaction between housing and the physical environment, for instance through the impact of climate (and climate change) on house construction requirements.

Housing and land usage are inextricably intertwined. The use of land for a house precludes the use of that land for some other activity, such as agriculture, forestry or mining. In some situations, land is in plentiful supply and

⁶⁷ This study involves thinking about housing as a flow not just a stock as per modern labour market flow analysis.

competing uses impart low value to land around urban conurbations. For instance, near Melbourne the land is not particularly productive, and so is relatively inexpensive. Further, the topography (mainly flat) means that it is highly suitable for housing subdivision. In contrast, in many parts of New Zealand, there is a lack of land availability around major cities. This is particularly the case near Auckland and Wellington, but also for smaller centres such as Queenstown and Nelson where the topography limits expansion possibilities.

In some cases, these land constraints contribute to greater in-fill housing (higher housing density), which creates pressures on existing housing areas. These raise social issues, discussed earlier. They also lead to important infrastructure issues. Just as there is a housing life-cycle, there is also an infrastructure life-cycle; infrastructure is normally initially built to handle current and expected demand plus some additional margin. However, the scale of in-fill housing in places such as Auckland is placing greater pressures on some aspects of infrastructure than originally demanded. In particular, transport networks are over-loaded, while there is also pressure, in some cases, on sewerage and storm water services. These infrastructure limitations limit the degree of in-fill housing that can take place without major infrastructure extensions. In non-metropolitan towns subject to sudden development, it is often water and sewerage capacity that present the major constraints on expansion. These observations mean that consideration needs to be given in urban planning to the infrastructure needs of both in-fill and greenfields construction. The lack of transport, water, sewerage and energy infrastructure can have negative environmental impacts, which may be reduced with the use of energy efficient building materials and efficient waste management systems, for example.⁶⁸

In some centres, land availability makes urban sprawl possible. Regulation may or may not permit such sprawl to occur (e.g. the Waitakere City Council District Plan precludes further sprawl in the Waitakere Ranges). Where it does allow sprawl to occur, the new housing may impact on environmental values (e.g. coastal development impinging on scenic coastal values) and replaces existing land use. Farming or horticultural land, for instance, may have to make way for housing.

⁶⁸ See Chiu (2003) for a discussion of environmental sustainability in housing.

The value of the land in its competing use (e.g. horticulture) will be priced into the purchase price of the land used for housing and so the private benefit of using the land for housing must exceed the private benefit of using the land for another (permitted) land use. However if scenic values are foregone, or if some element of net subsidy to housing development is present (directly or through favourable tax treatment of housing) the social benefit of using the land for housing may fall short of the social benefit of retaining it in its existing use.

Conversely, regulating to prevent sprawl may mean that private and social retention of the land in its existing (e.g. agricultural) use falls short of the benefit of converting to housing use. Local regulatory mechanisms must balance the private and social costs and benefits of competing land uses and have appropriate processes for ensuring that land use regulations approximate optimal land use from a social perspective.

With both in-fill and sprawl options, the environmental link with transport is of major importance. Sprawl is likely to engender longer journeys between housing, work and other activities (although not necessarily if nodal housing developments are undertaken that integrate work and housing opportunities, as experimented with in Australia). In-fill may cause greater transport congestion in the inner city (although, so too may sprawl). The time, energy use, and pollution caused by these transport issues, which are inevitably bound up with housing location, are important environmental issues.

Two-way interactions between climate change and housing are an important long run issue. Climate change will require housing design adaptations. For instance, rising oceans may curtail coastal subdivision, while higher rainfall and higher temperatures in certain areas may necessitate changes in building materials and construction techniques. Because of the housing life-cycle, current building regulations need to be forward-looking to take such aspects into account; houses built (well) today may still be standing in a century when the climate is quite different from now.

New Zealand's accession to the Kyoto Protocol (as well as ethical concerns) mean also that housing design needs to adapt to minimise the contribution of energy usage in houses, and by households, to global warming.⁶⁹ While energy efficiency of existing and new houses has been documented by BRANZ and others, work is still needed to analyse how best to encourage house-owners (owner-occupiers and landlords) to bring existing houses up to efficient and clean energy standards. The lack of energy efficiency of existing houses is another manifestation of the housing life-cycle: energy was cheap for decades in New Zealand and energy-efficient building practices were not economic for the times. As energy has increased in price and as the environmental cost of emissions has increased, the need to retro-fit houses to become more energy efficient has increased. Consideration needs to be given to both regulatory and market-based instruments to encourage such conversion.

Research Topics

- Document land availability for housing in "hotspots", including the speed of new available land in response to new demand. How does the speed of response relate to regulatory issues in different TLAs?
- Examine interactions of new building (in-fill and greenfields) with infrastructure needs, including transport, water, sewerage, gas, electricity and social infrastructure. What are the environmental impacts of the provision (or lack of provision) of this infrastructure?
- Analyse the extent to which sprawl is impacting on scenic values and/or is replacing valuable agricultural land in different locations. What implications arise? What actions (e.g. Waitakere City, Environment Canterbury) can be taken to reduce these impacts?
- Examine interactions of new (urban and urban fringe) housing with the provision of public transport. How coordinated are developments on these two fronts? What environmental impacts do they have (e.g. on energy usage and pollution)? Does central and/or local government have a role to improve coordination?

⁶⁹ The Building Bill currently before Parliament would introduce a new framework for the regulation of building work, requiring the industry to focus on sustainable development including energy efficiency and conservation, and water efficiency and conservation (Isaacs, 2004).

- Examine the impact on energy efficiency of market prices, incentives and regulatory requirements both when building new houses and in the upgrading of older houses.⁷⁰
- Examine the impact of climate change on new (and existing) housing design needs in NZ, drawing out implications for building standards (e.g. moisture effects, heat problems in the north and east, siting of coastal properties).
- What are the implications of the two-way interactions between climate and housing for local authority regulations at the individual house level and at the planning level (including energy and transport efficiency of denser developments)?
- Do high energy costs impinge particularly on low income and vulnerable people (in particular the elderly) who may try to reduce their energy use to unhealthy levels?
- Are distributional factors inhibiting retro-fitting of houses to become more energy efficient? For example, are low income rental households effectively excluded from capital improvements to minimise energy loss?⁷¹

5.9 Building and Associated Regulatory Issues

An efficient house construction industry is of vital importance, especially in a country with an expanding population. House construction has reached a new peak in New Zealand in the past year and continued strength is predicted.⁷² However, it is also the case that the cost of new homes is rising fast in some areas, influenced both by land prices (discussed above) and by rising real building costs. This rise in costs is placing new housing "out-of-reach" of many families. It also spreads through to the price of existing houses for which sellers can incorporate a premium due to the higher costs (and delays) in building new houses.

The market structure of house construction companies in New Zealand may have contributed to this situation (i.e. to a comparative shortage of house

⁷⁰ Use could be made of data from BRANZ's Household Energy End-Use Project.

⁷¹ Holloway and Bunker (2003).

⁷² Reserve Bank of New Zealand (2004).

construction capacity). House construction companies in New Zealand are mainly very small (often just a proprietor and a few hands). They find it difficult to upscale to larger developments. Further, their size makes them vulnerable to cyclical downturns, so making for a fragile sector. Many builders quit the industry (or quit New Zealand for Australia) after the early 1990s recession contributing to a subsequent shortage of trained construction sector personnel and hence to the current capacity shortage.

The commercial construction sector tends to be dominated by larger companies owing to the scale of the projects. When both commercial and housing construction demand is high, the price (wage) of resources that can be used in both segments (e.g. trained construction labour) is bid up, and this process may lead to a further shortage of construction personnel in the housing segment if commercial building returns are particularly strong. An investigation of the nature of the house building industry, and its relationship to other market segments would be extremely useful in informing training policies and possibly other regulatory policies. In particular, it would be useful to place the structure of the New Zealand sector into the context of house building sectors in other like countries (e.g. Australia, Canada, and some smaller European countries).

The investigation would also usefully examine the responsiveness of construction sector migration to employment availability and wage conditions in New Zealand, Australia and elsewhere. If the flow is responsive to relative employment availability between the two countries (as anecdotal evidence suggests) then it may be important that macroeconomic and fiscal policies ensure that building downturns in New Zealand are minimised. This may be achieved, for instance, by ensuring that government support for new house construction and other types of construction (e.g. infrastructure construction) is timed for periods when there would otherwise be a downturn in activity. For this to occur, significant pre-planning (completion of designs, resource consents, etc) would be required and would have to be completed at times of high resource use.

The high cost of existing homes may also be influenced by regulatory factors causing delays in building new houses. If this is the case, the price of existing houses will be bid up relative to the cost of building new units since prospective purchasers will be willing to pay more to gain access to existing

accommodation than wait for new accommodation. This factor has been found to be important in certain jurisdictions in the United States⁷³ and similar work could be conducted in New Zealand across different Territorial Local Authorities and Regional Councils to examine regulatory responsiveness in parts of New Zealand.

It is not just the quantity of new houses that is important; house quality is also important. The quality of new houses in New Zealand is apparently low (the "leaky building saga") and may have been low for a long time. The proposed Statistics New Zealand Housing Quality Survey should shed considerable light on this issue. The housing life-cycle means that quality deficiencies in new houses remain a feature of the housing market for a long time. Even with the possibility of renovation, many people may not be knowledgeable about renovation possibilities or alternatives, or may be finance constrained in improving the quality of their home.

The reasons for New Zealand's apparently low housing quality need to be examined thoroughly; climate and topography may make for greater challenges here than, say, Australia. A higher cost of materials may also be relevant.

These factors may also relate to the apparent high cost of building new accommodation in New Zealand compared with Australia. Anecdotal estimates place building costs of new dwellings in Australia at 50% to 75% of the cost in New Zealand.⁷⁴ One factor may be the propensity to use "off-the-shelf" designs in Australia rather than "bespoke" designs for each house in New Zealand. Alternatively, it may be related to the prevalence of small scale (possibly inefficient) house construction companies in this country. It is important to establish the reasons behind the high building cost in New Zealand (if indeed it is the case) since this has major welfare costs for New Zealanders and may be amenable to policy or other action.

⁷³ See for example Glaeser and Gyourko (2002, 2003), Glaeser et al (2003), Glaeser (2004) and Gyourko and Saiz (2003).

⁷⁴ DTZ New Zealand (2004b) present evidence sourced from the New Zealand building industry suggesting that new house construction costs are approximately 50% higher than in Australia. More detailed comparisons would be required to ensure that houses of similar quality are being compared.

Research Topics

- Document the age, quality⁷⁵ and type of the housing stock, according to location, across New Zealand. Document the value of housing structures and the value of land across locations. Document additions to the housing stock, renovations and demolitions across locations. What do each of these trends and the inter-relationships between them imply about the nature of the housing life-cycle in various locations in New Zealand and the responsiveness of the building industry to new demand? What do they imply about issues of access, affordability and quality?
- Document the ownership structure of the construction sector over time. What is the impact of this structure for house construction capacity nationally and regionally, now and in future?
- Trace through the impact on construction occupations of: cyclical downturns (absolute and relative to Australia); changes in training regimes - both construction training and "competing" training (e.g. university); changes in inward migration (of people with construction skills). Draw "hysteresis" (long term) implications for construction sector of sector cyclicity and policy decisions.
- Examine the extent of regional shortages of construction workers and the degree of mobility (between regions and occupations) in response to demand pressures. Are construction workers "priced out" of some areas where the need for them is strongest?
- What is the importance of related professions for the housing market; e.g. why has there been a decline in the number of valuers? Does this have impacts on regulatory or other issues? Are building and property inspectors properly qualified; do they play a useful role?
- Compare building costs in NZ with Australia; why are there differences - e.g. wages, raw materials, regulatory requirements, design aspects, scale, climate, topography?
- Analyse determinants (economic and regulatory) of housing density and new house construction. How fast does new building (in-fill and

⁷⁵ Based on the proposed Statistics New Zealand Housing Quality Survey.

sprawl) react to price and population pressures? Does this vary across local authorities? Is the response fast enough to avoid prolonged housing shortages in key areas? Compare costs of building additional units with costs of existing (similar) units in hotspot locations and some other "control" locations. What do the findings on speed of response and cost imply about regulation and other factors affecting new supply?

- Compare quality of houses in NZ cities with those in Australian cities (e.g. warmth, dampness, size). Does Australia mirror CRESA's findings for NZ that 5-10 year old houses are as poor quality as 55 year old houses? What causes differences between Australia and NZ? Does quality of new dwellings depend on involvement of architects/ other professionals in design and building stages? If so, are there any regulatory implications? How does the quality of the public housing stock compare with the private stock for otherwise similar houses? What are the implications?
- Does maintenance/quality differ between owner-occupied and rental homes (of similar value and age) and does it differ across amateur vs larger scale landlords?
- What role does regulation have in creating good quality dwellings and maintaining them. How do regulations have to change to keep up with the apartment expansion (e.g. noise limitation requirements)? Is regulation covering earthquake resistance (especially of apartments) sufficient?
- Do people have the knowledge or access to information to be able to assess quality of housing? Is people's knowledge of maintenance requirements for different types of houses sufficient? Are they aware of differences between low cost high maintenance materials and better quality more sustainable materials.⁷⁶

⁷⁶ See DTZ New Zealand (2004b). Using better quality products may reduce life cycle costs but increase the purchase price.

- What are the impacts of regulation/compliance costs? Glaeser and Gyourko (2002, 2003), Glaeser et al (2003), Glaeser (2004) and Gyourko and Saiz (2003) examine the impact of regulation, including zoning laws, on house prices and find that this is the primary reason for expensive houses in high cost areas. A draft report by the Australian Productivity Commission (2004), suggests that in most circumstances reducing government charges is unlikely to have any significant effect on prices and that the government could do more to assist affordability by increasing the supply of available developable residential land.

6 Empirical Evidence

In this section, we present some evidence designed to highlight certain housing issues and to help inform research questions concerning these issues. Some of these findings have been, or will be, published in Motu Working Papers. Others represent potential research. The results relate to research questions mooted in section 5, particularly to issues raised under 5.3 "Housing Market Determinants (Including Determinants of Rents)" and 5.5 "Social Implications of Housing". This evidence helps in our setting of research priorities in section 7.

6.1 House Price Trends

Grimes et al (2003) presented considerable material on housing market trends since 1981 across Regional Councils and Territorial Local Authorities (TLAs) in New Zealand. It showed that the real house price⁷⁷ change across regional councils between 1981 and 2002 varied from 111% (Auckland) to -27% (Southland).

Here we interpret some of these results. In Auckland, if someone had bought a property for \$100,000 in 1981 and the property had experienced the average property price increase for that region, by 2002 it would have been worth \$211,000 in 1981 dollars.⁷⁸ If the same \$100,000 had been invested with a benchmark 4% per annum real interest return over the same period, by 2002 it would have been worth \$227,877 in 1981 dollars. Thus the capital gain on housing in Auckland, the region with the highest capital gain over the period just "under-performed" a moderate interest return.

Of course, the total return on housing equals the capital gain plus the rental yield (calculated net of local authority rates and other property maintenance costs). The latter is likely to be net positive, so property in Auckland has almost certainly out-performed a 4% real yield over this whole period. For instance, if the net rental yield had averaged just 2% p.a. over this period, the real wealth of someone buying a typical Auckland region property in 1981 would have risen to \$307,508 by 2002 (if rental proceeds had been reinvested at 4% real return).

⁷⁷ By real house prices we mean nominal house prices deflated by the Consumers Price Index. This measure abstracts from general inflationary trends.

⁷⁸ I.e. measured in 1981 purchasing power.

It is doubtful, however, that property in many other regional councils out-performed a 4% yardstick. For instance, the real wealth of a typical Southland property owner who had also purchased a \$100,000 property in 1981 (and who also had a 2% rental yield) would have risen to just \$133,166 by 2002. The Southland owner would have required an annual net rental yield of just over 5% to break even with a fixed 4% investment. After deducting local authority rates and other property maintenance costs, it is doubtful that such a return would be obtained.

The situation is even more marked at the TLA level. Housing capital gains between 1981 and 2002 were negative in 14 TLAs. Again it is unlikely that the net (after cost) return to housing in these areas out-performed a 4% real yield. In a further 12 TLAs, real capital gains over the whole period were less than 20%. With 20% capital gain, a net rental yield of around 3% p.a. would be required to break even with a 4% investment.⁷⁹ Given the riskiness of housing, a risk premium should be factored into the finance decision by the housing investor, so a house investment that just breaks even with a less risky investment should be judged to have under-performed in risk-adjusted terms.

The importance of these figures is in demonstrating that the common perception that housing is always a good investment in New Zealand is not a sound generalisation. It is the case that housing on average across the country during this period has returned considerably more than a benchmark 4% real return. But in non-metropolitan areas, the real returns have often been below 4%. If Palmerston North and Invercargill are regarded as non-metropolitan centres, then all TLAs with less than 20% capital gain over the period are situated in non-metropolitan areas. This accentuates the issue discussed earlier in the paper (and referred to further below) regarding house ownership in provincial areas. In many of these areas, owner-occupation has proved to be a poor financial decision that has exacerbated other negative trends of residents in the area.

In metropolitan areas, housing has generally been a strongly performing asset since 1981. For instance, in Auckland City,⁸⁰ the real capital gain has been

⁷⁹ Rental yields may well be low in poorly performing areas if the area is undergoing a population loss which raises the prospect of untenanted houses for a potentially substantial period.

⁸⁰ I.e. the TLA as opposed to the Regional Council.

154% over the period. With a 3% net rental yield, this would have yielded wealth of \$412,871 by 2002 for an investment of \$100,000 in 1981. This is almost double what would have been achieved through a 4% real yield. Naturally, this is fine for the investor, but it has ramifications for affordability. Real salaries would have had to have increased by 4.5% per annum right throughout the period to keep the same ratio of house price to income over these years. Instead, the increase in real incomes has been closer to 1% per annum, making houses in areas such as Auckland City considerably less affordable than in the early 1980s.

6.2 Ripple Effects (Spatial Autocorrelation)

Research in the UK suggests that housing shocks emanating from London typically "ripple" outwards to other regions. London is clearly the dominant city in the UK, but represents a smaller share of the UK population than Auckland does for New Zealand. Thus it is useful to address the question of whether Auckland shocks have similar ripple effects on other parts of New Zealand, particularly on other moderately large cities (Christchurch and Wellington) and on non-metropolitan areas (especially in the upper North Island). Preliminary work examining this issue was conducted in Grimes et al (2003). Here we interpret some of those results with this issue in mind.

First, we found that house price changes amongst the 7 TLAs within the Auckland region (i.e. within the Regional Council area) are strongly contemporaneously correlated. Thus house prices even in a relatively outlying TLA, such as Rodney, are strongly associated with house price movements in Auckland City. However these strong contemporaneous correlations do not extend much beyond the Auckland region. This may be because shocks reflected initially in Auckland house prices take some time to feed through elsewhere.

To examine the delayed effect of shocks to Auckland house prices on other areas, we undertook "Granger causality tests" which examine the lagged influence a shock to one region has on outcomes in another region (after accounting for historical developments in that other region). Perhaps surprisingly, at the regional council level, Auckland shocks do not appear to have a strong influence on other regions' house price outcomes, other than outcomes in its two neighbouring regions (Northland and Waikato). Thus the upper part of the North

Island is affected by Auckland developments, while the rest of the country is relatively immune from these developments.

This finding has implications for understanding the nature of the New Zealand housing market. There is no evidence of a "national" housing market; the market is regionally segregated. Of course, some national variables (such as interest rates) impact on all markets, but regional markets are also impacted by specific regional shocks. Further, the effect of these shocks on house prices do not have a similar short run or long run effect across the country. Thus, just because the Auckland market rises (or falls) due to Auckland-specific factors, we should not expect, say, the Palmerston North market to follow. House prices even in other moderately large cities are relatively immune from Auckland's developments.

However there is an effect on Northland and Waikato prices emanating from Auckland. This may be the result of at least three possibilities.

First, a positive economic shock for Auckland relative to the rest of New Zealand may cause potential workers (especially those in the early part of the life-cycle) to locate northwards from other parts of New Zealand. This movement will place pressure on Auckland house prices. People wishing to work in Auckland may find the resulting house prices too high and locate to outlying areas, choosing to commute to work. (This process may happen indirectly; a new migrant may locate to Rodney in the north of the Auckland region, and an existing resident in Rodney who works say in Warkworth, may move further northwards to cheaper accommodation within the Northland region.) If this process is occurring, it has implications both for sprawl and for transport/commuting issues discussed earlier.

Second, firms may find the costs of setting up or expanding in Auckland to be too high and move to areas near Auckland (so being able to access the same port facilities and some of the same labour pool) but using cheaper land. In this case, similar sprawl issues will arise as before, but commuting time and transport distance for workers may be reduced as jobs more closely fit the housing market.

Third, the Northland and Waikato effects could result from rising Auckland incomes being reflected not just in Auckland property prices, but also in the purchase of vacation houses in surrounding (particularly coastal) areas. In this case, the strongest causal influence of Auckland will be felt in locations such as the Coromandel and the Northland beaches.

The three explanations raise quite different issues and so raise quite different policy considerations (e.g. the effect on non-metropolitan coastal communities of an Auckland shock, the effects on sprawl, the effects on transport links). Further research is needed to see what combination of these three explanations is responsible for the strong causal influence that Auckland house prices has on Northland and Waikato prices.

6.3 Effects of General Economic Conditions

We have conducted some work on the determinants of house prices across regional councils in New Zealand.⁸¹ This work confirms some of the conjectures arising out of the work on housing trends (discussed above) that strong economic conditions are an important determinant of regional house prices. In particular, we find that a 1% increase in a region's general economic activity - holding all other factors constant - is associated with a 1% long run increase in its real house price. The broad nature of the trends are shown in Table 1 (next page).

While all other factors are, of course, not constant, the relationship between regional economic activity and real house prices is discernable from this table. A region, such as Auckland, which had a 98% increase in real economic activity between 1981 and 2002, had a 111% increase in real house prices on average across the region. Slower growing regions over that period such as Gisborne, Manawatu-Wanganui, West Coast and Southland had much lower growth in real house prices (2%, 12%, 24% and -27% respectively).

Our work also finds that financial factors impinge on house prices. An increase in real interest rates by one percentage point (again holding other factors constant) is estimated to lead to a 0.8% fall in real house prices. The size of the housing stock relative to the population in a region is estimated to impact on house prices in that region. In our regional council estimates, we find that a 1%

⁸¹ See Grimes et al (2004).

increase in the housing stock: population ratio depresses prices by around 0.5%. Thus a housing shortage relative to population is one factor in pushing up prices. For policy purposes, this confirms that if a region has a population inflow that is not matched by a housing stock rise, the impact is to raise house prices in the region. Given the housing life-cycle, it is likely that increases in the housing stock will not keep up contemporaneously with a regional population surge (e.g. arising from immigration) and so will place pressures on house prices. The key to determining the path towards long run outcomes is then the pace of the building sector's response to the increase in population (exhibited through the increase in house prices). This will be determined by building sector capacity, land availability and regulatory issues as discussed in section 5. We produce some evidence on the reaction of the building sector to price effects in section 6.7 below.

Table 1: Sales Price Summary Statistics, Population and Activity

Regional Council ⁸²	2002 Median Sales Price (\$000)	Real % Price Change: 1981-2002	Average No. Quarterly Sales	Population (2001 census)	Population density (2001 census)	%Change in real economic activity: 1981-2002
RC01	157	46	568	140,133	10.1	105
RC02	282	111	5349	1,158,891	206.9	98
RC03	166	61	1658	357,726	14.0	92
RC04	168	38	1270	239,412	19.2	84
RC05	100	2	168	43,974	5.3	32
RC06	142	32	616	142,947	10.1	64
RC07	106	12	524	102,858	14.1	73
RC08	98	12	1191	220,089	9.9	51
RC09	203	87	2206	423,765	52.2	77
RC11	162	46	669	122,475	5.4	97
RC12	63	24	173	30,303	1.3	62
RC13	146	58	2727	481,431	10.6	99
RC14	117	38	1158	181,542	5.7	59
RC15	66	-27	578	91,002	2.6	46

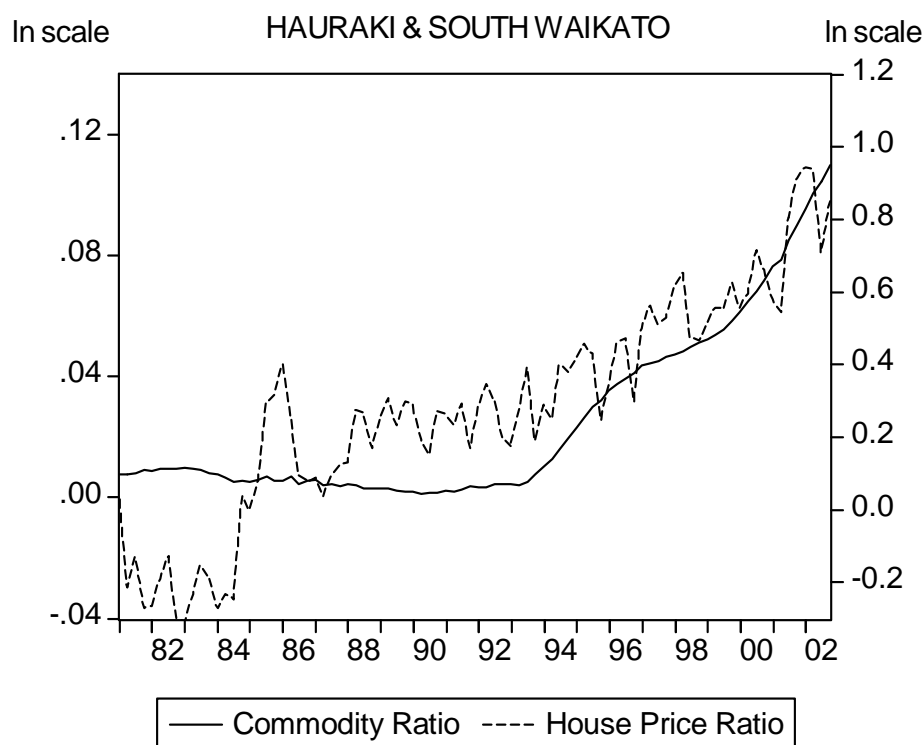
⁸² The regional councils are: RC01 Northland; RC02 Auckland; RC03 Waikato; RC04 Bay of Plenty; RC05 Gisborne; RC06 Hawkes Bay; RC07 Taranaki; RC08 Manawatu-Wanganui; RC09 Wellington; RC11 Nelson-Marlborough-Tasman; RC12 West Coast; RC13 Canterbury; RC14 Otago; RC15 Southland. There is no region 10.

6.4 Effects of Specific Economic and Demographic Conditions

We have also undertaken work to examine the determinants of house prices at a Territorial Local Authority (TLA) level Grimes and Aitken (2004). In doing so, we have investigated the economic activity effects and demographic effects on house prices in more detail. Economic activity is broken down into population size, output per person and relative price effects. This work, which is still preliminary, indicates that each of these effects contributes importantly to real house price outcomes. In particular, we find that a 1% increase in economic production per person in the TLA (holding other factors constant) raises real house prices by around 0.3%.

Real commodity prices facing a TLA also matter. We have broken down the land use of each TLA into its commodity and non-commodity producing aspects, applying the relevant commodity price (or non-commodity price) to each aspect. Thus a TLA such as South Waikato, which is heavily exposed to sheep and beef and forestry will have quite a different real commodity price path compared with a TLA such as Hauraki which is more heavily weighted in dairying. We estimate that each 1% increase in a TLA's real commodity price leads to a 0.6% increase in that TLA's average real house price. Given the volatility and strong trends in certain commodity prices, this effect can cause markedly different house price trends between different TLAs, even within the same regional council. The figure below demonstrates this effect for Hauraki and South Waikato.

Figure 1: Hauraki and South Waikato House and Commodity prices



The impact of commodity prices on a community's house prices raises questions (referred to in section 5) about the desirability of home ownership in rural areas which are susceptible to major shocks - in this case commodity price shocks. A person living in say South Waikato and working in the forestry industry has their human capital tied up in the forestry industry. If the industry undergoes an economic downturn (potentially exhibited through a commodity price downturn and an activity downturn - possibly also with a population decline) the value of their human capital is likely to reduce (through a decline in their real wage rate, and a greater likelihood of a spell of unemployment). If their non-human wealth is also tied up in the same TLA, they will take an additional hit as the real value of their house declines in response to the same shock. While it may be socially desirable for home ownership to be high in such regions, the financial consequences for the individual may mean that home ownership is a poor investment decision.

We also find demographic variables important in determining house prices. A 1% increase in a TLA's population is associated with almost a 1%

increase in real house prices, even if the housing stock increases commensurately. (The ratio of the housing stock to population affects house prices over and above this direct population effect.) Thus strong agglomeration effects are apparent. People seem prepared to pay a considerable premium to live in an area where population is increasing. This may be due to the increased level and breadth of services that can be offered in an area with a large and growing population. Further, people pay a premium to live in an area with high employment propensity. A 1% increase in the ratio of people (over 15 years) employed in the workforce is associated with a 0.5% increase in real house prices.

The costs of new construction are also found to impact on existing house prices. If real construction costs rise by 1%, we estimate that the real price of existing houses rises by around 0.3%. Thus economic and regulatory factors that force up the price of new construction help to lift the overall level of house prices, not just the price of newly constructed houses. This has implications for the effects of regulation on housing affordability. At this stage, we have not investigated the effects on house prices of individual factors that may cause the construction cost rise.

6.5 Sales Activity: Interaction with House Prices

It is commonly observed that an increase in house prices is associated with an increase in the sales of houses. This appears to be indicative of inefficiencies in the housing market, since there is no obvious reason why more houses should sell as their price is rising. We have investigated the two-way relationship between house sale numbers and house prices finding a strong relationship. However the relationship is complex and simple correlations can be misleading.

In fact, after adjusting for other influences on house prices, regional house prices are much more strongly associated with house sales two quarters previously than with current house sales.⁸³ This may suggest that people see the house market "beginning to move", then decide to purchase a house (or trade up) which places subsequent pressure on selling prices as they bid for houses in the market. We have investigated this aspect by estimating the effects of house prices

⁸³ Grimes et al (2004).

on sales volumes. We find that the quantity of sales is affected by house price growth up to five quarters previously (as well as by contemporaneous house price growth and growth in each intervening quarter). The strongest association is with the previous quarter's house price growth.

This bi-directional effect (house price growth leading to sales growth, which in turn leads to further house price growth) suggests that the housing market could become unstable (rising or falling inexorably) as these effects compound each other. However, we also find that house sales diminish as house prices rise above their long run equilibrium. Further, we find that the effect of house sales on house prices is quite asymmetric. If house prices are above their long run equilibrium, an increase in sales is estimated to have no effect on house price dynamics, whereas if prices are below equilibrium, a rise in sales has a strong price effect. This asymmetric behaviour (also lagged two quarters) is consistent with the hypothesis that people decide to enter (or trade up within) the housing market as soon as they see it starting to move, especially where they feel that prices are lower than they should be.

6.6 Housing Fads

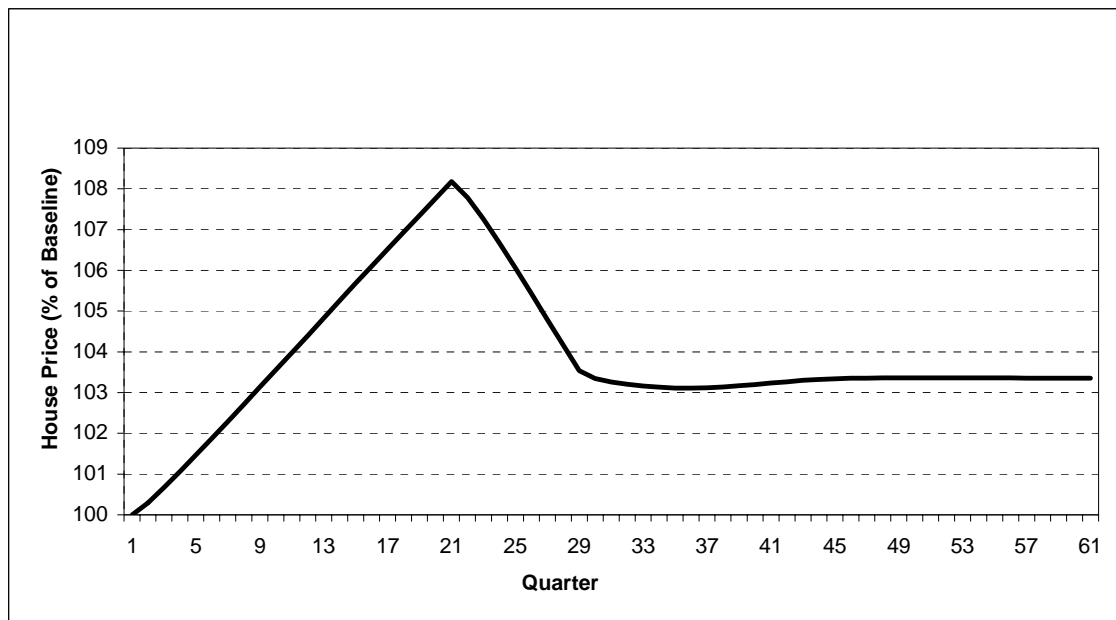
The previously discussed relationships raise the possibility of fads in the housing market that could drive it well away from equilibrium. However, the asymmetric effects of sales on house prices and the finding that sales drop off as prices rise above equilibrium mean that the effect of these interactions on house price dynamics result in a remarkably well-behaved market.

However, another factor that may be associated with fads is the effect of house price out-turns on capital gains expectations. If people are backward-looking when forming their expectations of future price developments, then market dynamics can result in fad-like behaviour as people build in past price growth (or price falls) into their expectations of future growth. We have tested this econometrically, and find that people act as if they expect the past three years' annual rate of real capital gain in their region to be repeated in future. Thus a region which has experienced past strong price growth will have extra demand for houses, essentially as purchasers are prepared to pay extra so as to reap the

expected capital gain in future. In effect, high lagged price growth makes their real interest rate (user cost of capital) very low or even negative.

Again, we have estimated the impact that this may have on market dynamics, taking into account the interaction also with sales. We find that the impact is fairly moderate in response to a mild shock, but strong in response to a major economic shock. For instance, in the figure below, we simulate the response of house prices to revisions in economic activity of the magnitude experienced over recent years in the United States. The graph compares estimated house prices under actual US GDP growth since 1995 (labelled as quarter 1 in the graph) with the prices that we estimate would have occurred if US growth had been maintained at its rate for the decade prior to 1995. The graph presents the ratio of these two estimates. The surge in US growth between 1995 and 2000 causes a strong surge in house prices relative to baseline, with the magnitude of this surge exacerbated by the sales and expectations dynamics described above. The subsequent economic slowdown, causes prices to revert back towards trend, levelling out at a permanently higher level due to the higher than trend level of economic activity that finally eventuated.

Figure 2: Real House Price Response to Simulated Changes in Economic Activity



This scenario is just one example of the kinds of dynamics that are present in the housing market. They may or may not be at play in New Zealand at present. If they are in action (and anecdotal evidence suggests some of these forces may be) then the impact on the housing market can be sizeable as seen in the figure. Many first-time home buyers may have been forced out of the market (as witnessed by the decline in home ownership) but this could be a temporary phenomenon if the market re-equilibrates back to a lower real level of house prices. Further investigation of these dynamics could be an important help for policy formation in terms of whether (and what type of) policy responses are required to meet the housing affordability concerns that are now prevalent in New Zealand.

6.7 House Building Responsiveness

One of the key issues in determining whether house prices will stay high in real terms is the responsiveness of the building industry to price developments (and hence indirectly to other economic and financial developments). We have investigated this at the TLA level to see how responsive building consents are to price developments.

We find that lagged changes in TLA house prices have a statistically significant, positive impact on the number of building consents (as a proportion of the housing stock) for a period of up to three and a half years. This is a long period over which the building industry engages in new construction activity in response to rising house prices. Preliminary evidence suggests that the supply response has been highest in areas with the highest house price growth and significant population increase over the last 20 years.

However, there is also evidence to suggest that the supply response in large cities (Auckland, Wellington, Dunedin and Christchurch) is relatively small (despite significant price growth). This suggests that there may be regulatory barriers or issues surrounding the availability of land for new construction in these four cities. If this is the case, it could lie behind some of the accentuated price trends that have been observed in these metropolitan areas. Further analysis of this issue is warranted.

6.8 Rental Differentials for Different Sized Houses

Housing costs comprise a major part of most household budgets. Larger households require greater space than do smaller households but do not necessarily have larger incomes. The cost of extra housing space (e.g. the cost of an extra bedroom) may vary across different locations, both absolutely (dollars per week) and proportionately (percentage of overall costs). If this is the case, differential regional costs of additional space may provide an incentive for different sized households to locate in particular areas where housing costs most appropriately fit their needs. Tenancy bond rental data can be used to analyse the cost of renting an extra bedroom in different locations throughout New Zealand.

To give a flavour of the issues, consider the following. In 2003, the average weekly rental cost of a two bedroom dwelling in Auckland was \$37 more than for a one bedroom dwelling. The cost of a third bedroom was an extra \$50 and the cost of a fourth bedroom was an additional \$90. Thus the weekly rental cost for a four bedroom dwelling exceeded that of a one bedroom dwelling by \$177. In Manawatu-Wanganui, the cost of a two bedroom dwelling was \$38 more than for a one bedroom dwelling - almost identical to the margin in Auckland. But the cost of additional bedrooms was much lower than in Auckland: a marginal cost of \$29 for a third bedroom and \$33 for a fourth bedroom. This raw data might suggest that it would be beneficial for larger households to locate in Manawatu-Wanganui and for smaller households to locate in Auckland. However, the interaction with income prospects and housing support has to be taken into account before such a conclusion can be reached. Nevertheless, the data suggests that there is a material issue to be addressed relating to disparities in regional housing costs for different sized households.

6.9 Incomes and House Values

Recent work within Motu by Kerr et al (2004) has examined the interaction of the house market and property taxes (local authority rates), uncovering some key relationships. Using census data and QVNZ property price data at territorial local authority (TLA) level, we find that on average across New Zealand, a 1% increase in median income is associated with a 1.9% increase in the capital value of houses. Further, high income TLAs (and high income Area Units)

on average have a higher ratio of land value to improved value than do lower income areas.

This relationship is useful for informing the question of how to frame the local authority rates base. For instance, should land value or capital value be the basis for rates? The evidence suggests that a land tax may be more progressive than a capital value tax.

The findings also raise significant questions: Why do high income people choose to pay more for land relative to improvements than do low income people? Is this a sign of spatial segregation by income (and also, possibly, by ethnicity which is correlated with income)? What impact does the relationship between incomes and house values have for local authority services? For example, are local authorities with low income residents significantly constrained in providing local services relative to high income authorities? In what way is land scarcity and urban sprawl impacting on (or impacted by) these house price patterns?

6.10 Migration and house prices

Maré and Timmins (2004) examine the relationship between internal migration flows in New Zealand and conditions in local labour market areas⁸⁴ across the last four censuses. The conditions in local labour markets include house prices, employment, unemployment and median income. Without controlling for the feed-back effects of local labour market conditions there is a positive relationship between migration inflows and house prices (i.e. people, on balance, migrate towards higher priced housing areas). However after controlling for feed-back effects,⁸⁵ preliminary evidence suggests that people move towards areas that have lower house prices, higher employment growth, lower unemployment and lower incomes.

Interestingly, there is evidence that people were drawn to areas with high housing prices in 1991-96 and 1996-01, possibly reflecting movements to

⁸⁴ Labour Market Areas (LMAs) are defined by commuting patterns and were constructed for New Zealand by Newell and Papps (2001). The 58 LMAs are defined such that approximately 80-90% of people both live and work within an LMA.

⁸⁵ Migration flows between pairs of LMAs are the dependent variable in their regression, with local labour market conditions included on the right hand side as explanatory variables. However migration may act causally to alter employment, unemployment, incomes or house prices in an LMA.

Auckland and Wellington, where housing was relatively highly priced. Maré and Timmins (2004) sheds some light on people's decisions to relocate. They examine the impact of origin characteristics (e.g. employment and housing conditions in the area where people initially reside) and destination characteristics (e.g. employment and housing conditions in areas which they may potentially shift to) on relocation decisions. Their work finds that destination characteristics have a stronger influence than origin characteristics on decisions to move. Changes in employment rates are more relevant to migration decisions than are changes in unemployment rates and other factors. This has implications for the relative attractiveness of depressed areas and their ability to undergo urban renewal, even if housing costs are relatively low.

7 Prioritisation of Research

7.1 Prioritisation Principles

Before prioritising certain projects, we outline a set of principles used to guide the prioritisation exercise. These principles are designed to lay the foundations of policy-relevant programmes of housing research that address the bi-directional interactions between economic, social and environmental changes and the New Zealand housing market.

The policy relevance of this programme is critical. We interpret relevance here as pertaining mainly to a 2-10 year policy horizon, rather than immediate policy concerns (although many concerns will be reflected in both time horizons). The longer time horizon is adopted in order to foster research that provides in-depth understanding of the housing sector, and hence of policies relating to the sector. We have relied, in part, on our interviews in forming our judgements as to policy relevance. In addition, we have found three sets of policy-related themes particularly useful in considering policy relevance.

First, we consider it useful that, where possible, research tie in with government's principles for sustainable development.⁸⁶ Government's sustainable development goals are grouped under four issues: (i) water quality and allocation; (ii) energy; (iii) sustainable cities; and (iv) child and youth development. These issues, in turn, are driven by the following elements: inter-generational effects on well-being; persistent effects in the environment; and significant impacts across the social, economic, environmental and cultural spheres that are difficult to disentangle. In relation to these issues it is important to give high priority to issues dealing with the interaction of housing and children's outcomes. In the light of the sustainable development goals, it is important also to highlight research dealing with the interaction of housing, transport and work.

Second, the draft New Zealand Housing Strategy (NZHS)⁸⁷ identifies six key areas for action: (i) improving housing assistance and affordability; (ii) developing collaborative responses across all sectors in housing markets under stress; (iii) developing and delivering innovative programmes to improve access

⁸⁶ New Zealand. Ministry of Economic Development (2003).

⁸⁷ Housing New Zealand Corporation (2004).

to home ownership by lower-income households; (iv) improving the capability of the private rental sector to provide secure, decent housing to all tenants; (v) improving housing quality through a strengthened regulatory framework and better standards; and (vi) building capacity and capability in the housing sector to better respond to diverse housing needs.

Third, the Centre for Housing Research Aotearoa New Zealand (CHRANZ) has adopted a research priority framework that is structured around six key components:⁸⁸ (i) access issues; (ii) housing demand and need for vulnerable populations; (iii) changing attitudes to tenure; (iv) housing investment; (v) alternative providers; and (vi) the performance of housing in urban and rural environments.

The NZHS and CHRANZ priorities provide focus for research specifically on the New Zealand housing sector, while the Sustainable Development principles provide guidance for examining the interactions of the housing sector with the broader economy, society and environment. These latter themes are particularly useful for prioritising the interactions between housing and other sectors examined in this report.

In addition to being guided by these priorities, there are three key principles that we consider important in designing a programme of research in the relevant fields:

Overview research is crucial to complete early on.

- Without the "big picture" of the housing sector, it is difficult to commission and interpret specific pieces of housing research. We consider it imperative that projects which outline the overall nature of the housing market be commissioned early in a housing research programme. Items which fit into this category, for instance, include the first research topic listed in section 5.1, the first two topics in section 5.2, the first research topic in section 5.6, and the first research topic in section 5.9.

⁸⁸ See www.chranz.co.nz

Research arising from major trends affecting housing is vital.

- There are some key demographic and economic trends that are shaping housing sector developments. It is important to understand the impacts that these trends have, and will have, on current and future housing developments. Examples include research into the effects of demographic trends (and hence life-cycle effects) on housing demand. The relationship between location of new jobs and housing, and the transport links between the two, is crucially related to this topic. Another key trend is the recent sizeable growth in the private rental market. In-depth research into this market is required.

Research should focus on areas where there are big gaps and big opportunities.

- As listed in section 5, there are many knowledge gaps to fill with respect to housing in New Zealand. In some respects, this is surprising in terms of the importance of the subject matter and given the availability of statistics and other information relevant to housing. Statistics New Zealand is increasingly providing high quality information on New Zealand housing, some obtained from census information with additional information from special surveys (including the forthcoming Statistics New Zealand Housing Quality Survey). Agencies such as Quotable Value New Zealand also have detailed information that is highly relevant to examining housing issues. Use of already available data such as this makes for much more cost-effective research than research which involves collection of new data through the commissioning of new surveys, etc. Many of the research topics that are outlined in section 5 could be undertaken primarily using data that has already been collected by one or more agencies (although it may have to be reconfigured for certain purposes). Such research, by adding depth of understanding to existing descriptive statistics in a cost-effective manner, should generally be prioritised more highly than studies requiring collection of new information.

7.2 Prioritised Research Projects

The nineteen prioritised research projects presented below relating to interactions of housing with economic, social and environmental changes are derived from the research projects outlined in section 5. (In some cases they combine related projects.) Each is chosen with respect to the themes and principles outlined above. In some cases, in accordance with our brief, we have confined our specification of the research question to the impact of various factors on housing in non-metropolitan areas. In a number of these instances, the questions are also relevant to impacts in metropolitan areas and the project could be broadened to include such areas.

The first six projects can be thought of as "overview research". Most of these projects relate closely to the life-cycle framework set out in this paper. The life-cycle framework also needs to be reflected in most, if not all, the remaining prioritised projects in order that each of the issues is analysed with respect to a dynamic framework that takes account of personal and housing transitions, rather than snapshots. (For instance, rental market determinants must be interpreted with respect to the life-history of the housing stock and with respect to people's tenure choices as they age.)

The following nine projects concern the inter-relationship between housing and key demographic, economic, social and environmental trends. A number of these projects relate to the rental market, reflecting the increasing importance of this market (as highlighted in the New Zealand Housing Strategy) and our judgement that there is a particularly large gap in understanding the determinants and dynamics of this market. The issues pertaining to non-metropolitan housing (topic 14) and the geographic, economic and social aspects covered in topics 12 and 13 are also of particular importance.

We then set out four projects that relate primarily to Government's sustainable development objectives. These relate both to housing and children's outcomes (a very high priority in our view) and to energy and land use issues.

In each case, we consider that the relevant project focuses on an area where there is a major research gap and where there are clear opportunities to fill this gap using available data. Together, we believe that the research topics

combine to give a research programme with breadth (the overview topics) and depth in areas of particular policy importance both at present and well into the future.

Overview Research Projects

1. Prepare an overall description of the entire NZ housing sector (current with some history) covering: owner-occupied and rental houses plus second (holiday) houses; location; density; demographics; house age; construction; state vs private ownership; family trust and company ownership of dwellings; funding (mortgage finance); prices; affordability. How big is the sector (e.g. compared with education or health sectors)?⁸⁹
2. Document the age, quality⁹⁰ and type of the housing stock, according to location, across New Zealand. Document the value of housing structures and the value of land across locations. Document additions to the housing stock, renovations and demolitions across locations. What do each of these trends and the inter-relationships between them imply about the nature of the housing life-cycle in various locations in New Zealand and the responsiveness of the building industry to new demand? What do they imply about issues of access, affordability and quality?
3. Compile a comprehensive description of Maori housing circumstances (including urban/rural, rental/ownership, house size, quality, house value and location differences). Use long term demographic projections of Maori and other competing housing groups (e.g. low income groups such as migrants) to identify emerging trends and issues. In each case, distinguish between Maori living within their own Iwi and those living outside it (or distinguish between urban and rural Maori) to assess the effects that these differences have on housing circumstances.
4. Present a stylised picture of how different people move through the housing market over their lifetime as their needs, tastes and incomes change; how this sets in train house demand, house price and house supply

⁸⁹ The recent DTZ report (DTZ New Zealand, 2004a) contains a considerable body of information relevant to this research project, albeit with a narrower scope. For this reason, it may be sensible to commission this project in 3-5 years time, extending and updating the DTZ report.

⁹⁰ Based on the proposed Statistics New Zealand Housing Quality Survey.

reactions; how pressures and interventions (e.g. Accommodation Supplement) in one segment interact with other segments. Then use census data and/or longitudinal survey data (Christchurch, Dunedin, CER "Competent Children", or a new backward looking survey) to trace through housing decisions of cohort(s) over long periods. Examine the standard and non-standard life-cycle patterns of house ownership. Why do these paths exist? What are they determined by (how do they relate to theoretical predictions; what constraints do they imply)? Are there standard migration paths at certain ages (e.g. elderly to Bay of Plenty; young to university towns)? Do those on benefits differ in their behaviour? Have patterns changed over time as sizes and prices of houses changed?

5. Examine a range of mature rental markets in other countries and see what implications or directions this suggests for the future NZ rental market? What economic/regulatory issues need to be considered to improve outcomes?
6. Examine the rationale for government involvement in housing analytically (rather than empirically) with reference, inter alia, to effects of housing on children's outcomes and other outcomes (e.g. health), interaction of housing with social capital, quality standards (especially given the importance of home ownership to household wealth). Document the effectiveness of local authority assistance and regulation in NZ (absolutely and relative to central government). What are the implications for future assistance and regulatory powers, especially as to whether they should reside mainly at local or central government level?

Housing and Major Trends

7. Examine why price: rent and rent: income ratios have diverged from historical norms. To what extent have demographic changes caused these ratios to alter? Will the ratios return to the norm (with what dynamic and long run implications)? If not, what are the effects on life cycle housing patterns compared with the past? Isolate locations where the ratios have become most stretched, examine why, and examine the implications specific to these locations.

8. Examine whether international property and financial trends are impacting on the NZ property market. In particular, to what extent are Australian property developments impacting on NZ house prices, especially in desirable locations (e.g. coastal and scenic areas) and in urban areas. In addition, to what extent are international house lending practices influencing the behaviour of NZ mortgage lenders (e.g. to reduce deposit requirements for housing loans)? What implications do each of these trends have for various aspects of economic policy?
9. What determines rentals? What are the long run and dynamic relationships with house prices, expected capital gains, interest rates and other (domestic and international) investment markets? Are the relationships consistent across NZ or do they differ by location or value of house; if so, why and with what implications? What happens to rents (and/or house prices) when expected capital gains level off in places where they are currently high? Do rent price ratios predict "up-and-coming" and declining areas; if so, what do current rent-price-ratios imply for the prospects of particular areas?
10. Examine rental supply across geographic locations and across demographic groups. What do these relationships imply about adverse selection or moral hazard effects, or other factors which may impede efficient provision of rental housing? Why does there seem to be a problem with rental availability for low income households; is it a moral hazard effect, an adverse selection effect, income effect, or are there other reasons? Is it related to the lack of diversifiability because of "hobbyist owners" (especially if damage/ default rates rise at low end)? Do landlords who own more houses have lower average housing values/rents (as predicted by diversification and adverse selection arguments)?
11. Rework earlier studies investigating whether Accommodation Supplement (AS) has a long-term effect on rents and/or house prices in about two years time. (This time period should allow the full effects of the recent increase in AS increase to flow through to the market.)

12. Examine where jobs have been created (using census data, e.g. since 1991), where educational institutions have been established or enlarged, and where houses (of different types) have been built. Consider (census) commuting patterns and implications for mis-match of houses/jobs/education/transport. What are the effects of mis-matches and what potential policy responses are there?
13. Has greater demarcation of house prices/rents by area (using different area definitions) and greater concentration of income by area been occurring? Are these developments associated with each other? Do they indicate a trend towards more or less polarisation in housing by location? If so, why has this occurred; for instance, have these developments been associated with trends towards greater housing intensity in certain areas? How do NZ developments compare with other countries' experiences (e.g. Australia) and what are the social and economic implications?
14. Analyse how community closures (e.g. of schools, hospitals) and key industry closures (e.g. rural freezing works) affect house prices, wealth, resident numbers and resident composition (e.g. families with children) in non-metropolitan areas. What are the implications of the risk of closures on the desirability of home ownership in rural areas? Poor quality housing is likely in declining areas since lack of maintenance is a rational way to reduce investment in housing in these areas. Analyse whether this does occur and whether policy responses (e.g. Rural Housing Programme) affect it. What are the implications for health and other outcomes?
15. Examine dynamics of predominantly Maori and Pasifika suburbs in 1991 through to 2001 (census data) to see how these have changed ethnically and by previous location of dwellers (to pick up migrants). Have Maori/Pasifika moved out to other suburbs; if so, where and why? Has an inflow of international migrants to the relevant suburbs been associated with Maori and Pasifika migration from these suburbs over the period? Have house prices and rent changes been associated with these developments, and what has the impact been on new house building and hence housing density?

Sustainable Development

16. Do children (especially of low-income and/or sole parent families) live disproportionately in low house price areas; has this proportion changed over time? What implications are there for the provision of services or other measures to ensure that poor children's outcomes are avoided and disadvantage is not perpetuated? How are children's outcomes (e.g. health/education/crime) affected by the quality and suitability of the house in which they reside, and does transience cause worse outcomes? Does renting as opposed to owning make for any distinction in children's outcomes?⁹¹
17. Analyse the extent to which sprawl is impacting on scenic values and /or is replacing valuable agricultural land in different locations. What implications arise? What actions (e.g. Waitakere City, Environment Canterbury) can be taken to reduce these impacts?
18. Examine the impact on energy efficiency of market prices, incentives and regulatory requirements both when building new houses and in the upgrading of older houses.
19. Analyse determinants (economic and regulatory) of housing density and new house construction. How fast does new building (in-fill and sprawl) and new land (zoned for housing) react to price and population pressures? Does this vary across local authorities? Is the response fast enough to avoid prolonged housing shortages in key areas? Compare costs of building additional units with costs of existing (similar) units in hotspot locations and some other "control" locations. What do the findings on speed of response and cost imply about regulation and other factors affecting new supply? Examine interactions of new building with infrastructure needs, including transport, water, sewerage, gas, electricity and social infrastructure. What are the environmental impacts of the provision (or lack of provision) of this infrastructure?

⁹¹ The project outlined in section 5.5 regarding the interaction of housing and school zones could be added to this project if desired.

7.3 Two Research Programmes

The prioritised research projects all contribute to gaining a comprehensive understanding, over a 2-10 year timeframe, of policy-relevant issues relating to interactions between housing and the broader economy, society and environment. However we recognise that research funding and capability is limited and that policy-relevant results are sought also within a shorter timeframe (e.g. 1-2 years). Here we suggest two research programmes, containing key elements of the prioritised projects that could inform housing policy over the next two years. The first concentrates on the housing system itself, and relates especially to research priorities listed in the NZHS and by CHRANZ. The second concentrates on interactions between the housing sector and important economic and social developments, with environmental implications, corresponding to key Sustainable Development goals.

Programme I: Understanding Housing System Developments

The past decade has witnessed a marked decline in the home ownership ratio. House prices have risen markedly, albeit unevenly across the country; rentals have also risen. The result has been a significant squeeze on housing affordability for many New Zealanders. Housing affordability is likely to be one contributor to the decline in home ownership. Demographic trends and changing preferences towards home ownership may also have contributed. This research programme has the aim of understanding the decline in home ownership (and rise in renting), and of indicating potential policy responses, by:

- (a) understanding historical and future demographic influences on home ownership rates;
- (b) understanding changing preferences towards home ownership of different population groups;
- (c) understanding the causes of house price and rental rises across different locations taking into account:
 - (i) the contribution of increases in each of land prices and structures prices;
 - (ii) the relationships between rents and house prices;
 - (iii) the responsiveness and cost of new building on vacant sites;
 - (iv) the availability and responsiveness of new areas of vacant land (including in-fill possibilities) in areas of housing pressure.

The full programme would require a mix of qualitative research (e.g. to understand changing preferences towards home ownership), descriptive statistical research (e.g. to map demographic influences to home ownership trends), urban

planning and institutional research (e.g. to understand how local councils act to free up new land or allow in-fill development to occur), and analytical statistical research (e.g. to model the determinants of land price and structures price rises, and the determinants of rentals).

By the end of the programme, policy-makers should be able to use the research to inform housing assistance policy for both the owner-occupied and rental sectors, regulatory policy with respect to urban planning (land availability and in-fill developments), and policy relating to building sector capacity and efficiency.

Programme II: Understanding Links Between Housing and Economic & Social Outcomes

The purpose of this research is to determine the interactions between housing, work and educational opportunities across locations. The size and quality of the housing stock is largely fixed in any location in the short term but can and does change over longer time periods. Work opportunities in an area may alter much more quickly (upwards or downwards) than does the housing stock, potentially creating mis-matches between housing needs and housing availability. An excess of job opportunities tends to be reflected in an over-heated housing market ('hotspot') while a sudden loss of jobs can lead to depressed house prices and broader community adjustment issues. Changes in educational opportunities (e.g. expansion of a tertiary provider or closure of a school) can similarly affect the housing market. Conversely, demographic changes in a particular regional housing market, possibly in response to labour market changes, will change the demand for educational facilities which could be slow to adjust, thereby affecting the attractiveness of the local housing market. Where housing mis-match occurs, the result can be migration (inwards or outwards), changed commuting patterns (e.g. longer commute distances), as well as house price and quantity adjustments. House quality adjustments might also occur. For instance, in a newly depressed area housing quality may deteriorate over time, leading to health and other consequences; in a newly job-rich area older housing may be renovated.

Research into these issues will require analysis of housing, work, educational, migration and commuting patterns to establish:

- (a) the degree of mis-match between housing and work and between housing and educational opportunities in different locations in New Zealand;
- (b) the proximate (or immediate) causes of the mis-matches;
- (c) the length that mis-matches occur and the nature of the adjustment processes (including effectiveness of policy responses) that operate to close the mis-matches.

By the end of the research, policy-makers should be able to use the research to inform policy relating to housing adjustment (e.g. facilitating new house supply in response to demand pressures, or cushioning non-metropolitan house owners following a localised negative shock), housing and regional development (e.g. balancing creation of new job opportunities with housing availability), transport infrastructure (e.g. facilitating travel between houses, jobs and educational facilities), and the planning and location of educational facilities relative to housing availability. The result should be policies that enable dynamic job growth as required by the broader economy, with reduced housing pressure points, social stress and negative environmental consequences arising from housing mis-matches.

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Appendix A: List of Organisations Consulted⁹²

- Building Research Association of New Zealand (BRANZ)
- Century 21 Mae Young Real Estate
- CHRANZ
- CRESA
- Ecologic
- Family Centre
- Fannie Mae
- Fletcher Concrete
- Fletcher Construction
- Foundation for Research, Science and Technology
- Housing New Zealand Corporation
- Infinity Investment Group Holdings
- Luggate Holdings Limited
- Ministry of Economic Development
- Ministry of Housing
- Ministry of Social Development
- Reserve Bank of New Zealand
- Te Puni Kokiri
- Treasury
- Westpac

⁹² In addition, discussions within Statistics New Zealand's Housing Statistics Users Group (of which one of the authors is a member) have proved very useful.

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- 03-05. Kerr, Suzi, “Motu, Excellence in Economic Research and the Challenges of ‘Human Dimensions’ Research”.
- 03-04. Kerr, Suzi and Catherine Leining, “Joint Implementation in Climate Change Policy”.
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