MODIFICATION OF THE EXISTING HOUSING STOCK

A Study of Housing Adjustments Through Home Improvement

SEEK NGEE HUAT

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The thesis is my own work.

N.H. SEEK

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ABSTRACT

In recent years, home improvement has become more important as a supplier of housing and this enhanced role in the housing market can have a significant impact on the quality of the existing housing stock, as well as on the distribution of dwellings among different households. This thesis aims to explain why and how home improvement decisions are made in order to understand the broader implications of home improving as a housing adjustment process. Other areas of concern are how improvers differ from other households, and the extent to which improving is a substitute for moving in adjusting housing consumption.

The main data source of this study is a sample survey of two hundred homeowners in Adelaide, who had undertaken home improvements within the year prior to the date of interview. The Australian Bureau of Statistics also provided some useful unpublished data on additions and alterations to dwellings.

Home improving mainly affects the home ownership sector of the market. Each year more homeowners improve their existing dwelling than move. The preference for improving instead of moving, among homeowners, stems largely from the high financial and psychological costs of moving. Many of them move under circumstances where they cannot improve, such as household dissolution or formation, or a change in workplace, or where they desire some housing attributes which are impractical or uneconomic to alter.

The typical housing consumption pattern of many Australian homeowners over time is that, after achieving their objective of owning a house, most of them stay in the same house for a good number of years, and often make improvements to it as their demands change with their socio-economic circumstances over their life cycle. Home improving enables a

household to adjust its housing consumption when the need arises, and as and when it can afford to do so. Home improvements are made mainly for consumption purposes, and to meet the demand for more and better housing rather than to remedy physical deficiencies in the dwelling. The number of households purchasing older dwellings in inner suburbs for improvement is relatively small, although there is evidence that this phenomenon is continuing in Australian cities.

Generally, home improvements are made by the more affluent households, although the lower income improvers are able to reduce expenditure by doing more of the work themselves. As a result, improvements tend to be concentrated among the better houses in areas of higher socio-economic status. The preference for home improving among home owners may also change the composition of ownership with new construction, particularly at the urban fringe, catering mainly for the younger and less wealthy first home buyers. If left to the working of the market, home improvement activity is likely to widen the quality differences among the existing stock and accentuate the unequal distribution of housing resources and residential segregation. On the other hand, improving the existing stock can reduce the waste of housing obsolescence and deterioration, and the rate of neighbourhood turnover which can be socially expensive.

To reduce inequalities, there is a case for providing financial assistance to those who need it, but cannot afford to improve their homes. More importantly, home improvement activity tends to slow down the rate at which cheap low quality dwellings are filtered down and, as a result, fewer of them reach the poor. Hence, the government should take a more direct approach, through direct construction of public housing, or the acquisition and upgrading of existing houses for the poor to ameliorate some of the inequities resulting from home improvements.

ABBREVIATIONS

A&A	Additions and Alterations
ABS	Australian Bureau of Statistics
CPI	Consumer Price Index
DHC	Commonwealth of Australia Department of Housing and Construction
DIS	Decision Information Service Pty. Ltd.
HIA	Housing Industry Association
IPC	Indicative Planning Council for the Housing Industry
LGA	Local Government Area
U.S.	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Significance and Objectives

With proper repairs and maintenance and periodic renovation, a dwelling structure can have an indefinite life span. This characteristic of durability accounts for the overwhelming dominance of the existing stock in the housing market at any point in time. In Australia, where most of the dwellings were built before 1960, and about half before the Second World War, only a very small percentage is added to or lost from the stock of dwellings each year. Each year new dwellings add only 3 to 4 per cent to the existing stock and less than half of one per cent are demolished.[1]

However, over time, changes occur in the existing stock. Dwellings tend to deteriorate, as a result of ageing, use, wear and tear and inadequate maintenance and repair, and become obsolescent as housing expectations, tastes and preferences change. On the other hand, the standing stock is constantly undergoing modification, through the conversions of single occupancy to multiple occupancy dwellings, and vice versa, and through home improvements - the actions of individual households extending, altering and renovating their dwellings.

This thesis is concerned with changes to the existing stock through home improvements. Private reinvestment in existing dwellings through additions, alterations and renovations has always been an important process in the Australian housing market by which the supply of housing is adjusted to meet changing demands. In recent years,

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1 Sources: Censuses and Australian Bureau of Statistics, *Building and Construction.*

however, the role of housing improvements appears to have become even more significant and this has attracted attention from some government authorities as well as the private sector.

Private investment in the existing stock has always been significant in Australia.[2] During the depression and war years of the 1930s and 1940s, acute shortage of housing led to doubling-up and widespread subdivisions of single-family houses to flats, boarding houses and rooming houses. However, in the 1950s and 1960s as the housing shortage eased and general income levels improved with accompanying expectations for better housing, many of these shared houses, boarding and rooming houses were converted back to single occupancy or self-contained flats and houses. At the same time, the conversion of existing houses to multiple dwelling units by landlord/investors continued throughout this period. The demand for such housing came mainly from an increasing number of relatively well-off young adults leaving home and the increasing number of white-collar workers in the inner city areas.

During the 1950s and early 1960s, housing improvements were very significant in the inner areas of Sydney and Melbourne. Largely as a result of higher incomes, the proportion of owner-occupied houses in these areas increased sharply. The first wave of home purchases were made at very cheap prices in the early 1950s, by sitting tenants from the owners of their generally run-down rent-controlled premises. Later, most of the acquisitions of the relatively inexpensive poor quality houses were made by non-British migrants. These new owner-occupiers

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2 See Chapters 7 and 8 of Kendig (1979) for a detailed historical account of what and why changes were made to the existing housing stock in the inner suburbs of Sydney, Melbourne and Adelaide during the post-war period. Much of the material in this and the next paragraphs on changes in the existing stock were drawn from Kendig (1979).

made improvements to their houses or generally kept the house in a proper state of repair and maintenance. This led to a general improvement in the quality and condition of a section of the existing stock which until then had been badly neglected since the 1920s.

More recently, there have been two significant related developments concerning housing improvements. Throughout the 1960s and especially during the 1970s, in the major cities in Australia, an increasingly significant number of middle income households were buying older houses in more accessible locations of the city and upgrading them to modern standards (Roseth 1969; Kendig 1979). The other development is the upsurge in home improvement activity since the mid-1970s, which has been referred to as the 'housing phenomenon of the seventies' (Paterson 1978:21). The Australian Bureau of Statistics (ABS) recorded an almost threefold increase of the annual value of additions and alterations (of those valued at $2000 and above) from $242 million in 1973/74 to $652 million in 1978/79, which amounted to 9 per cent and 18 per cent of the value of new dwellings.[3] There are some indications, to be discussed in the next chapter, that the ABS figures are gross underestimates of the size of the home improvement sector.

Home improvement has been the main growth area in housing since the mid-1970s. Its growth, and its increasing share of Australia's annual housing investment, indicate that the housing improvement process is playing a more important role in the housing market. The increase in home improvement activity has a significant impact on the quality of the existing stock as well as on the distribution of dwellings among different

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3 The ABS's definition of additions and alterations includes what is normally regarded as capital improvement (i.e. excluding repair, maintenance and decorative work) but does not include swimming pools.

households. This increase also reflects some fundamental changes in the housing consumption behaviour of households, which in turn may influence housing choices and which could have indirect effects on the production of new housing. These are issues which have broader implications and with which this thesis is also concerned.

A study of home improvements also seems timely and important in view of an apparent shift in attention among policy-makers from a concern mainly for housing production and allocation to include a concern for making more efficient use of the existing housing and other urban resources. One of the recommendations of the Committee of Inquiry into Housing Costs (1979, Volume 1:24) is:

> State and local governments should assist in bringing about a more efficient use of the existing stock of land and housing by facilitating and encouraging redevelopment, renovations and renewal and by allowing dual occupancy and the construction of additions, such as granny flats on the existing single dwelling allotments.

The New South Wales Government's public announcement in June 1979 of its decision to allow dual occupancy conversions of single family dwellings is another indication of the direction of changes in housing policy. The New South Wales Minister for Planning and Environment in the foreword to a brochure explaining his Government's policy on dual occupancy stated:

> This policy allows the addition of an attached self-contained dwelling to an existing house, or the conversion of an existing house into two dwellings.
>
> Dual occupancy will have major advantages for Sydney, reducing the pressures for outward sprawl and encouraging fuller use of existing community facilities such as shops, cafes and public transport. It will also assist families who want to live under the same roof, but in separate dwellings, and particularly the older people who wish to stay in their familiar surroundings but whose house has become too large.[4]

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4 In *Dual Occupancy - What it Means*, New South Wales Planning and Environment Commission, 1980.

Increasing home improvement activity also has important implications for suppliers of building materials and the housing industry at large. The interest of the private sector is evident by the private surveys undertaken[5] and reports of the Housing Industry Association (HIA) (Wickerson 1978) and the CSIRO in conjunction with HIA (Wymond and Hill 1977).

1.2 Conceptual Overview

A conceptual overview of the role of housing improvement in the housing market helps to set the topic of this thesis in perspective. Modification of the existing stock is one of the adjustment processes in the housing market where households compete for different bundles of housing according to their means and preferences. Figure 1.1 illustrates the inter-relationship of housing improvement and the other adjustment processes within a general market framework. A situation of disequilibrium or 'mismatch' exists when some households desire more or less housing than they are currently using. This can be brought about by changes in supply or in demand. Without renovation, the quantity of housing services would decline over time through physical deterioration and obsolescence, even if the number of dwelling units and demand remained unchanged. Also, changes in households' socio-economic circumstances and tastes and preferences are likely to result in changes in housing demands. New households formed as a result of marriages, divorces and separation, migration and undoubling almost always require housing adjustments.

Individual disequilibrium may result in an adjustment without any change in the price of housing. However, where there is aggregate

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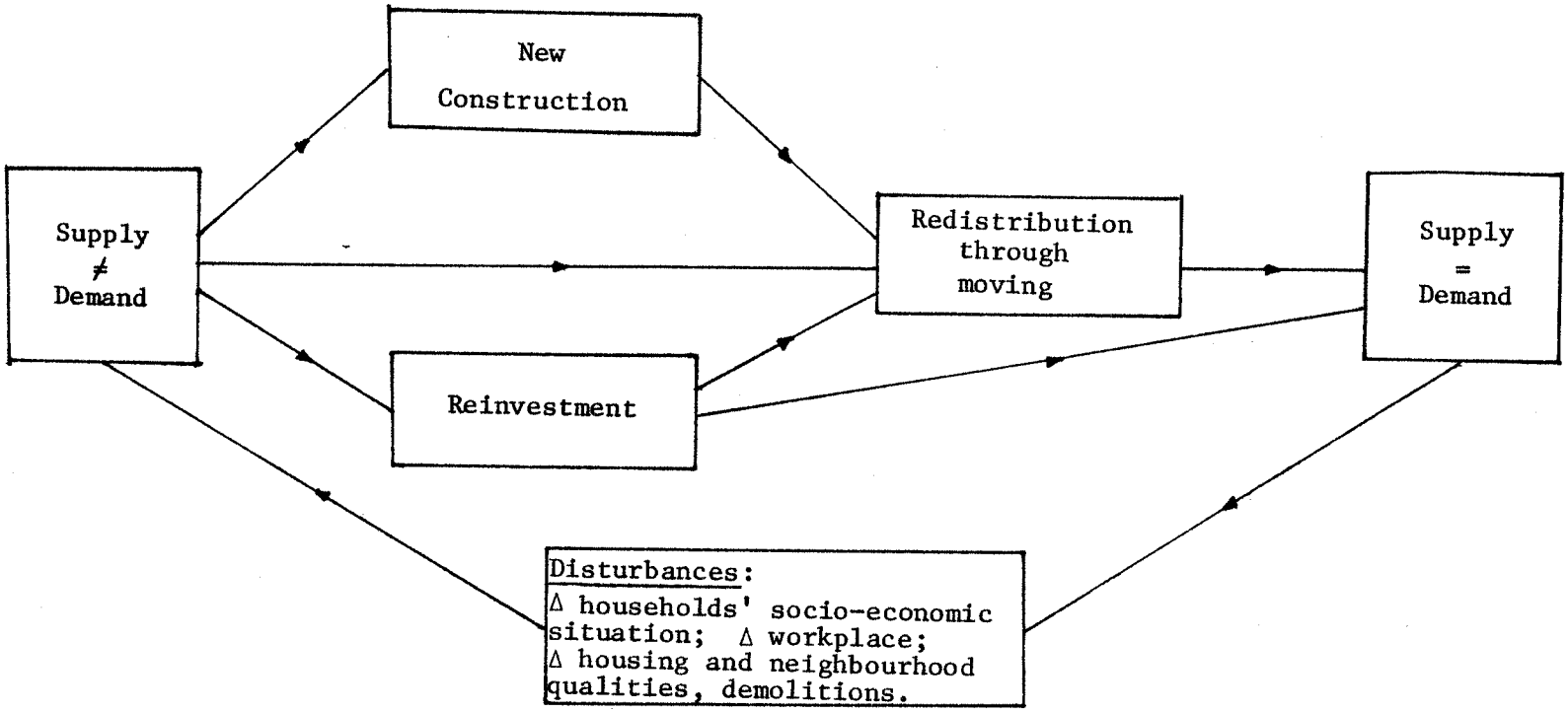
5 The Decision Information Services Pty. Ltd.'s surveys were conducted in Sydney and Melbourne in 1976 and 1977 respectively, while that of the Focus Research was in Melbourne in May 1979 (*Australian Financial Review*, 21 July, 1978; 22 August, 1979).

FIGURE 1.1 Market Adjustment Processes



disequilibrium, the initial response is generally a change in price. For example, an increase in the demand for a fixed supply of dwellings in good locations in the inner suburbs can push up prices dramatically, as has happened in Sydney and Melbourne. Over a longer period of time, the market can be expected to close the gap between the quantity demanded and supplied. Three adjustment processes can occur:

1. a change in housing supply through new construction;
2. a redistribution of the bundles of housing services among households through moving; and
3. a change in the supply of housing services through reinvestment in the existing housing stock.

The flow of new construction is a natural long-run response to increases in household formation and demolitions. Even where the total number of households remains static, some new dwellings will always be built as long as incomes and expectations are rising, since people will demand more and better housing. It is unlikely that all of these demands could be met by home improvements because technological, physical and economic constraints, prevent the alteration or upgrading of some dwellings to the desired standards. Also, there is competition from non-residential uses for locations of comparative advantage, which requires the demolition of existing dwellings. Nevertheless, it is possible that in western societies experiencing zero population growth, reinvestment in the existing stock may replace much of the new construction (Kristof 1977).

New construction and housing improvements are to some extent competing modes of supply, especially where housing improvement creates more dwelling units through conversion or enables more households to live in the same number of existing dwellings, even if there is an increasing number of households. An increase in housing stock through conversions (i.e. subdivision) usually means a diminution in housing

quality. An improvement in quality can occur if the stock remains constant, through additions, alterations or renovations or decreases as a result of amalgamations of smaller dwellings. New construction, on the other hand, increases the number of dwellings as well as their quality.

A redistribution of bundles of housing services can be stimulated by changes in the housing demand of households over time. At any time there are likely to be some householders who desire and have the ability to pay for more housing services than they are currently getting; and there are others who are receiving more services than they want. Adjustment is made possible by households 'exchanging' dwellings, i.e. by moving. There are yet others who leave the market altogether (through migration, household dissolution or death) thus releasing existing dwellings to join the flow of new construction into the market.

Reinvestment is a process by which the quantity of housing services derived from a dwelling is modified (usually increased) through additions, alterations and renovations thus enabling households to increase their housing consumption. Hence, reinvestment can be viewed as one of the underlying adjustment processes in the housing market constantly helping to close the gap between the supply of and demand for particular kinds of housing. The dominant role of the existing stock of housing in the market emphasises the importance of the home improvement process relative to new construction.

These adjustment processes are not mutually exclusive alternatives. In fact, a decision can involve all the processes simultaneously. For example, sometimes a household chooses to move to another house, and then make improvements to it. The long-run equilibrium situation would be one in which every household has adjusted

its consumption of housing services in accordance with its preferences and its ability to pay, and there is no desire to move or to improve.

It should be noted that while moving is likely to lead to more efficient allocation of housing services, it will obviously not increase the total quantity of housing available. In welfare economic terms, it leads to a net gain in total satisfaction (or utility) or social welfare. On the other hand, by reinvesting in the existing stock of dwellings, the quantity (and quality) of housing is also increased, though not necessarily the number of dwelling units.

The adjustment mechanism of the housing market has been the focus of many studies, but the housing improvement process has generally been overlooked. Most studies assume, either implicitly or explicitly, that the movement of households among dwellings is the basic element of adjustment. The following typifies the general line of argument used by these studies in perhaps more explicit terms:

> The extent to which the family can alter its consumption of housing services without moving is quite limited. Home owners can sometimes build an extension on to their house or redecorate the interior, thereby increasing the annual flow of services provided by their housing, but even these modifications are usually not available to the renters ... To change its housing consumption, a family usually must move to another residence.
>
> (Goodman 1976:857).

A number of studies are concerned with explaining urban residential spatial patterns, which are seen as the outcome of various competitive forces in the market (Alonso 1964; Wingo 1961; Muth 1969; Evans 1973; Wheaton 1977). These studies, using a market-oriented approach at an aggregate level, are limited by rather restrictive assumptions. The basic argument is that in order to maximise utility, households of differing income groups, having particular preferences for space/land and sensitivity to distance (and time) from workplaces,

compete for locations and in doing so trade off housing costs against commuting costs (i.e. time as well as money). The end result is a residential pattern where households with similar incomes are located in areas with similar housing quality. An equilibrium pattern of residential location and housing consumption is reached where no households wish to move. This equilibrium model assumes costless adjustments in both supply and demand and that households have perfect knowledge. Both assumptions are unrealistic in a market known to be plagued by numerous lags and inertias, stemming largely from imperfect information and the high financial and psychological costs of moving.

Residential spatial segregation is the outcome of individual households' decisions on where and what kind of housing to live in. Hence, most studies of intra-urban residential mobility use the micro-behavioural approach - looking at the factors which influence the decisions to move (or stay). It has been well documented that the decision to move is the result of dissatisfaction with the current dwelling, brought about mainly by the changes in housing requirements resulting from changes in the household's socio-economic circumstances and preferences (Rossi 1955; Abu-Lughod and Foley 1960; Speare *et al.* 1974; Fredland 1974; Goodman 1976; Quigley and Weinberg 1977), a dislike for the neighbourhood (Morrison 1972; Speare *et al.*1974), or a desire to change tenure from renting to owning or vice versa (Abu-Lughod and Foley 1960; Rossi 1955; Speare *et al.* 1974; Fredland 1974; Kendig 1981). Some studies recognise that the household goes through a search process before deciding on a particular location and house, while noting that there is a trade-off between the costs (time and expense) involved in the search for more information and the probability of finding the dwelling with the desired attributes (Brown and Longbrake 1970; Brown and Moore 1970;

Clark and Cadwallader 1973). Others also considered the costs of moving, both financial and psychological (Fredland 1974; Speare *et al.* 1974; Goodman 1976; Quigley and Weinberg 1977; Kendig 1981).

The strong inertia against moving is emphasised by most of these studies, but the possibility of many households electing to make improvements to their current dwelling instead of moving to another is commonly either ignored altogether or dismissed as unimportant. There are, of course, instances where moving is the only course of action available, such as when a change of location is required; but it is important to note that a move is not necessarily an automatic termination of the housing adjustment process. Also, some householders move with the intention of making improvements to the 'new' dwelling; thus casting doubts on a common assumption of some mobility studies (Speare *et al.* 1974; Fredland 1974; Goodman 1976; Quigley and Weinberg 1977) that most householders are in equilibrium immediately following a move.

While residential location and mobility studies tend to emphasise the demand side of the adjustment mechanism, the 'filtering' concept is developed to explain how houses of different qualities are allocated to households in different income groups. The filtering process describes the successive occupancy of dwellings by lower and lower income households as the dwellings age and deteriorate (Hoyt 1939). It is a dominating process when high income households have a preference for new dwellings and, being the initiators in the market, spark off a chain of moves when they move into their new dwellings. It emphasises upward adjustments of housing consumption, through relocation, and a decline in the quality and/or value of the dwellings. Home improvements, on the other hand, have reverse effects - upward adjustments in the quality of housing as well as housing consumption without relocation. This has considerable

implications for the policy argument that relatively low income households can rely on the filtering process for adequate housing as long as there is a constant supply of new construction at the top end of the market (Ratcliff 1949; Grigsby 1963; Smith 1964). With home improvements, dwellings are less likely to filter down to low income households.

Attempts to monitor the filtering process empirically led to the development of a methodology referred to as 'vacancy chain analysis' to trace the sequential movement of households through the dwelling stock - starting from moves into new dwellings.[6] Studies of this nature were pioneered in the United States (Kristof 1965; Lansing, Clifton and Morgan 1969) and have also been carried out in Britain (Watson 1974). In Australia, this approach of tracing sequences of moves (initiated by moves into new private dwellings (Maher 1978) and public dwellings (Malinauskas 1977)) has been used to examine the allocative efficiency of the market. It has been found that the filtering process is important in the U.S. (Kristof 1965; Lansing, Clifton and Morgan 1969), but the findings of the Australian studies were inconclusive, although Maher (1978) suggested that filtering could only work in the very long run.

In explaining the decline in housing quality through changes in occupancy and ageing and deterioration, the filtering theory failed to make explicit assumptions regarding demand conditions. Muth (1969) argued that income is the determining factor in housing quality. Lower income households can afford only lower quality (including smaller quantity of space and poor condition) accommodation, although aggregate demand for such accommodation can reach a very high level. With strong demand in a situation of low supply, housing prices (on a per unit basis) rise;

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6 There have been some disputes over whether vacancy chain analysis which monitors short-run adjustments can realistically throw light on 'filtering' which is essentially a long-run process (Murie, *et al.* 1977; Maher 1979).

and as long as it is profitable, landlord/investors will respond by allowing multi-occupancy and by subdividing existing premises into smaller multiple dwelling units. With sustained high levels of demand for poor quality accommodation, landlords have no incentive to maintain the premises in good condition. Some landlords deliberately disinvest in anticipation of redevelopment to higher or more intensive uses. As a result, through over-use and disinvestment, deterioration and obsolescence accelerate. Conversely, housing improvement, through amalgamation of small accommodation units and by upgrading, can happen if an increase in incomes and an easing of housing supply lead to a rise in demand for more and better housing. The modification of the existing stock to meet changing demands is well supported by the experiences of the inner areas of Australian cities (Kendig 1979).

The extension of the income argument to cover poor owner-occupiers, that housing deterioration occurs because they cannot afford to keep their dwellings in a good state of repair and maintenance, is more difficult to sustain. In fact, home-ownership is one of the most important conditions that contribute to the improvement in housing quality (Sternleib 1966), and this has been very evident in Australia (Kendig 1979).

The residential mobility and filtering models have been extended to explain neighbourhood change. Households of similar socio-economic background prefer similar neighbourhood environment (Schorr 1970); and the quality of the neighbourhood declines as it is occupied successively by lower and lower income groups (Smith 1964; Grigsby 1963; 1977; Muth 1973). Higher income households leave the neighbourhood partly because intrusion from lower income households filtering up causes the status of the neighbourhood to fall, and partly to satisfy their demands for better housing

in better locations. As the neighbourhoods age and produce lower quality housing services, low income residents, who cannot afford higher quality housing in good neighbourhoods, move in (Muth 1973). And, as noted earlier, sustained demand for low quality housing leads to disinvestment and a lack of proper maintenance and repair,[7] and hence further deterioration.

In addition to occupancy by low-income residents, a complex mixture of factors can contribute to the continued decline of some neighbourhoods. Individual owners' decisions on home improvement are affected by market externalities - the decisions of other owners in the neighbourhood. Owners are usually deterred from reinvesting in their dwellings if the neighbouring dwellings are in poor condition, since the market value of a dwelling is affected to a large extent by the quality of the neighbourhood (Rothenberg 1967). Sometimes individual owners may decide not to invest in their dwellings in anticipation of other residents making improvements so that they can have a 'free ride' from the spill-over benefits (Davis and Whinston 1961). Neighbourhood decline is further compounded by the reluctance of institutional mortgage lenders to make loans in areas where future property values are uncertain, and by the social problems of high crime rates, poor schools, etc. (Grigsby 1977).

An extensive literature on neighbourhood decline has been generated in the United States to try and explain the conditions of many of the country's inner cities which have been experiencing severe urban decay. In Australia, there has been much less interest in these issues partly because few places in her cities experienced urban decay of the same magnitude as in the U.S. and there have been no signs of

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7 It has been suggested that even adequate maintenance of lower quality housing cannot restore the condition of the building to its initial level (Grigsby 1977:41).

boarding up or abandonment of housing (Troy (ed.) 1966; Neutze 1978; Kendig 1979).

Recently there has been a revival of academic interest in declining residential areas in the United States, but ironically this is stimulated by problems associated with spontaneous revitalisation of some of these declining inner areas. This is largely in response to a growing number of upper and middle income households moving back to select parts of the inner areas which have traditionally been lower income neighbourhoods (Black 1975; Lipton 1977; Downs 1979; Sumka 1979; Rothenberg 1979; Zeitz 1979). This phenomenon which is commonly known as 'gentrification' or the 'back to the city movement' has also happened in many European cities (Smith 1979; Cullingworth 1979) as well as in the major cities of Australia (Roseth 1969; Kendig 1979).

Neighbourhood change adds a spatial dimension to the housing adjustment processes. The traditional view attributes neighbourhood decline to the successive movement of household groups of similar socio-economic background out of the neighbourhood. On the other hand, studies on gentrification recognise private reinvestment in older dwellings on a neighbourhood basis from in-migration of richer households. The integration of these views suggests that neighbourhoods go through phases of deterioration and upgrading. Much less attention, however, is given to the existence of 'insitu' upgrading (Rothenberg 1979), i.e. households choosing to improve instead of move, which has quite reverse effects on neighbourhoods - more stable neighbourhoods resulting from less household movement and less downward filtering of houses. This has significant implications for the traditional explanation of the forces which shape urban residential spatial pattern and the pattern of housing consumption, and for housing policies which rely on filtering and mobility. The home

improvement process is particularly important in neighbourhoods which are dominated by owner-occupiers. The fact that in Australia nearly 70 per cent of dwellings are owner-occupied perhaps explains in part the high level of home improvement activity.

Whether implicit or explicit, all these studies of market adjustment processes consider residential mobility as the primary way in which households can adjust their housing consumption. Although the strong inertia against moving is often recognised, the immobile sector is interesting only insofar as it provides a datum from which comparison with those who move can be made. Immobility is seen as an impediment to efficient distribution of housing packages to households of differing housing requirements; but the possibility of housing adjustments through making improvements to the household's existing house is ignored. This is despite the fact that in any one year only a relatively small proportion of the population moves. About 15 per cent of individuals move in any one year[8] but only some of them move to make housing adjustments as distinct from those who move as a result of household formation or dissolution (Goodman 1976; Kendig 1981).

Home improvements have recently attracted some academic interest but there is still remarkably little comprehensive research. Most studies focus on particular aspects of housing improvement. Attempts to examine housing improvement in a market context were probably hampered by the dearth of comprehensive data.

Concern about the economic behaviour of individual owners in maintaining and improving their dwellings had led to the development of theoretical models, using mathematical techniques of control theory

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8 1971 and 1976 Censuses.

(e.g. Pontryagin Maximum Principle), to explain the dynamic optimising behaviour of owners in making improvements and maintenance (Bagby 1973; Dildine and Massey 1974; Sweeney 1974). Kiefer (1975) tested this optimisation model and found that American landlords did in fact optimise maintenance. His model is restricted solely to landlords and, as he admitted, the data came from a 'narrow and poorly constructed sample of apartment buildings' (p.3). Another indication of the growing concern in the U.S. for the significance of modifying existing stock is the incorporation (as one of the supply submodels) of the decisions of individual owners to extend, renovate or convert their existing properties, into the sophisticated National Bureau of Economic Research urban simulation model (Kain and Agpar 1978).

Several empirical studies were carried out in Britain on improvements to dwellings, but most of them were centred on improvements to the lower strata of housing and the effectiveness of the policy of providing financial assistance for home improvements (The Deeplish Study 1966; Sigsworth and Wilkinson 1971; Kirwan and Martin 1972). The sample surveys for these studies were conducted in the more economically depressed areas in Britain. Although Kirwan and Martin examined the factors which influence this demand for residential improvements, the results of their multi-variate tests are very disappointing. The poor results are attributed partly to the study area which was so 'homogeneously poor' that 'there is little scope for wide variations in economic behaviour' (p.125). Economic aspects of residential renewal were their main concern. Neither the motives for, and attitudes towards making improvements, nor the choice between moving and improving were considered. However, Nutt *et al.* (1976), as part of a study of housing obsolescence, selected a sample to represent a cross-section of dwellings and locations in London

to examine the extent to which the improvements were undertaken in response to various housing and household constraints; but the choice question was not adequately dealt with. Two recent North American studies aimed to identify the nature of improvements undertaken and the factors influencing home improvement decisions (Mendelsohn 1977; Morrison 1978) but both studies were hampered by data not specifically designed for such purposes.

Except for the Deeplish Report and the Sigsworth and Wilkinson study, all of the empirical investigations are confined to the owner-occupied sector. None of these studies included rental properties. The influences of landlords' decisions to renovate flats form the subject of a Swedish study, and it concluded that landlords make improvements mainly for profit reasons (Brochner 1978).

Apart from the commercial sample surveys of Decision Information Services Pty. Ltd. and Focus Research (detailed results of which are not publicly available), there are two other studies of home improvements in Australia (Wymond and Hill 1977; Wickerson 1978). These studies are mainly concerned with the extent of home improvement activities and their characteristics, and are aimed at assessing their importance for manufactuers of building materials and the building industry. More references will be made to these studies in subsequent chapters.

1.3 Research Approach and Data Sources

To fully understand the home improvement process and its implications for housing policies, the decision-making of home improvers must first be understood. Individual households' decisions are likely to be the result of a complex set of influences and constraints. One of the main aims of this study is to identify and explain the effects of the various housing and household factors on the types and values of home

improvement undertaken. Other areas of concern are how improvers differ from other households, and the extent to which making improvements instead of moving, is an alternate way of adjusting housing consumption.

To obtain information on the characteristics of individual improvers and of their improvements and dwellings, it was necessary to conduct a sample survey. The main source of secondary data on additions and alterations is the ABS, which in turn obtains its information from local councils' records on approvals for additions and alterations. Such aggregate data at best provide only limited information on the estimated value of the improvements undertaken, and a general description of the types of improvements.

For a number of reasons, it was decided to conduct the survey in Adelaide. With a population in 1976 of about one million people, Adelaide is about one-third the size of Sydney or Melbourne, but it is large enough to have considerable variations in its urban physical environment and household types and yet small enough to allow a reasonable proportionate representation of the entire metropolitan area in a manageable sample.

Since one of the main aims of this study is to focus on the choice of moving versus making improvements, a sample survey of 'improvers' in Adelaide could take full advantage of a complementary survey of 'movers' undertaken by the Urban Research Unit late in 1977 in Adelaide (Kendig 1981).

The South Australian Valuer-General's Office has a computerised land information system which provides, among other information, a complete updated record of all buildings (i.e. addresses) in South Australia,[9] for which approvals for improvements had been given in the preceding twelve

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9 This set of information is used to identify properties which require revaluation.

months or thereabout. A brief summary description of the type of improvement and its estimated cost are also given. This source of information provided the sampling frame from which the sample for the survey was drawn.

Certain peculiar characteristics of Adelaide, however, may make the findings of this survey less than universally applicable. Its smaller area and less central orientation, make locational and accessibility constraints less significant than in Sydney and Melbourne; although its population density of 1500 persons per square kilometre is 20 per cent lower than Sydney or Melbourne, nearly 75 per cent of the population live within 15 kilometres of the city centre. As a result, relatively few people in Adelaide travel long distances to work or depend on public transport (Harrison 1977:16-22). Because accessibility is less a problem in Adelaide, the buying and upgrading of older dwellings in inner suburbs is probably less significant than in Sydney and Melbourne. On the other hand, since households' choice of residential locations is less likely to be constrained by job locations (Kendig 1981), probably more households adjust their housing requirements by improving their current house than by moving.

Buildings affected by salt damp appear to be much more common in Adelaide than in other capital cities in Australia. Salt damp may cause structural damage and is costly to cure (O'Reilly 1976). On the other hand, there are generally fewer older and poorer quality dwellings compared to Sydney or Melbourne (O'Reilly 1977), and hence, probably fewer dwellings in Adelaide require upgrading/renovation.

There are also fewer high-rise flats than in Sydney or Melbourne. About 90 per cent of the dwellings in Adelaide are houses compared to 80 per cent in Melbourne or 74 per cent in Sydney (1976 Census); and houses

are more easily modified than flats. While the proportion of owner-occupied dwellings in Adelaide is equal to that of Melbourne (71 per cent), it is higher than that of Sydney (67 per cent) (1976 Census). As noted earlier, home owners are more likely to make improvements than tenants.

Prices of dwellings have been considerably lower than those in Sydney or Melbourne; and comparable dwellings are more affordable in Adelaide. In 1977-78, the average number of years of earnings to buy a comparable new dwelling (and land) was 3.3 in Adelaide, 3.6 in Sydney and 3.9 in Melbourne (Committee of Inquiry into Housing Costs, 1978:29-30). The real estate market and the housing industry of Adelaide and Melbourne have been more adversely affected by the economic recession of the 1970s than Sydney. In Adelaide, there was a large build-up of unsold new dwellings between 1975 to 1979, and dwelling commencements fell sharply. The problem of excess stock had been largely overcome by mid-1979, but there has been no signs of a recovery comparable to that in Sydney (Indicative Planning Council for the Housing Industry, 1979). Cheaper house prices could have induced proportionately more people in Adelaide to move into new houses than in Sydney; and many new houses, especially those in the lower price range, usually leave scope for some improvements - garage, carport, rumpus room, etc. (see Chapters 2 and 7).

It is hoped that comparing the results of this survey with those of similar surveys of other cities and other secondary data will show the special effects of studying Adelaide and the applicability of the findings for other parts of Australia. As will be shown in the text, certain variables from the 1976 Census have also been used to test for bias in the sample.

The sample survey was conducted in October 1978. Only those owner-occupiers who had carried out improvements within the year prior to

the date of the interview were surveyed. This survey is confined to owner-occupiers because tenants are unlikely to make significant home improvements, and the inclusion of landlords would require an entirely separate sample survey, which would have been beyond the resources available.

Households which made only 'minor improvements', defined for the purposes of this study as those valued at less than $2000, and those which were made outside the dwelling, such as carports, garages, pergolas, verandahs, toolsheds, were excluded from the sample. For studying the housing adjustment behaviour of households, these 'non-dwelling' improvements are of relatively minor importance as it is likely that few households consider these improvements to be alternatives to moving to another dwelling.

Because of budgetary and time constraints, only a small randomly selected sample was planned. Two hundred interviews were fully completed. This sample survey is fairly representative of the population. As shown in Table 1.1 the proportion of home improvements in each zone of suburbs in Adelaide is very similar to ABS data on additions and alterations.[10] A non-response rate of 20 per cent, which is not atypical of a survey of this nature (Moser and Kalton 1971), was recorded. A description of the sampling procedure and the sample is presented in Appendix A.

In order to better understand why housing improvements are made, a rigorous study would require the same information on householders who did, and those who did not make improvements; but because of a lack of financial resources, the latter group was not surveyed. Instead, the

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10 See Chapter 7 for the criterion used to classify the suburbs into different zones.

TABLE 1.1 Proportions of Improvements by Zone in Adelaide

Zone	Total Improvements[1]		Improvements in Sample	
	No.(%)	Value(%)	No.(%)	Value(%)
Negative growth:				
Adelaide, Hindmarsh, Kensington & Norwood, Prospect, St. Peters, Walkerville, Unley, Thebarton	13	15	13	18
Slow growth:				
P. Adelaide, Burnside, Glenelg	9	11	12	11
Moderate growth:				
Campbelltown, Enfield, Elizabeth, Brighton, Henley & Grange, Marion, Payneham, W.Torrens, Woodville	35	34	31	29
Rapid growth:				
Meadows, Mitcham, Noarlunga, E.Torrens, Salisbury, Tea Tree Gully, Munno Para	43	40	44	41
Total	100	100	100	100
Number of Cases	5810		200	
Total Value		$38209[2]		$15209[2]

Chi-square tests significant at the 0.05 level.

Notes: 1. ABS data in 1978 - excludes non-private dwellings.
2. In thousands.

Sources: ABS, unpublished Building Statistics and the Housing Improvement Survey, Adelaide, 1978.

features of dwellings and households shown in the 1976 Census are used to approximate the universe of non-improvers since relatively few households had made major improvements.

The survey was designed to collect information in three broad areas, roughly corresponding to three sections in the questionnaire. The first section was on the characteristics of the improvements and attitudes towards improvements, and the reasons for making them. Information pertaining to the location and physical characteristics of the dwelling, and the socio-economic characteristics of the households, were asked in the second and third sections respectively. A copy of the questionnaire is attached in Appendix B.

1.4 A Note on Definition

Different definitions are used in different studies for the summary term, 'home improvement' or 'alteration and addition'. This study will try to give a conceptual, as well as a practical definition for the term. 'Home improvement' can be viewed as the outcome of adding inputs to a quantity of fixed capital asset (i.e. the dwelling),[11] and it can be viewed as a reinvestment in the existing dwelling. 'Reinvestment' is used here as opposed to 'disinvestment' which is the deliberate act of letting

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11 The term, housing service, is a theoretical entity and includes not only attributes derived from the dwelling itself, such as shelter, comfort, convenience, privacy, prestige, size, but also locational and neighbourhood attributes such as accessibility, nearness to social amenities, congenial environment and so on. (Muth 1960; Olsen 1969). A house or dwelling unit is described as 'a package composed of a certain quantity of capital asset called housing stock' (Olsen 1969:623) from which flows a quantity of housing services per period of time. This concept of a dwelling has the advantage of not having to make the distinction between quality from quantity attributes, which often creates problems for analytical purposes. A higher quality dwelling is simply distinguished as producing a larger quantity of housing services per period.

a dwelling run down. The terms reinvestment, modification and improvement are used interchangeably in this thesis, and they encompass all capital improvements including additions/extensions, alterations/conversions and renovations/modernisation. Expenditure on day-to-day operation and all chattels such as furniture, curtains, washing machine, are excluded. Operating expenses include fixed expenses such as property tax and variable expenses such as cleaning, painting, heating, utilities (water, electricity and gas), maintenance and repairs, ground care, management and wages for maintenance staff. The last three items are applicable mainly to rental property.

It is not always easy to make a clear cut distinction between operating expenses and capital improvements. One can, of course, adopt the conventional accounting distinction used for taxation purposes, but this criterion may not be satisfactory for the purposes of this study. Part of the complication arises because different components of the same building have varying life spans, and are subject to different rates of deterioration and obsolescence. One criterion for distinction is to treat replacements of whole separate building components as capital improvements and parts of components as operating expenses. The problem is that sometimes it is difficult to determine what is a whole, and what is a part. For example, the replacement of a worn-out gutter is a capital expenditure if the gutter is viewed as a separate building component. If, however, it is viewed as a part of the roof, then it becomes a repair item. Neither does the size of the expenditure give a clear distinction. A general repainting of walls or pointing of external walls are expensive items, but are normally regarded as operating expenses. On the other hand, the replacement of a sink, which may cost much less, is treated as a capital outlay.

It is conceptually important to distinguish the categories of expenditure despite the difficulties involved. Operating expenses, as distinct from improvements, do not change the productive capacity of the dwelling; and they are made during the day-to-day operation of the dwelling for which size, layout, construction, design, are taken as given. This is analagous to a firm whose productive capacity is limited by the size of the plant in the short-run. Most owners of dwellings tend to vary the operating expenses so that the returns (or quantity of housing services) derived are optimised, that is, additional expenses are incurred up to the point where the marginal returns fall to equal marginal costs.[12]

In the longer run, however, it is possible to improve the income-producing potential (or the capacity to produce housing services) and/or extend the economic life of the dwelling. An expenditure which causes this to occur is, for the purposes of this study, regarded as an improvement or reinvestment. Figure 1.2 illustrates this concept. P_0 Y represents declining returns per period (excluding returns from land) over the entire economic life, NY, of the dwelling. The economic life of the property is the period during which there is no prospect of changing the type and/or intensity of its existing use. A building is economically 'dead' when it reaches the point at which the discounted net benefits to be derived from an alternate use of the land, minus the cost of redevelopment, exceed its value in its present use. The downward sloping shape of P_0 Y is due to declining quality over time as a result of

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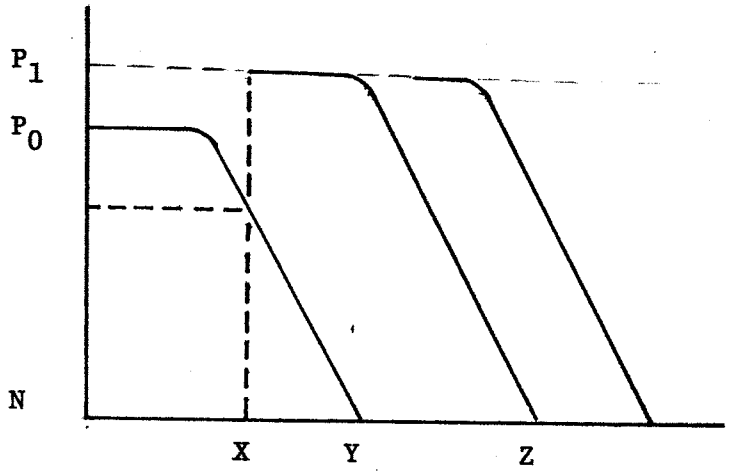
12 From the standpoint of the owner-occupier, 'returns' can be interpreted as the monetary equivalent of satisfaction (or utility) yielded.

FIGURE 1.2 Returns-Age Curve



obsolescence and physical deterioration.[13] Maintaining the quality of the dwelling at a constant level throughout its life span is likely to be uneconomical, as increasing expenditures on repairs and maintenance will be required.[14] However, while landlords can, under certain market conditions,

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13 That the value of a dwelling structure depreciates with the passage of time is generally accepted, although there has been very little empirical research (Lowry 1960; Grigsby 1963; Cowan 1965). Grigsby (1963:109) conceptualises an inverted 'S' curve to describe declining values over the entire physical life of a building. In a literature survey of studies on obsolescence, deterioration and ageing in buildings, Cowan (1965) found that the major source of evidence is from Clark's *Values of Houses and Residential Land*, Unpublished Monograph, 1963. By analysing valuation records of houses in the Bay area, San Fransisco, from 1940 to 1962, Clark concluded that the data 'give some measure of physical deterioration and obsolescence' and 'that in general the owner can be relied upon to maintain the house and that there should be no appreciable physical deterioration or obsolescence for the first 20 years of its life. After that, the hypothesis that it loses 2 per cent (straight line depreciation) of its original value in each succeeding year, ... appears to fit the data reasonably well'. It is however not clear, if during the first 20 years, the values of these dwellings were maintained by increased expenditure or repairs and maintenance.

14 Obsolescence and deterioration have been observed to be a function of the level of maintenance and repairs (Lowry 1960; Grigsby 1963; Kirwan and Martin 1971; Stone 1970; Sweeney 1974; Dildine and Massey 1974). Kirwan and Martin (1971:28) describes obsolescence (economic) to have occurred 'when the net benefits that can be derived from undertaking maintenance necessary to keep the condition of a building unchanged or from renewing it, is less than the net benefit of allowing it to continue to be used'.

transfer a part or the whole of the cost to their tenants, owner-occupiers have to bear the full cost. At year X, when the building is improved, returns (or the quantity of housing services) per period increases from NP_0 to NP_1 and the economic life is extended by YZ years.[15] The value at N is not necessarily equal to zero since the property can still command a value after its economic life has ended if there is a demand for it at its existing use and condition, probably from lower-income households. Conceptually, it seems possible to extend the economic life of a structure indefinitely as long as there is a demand for it, and it is profitable to do so. As demonstrated in Figure 1.2, the curve shifts outward at each improvement of the dwelling.

Operating decisions are also differentiated from improvement (or reinvestment) decisions in that the former are made continuously over time, but the latter at discrete intervals. They are not however independent. Higher initial costs on better quality building components tend to reduce maintenance costs in the long run (Stone 1960; 1970).

While conceptually necessary, in practice, the task of precisely differentiating between operating expenses and improvements is quite impossible without resorting to some simple rules of thumb. Fortunately, in so far as this study is concerned, the empirical data sampled almost certainly exclude operating items.

Another definitional problem is the classification of improvement by type, which is often arbitrary. While terms such as additions, extensions, alterations, conversions, renovations and modernisation are commonly used to describe different types of improvements, in practice, many improvements do not fall neatly into one classification or another -

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15 For simplicity, the new returns-age curve is assumed to take the same shape as P_0Y but in practice it can be a variety of shapes.

there is a considerable degree of overlap. For the purposes of this study, the following rules are used to classify improvements by type. Improvements which result in additional space are classified as additions or extensions, and improvements which involve certain structural changes without an addition in space, such as the demolition or erection of walls to rearrange the layout of a house, are termed alterations or conversions. Renovations, as distinct from the other two categories, are improvements that are primarily undertaken to upgrade obsolete parts of a house or the whole house. Finally, all improvements made outside the house, such as garages, carports, sheds, verandahs, pergolas and swimming pools, are grouped together as 'non-dwelling' improvements, and are relatively less important for the purposes of this study. Additions/extensions, alterations/conversions and renovations are termed 'dwelling' improvements.

Another classification problem is that often a combination of different types of improvements is carried out at the same time or within the one year period covered by the survey. This poses some problems for analysis. However, in those cases which involved more than one kind of improvement, they were seldom of the same degree of complexity. For this reason, another classification which selects the dominant type of improvement in each case, to be termed 'main improvement', is used to facilitate analysis. A total of 377 individual improvements were made by the 200 households interviewed, giving an average of 1.9 improvements per household. In fact about 60 per cent of all the cases had more than one improvement.

1.5 Thesis Outline

This chapter has noted the objectives and significance of this study and provided a conceptual overview of the subject matter and a description of the research approach taken. The next chapter presents

some general background information on the sector of housing investment generally known as 'home improvements' or 'additions and alterations'. It assesses the size of the home improvement sector in Australia and all the states and discusses the differences and similarities in the trends and types of improvements among the different states. The causes of the recent upsurge in home improvements and whether home improvements and new construction have been competing modes of supply are also discussed.

Aggregate data, as used in Chapter 2, are quite unsuitable for understanding the housing adjustment behaviour of individual households. Chapters 3 to 7 adopt the micro-behavioural approach to study the factors which influence improvement decisions. Chapter 3 sets out the conceptual framework from which the empirical analyses in all the subsequent chapters are based. It shows why home-owners are more likely to improve than tenants or landlords, and that the decision to improve is the outcome of a two part decision-making process. The household first comes to a decision to adjust its housing consumption according to its preferences and needs; it then selects from among the available adjustment alternatives - move or improve or a combination of the two - the one which yields the highest net tangible and intangible benefits.

Chapter 4 demonstrates how a household chooses between various options in housing adjustment. It shows that in certain circumstances, some householders are precluded from selecting the option of improving. However, because of the high financial and psychological costs involved in moving, most householders who have both options, tend to improve rather than move. This is followed by a multi-variate analysis of the factors which influence a household's choice between moving and improving and an examination of the circumstances under which the 'move and improve' option is preferred.

Chapters 5 to 7 explain how the decision to improve and the kinds of improvements made are the result of a complex mixture of influences and constraints. They also examine the causes of the mismatch between the household and the house, which determines the first part of the decision-making process.

Chapter 5 analyses the housing consumption pattern of improvers by showing that the different kinds of improvements made are largely a reflection of the different kinds of housing demands that are being satisfied, and that these demands are in turn a function of the households' socio-economic characteristics. That improvers generally have more economic resources than most other home-owners will also be shown.

While Chapter 5 shows that income and wealth determine the amount a household can afford to spend on home improvements, Chapter 6 considers how it can extend its resources by borrowing to pay for a part or all of the cost of improvement or by doing some of the work itself. The various financial packages for paying for home improvements and the significance and extent of the home handyman's role will also be examined.

Chapter 7 emphasises that household factors are generally more important than housing factors in influencing the decision to improve. The physical characteristics of the house, however, constrains the kind of improvements that can be undertaken. More importantly, this chapter evaluates the effects of home improvements on the characteristics of the existing stock as a whole and on the standard of housing, and considers the question of whether home improvements have contributed to more unequal distribution of housing resources.

The concluding chapter summarises the main findings of this study and discusses the policy implications of the impact of home improvements on

the patterns of housing consumption and the quality of the existing stock. It also evaluates the merits and demerits of a policy to encourage home improvements.

CHAPTER TWO

SOME DIMENSIONS OF THE HOME IMPROVEMENT SECTOR

This chapter examines, at an aggregate level, the role and significance of home improvements. In relating home improvements to other activities in the housing market, including new construction, demolition and the movement of residents, and the influences of some general social and economic forces, this chapter tries to explain the recent growth in home improvement activity and to evaluate the extent to which new construction and home improvement are competing modes of housing supply. Some of the general observations made in this chapter, stemming from an examination of aggregate data, foreshadow the results of more detailed disaggregate analyses in subsequent chapters.

Although the home improvement sector constitutes a sizeable portion of the nation's annual housing investment, there is little consensus about its size. This chapter therefore begins with an assessment of the size of the home improvement sector in Australia and a comparison of its size and trends and the types of improvements between the different states. The discussion in the next section shows that the upsurge in home improvement activity since mid-1975 has been mainly due to changes in general economic conditions, which has led to some significant changes in housing choices, and in particular a preference for making home improvements. The third section argues against the popular belief that the decline in new construction in the second half of the 1970s resulted from a shift in demand away from new construction to home improvements, and shows that the two series in fact moved in phase with each other.

2.1 Some Characteristics of the Home Improvement Sector

2.1.1 Size and trends

Especially since the mid-1970s, the annual investment in home improvements has been very significant. By 1978/79 annual approvals of additions and alterations were valued at $652 million.[1] About 2 per cent of the dwelling stock had additions and alterations in the same year, that is, nearly as many dwellings were improved as were built. However, the size of the home improvement sector is much larger than these Australian Bureau of Statistics (ABS) figures indicate: they exclude the value of additions and alterations (A&A) not approved by local councils - many carried out by home handymen - and all improvements estimated to cost less than $2000.

An indication of this downward bias is provided by estimates from surveys undertaken by two market research firms, Decision Information Services Pty. Ltd. (DIS) and Focus Research. They used a broader definition of home improvement than that of the ABS to include renovations and some items of maintenance and repairs as well. The DIS surveys estimated the value of home improvements in Australia in 1977 to be about 80 per cent of that of new dwellings, and the estimate by Focus Research for 1978/79 was 60 per cent.[2] Both surveys included improvements that did not have building approvals and an estimate of the value of unpaid labour; but the former included improvements of any value, while

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1 This figure includes only additions and alterations value at $2000 or more (ABS unpublished data). The ABS's definition of additions and alterations includes what is normally regarded as capital improvement (i.e. excluding repair, maintenance and decorative work) except swimming pools.

2 The DIS surveys were conducted in Sydney and Melbourne in 1976 and 1977 respectively, while that of Focus Research was in Melbourne in May 1979 (*Australian Financial Review*, 21 July, 1978; 22 August, 1979). The detailed results of these surveys are however not publicly available.

the latter included only those above a value of $500. Renovations, being more likely to be carried out without building approvals, are especially likely to be under-estimated in the ABS figures. For example, the installation of a 'package kitchen' does not usually require structural modification, and which may cost as much as $5000, does not require a permit (unless plumbing work is involved).

Another source from which estimates of the size of the home improvement market can be made is the ABS Household Expenditure Surveys of 1974-75 and 1975-76. The average weekly expenditure on alterations and additions for all capital cities increased by one and a half times from $3.39 in 1974-75 to $8.55 in 1975-76.[3] These figures should however be used cautiously because of their high standard errors of 10 per cent and 27 per cent respectively and problems related to the coding procedures. Expenditures exceeding $50 were defined as additions and alterations but there was some inconsistency in whether an item should be coded as an addition/alteration or as repairs and maintenance.

Nevertheless, using the 1975-76 Household Expenditure Survey's estimate of $7.15 per week on additions and alterations (with a standard error of 22 per cent) for all households in Australia, a rough indication of the size of expenditure on home improvements can be obtained by multiplying it by the number of households.[4] This gives a value of $1540 million or about 50 per cent of the value of new dwellings in 1975/76 as against 15 per cent using ABS figures on A&A. In the same year (i.e. 1975/76), maintenance and repairs cost $3.05 per week; and hence, together with additions and alterations their value was about 70 per cent

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3 Repair and maintenance increased by less than 10 per cent from 1974/75 to 1975/76.

4 The 1976 Census estimate of the total number of occupied dwellings is used.

of the value of new dwellings.[5] By proportionately scaling up ABS figures on additions and alterations in 1978/79, the value of home improvements (i.e. excluding repairs and maintenance) in that year was estimated at 60 per cent of that of new dwellings. These figures are close to the estimates of the two commercial surveys mentioned above. Taking into consideration all these estimates, it is perhaps reasonable to generalise that the total expenditure on home improvement in Australia is about three times that indicated by the ABS figures, and that each year about 6 per cent of the existing dwelling stock is improved.[6]

Home improvements appear to be largely confined to the owner-occupied sector of the housing stock. There is some evidence that few tenants or landlords make improvements.[7] Of the 306 households contacted in the survey of home improvers in Adelaide, only eight were tenants, but unfortunately no attempt was made to confirm that they had made improvements. However, even assuming that all of these tenants or their landlords had in fact made improvements, the proportion is still very small. On the other hand, there may be a small number of 'speculative improvers' who buy and upgrade dwellings for the sole purpose of reselling them for a profit. Although the sample included only those addresses that were recorded as having had improvements (see the appendix for an account of the sampling procedure), 49 of the households contacted said that they did not make any improvements in the 12 months prior to the date of interview. It is

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5 It was estimated that over a period of six months about half of the households in the United States had made some home improvements and about one-quarter spent more than 100 dollars (Mendelsohn 1977:467).

6 Another study (Wymond and Hill 1977:133) estimated the annual value of home improvements in Victoria, 1976, to be about 60 per cent of that of new dwellings.

7 See Chapters 3 and 4 for a more detailed discussion on the reasons why tenants and landlords are less likely to improve. Based on theoretical grounds (to be explained in Chapter 3) and the findings of the pilot survey that tenants are unlikely to improve, tenanted dwellings were excluded from the survey.

possible that a number of these dwellings had in fact been upgraded by speculative improvers.[8] It is also likely that major improvements occur between tenancies, and as a result, are possibly indistinguishable from speculative improvement.

Since about 70 per cent of the dwellings in Australia are owner-occupied, the percentage of owner-occupied dwellings that are improved each year should be higher than 6 per cent - closer to 8 or 9 per cent. In comparison, about 15 to 16 per cent of the residents in Australia moved each year between the census years of 1971 and 1976; but moves are very much more frequent among non-homeowners, and many moves by individuals leave home owning households in their original dwellings. Kendig (1981) estimated that only 3 per cent of owner-occupiers moved within Adelaide in any given year. Therefore it appears that among homeowners, home improving is more frequent than moving.

Private reinvestment in the existing stock is not as recent a phenomenon as public attention afforded to it in recent years may suggest. It has always played a part in increasing the supply of housing from the standing stock. In fact, a significant proportion of the sales of manufacturers of building materials has always been for home improvements (Wymond and Hill 1977). Nevertheless, there has been a sharp increase in A&A activity in the last five years suggesting significant changes in the housing consumption behaviour of Australian homeowners. More homeowners are meeting their housing demands by making home improvements than by moving.

However the relatively high rates of inflation in recent years tend to exaggerate the increase in value of A&A. For instance, while the

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8 Specification errors and changes in affordability and preferences are other possible explanations.

value of A&A in current prices increased by more than two and a half times from 1973/74 to 1978/79, the increase in constant prices was only 40 per cent. In fact, the upsurge in the real value of A&A occurred only in the second half of 1975, after which it has remained relatively constant (Figure 2.1).[9]

Despite significant differences in population, size of cities and characteristics of housing and urban infrastructure, all the states displayed a remarkably similar pattern of movement in the annual values of A&A, with the exception of New South Wales where the upsurge occurred earlier.[10] All other states experienced a sharp increase of between 30 and 50 per cent from 1974/75 to 1975/76, except New South Wales which had a 13 per cent increase (Figure 2.2).[11]

The more populous states of New South Wales and Victoria have more improvements. However, the expectation that these states with their bigger and older capital cities[12] and hence more severe problems of accessibility to the city centre, housing deterioration and obsolescence would have proportionately more improvements is not fulfilled. Table 2.1 indicates that there are few significant systematic differences between

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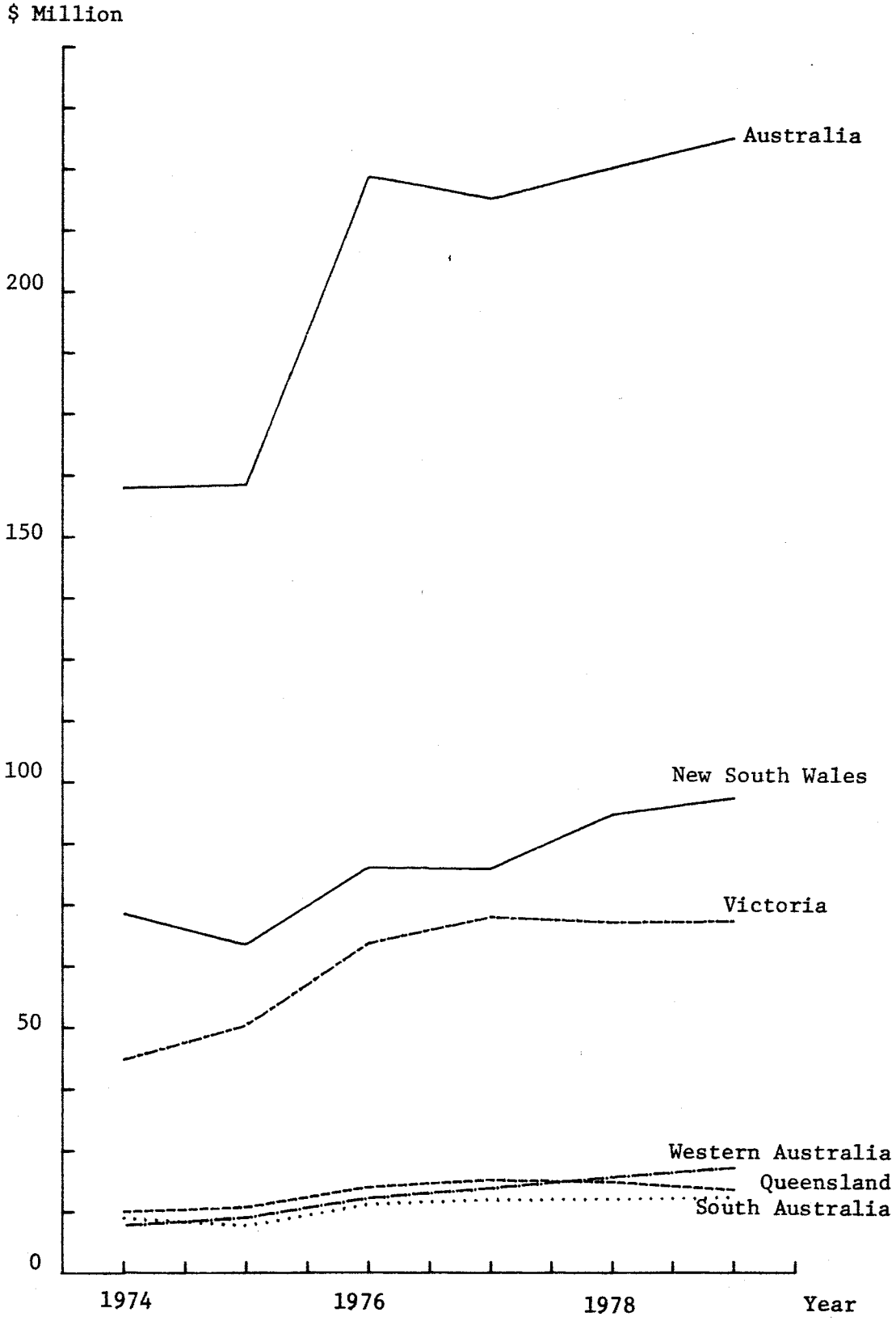
9 Prior to 1973/74, additions and alterations valued at $1000 and above were recorded by some state offices of the ABS. Since 1973/74 the lower limit has been $2000. For consistency only the latter figure is used in this chapter. It should be noted that the relatively high rates of inflation during the 1970s raised more improvements to above the $2000 threshold.

10 Sydney has traditionally been the trend-setter in Australia. For example, significant real dwelling price increases occurred in the late 1960s, and in Melbourne and Adelaide in the 1970s (Committee of Inquiry into Housing Costs, 1978). It was also the first to recover from the construction slump of the mid-1970s (Indicative Planning Council, 1979).

11 Using the records of the Sydney Metropolitan Water, Sewerage and Drainage Board, Figure 2.2 provides a longer series for the number of improvements. The Board does not record the value of improvements and its figures are biased towards improvements with plumbing installations (i.e. additions which do not involve plumbing work are likely to be excluded).

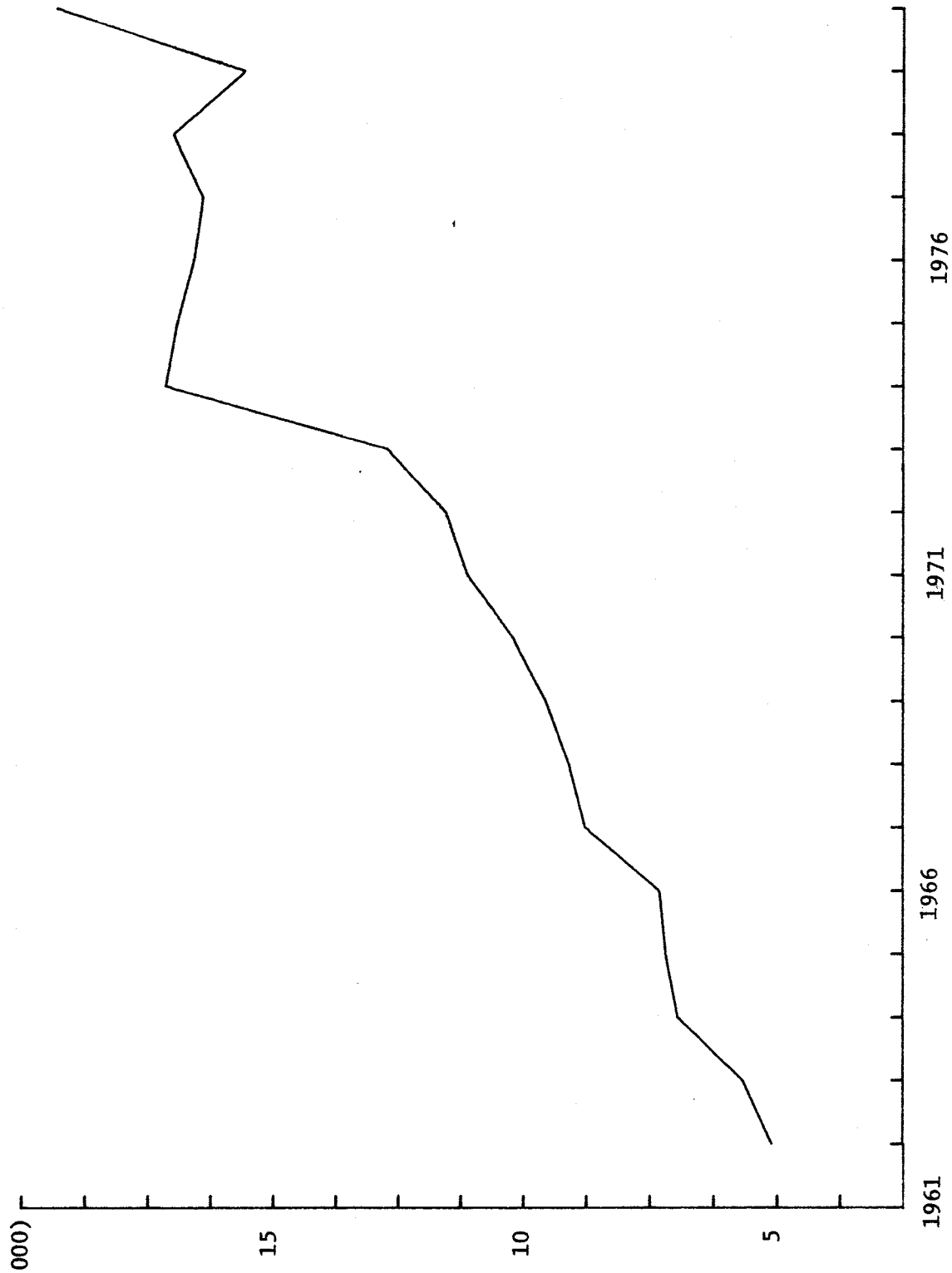
12 Nearly 70 per cent of the population in South Australia and Victoria live in their capital cities, and about 60 per cent of the population in New South Wales in Sydney.

FIGURE 2.1 Annual Approvals of Additions and Alterations in Constant Prices, 1973/74 to 1978/79



Source: Unpublished ABS statistics.

FIGURE 2.2 Number of Home Improvements in Metropolitan Sydney, 1961/62 to 1979/80



Source: Sydney Metropolitan Water, Sewerage and Drainage Board.

TABLE 2.1 Number of Additions and Alterations per 100 Houses in All States and Australia (1976)

	No. of Houses[1] ('000)	No. of A&A[2] ('000)	No. of A&A per 100 houses
New South Wales	1644	28.44	1.73
Victoria	1241	28.74	2.32
Queensland	661	8.22	1.24
South Australia	430	7.47	1.74
Western Australia	371	7.97	2.15
Australia	4571	85.61	1.87

Notes: 1. Since the number of houses is at mid-1976 (i.e. census year) and the number of A&A is for 1976/77, the number of A&A per 100 houses is slightly inflated.

2. These figures refer to A&A to houses only. Number of A&A to other dwellings are not available for some states.

Sources: 1976 Census and ABS unpublished data.

the states (except Queensland) in terms of the number of A&A per 100 houses. In fact after Queensland, New South Wales, which has the largest population, housing stock and capital city in Australia, had the smallest number of improvements per 100 houses, while Western Australia, the smallest (in population) state, for which data are available, has more A&A than the national average. By comparing the trends of home improvement activity between the Melbourne Statistical Division and the rest of Victoria, Wymond and Hill (1977) also concluded that the accessibility problem of bigger cities is probably not a significant factor in influencing home improvements.

Queensland also differs from the other states in two ways. Not only is the average number of A&A per 100 houses the lowest, it is the only state which has shown a gradual decline in the annual real value of home improvements since 1976/77. These differences are probably related to the fact that only about 20 per cent of its dwellings have

brick/stone external walls, compared to more than 50 per cent for the other states (1976 Census). Queensland's predominantly wood and fibro houses are probably less worthwhile to improve than those built of brick or stone. Nonetheless, these regional variations are rather small in comparison with the similarity in the general pattern of real growth in home improvement activity in all states.

2.1.2 Types of improvements

Differences in the quality and type of dwellings and localised problems, such as salt damp, between states can be expected to affect the types more than the value (or number) of home improvements. These physical features constrain the types of improvements that can be undertaken. ABS data, collected at an aggregate level, do not allow inter-state comparisons of improvement types, and differences in the definition of home improvement and sampling procedure used by the previously mentioned sample surveys make comparison difficult. The Housing Industry Association (HIA) survey on home improvements (Wickerson 1978) provides the only data for some limited inter-state comparisons.

The HIA survey covered most of New South Wales, Victoria and South Australia and collected information on local council approvals for home improvements for the month of May 1977, including improvements of less than $2000. However, because local councils do not record information in sufficient detail, some inconsistency in the identification and classification of the types of improvements can result.[13] This is indicated in

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13 The HIA survey recorded that 23 per cent of the improvements in South Australia were of the 'dwelling' type compared to about 75 per cent in New South Wales and Victoria. However, when the cost of the more substantial improvements (i.e. those costing more than $2000) is used as the basis for comparisons, the differences in the average value of improvements between the states become quite insignificant: $6275 for South Australia, $6709 for Melbourne and $6583 for New South Wales.

Table 2.2 which shows the percentages of various types of dwelling improvements in the three states.

TABLE 2.2 Types of 'Dwelling' Improvements in South Australia, Victoria and New South Wales

Types	South Australia (%)	Victoria (%)	New South Wales (%)
Roof/Recladding	0.7	19.4	4.9
Kitchens	2.0	2.5	1.4
Bathrooms	0.5	1.1	0.9
Laundries	0.7	1.1	1.6
Bedrooms	7.2	7.5	3.8
Rumpus Rooms	7.9	1.6	0.3
Other Specified	2.5	1.7	0.7
Combinations of above	25.7	32.8	26.6
Not Specified	52.8	32.3	59.9
Total Number	405	1314	1962

Source: HIA Survey of Home Improvements, May 1977.

The large proportion of non-specified improvements in every state makes comparison difficult, but there are indications of some real differences in the type of improvements between states. For example, Table 2.2 shows that South Australia has disproportionately more additions of rumpus/family rooms than New South Wales and Victoria. Rumpus rooms account for 8 per cent of the number of improvements in South Australia, compared to 0.3 per cent in New South Wales and 1.6 per cent in Victoria. Additions of rumpus/family rooms are also the most frequently made improvements in Adelaide (56 per cent) according to our survey. One possible reason is that houses in Adelaide generally have large sites and could easily fit in an additional room for recreational purposes.

Table 2.2 shows that roof/recladding work is more common in New South Wales and Victoria than in South Australia. The proportion of additions of bedrooms is about the same in South Australia and Victoria, while that of New South Wales is surprisingly low. This is probably because there are generally fewer older and poorer quality dwellings in South Australia (see Chapters 1 and 7). Unfortunately, the large proportion of unspecified improvements, particularly in New South Wales (60 per cent) is likely to hide a great deal of information about the kind of improvements and hence, a more conprehensive inter-state comparison is not possible.

In summary, it can be concluded that the upsurge in home improvement activity in the second half of the 1970s is a nationwide phenomenon. The general pattern of a sharp increase in the mid-1970s, followed by a sustained high level of activity, applies to all states. The average value of the more expensive, and probably more important improvements, does not differ much between the states. But due to inter-state differences in housing characteristics, there are some differences in the kinds of improvements made. There are also indications that, for homeowners, home improvement activity is a more common housing adjustment process than residential mobility. The next section tries to explain this growth in the home improvement sector.

2.2 The Growth in Home Improvement Activity

2.2.1 Reasons for growth

This section will argue that the sharp increase in home improvement activity in the mid-1970s was largely stimulated by conducive economic conditions and that the high level of activity has been sustained since then by various general social and economic forces, which, in turn, have led to some significant changes in the housing preferences of a

large section of Australian homeowners.

Economic circumstances were particularly conducive to households making capital expenditures on their dwellings in the later part of 1975. An unprecedented rise of 25 per cent in average earnings in the previous year (1974/75) compared to an increase of about 17 per cent in the Consumer Price Index (CPI) enhanced the purchasing power of many households (Figure 2.3). Again in 1975/76 the percentage change in average earnings was well above that of the CPI. In late 1975 there was also an easing of credit conditions (Davis and Lewis 1978), which enabled more householders, who previously could not meet the requirements of lending institutions, or who previously thought the cost of financing was too high, to borrow for making home improvements. For instance, in New South Wales, the mortgage interest rate of permanent building societies fell by half a per cent point in September 1975 to 10.5 per cent.[14]

The availability of labour and materials for home improvement work after the end of the boom in new construction in 1973/74 contributed partly to the sharp increase in A&A activity in 1975. The construction industry was geared to a high level of activity during the boom of the early 1970s. When the industry slumped, there was an excess of labour and building materials, of which intending improvers took full advantage. Contractors were also willing to take on small jobs. Partly in response to growth in the demand for home improvements and partly out of necessity to diversify during a slump in the industry, there has since been a proliferation of building firms specialising in home improvements. The existence of these firms and their efforts to solicit more business appear to have helped sustain the high volume of A&A.

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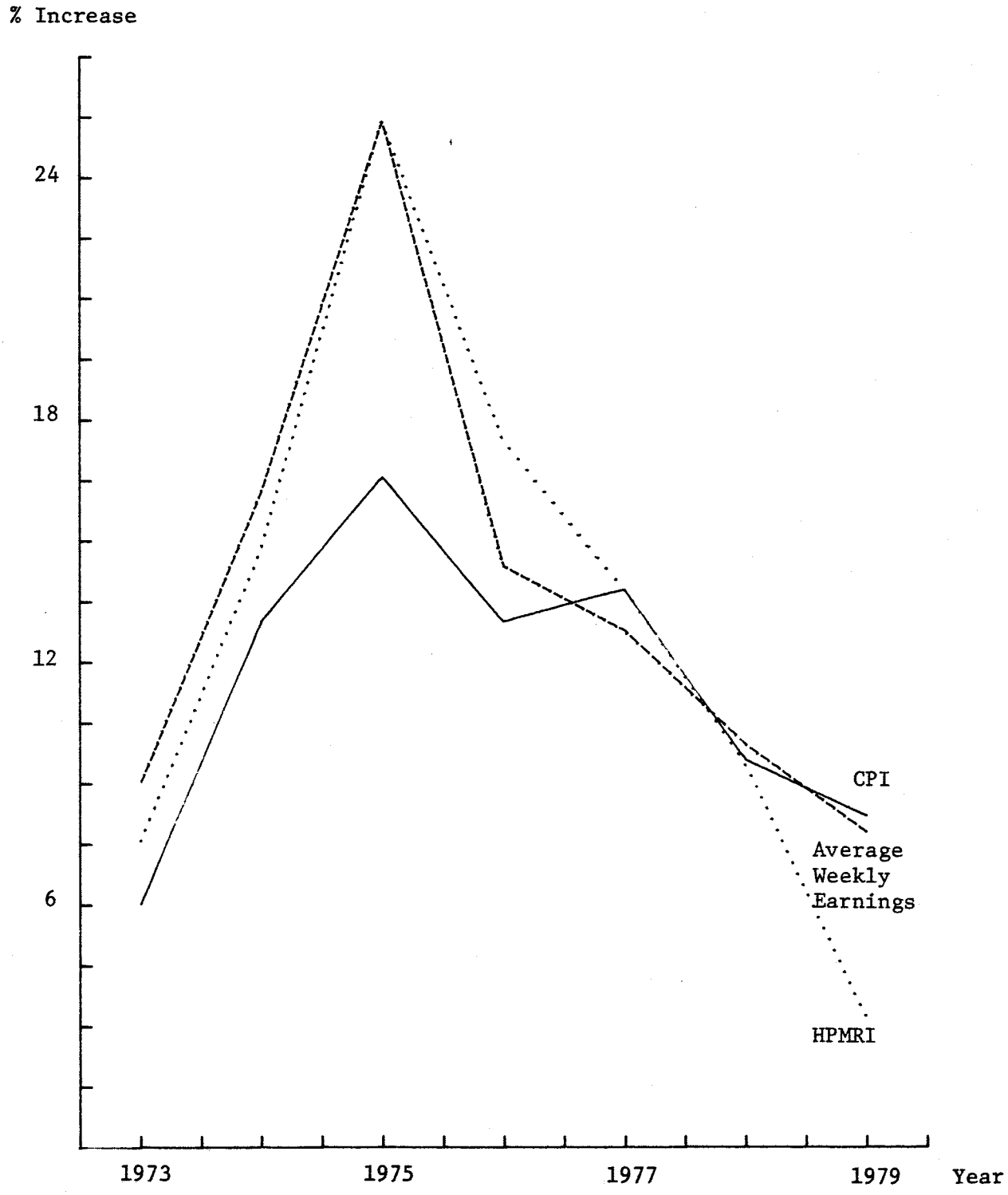
14 Unfortunately it was not possible to show if in fact there was a rise in the total value of loans approved for A&A as the series was not published until October 1975.

FIGURE 2.3 Percentage Increase in Consumer Price Index (CPI), Average Weekly Earnings and House Price, Maintenance and Repair Index (HPMRI)



Source: ABS statistics.

The greater part of the 1970s was characterised by high rates of inflation. The accompanying rise in interest rates and dwelling prices affected the housing choices of first home buyers as well as existing homeowners. Bromilow (1975) found that, since the late 1960s, the increased interest charges on borrowed capital has been the main reason why the cost of housing escalated faster than the average household's ability to pay. This is perhaps reflected in the finding of the Committee of Inquiry into Housing Costs (1978) that households have more difficulty buying their first home in the latter part of the 1970s, than in the late 1960s and early 1970s (Table 2.3).

As a result some households are forced to purchase smaller and lower quality dwellings and then make improvements to them subsequently as a way of spreading the cost over time. Also, the expectation that the rate of increase in dwelling prices may exceed that of their savings in an inflationary period, could have resulted in many first home buyers electing to acquire a cheaper dwelling rather than save for a longer period of time for a bigger or better dwelling. Cheaper dwellings are not necessarily older: new dwellings at the fringe of an urban area are often cheaper, being in less accessible parts of the city. Also, many new dwellings are built without all the facilities but with provisions for additions and alterations, as a way of keeping sale prices at a lower and more attractive level. Chapter 7 will show that there are proportionately more A&A made in suburbs farther away from the city centre.

While high rates of inflation have created financial difficulties for first home buyers, they have also affected the housing choice of those who are already home owners. In a period of rising house prices, the real value of mortgage debt falls, thereby increasing the owner's equity in his house, which may give him a sense of increased wealth. Also, as income

TABLE 2.3 Prices of and Years of Savings for a Notional Package of a 110 sq m House and Land - Sydney, Melbourne and Adelaide, 1970/71 to 1977/78

Year	SYDNEY			MELBOURNE			ADELAIDE		
	Package Price	Years of Savings[1]		Package Price	Years of Savings		Package Price	Years of Savings	
		Single Income	Dual Income		Single Income	Dual Income		Single Income	Dual Income
1970-71	19900	8.5	2.1	14200	3.4	1.0	12700	3.0	0.9
1971-72	22300	9.4	2.2	14800	3.3	0.9	13800	3.0	0.9
1972-73	26200	13.9	2.9	17400	3.4	1.0	15400	2.8	0.9
1973-74	28300	14.3	2.8	23100	6.3	1.5	18700	3.4	0.9
1974-75	31700	16.5	2.9	27400	9.4	1.8	23000	4.5	1.0
1975-76	33900	14.8	2.5	31800	11.4	2.0	27300	5.7	1.2
1976-77	36400	11.4	2.0	37200	12.6	2.2	31500	5.7	1.3
1977-78	39200	8.5	1.7	41300	10.1	2.0	35200	4.8	1.2

Note: 1. Computed by taking after taxed annual earnings by individual years and including family allowance/child endowment, computing for each year what deposit would be necessary to acquire a home (given current interest rates and repayment criteria) and then working back from this, over time, to find how many years it would have taken, saving at the rate of ¼ of disposable income for single income families and ½ of disposable income for dual income families.

Source: The Report of the Committee of Inquiry into Housing Costs, *The Cost of Housing*, Volume 1, 1978.

levels increase, more or less in line with inflation rates, mortgage repayments fall relative to the owner's income. Even though interest rates vary with expected rates of inflation, the increased rate of interest is applied to the principal sum that was borrowed against a lower (original) house price. The increase in wealth and disposable income enhances the willingness of many homeowners to make, and their ability to afford, capital expenditures on their existing dwellings. It is also quite possible that, during an inflationary period, some households may make improvements in expectation of a further rise in the cost of labour and materials for home improvements.

Of course, an increase in equity also enables the owner to make a bigger deposit on a bigger or better house; but the high social and economic cost of moving is a significant deterrent. The choice between moving or improving really depends on the relative costs and benefits of the two adjustment alternatives. Chapter 4 will show that many homeowners prefer improving to moving.

The oil crisis of 1973/74 and the subsequent increases in oil prices, could have enhanced a general expectation of the prospect of a marked increase in the cost of commuting by private cars. As a result some urban dwellers may have reassessed their locational preferences. Those owners of houses in locations of comparative advantage tend to stay and improve, while those in less accessible locations want to move closer to the city. Both of these changes contribute to the rise in home improvements - the former making improvements to their existing dwellings to meet their changing housing demands instead of moving, and the latter moving into usually older dwellings in more accessible locations, which could require some upgrading to modern standards.[15]

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15 There is evidence that dwelling prices in the inner suburbs of Sydney and Melbourne, especially since late 1970s, have risen astronomically (*Weekend Australian*, 20 September, 1980).

Quite apart from the effects of rising petrol prices, the time and expense of commuting in big cities and an increasing preference for an urban life-style and the architectural style of older dwellings, have led some middle-class households to prefer places nearer the city centre. As early as the beginning of the 1960s a small number of older dwellings in certain inner suburbs in Sydney, notably Paddington, were being purchased and modernised by middle-class households (Roseth 1969). This phenomenon, which came to be known as 'gentrification' or the 'back-to-the-city movement' spread to other inner suburbs in Sydney, notably Surry Hills, Glebe and Balmain. The number of improvements in inner Sydney rose by 50 per cent from 1970 to 1976 (Kendig 1979:155). It became very noticeable in the late 1960s and early 1970s in most of the state capitals, especially Sydney and Melbourne, and much publicity was given to it by the media. Public interest was further stimulated by the Federal government's involvement in the rehabilitation projects of groups of old dwellings in Glebe and Woolloomooloo in Sydney at around the same time (i.e. mid-1970s). Similar involvement by public housing authorities in housing rehabilitation was also evidenced in Melbourne and Adelaide (Kendig 1979).

The publicity afforded to these phenomena would have enhanced the general awareness among home owners of the potential and advantages of improving their existing dwellings, and helped popularise the idea. The continuous large volume of A&A activity in the second half of the 1970s may to some extent, be a result of this awareness of home improvements becoming fashionable. However, unlike gentrification which is confined to older dwellings in the inner suburbs, home improvements occur in dwellings of all ages regardless of distance from the city centre (see Chapter Seven for more details).

2.2.2 Home improvements and new construction

The increasing level of home improvement activity in a period of declining new dwelling constructions (second half of the 1970s) has probably led to the popular belief of a causal link between the two trends. The general argument is that households have been meeting their demands for more suitable housing by improving the existing stock of dwellings instead of from new construction. For example the Indicative Planning Council (IPC) (1979) attributed the decline in housing demand in the 1970s in part to:

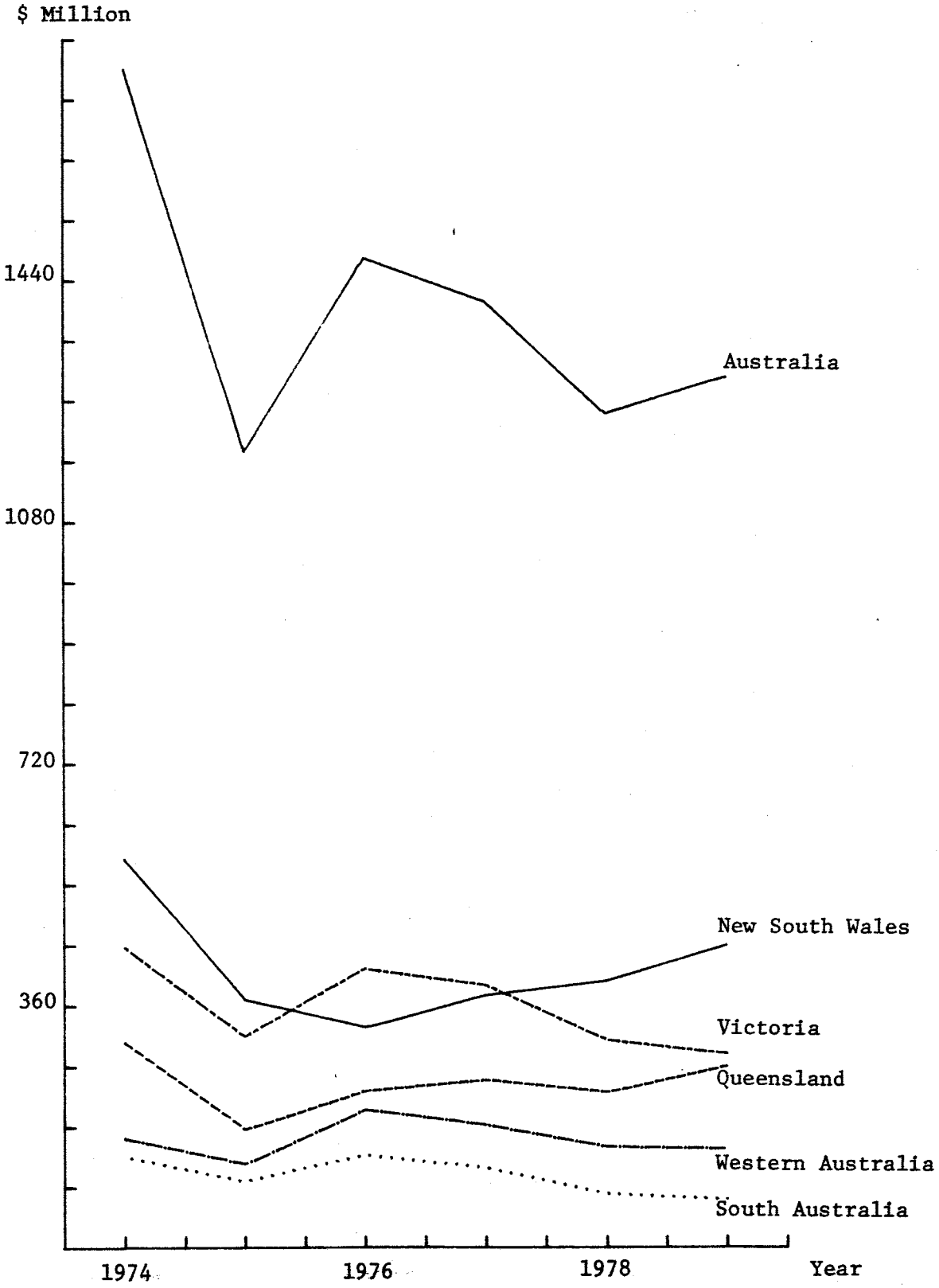
> ... an apparent reduction in the level of demolition of dwellings, and an increasing trend towards meeting housing requirements from the existing housing stock (e.g. through alterations and additions).

This argument contains certain implicit assumptions, regarding the kind of changes that have been made to the existing housing stock through home improvement.

An inspection of the regional variations in the trends of A&A and new construction (Figures 2.1 and 2.4) casts some doubts on the belief that the opposing trends reflect a substitutional effect between A&A and new construction. New South Wales, for example, has shown signs of a recovery in new construction, despite the fact that the annual value of A&A in New South Wales has continued to increase (Figure 2.1). This has resulted in a decline in the proportion of A&A to new construction in the last two to three years (Figure 2.5).

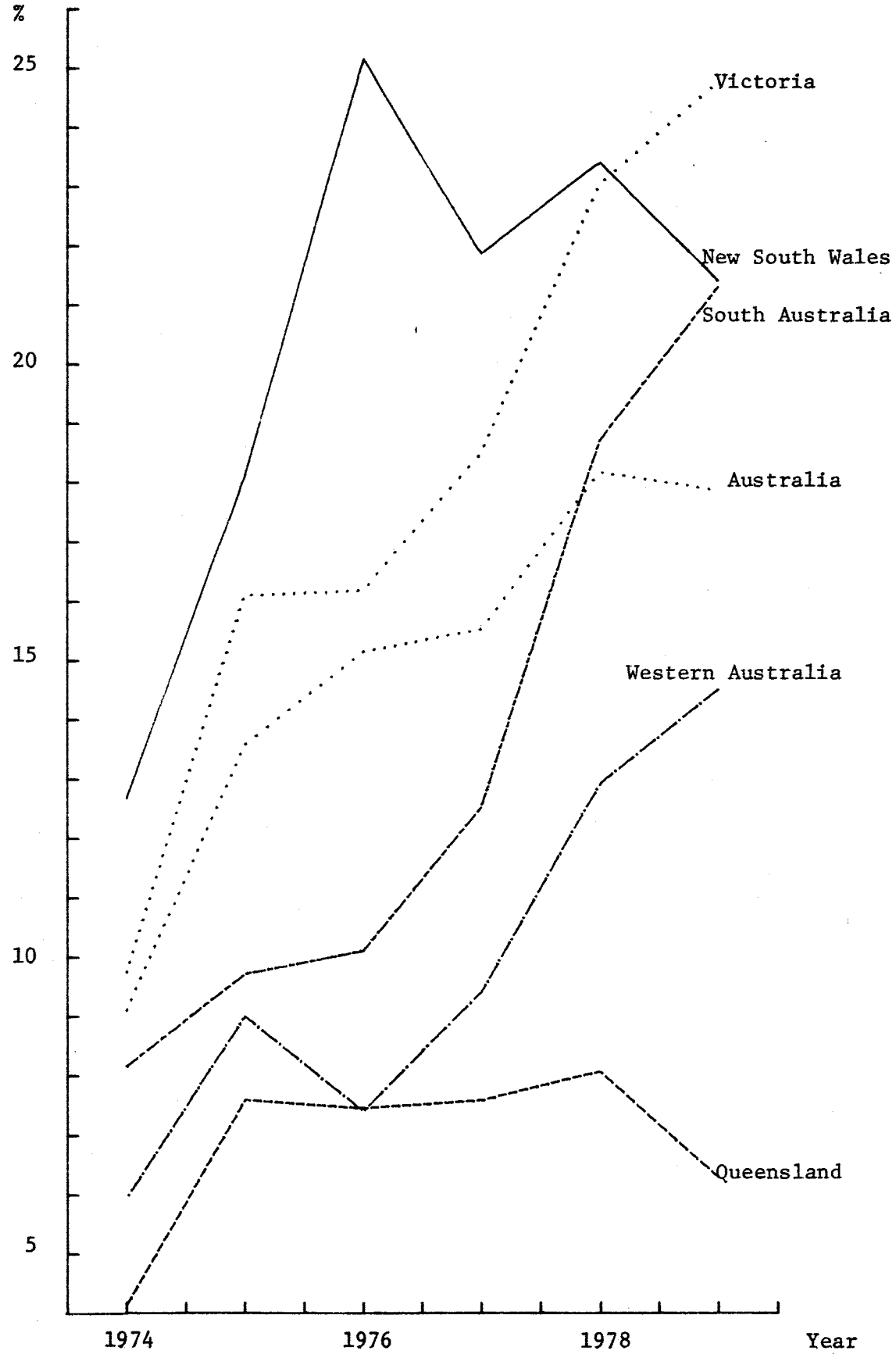
The decline in new dwelling construction since the mid-1970s was also partly in response to a fall in the growth of demand for housing. The IPC (1979) attributed this decline in demand firstly to a slowing down in population growth in general and of those in the household forming age groups in particular, and secondly to adverse economic conditions, such

FIGURE 2.4 Annual Approvals of New Dwellings in Constant Prices, 1973/74 to 1978/79



Source: ABS, *Building Statistics*.

FIGURE 2.5 Percentage of Additions and Alterations to New Dwellings, 1973/74 to 1978/79



Source: ABS unpublished statistics and *Building Statistics*.

as unemployment, which reduces the propensity to form separate households.

In any case the increase in home improvement activity since the mid-1970s does not appear to have shifted demand away from new construction. Part of the construction of new dwellings has always been to compensate for the loss of existing stock through natural disasters and demolitions and to meet the need of a net increase in household formations. But to argue that A&A have been effective substitutes for new construction (and assuming normal vacancy rates and few abandoned dwellings), the following must be shown to have occurred:

(a) dwellings, which would otherwise be demolished or abandoned, have been preserved and upgraded by their existing owners or new owners; or

(b) a substantial number of households carry out home improvements to accommodate individuals, groups or families, which would have formed separate households under different circumstances.

Neither of these can be substantiated from the information that is available.

Annual demolitions constitute only a very small proportion of the dwelling stock, averaging about 0.4 per cent per annum;[16] and it is unlikely that a significant number of dwellings are demolished solely because of physical deterioration. Most demolitions are for road construction and government or private urban redevelopment projects (Kendig 1979). Government actions are usually beyond the control of individual owners and it is also unlikely that many home owners can resist the market forces which usually push up prices of properties with redevelopment potential to very attractive levels. Altogether it is unlikely that the number of dwellings preserved and improved could have a significant impact on the demand for new housing. While a reduction in the number of demolitions may have contributed to the fall in demand for new housing, there is little

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16 Censuses and ABS, *Building and Construction*.

evidence that it is the result of more would-be-demolished dwellings being improved. The Housing Improvement Survey of Adelaide also indicates that very few of the older houses would have been demolished if they had not been improved.

Unemployment and other adverse economic conditions could have prevented some people from forming separate households and could have caused doubling-up among some households, but evidence from the Improvement Survey suggests that very few households made improvements for the purpose of accommodating another household. Out of the 200 households surveyed, only 4 per cent undertook additions to accommodate their parents and other relatives, 15 per cent have grown-up (above 18 years) children who could have formed separate households, and none has more than one family (apart from relatives). Therefore, it appears that if adverse economic conditions have reduced the rate of household formation and have caused a fall in the demand for housing, they have not caused a significant number of those who, in other circumstances, would have built, to make A&A.

Only under conditions where modification of the existing stock leads to more dwelling units being created, or more households in the same number of units, would A&A and new construction be competing modes of supply. The easing of building regulations to allow dual occupancy conversions of single-occupancy houses, as has occurred in New South Wales will have some of these effects. It is, however, unlikely that the number of dual occupancy conversions will be large enough to have a significant impact on new construction. These are, in effect, downward adjustments of housing standards, which is unlikely to be important in an affluent society. According to the Housing Improvement Survey in Adelaide, most home improvements are made to improve the quality (including space) of the house

in response to higher housing expectations; few add on a self-contained room (or 'granny flat').[17] In fact, as noted in Chapter One, dwelling conversions in the 1950s and 1960s resulted in a net reduction in the number of dwelling units (Kendig 1979). Conversions did not however, appear to be important in the 1970s (IPC 1979).

Another way to test for a direct relationship between A&A and new construction is by comparing the percentage changes in their annual values. As illustrated in Figure 2.6, except for one year (1977/78), the two series for Australia as a whole, moved in phase with each other. All the other states, except New South Wales, exhibit very similar patterns of change. The abnormality of New South Wales is more in the movements of new construction than that of A&A.[18]

That A&A and new construction tend to move in the same direction from year to year demonstrates that at least in the very short run the former have not been substituting for the latter.[19] It appears more likely that general economic conditions have very similar effects on these two forms of housing activity.

The cyclical behaviour of new dwelling construction is well-known. Much of it is attributable to changes in general economic conditions (Priorities Review Staff 1975; Committee of Inquiry into Housing Costs 1978). Both the supply of and the demand for new dwellings are particularly sensitive to changes in the cost and availability of funds for loans. The fact that A&A and new construction tend to move in phase,

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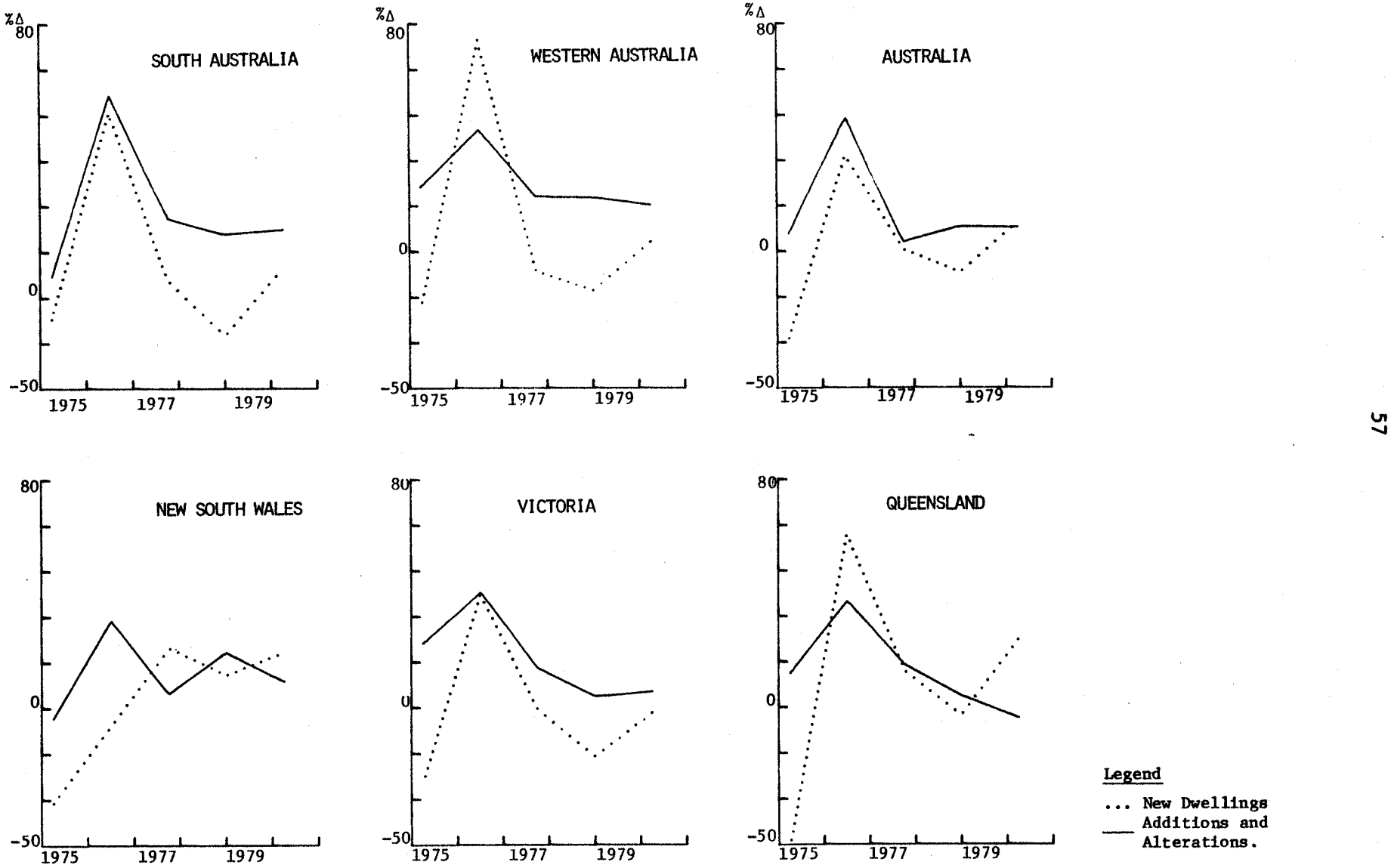
17 This could be partly due to planning regulations that restrict dual occupancy.

18 New South Wales was probably more adversely affected by the slump in the housing industry in its initial years. It took a longer time to soak up a bigger build-up of dwelling stocks and to respond to new demand. However, since 1976/77, new construction activity in New South Wales has tended to fluctuate in the same manner as most of the other states.

19 In the U.S., there is some evidence that the movement of A&A and that of new construction tend to be counter-cyclical. This phenomenon has been partly attributed to her fixed mortgage interest rate system (Berry 1980:7).

FIGURE 2.6 Annual Percentage Change in Additions and Alterations and New Dwellings



Note: Values used are in constant dollars. Source: Published and unpublished ABS building statistics.

suggests that they are similarly affected by changes in credit conditions.[20]

When availability of credit contracts, interest rates rise, and terms of borrowing tighten, more stringent eligibility requirements are applied by lenders. A combination of the high cost of borrowing and tightening of borrowing terms will price some potential home buyers and improvers out of the market, and thus, lead to a decline in the effective demand for housing. The stringent eligibility requirements will also disqualify some households from borrowing. Conversely, an easing of credit conditions results in an increase in the number of loans for housing. During periods of credit restraint, builders are forced to reduce housing construction not only because of the decline in effective demand, but also because of the high cost of their own borrowing.

The movements in interest rates and the percentage change in primary liquidity, A&A and new construction are shown in Figure 2.7. The similarity in the directions of change suggest that some systematic relationship exists among them. Permanent building societies' average weighted interest rate on loan as supplied by the Reserve Bank of Australia, and the Priorities Review Staff definition of primary liquidity which includes private holdings of Australian Government securities, currency and deposits at the Reserve Bank (but excluding statutory reserve deposits) are used.

While noting the limitation of a short series of only six years, liquidity (LIQ) and interest rate (INT) are regressed against the value of additions and alterations (A&A), using quarterly data.[21] The results are

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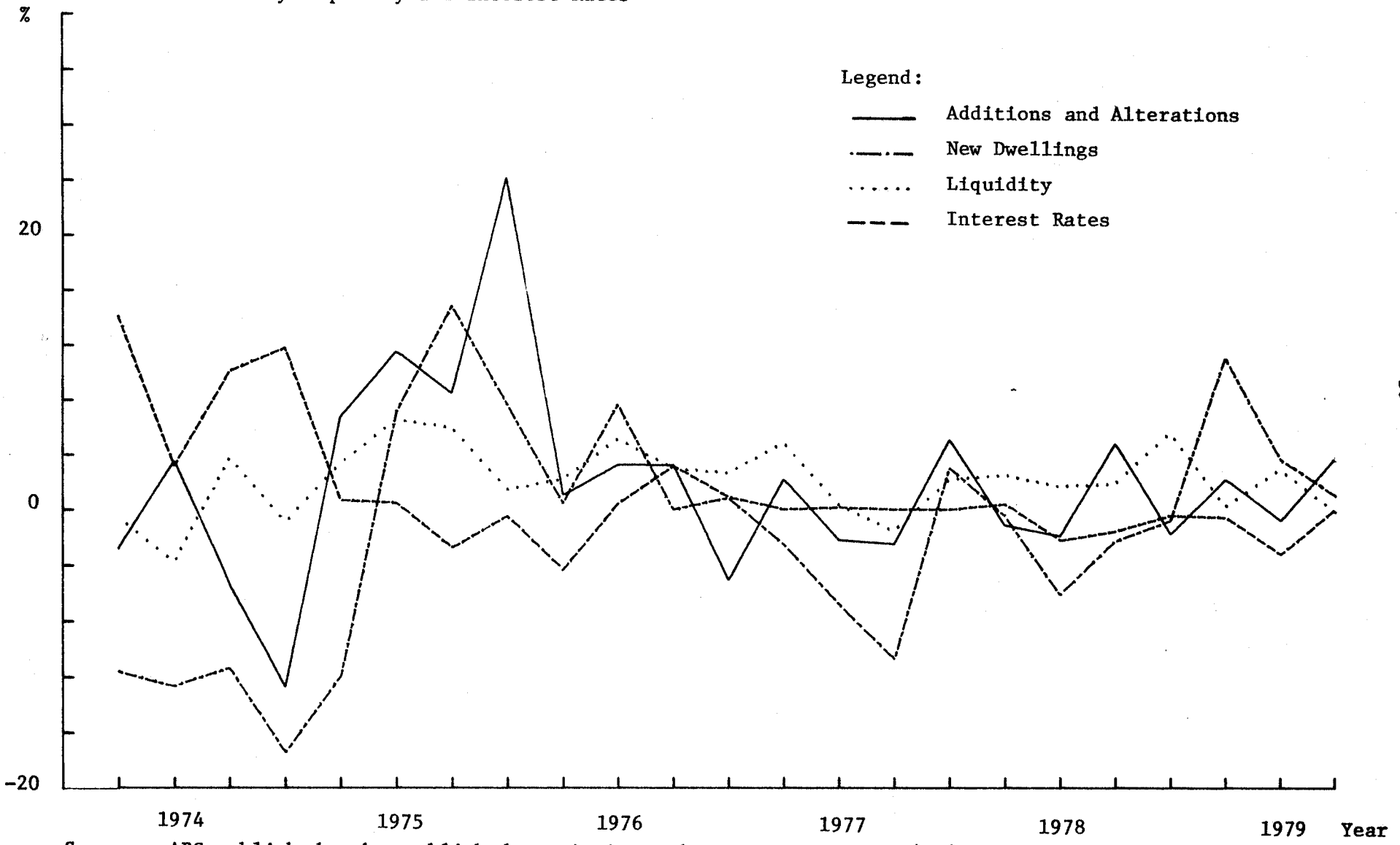
20 A good deal of research has been done on the cyclical behaviour of new construction in North America, notably by Alberts (1962, Guttentag (1961), Maisel (1963), Sparks (1967), Smith (1970), Huang (1969), Meltzer (1974) etc. The nature of the Australian construction cycles is different from the American. In North America, housing activity tends to move inversely with general economic activity, while in Australia the pattern is reversed (Gascoine, 1975:276).

21 Seasonally adjusted absolute values are used in the regression.

FIGURE 2.7 Quarterly Percentage Change in Value of Additions and Alterations, New Dwellings, Primary Liquidity and Interest Rates



Source: ABS published and unpublished statistics and Reserve Bank, *Statistical Bulletin*.

very satisfactory with 83 per cent of the variations in A&A explained by the regression equation as shown below:

$$A\&A = -144.3 + \underset{(0.123)}{1.1222}\ LIQ + \underset{(4.281)}{5.9536}\ INT$$

$$R^2 = 0.8306$$

$$SER = 17.438$$

$$D.W. = 1.8331$$

Clearly, the coefficient of LIQ with a t-ratio exceeding 9 is significantly different from zero; but the coefficient of INT is not statistically significant and has the wrong sign. This is partly because the movements in interest rates from period to period, which are controlled by the Government, are too small to have an effect on the dependent variable; and this is suggested by the low correlation coefficient of 0.2 between LIQ and INT. The Durbin-Watson statistic indicates that the hypothesis of no autocorrelation cannot be rejected.

Attempts to introduce two other general economic indicators - average weekly earnings and employment - into the equation, failed to produce satisfactory results because of strong multicollinearity and serious autocorrelation problems.[22] Nevertheless, visual inspection of Figure 2.7 and the results of the regression analysis suggest that the annual movements of A&A, like new construction, are influenced by changes in general credit conditions.

Although there may be little substitution between new construction and home improvements on the demand side, they do compete for the resources available in the building industry. It has been noted that there are already some manufacturers operating close to full capacity and their direct supply to new construction accounts for only 25 per cent of their production (Wymond and Hill 1977). While home improvements may have a

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22 The correlation between primary liquidity and average weekly earnings is 0.99 and between the former and employment is 0.84.

stabilising influence on this sector of the economy during a slump in other parts of the construction industry, the reverse - delays in supply and consequential delay in completion, rising material cost - is likely during a boom.

While A&A have not been effective substitutes for new construction, it is unlikely that the role of new construction in the housing market, relative to A&A, will diminish, as long as there are demolitions of the existing stock and net increases in the number of households. The recovery in new construction activity in the late 1970s bears testimony to this. The IPC (1979) also did not rule out the possibility of an upward lift in the demand for new dwellings in its longer-term forecast, if the economy recovers and if social trends move toward separate and smaller households.

However, an increasing tendency for homeowners to improve their existing dwellings instead of moving may change the composition of ownership of dwellings and the features of new dwellings. Because of the existing owners' reluctance to move, new construction is likely to cater mainly for first home buyers, many of whom have difficulties gaining access to homeownership. Cheaper and smaller (relative to existing dwellings) new dwellings are likely to be constructed at the urban fringe so that more households can afford them. This can result in an even more well-defined pattern of residential segregation with the younger and less wealthy home-owners in new dwellings at the urban fringe and the older and generally wealthier owners of established dwellings in locations nearer the city centre. (Chapter Eight will discuss their implications in greater detail). If the tendency to improve is also a reflection of a preference for more accessible locations, then more residential development in areas nearer the city centre, through infilling, conversion of non-residential uses

and even redevelopment of existing lower density housing can be expected.

2.3 Conclusion

The size of the home improvement sector in Australia has grown markedly since the mid-1970s and it forms a sizeable portion of the nation's housing investment. Although regional variations in the pattern of growth and the average value of the improvements made are not significant, some differences in the kinds of improvements made can be expected because of inter-state differences in housing characteristics.

The growth in home improvement activity was the result of conducive general economic conditions - high rates of inflation and petrol price hikes - the slump in the construction industry in the greater part of 1970s, the high social and financial cost of moving, publicity by the media and the consequential change in housing preferences. However, home improvements are restricted almost entirely to the owner-occupied sector of the existing stock; and as far as homeowners are concerned, improving their existing houses seems to be a more preferred form of housing adjustment than moving. Three broad categories of owner-improvers have been identified - the first home buyers, who improve for financial reasons, the owners of established homes who choose to improve instead of move and those who move to improve.

While home improvements will continue to meet the requirements of these three groups of homeowners, it is unlikely that home improvement activity will continue to grow substantially relative to new construction. The fact that in New South Wales A&A as a proportion of new construction has fallen in the last couple of years support this contention. Nevertheless, in recent years home improvement has played a more important role as a supplier of housing.

There is no evidence that home improvements have resulted in more households being accommodated in the same number of dwelling units nor in an increase in the number of dwelling units, which suggests that A&A and new construction have not been effective substitutes. Instead A&A and new construction tend to move in phase over time, indicating that both kinds of housing activity are sensitive to prevailing credit conditions and other aspects of the economy. A general relaxation of building regulations governing dual occupancy conversion of single family dwellings, as has occurred in New South Wales, may lead to some substitution of new construction by home improvements, but the number of converted dwellings is not likely to have significant impact. More importantly perhaps home improvement tends to accentuate existing unequal distribution of housing resources and residential segregation.

Viewing home improvements as a sector or collectively as an adjustment process in the housing market helps to demonstrate its relationship with other processes, but this aggregate approach has only limited use for purposes of understanding the housing adjustment behaviour of individual households. Most of the subsequent chapters examine how and why individual home improvement decisions are made.

CHAPTER THREE

HOUSING ADJUSTMENT BEHAVIOUR, IMPROVING AND MOVING: A CONCEPTUAL FRAMEWORK

Making improvements to its existing dwelling and moving to a different one are the basic alternative courses of action available to a household seeking to change its level of housing consumption. This desire for a change reflects a mismatch between the household's demands and the housing services provided by the existing dwelling, which can be brought about by a variety of factors. Whether action is taken to remove this mismatch depends on the level of housing stress, and the economic resources available to the household. The choice between improving and moving is however a function of the relative costs and benefits of the two alternatives; but sometimes the particular course of action chosen is constrained by the kind of housing desired and the causes of the mismatch.

This chapter discusses the housing adjustment behaviour of households as a process of constrained choice. It sets out the conceptual framework on which the empirical analyses in the subsequent chapters will be based and provides the main theoretical underpinnings. It is not however, the intention of this chapter to develop a theoretical model for purposes of estimating quantitative relationships, although theoretical contentions made will be substantiated with empirical evidence.

There are two inter-related sections. In the first section, differences in the housing adjustment behaviour of the tenant, landlord and owner-occupier are compared. This is followed by an explanation of the causes of an owner-occupier's dissatisfaction with his current dwelling and of how the search for more suitable housing arises. The second section analyses how the owner-occupier selects one or a combination of the two alternative kinds of adjustment.

3.1 Housing Adjustment Process

3.1.1 The decision-maker and housing adjustment

The tenant, the landlord and the owner-occupier play different roles in the housing market. Their housing decisions are influenced by different considerations largely because they have different rights over the property concerned. While the tenant and the landlord are the consumer and the producer of housing services respectively, the owner-occupier is both. The kind of adjustments made and the reasons for making them are therefore likely to be different too.

The behaviour of tenants, being the 'pure consumers' among these three categories of decision-makers, is closest to consumers of other goods and services, who strive to purchase that combination of goods and services, from which they derive the highest satisfaction. In micro-economic terms, the consumer (i.e. the household) will maximise its utility function subject to a budget constraint. Utility is maximised when the marginal utility of housing per dollar spent on the marginal unit equals the marginal utility of other goods and services per unit price.[1] At this point, the household

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1 Assuming a utility function of

$$U = U(H, X)$$

where, U = the level of satisfaction (utility) from consumption of goods and services,
H = units of housing services,
X = a composite measurement of units of other goods and services

subject to a budget constraint of

$$HP_h + XP_x \leq Y$$

where, P_h = the price of housing services,
P_x = the price of composite goods,
Y = the income level of the household

and assuming that utility increases when consumption of any commodity increases, but at a diminishing rate and by using the Lagrangean method, the optimal amount of housing occurs when

$$\frac{\partial U/\partial H}{P_h} = \frac{\partial U/\partial X}{P_x}$$

Similar microeconomic tools have been used by Goodman (1976) to explain the housing adjustment behaviour of movers.

has exhausted its budget and is in equilibrium.

This utility-maximisation model is a simplification of the housing adjustment process. It assumes costless and instantaneous adjustments and does not account for the time horizon, that is, the duration of occupancy. Because changes in housing consumption, unlike most other goods and services, are themselves costly, to optimise the quantity of housing, allowance has also to be made for expected future changes in the utility the household will derive from housing. However, despite its simplicity, the model is a useful first step towards understanding the complexity of the housing behaviour of owner-occupiers. By virtue of the fact that tenants tend to move more frequently and incur much lower moving expenses than owner-occupiers, the model can reasonably describe the housing adjustment behaviour of tenants, without using unduly restrictive assumptions.

The magnitude of adjustment costs varies with the tenure of the household. Tenants do not incur significant transaction costs nor pay a capital sum for the difference in the prices of the dwellings being exchanged. The cost of transporting furniture, personal effects and sometimes, bond money are very small in comparison to the moving costs an owner-occupier normally has to incur. Hence, for most tenants, moving costs are seldom an impediment to adjustment.

Most tenants also usually have rights only to occupy the dwelling for a relatively short period of time, and hence, have to move more frequently than owner-occupiers.[2] Furthermore, if the household plans to live in the same house for a long time, it is generally cheaper to own than to rent, principally because of tax concessions for home ownership (Shelton 1968; Bethune 1978). On the other hand, those householders who

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2 That tenants have a greater propensity to move is well-documented by several empirical studies (Abu-Lughod and Foley 1960; Speare *et al.* 1974; Kain and Quigley 1975; Kendig 1981; Rossi 1955).

expect to move frequently tend to rent (Quigley and Weinberg 1977). Tenants are generally discouraged from any voluntary spending on improvements because they have no right to any increase in the value of the dwelling attributable to the improvements; neither can they rely on staying for a long enough period to enjoy the benefits. Their rent could even be increased as a result of their own improvements. The exceptions are in cases where it is possible to renegotiate for a less-than-market rent or to get compensation for the value of the improvements at the end of the tenancy, or where the tenants have long leases or very secure tenure (for example, public tenants or tenants under rent control).

Landlords are solely producers of housing services. Private landlords are motivated mainly by expectations of profitable returns from their investments. In most cases, the only criterion for undertaking improvements on their properties is the profitability of the investment. They will improve only if the discounted sum of the expected increase in income and any capital gains after making the improvements exceeds the total cost of the improvements, including the loss of income while work is in progress. This decision rule can be expressed as:

$$C < \sum_{t=0}^{h} \frac{R_n - R_o}{(1+i)^t} + \frac{S_n - S_o}{(1+i)^h} - L$$

where,

C = the cost of the improvements,

R_o, R_n = the net revenue from the unimproved and improved dwelling in time t,

S_o, S_n = the sale price of the unimproved and improved dwelling (and land) at time h,

L = the loss of revenue during work-in-progress,

i = the rate of returns on an alternate comparable investment,

h = the time period the landlord expects to own the property.

The landlord, being an investor/producer, has other alternatives. He may let the property run down in anticipation of a change of use; or he may redevelop (or sell it for redevelopment purposes). He also has the choice of shifting his capital from real estate to other more profitable forms of investment. The investment which yields the highest rate of expected returns will be selected. The previous chapter has mentioned that few landlords make home improvements. It would seem that the returns in increased rent from improvement are lower than that expected by the landlord. One situation in which this may occur is where rental values (on a per unit basis) are high because of a strong demand for a low supply of lower quality accommodation (Muth 1969). On the other hand, because many landlords are attracted to capital gains more than to rental returns, as evidenced by their willingness to accept relatively low rates of return from rents (Bethune 1978), they are less interested in raising rents by reinvesting in their properties. More detailed data would be required to explain comprehensively the lack of reinvestment by landlords. Unfortunately, it was beyond the resources available for this study to gather data on the reinvestment activities of landlords. For this reason, and since tenants are very unlikely to make improvements, this study is confined mainly to owner-occupiers.

As the owner-occupier is as much a producer of housing services as a consumer, his housing decision is affected by both consumption and investment considerations. It has been argued that while the landlord maximises profits, the owner-occupier basically maximises utility (Sweeney 1974); and that profit considerations to an owner-occupier are of secondary importance. Ozanne and Struyk (1976:28), on the other hand, take the view that the consumption and investment behaviour of the owner-occupier need not be in conflict. By allocating his resources among

various activities, including housing, the owner-occupier maximises utility as a consumer and at the same time maximises profits as a producer, given his own wage rate:

> The owner-occupant, as a supplier of services, maximizes his profits given his net wage rate. As a consumer, he maximizes his utility by supplying only that labour for housing production which at the margin provides utility equivalent to that derived from the marginal hours spent in other activities, these utilities being net of cost of associated market inputs.
>
> (Ozanne and Struyk 1976:191)

It is well documented that owner-occupiers have a tendency to over-invest in their dwellings (Grigsby 1963; Sternlieb 1966; Peterson *et al.* 1973). Grigsby (1963:236) observed that

> the home-owner in his simultaneous role as both consumer and investor in housing has a natural tendency to over-maintain his place of residence by strictly investment standards. It is well recognised that much of the money and personal effort which owners put into their homes is not returned at the time of sale, but only in greater pleasure during occupancy.

Another observation is the apparent willingness of some owner-occupiers to improve their residences in declining neighbourhoods even though they know that they will not be able to recapture their investments at the time of sale (Peterson *et al.* 1973). Such behaviour of owner-occupiers is not irrational if the benefits or utility derived from making the improvements are judged to be worth their costs. They are willing to satisfy their housing demand even if this means paying a premium for the services.

The owner-occupier's choice of adjustment alternative is likely to differ from that of the tenant: his financial and psychological costs of moving are generally much greater. (This point will be illustrated later in the chapter). Also, compared to the tenant, there are more incentives for the owner-occupier to improve instead of move, given

security of tenure for as long as he wants to live in the dwelling and his entitlement to any increase in its value, attributed to the improvements.

For both the tenant and the owner-occupier, the desire to make housing adjustment arises when the utility derived from its current dwelling is larger or smaller than the dwelling that would provide it with the optimal quantity of housing. Because adjustment is more costly for owner-occupiers, the gap between the desired and the current quantity of housing must be sufficiently large to warrant the trouble and expense of adjustment. The size of this gap is one of the determinants of the intensity of housing stress or dissatisfaction felt by the household. Apart from adjustment costs, the household (especially the owner-occupier) has to anticipate future changes in its housing requirements, since it is not expected to adjust frequently and because any housing decision made commits the household to a fixed quantity of housing for some time. The next section examines the causes of this disparity and the impediments to adjustment.

3.1.2 Causes of mismatch

The disparity between the actual and the desired level of housing consumption at various points in time is the result of a variety of factors: changes in housing demands arising from changes in the household's socio-economic characteristics and housing tastes and preferences, changes in housing attributes and changes in housing prices and other external influences.

The housing demands of a household are partly a function of its demographic characteristics - the stage of family life cycle, family composition and size, age, sex and marital status of the head and other members (Rossi 1955; Donnison 1967). As the household goes through different stages of the family life cycle, and as its composition and size change over time, its housing demands change accordingly. For example,

as the family changes from being a newly married couple to having the first child, it is likely to require more space. Conversely, when the last of their children has grown up and left, the now older couple is likely to have a surplus of space. Such changes affect the utility function of a household and cause it to reassess its optimal consumption of housing and other goods and services. Assuming that the newly married couple was initially enjoying the optimal quantity of housing and also that income remains constant, if it continues to stay in the same dwelling after the arrival of their child, without making extensions or additions to it, it is likely to be in disequilibrium, since the marginal utility of housing relative to its price will be greater than that of other goods.

The income and wealth of a household also can change over time. A rise in income and/or wealth, which allows the household to consume more housing and other goods, is likely to cause the optimal consumption level to rise. On the other hand, an increase in the price of housing or other goods relative to income, other things being the same, is likely to lead to less consumption of housing or other goods, depending on their substitutability.

A household's housing demands can also be affected by its expectation of future needs measured against its long term housing goal. For example, given its ability to pay, a family is likely to prefer a bigger house if it aims to have many children, even though judging by its current household size, its consumption of housing is excessive. Also, as a hedge against inflation, a household may demand more housing now if it expects housing prices to rise in future.

Demographic and financial factors are not the only internal influences. Individual households' perceptions of their housing requirements and aspirations can be 'influenced by factors far beyond a narrow

perception of housing', encompassing the whole experience of their social life - the relationship of members within the family, their association with people outside, their cultural, family, religious and ethnic background and social class (Murie *et al.* 1976:81). The effects of such general factors tend to be more elusive and are not normally measurable. Michelson (1977), for example, has singled out one such influence of housing aspirations. He argues that housing adjustments are made by some households to compensate for those qualities of life in which they perceive their peers to have relative advantage over them. This is termed 'deficit compensation'.

Changes in a household's level of satisfaction with its current housing situation can also be affected by changes in its tastes and preferences which, although often directly related to changes in socio-economic circumstances, can also be the result of external influences such as the advent of newer, more fashionable, and sometimes, more efficient alternatives. Although induced obsolescence of this kind in the housing industry is not as apparent as in the automobile industry, it nevertheless exists. For example, there is now a revived preference for a separate dining room, a fire-place and exposed beams, all of which were standard features of dwellings decades ago.

A dwelling can be conceived as a bundle of attributes such as space, construction, design, quality, location and accessibility. A change in any of these attributes may cause housing that previously was optimal for a household to become non-optimal. Not many of these change over time but the dwelling may physically deteriorate over time through wear and tear, thereby reducing the utility derived from it. Sometimes the absence of modern features, such as concealed wiring, central air-conditioning, an ensuite bathroom, walk-in wardrobes, wall oven and separate hot plates,

may also cause a household to be dissatisfied with the dwelling, and to want to change its housing consumption.

Apart from changes in housing prices and income levels, there are other external factors beyond the control of individual households and not directly related to the dwelling, that may create a desire on the part of the household to change its housing consumption. These factors may be generalised as direct consequences and spillovers of both private and public decisions. For example, the rezoning of an adjacent area to non-residential use may change the residential environment and even change the expectation of the owner about the potential use of his property, and consequently change his level of maintenance and repairs. In another instance, an owner may be induced to improve his property, if the surrounding neighbours are keeping their houses in a good state of repair. Again, building of shops or a school nearby would improve the accessibility of a house, but if too close may create a nuisance because of traffic and noise.

3.1.3 Impediments to adjustment

A household typically does not adjust its housing consumption immediately whenever it experiences housing stress. That instantaneous adjustment of housing consumption is not normally practical nor worthwhile is attributable largely to the unique nature of housing and the housing market. The consumption of non-durable goods can normally be altered quite readily in response to changes in preferences, income and prices. In the case of housing, however, the unique characteristics of durability, immobility, physical indivisibility and the large capital cost make instantaneous adjustment of the quantity consumed difficult. The quantity of housing services produced is more or less fixed at a given level for some time and most houses have to be consumed where they were built.

Adjustment by way of altering the dwelling to produce more housing, or by moving to a more suitable dwelling are both costly. Unless the increased benefits are sufficiently high to more than cover the economic and psychological costs of improving or moving, adjustment is not worthwhile. (The relevant costs and the decision rules used in selecting various alternatives will be dealt with in the next section.) Also, unlike most other goods, trading of houses usually take some time to complete as it involves large sums of money as well as usually complicated legal and financial procedures. This itself is a disincentive to adjustment for some owners.

The sensitivity of the adjustment process is also constrained by information available to the household about the prices and availability of housing units in the market, and by the cost of getting information (Brown and Longbrake 1970; Brown and Moore 1970; Quigley and Weinberg 1977). It may have no knowledge of the availability of the bundle of housing services which exactly meets its requirements. There is a trade-off between the costs involved in the search for more information and the probability of finding the house with the desired attributes. A household's normal sources of information are limited to direct contacts with people in the course of carrying out its daily activities and to indirect contacts through the media such as newspapers and television. Even given perfect knowledge, it is still possible that the desired bundle of housing services is non-existent, since houses are available in particular packages of attributes and the right combination may not be available.

The decision to move to a more suitable dwelling or to make substantial improvement may require a loan to meet the large initial capital outlay. The eligibility for a loan and its cost and availability may therefore become major constraints to adjustment of housing consumption.

The conventional mortgage arrangement of a fairly large down payment with equal monthly repayments over the term of the mortgage can also impede housing adjustments. For example, young householders' housing acquisitions are restricted to their current incomes and wealth, although many of them can expect career advancement with rising incomes over the greater part of their future working life (Colton *et al.* 1979). With little savings they cannot afford the larger down payment required for a better or bigger house; nor can they acquire their preferred housing package by borrowing against their expected rising income.

Financial institutions are not the only agencies which impose constraints on households' choice of housing. Institutions whose members are vested with power, explicit or otherwise, to restrict the opportunity for certain groups of households from gaining access to the kind of housing of its choice include national and local government, housing and planning authorities, property companies, developers (Murie *et al.* 1976). Of particular relevance to this study are bodies which administer building and planning regulations.

Building and planning control may also impede adjustment. Building regulations are administered by setting minimum standards regarding the type and quality of building materials, the amount and arrangement of internal and external space, construction type, lighting and ventilation, room size, protection from damp, etc. Although building regulations are implemented for health and safety reasons, it has been argued that some of these minimum requirements are excessive, and that as a result, they raise the cost of housing without increasing the household's satisfaction (Paterson 1975:420-423). The minimum standards imposed also limit the range of possible improvements, and hence, may prevent the household from achieving the optimal combination of housing attributes according to its

income and preferences. For example, the siting of an extension is restricted by minimum setback from street frontage and minimum distance between the external walls of adjacent buildings; and the size of the addition is limited by minimum room size and maximum built-up area in a given site.

Obtaining approvals from local councils for carrying out improvements can be time-consuming. Sometimes the problem of meeting standards and avoiding red-tape are overcome by simply not making an application for permission to make improvements. Building regulations also require certain improvements, such as electrical, plumbing, drainage and gas-fitting work, to be undertaken by licensed tradesmen (although there is a case for it) which prevents those householders who want to do the work themselves (to reduce costs) from doing so. In New South Wales, owners who want to carry out work worth more than $1000 and involving more than one trade are required to take out an owner-builder's permit with the Builders' Licensing Board; and they also have all the legal liabilities as an employer if they hire any contractor to do any work.

Development and land use controls also set minimum standards aimed largely at preventing incompatible uses and at preserving the character of existing residential areas by restricting the type and intensity of use (Paterson *et al.* 1976). This has the effect of perpetuating existing neighbourhood conditions, and residential segregation and hence, may impose a certain level of housing consumption which conforms to the level generally accepted by the community and indirectly excludes certain socio-economic groups. In this way, the household choice of the combination of housing attributes, through reinvestment, may be restricted and adjustment of consumption impeded. For example, in Australia (except recently in New South Wales) planning

regulations disallow addition of another room with private entrance and separate cooking facilities to houses in areas zoned for single occupancy dwellings (Roseth 1978).

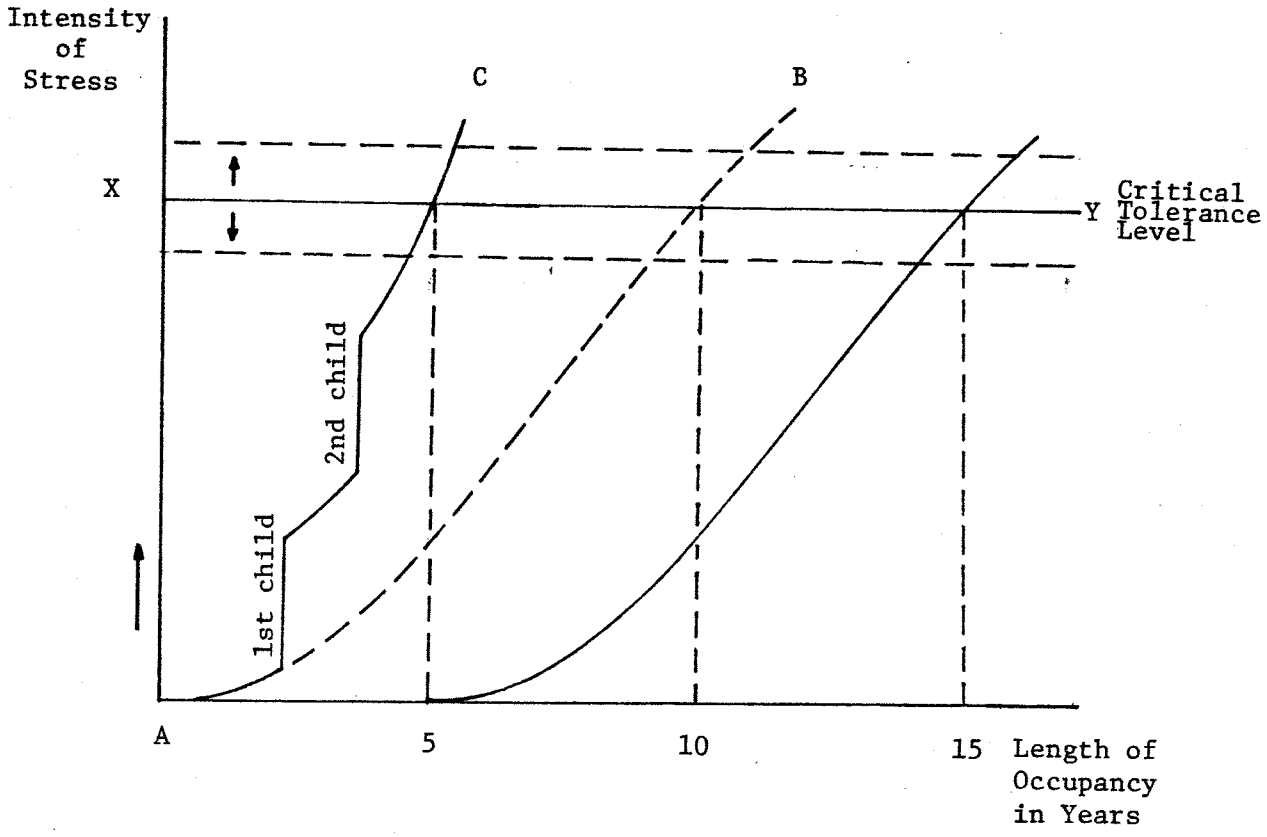
3.1.4 Housing stress and timing of adjustments

Housing consumption is seldom adjusted immediately after or before a change in demand. If 'dissatisfaction' or 'stress' mounts over time, there will be a critical level, at which a decision will be made on the best course of action to bridge the gap between the current and the desired amount of housing. How large this gap has to be before the threshold is reached varies from household to household. The relationship of housing stress, changes in the socio-economic circumstances and housing attributes, and housing adjustments can be explained schematically using Figure 3.1.

In most cases, 'stress' or 'dissatisfaction' will mount gradually, but at increasing intensity, over a fairly long period of time (at least over some stages of the family life cycle). As progression through the life cycle tends to correspond with career advancement and increasing wealth (due largely to reducing real housing costs), most households will want and can afford more housing services (both quality and quantity) as they approach middle ages. With growing children, they also need more space. Moreover, certain features of the dwelling also become gradually more obsolete and deteriorate over time. All these changes increase the demand for more and better housing which, if not met, leads to increasing housing stress as represented by AB in Figure 3.1.

Most households have a certain degree of tolerance for stress; each has its own critical level before something is done to alleviate it. XY represents this level which is very much a function of income, wealth and social status. It does not necessarily follow that when this threshold

FIGURE 3.1 Housing Stress and Timing of Adjustments



is reached, the household will adjust its housing consumption. Whether an adjustment is made depends largely on the costs involved, which may be beyond the means of the household or be higher than the benefits derived from the change. In a situation where no action is taken, the tolerance level has, in effect, been pushed upward, or to put it differently, the household adapts to the situation by changing its housing aspirations (Michelson 1977).

Changes in income, wealth or status can also shift the tolerance level either upward or downward. Discrete events such as the arrival of children or of parents, a promotion or a change to a better paid job, are 'shocks' introduced into an otherwise gradually changing situation. Without these shocks, most households are likely to desire major housing

adjustments only after fairly long intervals of, say, ten or more years. With the introduction of shocks, the interval can be shortened and the stress curve takes on a stepped shape. Also, shortening of the time interval between adjustments can be the result of falling tolerance level. Of course, housing adjustments are sometimes made in anticipation of, rather than in response to socio-economic changes. For example, a household may decide to move or improve, say in the fourth year of occupancy before the arrival of the second child to prevent an anticipated large increase in housing stress.

This analysis assumes that the intensity of housing stress experienced by a household (and any resulting adjustments made) is mainly a function of changing household and housing factors. It is possible that some households make adjustments to compensate for those areas of life which they perceive a deficiency in when compared to their peers (Michelson 1977:36). For example, a household may make rather ostentatious improvements to its dwelling to compensate for its low social status in the neighbourhood.

3.2 The Decision Rules

In discussing the decision rules, it is assumed that, vis-a-vis other things, the decision-maker evaluates all possible alternatives, using whatever information that is at his or her disposal, and chooses the course of action which offers the highest net benefits.[3] It has been noted that there is a limit to the time and expense it is worth devoting to looking for more information. Moving and improving are however not the only means by which a household can adjust its housing consumption;

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3 The decision rules are derived for owner-occupiers; but with only slight modifications the rules can be applied to landlords.

it may elect to move and then improve the 'new' place instead.[4]

Further, some households are restricted to only one means of adjustment depending on the housing changes required and the causes of the need for a change in housing consumption. For example, where a household desires a housing attribute that cannot be modified, such as a change in location, or one which is impractical or uneconomic, such as a drastic reduction in the size of the dwelling, moving is the only alternative. Also, family formations and dissolutions almost always bring about movement of households. On the other hand, where the home improvement needed to overcome the level of housing stress is of a relatively minor nature (for example, the replacement of an obsolete hot water heater), moving is rarely even considered.

Owner-occupiers generally can expect to derive utility (or satisfaction) from their dwellings for a fairly long period of time; and housing adjustment decisions normally also have long-term effects. Hence, the various adjustment alternatives should be evaluated in terms of their respective net present values, each of which are computed by adding their respective discounted streams of future benefits and costs. The alternative, including that of maintaining status quo (i.e. 'non-action'), which yields the largest expected net present value is selected.[5]

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4 Yet another alternative is to improve the current house and then move. This course of action is taken solely for investment purposes. Few individual owner-occupiers opt for the trouble and inconvenience of doing this, although there may be a small number of builders who specialise in renovating older dwellings while living in them and selling them for capital gains.

5 Fredland (1974:20-22) used similar techniques to evaluate moving behaviour.

The present value of the total expected net benefits of continuing to live in the current house is computed as follows:

$$V_o = \sum_{t=o}^{h} \frac{R_{o_t}}{(1+i)^t} + \frac{S_o}{(1+i)^h} - \frac{A_o}{(1+i)^h} \qquad 6$$

where,

R_o = net benefits (or utility or value of housing to owner) per period, i.e. net of operating expenses

h = expected length of stay in the dwelling

S_o = value of house at the end of the expected stay

A_o = the cost of next adjustment

$(1+i)^{-1}$ = the discount factor at interest rate, i.

R_o can be viewed as the monetary equivalent of utility (or satisfaction) derived from the use of the dwelling. It is net of operating expenses, including rates, fuel, insurance, repairs and maintenance. In more practical terms, R_o can be seen as having two components: an imputed market rent and a premium (or discount). If the owner-occupied dwelling is placed in the open market, it will fetch a rent determined by forces of supply and demand, and so its market rent can be imputed. However, it is conceivable that to many people a house is more than just a commodity of ordinary consumption and they may be prepared to pay more than its market rent. A monetary equivalent in the form of a premium can be used to estimate the sum of these intangible benefits. Sometimes R_o is known as 'value to the owner'. This explains why some households are willing to make capital expenditures on their dwellings even though they knew that

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6 For simplicity, comparison is made in terms of one holding period, i.e. the time the household expects to stay in the same dwelling, and so the cost of the next adjustment (A_o) can be ignored. Multiple holding periods will be introduced later.

the increase in the market value of their property will not be large enough to compensate for the expenditure incurred.

As previously noted, how satisfied the household is with the existing dwelling over time is a function of its socio-economic characteristics, the physical attributes of the dwelling, the rate of deterioration and obsolescence and the changes in housing prices relative to other goods and services. Note that housing and household factors are to some extent interactive: for example, a big family in a small house is likely to derive less satisfaction than a small family in the same house. Similarly, the market value of the property (S_o) is in part determined by the level of repairs or maintenance through the years.

Evaluation of future housing satisfaction involves a certain degree of uncertainty. Individual householders usually are unable to predict changes of external influences such as those affecting the locational advantage of the place or the neighbourhood quality or changes in housing prices. Though housing obsolescence is a function of the individual householder's own perception, it is also the result of changes in technology, style or fashion which is quite beyond the ability of the householder to predict. Physical deterioration is less significant in the short to medium term and more predictable as it can be controlled by varying the level of repairs and maintenance. Changes in household size and composition, being a function of phases in the family life cycle, can be foreseen with more certainty; modern birth control methods enable families to time the arrival of children with greater confidence. But there is still uncertainty attached to the timing of certain household events, such as marriages, divorce or separation, death and arrival of relatives. Similarly, while income tends to vary with a householder's career development, the exact timing and magnitude of the increases cannot normally be foreseen.

The element of uncertainty in predicting future housing satisfaction is included in the discount rate, i. The greater the uncertainty, the higher the value of i. The discount rate may conceptually be interpreted as the household's time preference rate which reflects the values or weights it attaches to benefits and costs further away in time relative to those nearer in time. The more net benefits nearer in time to the present are preferred to benefits further away in time, the higher the discount rate. Given a high discount rate, if the household expects to live in the current house for a long time, the present value of the next adjustment cost will be insignificant relative to that of total net benefits (V_o).

As noted earlier, the desire for making housing adjustment depends largely on the extent of the gap between the optimal (or desired) and the actual amount of housing (V_o). Whether a household adjusts through moving or improving, it will strive to acquire the quantity of housing which is as close to the optimum as possible.

Both moving and improving will increase the housing satisfaction of the household, but there are costs involved. Figure 3.2 illustrates how households are prevented from making frequent housing adjustments because of the high costs of adjustment. XY traces the ideal path of housing requirements over the various phases of the family's life cycle. The demand for more and better housing increases progressively as the family expands in size and as income rises until a peak at around middle age, after which there is a sharp fall in demand as the grown-up children leave home and income level falls. Even if one form of adjustment, say moving, produces a higher quantity of housing (from AA to CC)[7] than another,

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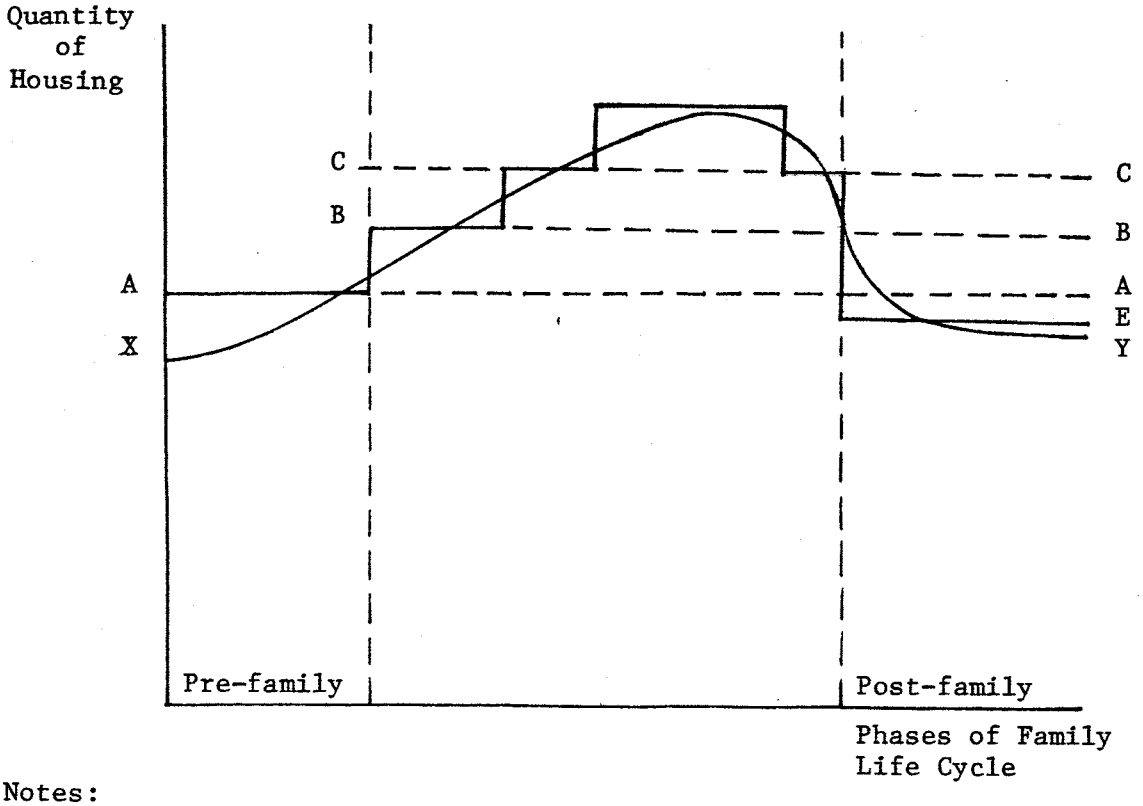
7 For simplicity, it is assumed that the quantity of housing is maintained at a constant level over time through a policy of adequate repairs and maintenance.

FIGURE 3.2 Housing Adjustments and Demands Over Time



Notes:

1. AA = the quantity of housing remaining constant
   BB = the quantity of housing after improving for the first time
   CC = the quantity of housing after moving for the first time
   XY = the ideal housing requirements over the entire family life cycle
   AE = the best approximation of the ideal housing path through a series of improvements and relocations.
2. This figure is an adaptation of a diagram of Colton, Lessard and Solomon's (1979:585) which is used to show how households are prevented from getting their desired consumption of housing services as a result of transaction costs in housing markets and imperfections in financial markets.

say improving (from AA to BB), it does not necessarily follow that moving will be selected - the final decision depends on their respective benefits as much as their costs.

Computation of the net worths of the various alternatives can be made as follows. If the household selects either to improve or to relocate, the present worths of the properties can be expressed as:

$$V_a = \sum_{t=o}^{j} \frac{R_{a_t}}{(1+i)^t} + \frac{S_a}{(1+i)^j} - T_a$$

$$V_m = \sum_{t=o}^{k} \frac{R_{m_t}}{(1+i)^t} + \frac{S_m}{(1+i)^k} - T_m$$

where,

V_a, V_m = the present worth of improved and 'new' (relocated) dwelling to the owner, respectively,

R_a, R_m = the expected net benefits (or utility) per period of improved and new dwelling, respectively,

S_a, S_m = the expected sale values of the improved and new dwelling, respectively,

j , k = the expected holding period of improved and new dwelling, respectively,

T_a, T_m = the total tangible and intangible costs associated with improvement and relocation, respectively.

The total cost of improvement (T_a) includes capital and labour inputs (C_a) and the inconvenience and trouble suffered during the period when improvement work is in progress (I_a). The components of the total cost of moving (T_m) consist of the following:

C_m = the removal expenses

I_m = the loss of intangibles (i.e. the amount to overcome the inertia to move)

$P_m - P_o$ = the difference in the price between the original (P_o) and the preferred (P_m) dwelling

θP_o = the commission for sale and legal fees of original dwelling where θ is a percentage of P_o

δP_m = the transfer and mortgage fees of new dwelling where δ is a percentage of P_m.

The alternative which offers the highest expected net present value of total benefits should be the one selected. For example, moving is preferred to improvement only if

$$V_m - V_a > 0,$$

and conversely, improvement is preferred, if the difference is negative, i.e.,

$$V_m - V_a < 0.$$

However, the choice of 'non-action' is a possible outcome of a decision. This is the case, where the household elects to stay in the current house and not do anything to it, when neither improvement nor moving is 'profitable', i.e. in symbols,

$$V_o > V_a \text{ ; and}$$

$$V_o > V_m \text{ , respectively.}$$

The costs associated with either improvement or relocation are rather high. In order for either of these courses of action to be taken, the benefits derived must be more than enough to cover the costs. Under normal circumstances, most owners can move only after the original dwelling is sold, and commonly, there is a price difference $(P_o - P_m)$ between the two dwellings. In most cases, P_m tends to be greater than P_o, for unless the preferred house has more space or is of better quality than the original house, the household would be unlikely to move. One possible exception is the case of an elderly couple who move to a smaller house because the original house has become too big for their requirements. Even if $(P_m - P_o)$ is negative, the same decision rule still applies. Transaction costs are involved when the original house is sold and the preferred house bought. They include sales commission and legal fees on the original house (θP_o) and transfer fees (δP_m), which are legal fees and stamp duty, and mortgage fees on the 'new' house. These cost items are usually given as a percentage of the sale price.

There are also intangible losses (I_m) resulting from moving. The costs of giving up the sentimental attachment to a familiar and convenient surrounding and the social ties developed over the years can be quite high. Conversely, there are some householders who move because they dislike their neighbours. There is also the inconvenience and trouble associated with the actual task of moving. Hence, the inertia against moving can be quite significant and the benefits derived from moving must be sufficiently large to overcome this. These intangibles are not normally quantifiable and their significance varies from individual to individual. It helps, however, to ask the question, 'how much benefit is required just to overcome the inertia to move?', when one is computing the costs and benefits of moving. Similarly, there are intangible costs associated with improvement, such as the trouble and inconvenience suffered during the period of construction.

There is yet another aspect of the decision rule which requires further clarification. The preferred house which the household moved into may be situated in a location quite different from the original house. There are therefore real and intangible losses and gains associated with the relative locational and accessibility advantages, in terms of environmental and neighbourhood conditions, nearness to work place, schools, shopping, etc. These differences should be reflected through the returns per period, R_m and R_a.

The time horizons, as represented by j and k, measure the period between the time the household first changes its housing situation either by moving or improving to the time when it next changes its housing situation. This is a more reasonable approach because few households are likely to remain completely satisfied with the same, unaltered house indefinitely. As housing requirements change over time, the decision-maker

will consider another change in its level of housing consumption by moving or improvement. If it chooses to improve (or move), it has to take into account, among other things, how long it is likely to live in the house before it will want to reinvest (or move) again.

The holding periods, j and k, are not necessarily equal. Each is a function of household changes as well as of the condition of the structure and the rate of obsolescence; and in the case of improvement, the quality and type of the improvements. For example, if the existing house after improvement, is still old and in poor condition when compared to the 'new' house, then j is likely to be longer than k.

The residual value (S_m or S_a) is the expected sale price at the time when the next housing adjustment is made. Whether or not the household actually sells the house is immaterial in this particular case as S_a (or S_m) represents the capitalised value of all future benefits. It is felt that j (or k) is a convenient cut-off point, beyond which estimation of costs and benefits may be too speculative as it requires evaluation of the next improvement or move all over again. Of course, at each cut-off point, the household may decide to stay and also not to reinvest, if the net benefits derived from both alternatives are less than the present value of the existing house (V_o).

To most people, it is difficult enough to forecast the near future, let alone the different combinations of events (i.e. relocation and improvement) in the distant future. For all practical purposes, this cut-off point at j (or k) seems more useful. Nevertheless, theoretically, it is possible to take into account all combinations of events (i.e. improvements and relocations) with their associated costs and benefits over the entire life span of the decision-maker. One possible combination of events is path AE in Figure 3.2, which provides

one of the closest approximations of the ideal housing requirements over time.

In the long-run, a household will select a combination of improvements and relocations with different holding periods, in such a way that the discounted net benefits derived from the future dwellings that are occupied, net of the financial and other costs of improving or moving, is maximised:

$$\sum_{q=1}^{f} \left[\sum_{t=o}^{\ell_q} \frac{R_t}{(1+i)^t} - \frac{T_q}{(1+i)^{\ell_{q-1}}} \right]$$

where,

R = net benefits (or utility) derived from either moving or improving in time t;

q = the number of holding periods, from 1 to f, i.e., the number of times the household expects to change its housing situation either by moving or improving;

ℓ_q = the number of years from the beginning of the first holding period to the end of each holding period; and $\ell_o = 0$;

T = the financial and social costs associated with either moving or improving;

$(1+i)^{-1}$ = the discount factor

Since this general expression involves forecasting over a fairly long period of time, risk and uncertainty should realistically be included. Risk and uncertainty are accounted for in the discount factor. The choice of either improvement or moving at the beginning of each holding period is not independent of the choices made in the preceding periods. For example, if the house has been improved in the last period, there is a higher probability that, because of lack of space, it will not be possible physically to make another extension, or it may be that the

marginal cost is prohibitive. Further complication is introduced by possible changes in the decision unit. In this general case, the decision-maker has also to speculate on the number of times (f) he will adjust his housing consumption over the remaining years of his life. The greater the number of adjustments, the larger is the cost of adjustment (i.e. the present value of all Ts).

The choice of moving to a house and then improving it may also be made, if the household is unable to maximise returns by moving or improving alone. The capitalised sum of benefits (V_n) net of all costs of adjustments is derived as follows:

$$V_n = \sum_{t=o}^{k} \frac{R_{m_t}}{(1+i)^t} + \frac{S_m}{(1+i)^k} - T_m - T_a$$

The move and improve alternative is chosen only if,

$V_n > V_a$, and

$V_n > V_m$, and

$V_n > V_o$

Yet another alternative which is the extreme case of improvement is redevelopment. This option is available only to properties with redevelopment potential. One should redevelop (or sell it for redevelopment) only if the value of the redevelopment less the costs of redevelopment and demolition exceed the present worth of the current dwelling.

3.3 Conclusion

For reasons discussed earlier, many people will not remain fully satisfied with any one house indefinitely. Household circumstances as well as housing attributes change over time. At some point in time, a household

may desire some housing attributes which are not provided by the current house, indicating a gap between the actual and the preferred level of housing consumption. Whether a decision is made to alter these attributes (i.e. bridge the gap), is dependent on the level of 'dissatisfaction', economic resources and the costs and availability of alternatives. The outcome of the decision, however, is a function of the relative costs and benefits associated with each alternative course of action. The benefits must be sufficiently large to more than cover the 'dissatisfaction' and the adjustment costs before any action is taken. However, not all the costs and benefits are quantifiable. Often these intangibles are important considerations in evaluating alternatives.

Not all households however, have the alternative of either moving or improving. Some households are precluded from making improvements because of certain changes in their household composition; others because they prefer certain non-adjustable housing attributes. Also, the choice of one course of action at one point in time may not be independent of decisions made previously.

The next chapter looks at why different households select different adjustment alternatives to satisfy their housing requirements.

CHAPTER FOUR

THE CHOICE OF ADJUSTMENT ALTERNATIVES: MOVING VERSUS IMPROVING

As illustrated in Chapter Three, the final decision to make a housing adjustment, either through improving or moving, is the outcome of a two part decision-making process: the first is the decision to adjust one's housing situation and the next is the choice between improving and moving, or a combination of both. The first part of the decision-making process, that is, the factors which bring about a situation of mismatch between the household and the dwelling, is discussed in subsequent chapters. This chapter is concerned with the choice between moving and improving which, as noted in Chapter One, is an area which has generally been overlooked in housing adjustment studies. It aims at finding out the extent to which improving is a viable alternative to moving and the reasons for households electing to improve instead of move (or move and improve) and vice versa.

The first part of this chapter shows how the choice of some households, because of their tenure status, certain changes in household circumstances or the kind of housing changes desired, is limited to moving. This is followed by a comparison of the various social and economic costs associated with moving and improving and a multivariate analysis of factors which influence either option. The second part is concerned with a popular variation of the moving or improving alternative - move and improve. It examines the circumstances under which this option is selected instead.

In addition to information from the Survey of Housing Improvement in Adelaide (1978), this chapter uses extensively data from the Adelaide

Survey of Movers (Kendig 1981) conducted a year earlier. The latter survey collected information on the socio-economic characteristics of 700 households that had moved during 1976 and early 1977.

4.1 Improvers Versus Movers

4.1.1 Tenure and non-housing reasons

As noted earlier, not all households intending to change their housing situation face the alternatives of improving and moving. Tenants, in particular, generally do not have the choice or wish to make housing improvements. Few tenants live in the same dwelling for a long period of time, partly because, if they plan to do so, it is cheaper to buy than to rent (Shelton 1968; Bethune 1978). Most improvements involve a substantial capital outlay (or alternatively substantial labour input by the householder) and tenants would not be able to derive a worthwhile return (or utility) on their investment, nor are they entitled to any increase in the value of the dwelling. Hence, most tenants tend to adjust their housing consumption through moving. According to the Adelaide Survey of Movers, about 60 per cent of the moves were made by tenants, who comprise only 30 per cent of all householders.

It has been shown that very few tenants (or their landlords) make improvements (see Chapter Two). In any case, other surveys of home improvements in Sydney and Melbourne show that improvements made by tenants are relatively inexpensive and minor in importance.[1] These surveys reported that while about 17 per cent of the total number of improvements were undertaken by tenants, they account for less than 5 per cent of the total value.

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1 The two surveys were conducted by the Decisions Information Service Pty. Ltd. and some of the results were reported in the *Australian Financial Review* (21 July 1978).

Sometimes a household is unable to continue living in the same dwelling because of certain changes in its socio-economic circumstances. Marriages, divorces and separations, children leaving parents to set up new households and migration are some of the common causes of moving. Some households are forced to move because of termination of lease, eviction or demolition. Moves resulting from all these reasons could be categorised as those not relating to housing adjustments (Goodman 1976; Kendig 1981). A change in tenure from rental to home ownership or vice versa, also almost always precipitates a move. Nearly 40 per cent of those movers who were first home buyers cited 'to buy' as the main reason for moving. The exceptions are tenants of rent-controlled housing who buy the premises they occupy, which happened in the 1950s and 1960s (see Chapter One).

Altogether about 64 per cent move for reasons not relating to housing adjustments, or to change tenure (Kendig 1981). For most of these people, the choice of making improvements to their existing dwellings as an alternative to moving does not exist. Therefore it appears that among the movers, the alternative of improving as a means of meeting one's housing requirements is available only to a minority - those who want to make housing as distinct from household adjustments.

In a comparative study of how and why housing adjustments are made by movers and improvers, those movers who are unable to exercise the choice of making improvements should be excluded. Only those who owned their previous dwellings and who moved in order to make housing adjustments should be compared to improvers. According to the Adelaide Survey of Movers, these 'comparable movers' constitute only 12 per cent of the total number of moves. It should be noted that movers and improvers represent the sector of the population which generally have more economic resources. The next chapter will show more specifically the differences in the socio-economic

characteristics of the improvers and the rest of the population.

4.1.2 Housing adjustments

Whether through moving or improving, most households will choose that bundle of housing which is best suited to their current (and expected) needs, preferences and means. Hence, by examining those aspects of housing which a household seeks to adjust in relation to the circumstances under which the decision to move or to improve is made, it is hoped to shed some light on some of the reasons for selecting one or the other alternative.

Most improvers and movers tend to make 'upward' adjustments in order to get more and better housing.[2] All the improvers in the Adelaide Survey made improvements which resulted in more rooms or space (70 per cent) and/or an enhancement in the quality of the house. Also, almost all of them believed that their dwelling had increased in value after making improvements. Similar 'upward' adjustments are made by movers. About 70 per cent of the movers who had the option of moving bought a higher-value dwelling.

However in marked contrast to the improvers, a significant proportion of movers made adjustments leading to a reduction in housing consumption. About a fifth of the households moved to a lower-value dwelling and about 15 per cent to a dwelling with fewer rooms.

The variations in housing adjustment behaviour between the movers and the improvers could be explained by some major differences (and similarities) in their socio-economic characteristics. The stages of family life cycle appear to be useful variables for purposes of determining housing requirements of households of different demographic characteristics. At each stage a household has a different combination of demographic

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2 Unless otherwise stated, only comparable movers, as defined in the previous section, are referred to in this and subsequent sections.

attributes: marital status, age of household head, the absence or presence of children, and the age of the youngest child (Table 4.1). In general the stages are defined to represent the pattern of housing demand over time. Life cycle stages also enable longitudinal inferences to be made from cross-sectional data, if the cohort effects can be controlled.

TABLE 4.1 Definitions of Life Cycle Stages

Stage in Life Cycle	Definition
1. Young single head	Household headed by single person (male or female) under 30 years old, no children.
2. Young couple	Household headed by married couple, husband under 30 years, no children.
3. Young family	Household headed by married couple, husband at any age, youngest child under age 5 yrs.
4. Mature family	Household headed by married couple, husband at any age, youngest child between 5 to 14 years.
5. Older family	Household headed by married couple, husband at any age, youngest child 15 yrs. and over.
6. Older couple	Household headed by married couple, husband at least 45 years old, no children.
7. Older single	Household headed by single person (male or female) at least 45 years old, no children.
8. Other	Household headed by singles or married couples, age between 30 and 44 years, no children.

Notes: 1. 'Married' includes de facto relationships and 'single' includes the never married, divorced and separated, and widowed.

2. The ages of 5 and 15 years are selected as delimitors because they more or less coincide with the schoolage period, but more importantly, they are points of transition for the child which have significant implications on housing requirements. The head ages of 30 and 44 years are chosen to demonstrate the conventional notion of the young, child-rearing and middle-age phases.

Source: Lansing and Kish (1957).

Life cycle stages also tend to correspond to the career development of the head of the household: his income tends to increase progressively from the pre-family stage to a peak at the mature family stage before falling at retirement. Because of disparities in the wages and salaries of different occupations, there can be considerable variation in incomes between households in the same stage of the life cycle. This however is not a problem in comparative analysis between movers and improvers as they have fairly similar distributions of economic resources at various life cycle stages (Figures 4.1 and 4.2 and Table 4.3). Improvers and movers (i.e. previous owners only) also have fairly similar distributions of demographic characteristics (Figures 4.3 and 4.4).

Most householders who adjust their housing consumption downwards are in the post-family stage of their life cycle. Many in this stage enjoy a surplus of space after their children have left home, and the urge to change their housing situation is even greater after one partner has died. Moreover, often in their old age they are physically unable to carry out regular maintenance and repairs. As a result, many move to a smaller place (as indicated by the negative mean difference in the number of rooms in Table 4.2) that suits their circumstances better. Often it would be impractical and uneconomic to try and meet such requirements by modifying the existing house. Internal space may be altered but it is obviously impractical to demolish a part of the house in order to reduce space. More practical possibilities are to convert the existing single occupancy house to a duplex, and either let or sell one of the two units, or to take in a boarder. However, because of restrictive building regulations on dual occupancy conversions and the inconvenience of going through the whole conversion process, it will almost always pay to sell the current dwelling and buy a smaller one. Table 4.2 shows that movers in the post-family stage,

FIGURE 4.1 Distribution of Household Income

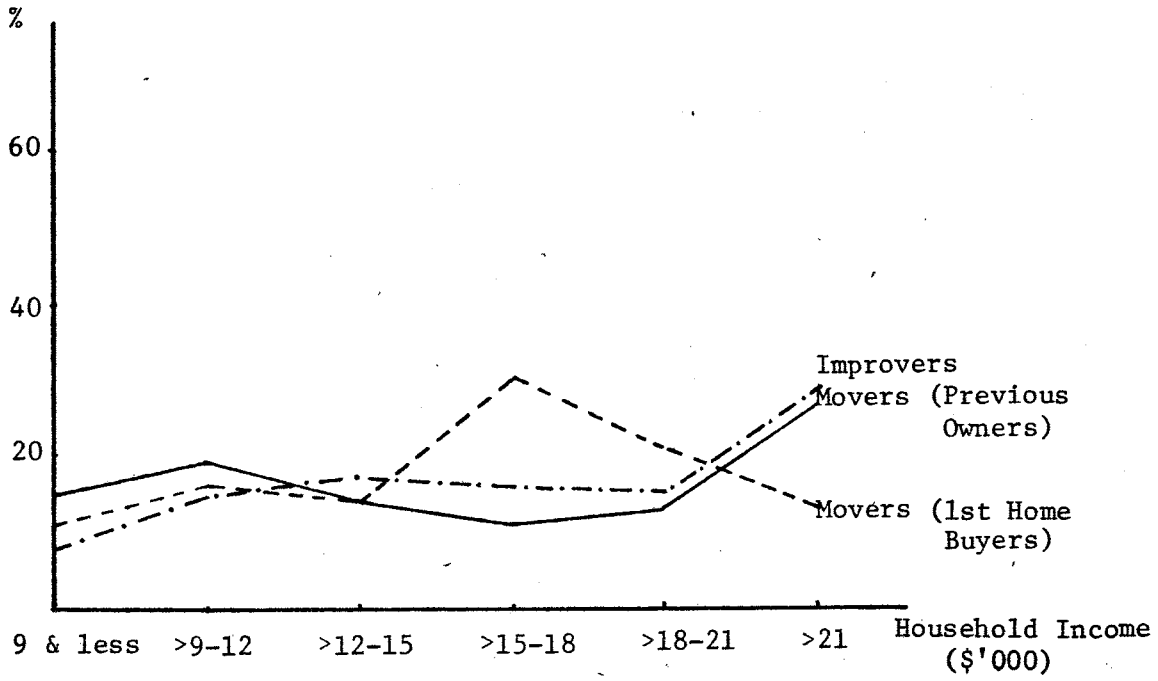
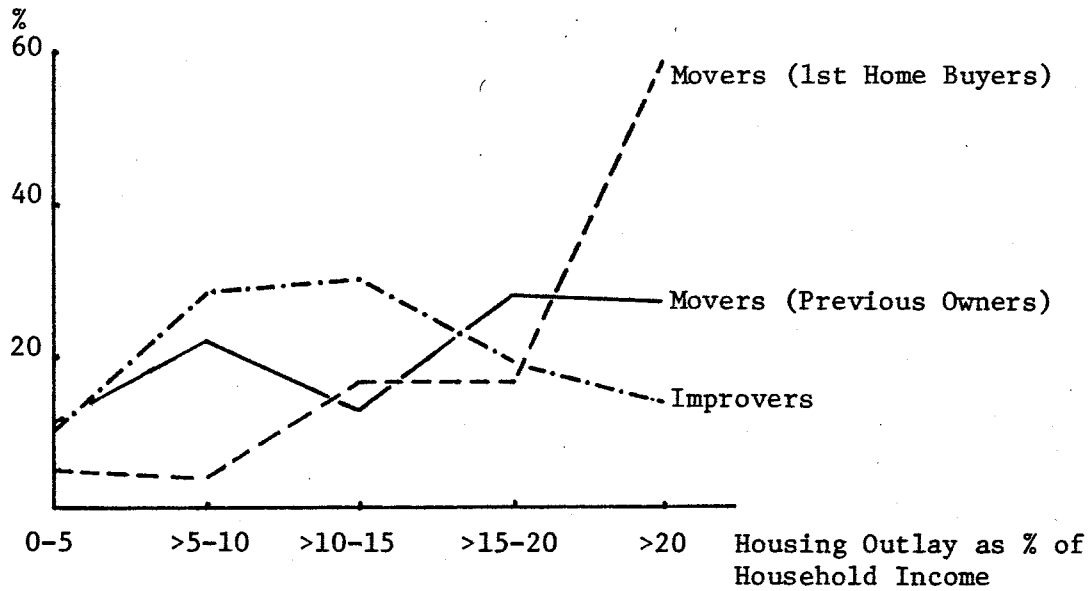


FIGURE 4.2 Distribution of Housing Outlay to Household Income Ratio



Sources: Adelaide Survey of Movers, 1977 and
Housing Improvement Survey, Adelaide, 1978.

FIGURE 4.3 Distribution of Age of Household Heads

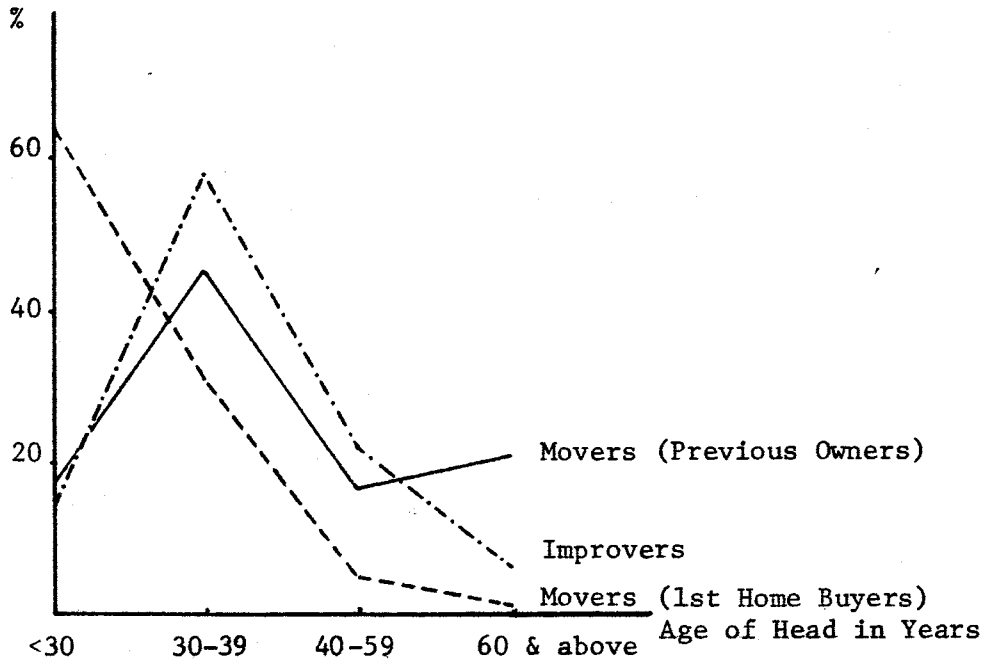
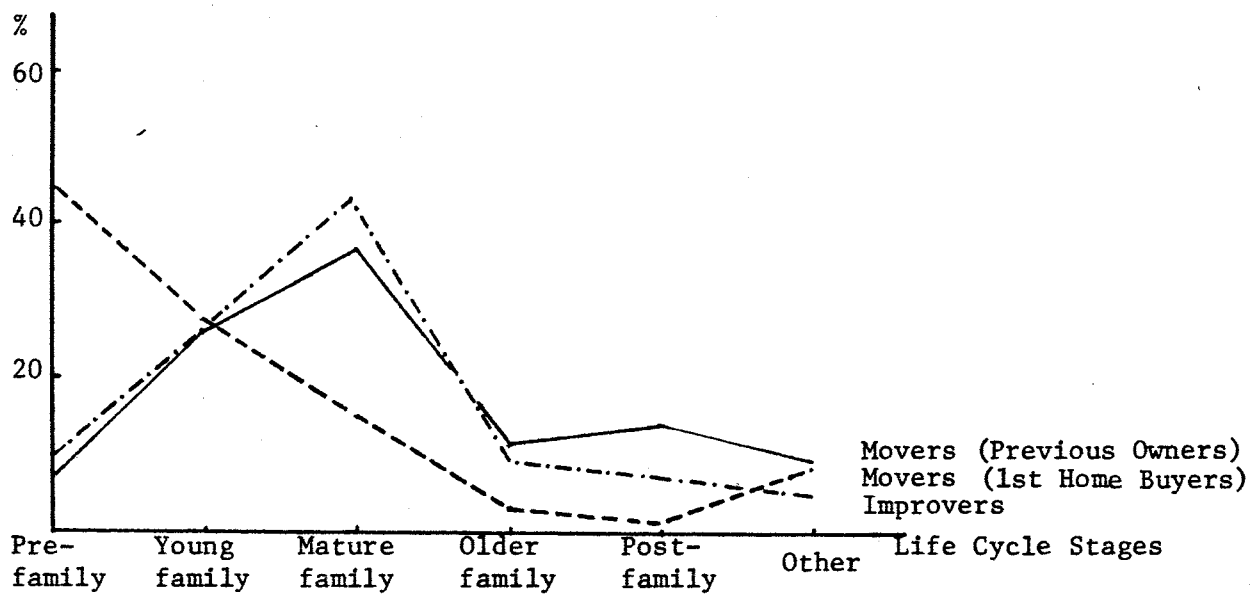


FIGURE 4.4 Distribution of Stages of Family Life Cycle



Sources: Adelaide Survey of Movers, 1977 and
Housing Improvement Survey, Adelaide, 1978.

TABLE 4.2 Changes in Persons per Room, Number of Rooms and Dwelling Price

Life Cycle Stage	Mean Δ Person Per Room		Mean Δ Rooms		Mean Δ Dwelling Value ($)		Number of Cases	
	Improver	Mover	Improver	Mover	Improver	Mover	Improver	Mover
Pre-family	0.05	0.04	0.83	0.84	12167	14853	18	11
Young family	0.13	0.11	1.06	0.78	9157	3548	51	25
Mature family	0.10	0.12	1.00	1.62	9914	10164	84	37
Older family	0.08	0.08	0.80	0.06	6412	1040	20	13
Post-family	0.06	-0.06	0.83	-1.08	9418	-2862	18	20
Overall	0.10	0.07	0.96	0.64	9418	5528	191	105
F-value	2.495**	4.200*	0.672	9.100*	1.631	4.813*		

* Significantly different at 0.01 level.
** Significantly different at 0.05 level.

Note: Only comparable movers are included in this Table.

Sources: Adelaide Survey of Movers, 1977 and Survey of Housing Improvement in Adelaide, 1978.

on average, experienced a net gain in the process of selling their previous dwellings and buying their present one, although this resulted in a net loss of space, averaging one and a half rooms.

The desire for a more compact housing unit explains why almost all those who moved from a house to a flat, home unit or villa are in the post-family stages. Most of them are above 60 years (averaging 65 years) and about 60 per cent are single. Although improvers in the same life cycle stage are slightly younger on average (58 years old), only 16 per cent are single.

Apart from reducing surplus space, some post-family households may sell their family home because they need the cash to supplement their low incomes. Most have built up considerable equity in their previous house and can pay for the 'new' house and still have a cash balance. In fact, most households in the later life cycle stages have paid off

much of their mortgage debt (Table 4.3). Also, some are forced to sell because they are unable to afford the maintenance of their house. Table 4.3 also shows that though improvers and movers have very similar patterns of income over most stages of the life cycle, those movers in the post-family stage generally have lower incomes than the improvers. There are also proportionately more post-family movers (23 per cent) than improvers (10 per cent), which must in part account for the differences in the observed adjustment behaviour.

Mainly because of a higher ability to pay, post-family improvers can afford to continue to live in their family home and still upgrade it. Most of them made 'quality' improvements. But there were others who added more space - some had accumulated sufficient savings to purchase what they always wanted, such as a separate dining room or a bigger and more modern kitchen, and others to accommodate their children and grandchildren when they visit. These houses are probably grossly under-used as indicated by the small average number of persons per room (Table 4.2); and this has special implications for the current concern among policy-makers for a more efficient utilisation of existing housing resources.

On the other hand, improvers and movers who make upward adjustments are more similar. As households in the earlier stages of the life cycle tend to require more space, the greatest additions in space (i.e. rooms) are made by both improvers and movers in the pre-family, young family and mature family stages (Table 4.2). Their economic circumstances are also very similar. They both have very high incomes (except for the improvers in the young family stage), but they also have heavier financial commitments as evidenced by the high housing outlay-to-income ratios (Figures 4.1 and 4.2).

There appears to be evidence that some younger households move

TABLE 4.3 Some Housing and Household Characteristics of Improvers and Movers

Life Cycle Stage	Number	Mean Previous House Price ($)	Mean Present House Price ($)	Mean Age of Head (yrs.)	Mean Household Income ($)	Mean[1] Debt/Value Ratio	Mean Years of Occupancy (yrs.)	Mean Distance Moved (km)
Movers:								
Pre-family	11	33675	48529	25.8	19529	0.37	2.2	7.5
Young family	27	32985	36597	32.4	19267	0.32	4.9	12.9
Older family	38	36421	46370	38.9	20255	0.25	6.3	7.9
Mature family	13	41716	42757	53.6	15778	0.09	12.9	9.2
Post-family	25	32417	34913	64.8	10189	0.04	12.8	7.3
Overall	113	35185	41351	43.6	17175	0.22	7.8	9.2
F-value		0.959	3.428*	120.285**	4.628*	8.176**	7.128**	2.839*
Improvers:								
Pre-family	17	41543	46057	28.5	19700	0.42	3.3	
Young family	51	33889	47000	32.1	16584	0.36	5.8	
Older family	82	37843	52667	40.4	19069	0.26	8.1	
Mature family	18	42706	61118	50.8	18728	0.06	16.4	
Post-family	16	41823	49765	50.2	16531	0.04	10.9	
Overall	184	41545	50962	39.8	18531	0.26	8.187	
F-value		3.631**	2.055*	102.02**	1.112	15.209**	17.625**	

* Significantly different at 0.10 level.
** Significantly different at 0.01 level.

Notes: 1. Ratio before adjustment.
2. Monetary values of the 1977 Survey of Movers are adjusted to the 1978 price level using average earnings for income and the house price, maintenance and repair component of the CPI.
3. Only comparable movers are included in this table.

Sources: Adelaide Survey of Movers, 1977 and Survey of Housing Improvements in Adelaide, 1978.

into a cheaper first house as a way of gaining access to home ownership with the intention of building up some equity in the house. Together with their savings this enables them to make the initial down payment on a bigger and better dwelling. This is a particularly useful strategy in a period of high rates of inflation and rising house prices as during most of the 1970s. Tables 4.2 and 4.3 show that although movers in the pre-family and young family stages buy much more expensive houses than they sell, the mean sale prices of their previous dwellings are lower than those of movers at the other life cycle stages. Moreover, in comparison with households in the later life cycle phases, they lived in the previous place for a relatively short period of time, averaging two years and five years respectively. This suggests that most of them intended the first house to be a stepping stone towards ownership of a better house. As the housing requirements during the earlier life cycle phases are probably more modest and less pressing, most of them are prepared to live in a house with fewer facilities and move only when their housing needs increase as their families grow and as their financial circumstances improve.

To some extent, these categories of movers are similar to the improvers in the earlier life cycle stages who purchase a modest house (within their budget) as a means of reducing the initial cost of housing with the intention of making improvements to it (see Chapter Five).

As previously noted, older householders sometimes have to move because they want to adjust 'downward'. There are, however, other instances in which improving cannot substitute for moving. The location of a dwelling obviously cannot be modified, and it is difficult and usually very expensive to change the construction, design or layout of a dwelling.

There are various indications of the major housing adjustments which could not be made by improvements. The rather large price differences

between the previous and current dwellings of the movers indicate that substantial housing adjustments were made (Table 4.4). Moves were also made over fairly long distances, averaging 9 km, and 16 per cent of the movers were dissatisfied with the former neighbourhood and another 7 per cent with the length of their journeys to work. Further, about half the movers bought dwellings that were newer than their previous residence. About 14 per cent gave as their primary reason for moving that the last place was 'too old', 'in poor condition' and 'too much work or too expensive to maintain'.

Most of the improvers on the other hand appear to have a strong attachment to their current location and dwelling. About a quarter of them gave locational reasons for not moving and about 95 per cent of them said that they would not move to a very similar house in the same suburb if given the choice. Most of them have lived in the same house for many years. Because of the reluctance to move from the current place, any change in housing requirements has to be met by making improvements.

Table 4.4 shows that movers who wanted a newer place and a change in location have very high mean dwelling price differentials of $10000 and $9500, respectively, but the houses purchased are not significantly more expensive or bigger than the other categories. It therefore appears that movers who want a combination of housing attributes, which cannot be provided by making improvements to the existing dwelling, are compelled (or are more willing) to pay a substantial price for the adjustment through moving. From another standpoint, these households must have considered the benefits derived from moving more than sufficient to cover the high cost of moving. In contrast those who have the improving option can always fall back on making improvements to meet their requirement, if the cost of moving is too high.

TABLE 4.4 Reasons for Moving

Reasons	Number of Cases	Mean ΔDwelling Price ($)	Mean ΔRooms	Mean Dwelling Price ($)	
				After	Before
Change in dwelling type	19	-5630	-0.76	34810	40499
Change in dwelling age	15	9462	0.83	40695	31498
Change in location	27	10188	0.73	44621	34433
Other	44	5767	0.95	42374	35137
Overall	106	5370	0.62	41375	35379
F-Value		5.964*	3.665*	1.640	1.120

* Significantly different at 0.05 level.

Note: This table includes only comparable movers.

Source: Adelaide Survey of Movers, 1977.

Therefore, the kinds of adjustments desired have significant bearing on the final choice of adjustment alternatives. The downward adjusters almost always have to move. On the other hand, most of those who want to increase their housing consumption can, in theory, either improve or move; but where the preference is for non-modifiable housing features, moving is the only choice, despite the high social and economic costs of moving.

4.1.3 The social and economic costs of moving and improving

Given the choice of either moving or improving, most homeowners will select the latter. This explains why most of those who move do not have the option of making improvements and why as noted in Chapter Two, the number of homeowners who improve in any one year far exceeds the number who move. The main impediment to moving is its high financial and psychological cost. This is despite the fact that home improvements are

generally more costly than new construction on a unit area basis.[3] If unit cost is the determinant then more homeowners will buy (or build) a new house instead of improving the existing one. However, as illustrated in Chapter 3, the choice depends on which yields the higher net expected benefit rather than on cost alone; but the high cost of moving will in any case reduce the benefits.

In contrast to the movers, many of whom could not make the desired adjustments by improving, most improvers have the option to move, although most minor adjustments would not warrant the consideration of moving. However, it is less clear whether most improvers considered moving before making the decision to improve. About half of the improvers interviewed said that they did consider moving, of which 54 per cent actively looked for a house by contacting agents or attending inspections; another 35 per cent just compared prices through newspapers and/or by word-of-mouth and the remaining 11 per cent did neither. One interpretation is that moving as an alternative did not even occur to at least half of the respondents, but it seems likely that they had intuitively weighed all the tangible and intangible costs and benefits of moving and improving. When asked for their reasons for choosing to improve instead of moving, most of the improvers gave either financial or social reasons for not moving. Since only a small percentage of movers could choose to improve, this seems to be a more relevant question to ask than the reverse (i.e. moving instead of improving). This was not asked in the survey of movers.

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3 The average improvement cost per sq m was $381 (excluding improvements that added no new area) compared to the average house building cost of $225 for Adelaide in the September Quarter of 1978 (ABS, *Building Statistics*). The cost of improvement will be even higher if the owner's labour contribution is included in the computation.

About 40 per cent of the improvers gave the high financial cost of moving as the main reason for electing to improve instead of move. Apart from paying the difference in agent's commission and legal and other transfer fees on the previous dwelling, movers have to pay stamp duty and other incidental transaction expenses on the new dwelling. It is conceivable that often the total cost of moving to a dwelling similar to the one that is improved far exceeds the cost of improvement. For example, the total transaction cost of selling a $30000 house to buy a $40000 house amounts to about $3000.[4] Together with the price difference of $10000, the total cost of moving comes to $13000. This figure is not far from the average moving cost of $16000 (excluding moves which were downward adjustments) which is more than twice the mean improvement expenditure of $7000. A very substantial improvement could be carried out with $16000. In addition, many households also expect to incur some expenditures on furnishing or on minor alterations or additions, after moving into the 'new' house.

Both moving and improving involve fairly large capital outlays which often require financing from lending institutions. For some households, the choice between the two alternatives can be more sensitive to the resulting monthly loan repayment than to the total capital outlay. The amount of repayment is in turn determined by the kind of loan used. Table 4.5 provides a hypothetical case to illustrate this. In this case, if the household can

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4 The total transaction cost is calculated as follows:

Sale Costs			
1. Agents Commission - 6.75 per cent on 1st $8000			
4.5 per cent on $22000		$1450	
2. Conveyancing Charges, Discharge of Mortgage, etc.(approx.)		300	$1760
Purchase Costs:			
1. Stamp Duty		880	
2. Conveyancing and financing charges (approx.)		400	$1280
Total:		say,	$3000

TABLE 4.5 Financing of Moving or Improving by Borrowing - A Hypothetical Case

Original price of house five years ago		=	$30,000
Amount of mortgage loan		=	$27,000
Monthly repayment at 11% for 30 years		=	$257
Current market price of house		=	$40,000
Price of house intend to buy		=	$44,000
Cost of improvement which is comparable to 'new' house		=	$5,000
Calculation of Monthly Repayment if Move:			
Amount of outstanding loan at end of 5 years		=	$26,232
Capital gains and principal at end of 5 years ($40,000 - $26,232)		=	$13,768
Balance to pay for $44,000 house, say	$30,000		
Transaction costs	3,000		$33,000
Monthly repayment on a $33,000 loan at 11% for 30 years			$314
Calculation of Monthly Repayment if Improve:			
A. By way of Personal Loan:			
$5,000 for 5 years at 7.5% flat	= $114		
Monthly repayment on current mortgage	= $252		
Total monthly repayment			$371
B. By extending the current mortgage:			
Outstanding loan	$26,232		
Cost of improvement	5,000		
Total loan, say	$31,000		
Monthly repayment on a $31,000 loan at 11% for 30 years			$295

only secure a personal loan to finance its improvement, its monthly repayment is higher than if it moves, even though the cost of moving is higher. On the other hand, if it can extend its current mortgage, the repayment is lower.

Some improvers do not want to move for fear of loosing the advantage of a low interest mortgage loan. However, unlike in the U.S., where fixed rate mortgages are common, most mortgages in Australia have varying interest rates. Others are not prepared to take up another loan and be in debt again as they have paid off or are nearing paying off the existing mortgages. Only about 5 per cent of the improvers gave these reasons.

Of course, financial costs and benefits are not the only considerations in choosing between the two alternatives. Very often, intangibles are just as, if not more important.[5] As recognised by many studies on residential mobility (Fredland 1974; Speare *et al.* 1974; Goodman 1976; Quigley and Weinberg 1977), the inertia against moving is very strong. Many people are reluctant to leave familiar and convenient surroundings which they have grown accustomed and become attached to. The social ties developed over the years can also be of considerable value to the householder. There is also the inconvenience and trouble of the actual task of moving. On the other hand, the construction of the improvements can be disruptive to the routine of the households. These intangibles, although not normally quantifiable, are important considerations. In fact the second most common reason given (25 per cent) for not moving is attachment to the location or neighbourhood. References were made to the physical advantages of the surroundings as

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5 Even though the most frequently given first reason is related to tangible costs and benefits, locational reasons are the most common second reasons.

well as the social ties. Among the reasons were those relating to accessibility, such as nearness to shops, schools, public transport, sport facilities and the city. Especially among those who lived in the outer suburbs, a pleasant surrounding was a common reason for not wanting to move. Terms such as 'quiet', 'natural environment', 'close to the mountains' or 'the sea' were commonly used. Others wanted to be close to their friends and relatives.

Another 13 per cent have a personal attachment to the house itself. Some favour certain features such as the design, construction or block size. Others said that they had lived in the house for many years and were not prepared to leave. One of the reasons is that many of them have put in a lot of their own work into the house and would feel a sense of loss if they were to move out.

In summary, those who move are frequently 'forced' to or cannot readily improve the existing house. However, when both options are available, most people would prefer to improve as the latter alternative is cheaper and less disruptive. This suggests that in the study of the adjustment of housing, it would be more appropriate to direct attention towards housing improvement rather than residential mobility.

4.1.4 Multi-variate tests

This section shows how the decision to move or to improve is influenced by various household and housing factors acting together. Downward adjusters who do not generally have the option to improve are excluded from this analysis.

Multiple Classification Analysis (MCA) examines the relationship between a single dependent variable and several categorical explanatory variables. It is, in fact, similar to ordinary multiple regression using dummy variables. However, unlike ordinary regression, MCA is designed to

handle non-linear relationships, although it also assumes that the effects of independent variables are additive. The technique provides information on the bivariate and multivariate relationships between the independent and dependent variables. The bivariate relationship is recorded as the unadjusted coefficient (or gross effect) which measures the average deviations from the grand mean of the dependent variable. The multivariate relationship is estimated by the adjusted coefficient (or net effect) which shows the effect of an independent variable (again expressed as a deviation from the grand mean) after all the other variables have been held constant. The adjusted coefficients are calculated by solving a set of least squares equations such that the final set of coefficients selected minimises the sum of squared errors in estimates of the dependent variable (Andrews *et al.* 1973:22-25).

MCA is also subject to the statistical problems of heteroscedasticity, biased estimates of standard errors as well as estimate probabilities beyond the zero to one range, usually associated with ordinary least square regression analysis. These problems have the effect of reducing the reliability of estimated standard errors and consequently of significance tests, but the estimated coefficients remain unbiased (Morgan *et al.* 1974; Watson 1974). However, for the purposes for which MCA is used in this study, these statistical problems are unlikely to be significant.

The data used in this analysis, where the dichotomous dependent variable is not skewed, lends themselves to MCA. The dependent variable has a value of '1' for improvers and '0' for movers. Its grand mean is close to half (0.55). The coefficients can be interpreted as probabilities or simple percentages.

Table 4.6 gives the result of the analysis. The unadjusted coefficients suggest that households in the pre-family and the later stages

TABLE 4.6 Multiple Classification Analysis

Independent Variable	Unadjusted Coefficient	Adjusted Coefficient	Number
Life Cycle Stage			
Pre-family	-0.13	-0.13	24
Young family	0.03	0.01	58
Mature family	0.03	0.01	86
Older family	-0.10	-0.02	18
Post-family	-0.02	0.16	16
Other	0.44	0.33	6
Household Income			
$ 9000 & less	0.33	0.40	10
>$ 9000 - 12000	-0.01	0.08	33
>$12000 - 15000	0.00	0.04	39
>$15000 - 18000	0.08	0.01	37
>$18000 - 21000	-0.07	-0.03	31
>$21000	-0.04	-0.11	58
Housing Outlay-to-income Ratio			
5% & less	-0.22	-0.06	27
> 5 - 10%	-0.02	-0.04	59
>10 - 15%	0.07	0.06	60
>15 - 20%	0.09	0.05	37
>20%	0.08	-0.05	25
Debt-to-value Ratio			
0	-0.10	-0.05	42
> 0 - 25%	0.04	-0.09	60
>25 - 50%	0.00	0.02	69
>50 - 75%	0.11	0.22	26
>75 - 100%	-0.02	0.05	11
Duration of Occupancy			
3 yrs & less	-0.10	-0.06	61
> 3 - 6 yrs.	-0.01	-0.05	58
> 6 - 9 yrs.	0.18	0.09	30
> 9 yrs.	0.03	0.02	59
Persons per Room			
0 - 0.5	0.10	0.02	39
>0.5 - 0.75	0.08	0.01	84
>0.75 - 1.00	-0.04	0.07	54
>1.00	-0.20	-0.14	31
Number of Main Rooms			
4 & less	-0.33	-0.24	17
5	-0.06	-0.01	82
6	0.10	0.02	66
7	0.13	0.07	35
8 & less	0.44	0.46	8

TABLE 4.6 Multiple Classification Analysis (continued)

Independent Variable	Unadjusted Coefficient	Adjusted Coefficient	Number
Age of Dwelling[4]			
Before 1945	-0.00	0.04	57
1945 -1960	-0.20	-0.19	35
1961-1971	0.31	0.19	62
After 1971	-0.10	-0.05	54
Value of Previous Dwelling			
$30000 & less	-0.22	-0.16	55
>$30000 - 40000	-0.01	-0.02	73
>$40000 - 50000	0.22	0.21	51
>$50000 - 60000	0.28	0.16	16
>$60000	0.25	0.17	13

Dependent Variable: Improve ≡ 1; Move ≡ 0.

Mean Value of Dependent Variable : 0.55

Adjusted R^2 = 0.26

Independent Variables	Eta	Beta
Value of Previous Dwelling	0.37	0.29
Age of Dwelling	0.37	0.27
Number of Main Rooms	0.31	0.23
Household Income	0.15	0.21
Debt-to-value	0.13	0.18
Life Cycle Stage	0.18	0.16
Persons per Room	0.22	0.14
Duration of Occupancy	0.17	0.13
Outlay to Income	0.21	0.10

Notes:

1. All downward adjusters are excluded in this analysis.
2. All the independent variables refer to situations before the decision to move or to improve was made.
3. As the survey of movers was conducted about a year before the survey of improvers, all monetary values are duly inflated, using average earnings for income and the house price, maintenance and repair component of the CPI for value of dwelling.
4. Due to different classifications used in the two surveys, there is an overlap of one year in the last two categories.

Sources:

Adelaide Survey of Movers, 1977, and Survey of Housing Improvement in Adelaide, 1978.

of the life cycle have a greater tendency to move than to improve. However, when the effects of all the other variables are taken into account, only the pre-family and post-family stages are more likely to move. This suggests that once a young household has bought a house, unless it moves before it starts a family, it is not very likely to do so until after the children have grown up. During the middle phases of the life cycle when the children are growing up, most parents try to avoid having their children change schools, and so tend to improve rather than move. In addition they have heavier commitments during this period. More families in the pre-family and older family stages can afford the more costly alternative of moving. Households in the pre-family stage, besides having lower financial commitments, are likely to have working spouses, and those in the older-family stage are likely to have paid off most of their housing debt and to have spouses rejoining the workforce.

The affordability argument is supported by the coefficients of the economic variables. The net effects of the household income categories show that higher income households are less likely to improve. Similarly, those whose housing payments are less burdensome, as indicated by the low housing outlay-to-income ratios, have a higher propensity to move. However, the negative net effect of the above 20 per cent category of this ratio seems to suggest that some younger homeowners, while still heavily in debt after buying their cheaper first homes, have planned to use it as a stepping stone to buy a more expensive one.

The debt-to-value ratio is a composite measure of wealth and financial commitments. Homeowners who have paid off, or nearly paid off their mortgage, can afford to incur higher expenses and hence, are more able and likely to move.

The duration of occupancy is a proxy for the intangible costs of relocating. Householders who have lived in a place for a longer period of time are likely to develop more valuable social ties and a stronger attachment to the house and its surroundings. The cost of foregoing these intangible benefits can be very high, and consequently, householders who have lived in a house for more than six years tend to adjust their housing consumption by improving instead of relocating.

As noted earlier, the number of persons per room measures the extent of crowding before any adjustments are made. Householders who are experiencing relatively severe crowding are more likely to move as indicated by the negative net effects of higher room occupancy. Similarly where the dwelling has very few rooms (less than 5), the owner tends to move to a bigger place instead of extending it.

Some households who live in dwellings built before 1945 probably moved in with the intention of improving, and hence, the positive net effect of this category. Dwellings in the 1961-71 category also tend to be improved. As will be shown in the next chapter, households who have lived in the same house for between 10 and 20 years are very reluctant to move. Most have lived in these houses ever since they were built and have reached the stage where improvements are being undertaken to arrest obsolescence or to change certain housing attributes to better match their changed socio-economic circumstances.

Those living in more expensive dwellings are more likely to improve than to move. This could be a reflection of the improvers enjoying relatively better housing than movers, and hence, their reluctance to move. The negative net effects of the cheaper categories again suggests that the intention of the movers from cheaper dwellings is to adjust upward by moving.

Housing factors appear to be more important than household factors in distinguishing improvers from movers, as indicated by the beta coefficients. When all the household variables (including life cycle stage, household income, housing outlay-to-income ratio, persons per room and debt-to-value ratio) are excluded from the analysis, the explanatory power of the independent variables, as measured by R^2, falls only by 0.04 to 0.22.[6] One possible reason for this result is the similarity in the distributions of socio-economic characteristics among the movers and the improvers, as demonstrated in Figures 4.1 to 4.4

Another more plausible explanation is that housing factors such as house value and dwelling age, are closely correlated with, and have therefore accounted for much of the variation due to socio-economic characteristics of the residents. For example, low income households are likely to own cheaper houses and life cycle stages tend to correspond with the age of the dwelling and the length of occupancy. In other words, the effects of some of the household factors are being suppressed. This is indicated by the fairly high eta co-efficients of persons per room, outlay-to-income ratio and life cycle stage.

To further test the results of the MCA model, discriminant analysis is used to distinguish movers from improvers. Using more or less the same independent variables,[7] the results show that about 71 per cent of the cases are correctly classified. Apart from the housing variable of house price and number of rooms, length of occupancy and outlay-to-income ratio are among the most important variables in the

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6 Conversely, when all the housing factors are excluded, the R^2 falls to 0.11.

7 Household size and age of head are both used as proxies for life cycle stage as the latter is not a continuous variable. Age of dwelling, which is also a categorical variable, is dropped.

discriminant function. This seems to confirm the argument that household effects are being suppressed in the MCA's rank order of the beta coefficients. MCA however has the advantage of estimating the relationships of each class (within each of the independent variables) with the dependent variable.[8]

4.2 A Third Alternative: Move and Improve

The previous section discussed relocation and improvement as if they were mutually exclusive options; but sometimes the decision to move is made in conjunction with the decision to improve. Many households in fact choose to improve the 'new' dwelling shortly after moving in. The surveys of both improvers and movers indicate that the 'move and improve' option is fairly common. About half of the recent improvers bought their houses intending to make improvements. Similarly, about 63 per cent of the recent movers, either had made or were planning (in the next five years) to make additions and alterations and about 43 per cent spent or planned to spend $2000 and more. There are a number of possible explanations for such behaviour.

Potential movers usually go through a search process before finally deciding on a particular house. They are, in effect, looking for the bundle of housing attributes that matches their housing requirements best. However, the household often has to settle for a bundle of attributes that is less than ideal. An important reason is that there is a trade-off between the costs, in terms of time and expense, involved in searching for more information and the probability of finding the dwelling with the right combination of attributes. Also, such an ideal place may not even exist. Alternatively, even if such a dwelling is found, the household may not be

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8 A check for interactive effects was carried out by combining some of the variables suspected to be interactive, but the explanatory power of the model is not improved.

able to afford it at the time. Moving into a dwelling which is deficient in some attributes, and subsequently making good these deficiencies through additions, alterations or renovations then becomes a useful practical compromise, although it has the disadvantages of both moving and improving. Three other studies have suggested that often housing improvement is undertaken in connection with the decision to purchase a house and to move (Kirwan and Martin 1972; Nutt *et al.* 1976; Morrison 1978). The ensuing sections show that the move and improve alternative is selected mainly as a means of spreading housing costs over time and to improve the undesirable attributes of the housing package.

4.2.1 Spreading housing costs

The move and improve option is an effective way of reducing the relatively high costs associated with relocation, which has often proved to be the main obstacle preventing households from adjusting their levels of housing consumption. By purchasing a cheaper dwelling without all the attributes one desires but with the potential for making improvements, one could significantly reduce the costs of moving and yet later attain the level of housing desired. In effect, this is a practical way of spreading housing costs over time.

As noted earlier, previous owners and first home buyers have very different socio-economic characteristics. These two categories of movers have rather different housing requirements and ability to pay for them, and hence their decision-making processes with regards to house purchase, relocation and improvement are likely to be different. Moreover, the first-time home buyers did not have the option to improve their previous dwellings. For all these reasons, previous owners and first home buyers will be examined separately.[9]

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9 All data used in this section are from the Adelaide Survey of Movers, 1977.

Previous owners:

Owners, who moved and then improved, bought cheaper dwellings than those who did not (or did not plan to) make any improvements. As illustrated in Table 4.7 the mean dwelling prices of the improvers are lower than that of the non-improvers at all, except the older-family stage of the life cycle. If it is assumed that households in the same life cycle stage have similar housing requirements, then there appears to be some evidence that the improvers have bought lower quality dwellings with the intention of improving them subsequently. Of course, differences in the purchase prices of the dwellings can also reflect locational differences.

The move and improve alternative is particularly suited to the younger and less affluent households (Table 4.7). Nearly 85 per cent of the improvers but only about half of the non-improvers are in the earlier, expanding phases of the life cycle (i.e. pre-family, young family and mature family). Moreover, at all stages of the life cycle, the mean household incomes of the improvers are less than those of the non-improvers. In general, the improvers are also more heavily committed financially as evidenced by the higher housing outlay to household income ratios over most stages of the life cycle.

It is not difficult to understand the popularity of the move-and-improve option among the young and lower-income household. Not only can they gain access into a potentially more suitable and in most cases, better and more valuable dwelling, they also have the opportunity of postponing certain capital expenditures till their financial circumstances improve. Younger households, whose immediate requirements for space is low, can make improvements gradually over time as the need arises or as their finances permit. Also, being young and able-bodied, many limit the

TABLE 4.7 Some Socio-economic Characteristics of Improvers and Non-improvers Among Movers

Life Cycle Stage	Mean Dwelling Purchase Price ($)		Mean Household Income ($)		Mean Housing Outlay/Income Ratio		Mean Age of Head (yrs)		Number of Cases	
	Improver	Non-improver	Improver	Non-improver	Improver	Non-improver	Improver	Non-improver	Improver	Non-improver
Previous Owners										
Pre-family	49654	51749	18604	22303	0.25	0.14	25.2	27.0	6	3
Young family	32003	48662	18844	20853	0.18	0.22	32.1	31.9	18	11
Mature family	43052	48066	18608	21148	0.15	0.16	39.3	38.7	19	18
Older family	46037	38500	15681	16225	0.14	0.10	53.5	54.8	7	7
Older couple & other	21806	36659	3184	10721	0.14	0.14	61.0	64.5	2	25
Overall	39414	42984	17605	16667	0.17	0.16	37.9	48.5	52	64
F-Value	4.550*	1.981	1.736	3.396*	1.910	1.539	37.837**	46.439**		
First Home Buyers										
Pre-family	32943	31006	19165	17089	0.20	0.20	24.3	24.4	50	53
Young family	33634	32924	13978	13366	0.25	0.24	28.4	27.7	28	37
Mature family	32848	34258	17466	16245	0.21	0.24	38.5	37.4	17	18
Older family & couple	51881	29547	26000	10142	0.11	0.17	50.4	51.0	3	6
Other	27913	30753	19237	16359	0.19	0.21	34.3	34.3	10	7
Overall	33149	32002	17864	15439	0.21	0.22	29.2	29.2	108	121
F-Value	3.408*	1.236	4.766**	6.859**	2.543*	1.869	62.192**	83.197**		

* Significantly different at 0.05 level.
** Significantly different at 0.01 level.

Source: Adelaide Survey of Movers, 1977.

financial cost of additions and alterations by doing some or all of the work themselves.

First home buyers:

As far as fulfilling the objective of gaining access into better and more suitable housing is concerned, there is little difference between those previous owners and first home buyers who choose to make improvements to a place after buying it.[10] The difference is in their ability to pay. This is partly reflected in the costs of the improvement made. The first home buyers spent less on improvements (averaging $4000) than the previous owners (averaging $6000). Other indications include marked differences in house price, income and financial commitments (see Table 4.7 and Figures 4.1 to 4.4).

However, in contrast to the previous owners, among the first home buyers only those who have more economic resources improve. In fact differences in financial circumstances are the only features which distinguish improvers from non-improvers among the first home buyers (Table 4.5). They have very similar demographic characteristics. Both categories have predominantly young heads with small families, and most of them (70 per cent) are in the pre-family and young family stages of the life cycle. On the other hand, the average household income of the improvers is higher than that of the non-improvers at all life cycle stages; and almost all the mean housing outlay-to-income ratios are higher. The average purchase price of the improver's house ($33000) is only marginally more expensive than that of the non-improver's ($32000). It appears that the non-improvers have only sufficient income and wealth to commit themselves to a basic house of slightly above

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10 It should be noted that there are proportionately as many improvers (about 45 per cent) among previous owners as first home buyers.

$30000; only the financially more well-off first home buyers can, in addition, afford to spend on improvements. Some non-improvers may take longer before they can afford home improvements.

Three groups have been identified in this analysis. The first consists of first home buyers who can only afford a basic house. The second comprises those previous owners and first home buyers who purchase a dwelling intending to make improvements to it as a way of spreading housing costs over time. Those who can afford to purchase a dwelling with all (or most of) the desired housing attributes form the third group.

4.2.2 Trade-offs in housing attributes

As previously noted there is a trade-off between the price of a dwelling and its quality, and households commonly have to trade-off some undesirable housing attributes for some desirable ones, if the preferred package of housing is not found, or if it is beyond their means. This section examines how some of these trade-offs are made in relation to the move-and-improve option.

One argument put forward is that householders who move to the current place for non-dwelling reasons are more likely to make improvements (Nutt *et al.* 1976:155). The rationale is that while non-dwelling attributes, such as location, accessibility and neighbourhood characteristics are normally beyond the control of individual households, most dwelling attributes, such as size, layout and decoration, can be modified at a cost. Hence, in making the decision to purchase a home, some householders are willing to trade-off certain negative dwelling attributes if they can get a dwelling at a price they can afford. This argument is however not supported by the results of the Adelaide Survey of Movers. In fact there is no significant difference between the proportion of non-improvers

(34 per cent) and improvers (30 per cent), who selected their present place for non-dwelling reasons.

One explanation is that because there is less variation in neighbourhood conditions within Adelaide, neighbourhood attributes do not stand out as important determinants of one's choice of housing. In general, neighbourhood differences are more marked in American and British cities than Australian cities. Kendig (1979) pointed out some important differences between Australian and American and British cities in his introductory chapter. Although there are exclusive neighbourhoods for the wealthy in American and British cities, there are also more run-down and degenerating areas. Neighbourhood differences are therefore probably more important to American and British home buyers. It is not surprising that neighbourhood attributes should surface as important factors affecting housing choice in American and British studies. Also Adelaide, being a relatively small city, has less serious accessibility problems.

Trade-offs are made not only between dwelling and non-dwelling attributes but also between different dwelling attributes. There is evidence that many households purchase an older dwelling for its location, construction or style with the intention of improving it, even though it has rather obsolete layout and facilities.[11] Being generally cheaper, older houses are even more attractive to those who have a preference for them. About half of the older dwellings (built before 1945) compared

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11 Only improvers (from the Housing Improvement Survey) who have lived in the present dwelling for 3 years or less prior to the time of the interviews are relevant for this part of the analysis. It is unlikely that the decision to move would have any bearing on a subsequent decision to improve made many years later. Three years is thought to be a sufficiently long period for householders who had the intention to carry out improvements at the time of purchase to have done so.

to 30 per cent of the newer ones (built after 1971) cost less than $40000.[12] But the average expenditure on older houses ($13300) is more than twice that on new houses ($6200). Hence, after taking into account the cost of improvement, it is probably just as expensive, if not more, to purchase an older house as a newer one.[13] Using mean values, and including the costs of improvements, the average cost of an older house is $52000 as against $53000 for a newer house. But older dwellings generally require more maintenance and repairs over the years and could, in the long run, cost more.

4.3 Conclusion

Households can adjust their level of housing consumption by either moving to a different dwelling or by improving the existing one. A substantial number of households are however, precluded from selecting the improving option. Tenants and homeowners who have to make adjustments for non-housing reasons, such as marriages, divorces and separations, migration and so on, are rarely able to satisfy their housing demands by improvements. Where the aim is to adjust certain housing attributes, most homeowners would prefer to improve rather than to move. The tangible and intangible costs associated with relocation far outweigh those of improvement. Households making housing adjustments generally move only if it is impractical or uneconomic to make improvements, or where the benefits

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12 Most older dwellings are in the inner suburbs and newer ones in outer suburbs.

13 In the last few years, older dwellings in a number of select inner areas in Sydney and Melbourne have become extremely expensive. For example, an unimproved two-bedroom terrace house in the suburb of Surry Hills in Sydney (which has the reputation of being a crime-ridden slum) bought in 1972 for $16000 would fetch between $35000 to $42000 in 1980. (*The Weekend Australian*, 20 September, 1980). Hence, buying an older house in an inner suburb to improve is almost certainly more expensive than a new one in an outer suburb.

derived from moving are more than sufficient to offset the high moving cost and still exceed the net benefits of improving. Among them are those who are reducing their level of housing consumption substantially and those who desire a change of non-modifiable housing attributes, such as location, construction and age.

Both movers and improvers aim to acquire more and better housing. Whilst the mover buys a cheaper first house to build up some equity for a better home, the improver also buys a cheaper dwelling, without all the desired attributes, and makes good the deficiency through additions, alterations or renovations.

Sometimes the decision to move is made in conjunction with the decision to improve. Where the dwelling with the desired combination of attributes cannot be found, or if found, is too expensive, the move and improve alternative is a useful compromise. By making improvement subsequent to the purchase of the dwelling, the householder concerned is able to enjoy a level of housing consumption he otherwise cannot initially obtain or afford.

Finally, it has been noted that the improvers and the movers are drawn from a similar sector of the population and they have rather similar socio-economic characteristics. As a result, the final decision to move or to improve is determined more by factors relating to housing costs and housing attributes. To some extent, however, differences in housing factors are themselves reflections of differences in the socio-economic circumstances of the residents.

This chapter has discussed why to many households improving is preferable to moving. The next few chapters will show how the kinds of improvements made are influenced and constrained by various household and housing factors. Also, by relating the kinds of improvements to these

factors, these chapters will identify the kinds of housing adjustments made, and hence, the causes of the initial mismatch between the house and the household.

CHAPTER FIVE

SOCIAL AND ECONOMIC INFLUENCES ON IMPROVEMENT DECISIONS

The previous chapter emphasised the strong inertia against moving among homeowners and that this is largely the result of the high financial and psychological costs of moving. Hence, it is not surprising that about twice as many homeowners adjust their housing consumption through making additions, alterations or renovations as those who move (see Chapter Two). This suggests that a significant number of Australians, after purchasing a house, tend to live in it for a long time and make home improvements as their housing demands change. Whilst the adjustment behaviour of movers is relatively well documented, little is known about that of the apparently more numerous homeowners who adjust by improving. This chapter aims to provide a better understanding of the various social and economic influences on the housing consumption pattern of improvers.

In order to better understand why home improvements are made, this chapter begins by comparing the characteristics of those who did and those who did not improve. As non-improvers were not surveyed, but since few households had made major improvements, the features of all owner-occupiers shown in the 1976 Census are used to approximate the characteristics of non-improvers. The socio-economic factors that influence the demand for different kinds of improvements are next examined. Although the amount that can be spent on improvements is constrained by income and wealth, the kinds of improvements are shown to generally reflect housing demands at different stages of the family life cycle. The next section argues that, despite the usually large capital outlays involved, the main motive for carrying out improvements is for consumption rather than investment purposes. The fourth

section shows that the decision to improve is also influenced by the time period the household expects to remain in the same house. Then, by relating the duration of the household's occupancy to influences that are attributed directly to household changes, this section aims to present an integrated picture of the pattern of housing consumption of improvers. The final section is a multi-variate analysis of the demand for home improvements.

Much of the analysis infers the motivations for making improvements from the circumstances under which the decision was made. Alternatively the respondent may be asked directly the reasons for making a certain decision. Though the direct approach appears to be the simpler and more logical method, it may be less reliable. As the interviews were conducted after the decisions to undertake improvements had been made and implemented, post-event rationalisation could result in the reasons given being quite different from the original motives. Also, some people have compound motives and may not be able to give precise reasons, especially in an 'interview atmosphere'. The inductive approach, on the other hand, almost always involves the risk of incorrect inferences being made or of too much or too little being read into the data. In this study, both methods are used, partly to reinforce each other, and partly because each throws light on different aspects of the same situation.

5.1 Improvers and Non-improvers

Almost all improvements are made to meet the demand for more and better housing. Hence, improvements are made by only those who have the need and can afford them. With 70 per cent of the improvements being extensions to houses, it is not unexpected that younger households having more or growing children are over-represented among improvers. Tables 5.1 and 5.2 show that twice the proportion of improvers as compared with all

TABLE 5.1 Age of Improvers and All Owner-occupiers

Age of Head (yr)	Improvers[1](%)	Total[2](%)
Less than 30	14	13
30 - 39	43	21
40 - 49	23	20
50 - 59	14	20
60 and greater	6	25
Total	100	100
Number of Cases	199	202920

Notes: 1. Sample data.
2. All owner-occupants in Adelaide Statistical Division in 1976.

Sources: Housing Improvement Survey, Adelaide, 1978 and 1976 Census.

TABLE 5.2 Size of Improvers' and All Households

Household Size	Improvers[1] (%)	Total[2] (%)	
		All	> One member
2 and less	19	48	36
3	19	17	21
4	36	19	24
5	18	10	12
6 and more	8	6	7
Total	100	100	100
Number of Cases	200	283992	227426

Notes: 1. Sample data.
2. Single family households in Adelaide Statistical Division in 1976.

Sources: Housing Improvement Survey, Adelaide, 1978 and 1976 Census.

owner-occupiers in Adelaide are between 30 and 39 years old,[1] and about two-thirds of the improvers compared to one-third of all owners[2] have four or more persons in the household.[3] Regardless of income levels, there are proportionately more improvers in the 30-49 age group (Figure 5.1). Older households have already passed through the expanding phases of the life cycle. When these older groups make improvements, they are unlikely to be extensions.

Also, improvers generally have more economic resources than the average household. Two-thirds of the improvers (household heads) earned $9000 or more a year compared with less than a third of all the owner-occupiers (Table 5.3). This is true for all age groups (Figure 5.2). The disparity in incomes between improvers and other owner-occupiers is reduced if the comparison is based on household incomes, but there are still proportionately many more improvers in the higher income brackets. All this evidence indicates that among homeowners only those with a greater ability to pay can afford to make substantive improvements.[4]

Given that improvers are characterised by high incomes and larger households, most of them fit the conventional notion of a family unit with a male head, spouse and children. Almost all the heads of the

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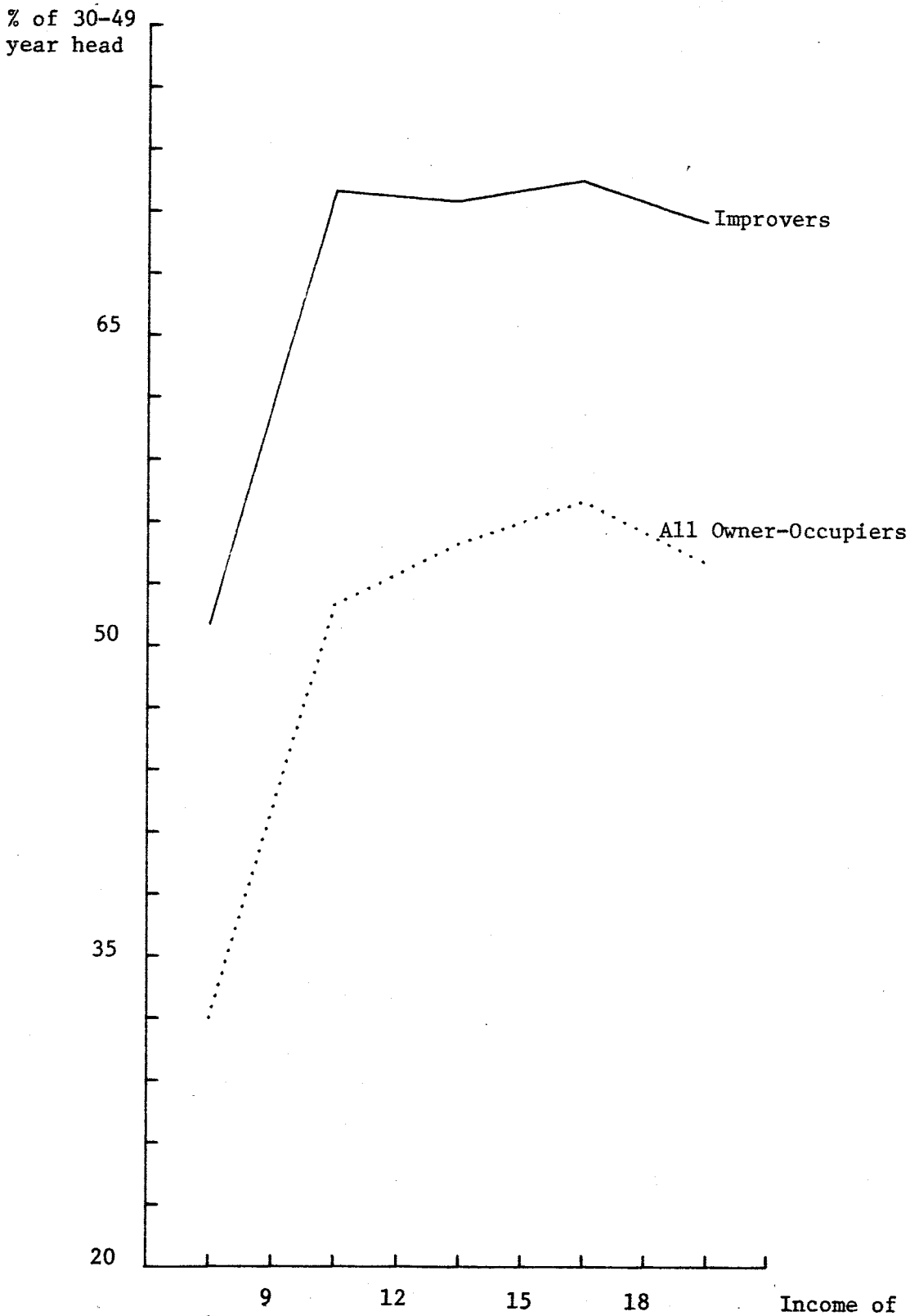
1 As all the improvers in the sample owned their own houses, comparisons are made with only owner-occupiers in Adelaide where data are available.

2 Size of all owner-occupied households in Adelaide was not available at the time of writing and so size of households in separate houses was used as an approximation, since 90 per cent of the latter are owner-occupied.

3 Even when all single person households, which tend to be tenants (Kendig 1981), are excluded, only 43 per cent of households in separate houses had four or more occupants.

4 Homeowners generally have more economic resources than tenants (Kendig 1981).

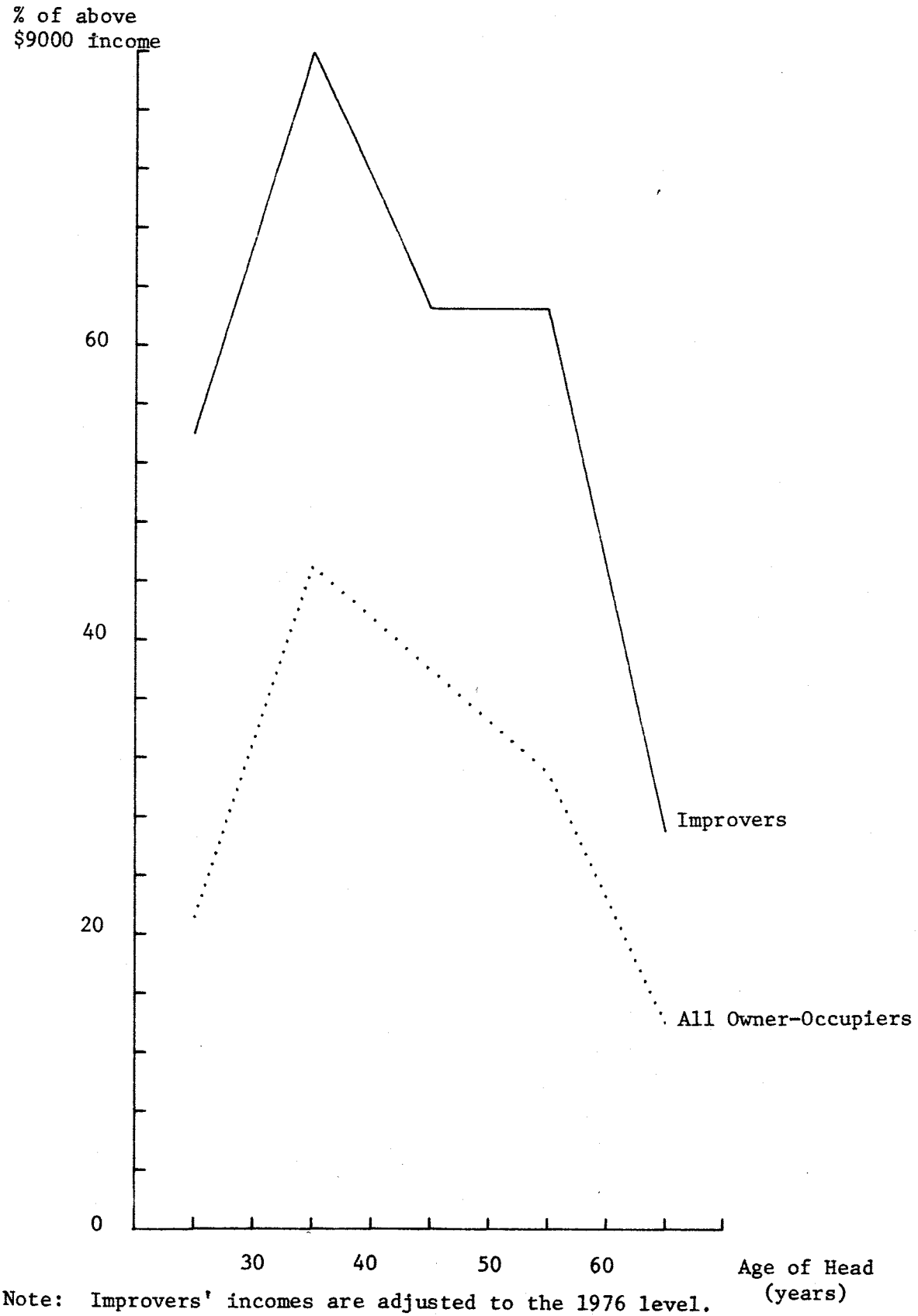
FIGURE 5.1 Percentage of Household Heads Between 30 and 49 Years in Adelaide by Income of Head



Note: Improvers' incomes are adjusted to the 1976 level.

Sources: 1976 Census and Housing Improvement Survey, Adelaide, 1978.

FIGURE 5.2 Percentage of Households with Income Above $9000 in Adelaide by Age of Head



Note: Improvers' incomes are adjusted to the 1976 level.

Sources: 1976 Census and Housing Improvement Survey, Adelaide, 1978.

TABLE 5.3 Head and Household Income of Improvers and All Owner-occupiers

Income Level[1]	Head Income		Household Income	
	Improver[2] (%)	Total[3] (%)	Improver[2] (%)	Total[3] (%)
$ 9000 & less	33	69	17	37
>$ 9000-12000	32	18	23	19
>$12000-15000	16	7	21	15
>$15000-18000	8	3	15	12
>$18000	11	3	23	16
Total	100	100	100	100
Number of Cases	192	199458	192	190744

Notes: 1. Using average earnings as indices, the sample figures are deflated to the June 1976 level.
2. Sample data.
3. All owner-occupants in Adelaide Statistical Division in 1976.

Sources: Housing Improvement Survey, Adelaide, 1978 and 1976 Census.

improving households are married males and about 80 per cent of them have one or more children. In contrast, only about two-thirds of the owner-occupiers in Adelaide are married male heads (1976 Census).

In summary, households that make improvements represent a particular sector of the population. The typical improving household is a relatively stable family unit of a male head with above average income, his wife and two or more children. Because households with more economic resources are increasing their consumption of housing through home improvements, the net result of more improvements could be to accentuate the existing unequal distribution of housing resources. This has important policy implications which will be discussed in the last chapter.

5.2 Socio-economic Determinants

In this section the socio-economic factors that influence the demand for home improvements are examined. The main premise is that households in similar socio-economic circumstances have similar housing demands and that the demand for improvements is derived from the demand for more suitable housing. Therefore, by relating the type of improvement with the socio-economic characteristics of the improvers, it can be shown that improvements are mainly undertaken to meet changing housing needs and preferences arising from changes in the household's demographic and economic circumstances, and that the expenditure on improvement is constrained by its level of income, wealth and financial commitments. This is contrary to the popular belief that the main purpose of home improvements is to make good physical deficiencies in the dwelling. Instead, it supports the argument that because homeowners do not move frequently, they adjust their housing consumption through home improvements.

The family life cycle stage is a useful variable for determining the household's housing demand.[5] As discussed and defined in Chapter Four, it combines a number of significant characteristics of the household. The housing demands of a household tend to increase progressively to a peak at the mature family stage when the family reaches the end of the expanding

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5 One criticism of 'life cycle stage' as an explanatory variable is that household size and number of children are not directly taken into account. Another is that it is a poor predictor of residential mobility (Smith and Thorns 1978) in that it can explain only a small percentage of the variance in the propensity to move (Fredland 1974; Miller 1976). Kendig (1981) found that the types of movers are closely related to the life cycle. However, unlike the large number of moves which cannot be directly attributed to housing adjustments (Goodman 1976; Kendig 1981), almost all home improvements are for making housing adjustments, and so, life cycle stage should be a useful explanatory variable to study the behaviour of improvers.

phase of its life cycle and its income level is near or at the highest. The demand for space then falls sharply when the children leave home as the household enters the post-family stage and income falls at retirement. The characteristics of the households at different life cycle stages as shown in Table 5.4 support this general observation of the pattern of housing demands over the life cycle.

It has been shown that there can be considerable variation in income within each life cycle stage owing to differences in the wages and salaries of different occupations (see Chapter Four). The income pattern over a household's life cycle is also influenced by working spouses (Table 5.4). About half of all the improvers have employed spouses (wives in most cases). The presence of children and their ages appear to be the main deciding factor in whether the wife works. In the pre-family stage (i.e., before they have children) three-quarters of the wives are employed, earning an average income of $7000. Most wives devote all their time to

TABLE 5.4 Household Socio-economic Characteristics by Life Cycle

Stage in Life Cycle	Number of Cases	Mean Age of Head	Mean House-hold Size	Mean Head Income	Mean House-hold Income	% of Working Spouses
Pre-family	18	28.5	2.2	$13247	$19700	75
Young family	51	32.1	4.0	14472	16584	33
Mature family	85	40.4	4.6	14868	19069	53
Older family	20	50.8	3.7	13822	18728	50
Older couple	15	58.4	2.2	12664	16364	53
Other	11	49.0	2.0	12820	20100	88
Overall	200	40.0	3.8	14254	18290	58
F-value		57.439*	33.926*	0.565	0.993	

* Significantly different at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

their family when their children are very young - only a third of those in the young family stage are employed. This is reflected in the relatively low average household income ($16500) compared to a rather high average income of the head ($14500) (Table 5.4). When the children are older, as in the mature family and older-couple stages, more wives rejoin the workforce (50 per cent).

The types of improvements made are related to the expected housing demands at different life cycle stages. In general, improvements by households in the expanding stages tend to be additions of space and rooms while those in the contracting phases add less space but undertake more renovations and alteration work (Tables 5.5 and 5.6). For example, the older-family and older-couple stages accounted for only about one-sixth of the additions but accounted for nearly one-third of the renovations and alterations.

TABLE 5.5 Main Improvement Types by Life Cycle

Life Cycle	Additions (%)	Alterations (%)	Renovations (%)	Outdoor (%)
Pre-family	7.6	21.4	11.1	6.7
Young family	28.5	7.1	22.6	20.0
Mature family	44.4	28.6	37.0	46.7
Older family	6.3	21.4	18.5	20.0
Older couple	7.6	14.3	3.7	6.7
Other	5.6	7.1	7.4	-
Total	100	100	100	100
Number	144	14	27	15

Chi-square = 22.391

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 5.6 Characteristics of Improvement by Life Cycle

Life Cycle Stage	Number of Cases	Mean Expenditure ($)	Mean Area of Extension (sq ft)	Mean Full Cost to Expenditure Ratio	Mean Expenditure per sq ft Added ($)
Pre-family	18	9500	286	1.51	33
Young family	51	7541	334	1.53	22
Mature family	85	8116	302	1.53	27
Older family	17	5158	170	1.32	30
Older couple	15	6687	185	1.70	36
Other	11	7009	166	1.25	42
Overall	194	7643	279	1.51	27
F-value		1.281	2.220*	0.578	

* Significantly different at 0.05 level.

Source: Housing Improvement Survey, Adelaide, 1978.

Table 5.7 shows that young-family and mature-family stages have the highest number of persons per room but enjoy the greatest reduction in 'crowding'. The young-family and mature-family households, however, have slightly different reasons for requiring more space - the former to accommodate increasing family size and the latter to accommodate growing children. All of the households in the young family stage would have had children recently and 33 per cent expect, in the next five years, to have more. Mature households, on the other hand, have children reaching or in their adolescence, when privacy for themselves as well as for their parents become more important. Separate bedrooms are needed if the adolescents are of different sexes and other rooms for carrying out their own activities - study, recreation and entertainment. As a result, most of the additions of bedrooms, rumpus rooms and family rooms are made by households in these two life cycle stages.

TABLE 5.7 Persons per Room Before and After Improvement by Life Cycle

Life Cycle	Mean Persons/room Before	Mean Persons/room After	Mean Net Reduction
Pre-family	0.39	0.33	0.06
Young family	0.72	0.59	0.13
Mature family	0.76	0.66	0.10
Older family	0.63	0.55	0.08
Older couple	0.41	0.37	0.06
Other	0.39	0.34	0.03
Overall	0.65	0.56	0.09
F-value	20.141*	24.97*	2.841**

* Significantly different at 0.01.
** Significantly different at 0.05.

Source: Housing Improvement Survey, Adelaide, 1978.

Most pre-family households, however, make additions in anticipation of starting a family. About 60 per cent of them compared to less than one-tenth of households in the mature-family stage expected to have one or more children in the next five years. Chapter Four has shown that many younger households deliberately buy a cheaper house (that is, within their budget) with the intention of making home improvements as their financial circumstances permit or whenever the need arises.

The older family and older couple stages are periods of contraction in household size and of reduced requirements for space. Hence, more 'quality' improvements are made as evidenced by the rather high average improvement expenditure per square foot added (Table 5.6). There are proportionately more renovations and alterations than additions in these later stages. The additions that are made mainly comprise bathrooms and dining rooms, suggesting fulfilment of their objectives of

better housing now that they can afford them. Many of these households have lived in the same house for many years, averaging 16 years and 11 years for the older families and older couples respectively, and some parts of the house, particularly the kitchen and the bathroom, would have suffered some physical deterioration and certain equipment would have become obsolete or are malfunctioning. Improvements are made to correct these deficiencies.

Income supplements from working spouses also can influence the decision to improve at various stages of the life cycle. Pre-family households, most of which have two incomes (75 per cent), may make improvements in advance of needs while they can still afford them. Slightly more than half of their spouses expected to stop working in the next five years. When spouses return to employment in the mature-family or older family stages, these households can again afford to make improvements. About half of the non-working spouses in the young and mature family stages expect to resume work in the near future.

The level of income and wealth of a household limit the amount a household can spend on improvements. In general, the mean amount of expenditure on improvement increases with the household's and head's incomes (Table 5.8). It is interesting to note that differences in improvement expenditure by head income (but not household income) are statistically significant. This is probably because the expenditure incurred is more sensitive to the expected income of the head, which is more stable and reliable.

Wealth accumulation and financial commitments are also significant determinants of ability-to-pay. Table 5.9 demonstrates that households with higher values of liquid assets (defined as those that

TABLE 5.8 Characteristics of Improvement by Household Income, and Head Income

Income Level	Mean Expenditure ($)	Mean Area of Extension (sq ft)	Mean Full Cost to Expenditure Ratio	Number of Cases
Household Income				
$9000 and less	6456	243	1.55	16
> $9000 - 12000	5368	260	1.63	28
>$12000 - 15000	7733	322	1.63	33
>$15000 - 18000	7674	285	1.59	31
>$18000 - 21000	7471	239	1.54	28
>$21000	9089	305	1.28	56
Overall	7630	283	1.51	192
F-value	1.708	0.512	1.192	
Head Income				
$9000 and less	6921	226	1.72	33
> $9000 - 12000	5944	264	1.66	48
>$12000 - 15000	7453	295	1.44	43
>$15000 - 18000	8968	351	1.46	28
>$18000 - 21000	10956	424	1.44	18
>$21000	8291	183	1.11	22
Overall	7630	283	1.51	192
F-value	2.523*	2.590*	1.98	

* Significantly different at 0.05 level.

Source: Housing Improvement Survey, Adelaide, 1978.

could be used to pay for the improvement) incur higher expenditures.[6] It does not, however, follow that all higher income households have greater assets. There are as many high as low income earners with few assets, although some households with more assets are also in the high income brackets. However, for most homeowners, their equity in their house is the single most important wealth item. Table 5.10 shows that older households generally have very little mortgage debt.

6 'Assets' include savings in banks, real estate, stocks and shares, debentures, etc. but exclude house (and contents) and car.

TABLE 5.9 Characteristics of Improvement by Level of Assets

Assets[1]	Mean Expenditure ($)	Mean Area of Extension (sq ft)	Mean Full Cost to Expenditure Ratio	Number of Cases
Less than $5000	6756	290	1.57	105
$5000 - 9999	7418	296	1.64	27
$10000 - 19999	8953	352	1.47	19
$20000 - 29999	8050	254	1.42	10
$30000 and above	10254	218	1.22	28
Overall	7643	284	1.51	190
F-value	2.330*	0.842	1.191	

* Significantly different at 0.10 level.

Note: 1. Assets include savings in banks, real estate, stocks and shares, debentures, etc. but exclude house (and contents) and car.

Source: Housing Improvement Survey, Adelaide, 1978.

The mortgage repayment is the main financial commitment for most homeowners. To what extent it is a financial burden that limits the household's ability to spend on improvement, depends on the number of years since it purchased its first home. The longer the household has owned a house, the smaller the mortgage repayment as a proportion of income and the higher is the equity in the house. Income tends to increase over time, while the mortgage repayment is tied to a fixed principal and, even allowing for varying interest rates, does not change significantly. The real value of the mortgage debt tends to fall (Table 5.10) during a period of rising house prices,thus allowing households that have owned their house for some time to borrow on its security for improvements.[7] As a result, households in the later stages of the life cycle, most of whom have owned a home for more than 10 years, can afford to make

7 Financing of improvements will be discussed in greater detail in the next chapter.

TABLE 5.10 Income and Housing Cost Indicators by Life Cycle

Life Cycle Stage	No.	Mean Housing Outlay[1] to Household Income Ratio	Mean Net Household Income[2] ($)	Mean Mortgage Debt ($)	Mean Mortgage Debt to House Value Ratio	Mean Monthly Housing Outlay ($)
Pre-family	12	0.13	17445	14535	0.428	186
Young family	51	0.14	14188	13021	0.358	183
Mature family	79	0.13	16467	10773	0.272	188
Older family	17	0.09	17152	3068	0.061	131
Older couple	14	0.09	14273	1093	0.031	78
Other	11	0.12	17926	7044	0.208	170
Overall	184	0.13	15943	10019	0.209	172
F-value		2.350**	1.019	8.542*	9.987*	3.449**

* Significantly different at 0.01 level.
** Significantly different at 0.05 level.

Notes: 1. Housing outlay includes mortgage repayment and running costs.
2. Net household income is gross household income less housing outlay.

Source: Housing Improvement Survey, Adelaide, 1978.

substantive improvements, even if their incomes are relatively low. They have relatively light financial commitments as demonstrated by their low housing outlay to income ratios (Table 5.10). Conversely, the heavier financial commitments of the younger households are offset by their higher incomes. In fact, as shown in Table 5.10, differences in the mean household income, net of housing outlay, at different life cycle stages are not significant. It is interesting to note that improvers with low income and low value assets tend to supplement expenditure by contributing more of their own labour as indicated by the full cost-to-expenditure ratio (Tables 5.8 and 5.9).[8]

8 The full cost-to-expenditure ratio measures the number of times over the actual expenditure incurred that the household would have to pay if the whole improvement was undertaken by hired help. 'Full cost' is the owner's estimate of what the improvement would have cost if a builder/contractor did all the work. Owner's labour is the subject of the next chapter.

Throughout most of the above analysis, it is suggested that younger improvers are more likely to be satisfying 'need' requirements, while those in the middle and later stages are meeting higher housing demands as a result of increased affluence. From an overall standpoint, however, most improvements are made to satisfy housing wants as distinct from need in the sense that want items are more readily foregone if constrained by a limited budget. Improvers represent the sector of residents who are financially more well off. Also, most improvements are for 'non-need' purposes. For example, only one-quarter of the improvements involved sleeping areas, while about 70 per cent of them involved additions of recreational space. Moreover, only about a quarter of the improvers (Table 5.11) said that the main reasons for making improvements were to accommodate more children, parents or relatives (15 per cent), or growing children (11 per cent). Another 40 per cent gave reasons relating to wanting more space for their own (10 per cent) or their children's (14 per cent) entertainment and recreation, or more generally, to enhance the level of comfort, leisure, convenience and the quality of life (11 per cent). These reasons seem to have the common motive of increasing the overall usefulness of the house as a source of enjoyment, reflecting higher housing expectations with increased income and wealth. It is only in relatively recent years that family rooms, rumpus rooms and ensuite bathrooms became popular features.

In summary, because of their greater ability to pay, improvers can satisfy their demand for more and better housing through home improvements, as their socio-economic circumstances change over time. Satisfaction of particular housing needs and preferences are manifested in the kinds of improvements undertaken at different life cycle stages.

TABLE 5.11 Primary and Secondary Reasons for Making Improvements

Reasons Relating to	Primary (%)	Secondary (%)
Household composition	26.5	20.2
Recreation and entertainment	25.0	20.2
General comfort level	11.0	11.5
Dwelling characteristics	22.0	22.1
Financial gains	6.0	11.5
Other	9.5	14.4
Total number of cases	200	104

Source: Housing Improvement Survey, Adelaide, 1978.

5.3 Consumption Versus Investment Motive

Whether home improvements are made to accommodate more people or to satisfy higher housing expectations, this chapter so far assumes implicitly that the predominant influence on the decision to improve is the desire to 'consume' more and better housing; the desire for financial gains, if it exists, is believed to be a secondary motive. While the theoretical arguments for this contention were presented in Chapter Three, this section provides some empirical evidence to support those arguments.

The results of the survey suggest that the overwhelming majority of the households are quite unconcerned about financial gains. About 80 per cent of the respondents said that they would have still made the improvement, even if they knew that it would not increase the value of the property by an amount equal to its cost. Such behaviour is not necessarily irrational, if the value of the satisfaction (or utility) derived from the improvement is judged (by the household itself) to exceed the cost of the improvement. Of course individual households' evaluation of satisfaction must necessarily be subjective, and as a result the perceived increase in value may not necessarily be the increase in market value.

In order to estimate the increase (or decrease) in the value of the house attributable to the improvements made, the respondents were asked to estimate the market value of the house before and after the 'improvement'. The estimated 'value', as opposed to the 'cost' of the improvement, is the difference in the two market values of the house. The ratio of the value of the improvement to its expenditure shows whether the household has (or expects to have) incurred financial losses, or has made capital gains. Even though most improved for consumption purposes, more than half of the respondents appeared to have enjoyed some capital gains after making the improvements (Table 5.12).

TABLE 5.12 Value-to-Cost Ratio of Improvement

Ratio	Value/Expenditure (%)	Value/Full Cost (%)
<1.0	31	57
1.0	15	8
>1.0 - 1.5	21	21
>1.5	33	14
Total	100	100
Number of Cases	192	191
Overall Average	1.49	1.04

Sources: Housing Improvement Survey, Adelaide, 1978.

The increase in house value over the period when the improvements were being made could be partly due to external factors quite unrelated to the cost of the improvements, although the property market in Adelaide during this period was relatively depressed. It is also likely that most householders take the value of their own labour contribution into account when assessing the value of the improved house.

Using full cost (i.e. including the household's labour) as the numerator of the value-to-cost ratio, proportionately fewer households made a net gain from making improvements (35 per cent). Even by this measure, very few households (10 per cent) incurred more than 50 per cent losses in their capital expenditures.

Another possible explanation could be that though investment considerations are seldom the principal motivating force, they nevertheless exert some influence on the decision to improve. The influence of the investment motive may take the form of a constraint (Kirwan and Martin 1972:44) on the types of improvements to be made so that the market value or marketability of the property is at least maintained. Many probably would not have undertaken the improvements, if they had to incur heavy financial losses, through over-capitalisation. For example, about 15 per cent of the improvers said that to get a house with all the features they wanted at a price they could afford, they would have to move to less accessible locations, which they were not prepared to do. One interpretation of such behaviour is that these households realise the comparative advantage of their present location and are willing to make additional capital expenditures on the site to improve the value of the whole property. Perhaps the site is under-capitalised and by absorbing more capital and labour through making home improvements, they expect a capital gain. The cost of improvement must necessarily be lower than the price differential between the 'pre-improved' dwelling and the 'preferred' dwelling in a similar location which they cannot afford to buy.

It is probable that households of different socio-economic backgrounds place different emphasis on the investment criterion. For example, higher income households in the higher social classes, who are probably more aware of the conditions of the property market, may be more

concerned about investment. However, this survey reveals no systematic relationships between the socio-economic characteristics and the consumption/investment motive as measured by the value-to-cost ratio. Instead, householders who spend more on improvements (measured in terms of actual expenditure as well as full cost) generally tend to make lower capital gains or make losses more than those who spend less. This suggests that those who incur large capital expenditures are more likely to over-capitalise their properties. To put it differently, very expensive improvements are more likely to be tailored to the idiosyncratic preferences of the households concerned.

It can therefore be concluded that to most households, the prospect of making financial gains is not the primary influence on the decision to improve. Most of the improvements are made for consumption purposes. Any capital gains enjoyed as a result of the improvements are likely to be fortuitous. However, many households are reluctant to carry out improvements which are likely to adversely affect the marketability of the property or which will result in significant financial losses.

5.4 Timing of Improvements

It has been shown that the type of improvement made is related to the pattern of housing demands over a household's family life cycle. This section analyses more directly the timing of home improvements by examining the amount of expenditure on improvements and the kinds of improvements over the duration of a household's occupancy of a house.

Housing improvements generally involve large capital outlays which yield a flow of returns (or utility) over a fairly long period of time. It is therefore reasonable to expect a household to want to make improvements fairly soon after moving in, in order to enjoy the flow of services for as long as possible. There are three implicit assumptions.

Firstly, in most cases, the actual level of housing services is less than is desired when the household first moved in; so the deficiency is overcome by making improvements. Secondly, consumption rather than financial gain is the main consideration in the decision to undertake improvements. If profit is the objective then the improvements made would be determined by the increase in the value of the house in relation to the cost of the improvements; duration of enjoyment would be less important. The third assumption must necessarily follow, that is, most households expect to live for a long time in a house they have bought.

The second and third assumptions are well supported by the results of the survey. That most households make improvements for consumption purposes has been shown in the previous section. The survey also found that most home improvers tend to live in the same house for a long time. About a third of the respondents had lived in their house for 10 years or more and about 85 per cent did not expect to move in the foreseeable future.

The first assumption is more contentious. It goes against the assumption of many studies on residential mobility that a household is at equilibrium immediately after it has moved. Chapter Four has shown that many households in fact plan to improve their house at the time when they bought it. This decision to move and then improve is commonly made where the desired housing package cannot be found, or if found, is beyond the means of the household. It is a way to reduce the initial outlay needed to acquire a house and to spread the cost of housing over time.

Not many households, especially the first home buyers, can afford to make substantial improvements immediately after buying the house. But in order to enjoy the benefits from a fairly large capital outlay for as long as possible, most intending home improvers can be expected to

make improvements as soon as they have accumulated sufficient savings, and/or are able to secure another or larger loan (nearly all new homeowners already have a mortgage on their house).

That the propensity to improve tends to be higher at early stages of the occupancy is well documented by the few empirical studies of housing improvements (Kirwan and Martin 1972; Nutt 1976; Mendelsohn 1977 and Morrison 1978). To some extent, this is supported by the results of the Adelaide survey. Nearly half of the improvers had intended to make improvements at the time of purchase. Of these about 40 per cent had made improvements previous to those that were the subject of the survey, and most have been occupying their houses for more than five years.

In addition, about one-quarter of all the current improvements were carried out in the first three years of occupancy, about half during the first six years and about 70 per cent in the first nine years. Of course, this could merely be a reflection of the distribution of lengths of occupancy among all homeowners. If this is the case, then the concentration of improvements in the earlier years is because few people live in a house long enough to make improvements in later years. However, there is some evidence that Australians do not change house frequently. Only about 3 per cent of the owner-occupants in Adelaide moved during 1976 suggesting that they tend to live in the same house for a long time.

Because most homeowners do not move frequently, changes in their housing needs and preferences over their life cycle (except in the post-family stages) are generally met through making home improvements. There is evidence that family life cycle stages generally correspond with the number of years of occupancy - households in the earlier stages tend to have lived in the same house for a shorter time than those in the later stages (Table 5.13). It seems likely also that many of these households

TABLE 5.13 Duration of Occupancy by Life Cycle and Age of Dwelling (% of total)

	Duration of Occupancy					
	3 yrs & less	4-6 yrs	7-9 yrs	>9 yrs	Total	Number
Life Cycle Stage						
Pre-family	61.1	33.3	-	5.6	100	18
Young family	25.5	39.2	23.5	11.8	100	51
Mature family	21.2	22.4	18.8	37.6	100	85
Older family	15.0	-	15.0	70.0	100	20
Older couple	20.0	13.3	6.7	60.0	100	15
Other	27.3	36.4	9.1	27.3	100	11
Chi-square = 51.382*						
Age of Dwelling						
Before 1945	37	32	7	25	100	57
1945-1960	20	14	11	54	100	35
1961-1971	7	12	35	46	100	69
After 1971	46	51	3	-	100	39
Chi-square = 81.981*						

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

have lived in the same house since it was built. Table 5.13 also demonstrates that except for the very old (built before 1945), the age of the dwelling generally varies directly with the period of occupancy.

As a result, the kinds of improvements undertaken over the entire span of occupancy tend to reflect the housing consumption pattern of a household over time. Improvements undertaken in the first 10 years of occupancy, corresponding with the earlier and middle life cycle stages, tend to involve addition of space (Tables 5.14 and 5.15) - generally rumpus rooms, family rooms and bedrooms. Householders who have occupied the same house for 10 years or more, on the other hand, tend to upgrade obsolete parts of the house.

The relatively high percentages of alterations and renovations in the first three years of occupancy (Table 5.15) reflect the small number

TABLE 5.14 Characteristics of Improvement by Duration of Occupancy

Duration of Occupancy	Number of Cases	Mean Expenditure ($)	Mean Area of Extension (sq ft)
3 yrs & less	51	9098	254
4 - 6 yrs	51	7451	301
7 - 9 yrs	33	6906	312
10 yrs & more	64	7016	263
Overall	199	7643	279
F-value		1.505	0.548

* Significantly different at 0.01 level.
** Significantly different at 0.05 level.

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 5.15 Types of Improvement by Duration of Occupancy

Duration of Occupancy	Types of Improvement			
	Additions (%)	Alterations (%)	Renovations (%)	Outdoor (%)
3 yrs and less	21	43	30	40
4 - 6 yrs	28	14	18	27
7 - 9 yrs	19	14	7	7
10 yrs and above	31	27	44	27
Total	100	100	100	100
Number of Cases	144	14	27	15
Chi-square = 9.97				

* Significant at 0.05 level.

Source: Housing Improvement Survey, Adelaide, 1978.

of householders who moved into older houses to improve (see Chapter Four). The first phase improvements made in the initial years of occupancy also depend on the condition and quality of the house. Those who moved recently (three years and less ago) into older houses built before 1945 (40 per cent) had to incur very high expenditure, averaging $13300 (about twice the overall average), upgrading them to modern standards. On the other hand, those that moved into the newer houses built after 1971 made additions of rumpus/family rooms and outdoor improvements.

After making the improvements in the initial years of occupancy, subsequent major improvements tend to be undertaken over longer time intervals, reflecting the 'lumpiness' of previous improvements, the building up of stress over time and the fact that some time is needed usually to accumulate sufficient savings. Minor improvements are however being carried out quite frequently. Table 5.16 shows that additions and renovations are more likely to be made further apart in time. About half of the households had previously improved their house. As most of the current improvements involved additions or renovations (85 per cent), similar substantive jobs are likely only to have been made quite some time ago. Only one-sixth of the previous improvements undertaken within the last three years involved additions or renovations, compared to half of the improvements made more than three years ago and 60 per cent more than five years ago. In contrast, the proportions of non-dwelling improvements, which are generally less disruptive and expensive, were fairly high in all periods in the past (Table 5.16).

The findings in this section together with those of section 5.1 suggest a scenario of a younger householder buying a house, living in it for a long time, and making improvements to it, when the desired level of

TABLE 5.16 Proportions of Past, Present and Future Improvements

	Present	Past (%)[1]				Future (%)[1]
	All Cases	≤3 yrs	>3 yrs	>5 yrs	All	Next 5 yrs
Additions & Renovations	81	17	49	56	30	34
Other 'dwelling' Improvements	56	41	19	6	32	31
Non-dwelling Improvements	51	74	57	56	67	78
Number of Cases	200	53	37	16	90	97

Note: 1. Percentages in each column do not add up to 100 because most cases had more than one type of improvement.

Source: Housing Improvement Survey, Adelaide, 1978.

housing consumption changes. This is contrary to the filtering argument that households adjust their housing consumption upward by moving and that the vacated houses are filtered downwards to lower income households. This finding has considerable implications for housing policies which rely on the working of the filtering process, which will be discussed in Chapter Eight.

5.5 A Multivariate Analysis of Demand for Improvements

So far mainly bivariate analyses have been used to explain the influences and constraints on the decision to improve. Although their main advantage is simplicity, they are unsuitable for testing the effect of several independent variables acting simultaneously on the dependent variable (i.e. the improvements made). Multiple regression analysis is better suited for this purpose.

This analysis is based on the assumption that the improvement made measures the increase in the quantity of housing services consumed by the household in its attempt to match the desired and the actual levels

of housing consumption. The quantity consumed is, in turn, a function of the various household and housing factors which shape housing needs and preferences. The relationship is presented as

$$H^* - H = f(D, X)$$

where,

$H^* - H$ = the difference between the desired (H^*) and the actual (H) level of housing consumption, which is the quantity of housing produced by the improvement made

D = socio-economic characteristics of the household

X = housing attributes.

The model therefore resembles a simple demand equation (Kirwan and Martin 1972). Both linear and non-linear formulations of the equation were tested, but since the results of the linear and log-linear analyses are very similar, only the former will be discussed. The model is intended to complement the bivariate analyses performed earlier, and the main aim of the whole exercise is to test hypotheses rather than statistically explain[9] the variation in the improvements made.

Regression analysis

The amount of expenditure and the quantity of additional space are regressed separately against a set of explanatory variables. It is assumed that each measure represents only certain features of improvements, which appeal to certain categories of households, and hence, can be significantly explained by certain independent variables only.

Most of the explanatory variables used in the regression analysis

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9 The presence of multicollinearity is more serious for testing of hypotheses than for statistical explanation. However, attempts have been made to exclude explanatory variables which are highly correlated. For example, if it is for the purpose of predicting the cost of improvements, then the following independent variables would be more appropriate: quantity of space added, number of rooms, time taken to complete the job, labour arrangement, etc. In fact, inclusion of these variables increases the R^2 of the multiple regression equation by a large margin.

have been used in the bivariate tests. The socio-economic influences are identified by the age of the household head, the number of persons per room (PPR) before the improvements were made, household income and the presence or absence of an increase or a decrease in the number of people in the household. The last two variables are binary where '1' represents a change or an expected change in the household size; and '0' represents no change in either. All these household variables are also good proxies for life cycle stages. The duration of occupation tries to capture the importance of timing but it is also related to the life cycle.

The household's ability-to-pay for the improvements is represented by its income, the value of its other assets (excluding the house and contents and motor vehicles) and the housing outlay (i.e. mortgage repayments plus running costs) per month. The value of assets is also binary where '0' represents less than $10000 and '1' represents $10000 or more.

To make the analysis more complete, the age of the dwelling and its pre-improved floor area are used to measure the influences of housing attributes. The floor area is introduced to test the hypothesis that less space tends to be added to dwellings with large floor areas. The age of dwellings is a dichotomous variable separated into houses built before 1961 ('1') and 1961 and after ('0').

The results of the regression analysis is presented in Table 5.17. Only one-fifth of the variation in the dependent variable is explained in both equations, a level which is not uncommon using cross-sectional data. Despite these low values it is still useful to examine the variables whose coefficients are significantly different from zero in each of the equations.

TABLE 5.17 Regression Analysis of the Demand for Improvements

Independent Variable	Dependent Variable	
	Expenditure	Space
Age of Head	0.037 (0.050)	-0.019 (0.025)
Persons per Room	0.028** (0.016)	0.033* (0.008)
An Increase in Household Size	1.548** (0.853)	0.175 (0.433)
A Decrease in Household Size	-3.208* (1.079)	-1.181* (0.547)
Household Income	0.132* (0.057)	0.027 (0.029)
Housing Outlay	0.004 (0.004)	0.004* (0.002)
Assets	1.445 (0.904)	0.437 (0.458)
Duration of Occupancy	-0.060 (0.750)	0.012 (0.035)
Age of Dwelling	2.246* (0.798)	-0.580 (0.405)
Floor Area of Dwelling	-0.074 (0.085)	-0.109 (0.043)
Number of Cases	164	164
F-value	3.714	3.99
R^2	0.20	0.21

* Coefficient significantly different from zero at 0.95 level of confidence.

** Coefficient significantly different from zero at 0.90 level of confidence.

Note: Figures in parentheses are the standard errors.

Source: Housing Improvement Survey, Adelaide, 1978.

Since householders who cannot afford to pay for the improvement, if constructed entirely by a builder, tend to supplement the cost by contributing more of their own labour, the actual amount paid (i.e. improvement expenditure) is a good estimate of their ability to pay. It is thus not surprising that household income is the most significant variable in the expenditure equation and that it explains most of the explained variation in expenditure. In contrast, the quantity of space added reflects the housing need of a household, and so, persons per room is the most significant variable in the space equation, and household income is not statistically significant. Also, the floor area, which indicates that those households which already have a bigger house are less likely to add more space, is significant in the space equation only. The dummy variable which reflects an actual or expected fall in the number of people in the household is also statistically significant.

The next step is to examine the relationship between each of the explanatory variables and the dependent variable in the two equations. Although not all the explanatory variables are statistically significant, almost all of them (except housing outlay) have the expected signs; so those variables whose coefficients have fairly large standard deviations should not be rejected as having no effect on the dependent variables.

The regression on persons per room are positive, indicating that more and better improvements are made by households which have been experiencing more crowding. The age of the household head appears to be a less reliable predictor, but its effects on the dependent variable is to some degree captured by 'a decrease in household size', which is statistically significant. Householders who have recently experienced or expect a fall in the number of persons in the household are generally older and are in the later stages (i.e. older family or post-family) of the life

cycle. These householders tend to spend less on improvements as well as add less space. As expected, the relationship is reversed for those who made improvements in response to or in anticipation of an increase in household size.

Households with higher incomes and more valuable assets also tend to spend more on improvements. The expenditure equation estimates that for every $100 increase in income, an additional $13 is spent on improvement. Housing outlay, which is expected to be inversely related with expenditure, has the incorrect sign. This is probably because it is negatively correlated (0.40) with the length of occupancy, indicating that those who have owned their house for a shorter time tend to have heavier financial commitments. The length of occupancy has the expected sign in both equations, suggesting that households tend to spend more and add more space in the earlier years of occupancy. Many of the new occupants are also newly formed households.

While the coefficient of the age of the dwelling is negative in the space equation, it is positive in the expenditure equation. Older dwellings tend to receive more quality improvements such as major renovations and alterations; and such improvements tend to be more expensive than extensions or additions. The newer houses, in contrast, are more likely to have extensions.

The results of the regression analyses generally confirm the findings of the bivariate tests, except that the former has the added advantage of indicating the relative significance of the various explanatory variables.

5.6 Conclusion

Improvers as a group have more economic resources than most other homeowners in the population; but they also appear to have a greater need for more accommodation. This suggests the obvious conclusion that improvements are more likely to be carried out by those most in need and those who can afford them; but more importantly, there are probably many more homeowners who want to improve but cannot afford to. Neither can the latter move to adjust housing consumption as moving is generally more expensive.

Home improvements are made mainly for consumption purposes. The kinds of improvements made are 'tuned' to the housing needs and preferences at various points in time over a homeowner's family life cycle. Many have in fact planned for the improvements at the time they bought the house. The kinds of improvements made reflect the housing requirements of different households at various life cycle stages and with other demographic characteristics. The amount of expenditure that it can afford is constrained by its available economic resources. Richer households tend to spend more on improvements but the less financially well-off are able to reduce costs by doing some of the work themselves.

When to improve, what kinds of improvements to make and the amount to spend also depend on the time period the household has been and expects to be living in the same house. Most tend to improve soon after they have bought the house. As housing stress mounts gradually over fairly long periods of time, major improvements are undertaken only over long intervals. Minor improvements are, however, undertaken fairly frequently.

The pattern of home improvements made over a household's entire duration of stay in a house tends to correspond with changes in its housing needs and preferences over various life cycle stages. For a significant number of households, 'stay and improve' is preferred to moving as a means of adjusting housing consumption. Changes can be made to the house without too much disruption and expense, as and when they can afford them or when the needs arise. This alternative pattern of housing consumption has considerable implications for housing policies that are based on filtering and mobility. Many homeowners are making upward adjustments without corresponding movement.

CHAPTER SIX

FINANCING, COST SAVINGS AND AFFORDABILITY

The previous chapter has shown that income and wealth determine the amount a household can afford to pay for home improvements; but affordability is also affected by the availability and terms of external financing and the opportunity of making cost savings through the household working on the improvements. Both external financing and owners' labour contribution are methods of acquiring the improvements which the household cannot otherwise afford. This chapter examines how both methods affect the decision to improve and points out some broader implications.

The first section deals with financing and is concerned with finding out if those improvers who are more in need of external financing are in fact getting it, and, among the borrowers, if those who have less economic resources are disadvantaged by the constraints imposed by lending institutions. To answer these questions, the various financing packages are examined in relation to the socio-economic circumstances of the household and the improvement expenditures incurred. Attempts will also be made to show that because borrowing terms tend to favour the higher income households, financing of home improvements through borrowing from financial institutions can accentuate unequal distribution of housing and, because of its limited availability, the flow of funds to home improvements can disadvantage other users.

The second section examines the owners' personal involvement in home improvement and shows that, for some owners, the type of improvements made depends on the work they can undertake themselves and that the handyman's work is a significant productive activity. The extent of owners' labour contribution is examined in relation to their socio-economic

backgrounds and their skills at and attitudes towards home improvement work. This is preceded by a background discussion of the role of the home handyman - the kind of jobs they are likely to do, their time schedule and the cost reductions in various jobs.

6.1 Financing of Improvements

6.1.1 Borrowers and non-borrowers

Slightly over half the owners paid for their improvements entirely from their savings and current incomes. This gives support to one of the conclusions in Chapter Five that home improving is a useful method by which households can increase their housing consumption as and when they can afford to, while they continue to live in the same house. The passage of time not only enables them to accumulate savings but also, in periods of inflation, causes the real value of their mortgage payments to fall in relation to their incomes. Hence, the older households in the later stages of the family life cycle, that have lived in the house for a good number of years, are more likely to have such opportunities. Compared to the borrowers, there are proportionately more older heads (45 years and above) among the non-borrowers and more who have occupied the home for 10 years or more (Table 6.1). It is also shown in Table 6.2 that most of the non-borrowers (70 per cent) have either paid off or are close to paying off their mortgage debt (i.e. where loan-to-value ratio is less than 25 per cent), and consequently, nearly half of them have housing outlays that constitutes less than 10 per cent of their income. This is despite the fact that more of the non-borrowers (50 per cent) have lower incomes (less than $12000 a year) compared to the borrowers (34 per cent).

Table 6.1 also indicates that more non-borrowers than borrowers owned their house for 3 years or less, suggesting that in some cases, the house purchase and the home improvement could have been financed as

TABLE 6.1 Borrowing Status by Age of Household Head and Duration of Occupancy

	Borrowing Status	
	Non-borrower (%)	Borrower (%)
Age of Head (yrs)		
Less than 30	11	16
30-44	47	69
45-59	31	12
60 and above	10	3
Total	100	100
Number of Cases	92	97
Chi-square = 17.258*		
Duration of Occupancy (yrs)		
3 years and less	32	19
4-6	19	32
7-9	11	22
10 years and above	38	27
Total	100	100
Chi-square = 12.156*		

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

a package. It seems more likely that younger households who have only recently bought their house, but who want to make substantial improvements, generally have to borrow to pay for the improvement. There are in fact more borrowers among the younger homeowners as shown in the table. Although these recent homeowners are more heavily committed financially, their higher incomes enable them to secure a loan from financial institutions (see Chapter Five).

The ability to make cash payments for the whole cost of the improvement is also due partly to the fact that the non-borrowers tend to spend less on improvements than the borrowers. This is generally

TABLE 6.2 Borrowing Status by Mortgage Debt to House Value and Housing Outlay to Household Income Ratios

	Borrowing Status	
	Non-borrower (%)	Borrower (%)
Debt-to-value Ratio		
No debt	35	11
> 0-25%	34	28
>25-50%	23	36
>50%	9	25
Total	100	100
Chi-square = 21.915*		
Outlay-to-income Ratio		
5% and less	17	3
> 5-10%	31	25
>10-15%	26	34
>15-20%	16	22
>20%	11	16
Total	100	100
Number of Cases	90	
Chi-square = 20.605*		

* Significant at the 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

true regardless of income level (Table 6.3). Non-borrowers can also reduce expenditure by doing more of the improvement work themselves. Table 6.4 shows that the non-borrowers, especially those in the lower and middle income brackets, tend to contribute proportionately more of their own labour than the borrowers.

6.1.2 Sources and terms of borrowing and economic circumstances of borrowers

Less than half of the households (45 per cent) borrowed from financial institutions to pay for their home improvements. Although the ease of borrowing varies somewhat with the prevailing credit conditions,

TABLE 6.3 Mean Cost of Improvement by Household Income by Borrowing Status

Status	Income Level[2] Lower	Middle	Higher
Non-borrowers	$5596 (25)	$6681 (31)	$7662 (37)
Borrowers	$5984 (19)	$8667 (33)	$9249 (47)
Overall	$5764 (44)	$7705 (64)	$8550 (84)

Main Effects	F-value
Household Income	2.927*
Borrowing Status	3.007*

* Significantly different at the 0.1 level.

Notes: 1. The figures in the cells are improvement expenditures and those in parentheses are the number of cases in each cell.

2. Lower = $12000 and less; Middle = >$12000-18000; Upper = >$18000.

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 6.4 Value of Labour Contribution as a Percentage of Full Cost by Head Income and Financing Status

Borrowing Status	Income Level[2] Lower	Middle	Upper	Overall
Non-borrowers	47 (46)	44 (25)	22 (21)	42 (92)
Borrowers	29 (34)	21 (46)	18 (19)	24 (99)

Main Effects	F-value
Borrowing Status	12.247*
Head Income	3.643**

* Significantly different at 0.01 level.
** Significantly different at 0.05 level.

Notes: 1. The figures in the cells are the values of labour contribution as a percentage of full cost and those in parentheses are the number of cases.

2. Lower = $12000 and less; Middle = >$12000-18000; Higher = >$18000.

Source: Housing Improvement Survey, Adelaide, 1978.

lenders can generally choose to whom they want to lend according to a predetermined set of criteria. Whether a loan is granted is based mainly on the lender's assessment of the applicant's ability to repay it. As a result, the eligibility requirements of financial institutions tend to favour the higher income applicants.

Given that the majority of the improvers are fairly well-off financially, there are therefore likely to be many households who, because they are unable to raise a loan or to borrow sufficient funds to cover the cost of the improvements, are forced to give up or postpone carrying out improvements to their home.[1] Many low income households probably cannot afford major improvements until their children have grown up and are about to leave home or have left home. By this time, the level of their income and wealth would have grown significantly. There is evidence that a few of the older households in the moderate income groups tend to make 'non-need-oriented improvements' such as adding a dining room or a sunroom or upgrading and extending the kitchen.

Funds being used for additions and alterations may also disadvantage other potential borrowers. Since 1976/77 the total value of loans approved for additions and alterations has been about 7 per cent of that approved for construction and purchase of dwellings (Table 6.5). It is possible that, because of the limited availability of funds, especially in tight money conditions, the higher income improvers are able to compete funds away from other users, such as those who want to buy their first homes. Chapter Five has indicated that, compared to previous owners, most first home buyers are in lower income brackets, and mortgage repayments constitute a large proportion of their incomes. Kendig (1981) also found that many tenants are prevented from buying their own home because they

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1 Those who had to forego making improvements were not sampled.

TABLE 6.5 Loans Approved for Alterations and Additions and Purchase of Dwellings, Australia, 1976/77 to 1979/80 ($'000)

	A&A % of all Dwelling Purchase	A&A % of new Dwelling Purchase	Loans Approved for A&A		Loans Approved for Dwelling Purchase	
			All banks % of total	Trading banks % of total	All banks % of total	Trading banks % of total
1976/77	8.0	38.9	79.9	48.5	50.2	11.9
1977/78	8.2	39.8	79.1	51.7	50.3	12.0
1978/79	7.4	42.1	73.3	47.7	50.7	12.1
1979/80	7.5	47.1	73.0	50.2	48.8	11.3

Source: ABS, *Housing Finance for Owner Occupation, 1976-1980.*

do not have sufficient initial deposit to qualify for a housing loan. During a situation of credit squeeze, lenders tend to impose more stringent eligibility requirements, which have the unfortunate result of disqualifying the lower income applicants for mortgage loans. For example, a reduction of loan-to-value ratios will require applicants to have bigger deposits. Similarly, higher interest rates are likely to raise monthly mortgage repayment to beyond the maximum limit of between 20 and 30 per cent of the head's income.

There is insufficient evidence to show the effects of lending for home improvements on other users of loans. Statistics on loans approved for additions and alterations were only first collected in October 1975. Nevertheless, total loans approved for additions and alterations as a proportion of that for new dwellings continued to rise between 1976/77 and 1979/80 (Table 6.5). This is, however, likely to be the result of a general decline in the demand for new dwellings over these years (see Chapter Two) rather than any substantial increase in loans for additions and alterations.

In essence, the rationing policies of lending institutions are likely to indirectly accentuate inequalities in access to better housing. The lower income households, that are more in need of better housing, are less likely to be able to secure a loan to improve their housing situation, while the higher income households that already have better housing are able to borrow to improve their house further. Higher income households are also encouraged to 'consume' more housing through home improvements because any increase in the imputed rent of the house is exempted from income tax.

Even among those who do borrow, those who have less economic resources are more likely to obtain loans on less favourable terms.

TABLE 6.6 Terms of Borrowing for Improvements

Financial Arrangements	N[1]	Mean Amount ($)	Mean Interest Rate(%)	Mean Duration (yrs)	Mean Loan/ Value Ratio	Main Sources[2]
Personal Loan	42	4845	13.5	4.9	70.9	Trading banks; Credit Unions; Finance Cos.
Overdraft	8	10000	10.3	4.9	86.7	Trading banks.
First Mortgage	27	7811	8.5	20.6	87.9	Savings banks; Building Societies; Insurance Cos.
Second Mortg.	13	5792	11.8	7.9	87.0	Savings Banks; Building Societies; Credit Unions.

Notes: 1. N = number of cases.
2. In order of frequency.

Source: Housing Improvement Survey, Adelaide, 1978.

Table 6.6 shows that different kinds of loans are made on different terms and that some loans are definitely more advantageous than others. The most common kind of borrowing is by way of a personal loan, which accounts for 45 per cent of the total number of loans. Personal loans are usually unsecured and are particularly suited for the financing of consumer durables. Lending institutions tend to favour this form of financing for home improvements mainly because it is more profitable. Trading banks are the main source of financing through personal loans. In 1977/78 loans approved by trading banks accounted for about half of the total amount of funds for additions and alterations (Table 6.5).

As personal loans are usually unsecured and consequently more risky, relatively unfavourable terms are imposed. Loans are usually limited to a maximum of $5000 per income recipient and must be repaid in not more than five years. Interest rates are relatively high and vary

among lenders. Trading banks charged a flat rate of 7½ per cent in 1978 or a mean effective rate of 13.5 which is nearly twice the flat rate. The mean effective rates of finance companies and credit unions were considerably higher at around 15 per cent. Finance companies are able to charge higher interest rates to compensate for the higher risks of granting loans to people who probably do not qualify for a loan from the bank. As shown in Table 6.6, the average amount borrowed in the form of personal loans is much lower ($4800) than under other financial arrangements and the loan-to-value ratio at 70 per cent is also the lowest.

Another common kind of loan is refinancing (30 per cent) in which a new and larger loan, secured by the house, is created in place of the existing mortgage. The outstanding principal of the existing mortgage is paid off from the new loan, which then becomes a new first mortgage with a longer repayment period. Others obtained a second mortgage on their existing house (14 per cent). The least common are outright first mortgages (3 per cent) which are provided mainly to households who have recently moved into the dwelling, and mortgages of other properties (1 per cent).

Generally first mortgages have more favourable terms than personal loans - lower interest rates, higher loan-to-value ratios and longer repayment periods. The mean loan-to-value ratio is nearly 20 per cent higher and the repayment period is more than four times that of personal loans. While lenders tend to charge lower interest rates for first mortgages, the mean rate, given in Table 6.6, is artificially lowered by the few borrowers who, being agents or employees of assurance companies, were able to secure loans at concessional terms. When these cases are excluded, the mean interest rate rises from 8.5 to 9.7 per cent.

Savings banks are the main sources of financing for first mortgages (48 per cent), followed by building societies and life assurance companies (41 per cent) and government housing authorities (6 per cent).[2] Generally, savings banks' mortgage interest rates are lower than other lending institutions', averaging 9 per cent, but the repayment periods are usually shorter, averaging 16.5 years. The mean repayment period is 24 years for the other lenders.[3]

Although first mortgages are lent on more favourable terms, financial institutions generally adopt more stringent eligibility criteria based on the value of the collateral security, the income and other financial commitments of the borrower. Ostensibly, not many average income earners, who already have an existing mortgage and possibly other financial commitments, can qualify for this relatively inexpensive form of financing. As a result, many owners are forced to look for other more expensive finance.

A second mortgage generally offers more attractive terms to the borrower than a personal loan but less attractive than a first mortgage. Savings banks are again the main source, followed by building societies and credit unions. Only a small proportion of the total number of loans are secured by second mortgages (14 per cent), indicating perhaps that they are not readily available.

Overdraft facilities are usually given by trading banks only to customers who have business accounts with them, and as a result, financing of improvements from this particular source is rather limited (11 per cent). The average lending terms of an overdraft are similar to

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2 Trading and savings banks accounted for about 80 per cent of the total amount of loans approved for additions and alterations between 1976/77 to 1979/80.

3 The prevailing mortgage interest rates of savings banks were 8.75 - 10.0 per cent in 1977/78.

a personal loan, except that the maximum amount that can be borrowed is usually higher and the effective interest rate lower. The prevailing overdraft rate in 1977/78 was 10.5 per cent. Also, while repayment on a personal loan is at a fixed flat rate, overdraft interest is charged on the daily balance owing.

As borrowers have to compete for those loans available at more favourable terms, and as lending institutions' eligibility criteria for these loans are based mainly on the financial standing of the borrower, it appears that those who are most in need of loans at favourable terms are least likely to get them. For example, proportionately more lower income householders (45 per cent) borrowed in the form of a personal loan, the least favourable of the four main kinds of loans (Table 6.7). Also, almost all of those who borrowed from the most expensive source (i.e. finance companies) are in the lower income bracket (less than $12000). Personal loan borrowers also generally have to pay a large proportion of the cost of the improvement in cash (Table 6.6). Nearly one-third of the personal loans compared to one-tenth of the first mortgages cover less than half the cost of the improvement. This is partly because personal loan borrowers also tend to spend less on improvements and therefore can afford a bigger proportion as a cash payment,[4] suggesting that there are other reasons for what may appear to be mainly the result of the discriminatory policies of lending institutions. Further, there is also no evidence that some of these borrowers are as a result of failure to secure a large loan, forced to adjust the quality (and hence, the cost) of the improvement downward.[5]

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4 Seventy per cent of them compared to 15 per cent of first mortgage borrowers spent less than $5000 on the improvements.

5 Only four cases in our sample had encountered some difficulties obtaining loans for their improvements. Two of them are related to banks' refusal to grant a longer term loan and the other two mentioned that building societies took too long to process a loan application.

TABLE 6.7 Kinds of Loans by Income of Head

Kinds of Loans	Income Level[1] (%)		
	Lower	Middle	Higher
First Mortgage	21	27	50
Second Mortgage	10	16	17
Personal Loan	62	42	22
Overdraft	7	14	11
Total	100	100	100
Number of Cases	29	43	18
Chi-square = 25.056*			

* Significant at 0.05 level.

Note: 1. Lower = $12000 & less; Middle = $12000-18000;
Upper = >$18000.

Source: Housing Improvement Survey, Adelaide, 1978.

Two other factors, namely ease of borrowing and the fees involved in processing a loan application can also determine the borrower's choice of loan. Unsecured personal loans are more easily obtainable; borrowers generally have only to prove their credit-worthiness to be eligible. Only a small establishment fee is involved. Besides being subject to more stringent eligibility requirements (hence more difficult to qualify), application to borrow by way of a mortgage is a more involved and complicated process. Applicants for mortgage loans are usually required to submit a set of approved plans of the improvement and their house has to be revalued. Periodic inspection of the construction work-in-progress by the lender's valuer is necessary for approval of progress payments. This is particularly worrying for those home handymen who intend to do a great deal of the work themselves but whose standards of construction may not meet the minimum requirements of the lender's valuer. Also, the fees involved in processing a mortgage are generally substantial.

Hence, there is a trade-off between obtaining a personal loan or a mortgage. In order to avoid the inconvenience of applying for a mortgage loan, and especially if the amount required is not more than a few thousand dollars, some households may find a personal loan preferable. There are, of course, likely to be some who obtained personal loans instead of mortgages through sheer ignorance.

In summary, home improvements are quite commonly paid for entirely in cash. The non-borrowers, however, tend to make cheaper improvements and are usually those who have no, or are nearing paying off their mortgage debt. Because improvements can involve large capital outlays, many improvers have to borrow from financial institutions, whose lending terms tend to favour the higher income households. As a result, higher income borrowers are more likely to secure loans with favourable terms. However, sometimes the more costly personal loans are preferred to mortgages because of less complex procedures and lower initial costs of processing the loan.

6.2 Unpaid Labour and Cost Savings

6.2.1 Some characteristics of home handymen's work

Owners frequently participate in the actual construction of the improvements; part of what Stretton (1974) described as 'domestic production'. About three-quarters of the households surveyed contributed labour in various forms, although less than one-tenth of them carried out the entire job without hiring professional tradesmen. However, while it is true that home handymen are responsible for a good deal of home improvements, the degree of owners' involvement is however found to be limited. As shown in Table 6.8 owners generally participate in work which requires relatively less skills and/or effort such as painting

TABLE 6.8 Types of Labour by Labour Arrangements

Types of Labour	Builder (%)	Owner (%)	Both (%)	Number of Cases
Brickwork	75.2	18.3	6.5	153
Woodwork	61.4	32.8	5.8	189
Concreting	69.9	26.6	3.5	173
Roofing	70.4	26.0	3.6	169
Plumbing/Gas	85.8	8.7	5.5	127
Electrical	84.6	10.6	4.8	188
Damp Proofing	72.1	24.0	3.9	154
Plastering	88.0	10.3	1.7	117
Landscaping	17.4	81.2	4.3	69
Painting	30.0	67.9	2.1	190
Others (demolition, tiling)	22.6	77.4	-	53

Source: Housing Improvement Survey, Adelaide, 1978.

and landscaping. Jobs which are more demanding, in terms of physical involvement and skills, or which require a licence to practice, are mostly carried out by hired tradesmen. Plumbing, plastering and electrical work are the least common kind of work undertaken by owners. Generally these jobs are carried out by owners only where they themselves are in the trade.

After painting and landscaping, carpentry and joinery are the next most common types of work carried out by owners. Carpentry and joinery are among the least physically demanding jobs; and, although they usually require some skill, they are also the most likely to be taken up as a hobby, compared with other kinds of work such as concreting or brickwork. It is also noted that regardless of the type of labour involved, owners and builders/tradesmen seldom work on the same labour

item together. This suggests the obvious that an owner normally contracts out only those jobs he cannot handle or does not want to do himself.

As shown in Table 6.9, substantial cost savings (60 per cent of full cost) can be made if the owners carry out the whole improvement without hiring professional help. But a disproportionate number of these owner-builders were themselves in the building trades (30 per cent) and they, of course, have the skills and contacts (for those jobs at which they are not competent or have no licence to practice) to do all the work.[6] When both the owner and the contractor were involved in the construction of the improvement, the cost savings were much less (30 per cent of full cost). This is partly because many of the owners in this category did only the painting.[7]

Also, when both owners and contractors were involved, the improvements took a longer time (elapsed time) to complete than when the whole job was undertaken by either party alone. About two-thirds of the cases which involved the owners either wholly or partly, took more than half a year to complete. The longer time is largely because homeowners generally have limited skills for such work and thus less efficient and, perhaps more importantly, can only work on the improvement intermittently during their spare time. Moreover, more diseconomies are likely when two parties are involved because of discontinuities and delays through imperfect coordination.

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6 In the survey, work done by the owner himself is defined as including all the help that he did not have to pay for.

7 When those who did only painting were excluded from the computation, cost savings rose to 44 per cent of full cost.

TABLE 6.9 Improvement Expenditure, Full Cost and Value of Labour Contribution as a Percentage of Full Cost by Labour Arrangement

Labour Arrangement	Number of Cases	Mean Expenditure ($)	Mean Full Cost ($)	Mean Labour Contributions as % of Full Cost
Owner only	16	2425	5250	61
Owner and Contractor	133	7629	10658	36
Contractor only	50	9348	9348	0
Overall	199	7643	9886	33
F-value		9.218*	4.931**	30.741*

* Signnificantly different at 0.01.
** Significantly different at 0.05.

Source: Housing Improvement Survey, Adelaide, 1978.

6.2.2 Determinants of owner's labour contribution

Section 6.1 has noted that those who do not borrow from lending institutions tend to contribute more of their own labour to the improvement. Many of the improvers probably would not be able to afford the kind of improvement they wanted if they had to hire a builder/contractor to do the whole job. How much work the owner can and is willing to do depends on his income and wealth and attitudes towards home improvement work, and is limited by his skills and capacity for such work. These factors are themselves interrelated.

Because higher income households are better able to afford professional help, it is expected that they are less willing to be physically involved in the improvement. Table 6.10 shows that most of the owners (60 per cent) who carry out the construction of the improvement without hiring professional help are in the lower income bracket. Those who can afford to contract out the entire work have ostensibly more financial resources, and hence, more of them (40 per cent) are in the higher income bracket.

TABLE 6.10 Labour Arrangement by Income of Household Head

Economic Characteristics	Owner Only (%)	Owner and Contractor (%)	Contractor Only (%)
Head Income			
Lower income ($12000 and less)	60	42	37
Middle income (>$12000-18000)	33	42	24
Higher income (>$18000)	7	16	39
Total	100	100	100
Number	15	131	46
Chi-square = 14.708*			

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

Even among those who do only part of the work themselves, only a small percentage (16 per cent) have high incomes.

To most lower income households, working on the improvements is a means of reducing expenditure. Lower income households tend to contribute a greater proportion of the value (full cost) of the improvement from their own labour (Table 6.11). Another reason is that as more lower income household heads are in blue collar occupations, they have more useful skills (and friends in similar trades) which enables them to do substantially more work. In contrast, apart from having a greater ability to pay, the higher income households, which are mostly white-collar workers, are less likely to have the skills required to carry out substantial construction work.

The extent of an owner's labour contribution also depends on his attitudes towards home improvement work. Most do not regard participation in the construction of the improvement as 'pure work'. Less than one-fifth of all the respondents thought that most of the improvement work was an unpleasant chore. More of them (45 per cent)

TABLE 6.11 Value of Labour Contribution as a Percentage of Full Cost by Age and Income of Household Head

Income Level[2]	Age of Head (yrs) <40	40-50	>50	Overall
Lower	38	45	39	40
	(37)	(23)	(20)	(80)
Middle	30	26	37	31
	(49)	(13)	(9)	(71)
Upper	24	24	01	21
	(23)	(9)	(8)	(40)
Overall	32	37	33	34
	(109)	(45)	(37)	(191)

Main Effects	F-value
Income of Head	3.865*
Age of Head	0.185

* Significantly different at 0.05 level.

Notes: 1. The figures in the cells are values of labour contribution as a percentage of full cost and those in parentheses are the number of cases in each cell.

2. Lower = $12000 & less; Middle = >$12000-18000; Upper = >$18000.

Source: Housing Improvement Survey, Adelaide, 1978.

said that it was a chore they sometimes enjoyed and the rest regarded it as a recreational activity or a major hobby. Proportionately more of those who contracted out the entire job (30 per cent) regarded improvement work as an unpleasant chore but none of those who did all the work themselves held such a view (Table 6.12).

The attitudes of the owner appear to be related to his wealth and skills. Compared to the low and middle income households, more high income households considered improvement a chore (33 per cent) and fewer of them regarded it as a recreational activity (25 per cent) (Table 6.12). Wealthier households may value their leisure time more for other forms of recreational activity, partly because their higher incomes allow them to afford these other activities. Hence, unless the owner enjoys improvement

TABLE 6.12 Attitudes to Home Improvement Work by Labour Arrangement, Age and Income of Head

	Attitudes (%)			Total	Number
	Chore	Chore Sometimes Enjoyed	Recreation		
Labour Arrangement					
Owner only	-	47	53	100	17
Owner and Contractor	16	45	39	100	132
Contractor only	29	40	31	100	48
Chi-square = 8.966					
Income of Head					
Lower Income	16	43	41	100	79
Middle Income	10	45	45	100	71
Higher Income	33	42	25	100	40
Chi-square = 12.848*					
Age of Head					
Less than 30 yrs.	8	46	46	100	26
30-39 yrs.	18	41	41	100	85
40-49 yrs.	18	44	38	100	45
50-59 yrs.	21	50	29	100	28
60 yrs. & above	33	33	34	100	12
Chi-square = 12.613					

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

work or unless the saving in cost from doing the work exceeds the value of the pleasure (or utility) derived from taking part in an alternative recreational activity, few high income households would want to be spending time on the improvement work. On the other hand, it is possible that those lower income households that have to make cost savings through their labour contribution may rationalise necessity as a preference.

Given that the amount of work that one can do is limited by one's skills, there is some evidence that younger householders, being stronger, able bodied and more energetic, have a greater capacity for work

and are, in general, more likely to undertake home improvement work than older householders.[8] Younger householders, however, also have less economic resources and many probably contribute more of their own labour out of necessity to reduce cost. In general, most householders reach the peak of their income level, especially among white-collar workers immediately prior to retirement. Table 6.13 shows that proportionately more younger householders in the earlier and middle life cycle stages than older householders in later stages tend to do at least some of the improvement work themselves. Not surprisingly, a relatively greater

TABLE 6.13 Labour Contribution by Age of Head and Life Cycle Stage

Demographic Characteristics	Owner's Labour Contribution	
	None	Some or All
Age of Head		
Less than 30 yrs.	2	17
30-39 yrs.	35	45
40-49 yrs.	29	21
50-59 yrs.	16	13
>59 yrs.	18	3
Total	100	100
Number	49	150
Chi-square = 22.3547*		
Life Cycle Stage		
Pre-family	8	9
Young family	16	29
Mature family	36	45
Older family	12	9
Post-family	24	4
Other	4	4
Total	100	100
Number	50	150
Chi-square = 20.029*		

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

8 A similar conclusion is reached by Mendelsohn (1977).

number of young householders regarded home improvement as a recreational activity (see Table 6.12). Higher income householders in each age group also tend to contribute less of their own labour as a proportion of the full cost of the improvement (see Table 6.11).

6.3 Conclusion

The lending criteria used by financial institutions tend to favour higher income households. As a result lower income improvers have to borrow on less favourable terms - higher interest rates, shorter repayment periods and smaller proportions of value - although some borrowers choose loans with less favourable terms in order to avoid the trouble, inconvenience and expense of arranging for a more favourable financing package. Since most improvers are among the more wealthy in the population, it is likely that many low income households are prevented from adjusting their housing upwards through home improvements because they are unable to obtain a loan from a lending institution. Also, by lending for home improvements to the more wealthy, especially during tight money situations, some other borrowers, such as first home buyers, can be disadvantaged in not being able to meet the more stringent eligibility requirements during a credit squeeze. The net effect of the lending policies of financial institutions is likely to be more inequality in the distribution of housing resources.

Home improvement is a useful way for those who prefer to increase their housing consumption as their savings increase. More than 50 per cent financed their improvements from their savings/incomes. Although the non-borrowers generally have lower incomes than the borrowers, the former tend to wait nntil their debt (mainly mortgage) is lightened before they improve. They also tend to spend less, partly as a result of the owners doing more of the improvement work themselves.

The Home Improvement Survey confirms the popular view that home handymen are involved with most home improvements; but most of them undertake only the simpler jobs. For those who can and are willing to do most of the work very substantial savings can be made. The lower-income and more skilful households and those who have a favourable attitude toward improvement work are more likely to contribute more of their labour. As a result, through working on the home improvement themselves, many households can attain a level of housing they otherwise could not afford.

CHAPTER SEVEN

IMPROVEMENTS, DWELLINGS AND LOCATIONS

As shown in Chapters Five and Six, home improvements are made to meet changing housing requirements arising mainly from changes in the household's socio-economic circumstances. This is largely because most improvers tend to live in the same house for a fairly long period of time and, as a result, the kinds of improvements undertaken are closely related to the housing consumption pattern of a household, over various phases of its life cycle. Since the duration of occupancy of a house by any single household is not usually long enough for obsolescence, or significant physical deterioration to occur, changes in housing attributes are generally less important than household factors, in influencing the improvement decision. The exceptions are renovations of obsolete parts of the house, by householders who are in the later stages of the life cycle, or who purchased older houses with the intention of upgrading them.

In contrast to household factors, the features of the house are more important as constraints on the kinds of improvements that can be undertaken. This chapter will show how the type, construction, size, lay-out and condition of a house, the facilities in it and the size of the block, can restrict the type, size, construction and siting of the improvement.

Another more significant concern, from an overall viewpoint, is the incidence, extent, kinds and effects of physical changes that are being made to the existing housing stock through home improvements. As noted previously, each year, the number of improved dwellings (6 per cent of the total stock) is about twice the number of new dwellings being added to the stock; so over an extended period of time, the characteristics of the stock can be substantially modified. However, very little is known about

the kinds and extent of these physical changes, and about whether these changes have enhanced the quality and quantity of the existing stock generally, or are being confined to certain sections of the stock, and as a result, improve the housing standards of only some households. Uneven distribution of home improvements can have either a converging or diverging effect on variations in the quality of the stock, and this raises important equity questions which have implications for the government's policy on housing.

The broader implications of an enhancement in housing quality and standards, and of the particular incidence of home improvements, will be dealt with in the next chapter. This chapter identifies the houses that are being improved and examines how, and the extent to which their characteristics are being modified and the factors which influence the distribution of home improvements among houses of different quality and in different locations.

7.1 Physical Constraints of Dwellings

The typical Australian detached house, on a quarter acre block, has a great deal of flexibility for modification.[1] Other types of dwellings, especially flats, are much less adaptable. Whilst about 10 per cent of all the dwellings in Adelaide are flats (1976 Census), only about one per cent of the approvals for additions and alterations in 1978 were for flats. Besides having practically no room for lateral expansion, structural modifications of flats are often very difficult and expensive. As a result, improvements to flats are mostly non-structural - erection or demolition of internal walls to subdivide or amalgamate rooms, or cosmetic work.

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1 The quarter-acre block is a colloquial Australian usage. The standard residential block is normally about one-fifth to one-sixth of an acre (Halkett 1976).

The occupants of flats are mostly tenants (Kendig 1981), who do not generally make home improvements; nor, as previously mentioned, do landlords.

Compared to flats, the detached house has much more scope for both lateral and vertical extension, but about 80 per cent of all improvements involved addition of more area to the house, among which ground level extensions constitute the majority. Vertical extensions, which are normally undertaken because of the constraints on lateral extensions imposed by the size of the block, or for other reasons, such as to get a better view or to retain garden size, are relatively rare. This is because most houses have sufficient land for lateral expansions, which are generally cheaper than vertical extensions.[2]

The size and siting of an addition/extension depend on the size and shape of the block in relation with that of the house, as well as existing building regulations. Minimum street frontage setbacks of 25 feet (7.6 metres) and boundary setbacks of 4 feet (1.2 metres), minimum habitable room size of 10 feet (3 metres) by 8 feet (2.4 metres), and site coverage not exceeding 50 per cent of the land area, are among the more pertinent regulations. These regulations do not, however, appear to be major constraints on the amount of space that can be added to a detached house, which often has more than sufficient land for expansion. The typical detached house sits on a fairly large block of 6000 to 7500 square feet (560 to 690 square metres) and normally occupies only one-fifth to

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2 On a per square foot basis, vertical extensions are about one and a half times as expensive as ground level extensions. Also, the walls and foundations of many houses are not designed to bear the load of an additional storey, and the inclusion of a staircase would take up more interior space. Further, vertical extensions tend to cause more disruption and inconvenience to the household.

one-quarter of the land area (Halkett 1976:27). None of the respondents in the Adelaide Housing Improvement Survey had any complaints about restrictive building regulations, although those who had, could have been prevented from carrying out improvements, and as a result were not sampled.

It is however likely that the size of the block will be a significant constraint only if it is below certain dimensions. This is suggested by Table 7.1, where the smallest block size category (less than 6000 square feet) has the smallest mean area of extension (30 per cent less than the grand mean). Beyond this, block size does not appear to have any systematic relationship to the area of extension.

Whilst the lack of space for expansion is seldom a limitation, the quantity of space added is determined more by the original size of the house and the space requirement of the household. Table 7.2 shows that except for the very small houses (<1000 square feet), where expansion is often limited by available land, the quantity of additional space tends to decrease with the size of the house. It is interesting to note that, whilst the larger blocks have bigger houses, they have smaller site coverage (Table 7.1). This 'self-imposed' limitation on maximum additional space suggests that there is an optimal size for a house, that is, each improvement is a marginal capital addition to the house, and the owner is prepared to carry out improvements as long as there is a net gain (including intangible benefits) to him over their costs. When the point is reached where the cost of the marginal improvement exceeds the benefits derived, the site can be considered as 'saturated' with improvements.

This optimal size argument is further illustrated in Figure 7.1 which shows the relationships between house value and the various dimensions of expenditure incurred, full cost, quantity of additional floor area and

TABLE 7.1 Area of Extension, House Area and Site Coverage by Block Size

Block Size (sq.ft.)	Area of Extension (sq.ft.)	House Area Before (sq.ft.)	Mean site Coverage (%)	Number of Cases
6000 & less	195	9764	26.4	12
> 6000- 8000	291	12711	17.8	63
> 8000-10000	266	14017	15.7	48
>10000-12000	342	14303	13.1	31
>12000	263	17169	10.0	36
Overall	282	14035	15.4	190
F-value	0.864	6.685*	24.356*	

* Significantly different at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 7.2 Area of Extension and Block Size by Floor Area of House

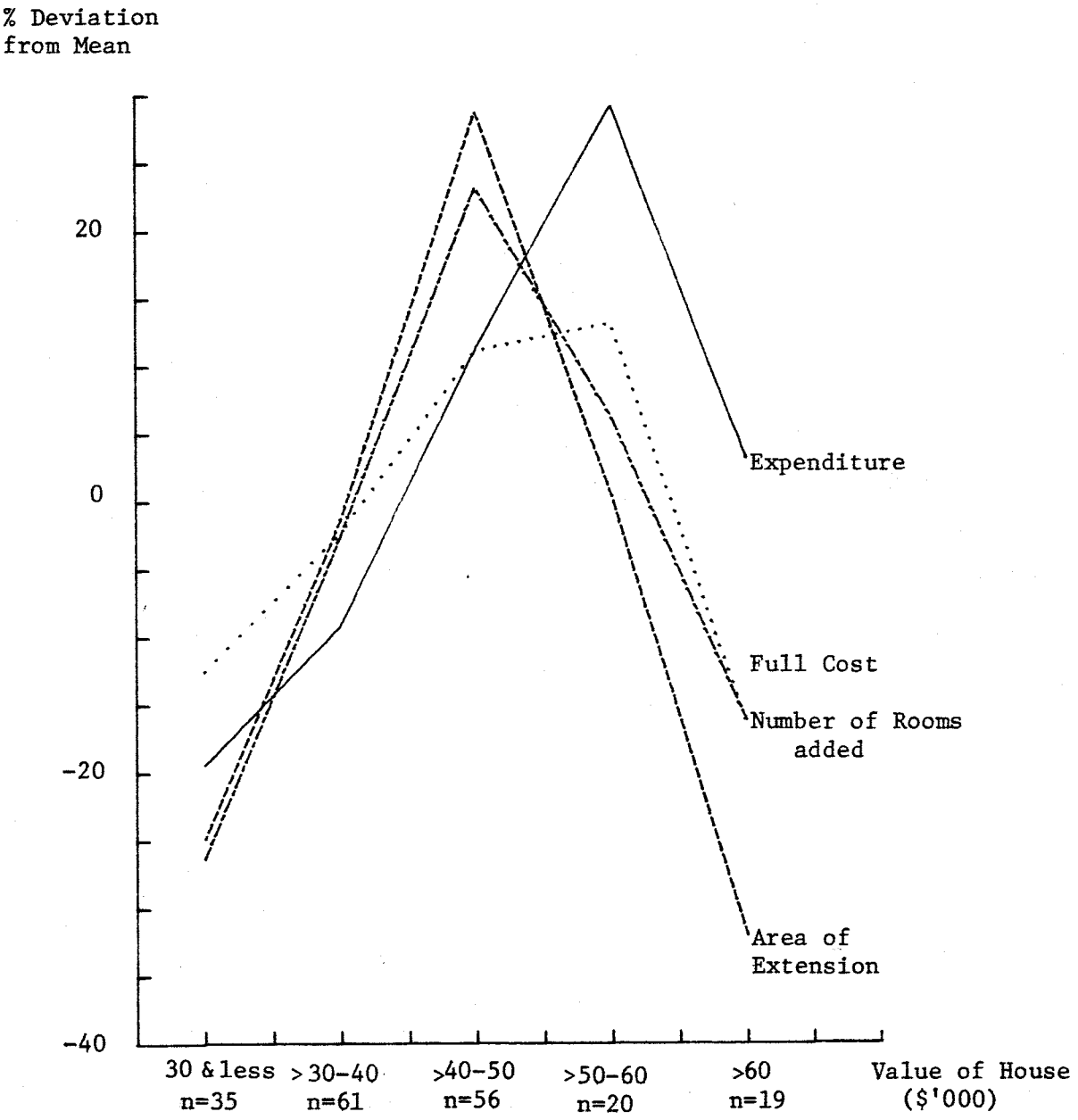
Floor Area (sq.ft.)	Mean Area of Extension (sq.ft.)	Mean Block Size (sq.ft.)	Number
1000 and less	182	8622	18
>1000-1250	342	9225	60
>1250-1500	312	10182	56
>1500	236	13278	42
Overall	291	10435	176
F-value	2.669*	4.773**	

* Significantly different at 0.05 level.

** Significantly different at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

FIGURE 7.1 Percentage Deviation from Mean of Improvement Dimensions by Categories of House Value



Note: n = Number of Cases.

Source: Housing Improvement Survey, Adelaide, 1978.

the number of additional rooms.[3] All the improvement dimensions display similar patterns of variation in terms of the percentage deviation of the mean of each class from the grand mean. Even when the age of the dwelling is controlled, the patterns remain more or less unchanged.

The least expensive and the most expensive houses have lower than average improvements. In the former case, it is likely to be the result of unavailability of land for expansion, and in the latter, because these houses have most of the desired features. Differences in house value also reflect differences in the socio-economic status of their owners, which are themselves important determinants of the kinds of improvements undertaken (see next section).

In order to reduce cost (especially when the shifting of plumbing is involved), disruption and inconvenience, most improvers would want to minimise alteration of the existing layout of the house. How much of it can be preserved depends on the layout itself and the kinds of improvements intended. Rumpus/family rooms can usually be added with minimum disruption by demolishing a wall of the dining room or living room. Rumpus rooms are also quite often detached from the main building.

The addition of bedrooms usually require some reorganisation of the uses of other rooms. This is partly because most houses are designed to have all the bedrooms at one end of the house. Often it is difficult to add another bedroom in the same section of the house without passing

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3 The value of the house used here is the owner's estimate. Two studies have shown that owners tend to over-estimate the value of their houses, but the mean difference is not significant (Kish and Lansing 1954; Kain and Quigley 1972). The value of the house (as assessed by the Valuer-General's Office) is, on average, 8 per cent or $3244 less than the owner's estimate, which is not statistically significant (at 0.05 level). When the owner's estimate (OWNVAL) is regressed against the improved value (IV), the estimated equation is:

$$IV = 11100 + 0.647\ OWNVAL$$

with a R^2 of 0.73 and a correlation coefficient of 0.86.

through an existing bedroom. Of the 50 cases involving additions of bedrooms that were surveyed, after taking into account the deletion of existing rooms, only 60 per cent have a net increase of one bedroom; about a quarter experienced no increase in the total number of rooms; and six cases had a net loss of one bedroom.

7.2 Characteristics of the Improved Dwellings

Home improvements are constantly changing the appearance, size, layout, condition/quality and value of the existing stock, although these changes tend to be concentrated among certain categories of dwellings. It will be shown that home improvements have generally enhanced the physical qualities of the dwellings among dwellings that are already of better quality, as well as the housing standards of their households. Further, while the kinds of improvements made may seem to be compensating for those features in which the house is deficient, the deficiency is related more to the housing needs and preferences of the owners than to the physical features of the dwelling.

7.2.1 Size of house and crowding

Home improvements as a whole seem to widen quality differences in the existing housing stock. As shown in Table 7.3, the distribution of the number of rooms in the pre-improved houses is very similar to that of the existing stock, but there are more larger houses of six rooms and more among the improved houses (88 per cent) than the existing stock (57 per cent).

It is interesting to note that the proportion of houses in the sample with six rooms was the same before and after improvements were made, and it is close to that in the existing stock. Perhaps by present day standards, the five to six room house, consisting of three bedrooms,

TABLE 7.3 Total Number of Main Rooms (Census and Sample)

No. of Rooms	1976 Census[a] (%) (1)	Sample (%)	
		Before Improvement (2)	After Improvement (3)
4 and less	7	5	2
5	37	38	10
6	35	32	32
7	14	18	31
8 and more	8	7	25
Total	100	100	100
Number	187034	200	200

Mean number of rooms before improvement = 5.895
Mean number of rooms after improvement = 6.825

Chi-square test of (1) and (2) significant at 0.05 level.

Note: a. Owner-occupied separate houses in Adelaide in 1976.

Sources: 1976 Census and the Housing Improvement Survey, Adelaide, 1978.

a kitchen, a lounge and with or without a separate dining room, meets the minimum requirements of most households. The relatively more affluent households can afford a rumpus/family room and an additional bedroom. With higher housing expectations associated with increasing affluence, and the trend towards smaller families, most of the demand for additional space is likely to be for purposes other than additional sleeping areas. Despite an increase in the mean number of rooms in improved houses, the proportion of three bedroom houses remained constant at about 70 per cent. Although there is a small increase in the number of four bedroom houses, the greatest increases are in houses with rumpus rooms (one-third) and family rooms (one-quarter).

The improvers' households generally have more people (see Chapter Five) and the extent of crowding before making improvements, as measured by the number of persons per room (0.65), is higher than the average of 0.57 persons per room in Adelaide (1976 Census). However, after making the improvement, the improvers enjoy marginally more space per person (0.56 persons per room). This, and the fact that most improvers tend not to move to a smaller place even after their children have grown up and left home, suggest that home improvements may result in greater under-utilisation of existing housing resources.

King (1973) has noted that, in 1971, there were already about three times as many under-used (17 per cent) as over-crowded dwellings (6 per cent).[4] By King's definition, more than a third of the improved dwellings are under-used. Perhaps the increase in the number of additions/extensions to the existing stock partly accounts for the rise in the proportion of under-used dwellings to 24 per cent in 1976 (Department of Housing and Construction 1980).[5]

Part of the overall concern for more efficient utilisation of existing housing resources is to reduce under-utilisation (Committee of Inquiry into Housing Costs 1978). Under-used houses are mostly occupied by older (over 55 years) and younger (less than 35 years) households (Department of Housing and Construction 1980). Our survey confirms that the pre-family and post-family stages have the lowest occupancy rates.

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4 Under-utilisation is defined as a situation where one person occupies five rooms, or two persons occupy six rooms and so on, such that there is more than one extra room per extra person. The 'overcrowding standard' is where households with up to, and including, four persons need one room per person and, thereafter, one bedroom for each two persons with two additional living rooms.

5 Using a slightly different definition of overcrowding (i.e. a situation in which a dwelling has more than one person per room), 5 per cent of the occupied stock were overcrowded (Department of Housing and Construction 1980).

Younger households are compelled to purchase houses which mostly come in a minimum package of 5-6 rooms, although many buy a bigger house in anticipation of having growing or more children. Post-family households, on the other hand, attach greater sentimental value to their houses where their family grew up, and many of which were extended; and so tend not to move. These cases of under-utilisation of space are the result of a deliberate choice, on the part of the households, to meet higher housing expectations. Although the net result could be a large number of big houses accommodating only one or two persons, there is a social case for them to remain in their family homes.

7.2.2 Condition, quality and age

The quality and standard of housing in Australia have continued to improve over the years. For example, the average number of rooms per dwelling (private) rose from 4.9 in 1947 to 5.4 in 1976, and the proportion of self-contained dwellings from 87 per cent in 1954 to 98 per cent in 1976. Occupancy rates also fell from 0.77 persons per room in 1947 to 0.57 in 1976.[6] Except for the Survey of Aged Persons' Housing in 1974 (Department of Environment, Housing and Community Development 1976), no direct information on the condition of the existing housing stock is available. It has, however, been noted that housing deterioration is not a serious problem in Australia (Troy (ed.) 1966). This probably accounts partly for the fact that only 14 per cent of the improvements were renovations and another 7 per cent alterations, although it is likely that there was a great deal of redecorating which does not require building approval and so was not sampled.

Also, the dwelling stock in Adelaide is generally regarded as being of a better quality than that of Sydney or Melbourne for historical

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6 All information from Neutze (1977), Department of Housing and Construction (1979) and 1976 Census.

reasons (O'Reilly 1977). Since the 1850s, the erection of wooden houses is prohibited by the City of Adelaide, and the enactment of the Building Act in 1940 provided for very stringent building by-laws regarding fire hazards. They have resulted in an absence of 'rows of attached weather-board cottages or wooden houses in the older parts of the city of Adelaide' (O'Reilly 1977:3). The operation of the Housing Improvement Act since 1940, which deals with sub-standard dwellings, also contributed to the generally high quality of dwellings in Adelaide. Under the Act, the South Australian Housing Trust can issue repair or demolition orders on dwellings declared to be sub-standard. Since 1972/73, between 400 to 700 dwellings per year have been declared sub-standard.

There is no evidence that most improvements are being made to sub-standard houses: only about 2 per cent of the houses surveyed were assessed by the interviewers to be in poor condition, although the proportion could have been larger before improvement. Further, only a few of the respondents (10 per cent) rated their houses to be in poor condition before they were improved (Table 7.4). When asked to make a before and after (improvement) comparison on a four point scale of poor, fair, good and very good, most of the respondents thought that the overall condition of their houses had improved (Table 7.4).

Another way to show that most improvements were not carried out to upgrade poor quality housing, is by comparing the age distribution of the improved dwellings with that of the existing stock. As shown in Tables 7.5 and 7.6, there are proportionately more newer houses which are improved.[7] Age is an imperfect measurement of quality, especially when little is known about the history of the dwelling, but as discussed in Chapter One, dwellings do generally deteriorate and become obsolescent

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7 Note that age distributions of Adelaide and Australia are very similar.

TABLE 7.4 Respondents' Assessment of Overall Condition of House Before and After Improvement

Condition After (%)	Condition Before (%) Poor	Fair	Good	Very Good
Fair	14	18	-	-
Good	71	43	49	-
Very Good	14	39	51	100
Total	100	100	100	100
Cases	21	44	84	51
Chi-square = 78.420*				

* Significant at 0.01 level

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 7.5 Estimated Age Distribution of Private Houses, South Australia and Australia ('000)

Census Year	1947	1954	1961	1966	1971	1976
South Australia						
No. as at Census	141.3	189.5	231.6	271.0	306.6	333.1
Estimated No. as at 1976[1]	125.0	176.4	221.8	264.5	303.3	333.1
As % of 1976 Total	37.5	53.0	66.6	79.4	91.1	100
Australia						
No. as at Census	1585	2007	2393	2683	3080	3564
Estimated No. as at 1976[1]	1436	1888	2304	2624	3050	3564
As % of 1976 Total	40.3	53.0	64.6	73.6	85.6	100

Note: 1. The age composition of houses in 1976 is estimated by apportioning the net loss of houses between 1947 and 1976 such that 50 per cent is accrued to those which existed at the census year of 1947, 40 per cent to 1954 and so on until 10 per cent to 1971.

Sources: Censuses; ABS, *Building and Construction* and ABS, *Building Statistics*.

TABLE 7.6 Age of Houses with Improvements, Adelaide

	Before 1945	1945-60	1961-71	After 1971	Total
No. of Houses	57	35	69	39	200
% of Total	28.5	17.5	34.5	19.5	100.0
Cumulative %	28.5	46.6	80.5	100.0	

Source: Housing Improvement Survey, Adelaide, 1978.

over time. Apart from physical wear and tear and ageing, older dwellings were also built at times when housing expectations were relatively low. As a result, improvements are carried out to these houses to remedy physical deterioration and obsolescence as well as to meet higher expectations arising from increased affluence.

Two main categories of improvers tend to make such improvements. The small number of households (10 per cent) who move into older dwellings in the inner suburbs with the intention of improving forms the first category. The renovation work carried out by this group tends to be very substantive and expensive. The other group consists of households who have lived in the same house for 10 to 20 years and who carry out improvements to upgrade those parts of the house which have more wear and tear or, like kitchens and bathrooms, are more vulnerable to technological obsolescence.

There are other possible explanations why proportionately fewer older dwellings are being improved at any one point in time. Some older houses, especially those in the more heavily built-up inner areas of the city, do not have sufficient land for expansion. There may also be a small number of old dwellings in very advantageous locations which are allowed to run down in anticipation of a change to higher uses. It is also possible that a large proportion of the older dwellings have already

been improved (some a few times over), since homeowners tend to stay in the same house throughout most of their life, and make improvements fairly soon after purchase, and then over long intervals.[8]

The evidence indicates that most of the home improvements undertaken have served to further improve the quality of the better sectors of the housing stock. Relatively few are made to 'save' dilapidated or very poor quality housing from being demolished, although some older dwellings in the inner suburbs are being upgraded. The evidence therefore suggests that the physical features of a house are probably not critical in the household's decision to undertake improvements. This conclusion is further supported by the evidence on house values.

7.2.3 House value

The value of a house is the best single measure of all its attributes - location, neighbourhood, construction, size, design, age, condition and block size. Section 7.2 has shown that many of the variations in the amount of improvement expenditure and the quantity of space added to different house value classes can be explained by certain physical constraints of the house itself. But differences in house values are themselves a reflection of the economic resources of their owners. For example, whilst cheaper houses are on smaller blocks which limit the size of extensions, owners of cheaper houses are also less affluent and hence less able to spend. On the other hand, the most affluent owners (of the most expensive houses) also spend less on improvement, but this is because their houses already have most of what they require.

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8 A large number of dwellings in the inner suburbs were improved in the 1950s and 1960s (Kendig 1979).

However, being generally financially better-off, improvers as a group already own more expensive houses than other homeowners in Adelaide. The mean pre-improved value ($42000) is already higher than the mean market value of all dwellings in Adelaide ($37000) and the difference is even greater for improved dwellings ($51000).[9] After improvements are made, most dwellings move into the next higher value class (Table 7.7). The effect of home improvements is to reduce the number of houses which are affordable by the lower and middle income groups. As a result, the housing needs of these groups of buyers may be increasingly met by new construction as the housing market responds to a greater demand for cheaper houses. Kendig (1981) found that most new houses are bought by first home buyers. Table 7.8 shows that the proportion of houses valued above $40000 among the pre-improved (50 per cent) and the improved dwellings (76 per cent) far exceeds the proportion among houses bought by first home buyers (11 per cent).

7.3 Location, Neighbourhoods and Improvements

7.3.1 Location of improvements

One popular belief is that most improvements are made to older dwellings in the inner suburbs. This has perhaps resulted from the wide publicity given to the gentrification process by the media in recent years. However, the previous section has pointed out that the upgrading of old dwellings constitutes only a small proportion of all home improvements. This section provides further evidence to show that a larger proportion of the improvements is undertaken in the newer outer suburbs, than in the older inner suburbs.

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9 The difference in value is statistically significant at the 0.01 level. The mean market value of all dwellings is the average of the mean values of all local government areas (LGAs) in Adelaide as at September 1978, supplied by the Valuer-General's Office.

TABLE 7.7 Estimated Values of House Before and After Improvement

Estimated Value After	Estimated Value Before (%) $30000 & Less	>$30000-40	>$40000-50	>$50000
$30000 & Less	30	-	-	-
>$30000-40	56	24	-	-
>$40000-50	14	61	29	-
>$50000	-	15	71	100
Total	100	100	100	100
Number of Cases	36	61	56	39
Chi-square = 189.903*				

* Significant at 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

TABLE 7.8 Values of Improved, Pre-improved and First Home Buyers' Dwellings

Value Range	Improved (%)	Pre-improved (%)	First Home Buyer (%)
$30000 & Less	6	19	38
>$30000-40	18	32	50
>$40000-50	30	29	8
>$50000	46	20	3
Total	100	100	100
Number of Cases	192	192	224

Sources: Housing Improvement Survey, Adelaide, 1978 and Adelaide Survey of Movers, 1977.

Towards this end, local government areas (LGAs) in the Adelaide Statistical Division are classified by their population growth rates into four zones - negative, slow, moderate and rapid growth. It is felt that this is a more purposeful classification than distance from the city centre. Although cities tend to grow outward from the city centre, with the inner suburbs being developed first, there are exceptions. For example, while Port Adelaide and Glenelg were among the earliest LGAs to be developed, they are about 8 kilometres from the city centre. The rates of population growth in each LGA over a number of years give a better indication of the current stage of development of the particular LGA and the relative age of the dwellings.[10] Map 7.1 shows the growth of the Adelaide urban area from 1939 to 1976. In general, the negative and slow, moderate and rapid growth zones more or less correspond with the inner, middle and outer suburbs respectively. For the purposes of this study, these terms are used interchangeably.

Table 7.9 shows that in 1978 the rapid growth zone (or outer suburbs), which accounted for about 30 per cent of the dwelling stock in Adelaide,[11] had the largest share of about 45 per cent of A&A. In the outer suburbs, about three per cent of dwellings were improved compared to about 2 per cent in the inner suburbs. The disproportionate distribution of home improvements in the outer suburbs was also observed

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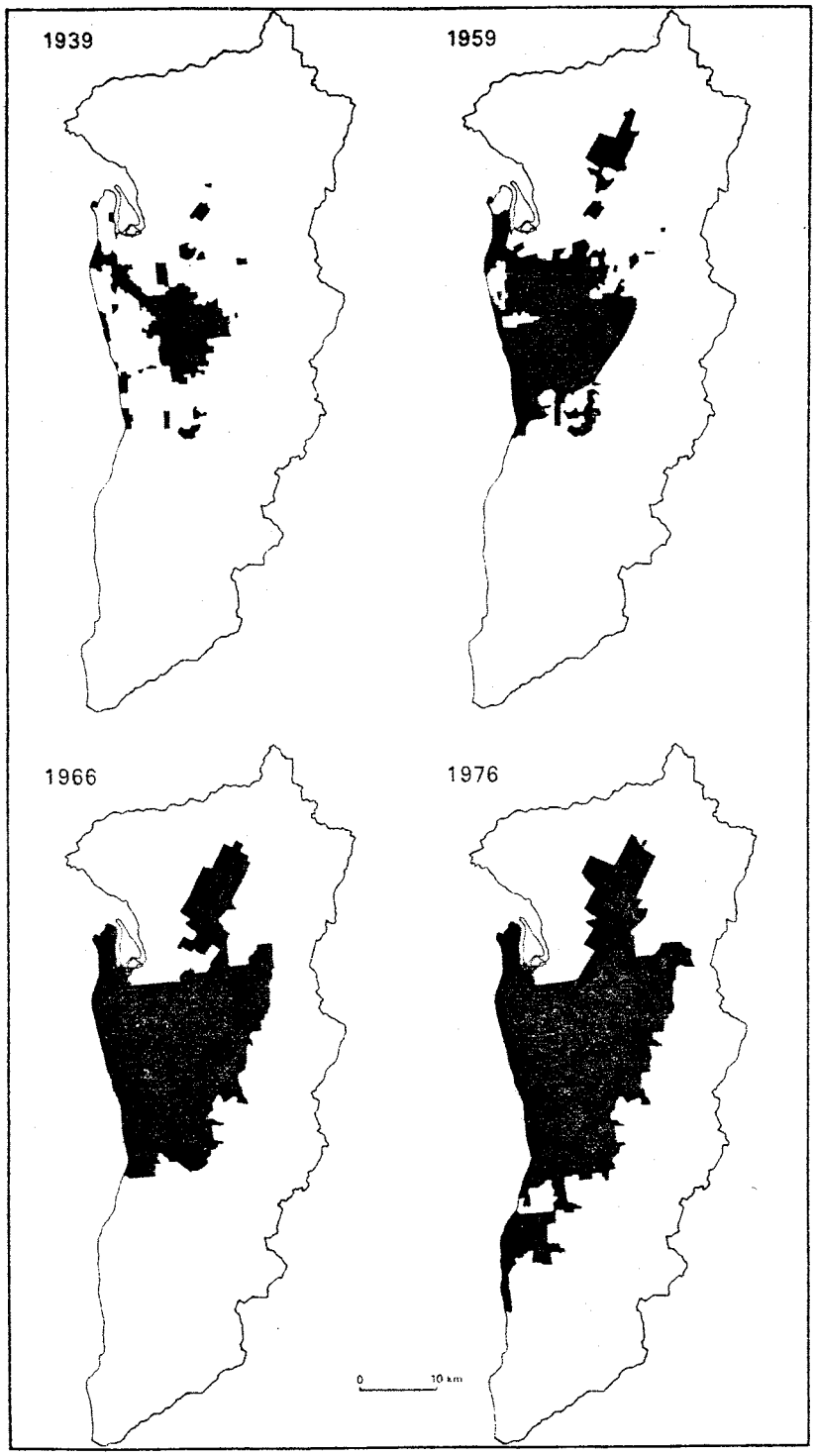
10 A detailed examination of the relationship between population growth and urban development by LGAs is found in Neutze (1977:69-71). He traces the pattern of population growth from 1947 to 1975 for every LGA in the Adelaide Statistical Division and classifies them according to their growth rates. The same classification of LGAs is used in this study, except for the last two zones (or parts), which are amalgamated into one because of insufficient numbers in the sample.

11 They have only experienced a rapid growth in population since the 1960s (Neutze 1977).

MAP 7.1 Growth of the Adelaide Urban Area



Sources: 1939 and 1959 - South Australia Town Planning Committee (1962:31).
1966 - ABS (1969:Map 1).
1976 - ABS (1978:Map 4).

TABLE 7.9 Proportions of Dwelling Stock and Improvements by Zone in Adelaide

Zone	Number of Occupied Private Dwellings[1] (%)	Number of Additions and Alterations[2] (%)	Number of A&A per 100 Dwellings
Negative growth:			
Adelaide, Hindmarsh, Kensington & Norwood, Prospect, St.Peters, Walkerville, Unley, Thebarton	14	13	1.91
Slow growth:			
P.Adelaide, Burnside, Glenelg	11	9	1.68
Moderate growth:			
Campbelltown, Enfield, Elizabeth, Brighton, Henley & Grange, Marion, Payneham, W.Torrens, Woodville	45	35	1.60
Rapid growth:			
Meadows, Mitcham, Noarlunga, E.Torrens, Salisbury, Tea Tree Gully, Munno Para	29	43	3.05
Total	100	100	2.06
Number of cases	282390	5810	

Notes: 1. Number of dwellings as at June 1976.
2. Excludes non-private dwellings.

Sources: 1976 Census and ABS, Unpublished building statistics.

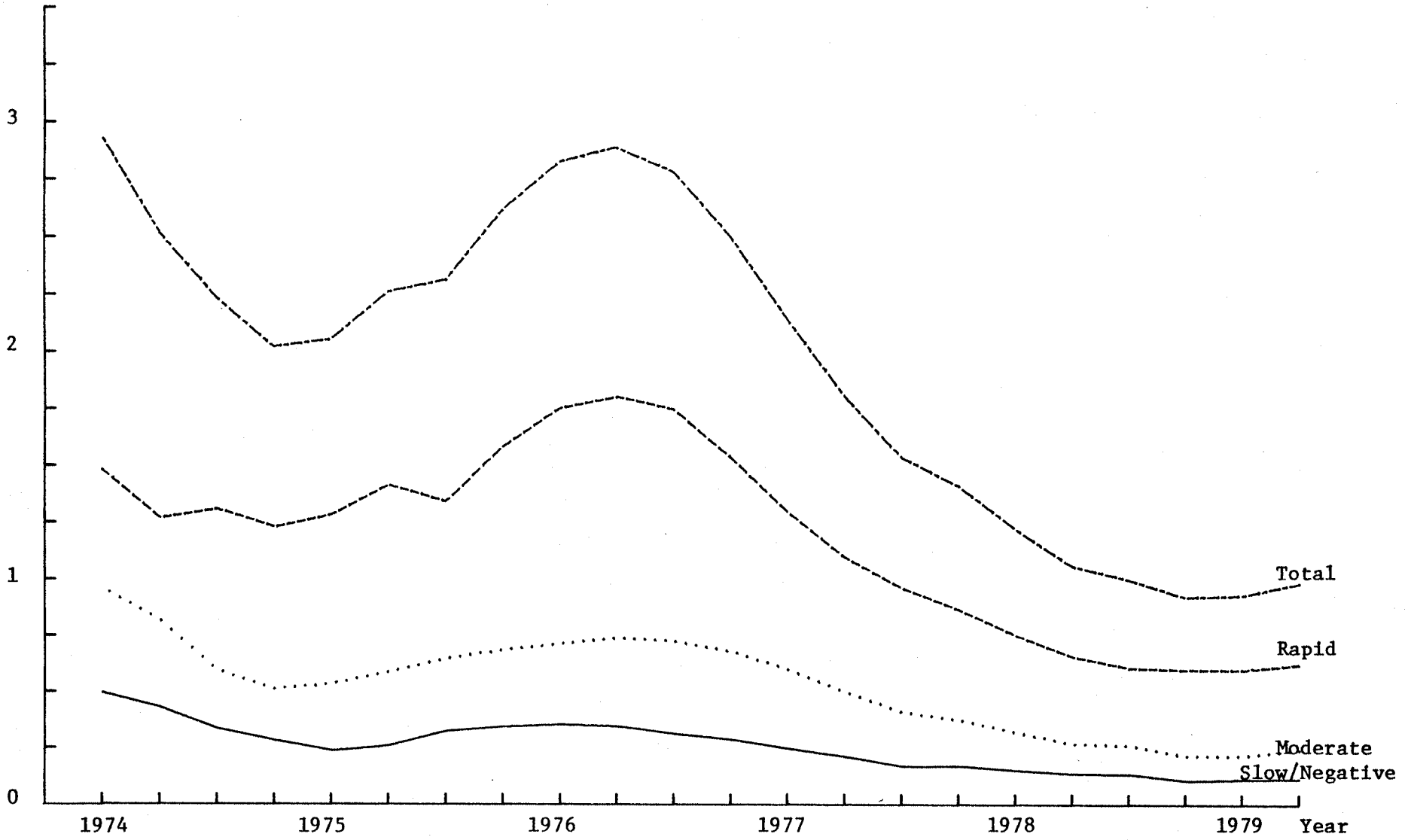
in Melbourne and Sydney in two other studies (Wickerson 1978; Wymond and Hill 1977), and can probably be explained as follows. Being more recently developed, the outer suburbs have more newer dwellings (this is confirmed by Figure 7.2). In general, new houses in the outer and newer suburbs are geared to meet the requirements of the younger householders who have relatively less economic resources, but frequently have higher housing aspirations. Therefore, to ensure that the prices of these houses are within the means of these households, many are built without some facilities normally regarded as necessary by home purchasers. Many purchasers expect and are expected to install them - garages, carports, pergolas and most other outdoor features - soon after buying. Later, as their economic circumstances improve, many of them also add family rooms, rumpus rooms and, less frequently, ensuite bathrooms, all of which have become increasingly popular in recent years. The Housing Improvement Survey also confirms that a disproportionate share of outdoor improvements (47 per cent) and addition of family rooms (45 per cent) and rumpus rooms (60 per cent) occur in the outer suburbs.

There are a number of possible reasons why fewer improvements are undertaken in the inner than in the outer suburbs. There are more flats and other multi-occupancy dwellings which, as noted earlier, are less likely to be improved. The smaller block sizes of houses in the oldest parts of the city also restrict the size and siting of extensions.

Also, as many of the houses in the inner suburbs are older (most were built before 1945), they are likely to have already been improved. Most of the homeowners who have lived in the house for a long time would have carried out improvements, especially additions, during the earlier year of occupancy as their housing requirements changed with their socio-economic circumstances. As shown in Table 7.10 there are more renovations

FIGURE 7.2 Number of Approvals of New Dwellings by Zone, 1974-1979 (quarterly)*, Adelaide

Units in Qtr.('000)



* Four-period moving averages.

Source: ABS, *Building Statistics*.

TABLE 7.10 Age of Dwelling and Type of Improvement by Zone

	ZONE (%)				
	Negative or Slow Growth	Moderate Growth	Rapid Growth	Total	Number
Year Dwelling Built:					
Before 1945	63	14	23	100	57
1945-1960	20	63	17	100	35
1961-1971	9	33	58	100	69
After 1971	3	23	74	100	39
Chi-square = 89.184*					
Type of Improvement:					
Additions	18	32	49	100	144
Alterations	36	28	36	100	14
Renovations	57	26	18	100	27
Outdoor	27	27	47	100	15
Chi-square = 19.135*					

* Significant at the 0.01 level.

Source: Housing Improvement Survey, Adelaide, 1978.

and alterations than additions in the inner suburbs, compared to the outer suburbs. The oldest houses could have gone through several cycles of occupancy and as a result are likely to have had several phases of improvements, although the number occurring in any one year is small. Only about 30 per cent of the houses in the inner suburbs were purchased by householders who moved in with the intention of improving.

Figures 7.3 and 7.4 support the argument that the older housing stock in the inner suburbs has constantly been improved over time. Since early 1974, the inner suburbs' share of home improvements has fallen, although their total number of improvements has continued to increase gradually, partly because of a growing preference for living in the inner suburbs. Most of the increase in numbers occurred in the middle-outer suburbs, but it was only after the middle of 1974 that the gap between the inner and middle and outer widened significantly.[12]

The middle suburbs illustrate an interesting intermediate situation between the inner and the outer suburbs. There are fewer new houses than in the outer suburbs, but more than in the inner suburbs. As a result, the types of improvements undertaken included moderate proportions of renovations and additions (Table 7.10). Houses in the middle suburbs are likely to be in the first cycle of occupancy being mostly 10 to 35 years old (Table 7.10). This suggests that many of them would have had the first phase improvements (i.e. garages, car ports and outdoor improvements). Current improvements tend to correspond with the housing needs of the middle and older life cycle stages. More space is added for growing children and there is some upgrading of obsolete parts of the house. The recent decline in the number of improvements in the middle suburbs (Figure 7.3) also suggests that as more dwellings are improved and more dwellings

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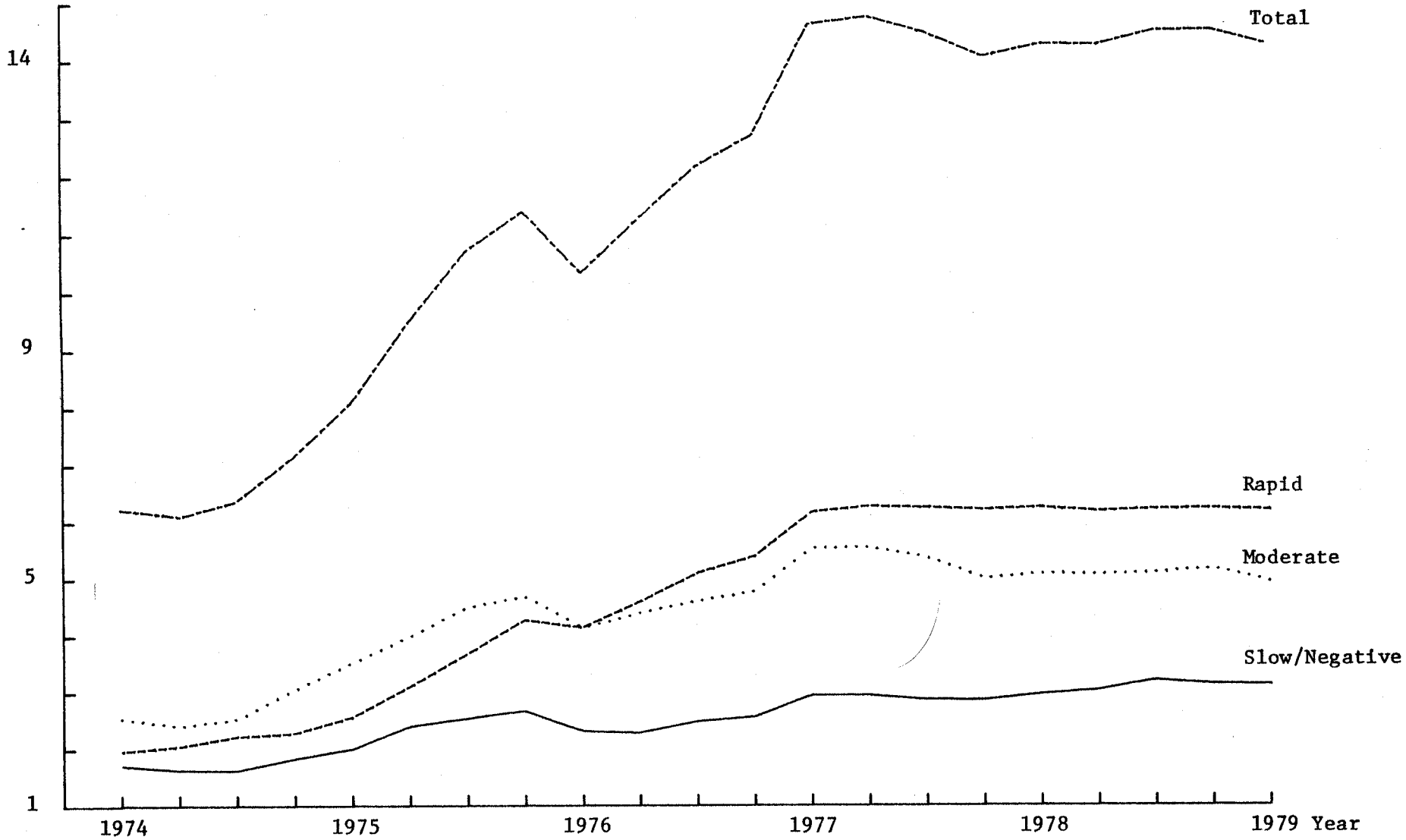
12 Differences in the value of improvements among the zones, only increased significantly after 1975.

FIGURE 7.3 Number of Additions and Alterations by Zone, 1974-79 (quarterly)*, Adelaide



* Four-period moving averages.

Source: Unpublished ABS building statistics.

FIGURE 7.4 Value of Additions and Alterations in Constant Prices by Zone, 1974-79 (quarterly)*, Adelaide

* Four-period moving averages.

Source: Unpublished ABS building statistics.

enter the second cycle of occupancy, the middle suburbs will gradually approach the pattern of improvements in the inner suburbs - more renovations and alterations and fewer additions.

7.3.2 Neighbourhood factors and geographical distribution

The decision of a homeowner to reinvest in his dwelling may also be influenced by the state of its surroundings, the improvement decisions of his neighbours, and his expectations of future neighbourhood changes. Neighbourhood attributes such as the condition and quality of other buildings, streets and public amenities, natural amenities, non-conforming uses, pollution and the density of development, are parts of the package of housing he had bought, and are important determinants of the value of the dwelling. It is possible that the increase in the value of a dwelling in a poor neighbourhood will not be high enough to cover the cost of improving it. It has been argued that it pays for an owner to wait for his neighbours to upgrade their properties since he stands to benefit from the improvement in the quality of the neighbouring structures through an increase in the value of his house. However, if all owners adopt this attitude, none of the dwellings will be upgraded (Davis and Whinston 1961). This 'externality' argument has been advanced to explain the perpetuation of slums in American cities; but it seems more applicable to neighbourhoods dominated by rental housing.

Unlike landlord-investors, whose main concern is financial returns, the results of the survey indicate that most homeowners make improvements to raise their level of housing consumption rather than for capital gains (see Chapter Five). Owner-occupiers in declining neighbourhoods have been observed to be willing to improve their dwellings with the full knowledge that they are unlikely to recover the capital expenditures made (Peterson *et al.* 1973). The pride of ownership is itself an important factor in

encouraging households to maintain their homes in good condition (Sternlieb 1966). The improvement of many poor quality dwellings in the inner areas of major cities in Australia during the 1950s and 1960s, was largely the direct result of a change of tenure from rental to owner-occupancy (Kendig 1979). Further, unlike the declining inner areas of many American cities where rental housing predominates, about 70 per cent of the houses in the inner area of Adelaide, and about 60 per cent in Sydney and Melbourne, are owner-occupied (Kendig 1979:11). The middle and outer suburbs in Australian cities have an even higher percentage of owner-occupied dwellings. This suggests that the externality argument has little application in Australia.

Another related explanation of declining neighbourhoods, in the United States, is the successive occupancy of them by lower income households (Grigsby 1963; Ratcliff 1949; Smith 1964). As dwellings age and deteriorate over time, they are filtered down on a neighbourhood basis to poorer households who cannot afford to compete for better quality housing (Muth 1973). Higher income households, on the other hand, prefer newer and better housing in locations away from the declining inner city. To some extent, neighbourhood transition results from current owners' expectations of the inevitable intrusion of lower income households, or blacks, and, as a result, tend to move in anticipation of such changes (Cameron *et al.* 1979). This suggests that if neighbourhoods are unstable, upwardly mobile owners would expect to move fairly frequently to adjust their housing consumption and, hence, would be reluctant to improve their current home to any substantial degree.

In Australia, partly because neighbourhoods are generally more stable, homeowners are more willing to improve their current dwellings. As discussed in Chapter Five, most homeowners expect to live in their house

for a long time. Among those who move, few do so because they dislike the neighbourhood. Troy (1971; 1972) has shown that residents in Melbourne and Sydney are also generally satisfied with their neighbourhoods. All these seem to suggest that the residents' confidence in the future changes of their neighbourhoods has been an important consideration in their decision to improve.

The existence of some of the oldest and yet most exclusive residential districts in the inner areas of Australian cities, such as Woollahra in Sydney and Toorak in Melbourne, demonstrates the importance of neighbourhood stability. It has been well documented that Australian cities have not experienced urban decay and the massive housing deterioration, disinvestment, boarding-up and abandonment which have occurred in the United States. Neighbourhood decline in Australia may occur slowly over a very long time, but this is irrelevant to the potential improvers, who are concerned about enjoying the benefits from their improvements for a few decades.

Some variations in neighbourhood environment is inevitable because of residential segregation, but when compared to Sydney and Melbourne, there are even fewer areas of poor housing and poor environmental quality in Adelaide and, as has been noted, the dwelling stock in Adelaide is generally in better condition. Adelaide has also benefitted from some far-sighted planning by its founders, as exemplified by the stretch of parkland that surrounds the city. The city centre was deliberately set some 12 kilometres from the dock area of Port Adelaide. There are, of course, dwellings in a dilapidated condition scattered throughout the metropolitan area, but they are not concentrated in sufficiently large pockets to form slums (O'Reilly 1976).

It cannot be proven conclusively that the existing neighbourhood environment is an important consideration in the decision to improve. Both the interviewers and the respondents were asked to evaluate the neighbourhood conditions around the subject dwelling on a four-point scale of poor, fair, good and very good. Evaluation was based on the quality, in the immediate vicinity, of the streets, other structures, private outdoor space and public amenities; the presence or absence of natural amenities, non-conforming uses, air and noise pollution; density of development; and, the availability of parking space. The interviewers rated the majority of the neighbourhoods (73 per cent) as either good or very good. None of the neighbourhoods was rated poor. Similarly, most respondents were either fairly satisfied (42 per cent) or completely satisfied (49 per cent) with their neighbourhoods. These findings seem to confirm the view that only homeowners who are satisfied with the overall condition of the neighbourhood make improvements; but because non-improvers were not sampled, it cannot be shown that residents in poorer neighbourhoods are discouraged from carrying out improvements.

It seems more likely that the socio-economic status of the residents rather than the neighbourhood's physical environment, is the more important determinant of the decision to improve. Higher income household groups live in better quality suburbs, and they have a greater ability to pay for improvements. Map 7.2 shows that home improvements are unevenly distributed throughout the metropolitan area. They tend to cluster in small groups, concentrating in the suburbs that are south, south-east and north-east of the city. These are also generally areas of higher socio-economic status.[13]

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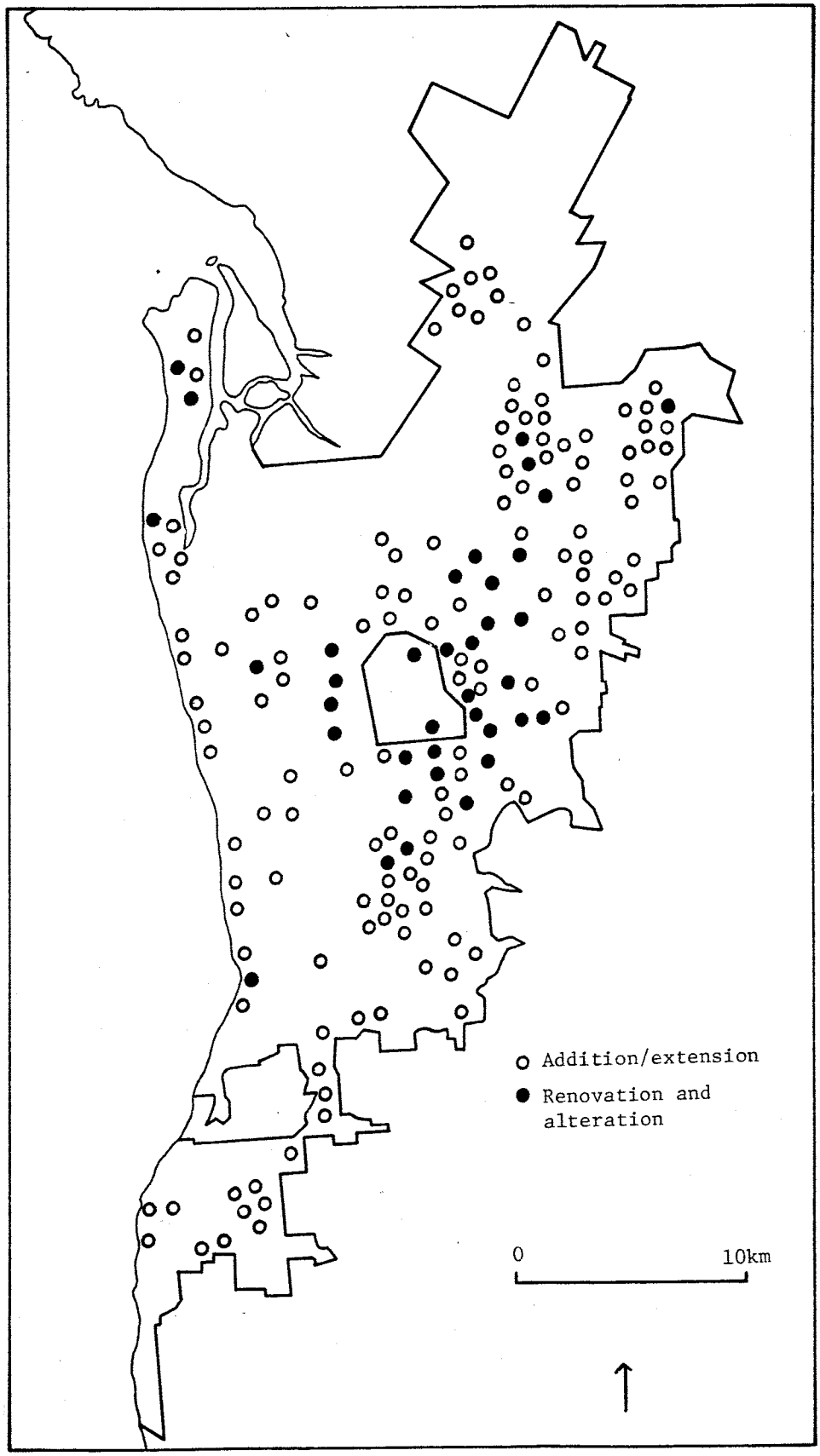
13 Division of National Mapping (1980), *Atlas of Population and Housing, 1976 Census, Vol. 2, Adelaide*, Commonwealth Government Printer, Canberra.

MAP 7.2 Distribution of Improvements in Adelaide by Type



Note: Each dot represents a case in the survey.

Source: Housing Improvement Survey, Adelaide, 1978.

Using 1976 Census data on LGAs and the ABS information on A&A, it is possible to study in a more conclusive way, the factors which determine the geographical distribution of home improvements.[14] Multiple regression analysis is used for this purpose. Apart from studying the effects of residential segregation on the distribution of improvements, this analysis will also try to find out if home improvements have a converging or diverging effect on the quality of existing housing resources and housing standards.

The multiple regression analysis examines the effects of various physical, social and economic characteristics of an LGA on the number of private home improvements as a proportion of the private dwelling stock. The number of improvements per 100 dwellings in each LGA is illustrated in Map 7.3. It is interesting to note the similarity in the distribution of improvements between Maps 7.2 and 7.3. The explanatory variables measure various characteristics of the LGA and can be classified into two main groups - the physical fabric of the residential environment, and the general socio-economic status of the LGA - so that their relative importance can also be assessed.

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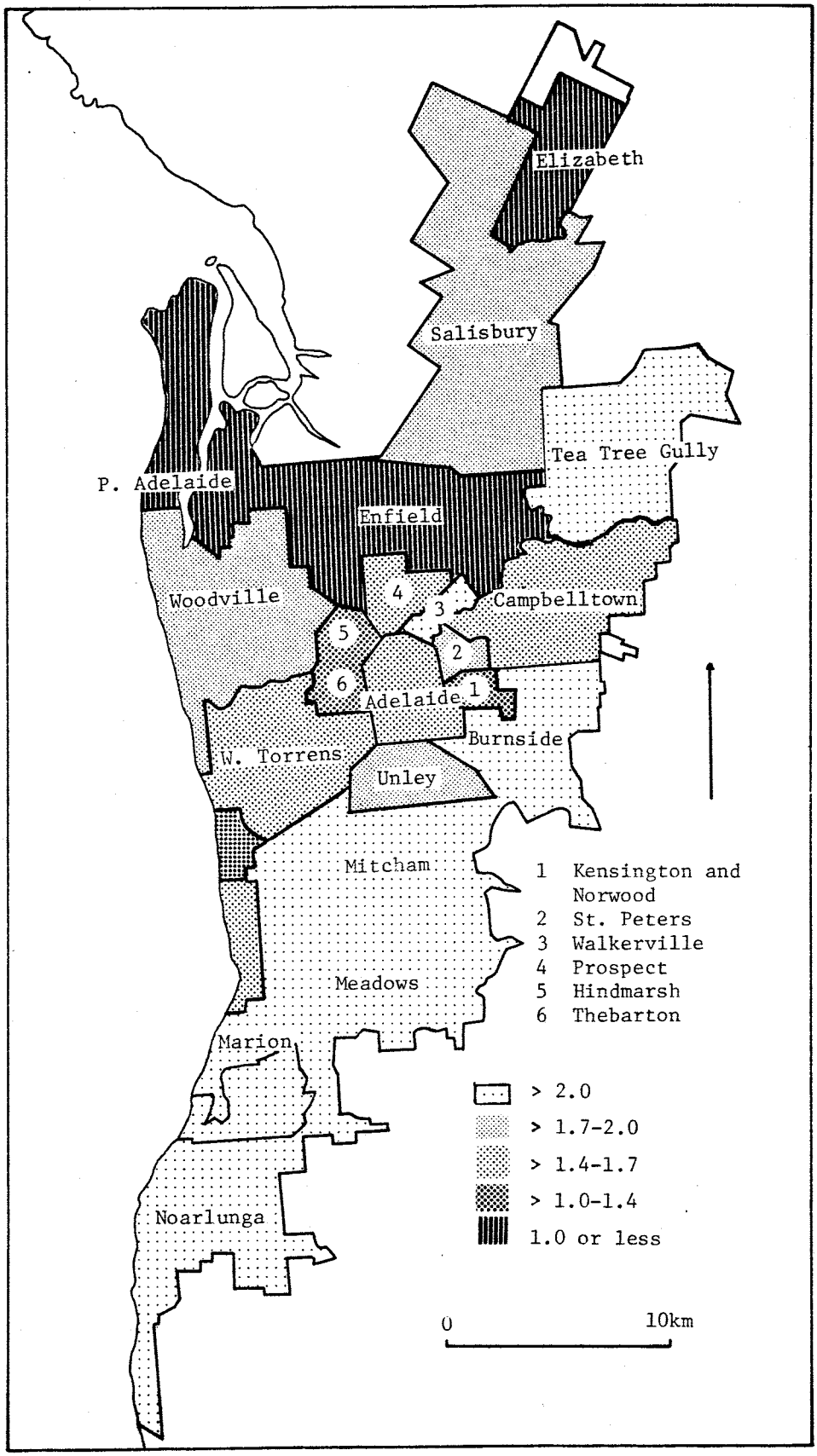
14 Unfortunately, the analysis can be undertaken only at the LGA level as information on additions and alterations in smaller geographical units is not available. Such an essentially ecological approach has been criticised for emphasising residential segregation as a manifestation of the results of an organic process and does not give sufficient weight to the ability of individual decision-makers to make choices among various alternatives. Further the selected causal factors do not necessarily have the effects assumed. For example, there is no one-to-one relationship between socio-economic ranking and possession of goods (Murie *et al.* 1976). These criticisms are less significant here because choice and cause-and-effect questions have been quite adequately examined in the previous chapters. Besides, this analysis, which uses aggregate data, has the advantage of re-testing the findings of the disaggregate micro-behavioural approach used throughout most of the earlier chapters, and of raising some broader implications of the home improvement process to be discussed in the concluding chapter.

MAP 7.3 Number of Additions and Alterations per 100 Dwellings by Local Government Area



Sources: ABS unpublished statistics and 1976 Census.

The following functional relationship is assumed.

A&A = f(HPRICE, ROOM4, OWN, AGE30, HOUSE, NEWDWG, LOWINC)[15]

where,

A&A = the proportion of private dwellings in 1978 that had additions and alterations

HPRICE = the average house price as at September 1978

ROOM4 = the proportion of occupied private houses with less than 5 rooms

OWN = the proportion of dwellings which were free and clear of mortgage debt

AGE30 = the proportion of residents who were less than 30 years

HOUSE = the proportion of dwellings that are separate houses

NEWDWG = the proportion of dwelling approvals to the total dwelling stock in the LGA

LOWINC = the proportion of families earning less than $9000 a year.

This relationship will test two opposing general hypotheses:

(1) Home improvements tend to improve low quality housing to certain standards in line with modern requirements, or, in other words, to enhance the housing standards of the lower income households.

(2) Conversely, improvements are made by the higher income households to further improve their already better housing, that is, they tend to lead to more unequal distribution of housing resources.

As a result, the expected regression coefficient of most of the independent variables can be either positive or negative depending on whether home improvements have produced a convergent or divergent effect on the quality and standard of housing.

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15 All data, except A&A, HPRICE, NEWDWG are from the 1976 Census LGA tape. Information on average house price (HPRICE) was provided by the South Australian Valuer-General's Office, while that of A&A and NEWDWG were from the ABS.

ROOM4, HOUSE, NEWDWG and HPRICE are used to represent various characteristics of the physical residential environment. ROOM4 is used to get an assessment of the influence of the size of houses. While householders of smaller houses require more space, they are also likely to be owned by lower-income householders who are less able to afford improvements. Smaller houses tend to have small block sizes which have less land for expansion.

HOUSE is used to indicate the density of development. Where there are fewer flats (i.e. a higher proportion of separate houses), more improvements can be expected. Houses can be improved more readily than multi-unit dwellings. As most owner-occupied dwellings are detached units, HOUSE is also a proxy for the effects of the proportion of owner-occupied dwellings in the LGA concerned.[16] HOUSE is expected to have a positive influence on A&A.

The average house price, HPRICE, is a composite measurement of locational advantages, the quality of the dwelling stock and its physical environment. The net effect of HPRICE on the dependent variable can also be convergent or divergent. More expensive houses already have more desirable housing attributes and hence are less likely to be improved. Conversely, because owners of more expensive houses are wealthier, they could afford to improve their houses further.

As noted in Section 7.3.1, the proportion of new dwellings tends to increase with distance from the city centre, and so NEWDWG is a proxy for the relative locations of the LGAs. For reasons discussed earlier,

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16 The proportion of owner-occupied dwellings could be represented separately, but the introduction of this variable into the regression equation causes gross distortions in the result of the analysis because of its high correlation with other variables, such as HOUSE and INCOME. The correlation coefficients with the latter two variables are 0.93 and 0.82 respectively.

the newer outer suburbs tend to have more new dwelling approvals than the middle and inner suburbs, that is, where there are more new dwellings, more home improvements are expected.

AGE 30, OWN and INCOME are used to measure various aspects of the socio-economic status of different LGAs. AGE30 is a proxy for the social composition of the area. New suburbs generally have more younger residents than older suburbs. As most younger households are in the expanding phase of the life cycle, they are more likely to need additional space and to carry out improvements to increase space. On the other hand, after acquiring their first home, many probably cannot afford to improve.

The proportion of dwellings which have no mortgage debt (OWN) not only indicates the wealth of the residents but also the duration of occupancy of the dwelling and hence a stronger attachment to the place. Most householders who have lived in the same dwelling for a fairly protracted period of time, could have paid off their mortgages. With higher incomes (or lighter financial commitments) and a greater inertia against moving, more improvements can be expected. This is not necessarily contrary to the converging argument of struggling new home buyers adding on garages, carports and the like, soon after purchase, as these types of improvements are quite different.

Family income (LOWINC) is the best composite measure of the socio-economic status of an area. People with similar income levels tend to live close together, partly because high cost constrains the poor from purchasing houses in expensive suburbs; and partly out of choice, as households of similar socio-economic status generally choose to segregate themselves from other socio-economic groups. Again, the net effect of LOWINC can be divergent or convergent. Table 7.11 lists the expected signs of the regression coefficients for both convergent and divergent effects.

TABLE 7.11 Expected Signs of Regression Coefficient

Independent Variable	Hypotheses	
	Convergence	Divergence
HPRICE	-	+
ROOM4	+	-
OWN	-	+
AGE30	+	-
HOUSE	-	+
NEWDWG	+	-
LOWINC	+	-

Because of fairly strong intercorrelations among some of the explanatory variables (Table 7.12), multicollinearity in the regression equation can be expected. To demonstrate the effects of multicollinearity and the relative importance of the independent variables, step-wise regression is used.

Table 7.13 shows that each additional variable, up to the fifth equation, significantly increases the explained variation (R^2) in the proportion of house improvements in the dwelling stock; and all the coefficients are significantly different from zero. When NEWDWG and HOUSE are introduced into the sixth and seventh equations, not only are both the coefficients statistically insignificant, the increases in R^2 are also negligible. This is largely due to the presence of multicollinearity.[17]

17 All the standard errors of the independent variables in these two equations are also increased, resulting in a reduction in their t-ratio and hence their chances of being statistically insignificant. A classic case of multicollinearity is where the equation has a very high explanatory power but none of the independent variables are significant (Kelejian and Oates 1974:186). Since both equations have very high R^2 and most of the regression coefficients, except NEWDWG and HOUSE, are significantly different from zero, the problem of multicollinearity is probably not serious.

TABLE 7.12 Correlation Matrix

	A&A	HPRICE	ROOM4	OWN	AGE30	HOUSE	NEWDWG	LOWINC
A&A	1.000							
HPRICE	0.548	1.000						
ROOM4	-0.149	-0.036	1.000					
OWN	-0.138	0.183	0.352	1.000				
AGE30	0.415	-0.241	-0.485	-0.769	1.000			
HOUSE	0.636	0.104	-0.631	-0.212	0.637	1.000		
NEWDWG	0.685	-0.187	-0.219	-0.461	0.622	0.398	1.000	
LOWINC	-0.687	-0.373	0.628	0.621	-0.676	-0.734	-0.675	1.000

TABLE 7.13 Stepwise Regression of Proportions of Improvements in Housing Stock

EQUATION NO.	CONSTANT	LOWINC	OWN	ROOM4	AGE30	HPRICE	NEWDWG	HOUSE	R^2	SER	ΔR^2	F
1.	5.008	-0.055* (0.012)							0.472	0.679	0.471	21.415
2.	5.218	-0.079* (0.013)	+0.040* (0.014)						0.607	0.598	0.134	17.781
3.	5.939	-0.105* (0.013)	+0.042* (0.011)	+0.088* (0.024)					0.757	0.481	0.149	22.789
4.	1.543	-0.097* (0.016)	+0.065* (0.013)	+0.100* (0.021)	+0.063* (0.021)				0.829	0.412	0.073	25.525
5.	-1.162	-0.072* (0.018)	+0.058* (0.012)	+0.087* (0.021)	+0.087* (0.024)	+0.022** (0.012)			0.853	0.392	0.023	23.150
6.	-1.524	-0.062* (0.020)	+0.055* (0.013)	+0.076* (0.023)	+0.076* (0.026)	+0.022** (0.012)	+0.010 (0.008)		0.862	0.390	0.009	19.775
7.	-1.852	-0.056* (0.023)	+0.046* (0.018)	+0.080* (0.024)	+0.058 (0.036)	+0.025** (0.013)	+0.011 (0.009)	+0.011 (0.015)	0.866	0.395	0.004	16.584

* Coefficient significantly different from zero at 0.95 level of confidence.
** Coefficient significantly different from zero at 0.90 level of confidence.

Notes: 1. Number of cases = 26.
2. The figures in parentheses are the standard errors.

NEWDWG and HOUSE may well have significant effects on the dependent variable, but their effects are 'suppressed' by the more powerful variables of LOWINC, ROOM4 and AGE30 with which they are highly correlated (Table 7.12). That NEWDWG and HOUSE are likely to be significantly related to the dependent variable, A&A, is shown by their simple correlation coefficients of 0.68 and 0.64, respectively.

Nearly 90 per cent of the variation in the proportion of improvements in the dwelling stock is explained by the seventh equation, but 60 per cent of the variation is accounted for by LOWINC and OWN alone. This indicates that the socio-economic status of area is probably more important than the physical aspects of its residential environment in influencing the decision to improve. Of course, areas of high socio-economic status also tend to have better residential environments, but the focus here is on the degree of influence. Further, the signs of the regression coefficients suggest that home improvements generally tend to accentuate existing differences of the dwelling stock among residential areas.

The more affluent LGAs, as indicated by the lower proportions of families earning less than $9000 a year (LOWINC) and a higher proportion of dwellings free from mortgage debt (OWN), have proportionately more improvements (Table 7.14 and Map 7.3). Walkerville, Burnside, Mitcham, Meadows and East Torrens are some of the examples. Most of these suburbs are on or near the foothills of the Mount Lofty Range. In contrast, the poorer parts of the city have relatively fewer improvements. Hindmarsh and Thebarton have very low socio-economic status, and among the poorest residential environment and dwelling stock.

The positive coefficient of HPRICE confirms the contention that the better suburbs with better housing and higher socio-economic status

tend to be further improved through additions, alterations and renovations. Walkerville, Burnside, Meadows, East Torrens and parts of Mitcham have some of the most exclusive and sought-after residential areas, as indicated by the very high average house price (Table 7.14).

LGAs with lower density of development, as measured by a relatively high percentage of separate houses (HOUSE), also have more improvements.[18] They include suburbs farther away from the city such as Noarlunga, Tea Tree Gully and Meadows as well as suburbs which are closer in such as Mitcham and Burnside. The positive coefficient of ROOM4 shows that suburbs with more smaller houses tend to have more improvements, suggesting a levelling effect on the quality of the housing stock. But the negative simple correlation between ROOM4 and A&A (although small) casts some doubts on this conclusion.

The other divergent effects are indicated by the positive coefficients of NEWDWG and AGE30. Newer suburbs with more younger households tend to carry out more improvements. For example, Meadows, Noarlunga, Tea Tree Gully and Salisbury (all of which are relatively newly developed) have experienced proportionately more A&A. However, although over 60 per cent of the residents in these LGAs are less than thirty years old, they also have proportionately fewer low-income families (Table 7.14). This suggests that only the relatively affluent younger households in new dwellings can afford to improve, and that the effects of these two variables do not necessarily indicate convergence.

Two important general conclusions emerge from this analysis. Firstly, socio-economic status differences between areas appear to have more significant effects on the decision to improve than environmental

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18 Although the coefficient of HOUSE is insignificant, this conclusion relies on its strong simple correlation with A&A.

TABLE 7.14 Some Characteristics of Local Government Areas

Local Government Area	(1) A&A per 100 Dwelling Stock	(2) Family Income <$9000(%)	(3) Free & Clear Dwellings (%)	(4) Houses <5 rooms (%)	(5) Residents <30 yrs. (%)	(6) Separate Houses (%)	(7) Av.House Price ($)	(8) New Dwel. Approvals % of Dwelling Stock
Elizabeth	0.82	54	7	3	58	55	27926	0.0
Glenelg	0.88	69	33	11	41	39	43465	0.7
Port Adelaide	0.92	67	37	12	48	74	23467	0.9
Enfield	0.97	61	21	7	50	64	28654	0.1
Hindmarsh	1.17	73	41	13	48	59	39680	0.1
Thebarton	1.22	74	39	10	51	67	26013	0.2
Kensington & Norwood	1.28	71	29	13	47	45	33864	2.6
West Torrens	1.55	58	31	7	48	68	37786	0.3
Brighton	1.56	55	30	7	44	69	42185	0.2
Campbelltown	1.56	50	26	5	52	82	39203	1.3
Payneham	1.60	61	34	6	46	64	32619	0.6
Prospect	1.64	65	43	9	46	74	33531	0.2
Adelaide	1.69	67	21	28	45	30	38695	0.9
Henley & Grange	1.75	55	26	7	49	59	39680	0.5
Woodville	1.81	58	35	8	48	75	35714	1.4
Unley	1.81	62	37	8	46	63	38593	0.7
Salisbury	1.84	44	9	2	63	85	30211	2.4
St.Peters	1.87	65	35	9	50	62	36188	0.1
Marion	2.03	53	22	6	49	74	35268	1.6
Walkerville	2.20	51	36	7	44	70	72821	0.5
Burnside	2.23	51	41	5	42	71	55762	0.7
Noarlunga	2.26	44	11	4	64	91	31524	1.4
Mitcham	2.56	48	33	6	48	81	42097	0.9
Tea Tree Gully	2.93	35	10	2	61	95	36302	3.6
Meadows	3.81	28	12	3	66	96	45186	6.8
East Torrens	4.97	48	34	12	55	93	56487	3.0

Note: Characteristics (2) to (6) are expressed as percentages of their respective totals in each Local Government Area.

Sources: 1976 Census; ABS, *Building Statistics*, and South Australian Valuer-General's Office.

differences. Those who have more financial resources are able to successfully bid for dwellings in the more prestigeous and expensive suburbs, and to further improve them. This conclusion also confirms the earlier finding that household factors are more important than housing factors. Secondly, contrary to general belief, home improvements are made to the better dwellings and, as a result, tend to widen quality differences in the existing housing stock.

7.4 Conclusion

The type of improvements that can be undertaken is to some extent constrained by certain features of the dwelling-type, construction, floor area, building material and block size - and building regulations. Housing features are less significant as determinants of the decision to improve. While improvements may appear to be making good those features in which the house is deficient, the deficiency is determined more by the housing demands of the owners than the physical structure of the dwelling.

The tendency for more improvements to be undertaken in the outer, younger suburbs than in the inner, older suburbs emphasises the importance of household factors. Most purchasers of new dwellings in outer suburbs are younger and need more space, and make additions soon after purchase since many new dwellings are built without some basic facilities such as garages or carports. Later as their need for space increases with more children, those who can afford it add rumpus and family rooms. On the other hand, dwellings in the inner suburbs, being mostly older, tend to have already been improved - some a few times over. Most renovations and alterations are made to these dwellings by households in the later life cycle stages (where more space is not needed) and by new purchasers who move in to improve.

More importantly, home improvements are more likely to widen existing quality differences in the standing stock. Most improvements are being made to better quality houses in better locations/suburbs. The improved houses are generally bigger and more expensive than most other dwellings in Adelaide. That suburbs of higher socio-economic levels have more improvement activities will tend to accentuate residential segregation.

CHAPTER EIGHT

CONCLUSIONS AND IMPLICATIONS

Some questions about the broader implications of home improvement activity in the housing market were raised in Chapter One. Chapter Two identified and discussed the causes of an upsurge in home improvements in recent years and assessed its relationship with other forces in the housing market. In order to better understand this phenomenon and its implications, the subsequent chapters adopted a micro-behavioural approach to examine the effects of various influences and constraints on the decisions of individual households to make improvements, and the kinds of improvements undertaken. These chapters demonstrated that while home improvement is an effective way of satisfying homeowners' housing preferences and needs, it has also substantially changed the characteristics of much of the existing dwelling stock.

This chapter summarises the main findings of this study and discusses their policy implications. In particular, the impact of home improvements on the patterns of housing consumption and the quality of the existing housing stock, as well as the merits and demerits of a policy to encourage (or discourage) home improvements will be examined.

8.1 Summary of Main Findings

Home improvement activity appears to be playing an increasingly important role in the Australian housing market. The number of dwellings which have home improvements each year is quite significant, compared to the number of new dwelling completions and the number of households that move. A causal relationship between the decline in new construction and the upsurge in home improvement activity since the mid-1970s cannot be established. However, more homeowners appear to prefer to meet their

housing demands by improving their existing homes instead of moving. The detached house on a fairly large block of land, which dominates most residential areas in Australia, provides a great deal of scope for modifications.

Home improving mainly affects the homeownership sector of the market. Few landlords or tenants make home improvements, although some builders specialise in upgrading older houses in good locations for resale to cater for the demand for dwellings in the inner areas of major cities.

Homeowners generally have a strong attachment to their home and its surroundings, and are reluctant to move. Most of them move because of changes in household circumstances, such as household dissolution or formation, or a change in workplace. The high financial cost of moving is itself an impediment. Hence, to most homeowners, improving is preferred to moving as a means of adjusting their housing consumption. However, some householders, who although not forced by circumstances, move because they desire a change of non-modifiable housing attributes, such as location, type of construction or age, or a substantial reduction in space, all of which are either impractical or uneconomic to achieve by alteration.

The following scenario typifies the housing consumption pattern of many Australian homeowners over time: after achieving their objective of owning a home, most of them stay in the same house for a good number of years, and often make improvements to it as their housing demands change with their socio-economic circumstances over their life cycle. Home improving enables a household to adjust its housing consumption when the needs arise, and as and when it can afford to. Some have in fact planned to improve their house at the time of purchase. Contrary to

popular belief, the number of households purchasing older dwellings in inner suburbs for improvement is relatively small, although there is evidence that this phenomena of gentrification is continuing in Australian cities.

Different kinds of improvements are made to meet the homeowner's needs and preferences at different stages of his family life cycle. Household features are more important than housing features in influencing decisions to improve. The features of the house are only important as constraints on the kinds of improvements that can be undertaken.

Achieving better housing through home improvement is generally the prerogative of homeowners who have more economic resources; and the more affluent improvers tend to spend more on their improvements. The lower income improvers, on the other hand, are able to reduce expenditure by doing more of the improvements themselves. In any case, improving has served as a means of spreading housing costs over time for those who cannot afford the desired housing all in one package.

From an overall viewpoint, home improvements appear to have a divergent effect on the quality differences of dwellings in the existing stock, as home improvements are concentrated among the better houses in areas of higher socio-economic status. Also, improvements in recent years have been made mainly to meet demands for better housing rather than for more housing units, or to accommodate more households in the same number of units. Neither are they mainly undertaken to upgrade low quality housing as during the 1950s and 1960s. All these have significant implications for the traditional explanation of the forces that shape residential spatial patterns and the pattern of housing consumption, and for housing policies.

8.2 Implications

The main objective of housing policy is to provide suitable housing for all Australians according to their means and preferences. Towards this end, the main effort has been towards stimulating the demand for new construction and encouraging homeownership through various incentive schemes - exemption of imputed rent from income tax, control of mortgage interest rates, home savings grants, special low interest mortgage loans, all of which are aimed at reducing the costs of home ownership (Neutze 1978:100). A policy to encourage a constant flow of new construction, appears to be based on the rationale that the housing market can allocate different packages of housing to meet the needs and means of different households. But for lower income households to be able to meet their housing requirements through the market process, filtering and movement of households must take place.[1]

Filtering is the process by which higher income households vacate their established dwellings for better and newer ones, leaving the vacated dwellings to be occupied successively, as they age and deteriorate, by lower and lower income households. Of particular relevance to housing policy, especially in the United States, is the argument that relatively low income households can rely on the filtering process for adequate housing, as long as there is a sufficient supply of new construction being injected into the top end of the market (Ratcliff 1949; Grigsby 1963; Smith 1964). The filtering concept emphasises the upgrading of housing consumption by moving and the decline of the quality (and/or value) of the established dwellings. The tendency of Australian homeowners

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1 The Government recognises that the poorest households cannot compete successfully under this system and, therefore, provides welfare housing for them.

to stay and improve suggests the reverse. While dwellings that are being improved, have actually filtered up (and become more expensive), the homeowners achieved their objective of better housing without having to move. Those benefiting from home improvements are mostly in the higher income brackets. Even when these improved dwellings do become available, they are likely to be beyond the reach of the low income households. Therefore, given the preference of most households for improving instead of moving, such filtering as does occur, does little to enable low income households to obtain their housing. New construction needs to play a different role from that assumed in the filtering literature.

This conclusion is not inconsistent with the findings of other related studies. In Maher's (1979) study of vacancy chains in Melbourne, it was found that the chains tended to have little impact on low income housing vacancies, resulting from the movement of households, were not progressively filled by households of lower socio-economic status. Kendig (1981) also found that most new dwellings have been purchased by first home buyers, which is contrary to the filtering theory that new homeowners can normally only afford cheaper established dwellings, vacated by upwardly mobile and wealthier households. Most first home buyers have difficulty raising a sufficient initial deposit for their house. Both Maher (1978) and Kendig (1981) suggested that filtering could work only in the very long run. One likely result of home improving is a change in the composition of the ownership of dwellings - new construction catering mainly for first home buyers and established dwellings continuing to be improved by their owners and becoming increasingly beyond the means of first home buyers. This has implications for the pattern of residential segregation.

Residential mobility and the filtering process also have spatial dimensions. Households of similar socio-economic backgrounds tend to group into well-defined areas as they tend to prefer housing (and locations) with similar attributes; the result being a segregation of residential areas into neighbourhoods of like-quality housing with like-income households (Alonso 1964; Wingo 1961; Evans 1973). The traditional explanation of neighbourhood decline is that it is spearheaded by the out-migration of higher income households for better housing in better locations. This is in response to, or in expectation of, intrusion from lower income households filtering up, and as existing dwellings filter down through lack of maintenance and repair. On the other hand, gentrification, which is the movement of wealthier households back to parts of once-neglected inner areas of the city, has the reverse effects of improving the quality of the neighbourhood. As a result, most neighbourhoods go through phases of deterioration and some experience upgrading as well.

In contrast, housing improvement should result in less filtering, lower mobility and more stable neighbourhoods. But it can accentuate and perpetuate residential segregation and widen inequalities in the use of housing. Some of the more stable and exclusive residential suburbs in the inner areas of Australian cities, such as Woollahra in Sydney, Toorak in Melbourne and Walkerville in Adelaide, are examples of immutable residential segregation - the ability of their residents to maintain the high status of their suburbs over the years, by keeping the dwellings in good condition, and by excluding all but the very wealthy through out-bidding them in the market.

Houses in a neighbourhood are likely to be of similar types and built at about the same time. They, therefore, attract buyers of

similar status, who tend to live in them through a complete cycle of occupancy, and consequently, keep the neighbourhood fairly homogeneous. Greater homogeneity, however, leads to clearer spatial segregation by socio-economic status. Residential segregation, resulting from the preference of owners of established houses for improving, and their reluctance to move, is more likely to disadvantage only the lower income households. Most of the new houses which are relatively inexpensive (compared to the improved houses) and are therefore within the reach of the less well-off first home buyers, are found mainly in the urban fringes.[2] The result would be that many relatively less wealthy first home buyers are confined to residential areas of poor accessibility and fewer social amenities, while wealthier residents live in more accessible parts of the city. There is some indication of such a residential pattern emerging. For example, between the census years of 1971 and 1976, the majority of the individual moves in Melbourne were to the outer suburbs, ostensibly where most new dwellings were located, while the proportion of high status residents in the inner suburbs increased markedly (Maher 1980).

However, home improving and stable neighbourhoods have some desirable features.[3] In the first place, perhaps only in the long-run, it is one way of preventing accelerated wastage of existing housing resources, which is the worst effect of filtering and which has caused urban decay, housing deterioration and abandonment in inner cities in the United States. In part, these American housing problems are the result of policies which have the effect of inducing a high rate of

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2 Most Australians prefer single family detached dwellings (Committee of Inquiry into Housing Costs 1979).

3 Although, compared to the United States, there is little very poor housing in Australia, deterioration of some sectors of the stock over time, through neglect, is possible.

obsolescence among the existing stock, by providing a constant supply of new and better dwellings: just as in the automobile industry, last year's models are made obsolete by the arrival of new models.

In addition to preventing the waste or deterioration of housing, there are also definite advantages to be gained from the upgrading of housing and neighbourhoods. Particularly in a world of scarce resources, and in a period of declining population growth, the argument for preserving the existing housing stock is very strong. The results of filtering, especially successive occupancy of housing by households of lower socio-economic status, can be socially expensive (Rothenberg 1979). The financial and psychological costs of moving are high, and neighbourhood turnover often leads to the disruption of established social and cultural institutions. Stable neighbourhoods, on the other hand, allow the development and strengthening of social ties among the residents.

Although most home improving is by established owners, there are some who purchase older homes in good locations with the intention of upgrading them. The actions of this latter group, sometimes referred to as 'trendies', nevertheless have significant repercussions. In addition to improving the quality of these older dwellings, it has been argued that a more heterogenous neighbourhood can result from gentrification (Downs 1979; Rothenberg 1979), at least in the early stages. Many of the existing residents in the poorer quality dwellings are of lower socio-economic status. By introducing the higher status newcomers, and by encouraging the upwardly mobile existing residents to stay and improve rather than move, successive occupancy of a whole neighbourhood by residents of similar socio-economic backgrounds can be avoided, and a more balanced social mix may emerge. The extent to which existing residents are induced to improve their dwellings, or at least to keep them in a good state of

repair and maintenance, depends on whether they are homeowners, and whether they can afford it. As pointed out in Chapters 2 and 3, few landlords and tenants make improvements.

On the other hand, the newcomers are likely to displace poorer existing residents (Centre for Urban Research and Action 1977). Landlords are usually willing to sell their premises for large capital gains, thus resulting in the eviction of tenants from rental properties. Badcock and Urlich Cloher (1980:167-168), on the other hand, attribute the displacement of low income tenants (of the low-rent boarding and lodging sector in Adelaide) more generally to the profit motives of financial institutions, business firms and property developers and blamed the government for ignoring the reduction in the supply of low-rent accommodation.

An increase in home improvement activities may in some ways reduce the spread of a city. If as a result of more home improvements, fewer dwellings need be built at the urban fringe, the end result could be a more compact city with more efficient use of the existing urban infrastructure, especially since there are some inner areas of the city, where the facilities would otherwise be under-utilised. Water and sewerage mains in the inner suburbs were laid with general provision for a much higher level of consumption than occurs at present (Dunlop 1967). The argument for urban consolidation is perhaps more important in the United States where housing abandonment, boarding up and deterioration exist on a much larger scale than in Australia. Unfortunately, especially in the United States, the infrastructure often needs to be renewed because it has not been maintained and has deteriorated.

The advocates of a change in government policy, to allow the conversion of single family houses to dual occupancy in recent years, have

stressed the advantages of a more compact city, more efficient use of existing urban resources and alleviation of residential segregation (Roseth 1978; Committee of Inquiry into Housing Costs 1979). A 'dual occupancy' policy was officially adopted by the New South Wales Government in June 1979 (New South Wales Planning and Environment Commission 1979). However, dual occupancy conversions are unlikely to be sufficiently numerous to have a significant impact on the spread of the city, or to increase the use of existing infrastructure to any substantial degree, although they may improve the social mix of the affected areas. The demand in an affluent society, with fairly good quality dwelling stock, and a slow-down in the growth of its population in the household forming age groups, is for better housing rather than for more housing units. Dual occupancy conversion in contrast is a downward adjustment of housing quality. In fact, during the 1950s and 1960s, a large number of previously subdivided dwellings were amalgamated. Moreover, most home improvements are found to be 'non-need oriented' and few of them involved the addition of a self-contained room or flat.[4]

There is yet another undesirable consequence of the tendency of homeowners to make improvements. To the extent that it discourages movement, households may be less willing to change jobs or if they do, the result is an increased level of commuting. Another possible consequence is that by increasing the size of existing homes through home improvements, the number of under-used houses may be increased, since many post-family homeowners prefer to remain in their family homes.

From another standpoint, since most improvers do some of the improvement themselves, more improvement activities will almost certainly

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4 This could be partly due to restrictive regulations on dual occupancy in Adelaide.

lead to higher domestic production, defined as things carried out in homes. As Stretton (1974) has pointed out, this element of production is both real and significant, even though it is not included in national accounting systems.[5]

Home improvements also affect the supply of new housing. Both private and public builders can exploit the fact that making incremental improvements over time is a useful way of spreading housing costs for many home buyers. By building new houses with minimum facilities, and with provision for alterations and additions, house prices are reduced to a level that enables more households to buy their own home. This is particularly important in a situation where new dwellings are increasingly designed to cater for first home buyers, who generally have less economic resources. Many of them may not be able to afford established homes, which have increased in value as a result of the improvements made.

8.3 A Home Improvement Policy?

The previous section showed that the spontaneous actions of households improving their dwellings have both positive and negative ramifications. Should the government therefore intervene to encourage or discourage improvements? Unlike a number of Western countries, including Britain, the United States, Canada and Sweden, Australia does not have an explicit policy on upgrading the existing housing stock. Housing policies concerning the dwelling stock have been directed towards the control of the quality of new and existing dwellings, although some policy measures, which are aimed at assisting home ownership, have the unintended consequence of encouraging home improvements. The policy of the New South Wales government to allow dual occupancy conversion is a notable

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5 This is one of Stretton's justifications for giving up more national resources for housing.

exception. This section first examines the extent to which home improvement should be encouraged, and next argues for certain necessary measures to be taken to counter the disadvantages of home improvement.

8.3.1 Encouraging home improvement

To the extent that home improvement is an effective way of matching housing packages with the housing demands of different households, and help to arrest deterioration and prevent wastage of scarce resources, a policy to encourage home improvement appears to fit well with the general strategy for more efficient utilisation of existing housing resources. Also, by enabling less wealthy homeowners to obtain their desired quantity of housing through making incremental improvements over time, it is consistent with the policy objective of allocating housing to households according to their means and preferences. Furthermore, improvements provide an additional housing alternative.

In view of these advantages, home improvements should be encouraged. One way would be to create a more conducive atmosphere for carrying out home improvements by making amendments to restrictive building regulations on additions, alterations and renovations, and providing technical advice on improvements.

A blanket policy of providing financial assistance for improvement to all households does not appear to be necessary. Improvers are already generally fairly well off financially and there are sufficient advantages, as discussed earlier, to induce many households to make home improvements without government assistance. In addition, the exemption of imputed rent from income tax is itself an incentive to improve the quality of their houses. The improvement made is in effect an investment, producing a tax-free income. Their ability to obtain cheaper bank loans (mortgage) is an added incentive.

8.3.2 Policy measures

One negative consequence of home improvement activity is that it accentuates unequal distribution of housing resources. In general, households with above average incomes and wealth are able to upgrade their housing through home improvements, but there are likely to be many more lower income households who would like to improve their dwellings, but cannot afford to, or are unable to obtain a loan. There is a case for providing financial assistance for improvement to those households, who can be identified as being disadvantaged in order to reduce inequalities. As part of its 1980 federal election platform on housing policies, the Australian Labor Party proposed the introduction of a scheme to provide lower interest loans for home improvements to eligible (means tested) households.

A number of Western countries, including Britain, the United States, Canada and Sweden, provide financial assistance to either owners or tenants for purposes of carrying out home improvements or repairs. Assistance commonly takes the form of outright grants and/or subsidised loans. In Britain, for example, the first such program was implemented in 1949. Since then, these programs have undergone a number of modifications - from direct assistance to individuals to financial assistance on a neighbourhood basis, known as 'General Improvement Areas', and later 'Housing Action Area' (Cullingworth 1979).

In all these countries, such programs were developed as part of an urban renewal policy aimed at arresting housing deterioration and as an alternative to redevelopment. One of the main criticisms of such improvement subsidy programs is that they tend to be regressive - the poorer and those most in need of assistance do not benefit from them (Paris and Blackaby 1979; Cullingworth 1979; Roberts 1976). This is largely the

result of directing assistance to improve the quality of the dwelling, rather than the welfare of their occupants. In recent years, in Britain as well as the United States, emphasis has shifted somewhat from the physical features of dwellings to the interests of the residents (Cullingworth 1979; Downs 1979).

There is no explicit policy on improving the existing housing stock in Australia. The control of existing housing standards is administered by state housing authorities, which are vested with the power to issue repair or demolition orders on dwellings declared to be sub-standard. In principle, this is not unlike what is normally known as code enforcement in the United States. Although the local municipal councils have power, throughout Australia, to require improvements and repairs to be made on dwellings that are deemed to be health hazards, only South Australia, Victoria and, more recently, Tasmania, have enacted legislation specifically for this purpose (Bradbrook 1977:161).

Apart from administrative problems, such a policy of compulsory improvement tends to penalise the lower income households, partly because it is directed at the dwelling rather than its occupants. Generally, those owner-occupiers who fail to maintain their dwellings at acceptable standards cannot afford to do so. Pensioners probably form the largest number. Also, landlords, who are forced to improve their premises, are likely to pass on the cost of improvement to the tenants in the form of higher rents. Those tenants would not have chosen to live in sub-standard housing if they could afford something better. It should be noted, however, that the South Australian Housing Improvement Act gives the Housing Trust the power to impose a maximum rent on properties which fail to comply with improvement orders. Although the Act also provided for a 'Housing Improvement Fund' for the purposes of providing financial assistance to owners for

carrying out improvements, this Fund has still to be established (O'Reilly 1977).

Although substandard housing is not generally regarded as a serious problem in Australia, the plight of those who live in it cannot be ignored.[6] The argument for financial assistance is stronger, if it is directed to those groups in the community who are forced by circumstances to live in poor housing, and cannot afford to improve their own housing. It is important that any assistance be given to the residents not be based on any measure of the adequacy of the dwelling, if the regressive consequences that have been experienced in other countries that have similar programs are to be avoided. However, programs tend to benefit the homeowners and not the tenants, who are generally a more disadvantaged group (Kendig 1979). Financial assistance can also be given to landlords (as has been done in Britain), but this introduces additional complications of having to control rent values as well. In any case, neither landlords nor tenants are generally interested in making improvements. Although, as a result of neglect, tenanted properties are likely to decline in quality, they nevertheless provide a cheap source of accommodation for poorer tenants. If these properties are improved, tenants will be likely to have to pay higher rents. Other policy measures, therefore, have to be found (for tenants), and this is related to two other negative consequences of accelerating home improvements.

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6 Since 1972/73, between 400 and 700 dwellings per year have been declared as substandard in South Australia (*South Australian Housing Trust Annual Report*, 1973/74 to 1978/79). As at June, 2658 premises in Victoria were subject to demolition or repair orders (*Housing Commission of Victoria Annual Report*, 1978/79). Further, of the estimated 70000 dwellings of the aged in the 1974 survey of aged persons' dwellings (Department of Environment, Housing and Community, 1976), about 9 per cent were assessed to be unsatisfactory and another 3 per cent as beyond repair; but 88 per cent of the dwellings were regarded as satisfactory by their occupants.

As noted previously, an increase in home improvement activities is likely to lead to fewer dwellings being filtered down to the poor. Gentrification also causes displacement of the original residents, many of whom are lower-income renters. There are, therefore, some grounds for reviewing existing housing policies, which tend to lean heavily on the mobility and filtering concepts of indirect intervention and working within the market mechanism. There is a case for a more direct approach. Any substantial increase in home improvement activities should be complemented by policies, which aim to inject low-income housing into the market, by direct construction of public housing, or acquisition and rehabilitation of existing houses for the poor.

Of course, governments have recognised that, despite all the direct and indirect subsidies, there are still sections of the community which are unable to compete effectively in the housing market. The provision of public housing has been the main instrument used to help these sections in all States since the 1940s; but public sector housing has been declining in importance relative to private housing since the 1950s (Neutze 1977:167-169).[7]

Another way of providing public housing is by purchasing or leasing existing dwellings. As part of a policy of providing low income housing in more accessible parts of the urban area, the South Australian Housing Trust has been purchasing substandard dwellings, which are then upgraded and rented to low income households. As at June 1979, a total of 1300 dwellings had been acquired since 1972/73, when this scheme was

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7 There has been criticism of public housing in that the poorest and those most in need of housing assistance have not been able to get public housing (Jones 1972; Commission of Inquiry into Poverty 1975). Much of the criticism is directed towards its management rather than against its use as a policy instrument (except among those who would prefer to replace it by housing allowances).

started.[8] The original occupants of these dwellings are, in turn, given the opportunity of relocating to other Trust housing. The main disadvantage of this approach is that it does not increase the supply of housing units and may even push up dwelling prices, especially in a tight market.[9]

The rehabilitation of an entire older residential area by a housing authority, such as that undertaken in Woolloomooloo by the Housing Commission of New South Wales, to provide cheap housing for its tenants, also has unintended consequences.[10] The project enhances the general attractiveness of and demand for housing in the area, and, as a result, causes a general escalation of prices of dwellings in the vicinity.[11] Whilst owners of private properties stand to make windfall gains, the poorer tenants are likely to be displaced.

On the other hand, the acquisition and upgrading of older dwellings by housing authorities has some specific advantages. It not only helps to preserve a part of the existing housing stock but also encourages the neighbours of these renovated houses to upgrade theirs. It also ensures that some of the more accessible dwellings in the inner suburbs, where most of the social amenities and welfare services are found, continue to be occupied by low income householders who have the greatest need of these services.

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8 *South Australian Housing Trust Annual Report year ending 30th June 1979.*

9 To overcome the supply problem, the government can enter into a contract with private investors for the construction of a fixed number of dwellings which will be leased back to it. However, by this method, any capital gains do not accrue to the government.

10 The Woolloomooloo Project was started in 1975 and is expected to be completed in 1982. It involves conservation as well as redevelopment work.

11 A large restored terrace house can be sold for $350,000 (*Sydney Morning Herald*, 12 December, 1980).

8.4 Conclusion

There are reasons for the government to give more explicit policy consideration to home improvement, in view of its enhanced role as a supplier in the housing market, and its social and economic ramifications. Home improvement has become more important, largely because it is an effective way by which many homeowners can satisfy their housing needs and preferences, although generally only the relatively high income households can afford to make improvements. If left to the working of the market, home improvement activity is likely to widen the quality differences among the existing housing stock and accentuate the unequal distribution of housing resources and residential segregation. On the other hand, improving the existing dwelling stock can reduce the waste of housing obsolescence and deterioration that have been experienced in other countries. Home improving by existing residents also reduces the rate of neighbourhood turnover which can be socially expensive.

Home improvements should be encouraged because they promote a more efficient use of existing housing resources and provide more housing choices, but no financial incentives need be given as sufficient advantages already exist to induce homeowners to improve. However, to reduce inequalities, there is a case for providing financial assistance to those who need to, but cannot afford to improve their homes.

Of particular importance is the implication of home improvement for those households, who do not have the economic resources to compete successfully for adequate housing in the market. These are mostly renters or homeowners who have retired. Home improving activity slows down the rate at which cheap low quality dwellings are filtered down and, as a result, fewer of them reach the poor. The process of gentrification also tends to displace the poorest households. Hence, there is a strong case

for the government to take a more direct approach, through direct construction of public housing, or the acquisition and upgrading of existing houses for the poor, to ameliorate some of the inequities resulting from home improvements.

APPENDICES

APPENDIX A

THE HOUSING IMPROVEMENT SURVEY IN ADELAIDE

The universe from which the sample was drawn was provided by the Valuer-General's Office of South Australia. It consists of addresses of all properties, listed by local government areas in the Adelaide Statistical Division, for which building permits had been given from September 1977 to August 1978, to undertake construction work. The types of improvements and their estimated values could also be identified. The universe was divided into ten geographical strata, and cases within each stratum were randomly selected. However, because the sampling frame included a large number of non-residential properties, new dwellings and residential properties without home improvements, or with improvements that were estimated to cost less than $2000, a very small sample of about one per cent of the total number of cases was first drawn to estimate the proportion of these 'out-of-scope' cases. For reasons given in Chapter One, 'non-dwelling' improvements and those costing less than $2000 were also excluded from the sample. To allow for these cases as well as refusals, non-contacts and other cases that could only be ascertained to be out of scope during the interview, each stratum was over sampled. However, additional addresses had to be drawn (randomly) during the course of the survey because of the unexpectedly large number of cases which did not have home improvements.

About three months prior to the actual survey, a very small pilot survey of 15 cases was carried out to test the effectiveness of the interview schedule. Some changes were then made to the schedule. The results from the pilot survey were not used in the analyses.

The interviewing was conducted in 1978 from late September to late October. About half the interviews were undertaken by the

author and the others, by four professional interviewers who were part-time employees of the Australian Bureau of Statistics in Adelaide. Only the heads of households were interviewed. In order to increase the chances of making contact, and to save travelling cost, interviews were carried out only during week-day evenings and weekends. Up to four calls were made to contact a respondent.

A total of 325 addresses were drawn from the sampling frame, but 78 of them were not within the scope of the survey. Table A.1 provides an analysis of household responses. Most of the cases, that were out-of-scope, did not have improvements in the time frame specified (one year), indicating that some of them probably had improvements that were made by the previous residents. Excluding all the cases that were not within scope, the non-response rate was estimated at 18.6 per cent of which 6.5 per cent of the residents refused to be interviewed, and another 7.7 per cent could not be contacted after four calls. As some of these refusals and non-contacts may not be within scope, the non-response rate is probably over-estimated.

Once the respondents agreed to be interviewed, very few of them refused to answer specific questions, including those pertaining to their personal affairs. Only about 3 per cent of the respondents refused to disclose their income levels and 4 per cent the values of their total assets.

As noted in Chapter One, this sample is biased towards substantial improvement (above $2000) which require building permits. It accounted for only about 3 per cent of the total number of such improvements in Adelaide. However, insofar as such improvements are concerned, the sample is very representative of their geographical distribution, both in terms of number and value (see Table 1.1 in Chapter One).

TABLE A.1 Household Response Report

	Number of Cases	
Interviews fully completed	200	
Interview truncated	1	
Contacted but no interview	27	
. refusal		16
. recent death or illness		5
. language difficulties		4
. other		2
No contact (after at least 4 calls)	19	
Total number within scope	247	
Out of scope	78	
. non-owner-occupier		8
. no improvement to dwelling		49
. non-residential property		2
. dwelling vacant or demolished		11
. no such address		8
Total number of cases sampled	325	

APPENDIX B

HOUSING IMPROVEMENT SURVEY, ADELAIDE, 1978

I. Interviewer .....

House number ..... Flat number .....

Street name .....

Suburb ..... L.G.A. .....

Zone/Sector Case number .....

Valuation number .....

Duration of interview .....

1	2	3
4	5	
6	7	
8	9	10

II.

APPOINTMENT	1	2	3	4
DATE				
TIME				

III.

CALL BACK	1	2	3	4
DATE				
TIME				

IV. HOUSEHOLD RESPONSE REPORT. [Circle the appropriate code.]

Status	Codes
A. Interview fully completed	01
B. No interview	
. no contact (after 3 call backs)	02
. contacted but refusal	03
. recent death or illness	04
. language difficulties	05
. Other (specify .....)	06
C. Interview partially completed	
. refusal (only when interview truncated)	07
. Other (specify .....)	08
D. Out of scope or specification errors	
. non-owner occupant	09
. no improvements to dwelling	10
. non-residential property	11
. dwelling vacant or demolished	12
. no such address	13

A. INTRODUCTION

1. GOOD EVENING. I AM ..... FROM THE AUSTRALIAN NATIONAL UNIVERSITY IN CANBERRA. WE ARE CONDUCTING A SURVEY ON WHY PEOPLE MAKE ADDITIONS, ALTERATIONS AND IMPROVEMENTS TO THEIR HOUSES, INCLUDING GARAGES, CARPORTS AND SWIMMING POOLS.

   COULD I SPEAK WITH THE HEAD OF THE HOUSEHOLD, PLEASE?

   COULD YOU TELL ME IF YOU HAVE MADE ANY IMPROVEMENTS IN THE PAST ONE YEAR OR ARE YOU IN THE PROCESS OF MAKING SOME? [If respondent is unsure about the meaning of improvement, explain.]

   1. Yes
   2. No [Terminate interview]

   11

2. DO YOU OWN OR RENT THIS PLACE?

   1. Own
   2. Rent [Terminate interview]

   12

B. IMPROVEMENTS

Types

3. WHAT KIND OF IMPROVEMENTS ARE THEY? PLEASE GIVE A DETAILED DESCRIPTION. [Probe: find out as much detail as possible and record specific items done, bearing in mind the list of the types of improvements in the Interviewers' Guide. To be coded later.]

   13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

4. COULD YOU TELL ME WHAT ROOMS YOU HAVE IN THIS HOUSE AND HOW MANY OF EACH AFTER YOU HAVE MADE THE IMPROVEMENTS? COULD YOU ALSO INDICATE THE ROOMS WHICH WERE ADDED, DELETED, ENLARGED OR RENOVATED AS A RESULT OF THE IMPROVEMENT. LET'S BEGIN WITH BEDROOMS. HOW MANY DO YOU HAVE NOW? WERE ANY ADDED, DELETED, ENLARGED, RENOVATED ... [Code number of each below. Code '0' if none.]

	No. Now	Added	Deleted	Enlarged	Renovated
4a Bedrooms	33	34	35	36	37
4b Permanently enclosed sleepouts	38	39	40	41	42
4c Bedsitting rooms	43	44	45	46	47
4d Combined lounge/dining room	48	49	50	51	52
4e Dining rooms	53	54	55	56	57
4f Kitchen	58	59	60	61	62
4g Combined kitchen/dining room	63	64	65	66	67
4h Bathrooms (include ensuite)	68	69	70	71	72
4i Family rooms	73	74	75	76	77
4j Studies	78	79	80	81	82
4k Business offices	83	84	85	86	87
41 Laundry room	88	89	90	91	92
4m Rumpus room	93	94	95	96	97
4n Other (specify)	98	99	100	101	102

5. TOTAL NUMBER OF MAIN ROOMS [Do not ask. To be completed and coded later.]

5a Before 103 104

5b After 105 106

6. HOW MUCH MORE SPACE IN SQ.FT. OR SQ.M. WAS ADDED AFTER THE IMPROVEMENT? [If no additional space, code '000'; if don't know, code '888'; otherwise record either in sq.ft. or sq.m. (to be coded later).]

sq.ft. _____

sq.m. _____

2

1 2 3

7. WHAT WAS THE FLOOR AREA OF THE HOUSE BEFORE THE IMPROVEMENT? [If don't know, code '888'; otherwise record either in sq.ft. or sq.m. (to be coded later).]

sq. ft. _____

sq. m. _____

FLOOR AREA AFTER [Do not ask.] _____

4 5 6

7 8 9

8. [Ask this question only if the improvements involved erection of walls.]

WHAT MATERIALS WERE USED FOR THE WALLS?

_____

_____

_____

10

Cost and Time

9. HOW MUCH DID YOU SPEND ALTOGETHER ON THE IMPROVEMENTS (THAT IS, ON BOTH THE BUILDING AND THE YARD) ON THIS OCCASION? PLEASE DO NOT INCLUDE IMPROVEMENTS DONE PREVIOUSLY AND DO NOT INCLUDE AN ESTIMATE OF YOUR OWN LABOUR. [To be coded later.]

$ _____

11 12 13

10. HOW MUCH TIME DID IT TAKE TO COMPLETE THE WHOLE JOB FROM START TO FINISH (THAT IS, ELAPSED TIME)? [To be coded later.]

Days _____

Weeks _____

Months _____

14 15

Labour

11. DID YOU DO THE IMPROVEMENT WORK ALL BY YOURSELF OR DID YOU HIRE OUTSIDE HELP (THAT IS, BUILDER, TRADESMAN, ETC.)? BY YOURSELF, I MEAN INCLUDING ALL THE HELP THAT YOU DID NOT HAVE TO PAY FOR.

1. Wholly done by myself
2. Wholly done by hired help
3. Partly by myself and partly by hired help
4. Other (specify .....)

16

12. COULD YOU TELL ME IF THE IMPROVEMENTS INVOLVED ANY OF THE FOLLOWING WORK AND WHO DID IT - YOURSELF, THE BUILDER/TRADESMAN OR BOTH? [Code '1' if yes, '2' if no in the space provided in the table. Do not use boxes in the margin.]

Types of Labour	Self	Builder	
12a Brickwork			17
12b Woodwork (carpentry/joinery, etc.)			18
12c Concreting			19
12d Roofing			20
12e Plumbing/Gas			21
12f Electrical			22
12g Damp proofing			23
12h Plastering			24
12i Landscaping			25
12j Painting			26
12k Other (specify)			27
			28

13. Sequence Guide

1. If improvements were done either wholly or partly by owner, ask Q. 14. ☐
2. If improvements were done wholly by the builder/tradesman only, go to Q. 16 ☐

14. HOW MUCH DO YOU THINK YOU WOULD HAVE HAD TO PAY IF YOU HAD HIRED OUTSIDE HELP TO DO ALL OF THE WORK? [Code '888' if don't know; otherwise record exact amount (to be coded later).]

$ _____ 29 30 31

15. HOW MUCH TIME DID YOU SPEND ON THE JOB (IN HOURS) WEEKLY AND ALTOGETHER? [To be coded later.]

15a Weekly _____ 32 33

15b Altogether _____ 34 35

[Go to Q. 18 if work wholly done by owner.]

16. DID YOU HIRE ONE CONTRACTOR (THAT IS, A SINGLE BUILDER OR TRADESMAN) TO DO THE WHOLE JOB OR DID YOU HIRE SEVERAL TRADESMEN TO DO DIFFERENT THINGS?

1. A single contractor
2. Hired several tradesmen
3. Other (specify .....
.....
.....)

36

17. DID THE AMOUNT PAID TO THE BUILDER/TRADESMAN INCLUDE ALL MATERIALS USED OR DID YOU HAVE TO SUPPLY THE MATERIALS?

1. Yes, included all materials
2. No, included only labour
3. Partly

37

18. DO YOU REGARD HOME IMPROVEMENT WORK AS - [Show Card 1.]

1. An unpleasant chore?
2. A chore you sometimes enjoy?
3. A pleasant recreational activity?
4. A major hobby?

38

Financing

19. DID YOU BORROW TO PAY FOR THE IMPROVEMENT? IF SO, WHERE FROM?

1. Current income and savings [Go to Q. 25.]
2. Borrowed from friends and relatives
3. Trading Bank - overdraft
4. Trading Bank - personal loan
5. Savings Bank
6. Building Society
7. Credit Union
8. Finance Company
9. Life Assurance Company
10. Solicitor Trust Fund
11. Employer
12. Other (specify .....)

First loan 39 40
Second loan 41 42

20. HOW MUCH DID YOU BORROW FROM EACH? [To be coded later.]

20a First loan $_____ 43 44 45
20b Second loan $_____ 46 47 48

21. WHAT INTEREST RATE ARE YOU PAYING? [To be coded later.]

21a First loan _____ per cent

21b Second loan _____ per cent

49 50 51
52 53 54

22. HOW MANY YEARS IS(ARE) IT(THEY) FOR? [To be coded later.]

22a First loan _____ years

22b Second loan _____ years

55 56
57 58

23. HOW MUCH IS THE MONTHLY REPAYMENT? [To be coded later.]

23a First loan $ _____

23b Second loan $ _____

59 60 61
62 63 64

24. WHAT COLLATERAL SECURITY IS USED FOR THE LOAN(S)? [To be coded later.]

24a First loan _____

24b Second loan _____

65
66

25. DID YOU HAVE ANY DIFFICULTY BORROWING FOR THE IMPROVEMENTS?

1. Yes [Ask Q. 26]
2. No [Go to Q. 27]
3. Did not seek financing [Go to Q. 27]

67

26. WHAT SORT OF DIFFICULTIES DID YOU ENCOUNTER? [To be coded later.]

_____

_____

_____

_____

68 69

Application Procedure

27. I WOULD LIKE TO ASK YOU SOMETHING ABOUT THE APPLICATION FOR BUILDING PERMIT.

HOW LONG DID YOU HAVE TO WAIT BEFORE BUILDING APPROVAL WAS GRANTED?

1. Did not apply for approval
2. Don't know, done by builder

27a Weeks _____
27b Months _____ } [To be coded later.]

70

71 72

28. DO YOU HAVE ANY COMMENT ON THE PROCEDURE OF APPLICATION FOR BUILDING APPROVAL?

28a _____ 73 74

_____

28b _____ 75 76

_____

Attitudes

29. WHY DID YOU DECIDE TO MAKE THE IMPROVEMENTS TO YOUR HOUSE? [Probe. List in order of importance. To be coded later.]

29a _____ 77 78

_____

29b _____ 79 80

_____

29c _____ 81 82

_____

30. DID YOU CONSIDER MOVING TO ANOTHER HOUSE AS AN ALTERNATIVE TO IMPROVING YOUR CURRENT HOUSE?

1. Yes [Ask Q. 31]
2. No [Go to Q. 32]
3. Moved to current house with intention to improve. [Go to Q. 32]
4. Don't know [Go to Q. 32]

83

31. WHEN YOU WERE DECIDING BETWEEN MOVING AND IMPROVING, DID YOU CONTACT REAL ESTATE AGENTS, LOOK AT SOME HOUSES OR ATTEND AUCTIONS, OR DID YOU JUST COMPARE PRICES BY LOOKING THROUGH NEWSPAPERS AND THROUGH WORD OF MOUTH?

1. Contacted agents, attended inspections and/or auctions
2. Just compared prices through newspapers, word of mouth
3. Neither

84

32. WHY DIDN'T YOU MOVE INSTEAD OF IMPROVE YOUR HOUSE? [Probe. List in order of importance. To be coded later.]

32a _____ 85 86

_____

32b _____ 87 88

_____

32c _____ 89 90

33. HOW MUCH DO YOU THINK YOUR PROPERTY IS WORTH IN TODAY'S MARKET WITH THE IMPROVEMENTS? [Code '888' if don't know. Otherwise, record exact amount (to be coded later).]

$ _____ | 91 | 92 | 93

34. HOW MUCH DO YOU THINK IT WOULD BE WORTH WITHOUT THE IMPROVEMENTS? [Code '888' if don't know. Otherwise, record exact amount (to be coded later).]

$ _____ | 94 | 95 | 96

35. WOULD YOU HAVE MADE THE IMPROVEMENTS IF YOU KNEW THAT THEY WOULD NOT INCREASE THE VALUE OF YOUR PROPERTY BY AN AMOUNT EQUAL TO THE COST?

1. Yes
2. No
8. Don't know

97

36. IF YOU HAD HAD THE CHOICE OF MOVING TO A HOUSE VERY SIMILAR TO YOUR IMPROVED HOUSE, IN THE SAME SUBURB, WOULD YOU HAVE MOVED INSTEAD?

1. Yes [Ask Q. 37]
2. No [Go to Q. 38]
8. Don't know [Go to Q. 38]

98

37. WOULD YOU STILL HAVE PREFERRED TO MOVE, IF THE HOUSE HAD BEEN OUTSIDE THIS SUBURB, BUT WITHIN 5 KM. OF HERE?

1. Yes
2. No
3. Maybe
8. Don't know

99

38. DO YOU THINK YOU WILL IMPROVE YOUR CURRENT DWELLING AGAIN IN THE NEXT FIVE YEARS?

1. Almost certainly [Ask Q. 39]
2. Probably [Ask Q. 39]
3. Maybe [Ask Q. 39]
4. Probably not [Go to Q. 41]
5. No intention [Go to Q. 41]

100

39. WHAT KIND OF IMPROVEMENTS DO YOU ENVISAGE? [Brief description required only. To be coded later.]

_____ 101 102
_____ 103 104
_____ 105 106
_____ 107 108
_____ 109 110
_____ 111 112
_____

40. WHY DO YOU THINK YOU WILL IMPROVE YOUR HOUSE AGAIN? [Probe. List in order of importance. To be coded later.]

3

40a _____ 1 2
_____
40b _____ 3 4
_____
40c _____ 5 6
_____ [Go to Q. 42]

41. IS THAT BECAUSE YOU'RE QUITE SATISFIED WITH THIS HOUSE AS IT IS NOW, OR IS THERE SOME OTHER REASON WHY YOU DON'T EXPECT TO IMPROVE IT? [Probe. List in order of importance. To be coded later.]

41a _____ 7 8
_____
41b _____ 9 10
_____
41c _____ 11 12
_____

42. HAVE YOU PREVIOUSLY IMPROVED THIS PROPERTY (BEFORE THE END OF 1977)?

1. Yes [Ask Q. 43]
2. No [Go to Q. 45]
8. Don't know [Go to Q. 45]

13

43. WHEN WAS THE LAST TIME? [To be coded later.]

Year _____ 14 15

44. WHAT KIND OF IMPROVEMENT DID YOU DO? [Brief description required only. To be coded later.]

_____ 16 17

_____ 18 19

_____ 20 21

_____ 22 23

_____ 24 25

_____ 26 27

_____

C. CURRENT AND PREVIOUS ACCOMMODATIONS

45. I WOULD NOW LIKE TO ASK YOU ABOUT CERTAIN ASPECTS OF YOUR CURRENT AND PREVIOUS ACCOMMODATION.

HOW LONG HAVE YOU BEEN LIVING IN THIS (CURRENT) HOUSE? [To be coded later.] 28 29

Years _____ 30 31

Months _____

46. DID YOU RENT OR OWN YOUR PREVIOUS HOUSE/FLAT?

1. Rent
2. Own
3. Living with parents/relatives 32

47. WHAT SUBURB WAS IT IN? [Record only the name of the town, if outside Adelaide but within South Australia. Record only state, if outside South Australia. To be coded later.]

Suburb in Adelaide _____

Town in South Australia _____

State _____ 33 34 35

48. WHY DID YOU MOVE? [Probe. List in order of importance. To be coded later.]

48a _____ 36 37

_____

48b _____ 38 39

_____

48c _____ 40 41

_____

49. DID YOU PURCHASE THIS HOUSE WITH THE INTENTION OF MAKING IMPROVEMENTS TO IT?

1. Yes
2. No
8. Don't know

42

50. DID YOU BUY THIS HOUSE FROM THE HOUSING TRUST?

1. Yes
2. No
8. Don't know

43

51. DO YOU EXPECT TO MOVE OUT OF THIS PLACE IN THE NEXT FEW YEARS? IF YES, WHEN?

1. Not expecting to move
2. Above 10 years
3. 6-10 years
4. 3-5 years
5. 1-2 years
6. Less than one year

44

D. DWELLING

52. NOW I WOULD LIKE TO ASK YOU ABOUT CERTAIN ASPECTS OF THIS HOUSE (OR FLAT).

COULD YOU TELL ME ABOUT WHEN THIS HOUSE WAS BUILT?

1. Before 1900
2. 1900-1919
3. 1920-1929
4. 1930-1944
5. 1945-1960
6. 1961-1971
7. 1972-1976
8. After 1976

45

53. WAS IT NEW WHEN YOU MOVED IN?

1. Yes
2. No

46

54. DO YOU HAVE A GARAGE OR A CARPORT?

1. Garage
2. Carport
3. Both garage and carport
4. Neither

47

55. WHAT IS THE LAND AREA OF THIS LOT IN SQ.FT OR SQ.M? [To be coded later.]

Sq.ft _____

Sq.m _____

Dimension _____

48 49 50

Condition of dwelling

56. DO YOU KNOW IF THIS HOUSE HAS - [Code '1' if yes; '2' if no; '8' if don't know.]

1. Salt damp? 51
2. White ants? 52
3. A shifting or cracked foundation? 53
4. Any other structural problems (specify .....) 54

57. HOW SATISFIED ARE YOU WITH THIS HOUSE NOW? [Prompt if respondent unsure of criterion to use. Show Card 2.]

1. Completely satisfied
2. Fairly satisfied
3. Somewhat dissatisfied
4. Very dissatisfied
8. Don't know

55

58. HOW WOULD YOU RATE THE OVERALL CONDITION OF THIS HOUSE BEFORE AND AFTER THE IMPROVEMENT? [Show Card 3.]

1. Poor
2. Fair
3. Good
4. Very good
8. Don't know

Before 56

After 57

Condition of Neighbourhood

59. HOW SATISFIED ARE YOU WITH THE OVERALL CONDITION OF THE NEIGHBOURHOOD? [Show Card 2] [Prompt, if respondent is unsure of the criterion to use.]

1. Completely satisfied
2. Fairly satisfied
3. Somewhat dissatisfied
4. Very dissatisfied
8. Don't know

58

60. WHAT ARE THE MAIN ADVANTAGES OF LIVING IN THIS AREA (NEIGHBOURHOOD)? [List in order of importance. To be coded later.]

60a _____

_____

60b _____ 59 60

_____ 61 62

60c _____ 63 64

_____

Running Costs

61. HOW MUCH DO YOU PAY PER WEEK (OR QUARTER, OR YEAR) FOR EACH OF THE FOLLOWING EXPENSES? [To be coded later.]

		Week	Quarter	Year			
					65	66	67
61a	Council rates	$_____	_____	_____	68	69	70
61b	Water and sewerage rates	$_____	_____	_____	71	72	73
61c	Land tax	$_____	_____	_____	74	75	76
61d	Insurance	$_____	_____	_____	77	78	79
61e	Utilities (electricity and gas)	$_____	_____	_____	80	81	82
61f	Repairs and maintenance	$_____	_____	_____			

Mortgage

62. IS THERE A MORTGAGE ON THIS PROPERTY?

1. Yes, one only [Ask Q. 63]
2. Yes, more than one [Ask Q. 63]
3. No [Go to Q. 66]

83

63. HOW MANY YEARS ARE LEFT BEFORE YOU PAY OFF THE MORTGAGE? [To be coded later.]

63a First Mortgage ..... years 84 85

63b Second Mortgage ..... years 86 87

64. HOW MUCH IS THE MONTHLY REPAYMENT? [To be coded later.]

64a First Mortgage $ 88 89 90

64b Second Mortgage $ 91 92 93

TOTAL [Do not ask. To be completed later.] $ 94 95 96

65. WHAT IS THE INTEREST RATE? [To be coded later.]

65a First Mortgage ..... per cent

65b Second Mortgage ..... per cent

97	98	99
100	101	102

E. HOUSEHOLD

Household Characteristics

66. NOW I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT YOU AND YOUR HOUSEHOLD. LET'S BEGIN WITH YOU. [Use codes below.]

4

Person	Relation to head	Marital status	Age (at last birthday)	Sex
1 (Head)	0 1	2	3	4
2	5	6	7	8
3	9	10	11	12
4	13	14	15	16
5	17	18	19	20
6	21	22	23	24
7	25	26	27	28
8	29	30	31	32

Relation to head codes:
1. Spouse
2. Child
3. Other relative
4. Non-relative

Marital status codes:
1. Now married
2. Never married
3. Divorced/separated
4. Widowed

Sex codes:
1. Male
2. Female

67. LIFE CYCLE [Do not ask. To be coded later.] 33 34

68. NUMBER OF MEMBERS IN HOUSEHOLD. [Do not ask. To be coded later.] 35 36

69 NUMBER OF CHILDREN IN HOUSEHOLD. [Do not ask. To be coded later.] 37 38

70. OCCUPANTS PER ROOM BEFORE. [Do not ask. To be coded later.] 39 40

71. OCCUPANTS PER ROOM AFTER. [Do not ask. To be coded later.] 41 42

72. HAVE THERE BEEN ANY CHANGES IN THE PEOPLE LIVING IN YOUR HOUSEHOLD IN THE PAST THREE YEARS? [Code number of each below. Code '0' if none.]

☐ Record '0' if no change

72a	Married (i.e. spouse moved in)	43 72a
72b	Divorced/separated (i.e. spouse moved out)	44 72b
72c	Children moved in	45 72c
72d	Children moved out	46 72d
72e	Parents moved in	47 72e
72f	Parents moved out	48 72f
72g	Lodgers/flatmates moved in	49 72g
72h	Lodgers/flatmates moved out	50 72h
72i	Other (specify .....)	51 72i

TOTAL NET INCREASE [Do not ask. To be coded later.] 52 53

TOTAL NET DECREASE [Do not ask. To be coded later.] 54 55

---

73. WHAT COUNTRY WERE YOU (THAT IS, THE HEAD OF THE HOUSEHOLD) BORN IN? [To be coded later.]

_____ 56 57

[If Australia, go to Q. 75.]

---

74. IN WHAT YEAR DID YOU ARRIVE IN AUSTRALIA? [To be coded later.]

_____ 58 59

---

75. WHAT IS YOUR OCCUPATION? [Describe as fully as possible. To be coded later.]

_____ 60 61

_____

---

76. HOW LONG DOES IT TAKE YOU TO TRAVEL TO WORK (THAT IS, ONE WAY)?

_____ Minutes 62 63

---

77. HOW DO YOU USUALLY TRAVEL TO WORK?

1. Drive car
2. Car passenger
3. Bus
4. Train
5. Walk
6. Other (specify .....) 64

Income and Wealth

78. HAVE YOU HAD ANY BIG PROMOTION OR CHANGE TO A BETTER PAID JOB IN THE LAST FIVE YEARS?

1. Yes
2. No
8. Don't know

65

79. COULD YOU TELL ME ABOUT HOW MUCH YOUR PERSONAL INCOME IS NOW BEFORE TAXES AND DEDUCTIONS? PLEASE INCLUDE ALL SOURCES SHOWN ON THIS CARD. [Show Card 4. Exclude wife's income. If respondent won't answer, show Card 5 and ask for the right code number. To be coded later.]

Weekly _____

Fortnightly _____

Monthly _____

Annually _____

Income card number _____

66 67 68

80. Sequence Guide

1. If respondent is living with his/her spouse, ask Q. 81 ☐
2. Otherwise, go to Q. 87 ☐

81. NOW I WOULD LIKE TO ASK YOU A FEW QUESTIONS ABOUT YOUR SPOUSE. DOES HE/SHE HAVE A PAID JOB OR A BUSINESS OR DOES HE/SHE DO SOMETHING ELSE?

1. Work (including part-time) [Go to Q. 83]
2. Keep house [Ask Q. 82]
3. Other (specify .....) [Ask Q. 82]

69

82. DO YOU THINK SHE WILL START A REGULAR PAID JOB IN THE NEXT FIVE YEARS?

1. Definitely yes or yes
2. Probably yes
3. Maybe
4. Probably not
5. No or definitely not

} [Go to Q. 87]

70

83. WHAT IS HER OCCUPATION? [Describe as fully as possible. To be coded later.]

_____

_____

71 72

84. DO YOU THINK SHE WILL STOP WORKING IN THE NEXT FIVE YEARS?

1. Definitely yes or yes
2. Probably yes
3. Maybe
4. Probably not
5. No or definitely not

73

85. COULD YOU TELL ME ABOUT HOW MUCH HER TOTAL INCOME IS NOW BEFORE TAXES AND DEDUCTIONS? PLEASE INCLUDE CHILD ENDOWMENT AND ALL OTHER SOURCES OF INCOME. [Show Card 4. If respondent won't answer, show Card 5 and ask for the right code number. To be coded later.]

Weekly _____

Fortnightly _____

Monthly _____

Annually _____

Income card number _____

74 75 76

86. TOTAL INCOME OF HOUSEHOLD (I.E., HUSBAND AND WIFE). [Do not ask. To be completed later.]

77 78 79

87. DO YOU EXPECT ANY CHANGES IN THE PEOPLE LIVING WITH YOU IN THE NEXT FIVE YEARS? IF YES, WHAT CHANGES DO YOU ENVISAGE? [Code number of each below. Code '0' if none.]

☐ Record '0' if no change

87a	Expect to marry (i.e., spouse to move in)	80
87b	Expect to divorce/separate (i.e., spouse to move out)	81
87c	Expect children to move in	82
87d	Expect children to move out	83
87e	Expect parents to move in	84
87f	Expect parents to move out	85
87g	Expect flatmates/lodgers to move in	86
87h	Expect flatmates/lodgers to move out	87
87i	Other (specify .....)	88

TOTAL NET INCREASE [Do not ask. To be coded later.] 89 90

TOTAL NET DECREASE [Do not ask. To be coded later.] 91 92

88. NOW I WOULD LIKE TO ASK A FEW QUESTIONS ABOUT THE THINGS YOU (AND YOUR SPOUSE) OWN. HOW MANY CARS, TRUCKS AND MOTOR CYCLES DO YOU HAVE? [Code '0' if none; otherwise code exact number.]

Number _____

93

89. COULD YOU PLEASE INDICATE, APART FROM THIS HOUSE, THE TOTAL VALUE OF YOUR OTHER ASSETS (THAT IS, INCLUDING SAVINGS IN BANKS, REAL ESTATE, STOCKS AND SHARES, DEBENTURES, ETC.). [Show Card 6.]

1. Less than $5,000
2. $5,000 to $9,999
3. $10,000 to $19,999
4. $20,000 to $29,999
5. $30,000 to $39,999
6. $40,000 to $49,999
7. $50,000 and above

94

90. COULD YOU TELL ME ABOUT HOW MUCH YOUR PAYMENTS ARE ON ANY HIRE PURCHASE COMMITMENTS, OVERDRAFTS, OR OTHER NON-HOUSING LOANS? [Code '000' if none; otherwise record exact amount (to be coded later).]

Weekly $ _____

Monthly $ _____

Annually $ _____

95 | 96 | 97

91. IN THE LAST FIVE YEARS HAVE YOU HAD ANY SUBSTANTIAL INCREASES IN YOUR WEALTH? DON'T COUNT APPRECIATION OF YOUR HOUSE.

1. Yes
2. No

98

92. THAT IS THE END OF OUR QUESTIONS. THANK YOU VERY MUCH FOR HELPING US.

Interviewer to complete Q. 93 to Q. 96

93. WHAT TYPE OF HOUSING DID THE RESPONDENT LIVE IN?

1. Detached house
2. Semi-detached house
3. Terrace house
4. Block of flats or home units of up to and including 3 storeys
5. Block of flats or home units above 3 storeys
6. Group of villa units or town houses
7. Dwelling and non-dwelling combined

5

1

94. MATERIAL OF EXTERNAL WALLS OF BUILDING?

1. Brick, brick veneer
2. Stone
3. Concrete, concrete block
4. Timber
5. Metal
6. Fibro, asbestos
7. Other (specify ....)

2

95. HOW WOULD YOU RATE THE HOUSE IN TERMS OF OVERALL CONDITION (i.e., state of repair and maintenance)?

1. Poor
2. Fair
3. Good
4. Very good

3

96. HOW WOULD YOU RATE THE OVERALL CONDITION OF THE NEIGHBOURHOOD?

1. Poor
2. Fair
3. Good
4. Very good

[Your evaluation is to be based on the following criteria:

a) quality of immediate vicinity in terms of streets, other structures, private outdoor space, public amenities;

b) presence or absence of natural amenities, non-conforming uses and air and noise pollution;

c) density of development;

d) availability of parking space.]

4

97. DO NOT COMPLETE

97a Assessed annual value

97b Market value of property (i.e., I.V.)

97c Market value of land (i.e., U.V.)

97d Ratio of I.V. and U.V.

97e Value of building (I.V. less U.V.)

97f Estimated value of building (owner's estimate less U.V.)

97g Average property value of suburb

97h Estimated value of improvements

97i Estimated type of improvement

97j Lot size

97k Zoning

5	6	7
8	9	10
11	12	13
14	15	16
17	18	19
20	21	22
23	24	25
26	27	28
29	30	31
32	33	34
35	36	37
38	39	40

Interviewer's Comments

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ABS Australian Bureau of Statistics

AGPS Australian Government Publishing Service

AHRC Australian Housing Research Council

AIUS Australian Institute of Urban Studies

ANU Australian National University

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