



CHANGES IN RESIDENTIAL LAND PRICES:
METROPOLITAN ADELAIDE, 1970-84

by

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TABLE OF CONTENTS

	<u>Page</u>
AUTHOR'S STATEMENT	v
ACKNOWLEDGEMENTS	vi
LIST OF ABBREVIATIONS USED IN THE TEXT	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
SUMMARY	xiv
CHAPTER 1: INTRODUCTION	1
1.1 THE DISTRIBUTIONAL SIGNIFICANCE OF MOVEMENT IN RESIDENTIAL LAND PRICES	1
CHAPTER 2: LITERATURE SURVEY	4
2.1 INTRODUCTION	4
2.2 SOME TRADITIONAL IDEAS ON THE DETERMINATION OF RESIDENTIAL LAND VALUES	4
2.3 DYNAMIC PROCESSES AND RESIDENTIAL LAND VALUES	8
2.4 SOURCES OF PRESSURE ON LAND PRICES	15
2.4.1 National/Regional Economic Growth	15
2.4.2 Regional Effects (The Redistribution of Urban Employment)	17
2.4.3 Local Effects (Including Neighbourhood Externalities)	18
2.5 AUSTRALIAN STUDIES OF URBAN PROPERTY MARKETS AND PROCESSES	20
2.6 PLANNING POLICY AND REDISTRIBUTION WITHIN THE RESIDENTIAL MARKET	22
2.7 CAPITAL ACCUMULATION FROM DOMESTIC PROPERTY	28
2.8 SUMMARY REMARKS	29

CHAPTER 3:

3.1	FACTORS AFFECTING CHANGES IN RESIDENTIAL LAND PRICES	31
3.1.1	Introduction	31
3.2	NATIONAL EFFECTS	32
3.2.1	General Inflation and Causes	32
3.2.2	Role of Finance Sector	37
3.2.3	Population Growth, Household Formation and the Demand for Residential Land	40
3.2.4	Real Growth in Wages and Salaries	44
3.3	REGIONAL EFFECTS	44
3.3.1	The Land Development Process in Metropolitan Adelaide	46
3.3.2	Landmarks in Fringe Land Development	47
3.4	DISCUSSION OF BACKGROUND TRENDS IN THE RESIDENTIAL LAND MARKET OF METROPOLITAN ADELAIDE, 1970-84	50
3.5	CHANGING SPATIAL PATTERN OF RESIDENTIAL LAND PRICES IN METROPOLITAN ADELAIDE, 1970-84.	59
3.5.1	General Observations	59
3.5.2	Changing Patterns: 1970-74, 1975-79, 1980-84.	64
3.6	CHANGING DISTRIBUTION OF NOMINAL LAND PRICES WITHIN METROPOLITAN ADELAIDE	66
3.7	REAL GAINS IN LAND VALUES, 1970-84	73
3.8	THE FUTURE PATTERN	77
3.9	REDISTRIBUTION WITHIN THE RESIDENTIAL LAND MARKET	78
3.10	SUMMARY REMARKS	80

CHAPTER 4: METHODOLOGY

4.1	INTRODUCTION	85
4.2	USE OF REGRESSION ANALYSIS	85
4.3	SELECTION OF LGA's	85
4.4	SELECTION OF VARIABLES	88
4.4.1	The Dependent Variable (Y)	88
4.4.2	The Selection of Independent Variables (X)	89

4.4.2.1	Percentage change in population	90
4.4.2.2	Creation of residential allotment stocks	90
4.4.2.3	Vacant allotment stocks	91
4.4.2.4	White collar workforce by place of residence ('social agglomeration')	91
4.4.2.5	SAHT dwelling construction	92
4.4.2.6	Private dwelling construction	92
4.4.2.7	'Non-residential investment' and 'Local Government capital expenditure	93
4.4.2.8	Changes in employment accessibility (1)	94
4.4.2.9	Changes in employment accessibility (2)	95
4.5	COMPUTATIONS AND THE PREPARATION OF FIGURES	96
4.6	SUMMARY REMARKS	96
CHAPTER 5:	THE MAIN PATTERNS EXHIBITED BY THE INDEPENDENT VARIABLES	98
5.1	INTRODUCTION	98
5.2	THE CREATION OF RESIDENTIAL ALLOTMENTS AND THE STOCK OF VACANT ALLOTMENTS	98
5.3	PRIVATE SECTOR DWELLINGS	110
5.4	CHANGES IN LGA POPULATION	124
5.5	EMPLOYMENT OPPORTUNITIES AND THE CITY OF ADELAIDE TRIP DESTINATIONS	131
5.6	UPPER WHITE COLLAR WORKFORCE	138
5.7	THE SOUTH AUSTRALIAN HOUSING TRUST (SAHT) DWELLINGS	144
5.8	'NON-RESIDENTIAL INVESTMENT' AND 'LOCAL GOVERNMENT CAPITAL EXPENDITURE'	150
5.9	SUMMARY REMARKS	155
CHAPTER 6:	APPLICATION OF REGRESSION MODEL AND FINDINGS	157
6.1	ANALYSIS	157
6.2	INTERPRETATION	167

	<u>Page</u>
CHAPTER 7: CONCLUSION	172
7.1 ORGANISATION OF THE ARGUMENT	172
7.2 EMPIRICAL FINDINGS	174
7.3 CONCEPTUAL IMPLICATIONS	177
BIBLIOGRAPHY	182
APPENDIX	188

AUTHOR'S STATEMENT

I, Mohammad Iqbal, being the author of this thesis, do hereby certify that none of the material presented has been accepted for the award of any other degree or diploma in any university and that, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except when the due reference is made in the text of the thesis. I give consent to this copy of my thesis, when deposited in the University Library, being available for loan and photocopying.

Signed:

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LIST OF ABBREVIATIONS USED IN THE TEXT

ABS	Australian Bureau of Statistics
AIUS	Australian Institute of Urban Studies
AMA	Adelaide Metropolitan Area
AMIS	Australian Municipal Information Service
ASA	Adelaide Study Area
ASD	Adelaide Statistical Division
CBD	Central Business District
CPI	Consumer Price Index
DEP	Department of Environment and Planning
DURD	Department of Urban and Regional Development
LGA	Local Government Area
RAA	Royal Automobile Association
SAHT	South Australian Housing Trust
SALC	South Australian Land Commission
SRD	Statutory Reserve Deposit

LIST OF TABLES

	<u>Page</u>
TABLE I: Recent Population Trends in Australia and S. Australia.	41
TABLE II: Real Growth in Wages and Salaries, S. Australia.	45
TABLE III: Dwelling Completions - Metropolitan Adelaide (1971-85).	40
TABLE IV: Housing Cost Indices - Adelaide (1968 = 100.0)	56
TABLE V: Residential Building Commencements - Adelaide Statistical Division.	58
TABLE VI: Housing Finance : Loans Approved to Individuals for the Purchase of Established Dwellings : S. Australia.	69
TABLE VII: Housing Finance : Loans approved to Individuals for the Purchase of Newly Erected Dwellings.	70
TABLE VIII: Adelaide Residential Allotment Prices (Average) 1970-84, AMA.	71
TABLE IX: Changes in Population Density, 1966-1986, AMA.	87
TABLE X: Creation of Residential Allotments, 1974-85, AMA.	105
TABLE XI: Percentage Changes in Private Dwelling Construction in the Outer Suburbs, 1970-71 - 1983-84, AMA.	106
TABLE XII: Percentage Changes in Private Dwelling Construction in the Middle Suburbs, 1970-71 - 1983-84, AMA.	107
TABLE XIII: Vacant Allotment Stocks, 1974-84, AMA.	108
TABLE XIV: Vacant Allotment Stocks, 1985, AMA.	109
TABLE XV: Vacant Allotment Prices, Outer Areas, AMA.	111
TABLE XVI: Average Fringe Land Price, 1970-1985, AMA.	119
TABLE XVII: Private Sector Dwelling, 1970-84, AMA.	120
TABLE XVIII: Vacant Allotment Prices and Number of Sales, 1970-84, AMA.	122
TABLE XIX: Average Vacant Allotment Price (Real), 1970-84, AMA.	123
TABLE XX: Annual Changes in LGA Population, Inner Zone, 1966-81, AMA.	128

	<u>Page</u>
TABLE XXI: Annual Changes in LGA Population, Middle Zone, 1966-81, AMA.	129
TABLE XXII: Annual Changes in LGA Population, Outer Zone, 1966-81, AMA.	130
TABLE XXIII: Adelaide - LGA Workforce.	133
TABLE XXIV: Percentage of LGA Workforce in the CBD, 1971-1986, AMA.	137
TABLE XXV: Distribution of Upper White Collar Workforce, Adelaide.	141
TABLE XXVI: The South Australian Housing Trust Houses (excluding flats), 1970-84, AMA.	145
TABLE XXVII: Percentage Changes in SAHT Dwelling, 1970-84, AMA.	147
TABLE XXVIII: 'Non-Residential Investment' and 'Local Government Capital Expenditure'.	153
TABLE XXIX: Correlation Between Land Price and Other Independent Variables.	159
TABLE XXX: Matrix of Zero-Order Coefficients : Residential Land Price and The Independent Variables, 1970-74.	161
TABLE XXXI: Matrix of Zero-Order Coefficients : Residential Land Price and The Independent Variables, 1975-79.	162
TABLE XXXII: Matrix of Zero-Order Coefficients : Residential Land Price and The Independent Variables, 1980-84.	163
TABLE XXXIII: Stepwise Regression of Residential Land Prices Against Ten Independent Variables.	164

LIST OF FIGURES

	<u>Page</u>
FIGURE 1: Annual percentage changes in residential land price (real) in Adelaide and the rate of inflation (SA), 1971-85.	34
FIGURE 2: Annual percentage changes in finance for housing, number of sales in vacant allotments and interest rates in the AMA, 1971-84.	39
FIGURE 3: Rate of Creation and use of residential allotment, AMA, 1965-85.	51
FIGURE 4: Adelaide : Changes in real land price, 1970-85.	52
FIGURE 5: Adelaide : Percentage change in residential land price, average earning, CPI and bank interest rate.	54
FIGURE 6: Adelaide : Residential allotment sales and prices, 1970-85.	55
FIGURE 7: Adelaide : Inner, Middle and Outer zones.	60
FIGURE 8a: Percentage changes in residential land price, 1970-74, AMA.	61
FIGURE 8b: Percentage changes in residential land price, 1975-79, AMA.	61
FIGURE 8c: Percentage changes in residential land price, 1980-84, AMA.	61
FIGURE 9: Adelaide : Changes in land price, 1970-84.	62
FIGURE 10: Adelaide : Percentage changes in inflation, bank interest and real interest rate, 1970-84.	63
FIGURE 11a: Real gains in residential land price, percentage change, 1970-74, AMA.	74
FIGURE 11b: Real gains in residential land price, percentage change, 1975-79, AMA.	74
FIGURE 11c: Real gains in residential land price, percentage change, 1980-84, AMA.	74
FIGURE 12: Adelaide : Creation of SALC residential allotments, 1975-1981.	75
FIGURE 13a: Vacant residential allotment stocks, 1975-79, AMA.	103
FIGURE 13b: Vacant residential allotment stocks, 1980-84, AMA.	103

FIGURE 14a:	Creation of residential allotments, 1975-79, AMA.	104
FIGURE 14b:	Creation of residential allotments, 1980-84, AMA.	104
FIGURE 15:	Adelaide : Creation of residential allotments (Private) : 1974-1984.	112
FIGURE 16:	Adelaide : Private sector houses, 1970-84.	114
FIGURE 17a:	Private sector dwellings, 1970-74, AMA.	115
FIGURE 17b:	Private sector dwellings, 1975-79, AMA.	115
FIGURE 17c:	Private sector dwellings, 1980-84, AMA.	115
FIGURE 18:	Adelaide : Private sector dwelling (flats and others), 1970-84.	116
FIGURE 19:	Adelaide : Percentage changes in residential allotment prices (nominal), 1970-85.	117
FIGURE 20a:	Percentage change in LGA population, 1970-74, AMA.	126
FIGURE 20b:	Percentage change in LGA population, 1975-79, AMA.	126
FIGURE 20c:	Percentage change in LGA population, 1980-84, AMA.	126
FIGURE 21a:	Percentage change in employment opportunities, 1970-74, AMA.	135
FIGURE 21b:	Percentage change in employment opportunities, 1975-79, AMA.	135
FIGURE 21c:	Percentage change in employment opportunities, 1980-84, AMA.	135
FIGURE 22a:	Percentage change in the Adelaide city work trips, 1970-74, AMA.	137
FIGURE 22b:	Percentage change in the Adelaide city work trips, 1975-79, AMA.	137
FIGURE 22c:	Percentage change in the Adelaide city work trips, 1980-84, AMA.	137
FIGURE 23a:	Percentage change in upper white collar workforce, 1970-74, AMA.	140
FIGURE 23b:	Percentage change in upper white collar workforce, 1975-79, AMA.	140
FIGURE 23c:	Percentage change in upper white collar workforce, 1980-85, AMA.	140

	<u>Page</u>
FIGURE 24: Adelaide: Upper white collar workforce, 1970-84	142
FIGURE 25a: Percentage change in number of SAHT dwellings, 1970-74, AMA.	148
FIGURE 25b: Percentage change in number of SAHT dwellings, 1975-79, AMA.	148
FIGURE 25c: Percentage change in number of SAHT dwellings, 1980-84, AMA.	148
FIGURE 26: Trends in non-residential investment and Local Government capital expenditure in the AMA, 1970-84. (Real values)	151
FIGURE 27a: Percentage change in non-residential investment, 1970-74, AMA.	152a
FIGURE 27b: Percentage change in non-residential investment, 1975-79, AMA.	152a
FIGURE 27c: Percentage change in non-residential investment, 1980-84, AMA.	152a
FIGURE 28a: Percentage change in Local Government capital expenditure, 1970-74, AMA.	152b
FIGURE 28b: Percentage change in Local Government capital expenditure, 1975-79, AMA.	152b
FIGURE 28c: Percentage change in Local Government capital expenditure, 1980-84, AMA.	152b
FIGURE 29: Causal relationship between land price and other determinants, 1970-84, AMA.	168

S U M M A R YCHANGES IN RESIDENTIAL LAND PRICES, METROPOLITAN ADELAIDE,
1970-84

Land is a geographically fixed, immobile and a permanent commodity. Land is inert until it is transformed by social processes that lead to changes in its use. Productive investment, once capitalised into the value of residential land, contributes to the rise in urban property prices. With the expansion of fringe areas, property values within the existing built-up area are also increased. This study is confined to the impact of these processes upon Vacant Land zoned for residential activities.

The processes responsible for producing change in the volume of urban land can be conceptualised as occurring, firstly, at the level of the national economy. Capital inflows, money supply, interest rates, the lending programme of the loans, Council for urban capital formation, the volume of lending by the private institutions for property development and housing all affect both the level of, and the general movement of prices in the urban land market at a given moment. Secondly, there are regional effects such as transportation developments that lead to improvements in accessibility, employment growth and major service provision, which produce spatial variations in the movement of urban land prices (i.e. intra-urban variations). Thirdly, there are the more localised effects contributing to shifts in the price relativities across the metropolitan land market (i.e. neighbourhood and environmental effects).

In Adelaide, as well as in other Australian state capitals, residential land prices escalated during the first part of the 1970's. The volatility of the local land market, which had subsided by the late 1970's, warrants special attention because of the impact that processes in the residential property market can have upon the redistribution of real income.

In the first half of the 1970's, a combination of effects in the national and regional economies produced a land boom, particularly in Adelaide's developing outer suburbs. Speculative investment in residential land, the effect of transportation development and backlogs in supply, all combined to produce shifts in price relativities across the whole of the Adelaide Metropolitan Area.

Land price inflation can lead to a modification of the pattern of resource distribution in cities. As a result of the provision of government services and community development, speculators and developers may derive a disproportionate share of the 'unearned increment' or betterment. Other transfers within the residential land market are magnified during a land boom, for example, from new lot and home buyers to established property owners. The task of this thesis is to unravel these complex processes at work during a fifteen year period, 1970-84.

In the present study, regression models are constructed to show the effects of selected independent variables (e.g. the stock and the creation of the vacant residential allotments, the construction of private dwellings, the distribution of white collar workers, job opportunities in the outer suburbs, Adelaide city work trips, urban capital formation, public investment in Local Government Areas (LGA's), and the South Australian Housing Trust dwelling construction, on changes in residential allotment prices for the periods 1970-74,

1975-79 and 1980-84 within Metropolitan Adelaide. The reasons for the selection of the independent variables are outlined before the statistical relationships are examined for each of the regression models.

The findings of this study emphasise the nature of transfers and capital gains as a product of public investment and also the implication of unearned gains for society. Along with the discussion, some suggestions are also made as to how the findings compare with the theoretical expectations.

CHAPTER 1: INTRODUCTION

1.1 THE DISTRIBUTIONAL SIGNIFICANCE OF MOVEMENT IN RESIDENTIAL LAND PRICES

"Because of the unique properties of land as a commodity" (Harvey, 1973), land owners in cities stand to gain not simply from the general appreciation of land values in response to shifts in the balance between supply and demand (i.e. scarcity), but also as a result of the capitalization of social investment into the value of private property. Because of the potential for accumulation and the extraction of real wealth in the residential land market, trends in residential land prices relative to general prices are of considerable significance as a source of redistribution within the urban system (Badcock, 1988; King, 1986).

In Adelaide as well as in other Australian state capitals, residential land prices escalated during the early part of the 1970's. During that period the demand for fringe house sites led to land price inflation that benefited investors and sitting owners. Between 1970-74, the residential land prices escalated throughout the outer suburbs. The land boom came to an end in the mid 1970's due to the down turn in the economy. Building activities in the outer areas slowed and between 1977-82 there was very little movement of land and housing prices in the outer suburbs; however, the situation reversed during 1983-84. The residential land market was indirectly revived as a result of the Hawke Government's stimulatory policies towards housing finance (for example, the introduction of the First Home Owner Scheme and the easier availability of credit).

When increases in land prices are greater than the increase in the general level of prices wealth can be accumulated in real terms. In a capitalist economy such as Australia the ownership of land is unequally distributed. A continued rise in land prices can result in a substantial change in the distribution of real wealth within society. Persistent changes in land ownership in recent years in Australian cities have caused the following types of redistribution of wealth in the community. Firstly, as a result of a rise in land prices, transfers in the property market may occur at the expense of lower income suburbs (Thorns, 1981). High income groups, on the other hand, are able to position themselves in the property market so as to capitalise upon opportunities to extract betterment. In Adelaide, like most of the other state capitals, speculative investment in raw urban land has, at times, had a significant bearing upon the state of the land market.

Speculators, unlike genuine land developers, purchase allotments and hold them out of the market without undertaking any improvement to their property holdings. A sharp decline in the supply of vacant allotments accelerates inflation in land prices during the boom period. Property developers, on the other hand, do contribute to the creation of value and are therefore entitled to some proportion of the 'betterment' generated as a result of urban capital formation.

A discussion of background studies is presented in the second chapter. It ranges over the static equilibrium models synonymous with urban rent theory to those alternative accounts emphasising institutional effects in the land market.

Changing trends in the metropolitan property market are described in the third chapter. Here, an attempt is made to identify major changes in the Metropolitan Adelaide property market for the periods

1970-74, 1975-79 and 1980-84. These periods roughly coincide with price inflation, stagnation, and a 'catching-up' in price movements in the market for vacant residential land.

The methods used and technical problems encountered in this study are discussed in Chapter 4. Regression models are constructed to show the effects of selected independent variables on changes in vacant allotment prices for the periods 1970-74, 1975-79 and 1980-84. Of course the independent variables are statistical constructs purposively selected to represent the key processes thought to be responsible for change in vacant lot prices within the Adelaide Metropolitan Area. In addition to this, the technical problems relating to the preparation of the dependent variable are outlined (the appropriate measurement unit (IGA), variations in the incidence of sales; variations in site size).

The independent variables are mapped and their patterns are described in the fifth chapter of this study. This is mainly a descriptive chapter, showing change in distribution over Metropolitan Adelaide for the three periods 1970-74, 1975-79 and 1980-84. Moreover, some of the postulated effects on change in residential land prices are also discussed in this chapter.

The results obtained from the regression models are analysed in the sixth chapter. Finally, an illustrated discussion of findings has been included in the last chapter of this study, emphasizing the nature of transfers and capital gains as a product of public investment and also the implication of unearned gains for society. Along with the discussion, some suggestions are made as to how the findings compare with theoretical expectations.



CHAPTER 2: LITERATURE SURVEY

2.1 INTRODUCTION

Urban land is an important resource in modern production, transportation and transfer, and consumption activities. Therefore the value of land is a matter of prime importance. In fact, land value has been of interest to economists over a long period of time. For purposes of analysis, land can be divided into two broad categories: rural and urban. In agriculture the productivity of land is determined by the characteristics of the land itself and by transport costs to relevant markets. On the other hand, the productivity of urban land depends not so much on its fertility, but local topography, building history, transportation system, social composition and its availability within the urban economy.

2.2 SOME TRADITIONAL IDEAS ON THE DETERMINATION OF RESIDENTIAL LAND VALUES

Before embarking upon a general discussion of traditional ideas on the determination of residential land values, it is necessary to define clearly terms like land value, land price and land rent, just to avoid confusion when using them throughout the study. Of course, price, value and rent are conceptually different. The price is paid for the ownership of the land and the rent is paid by the occupier to the owners for the current use of the land (Evans, 1983). Land price is determined by the market and is derived from the actual gains. On the other hand, land values are estimates determined by valuation staff (Mills, 1969).

Obviously the owners and the occupier will usually be one in the same and land will not often be sold on the market so that rent and/or price may not be measurable. However, conceptually, all land will have a price at which it could be sold and a rent in which it could be leased. In fact, rents and prices are functionally related. The price at which land can be sold will depend upon the rent yield anticipated in future years. In a real economy, however, the rents obtainable from some pieces of land will be expected to rise in the future. Therefore the price of the land will be a higher multiple of its current rent. On the other hand, if the rents obtainable from a piece of land are expected to fall in the future, the price of the land will be a lower multiple of its current rent (Evans, 1983). As a result, the price of a piece of land may alter independently of changes in its current rent as future changes in rents are anticipated.

Since the 1950's various economists have tried to clarify and theorise the processes responsible for the determination of residential land values. But significantly, this early work assumes a static pattern of land prices within an urban area. The traditional idea that land values fall abruptly with increasing distance from the centre of the city has been undermined in recent studies in which various dynamic factors are introduced and their effects on the changing pattern of land values examined. In the early stage, static equilibrium models were used by economists such as Alonso (1960, 1964), Muth (1967), Mills (1964, 1967, 1969) and others, for the determination of land values in cities.

An assumption basic in classical theory and implicit in the work of Alonso (1960): 'A Theory of The Urban Land Market', is that land values decline with distance from the centre of the city. The centre

of the city is invariably defined as the peak land value (intersection of State Street and Madison Avenue in Chicago, for example, which is also surrounded by the rapid transit elevated railroad). The peak value intersection arises because transport routes converge at the centre of the city making that location the point of minimum aggregate travel costs. Locations away from the centre incur greater transport costs, and thus land values decline reflecting decreasing accessibility, smaller market hinterlands and lower net returns. However, in his early work, Alonso did not recognize the fact that if land values rise toward the peak value intersection of the Central Business District (CBD), they should also rise toward the highest value intersections of the smaller commercial areas.

In his second study on 'Location and Land Use' Alonso (1964) included a regression analysis of a small sample of land values in Philadelphia. He used parcels for which transaction prices were available during a short period of time in an active land market. His work was based on the results, derived from the correlation coefficients between land value and income. But he did not anticipate the disadvantage of using household income as a measure of wealth. He also restricts his sample to transactions in areas in which the market has been active, and apparently selects his sample partly on the basis of the sign of the correlation coefficient between land values and income. Later, Mills (1969) criticises his work as a non-legitimate procedure (the problem centres on the use of income as an independent variable in the regression).

Muth (1965) in his model on 'Urban Land Value' considered the explicit production functions for the goods produced in the urban area. But it would have been more preferable if he had introduced

intra-city transportation explicitly, with appropriate production and demand equations.

Mills (1969) in his model on urban land value focusses on a single centre, but unlike some of the models introduced by Alonso, Brigham or Ricker - it is not assumed that all workers are employed in the CBD. He postulates that land is available for urban uses as far away from the city centre as urban users are able to outbid agricultural users for it. Mills postulated that an urban economy is a complicated general equilibrium system and discussed urban problems in a general equilibrium context:

... The equilibrium rent of a piece of land should just absorb whatever revenues are left over after other inputs have been paid at whatever prices the market dictates and land rents should guide the allocation of land. These two basic ideas are consistent if all input and output markets are competitive and if production functions display constant returns to scale. (Mills, 1969:235)

Various explicit mathematical models of land values and land uses in urban areas are founded upon different assumptions which are mainly concerned with the reasons for variations in the value of the marginal product of land from place to place within an urban area. This variation has also influenced the land value of an urban area.

... Physical differences among different pieces of land can cause differences in productivity and the goods produced anywhere in the urban area must be shipped to the city centre for distribution either within or outside the urban area. (Mills, 1969:231)

Here, it can be mentioned that Mills' work is based on an assumption of monocentricity, i.e. a city spreads all around a centre. He has also pointed to the fact that in most large cities, mass transit is used most heavily in downtown areas where land is expensive and automobiles are heavily used in the suburbs where land is relatively

cheap. Also, in the suburbs land is much less expensive relative to labour. Here, Mills continues, land is substituted for labour by reducing the intensity of road use and thus speeding up traffic. He concludes by saying that where land rents are high, congestion makes travel slow, thereby increasing the time costs of travel.

In an attempt to investigate some of the determinants of change through time Mills takes Hoyt's data for five dates between 1836 and 1928 (Mills, 1969). Amongst all the static equilibrium models on urban land value, Mills' work is perhaps the most elegant and convincing. However, even his analysis is unable to adequately explicate change in the distribution of residential land values in through time.

2.3 DYNAMIC PROCESSES AND RESIDENTIAL LAND VALUES

The city represents an ever changing accessibility surface. The varying pattern is a result of physical changes in the structure of internal linkages, such as the construction or widening of highways and technological changes in transport media, such as the development of faster and more efficient rapid transit or the introduction of small, low-cost automobile. In particular, physical improvements tend to make one area more accessible and therefore more desirable than another that does not have the same facilities.

Dynamic processes like the universal use of the automobile, the construction of highways and expressways, the shorter working week, increased leisure, size of the city, income, population density, transportation prices, location of shopping facilities, the ethnicity and the influence of recreational and physical amenities are all involved in determining residential land values in an urban area. The automobile has replaced public transit as the chief mover of people in the

city and had a profound impact on their locational preferences. These changes in location preferences are evidenced by the general decline of population densities in the city and the spreading out of population into the suburbs. This has seen a corresponding growth of land values at the peripheral areas of the city and in areas offering certain amenity advantages. Thus the postulated negative relationship between land values and distance from the centre of the city has weakened through time.

Yeates (1965) in his work on the spatial distribution of Chicago land values, 1910-1960, has shown how dynamic processes are active in determining land values in that city. With a multiple regression model he has shown the decline in influence of the CBD and the increase in importance of sectoral variations. The hypothesis that land values decline with distance from the CBD was substantiated for the whole city. The sectoral analysis in 1960 suggested some important spatial modifications. At this time period land values appeared to increase toward the periphery. When the influence of regional service centres was considered, his results indicated that land values will decrease with distance from the regional centres in the newer and more rapidly expanding, relatively high income areas of white population.¹ He argues, on the other hand, that regional centres may serve to enhance land values in old areas of manufacturing and commerce. The influence of recreational and physical amenities on land values, such as distance from Lake Michigan, appears to have increased in relative importance since 1910. Rapid transit facilities were found to have a

1. In Adelaide, the location of regional shopping districts in outer suburbs reflect such views devised by Yeates, e.g. after the completion of Noarlunga regional centres, land values in adjacent areas rose quite significantly compared to other areas in the same LGA.

positive influence on land values in Chicago. The evidence indicates that rapid transit, representing a system of relatively low transport costs appears to have declined markedly since 1930 as a determinant of land values excepting only in low income areas. Yeats' work also shows that although land values appear to rise toward new automobile expressways the greatest increases were observed beyond the city limits with comparatively minor increases just within the city. He argues that within the city high speed low-cost transport facilities are no longer such important determinants of land values as they were. His work also shows a high order interrelationship between population density and non-white variables. In the early years of this century higher land values were associated with high population densities. This relationship weakened progressively throughout the century. In conjunction with this he postulates that as percentage non-white in an area increase, land values decrease, until at a stage when the population density begins to rise. Yeates concludes that in future Chicago city will have a number of nuclei and the significance of the CBD as a determinant of land value and population density will decline.

Mills (1972) in his study of population and employment density functions points out three major factors determining the population density of a city. These are the size of the city, income and the transportation prices. He says that a large metropolitan area would extend further upward and outward than a small one. Thus big cities would exert more pressure on urban land especially for housing. He argues that large metropolitan areas can support sub-centres for shopping and employment and therefore are less dependent on the city centre than the small ones.

Mills (1972) regards income as an important variable that causes change in population density, thereby affecting residential land and housing values. His model shows that there is a high income elasticity of demand for high quality, low density housing. Therefore, property prices in high class areas (the outer suburbs in US cities) tend to be higher comparative to lower income neighbourhoods within the inner city. In his model, in the residential sector both $D(u)$ [Density u miles from the centre] and γ [the rate of decline of density with distance from city centre] should be decreasing functions of family income in equilibrium. However, there is no apparent reason why family income should directly affect the density functions in the employment categories. Mills suggests that there may be an indirect effect in that the suburbanization of population (and therefore incomes) covaries statistically with the suburbanization of employment. Such variations in population and employment density functions obviously influence the property values in an urban area. In Adelaide, since the 1960's, the impact on inner area residential property values is evident with the displacement of lower income blue collar workers from the inner, to the middle industrial suburbs and later to the outer areas (Smailcs, 1967).

In the case of transport costs, Mills expects that a decrease in the relative price of transportation per passenger mile will result in an increase in passenger miles travelled. For given amounts and densities of land devoted to other purposes, the result will be an increase in land used as an input in the transportation sector. Thus more land will be used by the metropolitan area and population and employment will be spread more thinly over a larger area. As a consequence, Mills predicts that a decrease in the relative price of transportation per passenger mile will result in an increase in passenger

miles travelled. For given amounts and densities of land devoted to other purposes, the result will be an increase in land used as an input in the transportation sector. Thus more land will be used by the metropolitan area and population and employment will be spread more thinly over a larger area. As a consequence, Mills predicts that residential land prices will rise as more urban land in aggregate is consumed for housing purposes. However, the difficulty with his argument is that a change in the relative price of transportation does affect the amounts of non-transportation activities in the metropolitan area and the intensities of their land uses, which can act against uniform movements in residential land prices.

Edel and Sclar (1975) carried out research on the distribution of real estate value changes in Metropolitan Boston over a period of one hundred years (1870-1970). In the model they used variables like transportation improvements, changes in population density, growth of commercial functions, stamp tax on title transfers (he included stamp tax as a variable because stamp tax allows for the determination of the actual sales price of residential land and houses that change hands) and income.

In their study, they demonstrate that in a monocentric city where most of the jobs are concentrated in a CBD, the differential advantages of equal sized plots of land at different distances from the CBD would depend on differences in commuting cost to the centre. They place a heavy emphasis on future transport innovations which, they argue, can change the land value gradient of a city. With transport improvements, the outermost suburbs may gain in price, whereas land closer to the city centre has often been held by lower income residents, thus the lower income owners of older homes may find their houses have continually

eroding values. Edel and Sclar add that even the owners who benefit from the rise in suburban land values may face similar losses in future if further transport innovations occur. Considering the rapid growth in population density and the expansion of commercial activities they argue that in such circumstances, while the built-up radius does not expand sufficiently, then the value of existing properties can rise. In such periods, they continue, the developers make full use of such opportunities and may reap the 'unearned increment'.

In their study they demonstrate that between 1900-25 Boston land values increased throughout the metropolitan area in real terms. But the estimated increases are lowest at the centre and greatest at a ten-mile radius fringe. In their model, the 1-4 mile radius marks the point at which land use was greatly intensified in the early period, in which moderate income suburbs were built around the newly extended trolley lines. The seven miles distance and beyond areas were developed after 1925 through automobile suburbanization.

With respect to income, they argue that the land value increases were smallest in the lower-income areas and greatest at points of new suburbanization and in some existing high-income residential areas. They also include the influence of ethnicity on land and house prices of Boston. They demonstrate that the rate of increase in residential land and housing prices is much lower in the non-white, low-income working class areas of the city.

Transport developments also affect urban land values quite significantly. Bajic (1983) in his empirical study 'The Effects of a New Subway Line on Housing Price in Metropolitan Toronto' has shown that the direct savings in commuting costs have been capitalized into property values. The empirical analysis presented in Bajic's paper

deals with two specific issues. The first concerns the identification of the direct benefits from the improvement in transportation per home buyer. The second concerns the formulation and testing of a model to investigate the effects of the subway on the price of housing. The need to conduct the analysis by combining two different models stems from the fact that the benefits from an improvement in transportation (given certain demand and supply conditions) are reflected in the premium paid for housing. Using the estimates obtained of the values of different time components of the trips, actual trip frequencies on the new subway line and the reduction in commuting time, the amount of direct savings in commuting costs from the improvement in transportation per home buyer were identified. Bajic (1983) concludes by saying that the direct savings from the improvement in transportation have been capitalized into the property values, i.e. the savings in commuting costs which accrue to the commuters have been transferred to the home owners through the mechanism of the urban property market. Clearly the newly constructed subway line has a significant influence on the value of adjacent vacant land blocks.

The above discussion reflects two major aspects of residential land markets in cities. Firstly, traditional static equilibrium ideas no longer have the same explanatory value in modelling the distribution of residential land values. This is because the former centripetal tendencies and radial orientation of activities in the city of the immediate post-war era have given way to dispersed urban forms (Maher, 1982). And as part of this, the capitalist city is experiencing significant structural change and disinvestment, especially in older areas. The unevenness of change in residential land values across the city reflects inner area population decline; new investment

in growth areas; the nucleation of employment and community facilities in the outer suburbs (sub-centering); the redistribution of income with pockets of unemployment in the city; the relative deterioration or improvement in accessibility. However, all these are regional effects and do not explain the general movement of land prices (rise or fall) experienced in Australia's cities between 1970-84. In order to make sense of these general movements in metropolitan residential land prices one has to turn to macro-effects that have their origins in the wider economy.

2.4 SOURCES OF PRESSURE ON LAND PRICES

2.4.1 National/Regional Economic Growth

In an urban area, residential land prices are subjected to pressure which can be categorised as exogenous and endogenous effects. Those external factors affecting residential land prices within the system - that is, those active at a national or global level such as capital inflows, deregulation in national money markets, general inflation, or government intervention in the property system - are regarded as macro-factors or exogenous effects. (These will be examined in depth in the next chapter.) In contrast, factors which are active at a local level (development of transportation and changes in accessibility patterns; changes in population density; changes in commercial activities, presence of recreational or social amenities, zoning regulations on land use) are regarded as endogenous effects.

The performance of the regional economy, of which the city may form the core, can also have a major bearing upon the rates of change in residential land prices. In depressed regions, for example, urban

land and house prices invariably lag behind the national trend (Hamnett, 1984, and Thorns, 1982).

... Economies of agglomeration include access to common public services - water, sewer and power networks, intercity transport facilities and social service facilities - and access to a growing diversity of business and labor skills within the metropolis. These advantages make the city more productive, attracting more investment and creating possibilities for further city growth, for more jobs and for the advantages of locations in the city to be reflected in rising rents or land values. (Edel et al., 1984:64)

At least part of the increment in value due to urban capital formation is capitalised into the value of land and buildings. At the same time a growing urban population provides a field for the disposal of the surplus product throughout the urban system. Thus the stimulation of urban growth results in the rise of land values in a city. The continued accumulation and centralization of capital accelerates the growth of a metropolitan area which results in the creation of job opportunities and attracts additional workers who need housing. These sorts of pressures are reflected in the suburbanization processes in an urban area.

In Australian cities the decentralization of population and employment opportunities during the last two decades has contributed to the consumption of land. The capital investment which has poured into transport facilities, both road and rail, together with ever increasing car ownership and inexpensive motoring fuel, has encouraged an extensive, sprawling and low density urban form which is recognizable in Australia today.

2.4.2 Regional Effects: The Redistribution of Urban Employment

Structural change within the economy affects the composition of an urban workforce and in turn calls forth changes to the distribution of job opportunities in the city. Attention is now given to the manner in which the distribution of employment is changing spatially within the city and the implication of this change. The location of jobs in Australian cities in the last two decades shows a considerable transference of activity from the inner to the outer area (Maher, 1982). The implications of the outward growth of population and employment are considerable for the property system. With relatively centralized work places, the residential location of the workforce was bound to remain relatively centralized to avoid time consuming daily trips to work. Maher (1982) argues that as workplaces suburbanize, however, the broad constraint on centralised residential location was gradually relaxed. Because of the radial nature of much of the transport system, work journeys tend to remain somewhat sectoral, with the suburban workplace providing a focus for commuters toward the urban fringe. Thus the existence of the suburban employment opportunities permits an even greater extension of the residential area which allows some flattening of the residential land value surface, all other things being equal.

In Australian cities like Sydney, Melbourne or Adelaide, with the development of subregional nodes a complex pattern of cross commuting has emerged. The central area, as in Adelaide, remains the most important of these, but is increasingly specializing in the upper white collar sector of employment provision. This multi-nucleated pattern has been the result of cheap energy, high levels of personal automobility, rising affluence and investment patterns which have favoured the establishment of a wide range of services, including

housing, utilities, highways and community services. King (1980) argues that the combined effects of rising energy costs and rising inner city property values are increasingly going to isolate the low-income people in outer suburban locations where accessibility to public transport is least. Thus, regional effects such as a shift in the pattern of employment within the urban economy have helped to modify land price gradients in the Australian city during the post-war period. At the risk of over-generalization, one can suggest a flattening of the residential land price curve through the 1950's and 60's, followed by a steepening near the centre of Australian cities again in the late 1970's (King, 1986).

2.4.3 Local Effects (Including Neighbourhood Externalities)

Local effects on residential land values include neighbourhood, or sub-regional effects. In addition to the regional effects, various local factors such as location of amenities, environmental considerations and some external effects better known as externalities do produce changes in residential land prices of an area.

Wabe (1971) stresses the particular point that environment is related to population density and the environmental quality is a function of distance from the city centre. So is residential land value which reflects the environmental influence on its market price depending upon its location. But Wabe's formulation on distance - environment quality may not be applicable for the case of the Adelaide metropolitan area.

In considering the effects of externalities on residential land and property prices, Badcock comments that "importance of the high degree of interdependency found between activities and locations within

the city is that the investment and disinvestment decisions of the owners of land and property in the vicinity have the power to alter significantly the value of third party property. This is known as an externality or Spill-over effect." (Badcock, 1984:224). These externalities may be either positive or negative. Positive effects do tend to raise the value of land prices. Various localised effects such as quality of local schools, zoning policy and the effect of non-residential land uses, e.g. the location of industry, regional shopping centre or a major thruway, can affect the residential land values in a city. Li and Brown (1980) demonstrated that the net effect of proximity to commercial establishments, industry and major highways is not a simple function of distance. Nearness to an industry may cause both positive or negative effects on property prices. They argue that positive effect of accessibility offsets the negative effect of commercial establishment upon property values. They also demonstrate that the proximity to a major thruway has a positive influence on residential land and property prices as the vicinity to the thruway raises the land and property values.

Ball (1972) has reviewed a number of studies of house price determinants (Wabe, Evans, Apps, Brigham and others). He assigned the variables that were used in their models into three broad categories - locational, environmental and house related. He considered distance from CBD, accessibility to employment, schools and highways, travel times and cost to CBD as locational variables. Social class and population density, basic residential quality, schools ratio, air pollution, average family income and percentage of non-white population have been considered as the environmental determinants. On the other hand, determinants such as number of rooms, plot size, etc., have been described as house related variables.

2.5 AUSTRALIAN STUDIES OF URBAN PROPERTY MARKETS AND PROCESSES

In a capitalist economy such as Australia property ownership is unequal. A continued rise in land prices can result in a substantial change to the distribution of resources in society. Quite typically, high status residential areas in a city are well serviced by the public authorities with the provision of all types of utilities and amenities. The reason is that the rate base is better endowed at the local government level and that affluent residents are politically more powerful than the residents of the lower income areas, especially in the fading inner suburbs.

Land taxes may also affect the distribution of population within a metropolitan area as well as the pattern of land values in the region, or the provision of public services. Edel and Sclar (1975) found that in major American cities if taxes in an area are high people may still be willing to move there if dwelling prices are low in comparison to the cost of living.² On the other hand, Parkin (1982), in his study of the government of Australian metropolitan areas, has

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2. There are some differences in financing local services between US and Australian cities. Although the US and Australia both have federal systems of government they exhibit differences in relation to the division of powers as they affect the governing of cities. In legal terms, the American municipalities have the same subordinate status to the states as their Australian counterparts. In practice, however, they enjoy a great degree of autonomy (Parkin, 1982) and generally overshadow the states functionally in the sphere of urban resource allocation. Thus, local governments are the primary organs of US urban government. In Australia, local governments, according to Badcock "... are statutory creatures of the states, constituted by Acts of State Parliament, and therefore legally subservient to them." (Badcock, 1982:146)

Parkin states that "... State governments continue to limit municipal autonomy through various review, guideline, auditing, planning and appeal procedures and local governments often act effectively as enforcers of State-mandated standards in such areas as health and sanitation ..." (Parkin, 1982:57) "Local municipalities in the U.S. are heavily reliant on property taxes for their revenue. Whereas in Australia, the Commonwealth is the only level of government empowered to tax personal and corporate income, excise and

observed that in most of the major Australian cities, dwelling prices are found to be higher in areas paying higher taxes on properties. Obviously, these are the high class residential neighbourhoods unevenly distributed within the metropolitan areas.

Daly (1982) in his work on Sydney's property market has demonstrated the changing pattern of residential land and housing market during the 1970's and the early 1980's. He shows that land, housing and capital markets are highly interactive by nature. He also treats the influence of international capital inflow and its effects on the national economy, growth and expansion of the financing agencies and their role on urban property markets, trends in real estate business, effects of immigration on property markets, government interventions at different stages of property market development and the future of rapid suburbanization of Sydney.

King (1980) in his work on 'Interest Rates, Energy and House Prices: Some Aspects of the Melbourne Housing Market, 1966-1980', has tried to show the effects of fluctuating interest rates and rising energy rates on the housing price in Melbourne. In particular, he has tried to demonstrate how the increasing energy rates affecting the accessibility pattern of the city and influencing the distribution and redistribution of households in Melbourne, thus creating instabilities in the local land market.

2. (Continued from page 22)

sales."(Badcock, 1984:251). Thus in a very real sense, federal government in Australia controls the finance of local government and this forces local government to be much more self-sufficient in expenditure matters than the U.S. municipalities.

Neutze (1977) in his work 'Urban Development in Australia' has emphasised the role of governments national, state and local policies towards the expansion and growth of the major Australian cities. Criticising the role of government in times of land inflation, he says excessively high land prices can have a deleterious effect upon the provision of government services. With speculation rampant, public authorities seeking large sites have to operate in a market which fosters profiteering and compete for those same sites with developers that can pass their costs on to home seekers. This situation forces massive transfer payments that the community can ill-afford from the public purse to private opportunists.

2.6 PLANNING POLICY AND REDISTRIBUTION WITHIN THE RESIDENTIAL LAND MARKET

Cities are often represented as places where differentiation in the allocation of economic and social resources are most clearly observed. Thus differentiation existing in an urban society may be counteracted to some degree through government intervention. Neutze (1978) is optimistic about the role of government influencing access to services and their quality varies greatly between different parts of that centre. These particular disadvantages can be minimized only by providing improved services in areas where they are lacking and needed most by the residents.³ To support his arguments, Neutze

3. Neutze has mentioned two types of redistribution of wealth in a capitalist urban system: one is in cash and the other is in kind. The best way to redistribute welfare is in the form of cash transfers which are levied according to some criterion of ability to pay and distributed among those in need. Redistribution in cash is favoured over the provision of free or subsidized services (redistribution in kind).

further adds that "the welfare of richer people is actually increased as a result of an improvement in the welfare of the poor." He found housing as an approved way through which the differentials in redistribution of wealth can be minimized in an urban society. Troy, arguing on such differentials in redistribution of wealth says,

... The effect of differentiation is relative deprivation for some people and relative advantage for others. These relative advantages and disadvantages are often described as transfers of wealth, even if they are not strictly mediated by money. There are, in other words, social consequences of differentiation in collectively provided urban goods and services (Troy, 1981:16)

Disparities in redistribution affect different socio-economic groups within an urban area. Social segregation, location, resource allocation, government services, urban planning and capitalisation and gentrification, etc., all are found to be associated maintaining the socio-economic differentiation among the various social classes in an urban area. "Social segregation of itself is caused mainly due to differential economy and ethnicity leads directly to an increase in the level of inequality." (Stretton, 1975:75) This segregation can be reinforced by the market for housing and also by the planning policies of local government. Neutze considers the location decision of a high-income family, stimulated by reinforcement of property market, towards the segregation:

... as long as most high-income families prefer to live among similar families, the large house the individual high-income family wants to build is likely to have a higher re-sale value, relative to its construction costs, in a high-income area. Therefore, irrespective of whether or not a particular wealthy family prefers to live among other wealthy families, the security of its investment will be a strong incentive for it to do so. Similarly, it may be an unwise investment to build a small house, suitable for a low-income family, in an area where most families have high incomes. The investor is less likely to be able to recover the cost of the land and construction than if a similar house was built in a low-income area.

(Neutze, 1978:42)

Thus segregation is a result of inequality of income and wealth and often the poor and disadvantaged are concentrated in particular parts of a city. Often the high and low-income areas differ in environmental quality because the high income group can afford to buy both land and dwellings in the more attractive areas. These differences exert an effect on the variations in residential land prices in different parts of a city. Neutze (1978), in a discussion on the role of government services in minimizing the level of discrimination in resource allocation, has stressed the uniform supply of government services, as urban services often tend not to be uniform in distribution, either qualitatively or quantitatively. Neutze (1978), considering the development activities in the low-income areas, argues that, although improvement of services and the quality of the environment in low-income residential areas is capitalized into the value of housing, the gains tend to flow to the established residential property owners rather than the relatively low-income tenants. Capitalization of the value of local environmental improvement may introduce the process of gentrification in the low-income areas of a city (Neutze, 1978).

David Harvey has concentrated his attention on the mechanisms governing the redistribution of income within a city. He attributes the presence of inequalities in urban areas to factors which are innate to the structure of capitalism. According to Harvey (1973), changes in the following factors contribute to the redistribution of real income in cities: the location of jobs and housing; the value of property rights; the price of resources to the consumer. These factors are dynamic and Harvey argues that "changes are themselves affected by the allocation of external costs and benefits to different regions in the urban system and by changes in accessibility and

proximity." He stressed the fact that any theory of income distribution must be based upon the social and cultural values prevailing in an urban society.

Capitalist cities have grown very rapidly during the last two or three decades and this growth has resulted in some significant changes in the spatial form of the cities. A significant reorganization of the location and distribution of different activities in the city system also have occurred within this time. The results of these adjustments in the spatial form of the city have brought about a redistribution of income in various ways.

... The changing location of economic activity in a city means a changing location of job opportunities. The changing location of residential activity means a changing location of housing opportunities. Both these changes are likely to be associated with changing expenditures on transport. Changes in transport availability certainly affect the cost of obtaining access to job opportunities from housing locations. (Harvey, 1973:173)

Harvey's ideas draw on the works of Kain on housing and transport.

... If we look at the way in which the location of jobs (by category) and housing (by type) has changed, together with the typical adjustments in transport facilities, it will be clear that a redistribution of wealth has occurred.
(Kain, 1968:49)

Harvey has viewed the effects of the rapid suburbanization in most of the big American cities and has also expressed his concerns over the decentralization of job opportunities to the newly developed suburbs, which, according to him, has decreased the changes for getting jobs in the predominantly low-income inner city areas. Consequently, a high and growing incidence of unemployment characterises those inner city areas. The disadvantaged low income households have little chance to migrate into suburban areas, whilst high reverse transport costs often

discourage inner city dwellers from commuting to jobs in the suburban areas.

... The adjustments to transport systems have favoured suburban areas and neglected the needs of inner areas as far as access to employment is concerned. (Harvey, 1973:131)

Harvey also discusses the effects of the changing property values on redistribution. He says that the value of land parcels - improved or unimproved - can change differentially in a city quite markedly over fairly short periods of time. These changes are often thought of as the result of population movement, changes in local facilities, changing investment policies, and so on.

... It is also evident that the value of any one property right is very much affected by the values of neighboring property rights. (Muth, 1969:78)

The action of individuals and organizations other than the owner, therefore, can affect property values.

Harvey has also considered the effects of political power groups over the redistribution of wealth in a capitalist urban system. He views the political processes in the urban system as a way of "sharing out external benefits and allocating external costs." In this way, one powerful group may be able to obtain real income advantages over another. Badcock, supporting Harvey on the point of 'using political power to have access to more public resources in a capitalist urban system' argues that,

... Some areas and submarkets outperform others to the income advantage of their participants. That this happens is due, more often than not to the political power exercised, and the successes achieved in bargaining for public goods, by coalitions of residents organized on a territorial basis. (Badcock, 1984:205)

In his conclusion, Harvey states that the differential disequilibrium in the spatial form of the city can thus redistribute income. In general, the rich and relatively resourceful can earn great benefits while the poor and necessarily immobile have only restricted opportunities.

Stretton, in his work, has focussed on the role of the property system through which the potential of externalities do affect a redistribution of real income within a city. He has pointed toward some of the imperfections in the markets for land and housing which allow inequalities in real income distribution within an urban system.

... Most big capitalist societies allow land to be a double unequalizer. They distribute it unequally, often less equally than income. As economic growth stimulates demand for accessible urban land, its price increases faster than the price of labor or anything else, so its unequal ownership further unequalizes wealth and income. There are direct transfers via rents and prices to inheritors and investors in land, and indirect transfers from those who don't own land and houses to those who do. There is often some further unequalizing among investors. Those who lose (especially in periods of inflation) are the institutions which lend on mortgage at fixed interest for long terms. Those are chiefly savings banks, building societies, life assurers and superannuation funds, and governments, i.e. institutions which chiefly lend the small savings and taxes of large numbers of people with low or middling incomes. Rich investors don't lend on land, they do better by buying and selling it, often with money borrowed from savers poorer than themselves. (Stretton, 1976:141)

Badcock has expressed his concerns over the suburbanization processes and the imperfections of land markets and their effects on the redistribution of resources in an urban area.

... Interaction of any segments of the land and housing markets can generate transfers of real income. (Badcock, 1984:207)

... The production of land for urban purposes and especially land for housing, is quite a complicated process involving the subdivision of rural holdings at the periphery of cities and the servicing of individual building allotments. That

this process is redistributive owes a lot to the peculiar nature of land as a commodity and to the imperfections that seem to bedevil the land development systems in the cities of market economies. (Badcock, 1984:207)

Further, discussing the land market situations and their effect on redistribution, he adds:

... Redistribution is most severe at times when market processes drive land prices ahead of gains in average income and other factor prices. (Badcock, 1984:205)

Discussing the cause and effect relationship on income distribution, he point out that the oligopolistic ownership of urban land, the transfer of public land to private investors, the unearned increment resulting from the provision of government services and community development, all together contribute to generate inequalities in real income distribution among various social classes living in a metropolitan area.

2.7 CAPITAL ACCUMULATION FROM DOMESTIC PROPERTY

In a capitalist urban system accumulation within the domestic property sphere arises from the redistribution and the capitalization of resources. Owner occupation, in capitalist economy, provides access to a highly significant accumulative form of property ownership. This generates specific economic interests which differ both from those of the owners of capital and from those of non-owners. Saunders (1978) says that domestic property ownership is the basis, potentially, for the formation of a distinct political force. The ownership of urban residential land may contribute to wealth accumulation by domestic property ownership. Environmental development activities involving huge capital investment may raise the quality and then demand for available properties, such as vacant land, dwellings in an area. As a result land prices go up. In fact, rising land prices confer capital

gains on households that already own their own dwellings or are purchasing them on mortgage. However, these gains cannot be realised except when houses or land are sold, and not replaced with another asset, or unless a property owner 'trades-down'. When land and house prices increase faster than the general price level property will secure capital gains in real terms. During the post-war period in Australia, especially when land and housing prices have been at their peak, there is evidence to suggest that it is the land cost component that has been the most volatile (DURD, 1974, 9). Hence it is not unreasonable to argue that the residential land component of housing is a prime source of the 'unearned increment' that can be captured by those house buyers positioned to best advantage in the residential property market during phases when returns to domestic capital outstrips other forms of investment (Badcock, 1988; King, 1987).

2.8 SUMMARY REMARKS

Chapter 2 contains a discussion of various contributions devoted to changes in residential land prices in modern capitalist cities, with a special emphasis upon the Australian experience. The first section deals with the neo-classical concept of urban rent structure where the traditional rent theory determinants, e.g. distance from the CBD and journey to work, have been considered as the significant factors producing changes in urban residential land values.

The effects of dynamic processes on urban land value such as the universal use of the automobile, the construction of highways and expressways, size of the city, variations in income, population density, transportation prices, location of shopping facilities, ethnicity, and the influence of recreational and physical amenities, etc., have been discussed in the second section of this chapter.

The second section deals with various sources of pressure, mainly external and internal, those that produce a general movement in prices across the whole urban land market. Regional effects, such as shifts in pattern of employment within urban economy and adjustment of transport system and their effects on accessibility pattern have been added as exogenous effects on land prices. This is followed by a discussion of local effects, such as location of amenities and environmental considerations, externalities on urban land values.

An analysis of Australian studies of urban property markets and processes contains ideas and views devised by different Australian geographers and economists on the growth and development of the Australian urban land and property markets. Section five contains a discussion of redistribution within the residential land market. The discussion has tried to interpret the unequal resource allocation in Australian cities and their effects on the land market, where Neutze and others stress the role of institutional policies as major determinants bringing changes in residential land prices in cities. Finally, a brief account has been provided on the processes of accumulation resulting from the redistribution and the capitalization of urban investment into the value of land and housing in a capitalist urban system.

CHAPTER 3

3.1 FACTORS AFFECTING CHANGES IN RESIDENTIAL LAND PRICES

3.1.1 Introduction

The processes responsible for change through time, and spatial variations in the pattern of residential land price have their origins in three spheres of the economy: national, regional and local. The effects that can be attributed to adjustments in the Australian economy tend to influence the general level and movement of land prices within an urban region like Adelaide. They include fluctuations in the capital inflow, the money supply, interest rates, the limits imposed by the Commonwealth Loans Council on the states' borrowing requirements, the volume of housing finance in circulation, population growth or decline, real growth in wages and salaries. At a lower level, changes to the urban transportation system and the spatial concentration of employment growth within the regional economy can have quite a significant impact upon land price relativities. And, lastly, there are the more localised effects within a city's residential land market that can perhaps accentuate or dampen the nationally or regionally-generated movements in urban land prices. Environmental qualities of a site (topography, water, bush) can introduce such local variation in residential land prices. The presence or absence of amenities and services is also frequently reflected in the residential land surface (Badcock, 1984:226) at the sub-regional level.

3.2 NATIONAL EFFECTS

3.2.1 General Inflation And Causes

Traditionally Australians have shown a predilection for owning land. Every purchase of a residential land block lies behind the idea that one is not simply meeting living requirements, but securing a permanent store for personal wealth. As a result, whenever economic conditions have been favourable, residential land prices have been subject to strong upward pressure. Most economists agree that the period from 1945-74 was the most stable period of prosperity in Australian history. Throughout this period, urban development in Australia has been under pressure from continued immigration from Europe. At the same time, the introduction of development controls in land, subdivision and housing construction has often had the effect of constraining and delaying the release of new sites for housing. In addition, the Federal and State governments placed an artificial ceiling on the cost of housing finance which had an immediate effect on the demand for residential land. Also, the tax and other incentives encouraged home ownership.

... In 1945 less than half the population of Sydney owned their homes but in the early 1970's, the proportion was around 75 percent. There was also a continual upward trend of property prices that re-inforced the general belief in the security of investment in housing. Other than Sydney, all Australian cities however followed the same broad general pattern in increasing values ...

(Daly, 1988:47-48)

General inflation during the post-war period led to a flight of wealth into real assets in Australian cities. During such inflation investors shifted their money into land and other real assets, because they maintain their real value. Owners of vacant land for development within the built up area gain as long as the fringe land market is buoyant.

... Of all the real assets, land for future development has maintained, and increased its real value to the greatest extent. The reason is ... it gives a zero or very low current return so that almost all of the return takes the form of capital appreciation. The result of a strong demand for land for development in such periods is equally predictable - land prices have risen and fulfilled the expectations of investors. (Edel et al., 1984:47)

The greatest expansion in the money supply occurred in 1972 and 1973, contributing to an escalation of land prices in Adelaide and other cities. The land market slumped in 1974 and 1975 when prices for the other commodities were rising at a faster rate. From 1976, there was a closer relationship between changes in general inflation, land prices and the money supply (Figure 1).

The rises in residential land prices during periods of prosperity, followed by falls in periods of contraction are characteristic of capitalist city growth. During the late 1960's, important changes began to reflect themselves in the Australian economy. First the growth of import substitution manufacturing slowed and then fell into absolute decline. The limitations of fragmented, widely dispersed manufacturing in the old industries within Australia brought down productivity and competitiveness. None of this was apparent in the late 1960's because a surge in mineral industry and investment raised both current account receipts and foreign reserves. By this time, substantial inflows of overseas capital arrived to support the Australian mineral industry.

... The level of capital inflow into Australia accelerated sharply through the 1960's and its destination changed. In 1964-65 capital inflow was \$M559, it then climbed through \$M1112 and \$M1139 in 1967-68 and 1968-69, to \$M1512 and \$M1436 in 1970-71 and 1971-72. Whereas direct investment in manufacturing accounted for nearly two-thirds of total direct foreign investment in the early 1960's, the proportion fell as low as 13% by 1971-72. In the five years up to 1971-72, a total of \$M1027 was invested in mining industries through the inflow of foreign capital and \$M502 flowed into the banking, finance and property sector ...

(Daly, 1982:7)

ADELAIDE : ANNUAL PERCENTAGE CHANGES IN RESIDENTIAL LAND PRICE (Real)
AND THE RATE OF INFLATION (S.A.) 1971 - 85.

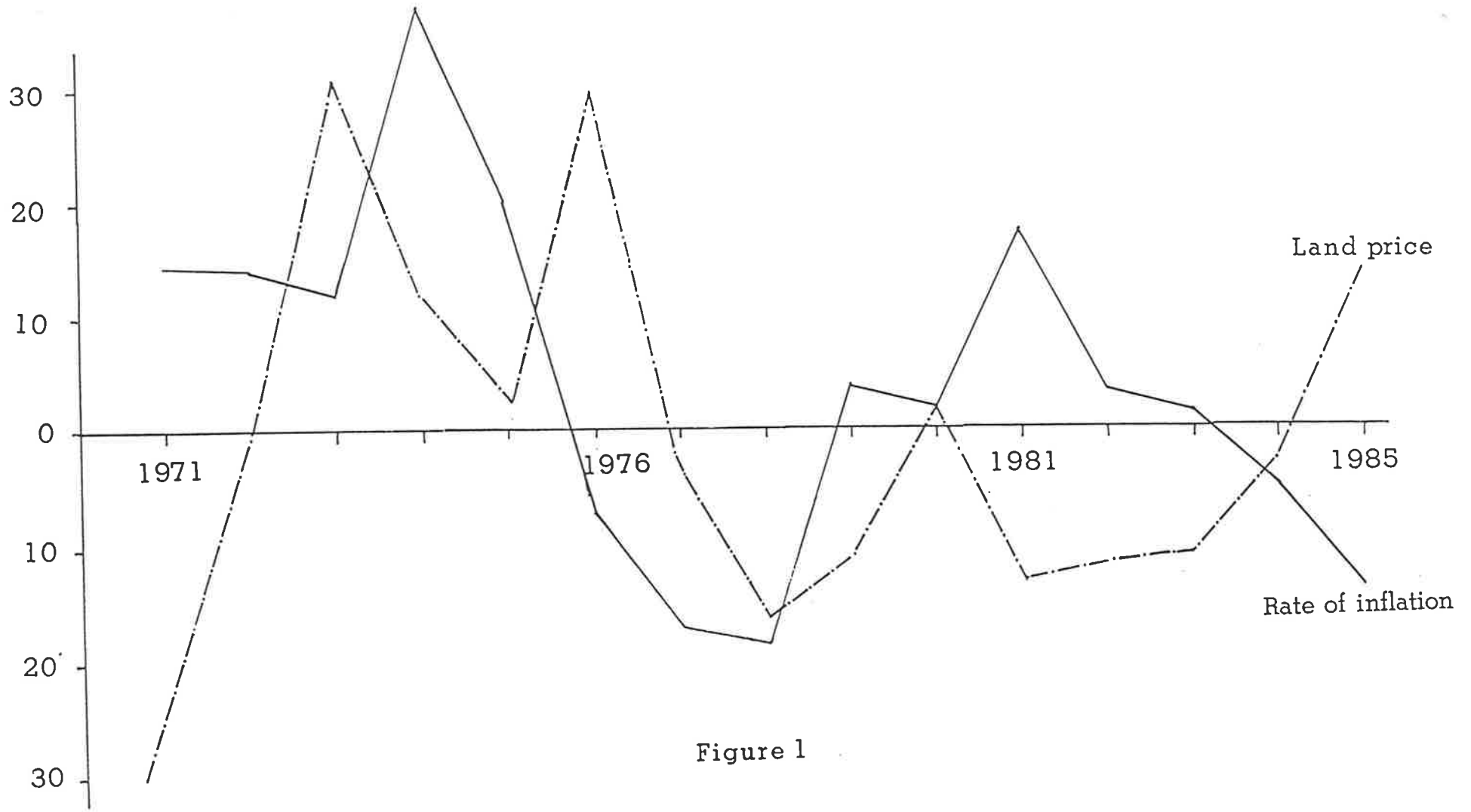


Figure 1

Sources: Residential land price: Valuation Division, Department of Lands, S.A.
Rate of inflation: Australian Bureau of Statistics, Annual Reports, S.A.

Accordingly, the volume of interest bearing capital in circulation between 1968 and 1974 was multiplied many times over by changes in the structure of overseas capital markets and pressure caused by domestic monetary policy (Daly, 1982). The surplus liquidity was absorbed in part by redevelopment activity in the CBD's of state capitals. However, the bulk of speculative investment occurred at the fringe of Australian cities in raw land and serviced allotments. Badcock (1982) has also visualised the effect of inflation on spiralling land prices, switching capital investment from the industrial to the finance property sector and their consequent effects on the economy during the early 1970's.

... between 1972-74 as in Australia, the collapse of mining stocks and shares in 1972 left 'idle' money searching for safer investment. The excess liquidity was soaked up by the land and housing markets. In Australia, finance companies, which had previously invested in the production side of land and housing development, lifted their lending for the purchase of housing and building blocks by 100 and 200 per cent in the 12 months between mid 1973 and mid 1974 ... the demand for building sites was relayed through the used housing market. (Badcock, 1984:210-211)

The long trend of upward advances in the price of property became an extravagant feast of capital gains. Australian cities experienced the greatest general boom in prices in the country's history.

Following the credit squeeze of 1974, banks, building societies and finance companies had to compete more strongly for funds.³ With the introduction of Australian Savings Bonds in 1976, the Federal government greatly increased its borrowings from the public and so dampened the activities of building societies and finance companies. In the second half of the 1970's, the Federal government used its powers to control levels of bank liquidity, especially through the Statutory Reserve Deposit (SRD) and the setting of interest rates. The Federal

government, especially from 1977, pursued a policy of lower interest rates partly to avoid the high mortgage rates.

... Between 1976 and 1978, Australia's rate of inflation descended from 13.5 per cent to 8.2 per cent. The change in money supply was brought down from a high of \$M5958 in 1975-76 through \$M5460 to \$M4815 in 1977-78 and the price of land and housing fell ... (The Australian Financial Review: Oct., 1979)

The rise in bank deposits in the early 1980's was related to a steady rise in the level of capital inflow. This had an effect on general levels of liquidity and was directly related to the buoyancy of the residential land and housing markets in Australian cities during the mid 1980's. In 1976-77, the total loans approved to individuals by the South Australian finance authorities, both private and public, for the construction of dwellings were \$110.2 million. Out of the total, the government contribution was negligible (only \$1-9 million), but during 1981-82 the amount had dropped to \$76.6 million in response to a depression resulting from government anti-inflationary measures in the housing and land market (Australian Bureau of Statistics, 1984).

From the above discussion, it is evident that the main effect of credit restrictions is to reduce the number of transactions and to take the heat out of the market. The overall effect of alternating periods of credit restriction and plentiful credit provision appears to be that land prices rise rapidly, flatten off and then rise rapidly again.

First home buyers always encounter difficulty with the reduction in the supply of housing funds and other controls on home finance institutions. A rise in home lending rates has a negative impact on

the demand for finance particularly for first home buyers. Between 1980 and 1982, the Savings bank home loan interest rates rose from 9.5 per cent to 13.5 per cent. This development plus the rising home prices resulted in a very sharp jump in debt servicing payments for new borrowers. In late 1982, housing activity again improved when home loan approvals began to recover from their mid year trough. One major positive influence on housing activity has been the Hawke Government's First Home Owners Assistance Scheme (FHOS). This scheme was introduced in October 1983 and provided for a reduced level of repayments over the early years to assist first home buyers to overcome initial debt service problems (National Australia Bank, July, 1984).

3.2.2 Role of Finance Sector.

In Australia, three major institutions - savings banks, trading banks and permanent building societies - have acted as major sources for providing loans made to individuals for dwellings. In South Australia, these institutions account for about 75 per cent of all loans to individuals. Number of loans for housing rose strongly between 1969 and 1973 along with the land boom in the fringe areas and then plunged during 1974. Subsequently, a strong recovery took place during 1975-76 period followed by a slow downward trend since 1977. This has been regarded as the outcome of common monetary factors prevailing all over Australia at that time. These factors include the rapid growth in the money supply fuelled by balance of payments factors during 1972, the general squeeze on credit and liquidity during 1974, the expansion of the money supply and the provision of special funds to the savings banks for housing during 1974-75, the effect of the introduction of the Australian Savings Bond on building society liquidity and lending in

the first half of 1976 and the general policy of restrained money supply growth during 1977 and 1978. As a result, stagnation prevailed in the residential land and housing market of Adelaide during 1977-82 period (Figure 2).

One special feature of the South Australian home finance industry during the mid 1970's was the widespread use of bridging finance to provide immediate funds for the construction and purchase of a new dwelling. This bridging finance lending reached a peak in 1976 when the State Government Insurance Commission (SGIC) entered the field in July, 1977. SGIC bridging finance became available for eligible borrowers with the Savings Bank of South Australia. During the mid 1970's this scheme had an important influence on the South Australian housing industry. Between 1975-76, a total of 3903 loans for the purchase of new dwellings was offered by the SGIC (Carmady *et al.*, 1979). In fact, the magnitude of the expansion of finance company lending during 1975 and 1976 was highly significant in relation to total lending to individuals for new dwellings. As a result of this injection of additional funding for home mortgages, there was a sharp recovery of vacant allotment sales in the metropolitan area following the 1974 downturn (Figure 2).

During 1983 and 1984, increased prices prompted many individuals to sell allotments for development. A substantial number of these allotments came from stock which had been held by individuals for several years. These sales helped to meet demand for allotments when production by developers was at a low level. By mid 1984, South Australia was in the middle of a boom in the dwelling construction industry and the demand for residential land had fully recovered. Many allotments were being sold "off the plan" and others were committed to

ADELAIDE ANNUAL PERCENTAGE CHANGES IN FINANCE FOR HOUSING, NUMBER OF SALES IN VACANT ALLOTMENT & INTEREST RATES, 1971-1984.

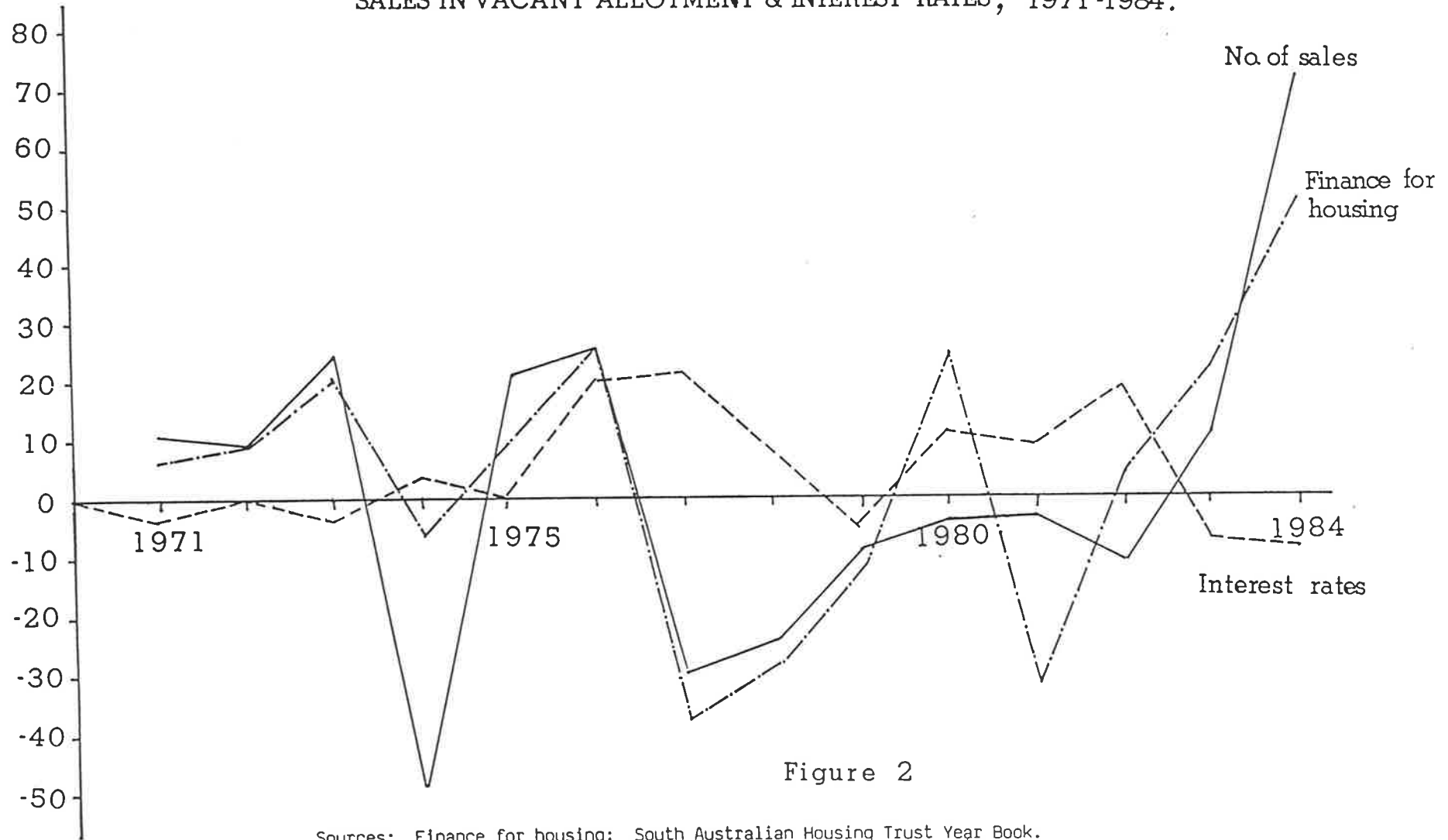


Figure 2

Sources: Finance for housing: South Australian Housing Trust Year Book.
 No. of sales in vacant allotment: Valuation Division, Dept. of Lands, S.A.
 Interest rates: S.A. Housing Trust, Annual Reports, 1971-1985.

builders before physical construction was completed. In addition, there were increasing lags in the registration of documents at the Land Titles Office at this time. Thus many allotments listed under companies had already been sold for building purposes.

... In June 1984 around 40 per cent of residential allotments in private ownership had been held by their current owners for five years or more and 20 per cent for ten years or more ... (Department of Environment and Planning, 1985)

This suggests that a large proportion of the privately held stock was relatively immobile and would be unlikely to become available to meet any shortfall between new allotment production and demand for land for home building.

3.2.3 Population Growth, Household Formation and the Demand for Residential Land

The growth of the Australian population and its changing demography has been a major factor influencing the housing system as well as the demand for residential blocks in major cities. The rate of growth of the Australian population has slowed appreciably in recent years, reflecting both a reduction in net immigration and lower domestic birth rates. As indicated in Table I the average annual rate of growth of the Australian population in the three years to 1976-77 was 1.15 per cent, almost half the rate prevailing in the earlier years shown in the table. It is evident that the rate of increase of the South Australian population has also slowed, although the reduction in growth rates seems to have been rather less.

The two sources of sluggish population growth - reduced migration and lower birth rates - have effects on the underlying demand for housing at different stages of the study period. According to Hugo

TABLE 1: RECENT POPULATION TRENDS
Australia and South Australia

PERIOD	Average annual rate of growth of total population	
	Australia	South Australia
1969 - 70	1.90	1.63
1970 - 71	1.99	1.36
1971 - 72	3.30	2.44
1972 - 73	1.54	1.29
1973 - 74	1.63	1.50
1974 - 75	1.27	1.29
1975 - 76	1.05	0.75
1976 - 77	1.21	0.87
1977 - 78	1.24	0.81
1978 - 79	1.31	0.84
1979 - 80	1.19	0.72
1980 - 81	1.45	0.83
1981 - 82	1.71	0.91
1982 - 83	1.32	0.77
1983 - 84	1.37	0.83

Source: Hugo, G.J., 1986:4-5.

(1986) as the migration flow has broadly the same age distribution as the existing population, migration adds directly to the total demand for housing. But changes in birth rates initially influence only the population at the youngest age groups and so have little if any immediate effects on housing demand. Further, he says, apart from migration, population effects on housing demand depend mainly on population movements in those age groups which are important for new household formation, notably in 20-24 years and 25-29 years age groups. In fact, in those age groups the household headship ratios are also high. In looking at the impact of changes in the rate of natural increase in population on housing demand, Hugo (1986) argues that attention must be given to the effect of those changes on different age groups and also the variations in household headship ratios by age.

The Australian-born population increased rapidly after 1945 with the post-war baby boom. From 1960 onwards, there was a bulge of demand for housing as the post-war children formed new households. This coincided with the second generational effect of high levels of young immigrants during the 1950's and 1960's whose children also were forming new households. The combined effects of population growth, changing household composition and declining household size have generated a rapid growth in total households and very different mix of household types.

... Between 1961 and 1966, the intercensal increases in the three critical age groups 20-24 years old, 25-29 years old and 30-34 years old - were 22.4 per cent, 13.7 per cent and 6.9 per cent, highlighting the strength of real demand in the decisive years from 1968 when the property boom began. In the subsequent five years, 1971-76, as the property market peaked and then collapsed, the intercensal increases in the three key age groups were 1.3, 21.6 and 17.6 per cent ... (Daly, 1982:134)

Net population growth due to migration slowed after the early 1970's and grew again in the early 1980's.

These changes were reflected in falls and rises in underlying housing requirements over the years which also included the consumption of more land in residential uses. In 1972-73, there were over 170,000 dwelling commencements reported in Australia - double the number of the early 1960's. In spite of a lower growth rate after 1972-73 in the Australian population (Table I), an increased rise in household formation is apparent in most of the cities. In fact, since the late 1970's in Australia, demand for housing has more closely tracked the rate of household formation than population increase (Hugo, 1986). Although there has been little increase in population in South Australia in recent years (1.299 million in 1978 to 1.357 million in 1984) the number of households has increased markedly (384,220 households at June 1978 to 459,487 households at June 1984: SAHT Reports, 1979, 1985). The reasons for this increase have been numerous as indicated by the demographers. One reason is that household size is decreasing, because households are being formed by people at an earlier stage (i.e. 20-24 years group). In addition, there are more single person households and more single parent households mainly resulting from splitting up of families. Another reason is the ageing of the population which means more elderly person households. Each of these factors and social changes in family links and acceptable lifestyles have contributed to the increase in small and single person households. The increasing rate of household formation is currently creating a marked increase in housing demand which ultimately translates into demand for house sites. (This, notwithstanding the intent of the state governments to use residential land more intensively.)

3.2.4 Real Growth in Wages and Salaries

The early 1970's show a strong real growth in the average weekly earnings of a household in the Adelaide Metropolitan Area (Table II). This was associated with a fully employed economy to the mid 1970's and a residential property boom in the outer areas. Real wages grew quite rapidly during the term of the Whitlam Government which coincided with interest rates for housing that were actually negative in real terms in the mid 1970's. This enabled the home buyers to raise their mortgage repayment ability and consequently encouraged more families to purchase land blocks or new dwellings in the rapidly growing outer suburbs. This was followed by a severe recession in the late 1970's - accompanied by an increase in unemployment and a collapse in demand for housing as high interest rates made home purchase almost unattainable for households on median incomes. During 1983-84, however, the situation changed for the better. Interest rates for housing fell slightly and the number of unemployed persons declined. But the Hawke Government, with a first home buyers assistance package (FHOS) provided a real stimulus to housing industry which brought a resurgence in demand for house sites.

3.3 REGIONAL EFFECTS

The State Government of South Australia has traditionally monitored the land market, if only indirectly through the activities of the Housing Trust. Government intervention in the urban land market has included the Planning and Development Act (1962), the Urban Land Price Control measures during the mid 1970's, the South Australian Land Commission, and the regulatory impact of the Urban Development Staging Committee. Activities like changes to the urban transportation system

TABLE II: REAL GROWTH IN WAGES AND SALARIES
(1985 dollar value = 1.00)

YEAR	Average Weekly Earnings (\$)
1970	463.72
1971	467.00
1972	482.30
1973	462.60
1974	465.70
1975	451.20
1976	428.20
1977	410.20
1978	397.20
1979	404.30
1980	422.80
1981	407.80
1982	425.30
1983	410.40
1984	404.30

Source: 'Housing Trust in Focus', SAHT Annual Reports, 1971-1985.

and the spatial concentration of employment growth within the metropolitan area do affect the population distribution and the accessibility pattern of the metropolis. The products of such activities are capitalised into residential land and housing values and contribute to changes in the residential property market of Metropolitan Adelaide.

3.3.1 The Land Development Process in Metropolitan Adelaide

The price of urban land, like the price of any other commodity, is determined by supply and demand. During the last fifteen years, demand for residential land in Metropolitan Adelaide has fluctuated relative to supply. The demand for residential land has two components: demand for land on which to build and for speculative purposes. Speculation in broadacres or serviced allotments on the urban fringe distorts the land release process and destabilises the market. The effect of volatile prices in the 'edge of city' land submarkets can ripple throughout the remainder of the residential land market of cities. Inevitably, the price escalation driven by speculative activity in the fringe land market is reinforced by the rigidity of the supply side. The land development and housing industry is simply not capable of responding quickly enough to shortages to dampen price inflation.⁴

-
4. Stock in vacant allotments signifies the number of vacant house blocks that remain unsold at the end of each financial year. These unsold blocks are consequently added to the new blocks created in the following years and thus the accumulation process goes on with supply in continual adjustment. A steady supply of vacant land to the property market helps to maintain the stability of the market. With the fall in the stock of vacant allotments, land prices will rise. When the stock of allotments gets so low, relative to the demand, that the expected return exceeds the cost of subdividing land, then developers will find it profitable to create new allotments. This increase in the supply will tend to reduce or moderate the increase in the market prices.

Excess stocks of vacant land can influence the land price as well. If the vacant land stock is sufficient, relative to the demand for land, the price of land can be stabilised over a period of time even when the costs of subdivision are increasing. This stability may continue, if the stock of vacant land is large enough to

Hence, activity in Adelaide's fringe land market over the fifteen year period (1970-84), has had a considerable influence upon temporal fluctuations in vacant land prices across the metropolitan area as a whole. This can be demonstrated by briefly recounting the main benchmarks in fringe land development in Adelaide since the 1960's and the government efforts to ensure a steady release of housing sites commensurate with long run demand.

3.3.2 Landmarks in Fringe Land Development

In the late 1960's the Planning and Development Act required developers to connect house sites to services which increased costs to the consumer. During 1967-68 the Act provided for transfer of titles (trading) even though lots were unserviced. This resulted in a huge rise in speculative development. Over 1800 lots remain in the Maslins and Sellicks Beach area from subdivision undertaken in the 1960's and only now are they marketable for housing. With the obvious over-supply through the 1960's, production in land blocks dropped away notwithstanding the inevitable pressure on land prices in the early 1970's. The high inflation in residential land price in the fringe areas led to intervention in the land market by the State government. In September 1973, the South Australian Land Commission (SALC) was formed to provide residential blocks at reasonable prices and also to dampen the private land market. But the SALC had to face difficulties at the beginning in releasing land blocks for housing. In 1975, the SALC released land blocks for the first time in Craigmare (SALC, Annual Report, 1976:77).

4. (Continued from page 44)

satisfy demand without the need for new subdivision. However, with the increase in population, the existing stock will not last forever.

In 1977 the SALC and the private developers jointly held about 8000 unsold land blocks in the metropolitan area. Through 1977-83 there was no need to create any more building sites and those unsold blocks were absorbed by this period. At the same time, the construction capacity of the building industry fell and the whole industry geared down.

Adelaide was in a somewhat different position in the early 1980's when the Hawke Government was re-elected in 1982. By this time, the running down of the supply of vacant allotments coincided with the stagnation in the capacity of the land development sector and the building industry. The number of dwelling completions fell from about 10,112 in 1975-76 to 3793 in 1980-81 (Table III) in the Adelaide Metropolitan Area and by 1983 the supply of vacant blocks had fallen to below three years' stock.

Tea Tree Gully was about the only area where the production of land blocks remained reasonably steady (Table XIII). In 1980 the Department of Environment and Planning prepared an internal report indicating that the production in vacant land blocks needed to rise. Many first time home buyers moved in from selective northern suburbs, where property prices had kept pace with inflation (Para Hills and Salisbury). Also, during the 1978-84 period the upgrading of Main North and North-East Roads helped maintain the accessibility levels of the northern suburbs. By the early 1980's, developers held stocks in applications and then in 1981 the Indicative Planning Council foreshadowed a serious running down of serviced blocks. Then, in 1982 the introduction of the First Home Owners Assistance Scheme (FHOS) added to the concern of the development industry that serviced blocks were in short supply. In the early 1980's with interest rates at a

TABLE III: DWELLING COMPLETIONS - AMA (1971-1985)

PERIOD	PRIVATE		GOVERNMENT		TOTAL
	HOUSES	OTHER DWELLINGS	HOUSES	OTHER DWELLINGS	
1971-72	4,341	3,521	373	41	8,276
1972-73	5,230	2,725	756	109	8,820
1973-74	5,409	3,873	530	172	9,984
1974-75	4,249	2,113	697	375	7,434
1975-76	6,772	2,530	538	271	10,112
1976-77	4,752	1,857	872	323	7,804
1977-78	3,669	852	473	349	5,343
1978-79	2,712	529	675	193	4,109
1979-80	2,962	473	379	272	4,086
1980-81	2,683	591	262	257	3,793
1981-82	2,242	872	359	542	4,015
1982-83	2,785	841	343	845	4,815
1983-84	4,225	1,612	506	693	7,036
1984-85	4,049	2,352	542	824	7,767

Source: Australian Bureau of Statistics, August 1985.

post-war record, developers were induced to adopt 'just in time' strategies which were quite different from the early and mid-1970's, when developers had access to plentiful finance at negative rates in real terms. In 1983-84 the deregulation of the money market marked the advent of volatile interest rates which has made the property development sector much more conservative in its business affairs.

3.4 DISCUSSION OF BACKGROUND TRENDS IN THE RESIDENTIAL LAND MARKET OF METROPOLITAN ADELAIDE, 1970-84.

In Adelaide, during the late 1950's and early 1960's, there was a boom in land subdivision. However, the surplus of serviced allotments had been reduced by 1965 because the rate at which vacant allotments were being consumed for dwelling construction came to exceed the rate at which they were created (Figure 3). After 1965 it became unprofitable for developers to create new allotments partly because of the escalation in costs. Since the mid 1960's in South Australia, with the introduction of the Planning and Development Act, the cost of installing water and sewerage has been met by the developer rather than the local authority and inevitably, passed on to the final consumer.

Production of allotments responded again to the steady climb in demand through the early 1970's. The property boom peaked in Adelaide between 1972-74, during which the ill effect of land price inflation was most noticeable.

Figure 4 shows that vacant allotment prices (real) peaked in 1977, during a period of negative real interest rates. In 1973 the rate of inflation surpassed that of the South Australian Savings Bank rate. In 1973 the Savings Bank interest rate was 9.5% and the rate of inflation in Adelaide measured by the CPI was 10.00%, so the real interest rate

ADELAIDE: RATE OF CREATION & USE OF RESIDENTIAL ALLOTMENT.

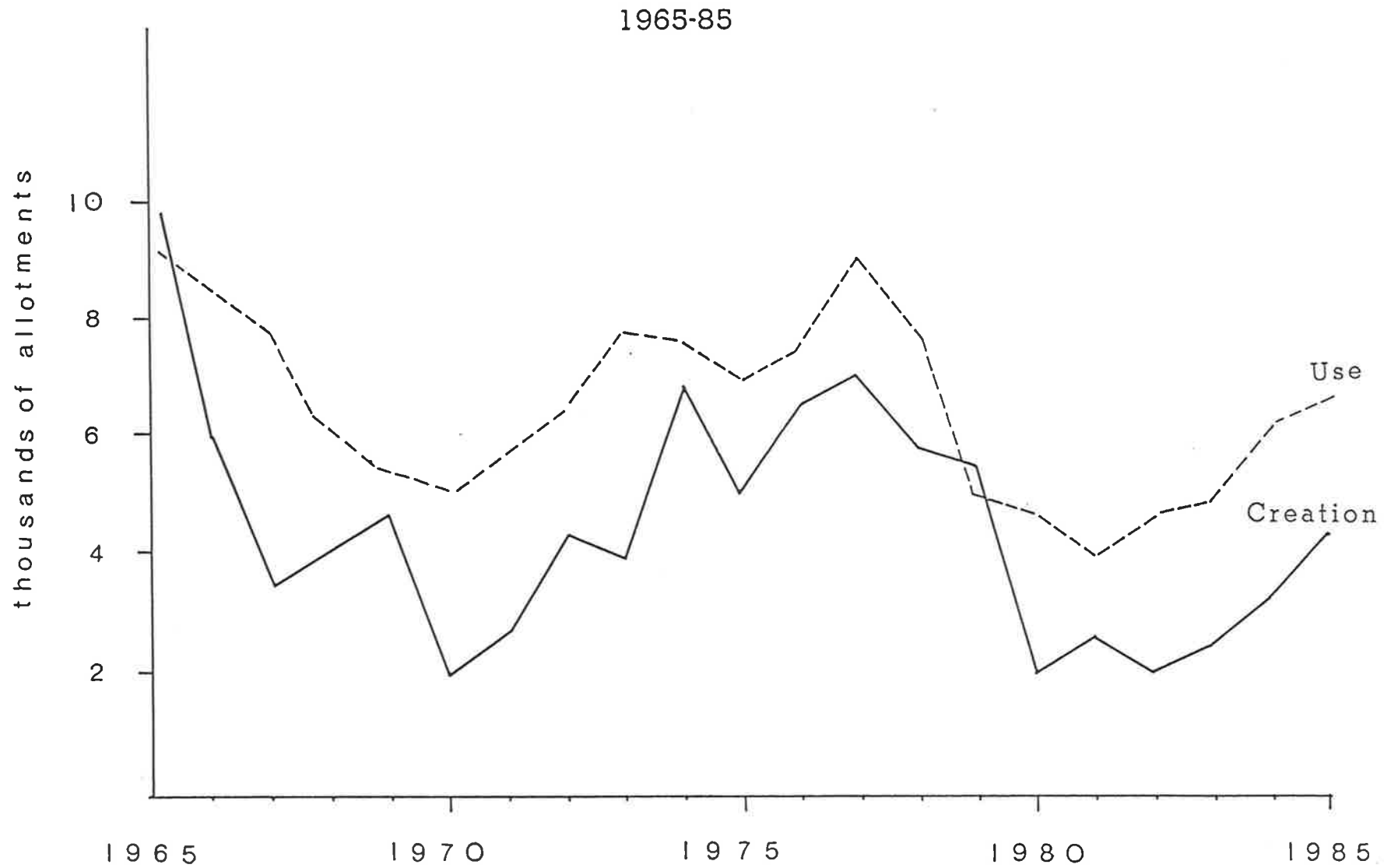


Figure 3

Source: Department of Environment and Planning, Land Monitoring Unit, 1985.

(1985dollar=1.00)

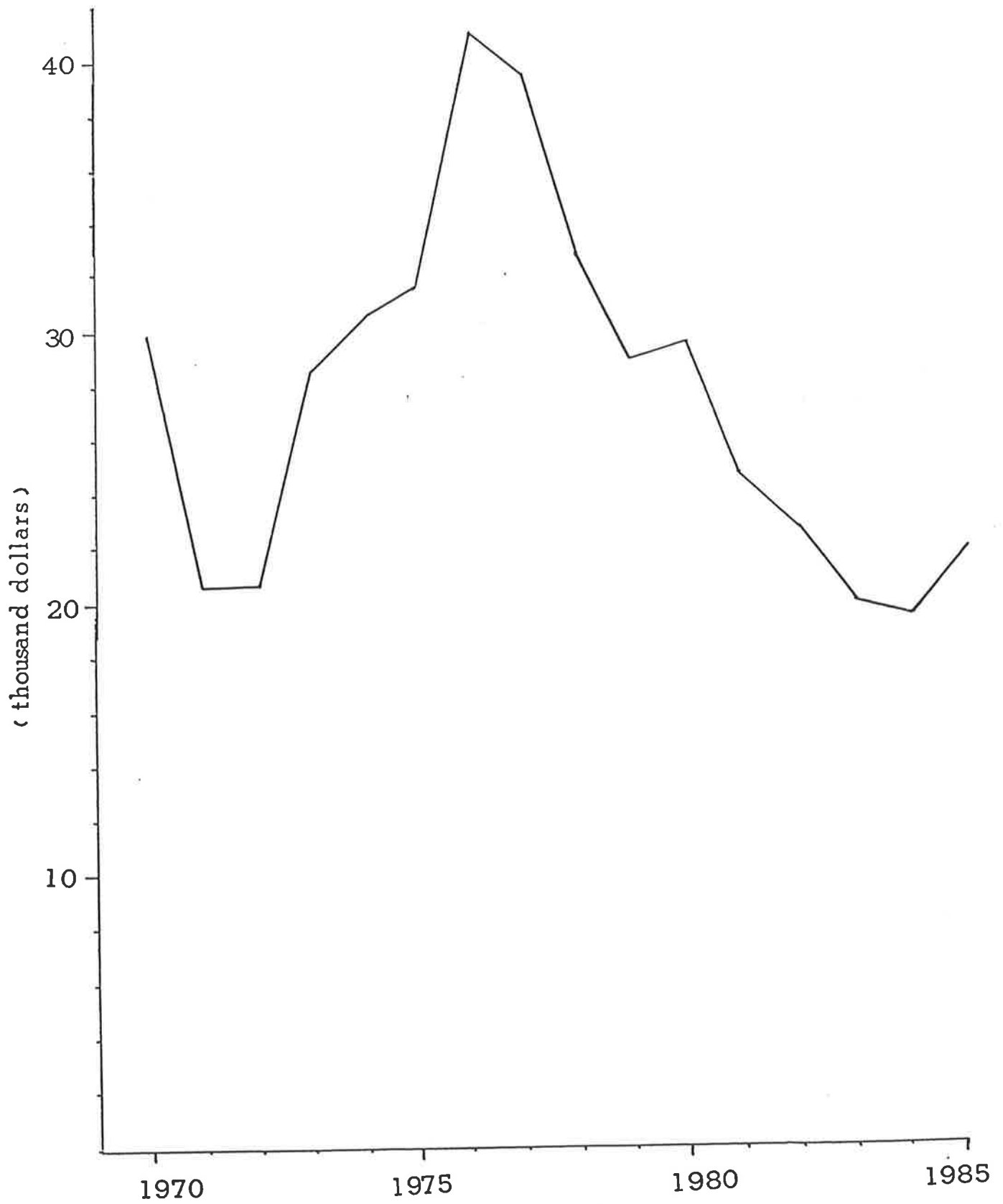


Figure 4

was minus 0.5%. The negative interest rate was maintained until 1977 (Figure 2). Figure 5 reflects the rise in vacant land prices associated with the heightened rates of turnover during 1971-73 and 1975-76.

... Interest rates in general have risen to their present levels to rectify past wrongs. When inflation began taking off in the early 1970's, smart investors realised that interest rates had not moved upward at the same pace. They could, therefore, borrow money at, say, 7 per cent to buy assets which would appreciate at more than 12 per cent. It was called using other peoples' depreciating money to buy appreciating assets. (The Age, 6.8.82, 4)

But after 1977 a sharp rise in the bank interest rate relative to inflation ended the opportunistic investment in urban property. Land prices rose and a marked fall in the number of sales (Figure 6) signified a dampening of the level of market activity between 1977 and 1982. Between 1970-75, vacant allotment prices showed an increase of 140 per cent in the AMA, whereas during the same period the increase in the Consumer Price Index (CPI) was only 62 per cent (Figure 5). However, over the next five years, from the end of 1976 to the end of 1980, the rise in the land price was 96 per cent and that of the CPI was 94 per cent. The period between 1981-85 saw a very sharp rise in land prices (552 per cent), which outstripped the rise in the CPI (113 per cent) (Table IV). Between 1980-83 the rise in average earnings was greater than the rise in land prices (Figure 5). In the same period a significant rise in the number of vacant allotment sales coincided with the rise in average earnings. Figure 6 shows that between 1980 and 1983 an increase of 2100 sales (47.7 per cent) in vacant allotments was recorded. Between 1977 and 1982 stagnation characterised the local land market in Adelaide (Figure 6). Prices of vacant allotments remained depressed following a severe drop in the number of land sales. This slowed the rate of land release and housing construction declined in all major Australian cities.

ADELAIDE: PERCENTAGE CHANGE IN RESIDENTIAL LAND PRICE,
AVERAGE EARNING, C P I, & BANK INTEREST RATE, 1970-84.

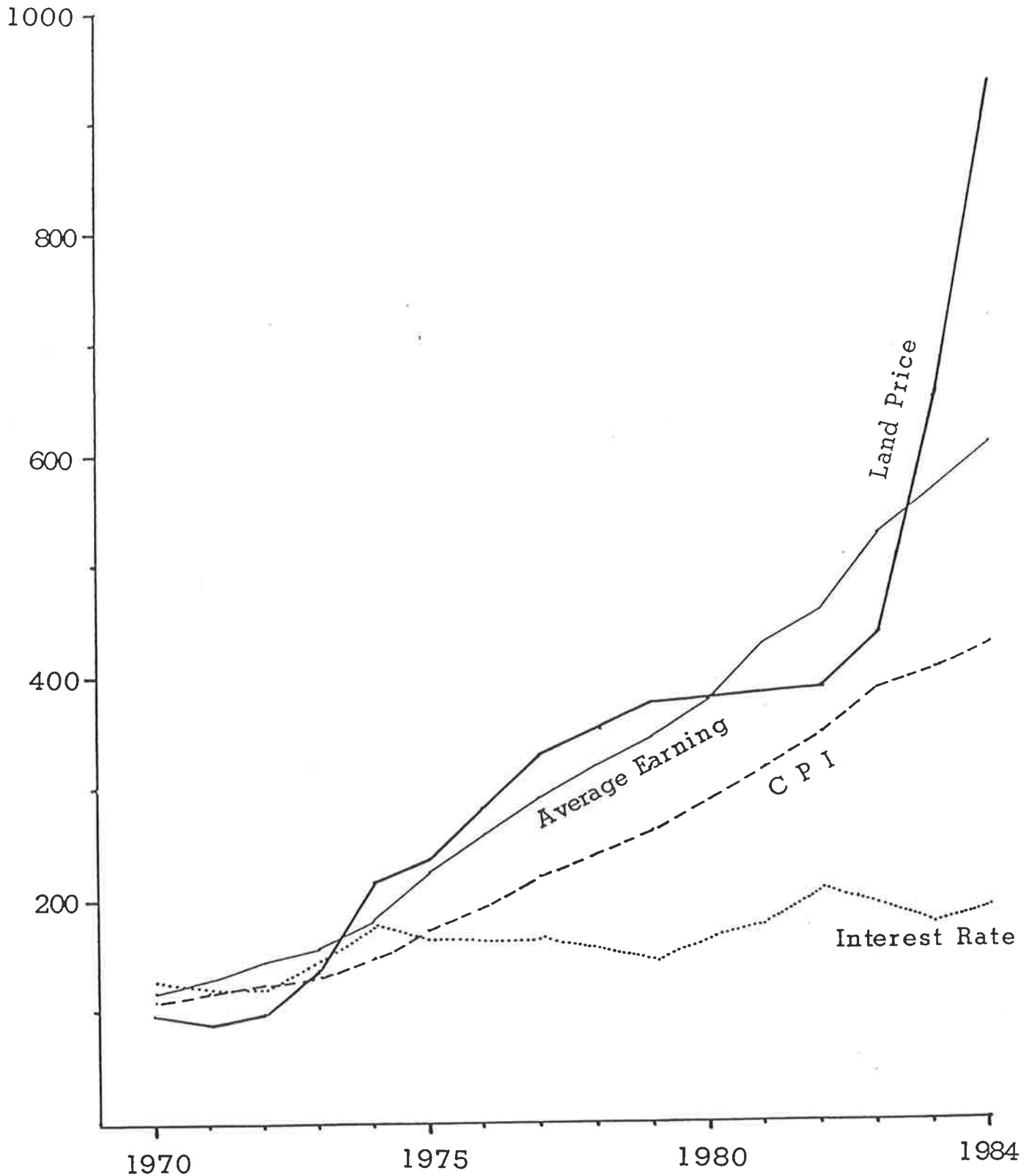


Figure 5

Source: Land price: Valuation Division, Department of Lands, S.A.
Average Earning, CPI and bank Interest rate: Aust. Bureau of Statistics, S.A.

ADELAIDE: RESIDENTIAL ALLOTMENT SALES & PRICES

1970-85

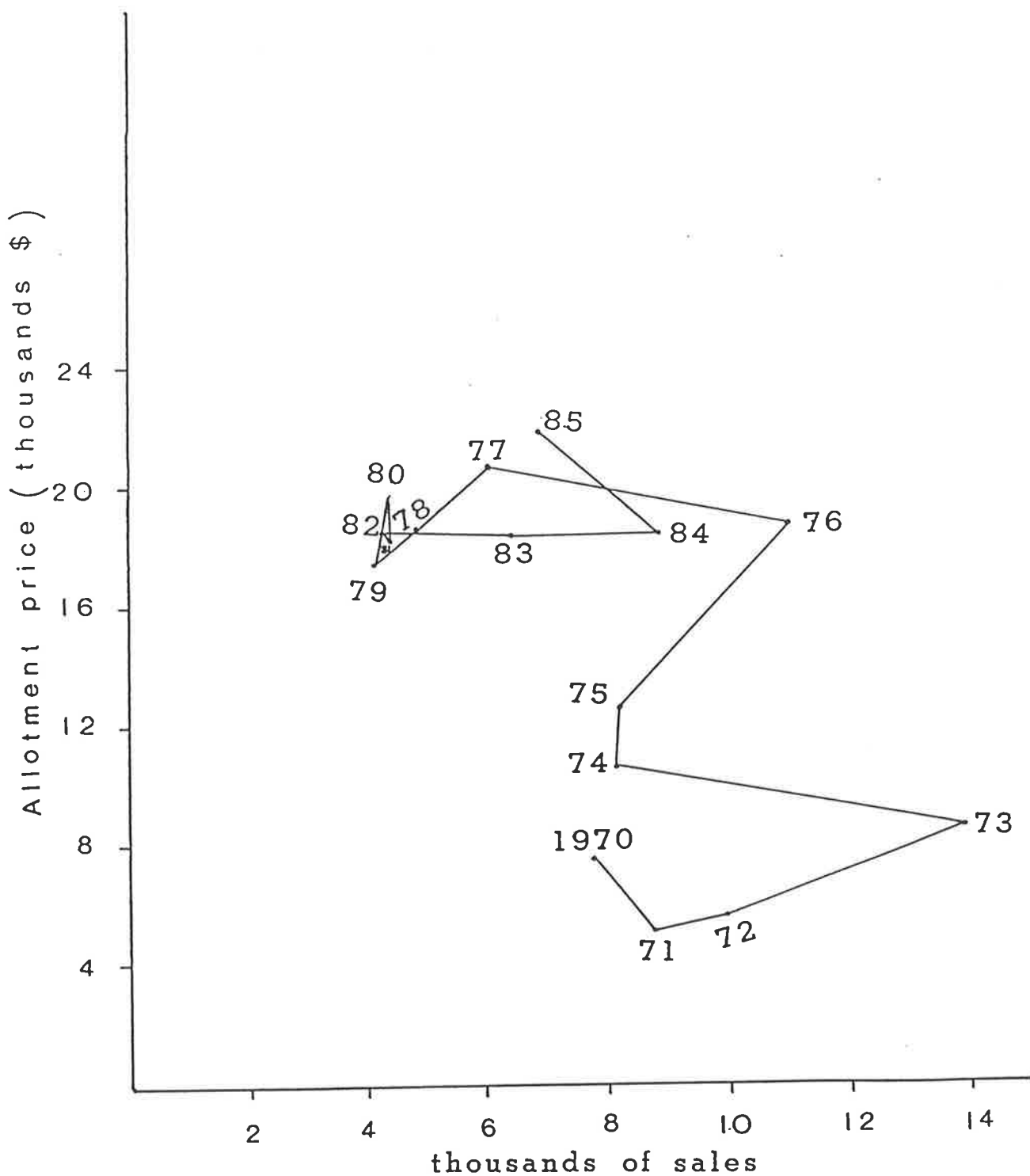


Figure 6

Source: Valuation Division, Department of Lands, S.A., Sales Index, 1970-84.

Table IV: Housing cost indices - Adelaide (1968 = 100.0)

	Land	House and land	Private rents	CPI	Average earnings
1968	100	100	100	100	100
1969	98	108	104	106	106
1970	95	114	107	109	115
1971	88	125	112	115	129
1972	95	136	119	122	141
1973	135	154	126	130	155
1974	214	236	138	147	179
1975	235	270	163	171	224
1976	281	334	192	193	258
1977	328	365	214	220	289
1978	352	372	229	241	318
1979	374	379	243	261	342
1980	377	408	256	287	376
1981	385	442	271	314	427
1982	388	484	271	347	458
1983	436	537	336	387	524
1984	649	684	371	413	565

Sources: Land: 1968-75: BIS-Shrapnel
1976-84: Valuation Division, S.A.
House and land: 1968-75: BIS-Shrapnel
1976-84: Valuation Division
Private rents, CPI, Average earnings: Australian Bureau of Statistics.

... New production in housing, which had peaked nationally at 170,500 commencements in 1972-73, slumped to around 119,000 by the end of the decade, more significantly, output of flats and other medium density dwellings halved from 48,000 in 1972-73 to 24,000 in 1978-79. (King, 1986:235)

A drop in average earnings, combined with the sharp rise in bank interest rates delayed the entry of many first home buyers to the market until the Hawke Government's housing assistance package was assembled (First Home Owners Assistance Scheme [FHOS]). This boosted allotment sales in Adelaide from 4388 in 1980 to 8792 in 1984 (Figure 6) while dwelling commencements more than doubled between 1980-81 and 1984-85 (Table V).

The sharp rise in allotment prices between 1984-85 reflected resurgent demand for building allotments, which was not matched by the same level of land release. As a result, in Adelaide many lower income suburbs, where young people can buy a first home with a State Bank loan or help from the First Home Owners Scheme, have shown the biggest rises in residential land prices.

...One of the big headaches for people wanting to build a new house is finding a block of land at an affordable price. While the cost of developing a block has climbed to about \$9000 or more, land prices in some of the sought after areas have topped out. (Vacant Land in Metropolitan Adelaide, Department of Environment and Planning, 1984)

By late 1984, the pressure in the property market had receded somewhat due to the cutback in the FHOS and the historically high real cost of home finance. At the same time, in terms of impact on the land market, it has been observed that a significant part of the total housing loans offered by the financing authorities has been used for purchasing existing dwellings rather than the purchase or construction of new dwellings.

TABLE V: RESIDENTIAL BUILDING COMMENCEMENTS - ADELAIDE STATISTICAL DIVISION

PERIOD	PRIVATE			GOVERNMENT			TOTAL		
	Houses	Other Residential Building	Total Residential Buildings	Houses	Other Residential Buildings	Total Residential Buildings	Houses	Other Residential Building	Total (a) Residential Building
1972-73	7192	3638	10830	786	136	922	7978	3774	11752
1973-74	6709	3575	10284	556	207	763	7265	3782	11047
1974-75	4777	2415	7192	918	501	1419	5695	2916	8611
1975-76	7574	2635	10209	820	282	1102	8394	2917	11311
1976-77	6939	2156	9095	1039	573	1612	7978	2729	10707
1977-78	4054	994	5048	1064	499	1563	5118	1493	6611
1978-79	3222	630	3852	471	436	907	3693	1066	4759
*1979-80	*3093	*701	*3794	*630	*499	*1129	*3723	*1200	*4923
1980-81	2981	698	3679	318	230	548	3299	928	4227
1981-82	2872	1272	4144	519	841	1360	3391	2113	5504
1982-83	3211	1073	4284	437	976	1413	3648	2049	5697
1983-84	5446	1904	7350	588	1223	1811	6034	3127	9161
1984-85	5159	2782	7941	775	1109	1884	5934	3891	9825
1985-86	3707	1830	5537	633	811	1444	4340	2641	6981
QTR. ENDING									
SEP 1984	1311	587	1898	228	154	382	1539	741	2280
DEC 1984	1426	912	2338	232	319	551	1658	1231	2889
MAR 1985	1213	452	1665	134	411	545	1347	863	2210
JUN 1985	1209	831	2040	181	225	406	1390	1056	2446
SEP 1985	1080	493	1573	188	141	329	1268	634	1902
DEC 1985	1090	631	1721	87	172	259	1177	803	1980
MAR 1986	807	349	1156	136	157	293	943	506	1449
JUN 1986	730	357	1087	222	341	563	952	698	1650
SEP 1986	773	272	1045	327	307	634	1100	579	1679

Source: Australian Bureau of Statistics

Total dwelling unit commencements for Adelaide Statistical Division not available from the Building Activity Collection introduced from September quarter 1980. Number of dwelling units shown for the A.S.D have been taken from the series

' DWELLING UNIT COMMENCEMENTS REPORTED BY APPROVING AUTHORITIES '.

3.5 CHANGING SPATIAL PATTERN OF RESIDENTIAL LAND PRICES IN METROPOLITAN ADELAIDE, 1970-84

3.5.1 General Observations

In this section, the analysis will concentrate on the regional and local effects responsible for intra-urban variation in the residential land market. Although Adelaide real estate is not the most expensive in Australia, since 1970 it has been subjected to short-term inflationary spurts in property prices following cities like Sydney and Melbourne. Adelaide's property boom actually began in the early part of the 1970's. It involved a high level of urban capital formation which re-shaped the Central Business District and accelerated the expansion of the city's fringe. Neutze (1977) calculates that urban development accounted for 52 per cent of the gross fixed capital formation in Australia between 1970-71 and 1973-74, and that over two-thirds of it was concentrated in the middle and outer ring suburbs.

The associated rise in land prices has not been uniform throughout the metropolitan area. In order to measure the changing spatial patterns in residential land prices, the whole of the Adelaide Metropolitan Area has been divided into three zones with respect to the distance from the city centre (Figure 7). The inner area extends for an average distance of five kilometres from the centre, the middle zone for a distance of approximately 12-15 kilometres and the rest of the area has been identified as the outer zone, extending to the fringe.

The expansion of a metropolitan area generally involves at least some increase in land prices. As population, employment or housing standards increase, new space is required to accommodate the new demand. If no new land can be added to the city, the price of existing urban

ADELAIDE: INNER, MIDDLE & OUTER ZONES.

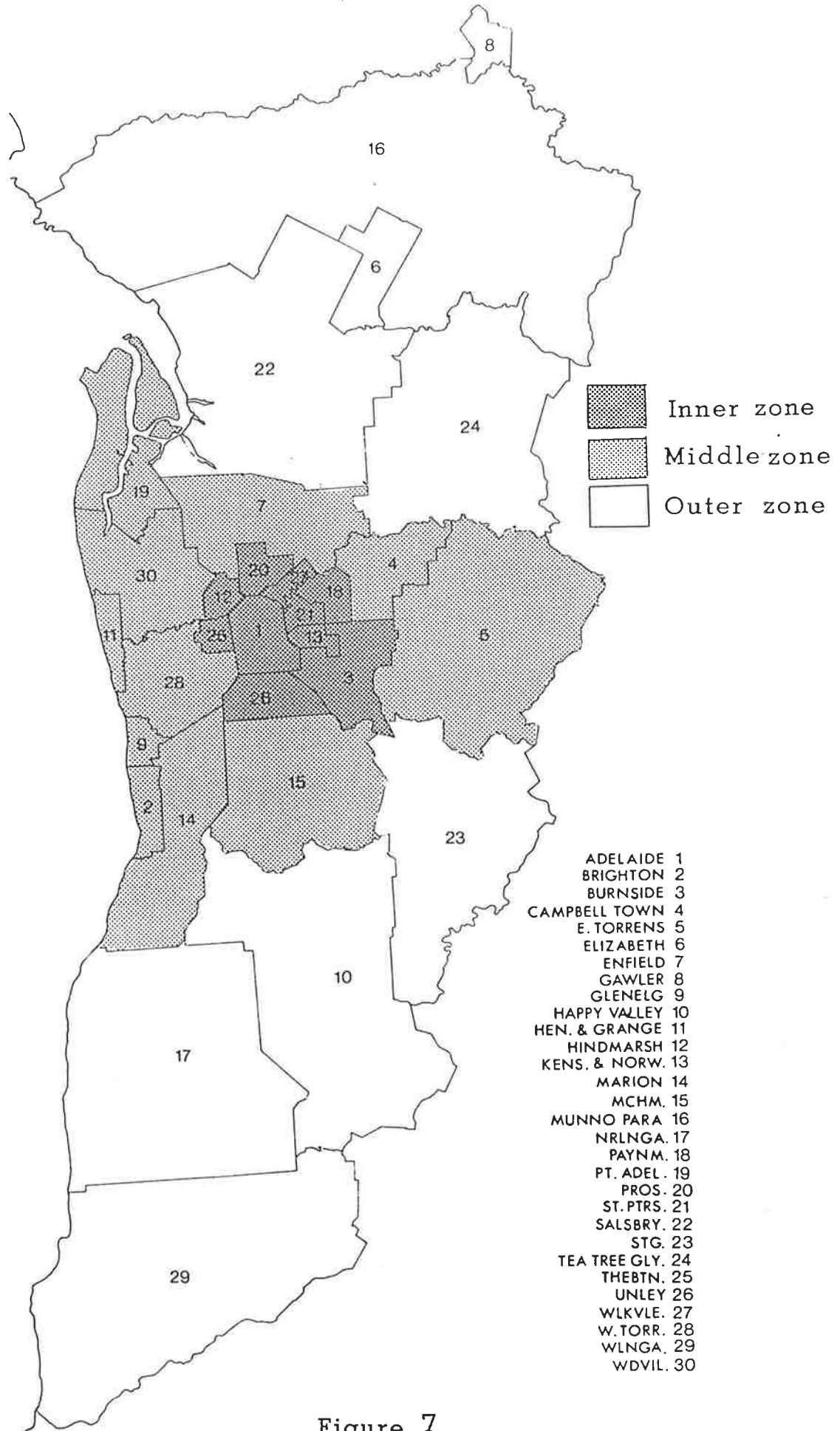
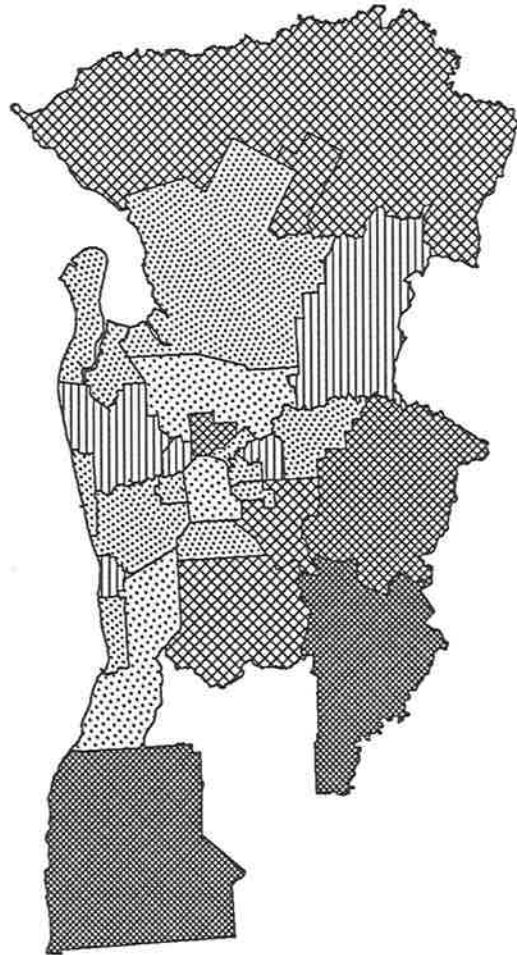


Figure 7

ADELAIDE: PERCENTAGE CHANGE IN RESIDENTIAL LAND PRICES 1970-1984



Mean 64.5
S.D. 63.0

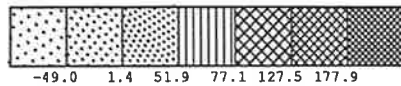
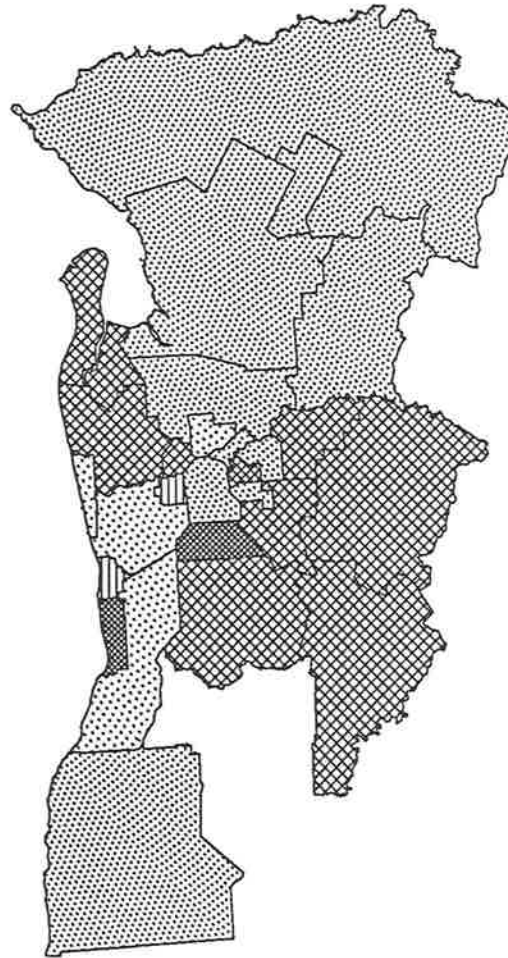


FIGURE 8A: 1970-1974



Mean 41.4
S.D. 35.7

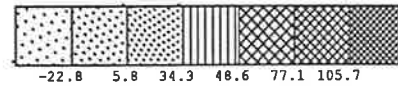
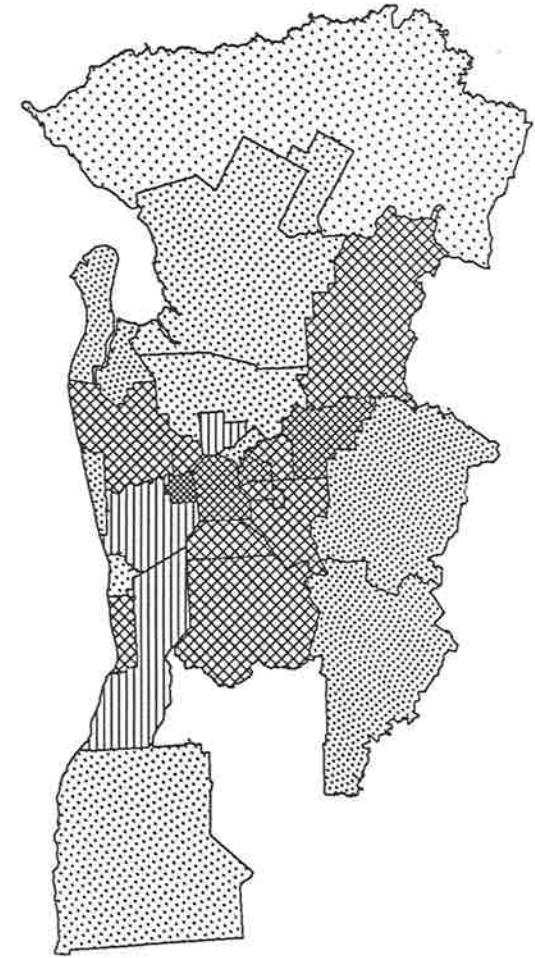


FIGURE 8B: 1975-1979



Mean 54.2
S.D. 28.1

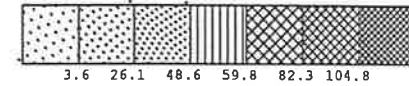


FIGURE 8C: 1980-1984

ADELAIDE: CHANGES IN LAND PRICE



Figure 9

Source: Valuation Division, Department of Lands, S.A., Sales Index, 1970-84.

ADELAIDE: PERCENTAGE CHANGES IN INFLATION, BANK INTEREST, & REAL INTEREST RATE, 1970-85.

Source: Percentage changes in inflation: Australian Bureau of Statistics.
Bank interest and Real interest rate: S.A. Housing Trust, Annual Reports, 1970-85.

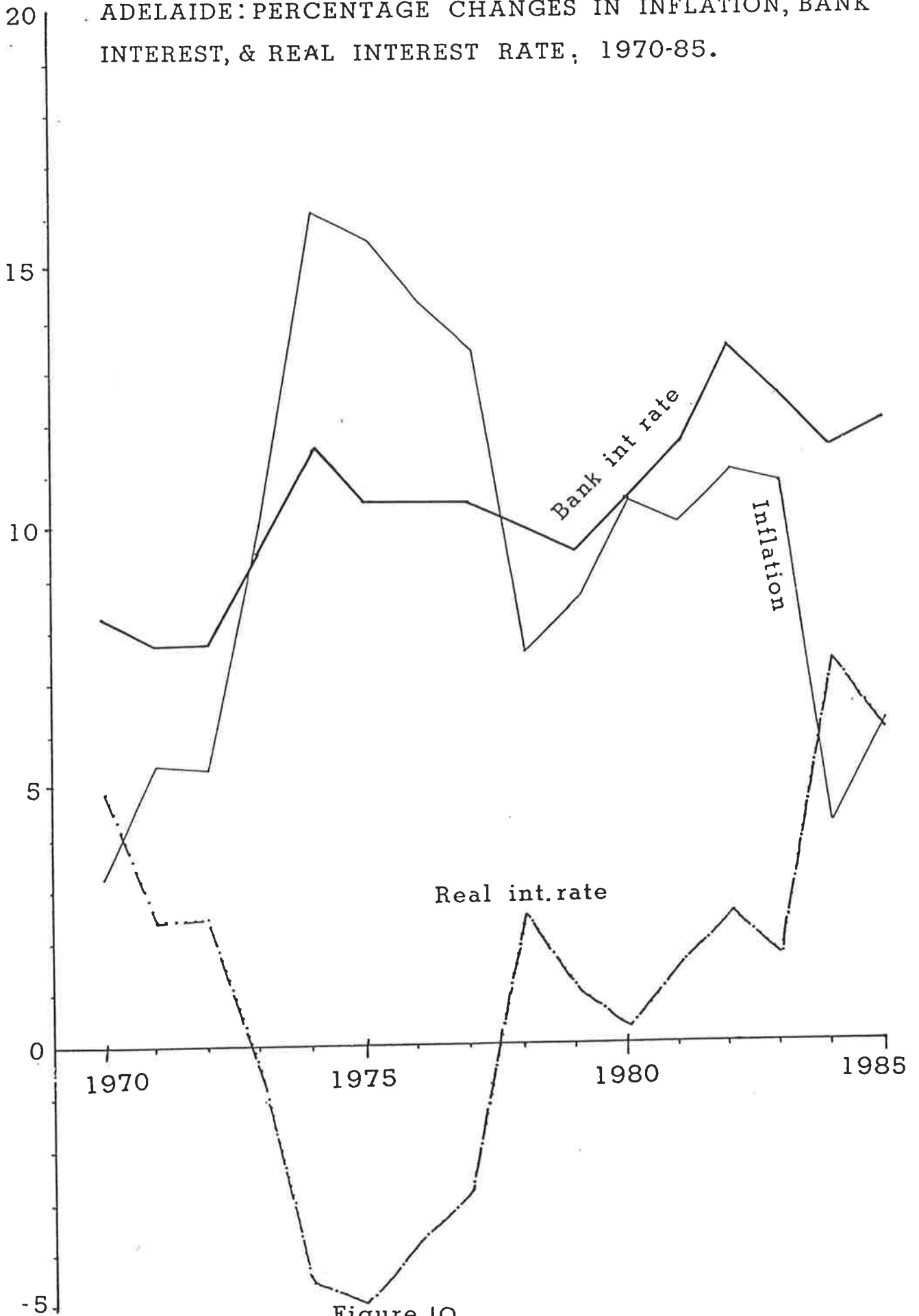


Figure 10

space will be bid up. Since 1970 rapid suburbanization has exercised a significant effect on the land market in the Adelaide Metropolitan Area and as a result has brought major changes in the spatial pattern of the metropolis.

The following discussion on changes of nominal land prices recorded in the three zones will help to highlight some of the notions implicit in urban rent theory and are applicable to the Adelaide Metropolitan Area.

3.5.2 Changing Patterns: 1970-74, 1975-79, 1980-84.

Figure 9 displays shifts in land prices in the inner, middle and outer zones of the Adelaide Metropolitan Area during the last fifteen years. Between 1970-74, the relative rates of change in average land prices reveal that the developing outer suburbs of the Adelaide Metropolitan Area outstripped the central areas, especially in times of inflation in the outer area land market.

Inner area residential land prices increased by 2.5 times in the 15 year period, while the nominal increases in the middle and outer areas during the same period averaged 1.7 and 2.7 times respectively.

During the early 1970's, vacant allotment prices rose rapidly as a result of the inflation in the residential land sectors of the developing outer suburbs of Adelaide. For example, in Noarlunga the average price of a land block rose from \$9503 (real price) in 1970 to \$27,624 by 1974 and in Salisbury, from \$24,091 to \$37,769 during the same period (see appendix). Between 1967-68 and 1971-72, a total of \$M110.36 (real value) had been invested in the six outer suburbs of Elizabeth, Salisbury, Munno Para and Tea Tree Gully in the north,

Stirling in the east and Noarlunga in the south for the completion of private and public buildings, statistically designed as 'other buildings'. This includes hotel, shops, factories, other business, retailing, entertainment and recreation, health and miscellaneous (Australian Municipal Information Service, Cat. No: 1104, 0-001). Between 1972-1977 this amount had risen to \$M336.4 and then to \$M380.6 during the 1978-83 period. In addition to that, between 1968-83, outer suburbs also experienced comparatively sizeable Local government social investment. Between 1968-72 outer areas received \$M87.42 for development of social activities and this amount rose to \$M141.1 in the 1973-77 period and then to \$M204.2 during the 1978-83 period. (AMIS: Interim Socio-Economic Data File, Cat. No: 1103-0, SA = 4 Sheet 0-001.) Such huge investment in local infrastructure and socio-economic development boosted the local economic activity and had substantially increased the number of employment opportunities.

On the other hand, since the mid 1970's, re-investment, both public and private, in the middle and inner suburbs has seen a gradual upgrading of the residential amenity of those areas. The white collar workers with high incomes began concentrating in pockets of the inner and the middle suburbs and thereby contributed to a real shift in property price rises in those areas. During the middle of the 1970's, regional shopping centres were built in middle suburbs (e.g. Tea Tree Gully, Marion, Woodville and Enfield). This had an effect on the increase of local job opportunities and thus the residential land and property prices close to such shopping districts began to rise (e.g. Marion, Tea Tree Plaza, West Lakes, Noarlunga).

Since 1977, with more emphasis on the inner city re-development programme, the traditional inner areas have received significant public investment. Between 1970-74, a total of \$M36.68 was invested in the inner areas for the redevelopment. Between 1975-79 the amount had increased to \$M84.83 and then during the 1980-84 period, the total investment amounted to \$M69.61, reflecting a major shift in public investment from the outer to the inner residential suburbs. Such considerable public investment was devoted to renewing out-dated infrastructure in the inner suburbs.

Inner area revitalization has involved both local and state government participation. Local government effort has been limited into the renewing of local infrastructure while the state government has modernized schools, hospitals, shopping district and major entertainment and recreation centres. The South Australian Housing Trust (SAHT) in its inner city programme has also redirected funds back to the centre in an effort to accommodate low income people close to the central job areas, transport, medical and other facilities.

3.6 CHANGING DISTRIBUTION OF NOMINAL LAND PRICES WITHIN METROPOLITAN ADELAIDE

Clearly the rates of change recorded in residential land prices are not uniform throughout the Adelaide Metropolitan Area. During the fifteen year period, a relative rise in land prices is noticeable for the inner areas in comparison with the middle and outer zones in the Adelaide Metropolitan Area, especially towards the late 1970's. After the mid 1970's, with the end of the land boom in the fringe areas, inflation in land prices ceased. This coincided with a revitalization of the inner areas of Adelaide by the Local and State governments.

The rising land and housing markets in the inner zone are reflected in the jump in the number of sales in the inner areas (Figure 9). Real land prices rose 44.23 per cent between 1970-74 and 1975-79 and also 40.2 per cent between 1970-74 and 1980-84 periods in the inner areas.

The most spectacular development occurred in the outer suburbs. Between 1970-73, the sharp rise in residential land sales reflected the volatile situation in the Adelaide land market as the maximum number of sales occurred during the year 1973.² In the outer areas, broadacres were subdivided and developed for residential use. Munno Para and Elizabeth in the north, East Torrens and Stirling in the east, and Noarlunga in the south all experienced large increases in their land prices. This increase in residential land prices in the fringe areas owes something to the urban capital formation in those areas during the late 1960's and the early 1970's. Between 1967-71, the outer suburbs of the Adelaide Metropolitan Area received \$M110-36 for the development of local infrastructure, e.g. roads, bridges, schools, hospitals, parks, community centres and other Local and State government establishments (AMIS, Cat. No: 1104, 0-001).

In 1970 the average price of an allotment in Noarlunga was only \$2318, by 1974 it had jumped to \$7406, showing a sharp rise of about 219 per cent. In the east, the price of a vacant allotment in Stirling, rose from \$1450 to \$8651, between 1970-74, marking a rise of 496 per cent. In the north allotment prices more than doubled in suburbs like Munno Para and Elizabeth.

2. Table V shows the total dwelling commencements between the 1972-73 and 1985-86 period within the Adelaide Statistical Division (ASD). The table also provides evidence supporting the land price inflation in the early part of the 1970's, followed by a stagnation in the late 1970's and then again a rise in housing and land market during the 1983-85 period.

During the 1970-74 period, apart from Mitcham, Woodville and Glenelg, land prices did not rise much in the middle zone in comparison with the outer suburbs (Figures 11a, 11b and 11c). In the inner zone, Burnside and Prospect enjoyed modest rises in vacant allotment prices compared with the other inner suburbs. The situation was quite different in the Adelaide land market between 1975-79. The trend which saw a shift in the rates of change from the outer to the inner areas had its beginnings during this period. After 1976 a sharp rise in the interest rate against the general inflation and various control measures adopted by the government brought an end to fringe land market inflation. At the same time a shift in housing finance allocation from newly constructed dwellings to the purchase of established dwellings contributed to the lift in residential land prices in the built up areas of the middle and inner suburbs. From Tables VI and VII it is evident that the total investment made in purchasing established dwellings has been rising from \$270.5 million in 1976-77 to \$454 million in 1982-83, whereas the total investment made for the purchase of newly erected dwellings had fallen from \$144.5 million (1976-77) to only \$26.9 million (1982-83) (Table VII). As a result of the demand for building sites in the inner and middle suburbs land prices have risen sharply since the mid 1970's. In the inner zone, Unley and St. Peters in particular, were price leaders in the resident sector. In Unley the average price of a residential land block rose from \$12,707 (1970) to \$55,646 in 1984. At the same time the average price of a land block in St. Peters jumped from \$8175 to \$48,594 (Table VIII).

As more white collar workers chose to reside in the northern and eastern parts of the inner areas, existing residential properties there experienced higher demand and the prices started to rise. As

TABLE VI: HOUSING FINANCE - LOANS APPROVED TO INDIVIDUALS - SOUTH AUSTRALIA
PURCHASE OF ESTABLISHED DWELLING

TYPE OF LENDER	SAVINGS BANKS		TRADING BANKS		PERMANENT BLDG SOCIETIES		FINANCE COMPANIES		GOVERNMENT		OTHER		TOTAL	
	No.	\$M.	No.	\$M.	No.	\$M.	No.	\$M.	No.	\$M.	No.	\$M.	No.	\$M.
1976-77	6833	128.7	2313	36.7	2233	54.5	934	34.5	342	5.4	461	10.7	13116	270.5
1977-78	7019	139.2	2048	36.2	2934	72.0	706	28.3	585	10.1	403	9.7	13695	295.5
1978-79	7896	170.1	2161	40.5	4009	103.4	623	24.0	562	14.8	674	12.8	15925	365.7
1979-80	7828	176.3	2697	56.1	4397	118.3	328	11.2	438	10.3	1097	20.1	16785	392.4
1980-81	7215	173.1	3582	84.9	4377	130.9	224	9.6	514	10.1	1268	33.5	17180	442.2
1981-82	7860	192.6	3346	83.3	2864	89.7	194	9.4	497	10.8	1277	31.7	16038	417.6
1982-83	8590	222.5	2973	77.3	3319	112.0	160	7.1	469	10.6	1002	24.6	16513	454.0
1983-84*	9744	290.1	3067	92.9	6778	247.1	164	8.3	390	9.4	1347	36.3	21490	684.1
1984-85	15409	595.9	1058	45.4	3596	155.1	228	16.2	315	8.1	389	14.6	20995	835.3
1985-86	12423	510.1	909	48.9	2287	100.2	175	13.0	459	13.9	318	13.9	16573	699.8
QTR. ENDING														
SEP 1984	3795	137.6	314	12.3	1246	52.9	36	3.3	91	2.3	103	3.6	5585	212.0
DEC 1984	4013	153.1	316	13.1	802	33.9	61	4.0	76	1.8	105	4.0	5373	210.0
MAR 1985	3966	159.6	251	10.5	798	34.3	49	3.2	65	1.8	116	4.4	5245	213.8
JUN 1985	3635	145.6	177	9.5	750	34.0	82	5.6	83	2.2	65	2.7	4792	199.5
SEP 1985	3883	155.8	246	13.1	764	34.3	105	7.5	50	1.3	84	3.7	5132	215.5
DEC 1985	3037	122.6	194	9.6	680	29.8	40	3.4	50	1.2	93	3.1	4084	169.7
MAR 1986	2402	98.6	267	14.8	489	20.6	16	1.3	167	5.1	75	3.4	3416	143.8
JUN 1986	3101	133.1	202	11.4	354	15.5	14	0.8	192	6.3	76	3.7	3939	170.8

Source: Australian Bureau of Statistics

* For an explanation of the break in series refer to ABS bulletin 'Housing Finance for Owner Occupation, Australia, July 1984' (Catalogue No. 5609.0)

TABLE VII: HOUSING FINANCE - LOANS APPROVED TO INDIVIDUALS - SOUTH AUSTRALIA
PURCHASE OF NEWLY ERECTED DWELLINGS

TYPE OF LENDER	SAVINGS BANKS		TRADING BANKS		PERMANENT BLDG SOCIETIES		FINANCE COMPANIES		GOVERNMENT		OTHER		TOTAL	
	No.	\$m.	No.	\$m.	No.	\$m.	No.	\$m.	No.	\$m.	No.	\$m.	No.	\$m.
1976-77	1869	37.9	2410	39.0	550	13.8	343	29.4	450	11.9	461	13.1	6235	144.5
1977-78	1732	37.8	2538	41.4	717	19.5	301	17.7	651	16.4	418	9.9	6357	150.0
1978-79	1382	31.3	1900	43.0	348	10.3	207	7.0	422	13.2	465	11.7	4724	116.5
1979-80	768	19.4	986	24.8	233	6.6	111	3.7	153	5.9	282	7.3	2533	64.6
1980-81	596	15.3	610	15.4	186	6.2	32	1.9	96	1.8	184	5.6	1704	46.2
1981-82	523	13.8	459	13.1	98	3.5	11	1.1	93	2.0	186	5.3	1370	38.8
1982-83	476	13.1	331	9.2	55	1.8	13	0.7	61	1.3	35	0.7	971	26.9
1983-84 *	773	23.6	336	9.8	353	12.6	12	0.4	51	1.5	57	1.8	1592	49.7
1984-85	1203	46.0	82	3.5	156	6.9	17	1.3	39	0.9	4	0.2	1501	58.8
1985-86	758	31.9	112	6.1	62	2.8	12	0.9	58	1.3	22	1.1	1024	43.8
QTR. ENDING														
SEP 1984	309	11.5	22	0.7	57	2.5	2	0.2	16	0.4	1	0.1	407	15.3
DEC 1984	393	15.2	30	1.5	39	1.8	5	0.3	12	0.2	1	0.0	480	19.0
MAR 1985	285	10.5	18	0.9	28	1.3	5	0.4	6	0.2	1	0.0	343	13.4
JUN 1985	216	8.8	12	0.5	32	1.3	5	0.4	5	0.1	1	0.0	271	11.1
SEP 1985	199	7.7	18	0.8	25	0.9	2	0.1	22	0.5	2	0.1	268	10.1
DEC 1985	202	8.5	29	1.4	21	1.1	5	0.3	12	0.3	9	0.4	278	11.8
MAR 1986	168	7.4	48	1.7	9	0.5	4	0.3	11	0.2	4	0.2	244	10.3
JUN 1986	189	8.3	17	2.2	7	0.3	1	0.2	13	0.3	7	0.4	234	11.6

Source : Australian Bureau of Statistics

* For an explanation of the break in series refer to ABS bulletin "Housing Finance for Owner Occupation, Australia, July 1984" (Catalogue No. 5609.0)

Table VIII: Adelaide Residential Allotment Prices (Average)
1970-84, AMA.

LGA	1970	1974	1979	1984
Adelaide	39,525	39,595	44,142	92,092
Burnside	9,753	18,349	28,255	57,279
Hindmarsh	8,949	13,742	30,269	42,225
Kens. & N'wood	16,572	18,826	21,083	43,320
Payneham	11,926	18,337	20,371	34,600
Prospect	6,539	17,548	21,389	37,088
St. Peters	8,175	10,300	21,700	48,594
Thebarton	9,429	12,492	13,944	27,873
Unley	12,707	14,100	35,221	55,646
Walkerville	9,156	17,133	25,253	40,950
Campbelltown	8,093	11,074	17,478	30,608
Enfield	8,353	12,726	24,465	28,741
Glenelg	15,617	23,286	41,430	47,220
Henley & Grange	11,985	15,579	20,872	38,000
Marion	9,750	9,818	14,600	21,042
Mitcham	6,134	12,675	20,683	34,359
Pt. Adelaide	6,422	7,755	16,552	23,766
W. Torrens	12,707	16,770	25,257	41,388
Woodville	9,861	15,613	30,519	46,202
E. Torrens	4,598	11,935	22,626	36,121
Brighton	11,424	14,627	24,720	47,381
Elizabeth	5,615	11,811	21,545	23,921
Noarlunga	2,318	7,406	12,047	12,265
Salisbury	4,649	9,120	15,904	20,269
Munnopara	6,018	13,409	16,260	19,652
Stirling	1,450	8,651	16,595	20,837
Meadows	4,706	9,601	15,343	16,121
Tea Tree Gully	6,913	11,807	14,939	21,033

Source: Department of Lands, South Australia, 1985.

more than 70 per cent of the total white collar jobs available in Metropolitan Adelaide are concentrated in the central areas, there is an incentive to live as close as possible to white collar job opportunities. Therefore, it is apparent that since the end of the land boom in the outer areas of the Adelaide Metropolitan Area (AMA), price inflation in vacant allotments has gradually shifted to the inner areas. At the same time the rate of public investment has also increased considerably in the inner areas, compared to the fringes, in conjunction with private and public redevelopment in these areas between 1977 and 1983 (Figures 8a, 8b and 8c).

During 1980-84, the relative price gains have spread more generally within the middle and the inner suburbs, e.g. suburbs like Payneham, Thebarton, West Torrens, Mitcham and Campbelltown, located within a radius of 10 km from the city centre. Certainly, since 1977, some of the rise in land prices in these areas has involved a catching up after a period of slow demand and the tightening of credit. High-class residential areas, like Burnside, have shown sharp rises in residential land and house prices. Alone in Burnside, vacant allotment prices have increased around \$25,000 between the 1980-84 period (Table VIII). High demand for properties in this area has stimulated the creation for more allotments through sub-divisions and re-subdivisions in the foothills suburbs. Valuation Division data indicate sales of 124 vacant allotments at an average price of \$57,279 in Burnside during 1984. Burnside topped the vacant allotment sales for the inner zone suburbs during the period. Hence, this is an indication of a high level of subdivision and re-subdivision in this area and also the presence of undeveloped land along the hills face zone. On the other hand, Adelaide city had comparatively few vacant allotments for sale during the 1980-84 period.

Between 1980-84 approvals for only 23 houses against approvals for 694 flats have been made in the city. This is indicative of the scale of redevelopment that has taken place in the inner areas during the 1980-84 period. Many old houses in the inner areas were demolished and/or converted into flats.

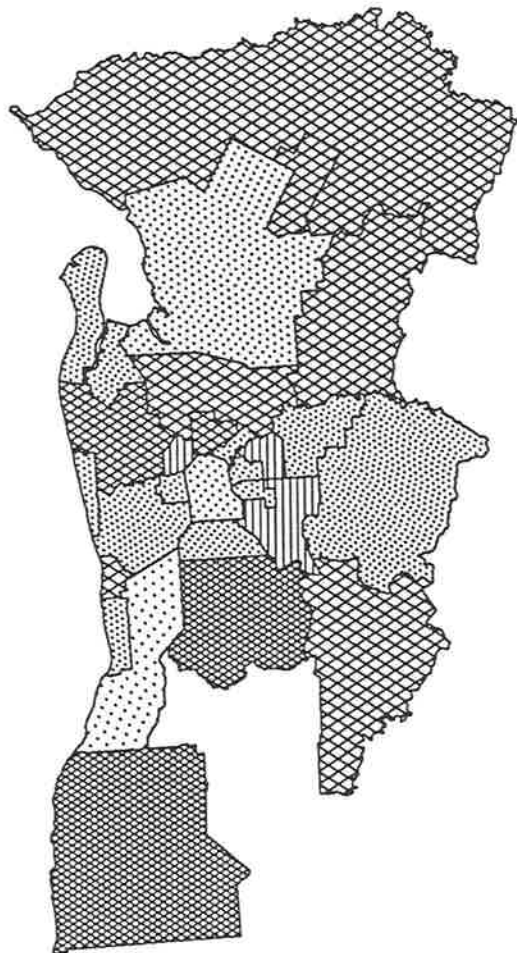
From the above discussion, it is evident that market activity, which was more pronounced in the fringe areas during the early and mid 1970's, has gradually shifted (in relative terms) to the inner areas in the late 1970's. The differences in land price levels at different stages during the 1970-84 period also reflect the changing pattern in land composition and building activity within the Metropolitan Adelaide market.

3.7 REAL GAINS IN LAND VALUES, 1970-84

To determine real gains in residential land prices, all nominal land prices in the Adelaide Metropolitan Area, from 1970 onwards 1984, have been converted into 1985 prices (1985 Australian dollar value, taken as 1.00) using the yearly Consumer Price Index (CPI). This has been done in order to control for the effect of annual inflation on shifts in nominal land prices. The changes in real land prices in each LGA for each five year period under consideration, are then calculated by subtracting the 1975 price from that of 1970, e.g. the average nominal price of a land block in the Burnside LGA was \$9753 in 1970 and \$17,856 in 1975 (Appendix A). Each value is inflated by a scalar derived from the annual movement of the Consumer Price Index (1985 = 1.00).

Figures 11a, 11b and 11c, show shifts in gains in land prices from the outer to the inner areas within the Adelaide Metropolitan Area during the 1970-84 period. From the figures it is evident that during

ADELAIDE: PERCENTAGE CHANGE IN REAL GAINS IN LAND PRICE 1970-1984



Mean 4.1
S.D. 18.0

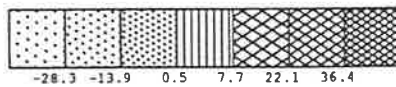
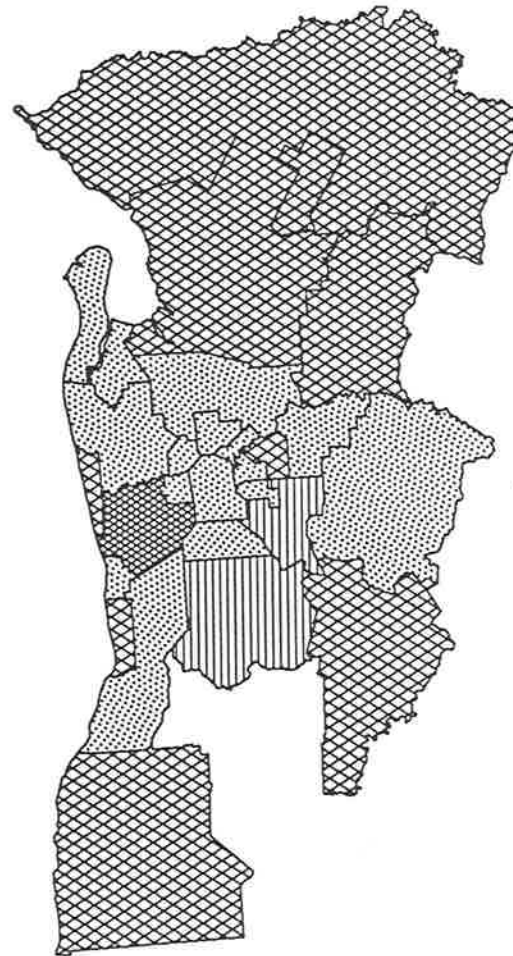


FIGURE 11A: 1970-1974



Mean 4.4
S.D. 5.5

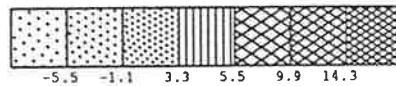
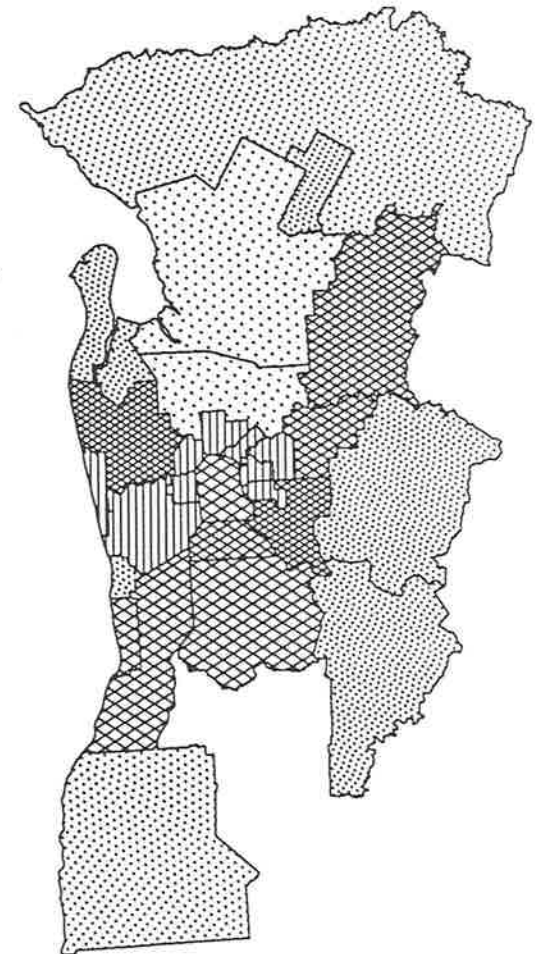


FIGURE 11B: 1975-1979



Mean 10.5
S.D. 43.6

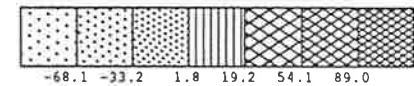


FIGURE 11C: 1980-1984

ADELAIDE: CREATION OF S.A.L.C. RESIDENTIAL ALLOTMENTS.

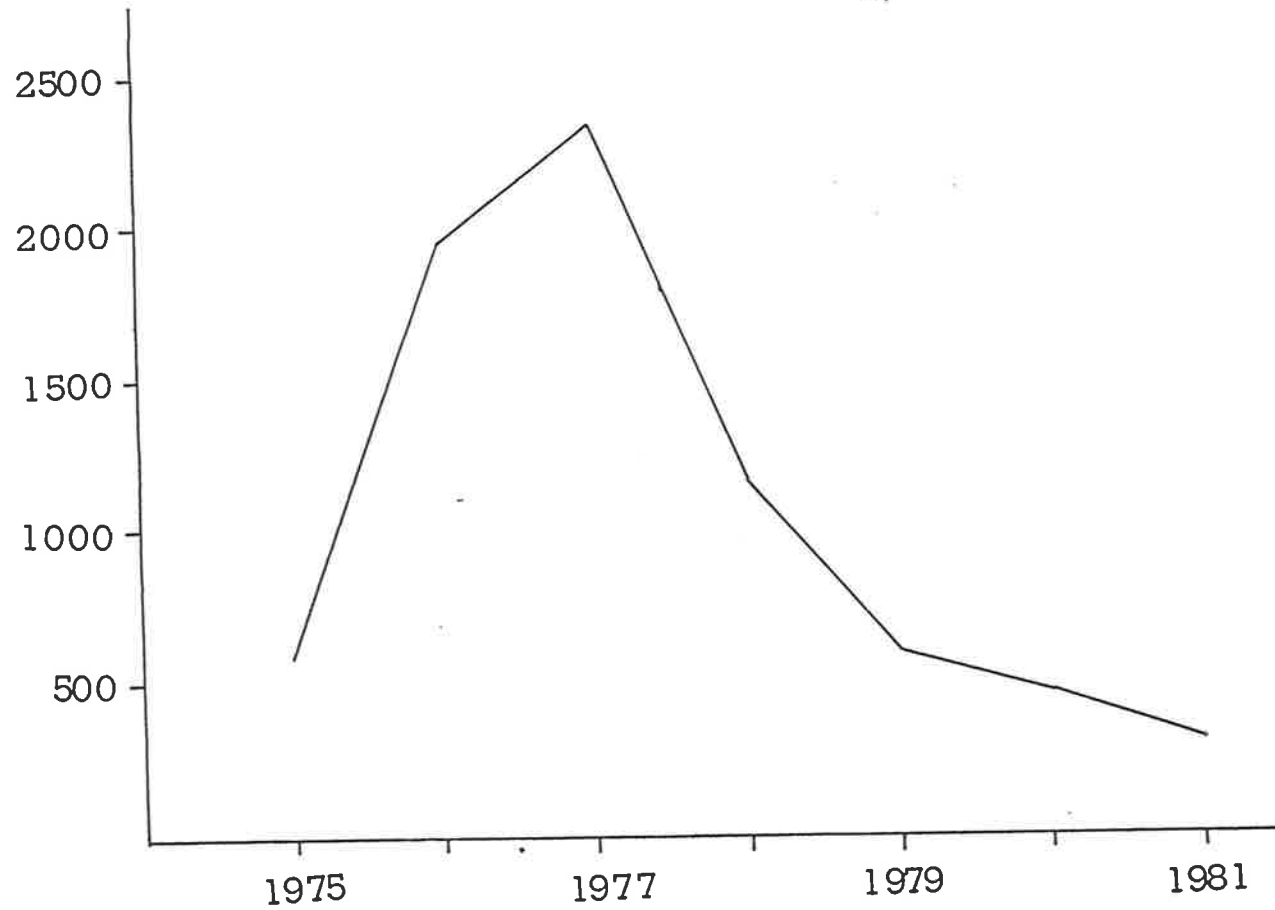


Figure 12

Source: South Australian Land Commission, Annual Reports, 1975-82.

the fifteen years, 1970-84, the outer suburbs had achieved substantial real gains in residential land prices, compared to the inner areas. During that period, major capital formation occurred in the outer suburbs which was capitalised into the value of vacant land. In addition, vacant land prices in the outer suburbs were inflated by market forces when demand ran ahead of subdivision, e.g. between 1972-74 (see Figure 3). Established land owners in the outer suburbs were able to earn capital gains by 'trading up'. During this period, only Mitcham and Woodville in the middle zone and Prospect in the inner area enjoyed significant real gains in land prices. The differences in real gains in land prices between the outer and inner areas increased further during the 1975-79 period (Figure 11B). But the situation was reversed during the 1980-84 period. Reinvestment in the middle, and especially in the inner areas was capitalized into residential land prices culminating in real gains for owners. By the end of the 1970's, the gains made by home owners in the outer suburbs at the expense of inner suburban property owners had dwindled to modest levels. As a result, the overall redistribution pattern had also changed within the residential land market of the Adelaide Metropolitan Area.

Thus from the above discussion, it is observed that the redistribution within the Adelaide Metropolitan residential land market has been quite significant since the early 1970's. The early part of the study period saw the disinvestment in the inner zone coupled with significant capital gains in the outer suburbs; then in the late 1970's gradual transfers in real terms occurred from the outer to the inner areas of Adelaide.

3.8 THE FUTURE PATTERN

By the end of this century the overall residential pattern of the metropolis Adelaide will have undergone substantial changes. A projection of population and dwellings for LGA's, made by the Forecasting and Land Monitoring Unit of the Department of Environment and Planning, indicates that the population of the inner suburbs of the ASD will decline by 6600 persons (-5.3%) over the 20 year period 1981-2001, while the middle suburbs will decline by 32,000 persons (-6.5%). On the other hand, the fringe areas will undergo substantial population growth, over the same period, from 403,900 in 1981 to 626,100 in 2001, and increase of 223,000 or 66.5%. (A projection of population dwellings, DEP, 1985). As a result of these changes in population, by the end of the century the outer suburbs will house a projected 49% of the total ASD population, while 40.5% will reside in the middle suburbs and 10.5% in the inner areas. The forecast further adds that the largest absolute rise in population is expected to occur in Noarlunga, followed by other outer suburbs like Tea Tree Gully, Salisbury, Willunga and Happy Valley.

These substantial increases in population in the outer areas will exert pressure on the existing residential land stocks of those areas. Vacant land is particularly scarce in the inner suburbs and the resistance of affluent middle class settlers seems likely to prevent any substantial redevelopment. It is the middle zone suburbs, on the other hand, that offer the greatest prospect for more intensive residential redevelopment, especially some of the SAHT estates built in the 1950's and 1960's (The Parks, Klemzig, Windsor Gardens, Findon, Mitchell Park). A high proportion of future development will require the demolition or conversion of existing buildings or re-subdivision of large allotments

"By 2001, only 20,500 allotments are projected to remain of the land currently available for residential purposes in the ASD." (Projection of Population and Dwellings: DEP, 1985). The projection also indicates that 80,400 allotments will be consumed in dwelling construction over the 1984-2001 period. By 2001, the central sector (which includes both the inner and middle suburbs) is projected to contain only 700 vacant allotments of 3.3 per cent of the land then available in the ASD. The remaining 19,800 allotments or 96.7 per cent will be located in the fringe LGA's.

3.9 REDISTRIBUTION WITHIN THE RESIDENTIAL LAND MARKET

Urban land and housing markets in Australia work as mechanisms for redistribution. Stretton, in his work, emphasized the role of the housing finance and ownership mechanisms in redistribution processes operating in the residential land market.

... banks, building societies, insurance companies, Government agencies and other institutions, distribute and re-distribute among the citizens up to a third of affluent nations capital and up to a quarter of many people's spendable income. (Stretton, 1978:81)

In Australia conditions have encouraged redistribution processes within the residential land markets of urban areas. The vast bulk of the residential land stock in Australian cities is subject to market exchange. There is no single national market, rather there are different combinations of national and local factors at work producing overlapping and discrete submarkets - thus producing irregularities in the redistributive aspects of the regional land markets. Some national economic and financial factors such as interest rates and salary and wage fixing mechanisms impose a degree of uniformity on Australian land markets in terms of consumers' incomes and the cost of borrowing.

Access to residential land thus varies significantly according to the costs and availability of land in particular regional markets, as well according to the wealth and income of the consumers. An important influence on housing costs is the variable cost of land. When prices in the fringe land submarket have advanced ahead of general prices, a redistribution has occurred from new purchasers of allotments to established home owners. With the land boom in Adelaide in the early 1970's, a vertical redistribution has taken place from the new home buyers with fewer resources to the established households with more resources. In periods of inflation in the residential land market, new buyers have to pay current prices for land. On the other hand, the developers or speculators might enjoy a substantial capital gain through selling land blocks to the new buyers and thus accumulate 'unearned increments'.³

-
3. 'Unearned increment' is a value which is created socially, but may be capitalised into private property values without the owner having to pay for the benefit. This can happen in four main ways:
- i) Abnormal price rises can occur as a result of the creation of scarcity. The fringe land market is particularly susceptible to speculative withholding and lags in the conversion of building blocks. As a result, the pressure on prices ripples inward across the rest of the metropolitan land and housing markets.
 - ii) The external effects of public investment or disinvestment are capitalised into house values (i.e. the home owner is the private beneficiary of socially productive expenditure undertaken by the various levels of the state).
 - iii) The productivity of domestic property and hence its ground rent and value in the market place, can be affected by its relative accessibility.
 - iv) There is a phenomenon that operates mostly in the upper reaches of the property market that is similar to 'consumer surplus'. Land and home buyers with unrestricted access to finance, interstate buyers transferring equity from other cities with more highly valued property and investors using their principal place of residence as a capital gains tax haven, all exert sufficient pressure on exclusive submarkets at times to drive prices well beyond the general rate of property price inflation.'

(Badcock, 1984:224-237)

3.10 SUMMARY REMARKS

This chapter has pointed out some of the influential factors producing changes in residential land prices during the 1970-84 period in the Adelaide Metropolitan Area. The discussion has tried to demonstrate the complexity of the residential land market as well as showing the background trends in the land market of Adelaide. Those effects determining the residential land prices in Adelaide have been classified into three major categories such as national, regional and local. The national or macro effects include the capital inflow, the money supply, interest rates, the volume of housing finance in circulation, population growth or decline and real growth in wages and salaries. At a regional level, changes to the urban transportation system and the spatial concentration of employment growth within the regional economy do affect residential land prices in the Adelaide Metropolitan Area. Local effects, such as environmental quality of a site, the presence or absence of amenities or services, can affect residential land prices in Adelaide. National or macro factors produce effects on general price relativities in the land markets. On the other hand, regional and local effects have been found to produce intra-urban variations in residential land prices. Finally, a brief discussion on the changing spatial pattern of residential land prices in the Adelaide Metropolitan Area has been added to reflect the spatial changes in those three periods: 1970-74, 1975-79 and 1980-84. Moreover, it has focussed on the future distribution pattern of residential areas in the Adelaide Metropolitan Area.

In the following methodological discussion, relating to this problem, an attempt has been made to select some appropriate independent variables-producing effects on the changing residential land prices

in the Adelaide Metropolitan Area - the dependent variable. (A spatial analysis can only really measure the variation produced by regional and local effects. On the other hand, the effects that have their origins in the national economy can only be measured indirectly through population growth, dwelling commencements, innovation in transportation, changes in distribution of employment opportunities, etc.)

For this purpose, a regression analysis has to be undertaken to measure the partial effects produced by the independent variables on land price. This is followed by a general discussion showing the main patterns exhibited by these independent variables.

CHAPTER 4: METHODOLOGY

4.1 INTRODUCTION

In Adelaide residential land prices have risen rapidly since 1960. Various factors are responsible for change through time of the spatial variations in the pattern of residential land prices. These factors have been classified into three categories on the basis of their origin in three spheres of economy - national, regional and local. National processes like the capital inflow and money supply, interest rates, housing finance in circulation, population growth or decline, etc., affect the general level of, and movement of land prices. Again, the regional effects such as improvements to the communication and transport network affect the distribution pattern of job opportunities in an urban area and thus change the accessibility pattern of workers. Environmental qualities of a site, the presence or absence of amenities or services can also influence residential land values in a more localised process.

Inflation in residential land prices in Adelaide is the result of a number of factors. The independent variables selected for use in this study may have either a positive or negative effect on changes in residential land prices over the last fifteen years. Factors like population growth, public capital investment, private and public dwelling construction, 'social agglomeration' (Evans, 1973), the creation and supply of vacant allotments, and the concentration of job opportunities in each suburb will be examined in turn to assess their impact upon shifts in residential land prices within Metropolitan Adelaide. Then these variables will be combined in a series of regression models

to see how their interaction changed during three five-year periods. In general terms, growth in population in an urban area creates pressures on existing residential land stocks, resulting in an increase in the number of dwellings constructed, changes in daily work trip networks and flows, and pressure on available job opportunities. In a capitalist economy, upper white collar workers with higher incomes also have an indirect localised effect on the urban property markets by applying their strong bidding power. Evans (1973) likens this to a 'social agglomeration' effect. High income people in a city are mostly concentrated in the desirable residential areas, characterized by higher land prices and produce a localised effect on the land and housing values of that particular area. On the other hand, as a regional process, the effect of the improved communication and transport network has been observed on the growth of job centres in different sectors of the city and eventually causes changes in housing as well as residential land values. The excess stock of vacant land can also influence the land price. If the vacant land stock is sufficient relative to the demand for land, the price of land can be stabilised over a period of time even when the costs of subdivision are increasing. This stability may continue if the stock of vacant land is large enough to satisfy demand without the need for new subdivision.

In this study three time periods are considered, each of which was dominated by quite different market conditions. It is difficult to break the series up into intervals that coincide exactly with the property cycle because of the limits imposed by Census data. However, 1973-74 and 1984-85 have been identified as peaks in Adelaide's post-war property cycle (Figure 6).

The period 1970-74 in Australia was dominated by land and house price inflation. From 1965 until 1970, the supply of serviced allotments exceeded demand which kept the land prices low and stable. By 1970-71 the supply of allotments had diminished relative to demand which was buoyant due to excess liquidity in the Australian economy. This encouraged sellers to ask for higher prices which they could obtain at that time. With the obvious over supply through the 1960's, production in land blocks dropped away with an inevitable pressure on land prices in the early 1970's when there was an abundance of capital in circulation. In November 1973 the South Australian Land Commission was formed with an aim to provide land blocks at reasonable prices and also to dampen the private activities in the fringe land market. The property boom peaked in Adelaide between 1972-74.

On the other hand, the period 1975-79 was marked by a downturn in the Adelaide residential land market. A sharp rise in interest rates and land price control by government ended the boom in the fringe land market, which saw a significant fall in the number of land sales. In addition to that, a fall in the average earnings and a higher cost of repayments as a result of the rise in bank interest rates discouraged buyers in the property market.

However, in the early 1980's demand picked up for residential properties. The Adelaide land market peaked in the first quarter of 1985. The introduction of the First Home Owner Scheme and the easier availability of home loans at much lower interest rates helped to reinvigorate the property market. Throughout the 1970-85 period, then, the Adelaide property market was characterised by a cycle which included two peaks (1972-73; 1984-85) separated by a trough (1977-82).

4.2 USE OF REGRESSION ANALYSIS

Multiple regression is a statistical model which can be used as an aid in causal or predictive modelling. In this study regression analysis will be used as an exploratory tool to describe relationships within the residential land submarket, rather than more formally as a test of a causal model. In this report the application of regression analysis resembles the studies undertaken by Yeates (1965), Daly (1973), Edel et al. (1984), as well as those reported by Ball (1973). Moreover, because the regression analysis is restricted to a description of relationships, some of the very technical assumptions can be relaxed (normalcy, linearity, homoscedasticity, multicollinearity). Stepwise multiple regression is really a search procedure by which variables are entered, one at a time, into the regression equation in a sequence determined by the level of the individual variable's contribution to the total variance. The largest contributor is entered first and others entered in decreasing order of contribution.

4.3 SELECTION OF LGA'S

Because of the specific interest in urban land values, the investigation is confined to the urbanised area of the Adelaide Statistical Division. Out of a total of 30 Local Government Areas (LGA's), 27 have been selected on the basis of the availability of data to be used in the analysis over a period of 15 years. The remaining three LGA's have been exempted from the study because of the unavailability of data for those three areas during the 1970-74 period. Henceforth the study area comprising 27 LGA's will be termed metropolitan Adelaide or the AMA. Unfortunately these administrative units are merely statistical conveniences and their boundaries do not always coincide with the distribution

of population and socio-economic phenomena. Furthermore, they range in size from Walkerville, a LGA of 3 sq. km. and with a 1981 population of 7050, to Munno Para with an area of 350 sq. km and a 1981 population of 27,480. At the same time Walkerville had a population density of 2350/km² compared to that of 78.5/km² in Munno Para. Expressed another way, in 1981 the 10 LGA's within the inner area made up 4.8 per cent of the AMA total area, yet contained 17.4 per cent of its total population (ABS, 1981).

The preparation of economic and social indices is much more difficult if the researcher departs from the LGA statistical unit. The data used in this study are available from the Australian Bureau of Statistics, the S.A. Department of Lands, the Department of Environment and Planning, the South Australian Housing Trust (SAHT) and the South Australian Land Commission (SALC). All these sources have used LGA's as the basic statistical unit. Therefore, for convenience in the construction of variables and later on for the preparation of figures, the use of the LGA boundaries as statistical units proved essential. These LGA's are areas for which data representing the independent effects are available over the fifteen years. Also, the existing LGA boundaries have not changed significantly during the period under consideration; except that in 1970 Colonel-Light Gardens was absorbed by the Mitcham LGA.

From Table IX it is evident that although the inner areas are losing population they still contain the higher population densities (1838/km² compared with the middle areas 1012.4/km² and 277.6/km² in the outer areas [ABS, 1981]). Between 1976-81 the number of dwellings observed in the inner areas increased only slightly (0.64%). In the same period the rate of dwelling approvals rose by 5.42 per cent

Table IX: Changes in Population Density, 1966-1986, AMA.

ZONES	1966		1976		1981		1986		
	Popula- tion	Area sq. km	Population Density	Popula- tion	Population Density	Popula- tion	Population Density	Popula- tion	Population Density
INNER	188,950	90	2,099	174,870	1,943	165,420	1,838	159,660	1,774
MIDDLE	445,302	453	983	471,070	1,040	458,600	1,012	462,513	1,021
OUTER	125,491	890	141	196,660	221	224,590	277	327,580	368

Source: Australian Bureau of Statistics, Census on Population and Housing, 1966, 1971, 1981 and 1986.

in the middle suburbs and in the outer areas by 23.70 per cent (reflecting the tremendous development taking place in those areas over the last fifteen years). Therefore, it is clear that the traditional inner suburbs are losing population while the outer areas have grown disproportionately as a result of massive investment that occurred during the 1970's.

4.4 SELECTION OF VARIABLES

4.4.1 The Dependent Variable (Y)

The change in the average price for the vacant residential allotments (<1500m²) in 27 LGA's within the AMA during the period 1970-84 has been selected as the dependent variable (Y) to be used in the present study. The data on which the dependent variable is based have been published by the Valuer-General's office in South Australia since 1969 in the form of an Annual Sales Report. It has been possible to calculate average prices for vacant residential allotments within the Adelaide Metropolitan Area for each of the 27 LGA's.

The change in average vacant allotment prices within the metropolitan area for each five-year period was estimated by calculating the net increase or decrease and converting to an annual percentage. This was followed by the estimation of the means and the standard deviations required for the preparation of the figures showing the changing pattern of the vacant residential allotment prices within the Adelaide Metropolitan Area for each five-year period, i.e. 1970-74, 1975-79 and 1980-84. But some measurement problems have also arisen in the selection and preparation of variables for the analysis in this study. They are as follows:

1. Far fewer vacant allotments come onto the market in the central area and inner suburbs of cities (see Appendix A), with the result that the estimates are much more variable and less reliable for inner area LGA's as a matter of course. Appendix A reveals that frequently the annual sales price for an inner area LGA is based upon fewer than ten transactions when the property market is depressed.
2. In a number of cases where obvious anomalies occurred in a price series, and where insufficient sales were reported in an inner area LGA, the transaction list was examined and the sale/s responsible for distorting the annual average price was/were arbitrarily removed.
3. Whilst there may be a lag of 3-6 months between the date of sale and registering a transfer of title with the Lands Title Office, the Accumulated Sales Report is not published by the Valuation Division until midway through the following years.

Hence, although it is the inner area LGA's that are most susceptible to 'measurement error', the effect is minimized because only two datum (i.e. a base year - 1970 - and end of period year - 1974) are used in calculating rates of change. Moreover, the effect of an occasional crude estimate is mostly registered in the residuals from regression and they are not used in this analysis.

4.4.2 Selection of Independent Variables (x)

A set of variables have been prepared to serve as indicators of, or surrogates for, the processes that appear to have been responsible for price change in Adelaide's vacant residential land market between 1970-84. They are not all as equally as convincing or robust.

Inevitably, the selection of the independent variables for regression has been determined by the availability of suitable data.

4.4.2.1 Percentage change in population:

Change in local population is closely related to the rise or fall of residential land prices in a growing urban centre like Adelaide. The estimates of population change are based upon ABS Census data and where possible, take account of the annual projections prepared by the Population Forecasting and Land Monitoring Branch of the Department of Environment and Planning. Basically the estimates for the study datum (1970, 1974, 1975, 1979, 1980, 1984) have been derived by interpolating between census years. Plainly this is quite arbitrary since population growth is distributed uniformly neither across space nor between years. However, it was possible to check the estimates against Department of Environment and Planning data (Department of Environment and Planning, Projection of Population and Dwelling, 1985). The second step involved the estimation of percentage change for each five-year period and each of the 27 LGA's within the Adelaide Metropolitan Area.

4.4.2.2 Creation of residential allotment stocks

Since 1974 the Department of Environment and Planning has been collecting LGA data on the division, subdivision and re-subdivision of vacant allotments within metropolitan Adelaide. The available data include the number of approvals given for the division or subdivision of lands and the number of vacant allotments actually created by both the public and the private sector. Prior to 1974, due to the unavailability of data on the creation of vacant residential plots, it is very difficult to make any comment or assessment with regard to the land creation for the 1970-74 period.

4.4.2.3 Vacant allotment stocks

Stock in vacant allotments signifies the number of vacant house blocks that remain unsold at the end of each financial year. Data on vacant allotment stocks were obtained from the Department of Environment and Planning, South Australia. The relevant statistics on vacant allotments are available only from June 1974 and onwards. Therefore, the annual average figures were estimated for the periods of 1975-79 and 1980-84. This was followed by the calculation for the mean and the standard deviations from the estimated annual average figures to be used to show the distribution pattern of the land stocks during those two periods within metropolitan Adelaide.

Data for the financial years specifying subdivided or re-subdivided vacant lands have been adjusted to the corresponding calendar year for the convenience of analysis. The sum of the subdivided and re-subdivided vacant allotments represent the total number of vacant residential allotments created in each year. This was followed by the estimation of the mean and the standard deviation from the annual average figures for the 1975-79 and 1980-84 periods.

4.4.2.4 White collar workforce by place of residence ('Social Agglomeration')

The white collar workers include the Professional, Technical and related, Administrative, Executive, Managerial and Clerical workers. These categories of workers comprise the upper white collar group in the AMA. Data on occupational statistics have been collected from the 1971, 1976 and 1981 Census reports available in the ABS. Considering 1971, 1976 and 1981 as base years, figures showing white collar employees for other years have been obtained by adjusting the Census figures. The

next step involved the estimation for the percentage changes in the white collar workers in each LGA for the periods 1970-74, 1975-79 and 1980-84.

4.4.2.5 SAHT dwelling construction

The SAHT is the state's public housing body providing modest accommodation to lower income people. Since 1966, data on the SAHT dwelling stock have been available from the Australian Bureau of Statistics. Dwelling statistics from 1966, 1971, 1976 and 1981 Censuses have been used in constructing the variable. The Census data were adjusted using the same procedure adopted for population change. This has been followed by the calculation showing the percentage changes in the numbers of South Australian Housing Trust dwellings for the 1970-74, 1975-79 and 1980-84 periods. A negative effect on residential land prices is expected from the SAHT activities. Although in inner suburbs in the mid 1970's, SAHT housing measurement may well have been positive in its effects.

4.4.2.6 Private dwelling construction

A dwelling is defined as a building predominantly consisting of one or more dwelling units. Dwellings can be either houses or other buildings. A house is defined as a detached building predominantly used for long term residential purposes and consisting of only one dwelling unit. An 'other dwelling' is defined as a building which contains more than one dwelling unit (e.g. townhouses, duplexes, apartment building, etc.) (ABS, 1985, Building Approvals in LGAs, Cat. No. 8733-4)

LGA data on private dwellings are available from the Australian Bureau of Statistics. Again, figures were obtained for the number of private dwellings at each Census date, i.e. 1971, 1976, 1981 and 1986, and were adjusted by adding or subtracting the number of dwelling completions or commencements from that figure (as the case may be). Monthly figures are supplied by the reporting authority - in this case LGA's - to the Australian Bureau of Statistics but the series changed from dwelling completions to dwelling commencements in 1979-80 (ABS, Building Statistics, Cat. No. 8703.4).

4.4.2.7 'Non-residential investment' and 'Local government capital expenditure'

Public investment on infrastructure within the Metropolitan Adelaide Area is imputed from two sources: (a) 'non-residential investment' includes the total value of 'other building completed' (i.e. public and private development including factories, shops, hotels, offices, other business, educational, health, religious, entertainment and recreational facilities); (b) Local government capital expenditures (i.e. purely social investment). Public investment includes both State and Local government development activities.

In practice these two spatial variables are highly correlated since social investment (b) is a component of non-residential investment (a).

Investment in local infrastructure both by the State and Local governments contribute to the urban capital formation process. Such investment is ultimately capitalised into local land and housing values. For the Adelaide Metropolitan Area both variables were lagged by two years assuming that the capitalisation of non-residential or

public redistributive investment into residential land values is delayed. The redistributive role of local authorities in Australian cities is limited by their limited sources of revenue. Local authorities receive nearly all of their tax revenue (apart from Federal grants) from a proportional tax on either the value of sites or the rental value of property. Therefore, the rate of provision of services and environmental improvements depend substantially upon the income status of a suburb.

The correlations between the two types of investment, i.e. a and b obtained in the matrix, demonstrate the fact that the social investment undertaken by Local government is a significant component of non-residential investment in the Adelaide Metropolitan Area (1970-74: $\gamma^2 = .58$; 1973-79: $\gamma^2 = .25$; 1980-84: $\gamma^2 = .73$).

For the present study, the data on Local government finance and non-residential investment, which include measures of revenues and expenditure on ordinary services, have been collected from the Economic Data File and the Interim Socio-Economic Data File of the Australian Municipal Information Services (AMIS). For the estimation of the real value of investment, all dollars were converted to 1985 equivalents (1985 = 1.00). The next step included the calculation of the percentage changes in the amount of non-residential investment and Local government social investment in each LGA for the three five-year periods.

4.4.2.8 Changes in employment accessibility (1)

Recent developments in the outer suburbs of the Metropolitan Adelaide Area have created employment nodes in those areas. The concentration of new job opportunities in different pockets of the recently built up areas has indirectly affected the residential land prices.

For the present study, a ratio between the total job opportunities within 20 km from each LGA and the total metropolitan workforce has been included in the analysis. 'The total job opportunities within 20 km from each LGA' has been selected based upon the information on travel times in Adelaide, derived from surveys on 'travel to work' in Adelaide by the Australian Bureau of Statistics (Australian Bureau of Statistics, 1971, 1976 and 1981).

Six statistics were prepared showing the actual number of jobs concentrated in each LGA of the Adelaide Metropolitan Area during the years 1970, 1974, 1975, 1979, 1980 and 1984. From these statistics the percentage changes in the total job opportunities within 20 km from each LGA were estimated for the periods 1970-74, 1975-79 and 1980-84. It should be noted that the measurements for factors such as job opportunities, journey to work pattern, and the like are subject to spatial auto-correlation. This is inherent in the data and cannot be eliminated.

4.4.2.9 Changes in employment accessibility (2)

During the 1970's, with the expansion of the Adelaide Metropolitan Area new employment centres have been established as part of a strategy to disperse job opportunities. A change in the employment opportunities concentrated in different suburbs, especially in the inner areas, has been observed since the late 1960's (Smailes, 1967). These shifts in the concentration of employment opportunities have also affected the property market within Metropolitan Adelaide. The relevant data showing changes in employment have been collected from the journey to work section of the Census for 1971, 1976 and 1981, carried out by the Australian Bureau of Statistics in South Australia.

The total number of jobs available in each LGA during the period 1970-84 has been estimated by using the 1971, 1976 and 1981 Census figures. Following this the percentage change in workers originating from each LGA to the centrally located jobs was calculated.

4.5 COMPUTATIONS AND THE PREPARATION OF FIGURES

The analysis included: the estimation of means and standard deviations for both the dependent and the independent variables; the plotting of frequency distribution for each variable to assess normalcy; the spatial pattern of each variable during the periods 1970-74, 1975-79 and 1980-84. Finally, these data were analysed using three regression models, representing the effects of each independent variable on the single dependent variable, i.e. change in vacant residential land price for the three periods under consideration.

4.6 SUMMARY REMARKS

The methodology developed for this study has got some unavoidable shortcomings. Firstly, the processes involved in this study, e.g. supply-demand ratios are not represented by very good measures. Measurement problems have arisen in the following cases such as the estimation of vacant blocks which are very few in numbers in the inner suburbs, anomalies in the price series and insufficient sales in a LGA and the lack of Accumulated Sales Report from the Valuation Division resulting from a lag of 3-6 months between the date of sale and registering a transfer of title. Secondly, in some variables, it was difficult to overcome spatial auto-correlation (e.g. the journey to work flows and employment fields) or multicollinearity (e.g. Local government expenditures and the Non-Residential investment). Thirdly, in

addition to the independent variables selected for use in the present study, a number of other variables - land zoned for industries - was considered which might have an effect on the residential land markets in Metropolitan Adelaide. Their importance as processes involved in changes in residential land prices have been kept in mind. Unfortunately, due to the lack of data and relevant information on those factors, it was difficult to measure change through time. Therefore, their effects could not be incorporated in the regression analysis.

CHAPTER 5: THE MAIN PATTERNS EXHIBITED BY THE INDEPENDENT VARIABLES

5.1 INTRODUCTION

The point of this chapter is to describe the key variations revealed by a mapping of the independent variables. In this way some preliminary suggestions can be made about the relationship between each separate variable and vacant residential land prices, before their composite effects are examined in the regression models. In addition, this chapter provides an opportunity to indicate how each of the independent effects has changed during the 15 year period in response to fluctuations in the performance of the Australian economy, and the investment decisions of state and local government agencies and the property development sector.

5.2 THE CREATION OF RESIDENTIAL ALLOTMENTS AND THE STOCK OF VACANT ALLOTMENTS

The two variables, the 'creation of residential allotments' and the 'stocks of vacant allotments in the AMA' are so closely related that they are discussed together in the present section. The two variables represent the supply measures and response to demand in the market and thus affect the changes in residential land prices in the AMA.

The available data on the creation of allotments consist of the number of approvals given for the division or subdivision of land and the number of vacant allotments surplus to those created by the public and private authorities. The stock of residential allotments indicates the supply of vacant residential land blocks to the land market in a

particular year. The unsold blocks are added to the new blocks created in the following years and thus the accumulation process goes on with the shift in supply relative to demand.

In Metropolitan Adelaide land subdivision peaked during the late 1950's and the early 1960's. The flow in the supply of serviced allotments declined by 1965 because of the accumulation of a surplus, at least in the short term. Also, after 1965 it became increasingly imprudent for developers to create new allotments because of the higher costs involved. The key factor is that since 1965 the cost of water and sewerage provision has been the responsibility of the developers rather than government and local authorities. Further, from 1967 on local councils were given powers to construct footpaths and extend road widths and developers have had to contribute towards the costs of providing public reserves. The main consequence of these requirements was a direct increase in costs to the developer. From 1965 until 1970, the supply of serviced vacant allotments was adequate to meet demand so prices were low and stable. But prices were also less than costs to the developer for producing new allotments which made new subdivision unprofitable. By 1970-71, the supply of allotments had diminished relative to demand which was rising due to the volume of housing finance in circulation. This encouraged sellers to ask for higher prices. Prices eventually reached the point where developers were encouraged to subdivide again.

In 1962, Planning and Development Act required developers to install services to house sites which also added a new component to production costs. During 1967-68, the Act provided for transfer of titles (trading) even though lots were unserviced. This resulted in

a huge rise in speculative development. The Adelaide fringe areas were undergoing rapid development with speculative investment leading to price escalation in those areas. At that time, the speculative purchase and holding of land out of the market was guided by the expectations of speculators and land users. The holding costs in turn reflected the market rate of interest and the rates and tax charges payable on the land.

Figure 3 shows the rate of creation and the consumption of allotments since 1965. The consumption rate has always remained higher than the rate of creation because of the rapid suburbanization in the outer areas that accelerated the housing demand. The mid 1970's represent the 'peak period' in the local land market. This period also shows a rise in average allotment prices from \$3800 in 1973 to \$8949 in 1977 (Badcock, 1986:183). Also, this was the period when bank interest rates were lower than the inflation rates.

The South Australian Land Commission (SALC) established in November 1973, was the first to take advantage of the Whitlam Government's urban land programme (Troy, 1978). By June 30, 1977, it had spent \$40 million on acquisition of 4763 hectares for urban use and over \$21 million on development. By June 1977, SALC had produced some 2358 lots of which 2108 had been sold or allocated (SALC Report, 1978). Despite reduced levels of funding in 1976-77 the Commission dominated the market for home sites in Adelaide for a brief time in the late 1970's. Large scale purchase of broadacres suitable for development was designed to dampen the fringe land prices. But by the late 1970's, the economic downturn had taken much of the pressure out of the market that land banking was supposed to counter.



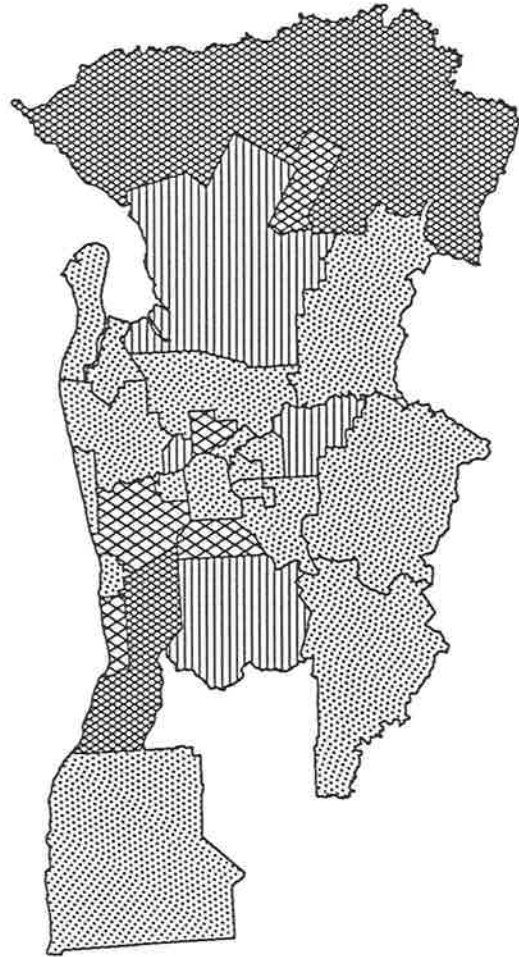
Throughout 1965-72, Whitlam campaigned heavily on the theme of urban development and the need for co-ordination of its various components. Whitlam increasingly emphasised the problem of the high and rapidly rising price of land. He tried to find a suitable urban land policy with the assistance from planners and Parliament members who were concerned about urban and regional development. His ideas dealing the urban land price were published in the Australian Institute of Urban Studies (AIUS) Report, 1977. Consequently, a report was produced advocating public acquisition of land suitable for urban development as an appropriate way of tackling the land price problem. In 1972, Whitlam was able to present far more detailed proposals on land, its development, management and disposal (Troy, 1978:12-13).

Between 1977 and 1982, the land market in Adelaide was depressed. Prices of allotments remained steady following a severe drop in the number of land sales. A drop in average earnings and a sharp rise in bank interest rates discouraged buying in property markets. Thus with the credit squeeze in late 1974, followed by the introduction of price control legislation in Spetember 1975, the incentive to investment in land came to an end. The period between 1977-83 was a period of stagnation in the land and housing market. In 1984 factors like lower interest rates, a growing confidence in the economy and the introduction of the new first home owner's incentive scheme provided a stimulus to demand for building blocks. The keen competition in the housing market for new housing again fuelled the demand for building allotments. The average vacant allotment price in the outer suburbs, once again, rose from \$10,592 (1982) to \$25,697 (1985) [Badcock, 1986:183]. At the same time, the total number of created allotments increased from 2050 (1982) to 4250 in 1985 (Figure 3).

Figures 13a, 13b, 14a and 14b show the stocks and creations of residential allotments in Metropolitan Adelaide during the 1975-84 period. During 1974-79, 70 per cent of the total allotments were created in the outer suburbs of the AMA. This was followed by the middle suburbs (27.9 per cent) and the inner areas (2.1 per cent), mainly representing re-subdivision (Table X). The table also indicates that between 1980-86, an increase of 23 per cent in vacant residential allotments has been observed in the outer areas. The high rates of consumption of allotments in LGA's like Noarlunga, Salisbury, Tea Tree Gully, East Torrens and Stirling eased during the 1975-79 period (Tables XI and XII). The later period (1980-84) shows a rise in the consumption of vacant allotments in Munno Para and other fringe suburbs consistent with the surge in demand created by the FHOS.

Since 1976, significant development has also occurred within the middle zone (especially Marion and West Torrens). Likewise, in Woodville hundreds of vacant residential blocks were created by the development of West Lakes and the adjoining areas. In the Marion LGA, with the completion of the Westfield Shopping Centre, extensive vacant land was converted and developed into residential blocks. Table XIII shows the vacant allotment stocks in Marion and other LGA's between 1974 and 1984. The inner area and most of the middle suburbs were already exhausted during the 1980-84 period. In the inner areas, additional building sites were mainly created by the demolition of existing structures. Only Mitcham and Marion possessed higher stocks of vacant allotments during 1980-84. Table XIV shows the distribution of allotments within Metropolitan Adelaide by 1985. Outer suburbs other than Elizabeth now account for the biggest share in allotment stock (83.4% of the AMA total). On the other hand, the inner areas

ADELAIDE: PERCENTAGE CHANGE IN VACANT RESIDENTIAL STOCKS 1975-1984



Mean 12.2
S.D. 19.4

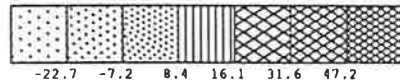
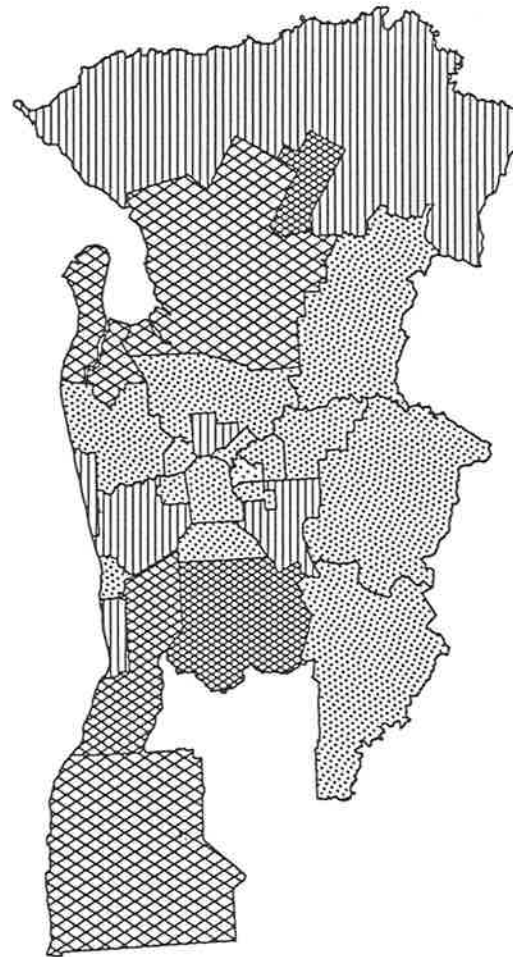


FIGURE 13A: 1975-1979



Mean 7.7
S.D. 11.2

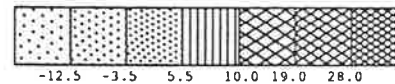
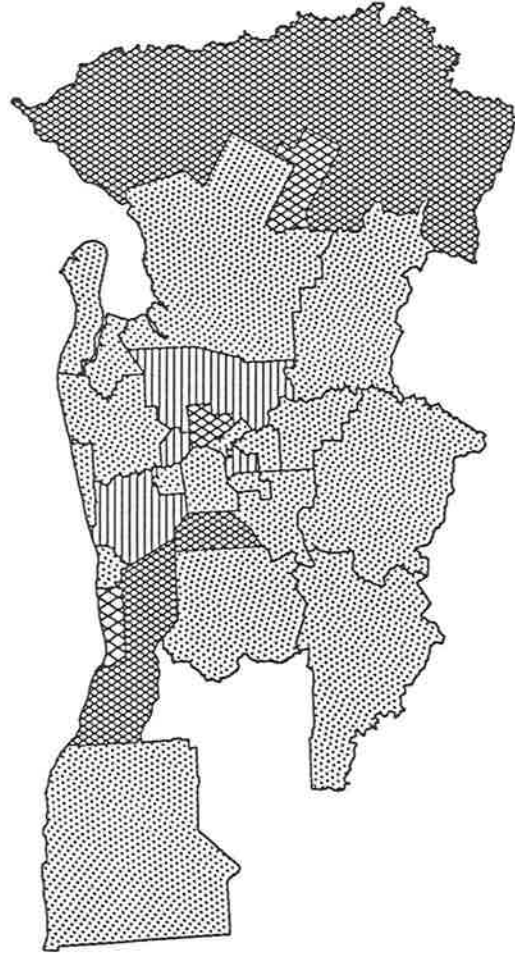


FIGURE 13B: 1980-1984

ADELAIDE: PERCENTAGE CHANGE IN CREATION OF RESIDENTIAL ALLOTMENTS 1975-1984



Mean 16.2
S.D. 34.3

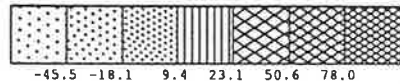
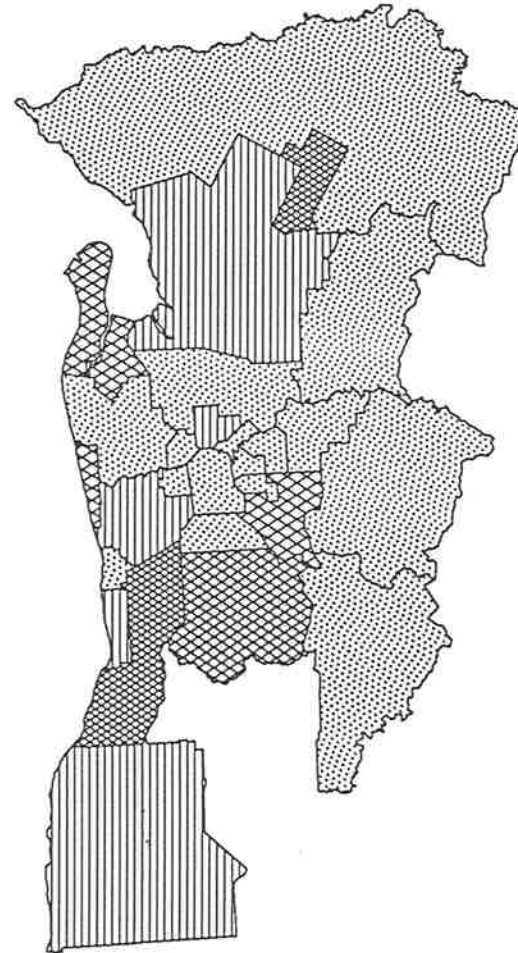


FIGURE 14A: 1975-1979



Mean 11.6
S.D. 22.6

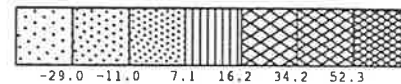


FIGURE 14B: 1980-1984

Table X: Creation of residential allotments, 1974-85,

SUBURBS	1974-79		1980-84		1974-84		1986	
	No. of Allotments	%	No. of Allotments	%	No. of Allotments	%	Projected	%
INNER	557	2.1	423	5.1	980	2.8	1,426	1.6
MIDDLE	7,405	27.9	2,700	32.3	10,105	29.0	6,204	7.0
OUTER	18,498	70.0	5,238	62.6	23,736	68.2	80,969	91.4
TOTALS	26,460	100.0	8,361	100.0	34,821	100.0	88,599	100.0

Source: Department of Environment & Planning, South Australia.

Table XI: Percentage Changes in Private Dwelling Construction,
Outer Suburbs, 1970-71 - 1983-84, AMA.

SUBURB	PERIOD 1			PERIOD 2			PERIOD 3			Changes in Percentage	
	1970-71 - 1974-75			1975-76 - 1979-80			1980-81 - 1983-84			Between Periods 1 & 2	Between Periods 2 & 3
	Houses	Other Dwellings	Total	Houses	Other Dwellings	Total	Houses	Other Dwellings	Total		
ELIZABETH	861	212	1,073	561	519	1,080	84	288	372	+ .65	-65.55
NOARLUNGA	5,613	305	5,918	5,132	859	5,991	2,554	498	3,052	- 1.23	-49.05
SALISBURY	6,438	586	7,024	4,549	1,251	5,800	2,302	609	2,911	-17.24	-49.81
STIRLING	601	17	618	1,051	23	1,074	499	2	501	+73.78	-53.35
TEA TREE GULLY	6,135	136	6,271	4,586	662	5,248	2,207	534	2,741	-16.31	-47.77

Source: Australian Bureau of Statistics, Special Bulletin on Housing, August 1985.

Table XII: Percentage Changes in Private Dwelling Construction,
Middle Suburbs, 1970-71 - 1983-84, AMA.

LGA	PERIOD 1			PERIOD 2			PERIOD 3			Changes in Percentage	
	1970-71 - 1974-75			1975-76 - 1979-80			1980-81 - 1983-84			Between Periods 1 & 2	Between Periods 2 & 3
	Houses	Other Dwellings	Total	Houses	Other Dwellings	Total	Houses	Other Dwellings	Total		
BRIGHTON	202	575	777	67	159	226	52	170	222	-70.91	- 1.76
CAMBELLTOWN	1,430	684	2,114	1,260	533	1,793	624	539	1,163	-15.18	-35.13
ENFIELD	748	1,822	2,570	97	216	313	46	261	307	-87.82	- 1.91
GLENELG	49	1,124	1,173	23	297	320	14	291	305	-72.71	- 4.68
HENLEY & GRANGE	299	709	1,008	104	234	338	48	85	133	-66.46	-60.65
MARION	1,535	997	2,532	1,835	735	2,570	1,539	779	2,318	+ 1.5	- 9.8
MITCHAM	1,690	1,437	3,127	1,158	439	1,597	677	236	913	-48.92	-42.83
PT. ADELAIDE	330	643	973	802	433	1,235	536	406	942	+26.92	-23.72
W. TORRENS	470	1,683	2,153	185	639	824	95	449	544	-61.72	-33.98
WOODVILLE	2,106	1,463	3,569	1,638	1,781	3,419	1,066	907	1,973	- 4.20	-42.29
E. TORRENS	279	-	279	242	38	280	221	8	229	- 0.35	-18.21

Source: Australian Bureau of Statistics, Census of Population and Housing, 1971, 1976, 1981 and Special Bulletin on Housing, August 1985.

Table XIII: Vacant Allotment Stocks, 1974-1984, AMA.

LGA	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
ADELAIDE	19	26	21	7	12	9	14	19	32	147	168
BURNSIDE	408	433	285	362	297	634	560	489	455	444	408
HINDMARSH	57	39	61	43	51	65	68	56	67	57	49
KENS. & N'WOOD	44	52	47	53	71	60	47	42	48	44	43
PAYNEHAM	133	97	129	121	138	149	139	147	133	132	115
PROSPECT	49	47	44	52	57	62	62	56	69	70	67
ST. PETERS	46	52	49	55	61	68	62	55	57	58	61
THEBARTON	17	21	19	14	16	18	19	21	26	25	25
UNLEY	127	95	109	139	155	160	151	161	165	171	151
WALKERVILLE	42	57	54	63	77	91	73	69	66	62	62
CAMPBELLTOWN	445	993	1,038	977	1,623	1,815	1,636	1,523	1,432	1,217	1,126
ENFIELD	412	397	343	365	402	524	470	463	458	432	439
GLENELG	17	19	23	21	27	32	34	27	30	26	18
HENLEY & GRANGE	64	70	66	576	62	86	78	72	69	59	56
MARION	1,821	2,065	2,283	2,770	2,652	2,841	2,599	2,257	2,102	1,845	1,453
MITCHAM	1,057	1,063	734	862	1,609	1,538	1,404	1,225	1,103	980	863
PT. ADELAIDE	457	471	532	571	622	684	565	547	533	556	426
W. TORRENS	238	246	193	232	261	303	285	262	237	228	265
WOODVILLE	653	703	642	697	911	982	807	883	1,093	741	668
E. TORRENS	21	26	37	42	55	66	67	79	11	180	172
BRIGHTON	142	145	159	155	168	157	139	122	109	108	101
TEA TREE GULLY	1,983	1,862	1,867	2,242	2,677	3,440	2,661	2,317	2,243	1,843	1,385
ELIZABETH	62	71	83	105	128	121	95	77	68	68	31
SALISBURY	2,469	2,279	2,663	2,120	2,472	2,876	2,606	2,138	1,786	1,407	1,211
MUNNO PARA	1,144	1,422	1,702	1,839	2,138	2,011	2,056	1,857	1,780	1,569	1,246
NOARLUNGA	2,772	2,892	3,938	4,062	4,045	4,532	4,313	4,039	3,933	3,416	2,465
STIRLING	23	27	26	52	63	92	7	679	1,055	1,010	952
	15,518	15,960	17,047	17,978	20,850						

Source: Department of Lands, Valuation Division, S. Australia.

Table XIV: Vacant Allotment Stock, 1985, AMA.

Adelaide	150	
Burnside	666	
Hindmarsh	71	
Kens. & N'wood	65	
Payneham	110	
Prospect	40	
St. Peters	56	
Thebarton	18	
Unley	121	<u>Percentage of Stock :</u>
Walkerville	62	
Sub Total	1,359	Inner areas: 1.84%
Marion	3,862	
E. Torrens	750	Middle areas: 14.79%
Brighton	66	
Campbelltown	2,495	Outer areas: 83.35%
Enfield	366	
Glenelg	28	
Henley & Grange	128	
Pt. Adelaide	772	
Mitcham	955	
W. Torrens	253	
Woodville	1,208	
Sub Total	10,883	
Elizabeth	113	
Munnopara	18,269	
Noarlunga	18,468	
Salisbury	10,377	
Stirling	1,750	
Tea Tree Gully	12,325	
Sub Total	61,302	
Grand Total	73,544	

Source: Department of Environment and Planning, South Australia, 1985.

share (1.8%) reflects the scarcity of vacant residential blocks close to the city centre.

It is worth noting that the majority of the future dwelling construction activity in Metropolitan Adelaide will occur in the outer zone with 78,100 commencements (68.4%) projected for the period 1984-85 to 2000-01. The middle suburbs are expected to absorb 28,500 dwellings over the period (24.8%), while the remaining 7800 commencements (6.8%) will be provided in the inner LGA's (Department of Environment and Planning, 1985).

5.3 PRIVATE SECTOR DWELLINGS

Urban economic theory suggests that residential densities, and therefore residential land prices should be highest in the most accessible parts of the city. In Adelaide, other aspects of the rent surface show the importance of the development of the housing stock under contemporary zoning and building regulations.

The years between 1970-74 were the peak period for land price inflation in the Adelaide fringe markets. By that time, the outer suburbs in the Adelaide Metropolitan Area were growing faster and most of the private housing constructions occurred in those areas. In 1972-73 a total of 11,752 residential buildings were commenced in the Adelaide Metropolitan Area and of which 7978 were houses and the rest flats and other types of dwellings (Table V). The high level in dwelling commencements continued in the fringe areas till 1976-77. Demand for housing had also affected changes in vacant allotment prices in the outer suburbs (Table XV and Figure 19). Between 1970-74 vacant allotment prices in the outer areas doubled and in some cases trebled. For example, in Noarlunga the average price of a vacant allotment rose

Table: XV: Vacant Allotment Prices, Outer Areas, AMA.
(in dollars)

LGA's	1970	1974	1975	1979	1980	1984
ELIZABETH	5615	11,811	18,945	21,545	19,672	23,921
NOARLUNGA	2318	7,406	9,997	12,047	12,921	14,003
TEA TREE GULLY	6913	11,087	11,598	14,939	15,621	26,033
SALISBURY	8001	9,120	12,250	15,904	15,804	17,272
STIRLING	1450	8,651	10,563	16,595	16,137	20,837
MUNNOPARA	6018	13,409	15,226	16,260	16,127	13,686

Source: Land price index, Department of Lands, South Australia.

ADELAIDE: CREATION OF RESIDENTIAL ALLOTMENTS (Private).

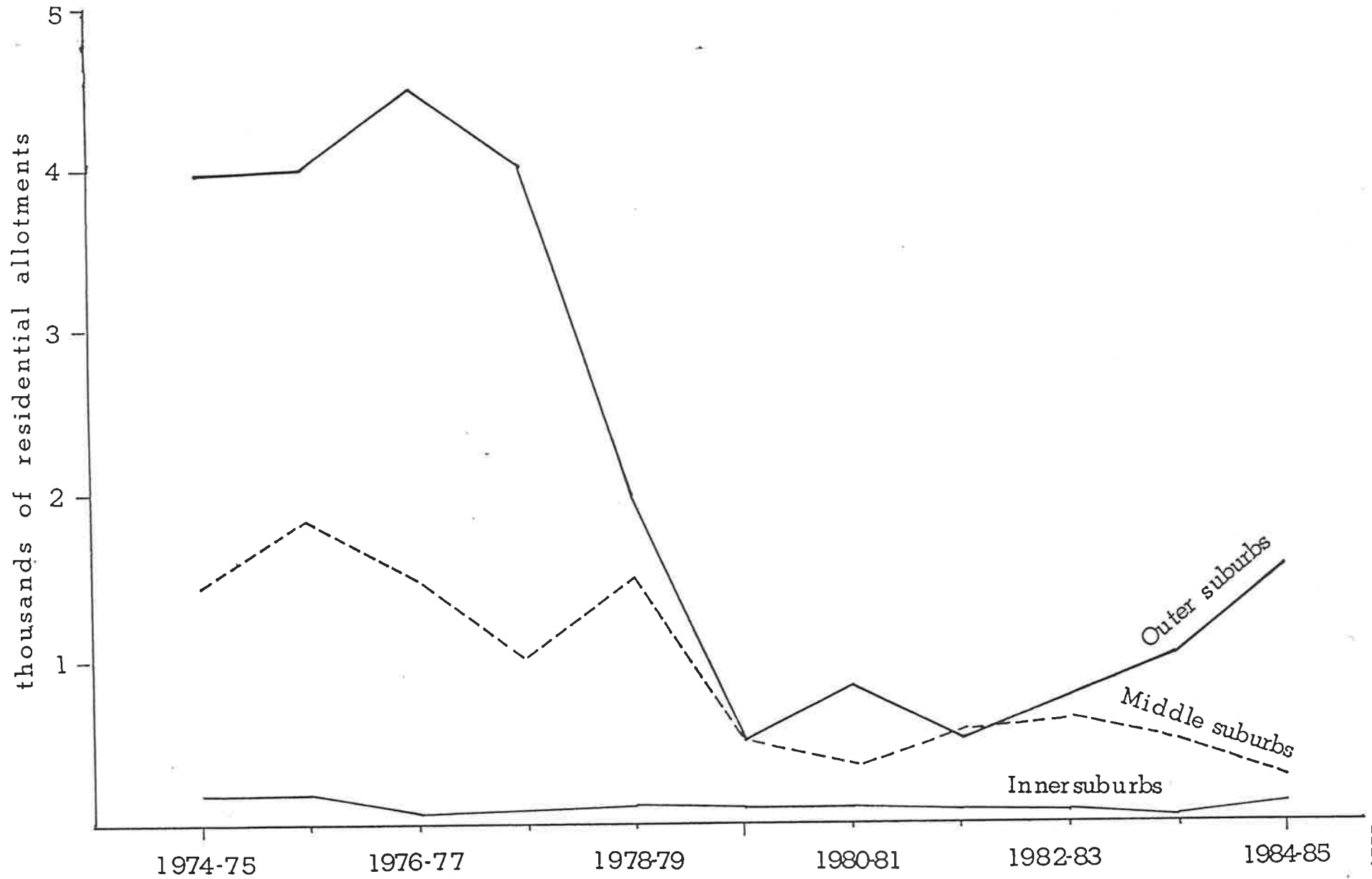


Figure 15

Source: Dept. of Environment and Planning, Land Monitoring Unit, Annual Reports, 1974-85.

from \$2318 (1970) to \$7406 (1974) (Table XV). Figure 16 shows the house building activities in three areas within the Adelaide Metropolitan Area during the 1970-84 period. In fact, after the end of the land price spiral, building activity slackened on the fringes during 1977. By 1977-78 residential building commencements had declined to almost half the 1972-73 level (Table V). After that the land and the housing market stagnated until the revival of construction activity in 1982-83 in the outer and middle suburbs (Figure 16). Between 1978-79 and 1981-82 the number of housing loans approved fell in South Australia. Savings banks housing interest rates also rose from 10 per cent (1978) to 13.5 per cent (1982) and that of building societies from 11 per cent (1978) to 14.25 per cent in 1982. After 1976-77, the funding allocated for house purchase shifted from newly erected dwellings to the purchase of established dwellings. As a result, house construction declined in relative terms in the outer areas. Moreover, loans approved to individuals for the purchase of established dwellings increased from \$270.5 million (1976-77) to \$835.3 million in 1984-85 whereas the value of newly erected dwellings purchased fell from \$144.5 million in 1976-77 to \$49.7 million in 1983-84 (Tables VI and VII). Other than the fringes, especially in the inner suburbs, building activity was limited mostly to the demolition of existing structures and the construction of flats and other types of dwellings. Vacantland in the inner suburbs has long been exhausted while in some of the middle suburbs, modest construction has been possible through the re-subdivision of the available large blocks, e.g. Campbelltown, Marion and Mitcham.

ADELAIDE: PRIVATE SECTOR HOUSES, 1970-84.

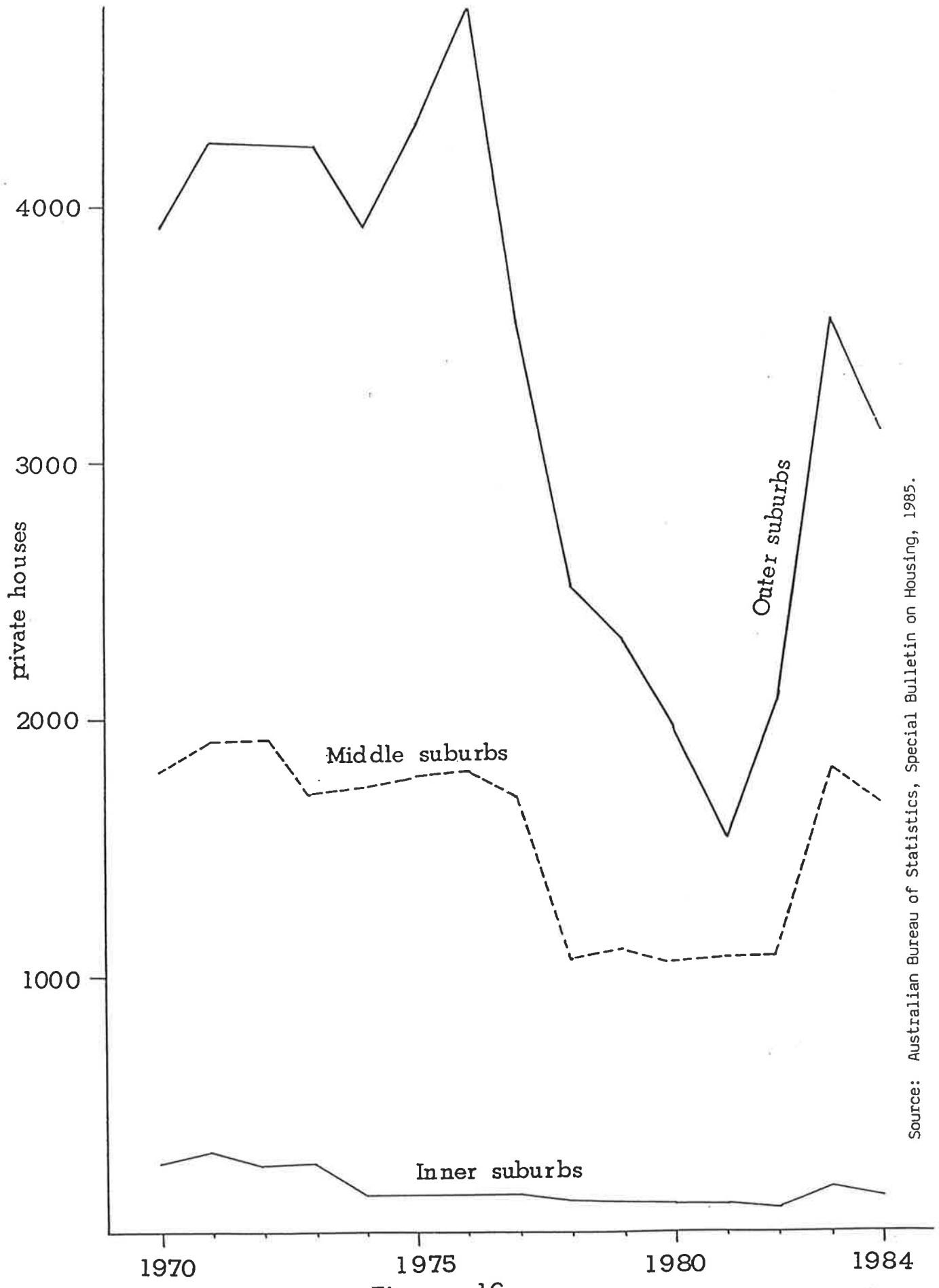
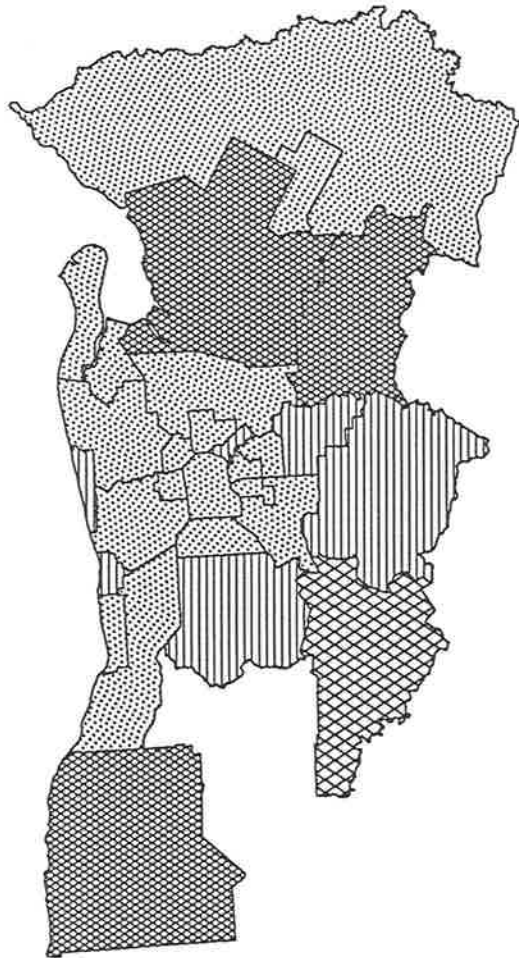


Figure 16

Source: Australian Bureau of Statistics, Special Bulletin on Housing, 1985.

ADELAIDE: PERCENTAGE CHANGE IN PRIVATE SECTOR DWELLINGS 1970-1984



Mean 18.8
S.D. 16.7

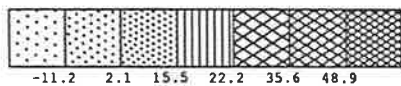
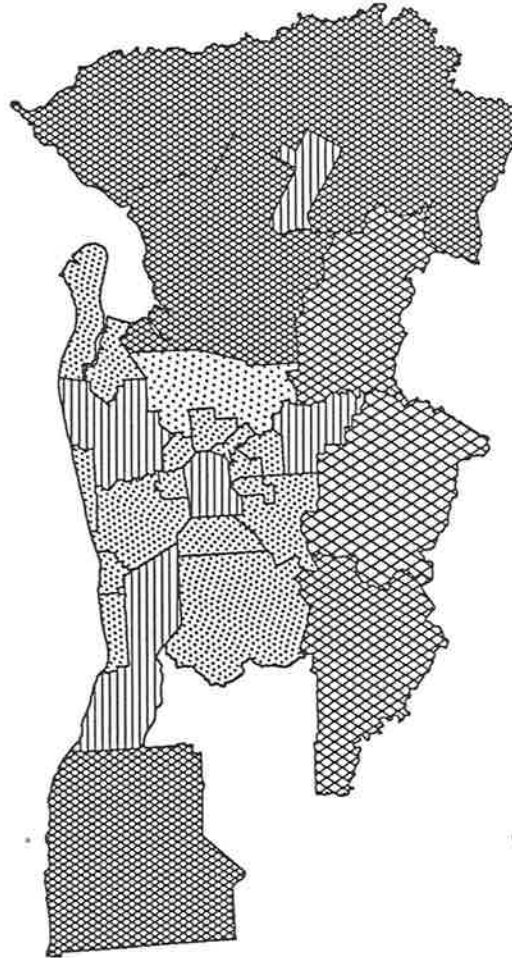


FIGURE 17A: 1970-1974



Mean 9.4
S.D. 8.1

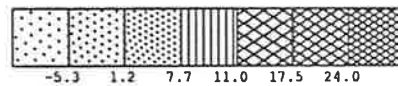
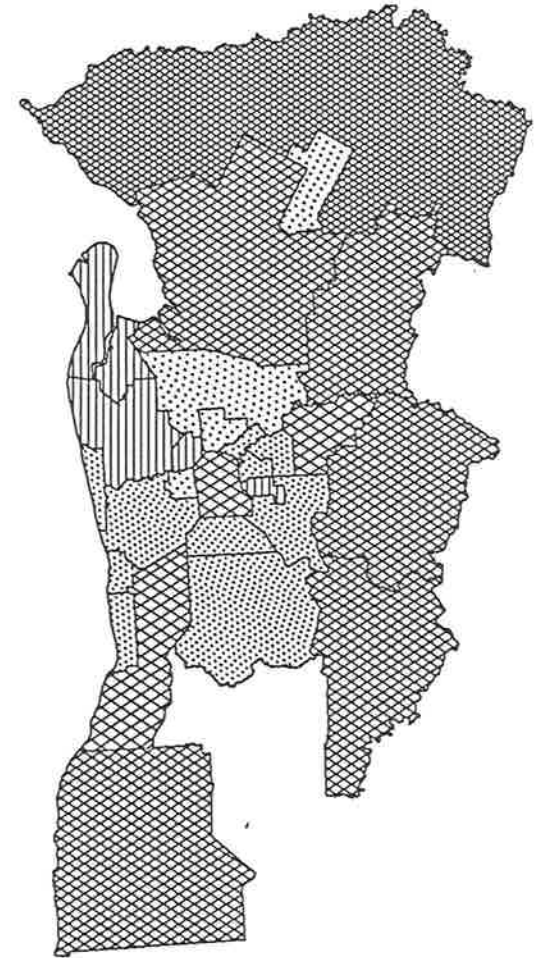


FIGURE 17B: 1975-1979



Mean 6.2
S.D. 4.6

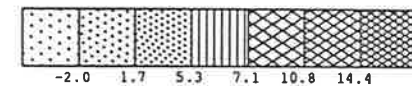


FIGURE 17C: 1980-1984

ADELAIDE: PRIVATE SECTOR DWELLING, (flats & others)..
1970-84

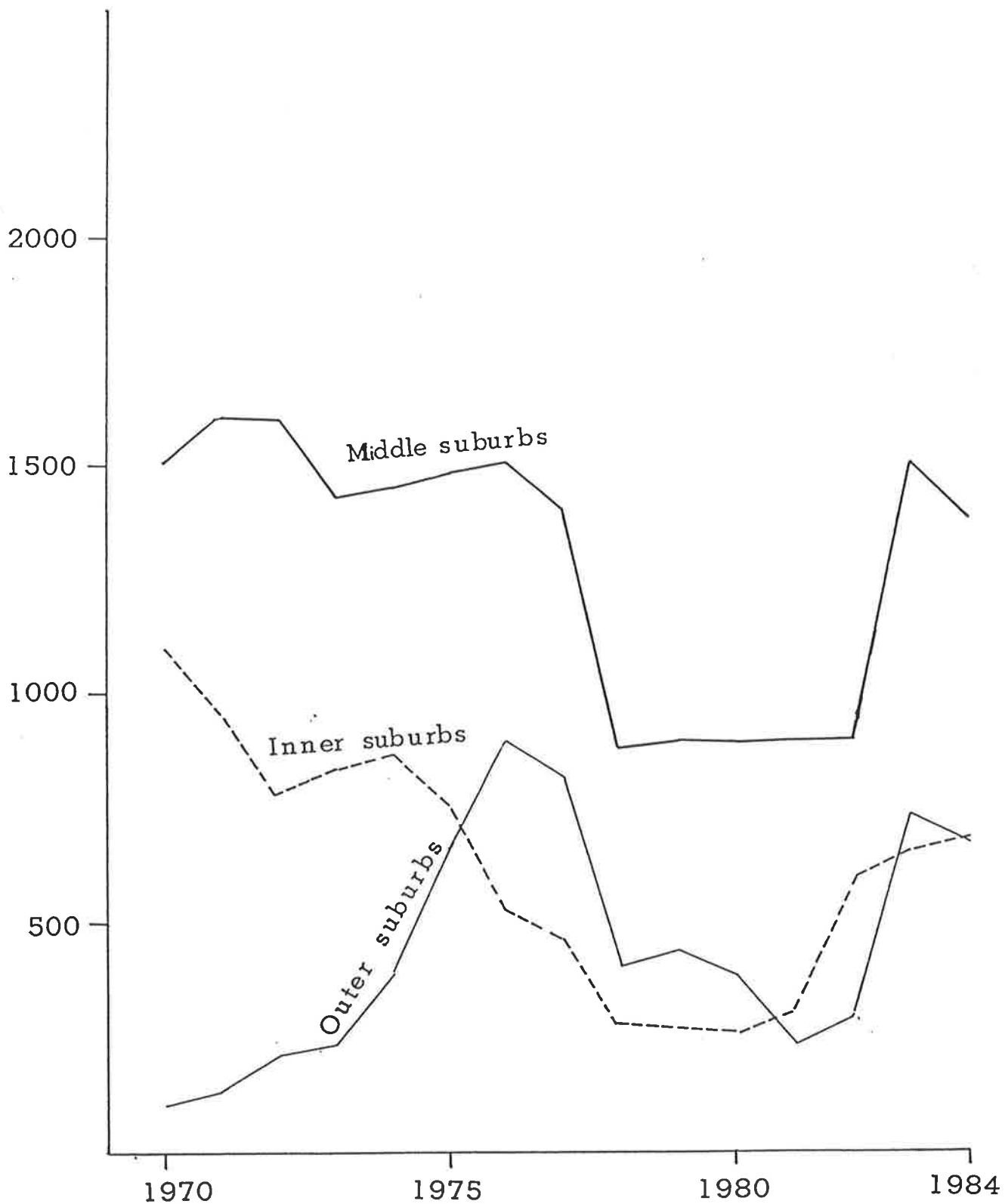


Figure 18

Source: Australian Bureau of Statistics, Special Bulletin on Housing, 1985.

ADELAIDE : RESIDENTIAL ALLOTMENT PRICE (Nominal)
PERCENTAGE CHANGES, 1970-85.

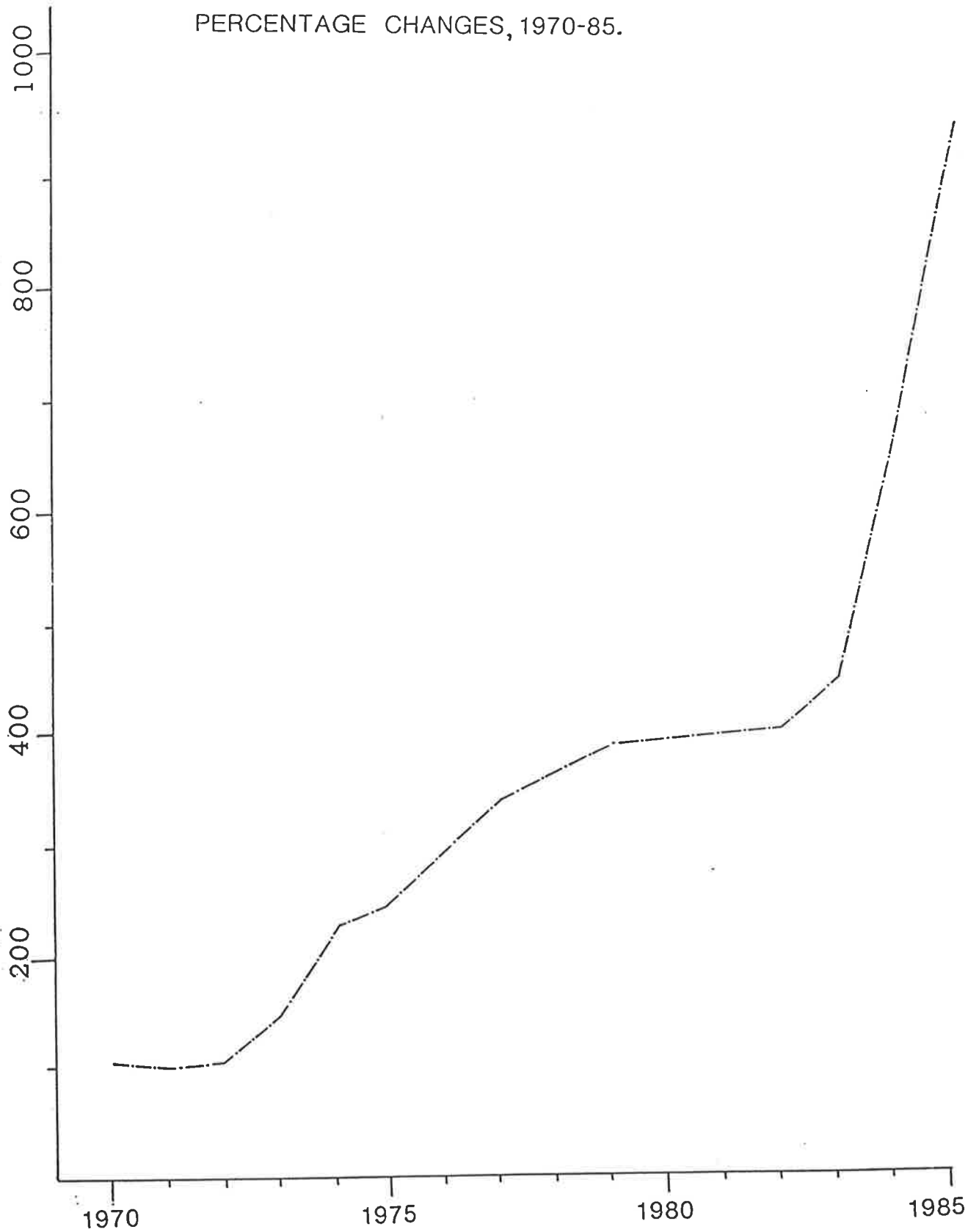


Figure 19

Source: Valuation Division, Department of Lands, S.A.

Figures 17a, 17b and 17c reflect the changes in the distribution of private sector dwellings within the Adelaide Metropolitan Area, and especially in the outer suburbs. Elizabeth, a public housing estate, is an exception in the outer areas, where much of the available serviced land has been exhausted. With the increase in demand for housing, vacant allotment prices have also gone up in the outer suburbs. Between 1970-75 the average prices of residential land blocks in the fringes have increased by a factor of seven or eight since 1970 (Table XVI). During June 1986, the outer areas had a total of 14,726 vacant allotments in their stocks, followed by 5205 in the middle and only 757 in the inner suburbs (Department of Environment and Planning, 1985).

Spacious private dwellings are more concentrated in the north-east and hills suburbs which had been built up during the last two decades, following the building boom in Adelaide.

... High concentrations of dwellings with more spaces and rooms reflect affluence and spacious living conditions and occur most noticeably in the belt of eastern suburbs stretching along the pleasant slopes of the Mount Lofty Ranges from Modbury in the north, through Burnside to Blackwood, Aberfoyle Park and Hallett Cove in the South. These areas are not only in what has traditionally been Adelaide's high status sector but are also relatively recently developed and therefore reflect the trend during the last fifteen years towards larger family dwellings. The clusters of high values in West Lakes and adjacent western suburbs represent similar but more recent higher status housing development on land previously ill drained or used for market gardening. (Forster, 1984:ix)

As a result of investment and re-development, vacant allotment prices have increased significantly in those high class areas mentioned above, e.g. in Burnside the average price of a vacant allotment has been raised from \$9753 (1970) to \$33,769 (1981).

Table XVI: Average Fringe Land Prices: AMA
1970 - 1985.

<u>YEAR</u>	<u>LOT PRICE</u> (<u>\$</u>)
1970	2,900
1971	2,800
1972	3,100
1973	3,800
1974	5,200
1975	6,100
1976	6,900
1977	8,949
1978	9,602
1979	10,214
1980	10,303
1981	10,509
1982	10,592
1983	11,951
1984	17,662
1985	25,697

Source: Badcock (1986, 183).

Table XVII: Private Sector Dwellings: 1970-84.

YEAR	INNER SUBURBS		MIDDLE SUBURBS		OUTER SUBURBS	
	HOUSES	FLATS & OTHERS	HOUSES	FLATS & OTHERS	HOUSES	FLATS & OTHERS
1970	277	1,305	1,800	2,353	3,934	137
1971	362	1,168	1,931	2,630	4,279	156
1972	258	957	1,913	2,686	4,242	252
1973	270	1,034	1,725	1,905	4,228	272
1974	169	1,132	1,769	1,563	3,903	465
1975	162	908	1,794	1,625	4,331	784
1976	164	672	1,799	1,834	4,746	1,072
1977	167	576	1,692	873	3,589	829
1978	136	379	1,051	579	2,507	481
1979	134	369	1,075	637	2,330	517
1980	128	335	1,035	557	1,951	454
1981	128	467	1,041	1,167	1,562	286
1982	102	710	1,042	1,059	2,102	360
1983	174	793	1,800	1,348	3,579	873
1984	159	813	1,645	1,158	3,108	817

Source: Australian Bureau of Statistics, Census on Population and Housing, 1971, 1976, 1981, and Special Bulletin on Housing, August 1985.

In the inner suburbs and other older areas such as Glenelg, concentrations of flats developed partly because of the existence of a reservoir of large old houses suitable for subdivision. Flats also developed along the coast partly for the same reason, as well as in response to a demand for holiday and retirement accommodation. The lack of flats in the inner western suburbs is also partly the result of a lack of older dwellings suitable for conversion, as well as the unattractiveness of these industrial areas to residential investors (Figure 18).

Since planning legislation in the late 1960's gave local authorities the power to control residential densities, the building of flats or other medium density housing has been subject to considerable restriction. Usually, flats have a high degree of concentration in a limited number of areas. Zoning had the effect of concentrating new flat construction in areas where flats already existed and excluding it entirely from most newly developing outer suburbs. In a number of areas in Burnside and Unley, changes to zoning policies have resulted in flat and home unit development being curtailed (Young, 1981).

In future, the outer suburbs will experience additional growth and the projection (Department of Environment and Planning, 1985) shows that the demand for housing in the fringes will continue to rise. The rising demand for housing will inevitably affect residential prices in those areas. The future of the outer areas shows a high degree of population concentration in LGA's like Noarlunga, Munno Para, Tea Tree Gully, Stirling, Meadows and Salisbury. The outer areas will undergo substantial population growth, an increase of 222,200 or (+55 per cent) (Department of Environment and Planning, 1985). On the other hand, in the middle and inner suburbs, redevelopment will take place through the demolition of the under-capitalized structures.

Table XVIII: Vacant Allotment Prices and Number of Sales.
AMA: 1970-84 (Absolute Figures)

PERIOD	INNER SUBURBS		MIDDLE SUBURBS		OUTER SUBURBS	
	Price (\$)	No. of Sales	Price (\$)	No. of Sales	Price (\$)	No. of Sales
1970	11,830	412	9,927	4,455	3,666	3,865
1971	10,090	399	8,966	4,931	4,247	4,296
1972	11,724	480	9,915	4,989	4,680	5,072
1973	14,607	135	12,060	5,899	8,021	7,055
1974	17,257	153	14,613	3,973	9,716	2,455
1975	18,463	155	17,792	3,803	13,022	4,042
1976	21,624	243	20,633	4,105	16,242	5,713
1977	25,092	230	22,621	2,741	16,368	4,112
1978	25,991	231	24,860	2,285	16,068	2,845
1979	26,062	194	24,720	2,242	16,090	2,416
1980	27,534	241	25,837	2,271	15,726	2,125
1981	31,879	210	26,812	2,223	15,079	2,037
1982	34,077	151	27,869	1,924	11,322	1,920
1983	35,465	170	30,257	1,963	13,879	2,283
1984	43,090	292	36,613	2,927	16,977	4,368

Source: Department of Lands, South Australia, Sales index.

Table XIX: Average Vacant Allotment Prices (Real)
AMA: 1970-84. (1985 \$A = 1.00)

PERIOD	INNER SUBURBS	MIDDLE SUBURBS	OUTER SUBURBS
1970	11,830 = 47,911	9,927 = 40,204	3,666 = 14,847
1971	10,090 = 38,846	8,966 = 34,519	4,247 = 16,350
1972	11,724 = 42,675	9,915 = 36,090	4,680 = 17,035
1973	14,607 = 48,349	12,060 = 39,918	8,021 = 26,550
1974	17,257 = 49,527	14,613 = 41,939	9,716 = 27,884
1975	18,463 = 45,788	17,792 = 44,124	13,022 = 32,294
1976	21,624 = 46,924	20,633 = 44,773	16,242 = 35,245
1977	25,092 = 48,176	22,621 = 43,432	16,368 = 31,426
1978	25,991 = 46,263	24,860 = 44,250	16,068 = 28,601
1979	26,062 = 42,741	24,720 = 40,540	16,090 = 26,387
1980	27,534 = 41,025	25,837 = 38,497	15,726 = 23,431
1981	31,879 = 43,355	26,812 = 36,464	15,079 = 20,507
1982	34,077 = 41,914	27,869 = 34,278	11,322 = 13,926
1983	35,465 = 39,011	36,257 = 33,282	13,879 = 15,266
1984	43,090 = 45,675	36,613 = 38,809	16,977 = 17,995

Source: Sales index figures, Department of Lands, South Australia.

5.4 CHANGES IN LGA POPULATION

Residential land prices respond to the distribution of population growth in an urban area. Urban economic theory suggests that population density should be highest in the inner suburbs and along transport routes because of the need to use expensive, highly accessible land as profitably as possible and because of the historical legacy of more densely developed housing in the inner, older areas. But the pockets of medium density housing in Adelaide are actually widely scattered throughout the urban area and many inner suburbs have undercapitalised sites, suggesting greater complexity of the existing density pattern as opposed to the theoretical situation.

Within the Adelaide Metropolitan Area, since 1966 the increase in population has slowed somewhat. The 1966 Census shows a total Adelaide Metropolitan Area population of 771,600, whereas in 1986 the Adelaide Metropolitan Area population has increased to 997,700 (Australian Bureau of Statistics Census, 1986). Although during the last fifteen years the overall population growth rate has been sluggish, internal migration within Adelaide has caused significant variations in the distribution of population. With rapid suburbanization of the fringes, shifts in population from the inner to the newly developed outer suburbs of the Adelaide Metropolitan Area have occurred. In 1966, the inner area had a population density of 2099 persons/km², whereas in 1986 it had declined to 1774 persons/km² (Table IX). In the coming years, the density of the inner area population is expected to decline more.

... the projection indicates that between 1981 and 2001, the LGA's in the inner region will undergo a loss in population of 6600 persons (-5.3%). (Projection of Population and Dwelling, Department of Environment and Planning, 1985)

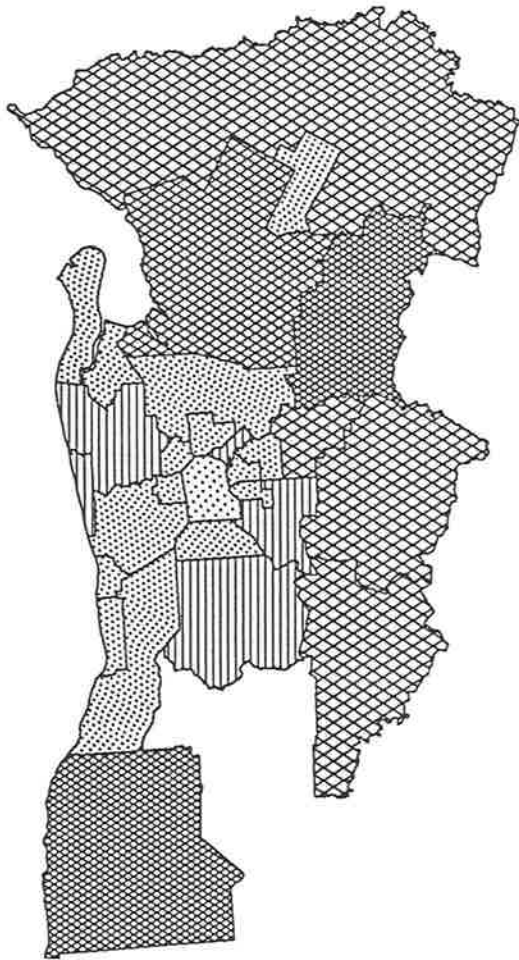
On the other hand, since 1966 impressive increases have been observed in the fringe areas. Table IX shows that the outer areas had a very low population density, only 141 persons/km² in 1966. The 1986 Census shows that the population density in fringes have increased to 367 persons/km². In the near future, more concentration of population is expected to take place in the outer areas.

... Over the same period, the outer sector will undergo substantial population growth, an increase of 222,200 or (+55%). (Projection of Population and Dwelling, Department of Environment and Planning, 1985)

For the present study, changes, pertaining to the population characteristics of each LGA, have been considered over the three census periods 1971-76, 1976-81 and 1981-86. The Figures 20a, 20b and 20c, since 1970, show the relative changes in the percentages of population within each LGA. The figures reflect considerable decline in population concentration in the inner suburbs where population had been falling for many years. However, a few inner suburbs have gained population slowly since the middle of the 1970's. Reinvestment in the north and eastern inner suburbs has improved the residential amenity of those areas. Population losses slackened in Burnside, Hindmarsh, Prospect, Unley and in Walkerville partly as a result of inner city residential redevelopment policies. Redevelopment in the old inner suburbs reflected the council's efforts to slow the population decline. Many flats and home units were completed for the lower income people through the demolition of the existing structures.

Since the mid 1960's, subdivision and re-subdivision of large residential allotments, located in the middle suburbs, have improved the supply in the local land market to meet the increased demand for housing. Population density in the middle suburbs rose from 983

ADELAIDE: PERCENTAGE CHANGE IN LOCAL GOVT. POPULATION 1970-1984



Mean 4.6
S.D. 16.2

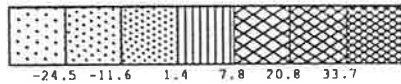
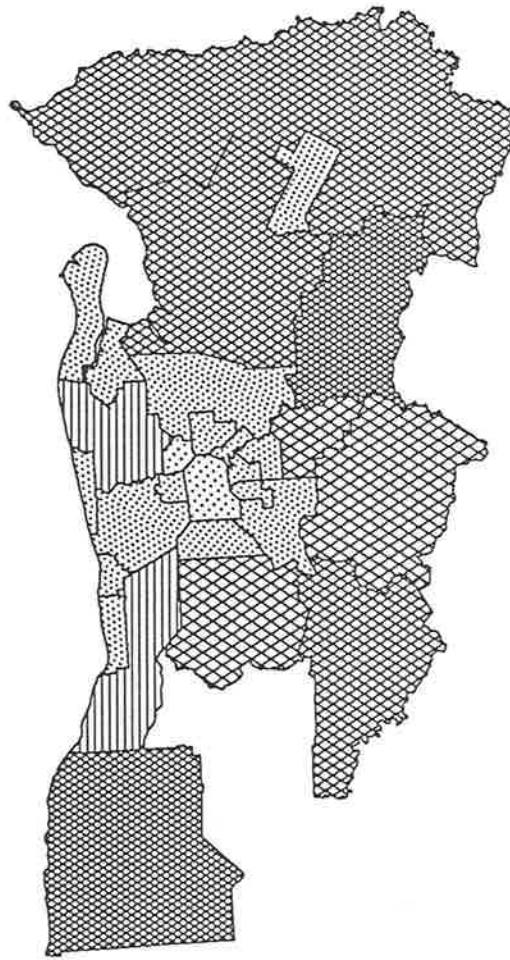


FIGURE 20A: 1970-1974



Mean 0.7
S.D. 10.4

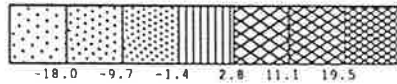
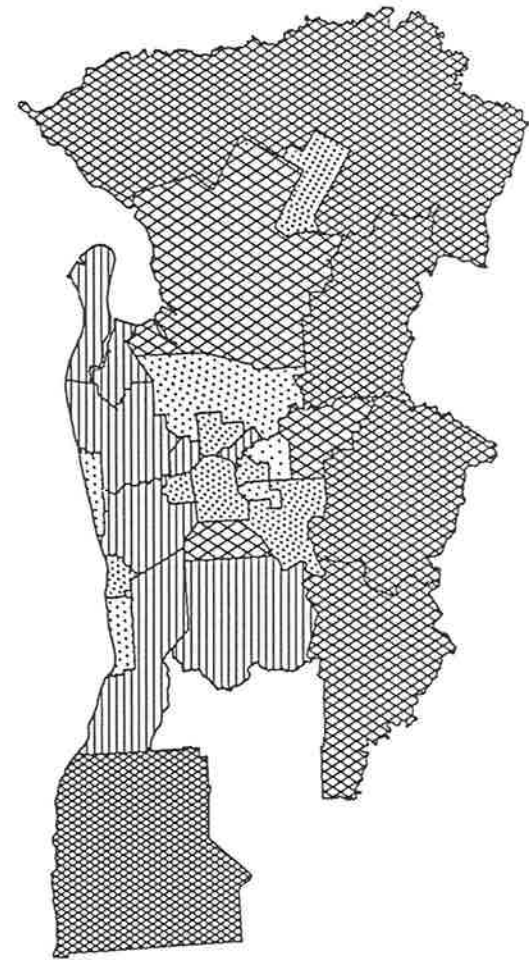


FIGURE 20B: 1975-1979



Mean 4.4
S.D. 6.8

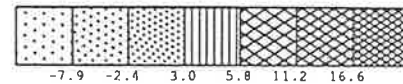


FIGURE 20C: 1980-1984

persons/km² (1966) to 1040 persons/km² (1976) and then continued to decline slightly by 1981 to 1022/km² and 1009/km² by 1986 (Table IX). Campbelltown, Mitcham, East Torrens and Woodville have shown considerable increases in their population (Table XXI). Campbelltown and East Torrens were developed during the mid 1960's and the early 1970's; inflation in the fringe land prices had significantly affected the local housing market. In the outer suburbs, except Elizabeth, all LGA's have shown considerable growth in their population. The population projection for the fringe areas also indicates a higher rate of increase in population towards the end of this century. In Noarlunga, the local population has increased from 28,464 in 1971 to 73,090 in 1986 and is projected to be 119,275 by 2001, reflecting an increase of 85.76 per cent within a period of 15 years (Australian Bureau of Statistics Census, 1986, and Population Projections, Depart of Environment and Planning, 1985). For the same period (i.e. 1986-2001), population of Munno Para, Salisbury and Tea Tree Gully have been projected to be 72,313 (an increase of 176.2 percent), 117,256 (and increase of 34.9 per cent) and 106,092 (an increase of 46.2 per cent) respectively. By contrast, with the exception of Hindmarsh, Unley and Adelaide City, other inner suburbs have experienced a steady decline in population since the beginning of the 1970's.

The steady growth of fringe population in the Adelaide Metropolitan Area has been matched by the increases in residential land prices in those areas. The average vacant allotment prices in the Adelaide fringe areas have risen from \$2,900 in 1970 to \$25,697 in 1985 (Badcock, 1986:183). At the same time, the population of the Adelaide fringe areas has increased from 141 persons/km² in 1971 to 277 persons/km² in 1981 and 367 persons/km² in 1986 (Australian Bureau of Statistics, 1971, 1981, 1986).

Table XX: Annual Changes in LGA Population, Inner Zone 1966-81, AMA.

LGA	1966-71				1971-76				1976-81			
	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase
ADELAIDE	18,577	16,313	-2,264	-453	16,313	13,775	-2,538	-508	13,775	12,656	-1,119	-224
BURNSIDE	38,758	39,339	581	116	38,339	38,461	-878	-176	38,461	37,593	-868	-174
HINDMARSH	11,352	10,306	-1,046	-209	10,306	8,693	-1,613	-323	8,693	7,593	-1,106	-220
KENS. & N'WOOD	11,928	11,081	-847	-169	11,081	9,652	-1,429	-286	9,652	8,950	-702	-140
PAYNEHAM	16,844	17,543	699	140	17,543	17,547	4	0.8	17,547	16,502	-1,045	-209
PROSPECT	21,411	20,934	-477	-95	20,934	19,487	-1,447	-289	19,487	18,591	-896	-179
ST. PETERS	11,334	10,675	-659	-132	10,675	9,306	-1,369	-274	9,306	8,458	-848	-170
THEBARTON	12,296	11,831	-465	-93	11,831	10,318	-1,513	-303	10,318	9,208	-1,100	-220
UNLEY	39,727	39,928	201	40	39,928	37,018	-2,910	-582	37,018	35,844	-1,174	-235
WALKERVILLE	6,723	7,208	485	97	7,208	7,210	2	0.4	7,210	6,840	-470	-74
				-758				-2,740				-1,845

Source: Department of Environment and Planning, 1983.

Table XXI: Annual Changes in LGA Population, Middle Zone, 1966-81, AMA.

LGA	1966-71				1971-76				1976-81			
	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase
CAMPBELLTOWN	32,083	37,942	5,859	1,172	37,942	41,250	3,308	662	41,250	43,084	1,834	367
ENFIELD	78,131	77,435	-696	-139	77,435	73,506	-3,929	-786	73,506	66,797	-6,709	-1,342
GLENELG	14,762	15,237	475	95	13,237	14,416	-821	-164	14,416	13,306	-1,110	-222
HENLEY & GRANGE	14,146	16,128	1,982	396	16,128	16,587	459	92	16,587	15,519	-1,068	-214
MARION	66,950	67,572	622	124	67,572	67,287	-285	-57	67,287	66,580	-707	-141
MITCHAM	52,874	57,746	4,872	975	57,746	59,886	2,140	428	59,886	60,309	423	85
PT. ADELAIDE	39,823	38,968	-855	-171	38,968	36,025	-2,943	-589	36,025	35,407	-618	-124
W. TORRENS	46,222	50,097	3,875	775	50,097	47,994	-2,103	-421	47,994	45,099	-2,895	-579
WOODVILLE	73,878	72,806	-1,072	-214	72,806	75,276	2,470	494	75,276	77,634	2,358	472
E. TORRENS	3,813	4,202	389	79	4,202	4,801	599	120	4,801	5,250	449	90
BRIGHTON	22,620	22,583	-37	7	22,583	21,410	1,173	-235	21,410	19,441	-1,969	-394
				6,178				3,413				417

Source: Department of Environment and Planning, 1983.

Table XXII: Annual Changes in LGA Population, Outer Zone, 1966-81, AMA.

	1966-71				1971-76				1976-81			
	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase	Population T	Population T+N	Total Increase in 5 yrs	Annual Increase
ELIZABETH	32,949	33,389	440	88	33,389	33,724	335	67	33,724	32,608	-1,116	-223
SALISBURY	35,762	56,279	20,517	4,103	56,279	77,482	21,203	4,241	77,482	86,451	8,969	1,794
NOARLUNGA	14,198	28,464	14,266	2,853	28,464	47,352	18,888	3,778	47,352	60,928	13,576	2,715
MUNNOPARA	14,277	20,179	5,902	1,180	20,179	22,363	2,184	437	22,363	26,927	4,564	913
STIRLING	7,551	8,359	808	162	8,359	10,757	2,398	480	10,757	13,193	2,436	487
TEA TREE GULLY	21,314	36,708	15,394	3,079	36,708	56,052	19,344	3,869	56,052	68,147	12,095	2,419

Source: Department of Environment and Planning, 1983.

High densities in the north-western and the south-eastern corners of the city of Adelaide itself and in Glenelg certainly do reflect the impact of recent construction of expensive medium density and even high rise housing and therefore bear out economic theory. But high population densities in some middle and outer suburban Housing Trust areas in Enfield and Elizabeth are more closely associated with very high occupancy ratios in semi-detached cottages. Population densities in the inner suburbs such as Unley, Norwood, Hindmarsh and Thebarton are highly variable as a result of the combination of pockets of higher density housing, population losses through ageing and outward shifting.

The middle suburbs of the Adelaide Metropolitan Area are characterised generally by densities of 2000-3000 persons/km² (Australian Bureau of Statistics, 1986). On the other hand, suburbs fringing the Adelaide Hills in the east and particularly the south-east, density of population is lower mainly due to very high property values and partially by the restrictions imposed by the relief.

5.5 EMPLOYMENT OPPORTUNITIES AND CITY OF ADELAIDE TRIP DESTINATIONS

Adelaide is the traditional city centre dominated by tall office blocks and government buildings. In spite of the general movement of employment to the suburbs after the 1960's, the central city still provides the largest single concentration of job opportunities in the urban area. At the 1981 Census, approximately 12 per cent of Adelaide's employed population was working in the central area (Australian Bureau of Statistics, 5). Since 1970, with the expansion of the city, new investment has created new job opportunities in the outer suburbs.

It is very difficult to establish any direct empirical relationship between factors like job opportunities or city work trips and residential land prices in the metropolitan area. However, it can be argued that the location of a job centre has a significant impact on its surrounding residential areas and consequently helps in raising the housing and residential land prices. In fact, the presence of a job centre implies a higher demand for housing surrounding it.

'At the end of the Second World War, a high proportion of the jobs and services mainly concentrated in the central area and inner industrial suburbs' (Smailes, 1967:17). The State Planning Authority set out to limit job concentration in order to reduce the work trips to the central area and the load on transport routes serving the centre, and also to improve the access of suburban residents to jobs and private and government services. The rapid movement of residents to the suburbs was followed by the relatively rapid suburbanization of jobs. The actual number of jobs in the CBD of Adelaide declined from 86,750 in 1971 to 67,209 in 1986 (Australian Bureau of Statistics 1971, 1986 Census) and also the number of jobs in the closest suburbs stabilised or declined slowly (Table XXIII).

In Adelaide, it has been found that some types of employment are more centralised than others and some have decentralised more rapidly than others. In particular, manufacturing employment and the blue collar jobs it mostly provides is no longer heavily concentrated in the inner areas of the Adelaide Metropolitan Area. In fact, the number of resident core blue collar workers has declined considerably from 19,264 in 1966 to 8598 in 1981 within the industrial inner suburbs of the Adelaide Metropolitan Area. Smailes, referring to the relocation of manufacturing industry in Adelaide, says:

Table XXIII: Adelaide Metropolitan Area.

LGA	1971	1976	1981	1986
Adelaide	86,750	90,175	79,033	67,209
Burnside	6,990	8,819	9,285	9,385
Hindmarsh	6,897	7,965	8,361	8,550
Kens. & N'wood	6,362	7,778	7,258	6,456
Payneham	2,417	3,417	3,745	3,872
Prospect	3,384	4,414	4,188	3,756
St. Peters	2,611	2,941	3,258	3,510
Thebarton	6,210	7,022	7,961	8,493
Unley	7,931	10,077	10,707	10,907
Walkerville	1,878	2,073	2,065	2,017
Campbelltown	3,011	4,811	5,391	5,611
Enfield	19,991	24,826	24,613	23,434
Glenelg	2,556	3,041	2,961	2,853
Henley & Grange	1,287	1,817	1,809	1,740
Marion	15,527	17,952	15,289	12,142
Mitcham	10,502	14,327	14,574	14,056
Pt. Adelaide	13,334	15,444	14,202	12,538
W. Torrens	19,351	21,381	19,571	17,356
Woodville	30,189	32,349	29,120	25,461
E. Torrens	507	827	870	850
Brighton	2,942	3,518	3,690	3,606
T.T.G.	2,510	5,660	7,920	9,554
Elizabeth	9,755	12,580	10,886	8,627
Salisbury	9,628	16,323	17,128	16,595
Munnopara	1,659	2,474	2,779	2,925
Noarlunga	3,237	7,908	9,407	9,969
Stirling	969	1,354	1,487	1,542

Source: Australian Bureau of Statistics, Census of Population, 1971, 1976, 1981 and 1986.

... Every firm which moves out will probably eventually draw at least some of its skilled workers after it, and the decline in the local population will not be halted by reducing the locally available employment.

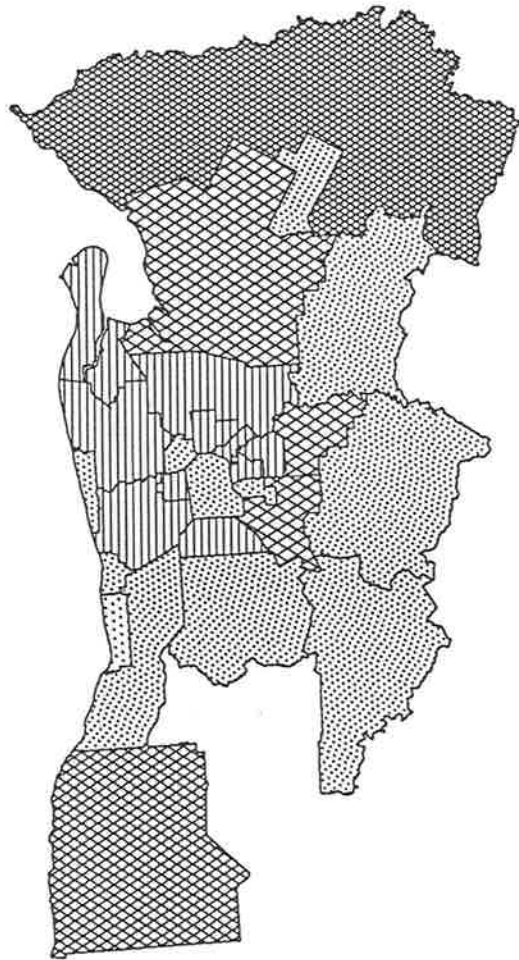
(Smailes, 1967:36)

In the Adelaide Metropolitan Area, suburban industrial areas have attracted manufacturing firms and suburban shopping centres have attracted retailers and some services but few offices. Most of the retailing and services and nearly all of the manufacturing employment in suburban areas are dispersed over a large number of suburbs in the Adelaide Metropolitan Area. The suburban centres have relatively little office employment and the public transport services to most of them are limited. Rather than the central area jobs being too numerous, some people feel they are too few, especially jobs for unskilled and semi-skilled workers. Unemployment rates are higher in the inner suburbs. The decline during the 1970's in the labour intensive manufacturing that was mostly located in the inner suburbs of the Adelaide Metropolitan Area, has reduced their numbers of blue collar jobs.

It is apparent that almost all of the outer suburbs have gained more resident workers (Table XXIV). Since 1970, the number of the locally employed workers has been increasing in the fringe areas. Blue collar workers, living in Elizabeth, Salisbury, Munno Para and Noarlunga, have found it more convenient to be employed locally in terms of avoiding longer work trips. The period 1970-74 also shows a high rise in the residential land prices in the outer suburbs.

Figures 21a, 21b and 21c and also Table XXIV indicate that most of the outer suburbs provide more job opportunities to their residents than the central area. Elizabeth, Salisbury, Munno Para and Noarlunga in the outer and Enfield, Port Adelaide and Woodvill in the middle zone reflect the concentration of higher numbers of locally employed

ADELAIDE: PERCENTAGE CHANGE IN EMPLOYMENT OPPORTUNITIES WITHIN 20 KMS 1970-1984



Mean 14.6
S.D. 7.5

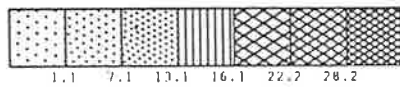
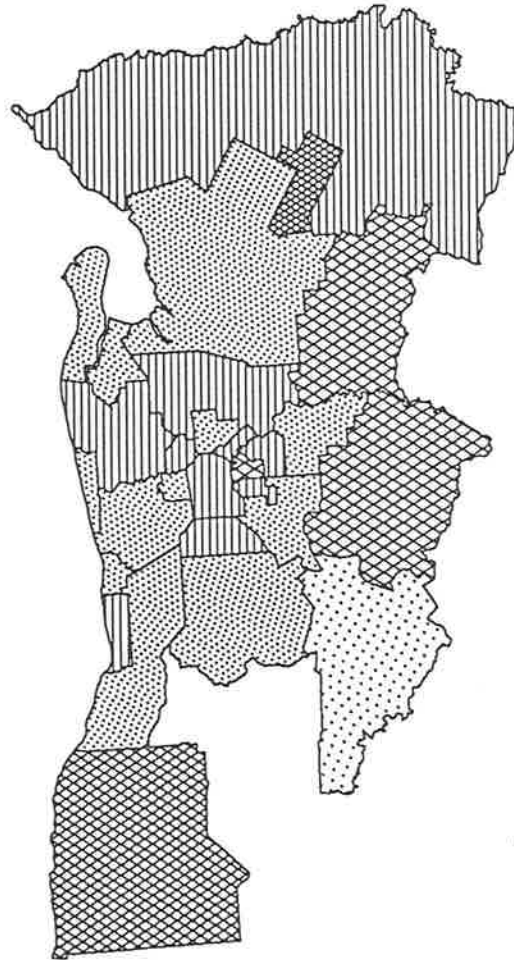


FIGURE 21A: 1970-1974



Mean -2.5
S.D. 3.5

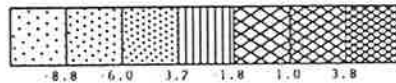
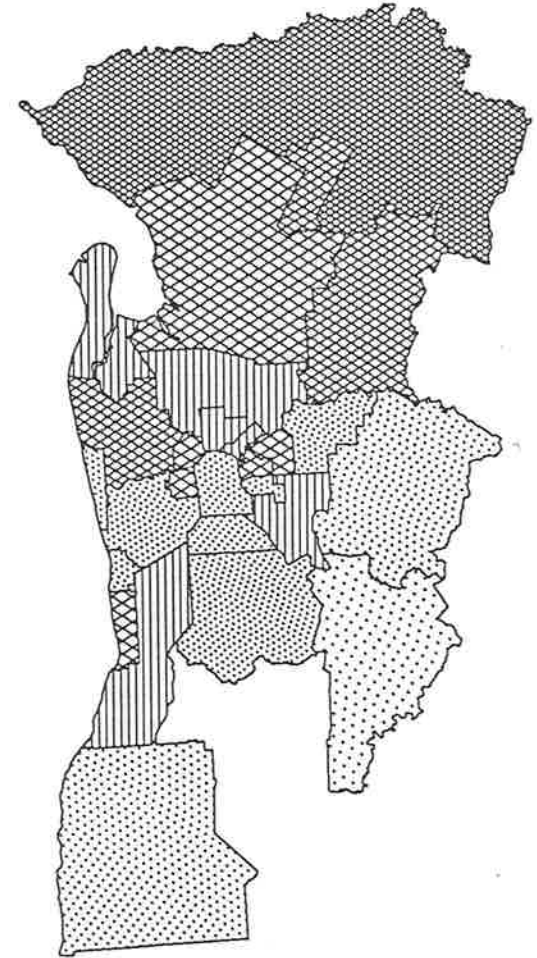


FIGURE 21B: 1975-1979



Mean -8.0
S.D. 1.6

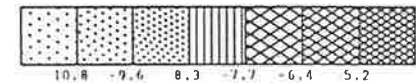


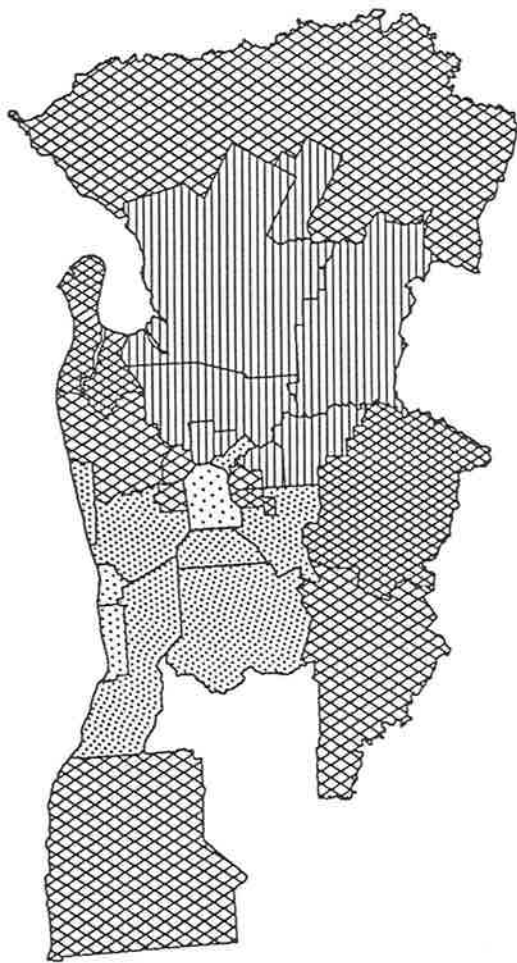
FIGURE 21C: 1980-1984

Table XXIV: Percentage of LGA Workforce in the CBD, 1971-1986, AMA.

LGA	1971			1976			1981			% Change	
	Working in the Adelaide City	Employed Usual Residents	%	Working in the Adelaide City	Employed Usual Residents	%	Working in the Adelaide City	Employed Usual Residents	%	1971-76	1976-81
ADELAIDE	3,871	6,441	60.09	3,295	6,825	48.27	2,223	4,354	51.05	-11.82	+2.78
BURNSIDE	5,798	14,349	40.40	5,879	15,920	36.92	4,830	15,244	31.68	-3.48	-5.24
HINDMARSH	806	3,972	20.29	692	3,644	18.99	504	2,659	18.95	-1.29	-0.05
KENS. & N'WOOD	1,236	4,287	28.83	1,334	4,356	30.62	1,102	3,580	30.78	+1.79	+0.16
PAYNEHAM	2,104	6,681	31.49	2,186	7,454	29.32	1,752	6,781	25.83	-2.17	-3.49
PROSPECT	2,673	8,335	32.06	2,517	8,460	29.75	1,981	7,609	26.03	-2.31	-3.72
ST. PETERS	1,228	3,950	31.08	1,226	3,979	30.81	1,065	3,480	30.60	-0.27	-0.21
THEBARTON	1,005	4,446	22.60	956	4,162	22.96	680	3,180	21.38	+0.36	-1.58
UNLEY	5,437	15,499	35.07	5,068	16,085	31.50	4,283	14,764	29.00	-3.57	-2.50
WALKERVILLE	1,108	2,725	40.61	1,137	3,067	37.07	988	2,930	33.72	-3.54	-3.35
CAMPBELLTOWN	4,461	14,426	30.92	4,918	17,701	27.78	4,434	18,532	23.92	-3.14	-3.86
ENFIELD	8,146	31,093	26.19	7,480	32,383	23.09	5,012	25,884	19.36	-3.10	-3.73
GLENELG	1,928	5,956	32.37	1,647	6,331	26.01	1,152	4,897	23.52	-6.36	-2.49
HENLEY & GRANGE	2,010	6,596	30.47	2,023	7,727	26.18	1,446	6,591	21.93	-4.29	-4.25
MARION	7,778	27,346	28.44	7,361	30,302	24.29	6,138	28,862	21.26	-4.15	-3.03
MITCHAM	6,928	20,758	33.37	7,485	25,875	28.92	6,400	25,256	25.34	-4.45	-3.58
PT. ADELAIDE	1,721	15,233	11.29	1,714	14,938	11.47	1,349	13,137	10.26	+0.18	-1.21
W. TORRENS	6,719	21,046	31.92	6,291	22,246	28.27	4,605	19,173	24.01	-3.65	-4.26
WOODVILLE	5,816	30,495	19.07	5,851	33,424	17.50	5,091	31,321	16.25	-1.57	-1.25
E. TORRENS	309	1,538	20.09	481	2,187	22.00	553	2,367	23.36	+1.91	+1.36
BRIGHTON	2,772	8,692	31.89	2,352	8,983	26.18	1,745	7,664	22.76	-5.71	-3.42
TEA TREE GULLY	3,760	13,909	27.03	5,925	24,127	24.55	6,043	30,041	20.11	-2.48	-4.45
ELIZABETH	1,823	12,149	15.00	1,765	13,772	12.81	1,308	11,533	11.34	-2.19	-1.47
SALISBURY	4,291	20,792	20.63	6,050	32,955	18.35	5,549	36,859	15.05	-2.28	-3.30
MUNNO PARA	721	6,830	10.55	798	8,892	8.97	854	9,961	8.57	-1.58	-0.40
STIRLING	903	3,163	28.54	1,279	4,613	27.72	1,358	5,608	24.21	-0.82	-3.51
NOARLUNGA	1,647	10,767	15.29	3,151	20,362	15.47	3,290	23,973	13.72	+0.18	-1.75

Source: Australian Bureau of Statistics, Census on Journey to Work (1981).

ADELAIDE: PERCENTAGE CHANGE IN ADELAIDE CITY WORK TRIPS 1970-1984



Mean -2.1
S.D. 2.2

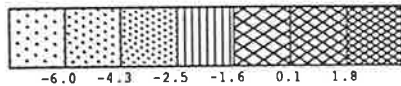
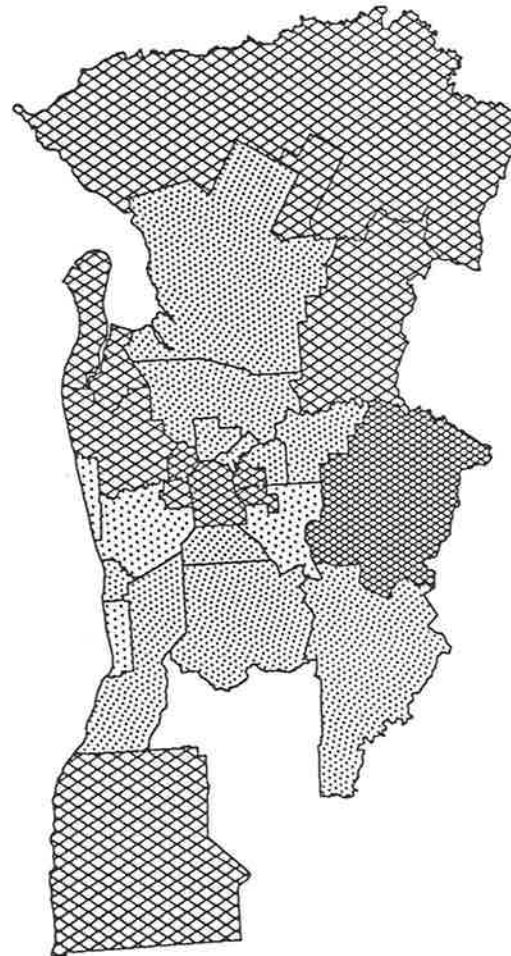


FIGURE 22A: 1970-1974



Mean -1.8
S.D. 1.3

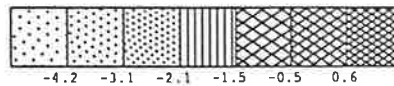
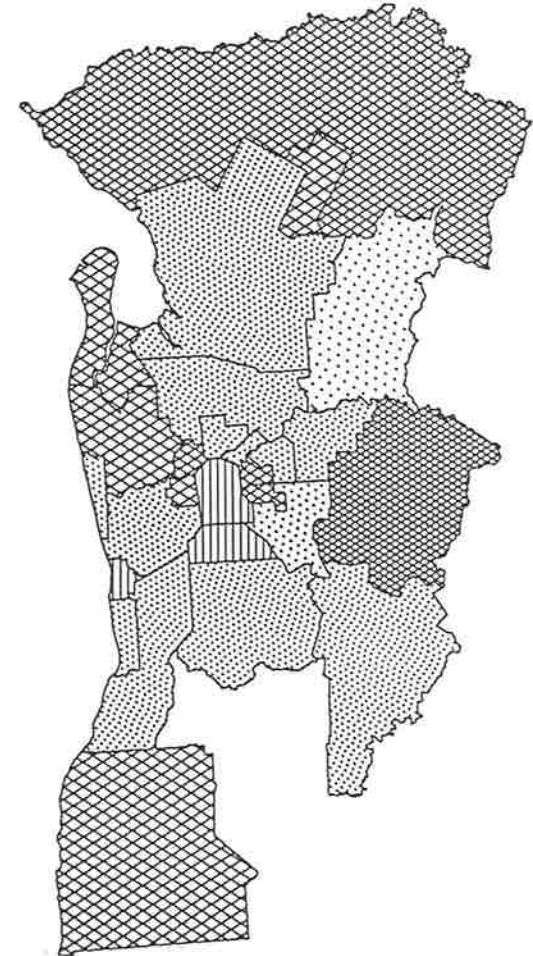


FIGURE 22B: 1975-1979



Mean -2.0
S.D. 1.5

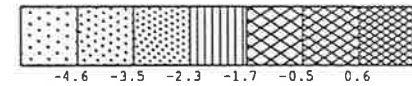


FIGURE 22C: 1980-1984

workers compared to the central area (Table XXIV). Figures 22a, 22b and 22c also show a high level of change in the numbers of Adelaide work trips in the outer as well as in the inner suburbs. More jobs were created in the outer suburbs during the period under examination and blue collar workers resident in those areas were increasingly found to be employed in local manufacturing and processing jobs. Between 1970-84, the number of blue collar workers declined with a substantial rise in the white collar workforce in the inner areas.

5.6 UPPER WHITE COLLAR WORKFORCE

White collar workers are defined as 'professional, technical and administrative workers' who are in general the best paid and most highly qualified groups in the labour force and their jobs carry the most prestige (Australian Bureau of Statistics, 1981). Further, the white collar workers have been classified into two categories: upper white collar and lower white collar. Workers involved with 'professional, technical, administrative, executive, managerial jobs' form the upper white collar group and those people employed in business, clerical, sales or community services constitute the lower white collar class (Australian Bureau of Statistics, 1981).

Between 1970-84, the total upper white collar workforce had increased from 12,481 in 1971 to 15,219 in 1981 residing in the traditional inner residential suburbs of metropolitan Adelaide (Table XXV). Many of the remaining blue collar workers living in the working class inner suburbs have to commute to their work places, mostly manufacturing and retailing, relocated from the inner to the middle suburbs.

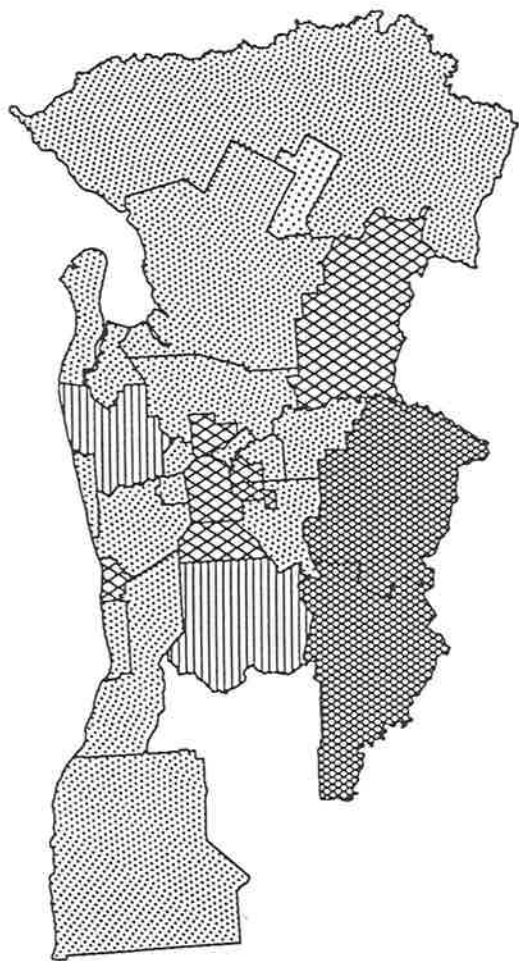
Between 1970-84 the total upper white collar workforce had increased from 12,481 in 1971 to 15,219 in 1981 residing in the traditional inner residential suburbs of Metropolitan Adelaide (Table XXV). Many of the remaining blue collar workers living in the working class inner suburbs have to commute to their work places, mostly manufacturing and retailing, relocated from the inner to the middle suburbs.

Between the 1960's and the mid 1970's, outer areas within the Adelaide Metropolitan Area grew rapidly and more job opportunities were created which affected the residential land and housing prices of those areas. On the other hand, since mid 1970's, revitalization of the inner areas has attracted more white collar workers in the traditional inner residential suburbs of Metropolitan Adelaide. Partly as a result of the trend, gentrification has occurred in some of the inner suburbs of Metropolitan Adelaide (Table XXV).

The place of residence of professional, technical and administrative workers within a city is usually a good indication of the social status or desirability of different suburbs. Their high incomes allow them a wide range of housing choice. The highest concentration within Adelaide is found in the pleasant residential environments of the eastern and south-eastern suburbs, fringing the hills or along the coast.

Figures 23a, 23b and 23c show the percentage changes in upper white collar workforce concentration within the Adelaide Metropolitan Area during 1970-84. The traditional residential areas in the north and eastern suburbs and close to the city contain large numbers of upper white collar workers. Table XXV indicates that since 1970, the inner areas have attracted a growing proportion of upper white collar workers. Between 1970-74 the increase has been 12.88 per cent, i.e. from 12,463 in 1970 to 14,069 in 1974. But the outer areas, during

ADELAIDE: PERCENTAGE CHANGE IN WHITE COLLAR WORKFORCE 1970-1984



Mean 2.1
S.D. 2.2

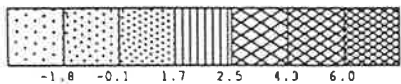
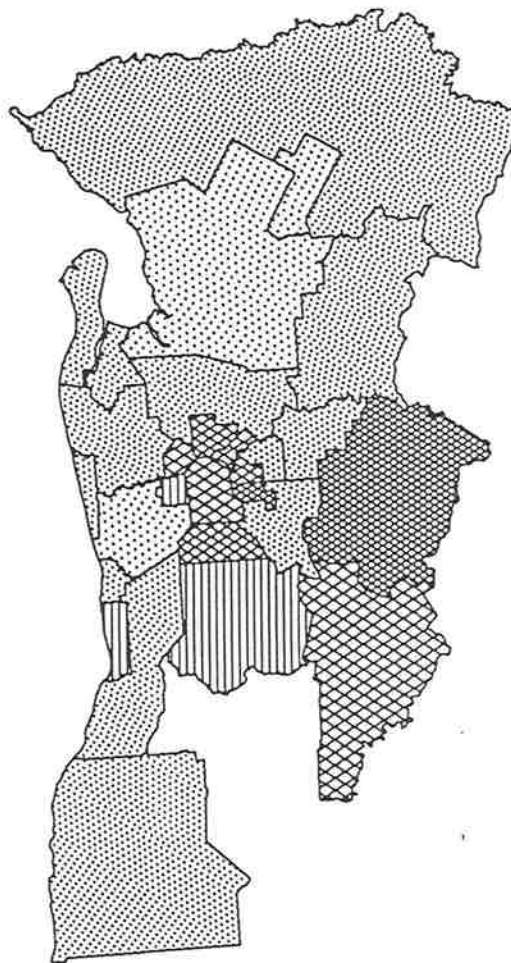


FIGURE 23A: 1970-1974



Mean 2.4
S.D. 1.8

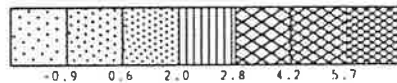
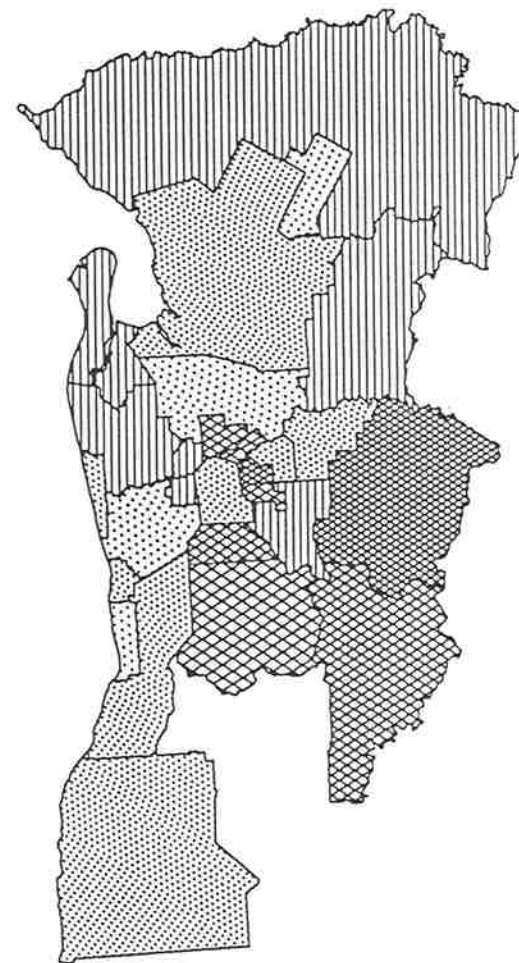


FIGURE 23B: 1975-1979



Mean 2.3
S.D. 2.3

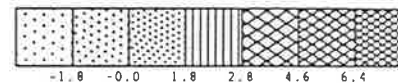


FIGURE 23C: 1980-1984

Table XXV: Distribution of the Upper White Collar
Workforce in Metropolitan Adelaide.*

Period	Inner Suburbs	Middle Suburbs	Outer Suburbs	Metropolitan Total
1970	12,463	33,024	8,872	54,359
1971	12,481	34,136	10,260	56,877
1972	13,077	34,345	11,342	58,764
1973	13,637	36,741	12,784	63,162
1974	14,069	37,303	14,420	65,792
1975	14,344	38,478	15,804	68,626
1976	14,866	39,565	17,191	71,622
1977	14,882	39,930	17,769	72,581
1978	15,009	40,321	18,545	73,875
1979	15,042	40,968	19,412	75,422
1980	15,128	41,407	19,851	76,386
1981	15,219	41,631	20,893	77,743
1982	15,302	41,879	21,902	79,083
1983	15,337	42,357	22,646	80,340
1984	15,821	42,930	23,114	81,865

* See text for definitions.

Source: Australian Bureau of Statistics, 1984: Unpublished Census tabulations.

ADELAIDE: UPPER WHITE COLLAR WORK FORCE, 1970-84.

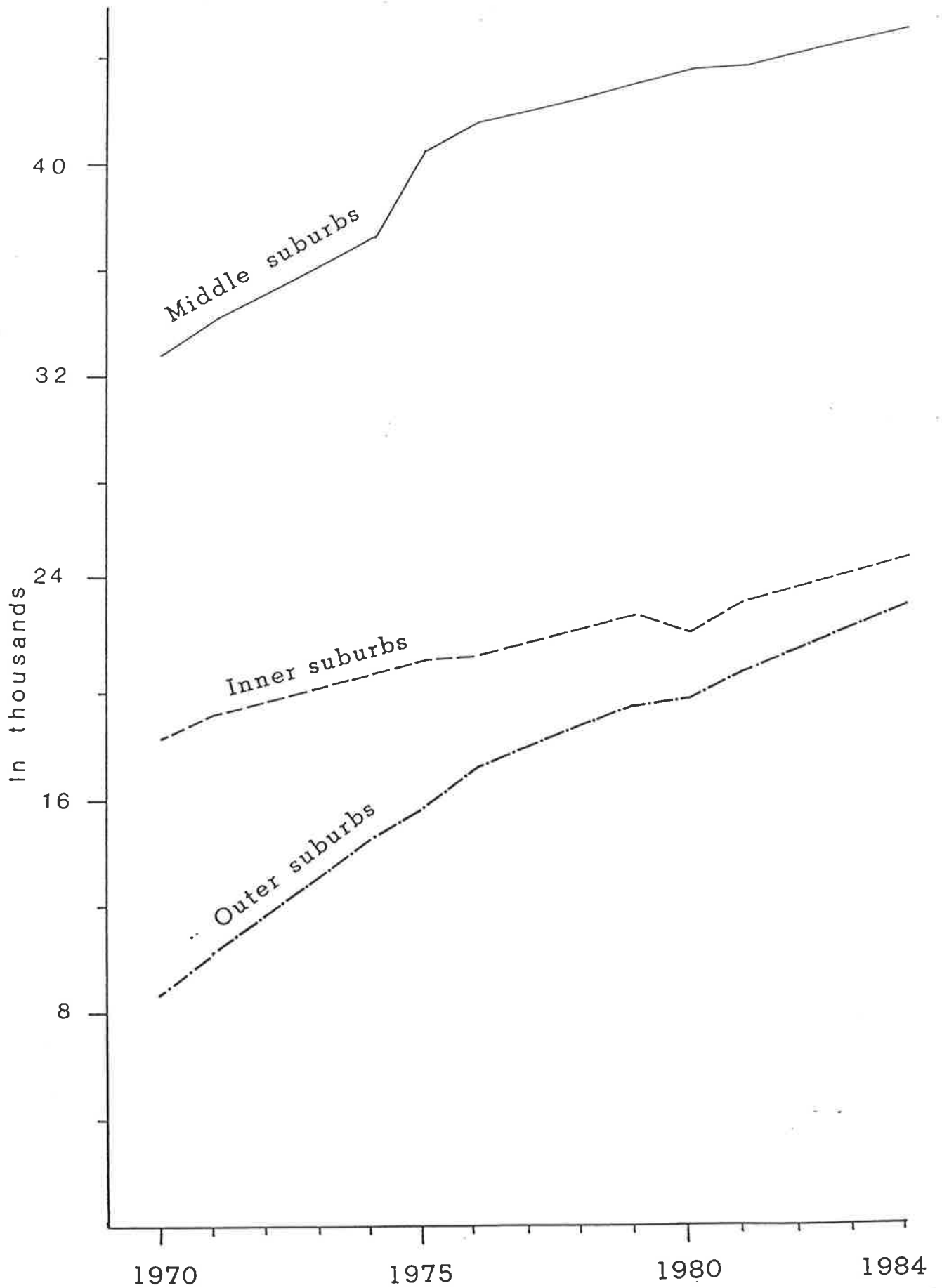


Figure 24

Source: Unpublished Census Tabulations, Australian Bureau of Statistics.

the same period have also shown a tremendous absolute increase in their upper white collar workforce. In 1970 the total upper white collar workforce in the outer suburbs was 8872 and in 1974, the total had reached 14,420, i.e. an increase of 62.5 per cent.

Between 1972-74, residential land prices in outer suburbs escalated. In some of the outer suburbs, residential land prices trebled. On the other hand, since late 1970's, a portion of the reinvestment in the inner suburbs was capitalized into property values, which resulted in a rise in residential land and housing prices of those areas. The displacement of various types of cheap accommodation and in particular cheap private rental housing, has removed many lower income people from the newly upgraded inner areas. In fact, the number of blue collar workers has been declining at a higher rate in the inner areas. In 1966 the total blue collar worker in the inner suburbs was 19,264, whereas the number had fallen to only 6923 in 1986 (Badcock, 1989).

Between 1971 and 1981, the number of upper white collar workers in the outer areas of the Adelaide Metropolitan Area has increased from 10,260 to 20,893. In the same period, the number of upper white collar workers in the inner and middle areas has increased from 12,481 (1971) to 15,219 (1981) and from 34,136 (1971) to 41,631 (1981) respectively.

Nearness to the central area jobs and the availability of other facilities have encouraged many upper white collar workers to live in the high class residential areas of central suburbs. As a result; increasing demand for housing has been reflected in disproportionate increase in housing and residential land prices in the central area since the late 1970's. (cf. Evans' concept of social agglomeration, Evans, 1973:130-39.)

5.7 THE SOUTH AUSTRALIAN HOUSING TRUST (SAHT) DWELLINGS

The South Australian Housing Trust was established in 1936. One of its objectives was to stabilise the price of urban land by its active participation in the acquisition, management, development and disposal of land for the whole range of urban uses. It purchased large areas of land in and around Adelaide, built housing for workers as well as for welfare families, made land available for large manufacturing establishments and also built and either sold or rented factories. The Trust is a statutory authority rather than a department of government and was established long before the planning authority.

The level of building activity (private) dramatically fluctuated during the 1970's and 1980's. Swings in the national economy have also affected the private housing market. During the early 1970's, a highly inflated private land and housing market in the outer areas of the Adelaide Metropolitan Area caused an increase in residential land and housing prices of those areas. Between 1970-75, which has been described as the period of instability in the land and housing market, the Trust's programme was deliberately counter-cyclical. By 1970 the SAHT had a total of 23,725 rental dwellings in its stock throughout the metropolitan area of which 14,870 were in the central sector of Adelaide. In 1984, the central sector of the Adelaide Metropolitan Area had a total stock of 18,392 SAHT houses, reflecting an increase of 3522 houses during the 1970-84 period. On the other hand, since the early 1980's, with the increasing building activities in the six outer suburbs of the Adelaide Metropolitan Area, the total SAHT stock had risen from 8855 in 1970 to 12,041 in 1984, showing a total increase of 3186 houses (Table XXVI)

Table XXVI: SAHT Houses (excluding flats), 1970-84, AMA.

ZONE	1970	1974	1975	1979	1980	1984	Increase between 1970-84
INNER	790	1,112	1,204	1,637	1,755	2,237	1,447
MIDDLE	14,080	14,312	14,315	15,006	15,236	16,155	2,075
OUTER	8,855	9,125	9,040	10,112	10,498	12,041	3,186
TOTALS:	23,725	24,549	24,559	26,755	27,489	30,433	6,708

Source: The South Australian Housing Trust, Annual Report, 1985.

Building activity was relatively quiet in South Australia between 1978-79 and 1982-83. Between 1978-79 and 1981-82, the number of housing loans approved fell in South Australia. A modest rise in loan approvals was evident in 1982-83, followed by a significant \$230 million rise in 1983-84, from \$454 million in 1982-83 to \$684 million in 1983-84. Fluctuations in the number of loan approvals for the purchase of established dwellings as well as for construction of dwellings have been found over the past years in the Adelaide Metropolitan Area. Between 1978-79 and 1982-83, the number of houses commenced by the SAHT had increased from 26,755 to 30,433. During 1983-84, further growth in the SAHT stock was effectively reduced by a rise in the private land and housing market activities in the Adelaide Metropolitan Area.

Table XXVI shows the high concentration of SAHT dwellings in the middle suburbs. During the period 1970-84 Enfield, Marion and Woodville have experienced high levels of SAHT construction. In the outer suburbs, Elizabeth, Salisbury, Munno Para, and later in the 1980's, Noarlunga, were the main areas where SAHT had concentrated its estate development.

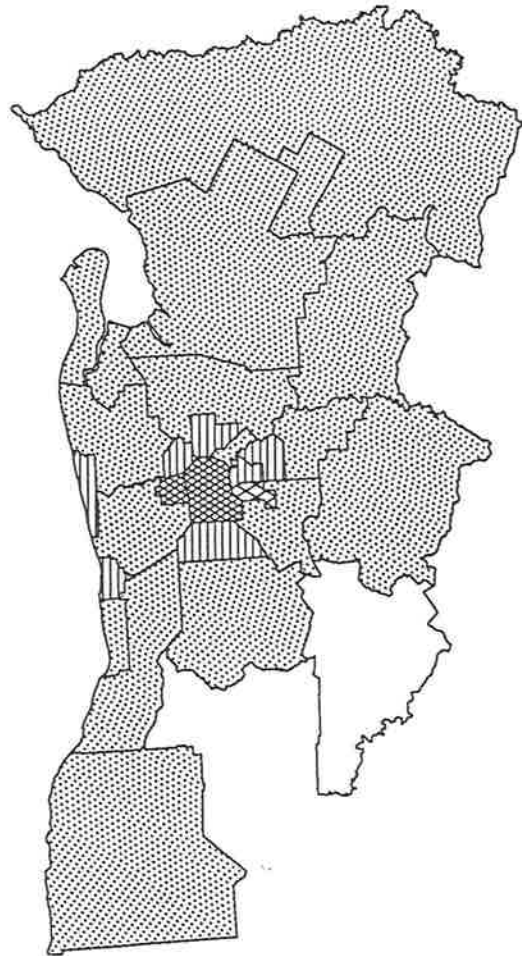
Figures 25a, 25b and 25c reflect the changing emphasis of the Housing Trust programme. That is the shift to the acquisition and construction of public housing stock in the inner suburbs, starting almost from scratch. Hence sharp rises in the number of SAHT houses can be observed in the City of Adelaide, Thebarton and in Kensington and Norwood (Table XXVII). During the 1975-79 and the 1980-84 periods, the same three inner LGA's have reflected further increases in their SAHT dwelling stocks. Most of the SAHT houses in the inner suburbs are the established dwellings purchased by the SAHT.

Table XXVII: Percentage Changes in SAHT Dwellings, 1970-84, AMA.

LGA	1970	1974	Change %	1975	1979	Change %	1980	1984	Change
ADELAIDE	15	86	473.3	108	241	180.2	277	423	75.5
BURNSIDE	117	132	12.8	137	143	8.3	143	146	2.09
HINDMARSH	71	105	47.8	116	114	37.1	150	180	25.0
KENS. & NORWOOD	8	20	150.0	23	78	290.0	95	163	108.9
PAYNEHAM	163	208	27.6	220	233	12.01	233	236	1.3
PROSPECT	55	73	32.7	79	125	71.2	139	191	52.8
ST. PETERS	26	39	50.0	43	65	66.6	71	94	44.6
THEBARTON	10	42	320.0	52	136	223.8	160	258	89.7
UNLEY	177	237	33.9	256	293	23.6	298	321	9.5
WALKERVILLE	148	169	14.2	170	179	5.9	189	225	25.7
CAMPBELLTOWN	483	461	4.6	447	455	-1.8	462	491	7.9
ENFIELD	6470	6380	-1.4	6330	6285	-1.4	6287	6293	0.12
GLENELG	37	55	48.6	59	75	36.3	79	93	24.0
HENLEY & GRANGE	196	250	27.6	264	304	21.6	312	347	14.1
MARION	3075	3131	1.8	3142	3209	2.4	3228	3304	2.9
MITCHAM	213	212	-0.5	210	232	9.4	240	272	17.2
PT. ADELAIDE	799	823	3.0	817	961	16.7	1011	1213	26.2
W. TORRENS	434	512	18.0	536	647	26.3	677	793	22.5
WOODVILLE	2197	2300	4.7	2321	2651	15.2	2755	3167	19.4
E. TORRENS	1	2	0.0	2	1	0.0	1	0	0.0
BRIGHTON	175	186	6.3	187	186	0.0	185	182	-2.1
ELIZABETH	4383	4495	2.5	4508	4719	4.9	4785	5048	6.9
SALISBURY	1928	1952	1.2	1919	2092	7.1	2160	2435	16.3
MUNNO PARA	1881	1951	3.7	1910	2179	11.6	2283	2698	23.8
NOARLUNGA	506	564	11.5	549	982	74.1	1131	1726	75.7
STIRLING	3	3	0.0	1	2	0.0	3	6	0.0
TEA TREE GULLY	154	161	4.5	153	138	14.2	136	128	-7.2

Source: The South Australian Housing Trust, Year Book, 1986.

ADELAIDE: PERCENTAGE CHANGE IN S.A.H.T. DWELLINGS 1970-1984



Mean 48.1
S.D. 107.1

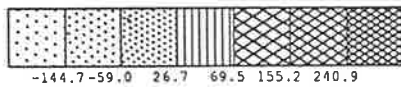
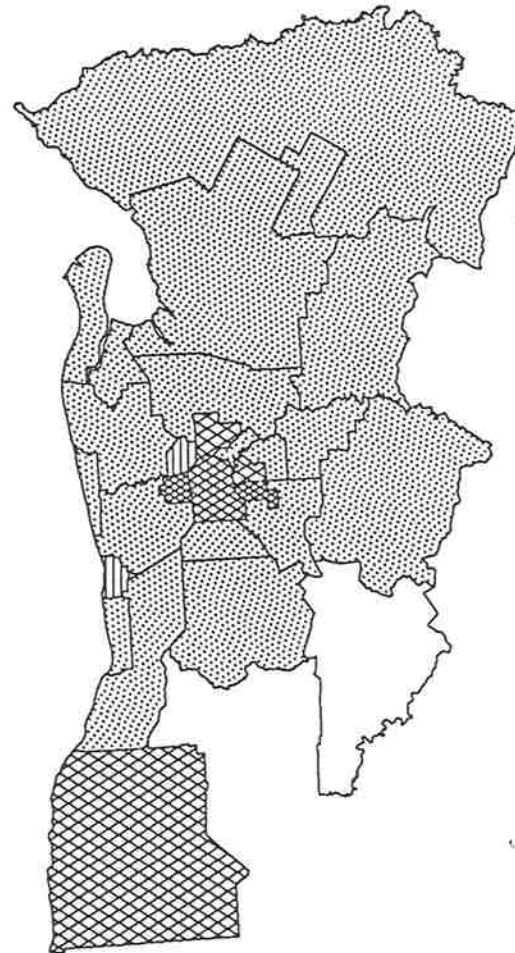


FIGURE 25A: 1970-1974



Mean 33.4
S.D. 56.8

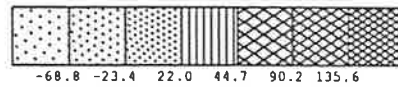
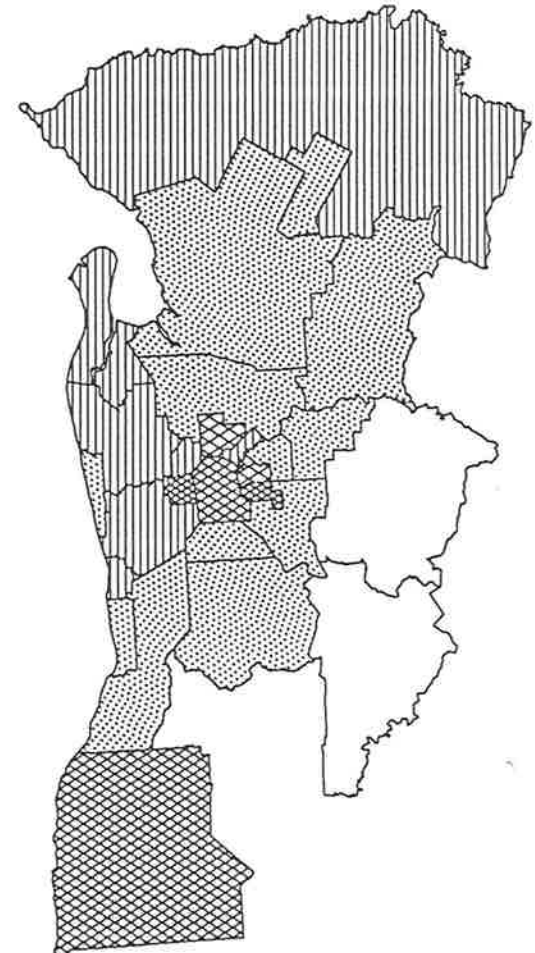


FIGURE 25B: 1975-1979



Mean 18.3
S.D. 20.3

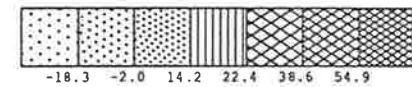


FIGURE 25C: 1980-1984

The main objective of the SAHT was to accommodate low income people close to the central job areas, transport, medical and other facilities.

... Because Australian cities are so dispersed and their urban transport systems so comparatively backward the residents in the outer areas are frequently obliged to pay an unduly large premium for poor accessibility.

(Badcock, 1984:232)

Purchase of existing houses in the inner areas by the SAHT to rent to tenants who need to live there has been strongly advocated in recent years. Its great advantage is that it can provide public housing for those families most in need without creating slums. In this way, low income people can be housed close to the jobs and services of the inner city. These types of housing cost more than comparable housing in fringe areas. It may even cost more than redevelopment. The disadvantage of this policy is that it does not add to the stock of housing available to low income families, but only transfers it from private to public dwellings.

During the late 1970's, the SAHT in cooperation with the SALC, started to develop the Noarlunga district centre with an aim to create more than 3000 public dwellings. Later in the 1980's, Munno Para in the north and some of the western suburbs like Port Adelaide, Woodville, West Torrens and Glenelg had added more SAHT dwellings to their existing stocks (Table XXVII). In the densely populated areas of the western suburbs, SAHT building activities were limited to the purchase of established dwellings and converting them into public residences.

The SAHT has traditionally given higher priority to the construction of new stock. Building by SAHT, by supplementing the supply, helps to keep down the cost of private housing as well as residential land prices. During the 1970-84 period, building activities by the SAHT in the outer suburbs of the Adelaide Metropolitan Area have stabilised the residential land markets in those areas. In fact, the SAHT historically purchased land which tended to be cheaper and mediocre in quality, well ahead of needs. Hence, the presence of large Trust housing estates in the outer suburbs tend to depress market values locally, while the inner area stock is very scattered and less likely to have a negative effect on allotment prices.

5.8 'NON-RESIDENTIAL INVESTMENT' AND 'LOCAL GOVERNMENT CAPITAL EXPENDITURE'

Public investment contributes to the upgrading of an urban locality. Investment on infrastructure within the metropolitan area has been financed by the Federal, State and Local Governments. Because it has not been possible to disaggregate the available statistical data, two variables are included in the analysis, one a very general measure and the other a much more restricted index of public investment. The first is really a crude measure of urban capital formation as a whole, although it does exclude public expenditure on arterial roads and the main utilities. The measure, non-residential investment comprises the total value of other buildings completed (i.e. public and private development including factories, shops, hotels, offices, other business, educational, religious, entertainment and recreational facilities). The other measure, 'Local Government capital expenditure' includes the expenditure on construction of local

ADELAIDE: TRENDS IN NON-RESIDENTIAL INVESTMENT & LOCAL GOVT.
 CAPITAL EXPENDITURE (real value): 1970-84, (1985 dollar=1.00)

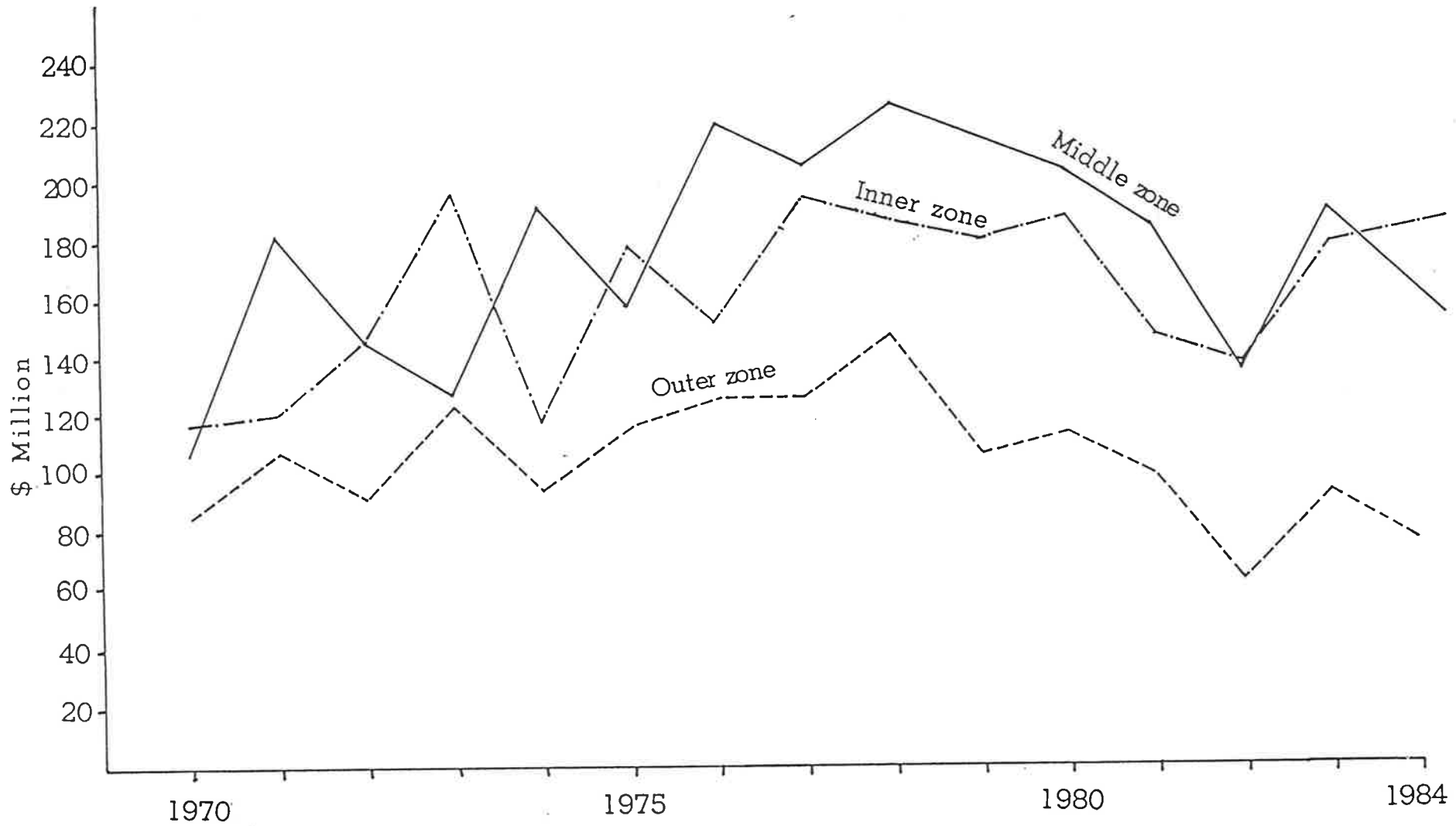
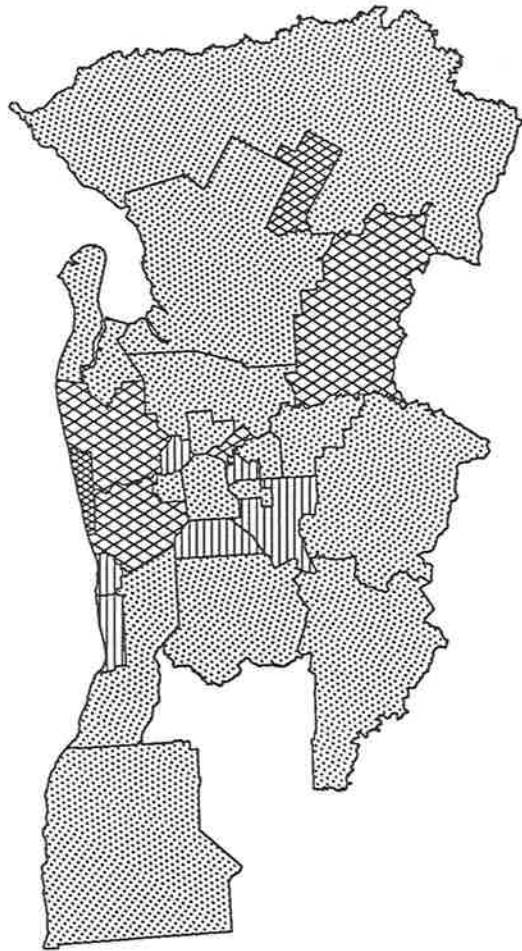


Figure 26

Sources: Non-Residential Investment: Australian Municipal Information System,
 Cat. No. 1104.0
 Local Government Capital Expenditure: AMIS, Interim Socio-Economic Data File,
 1103.0, 0.001.

ADELAIDE: PERCENTAGE CHANGE IN NON-RESIDENTIAL INVESTMENT 1970-1984



Mean 12.0
S.D. 36.2

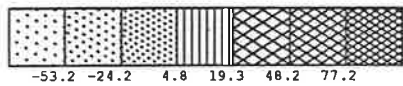
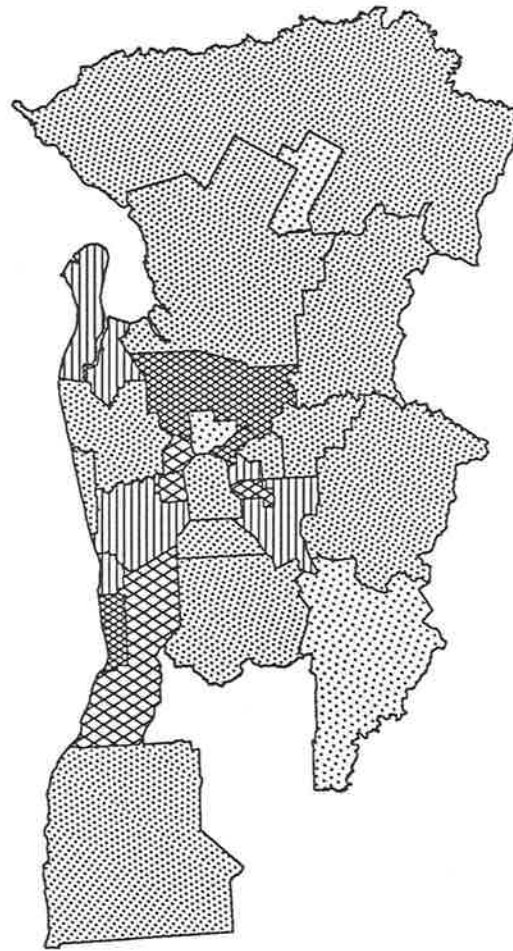


FIGURE 27A: 1970-1974



Mean 11.4
S.D. 30.2

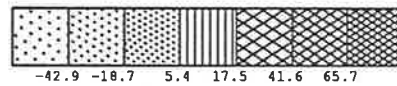
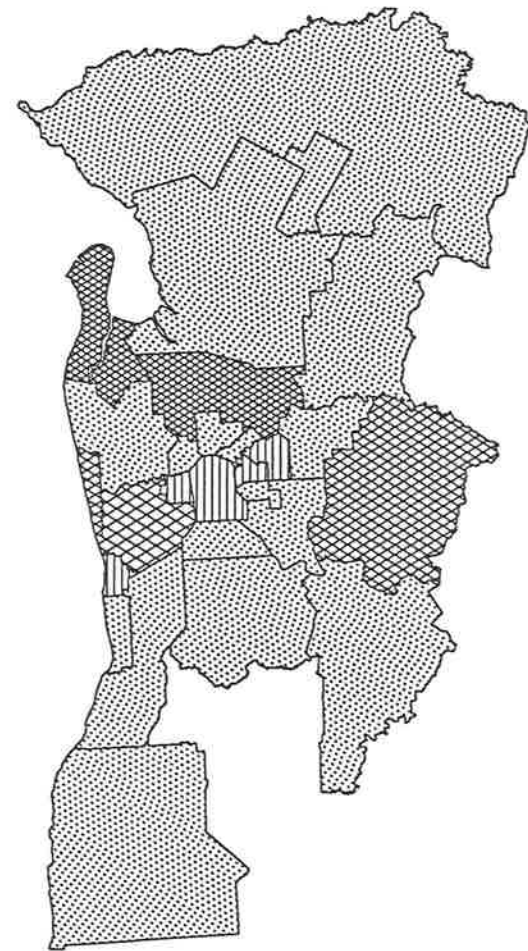


FIGURE 27B: 1975-1979



Mean -13.4
S.D. 7.2

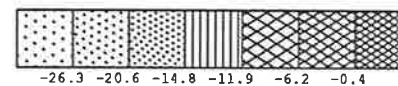
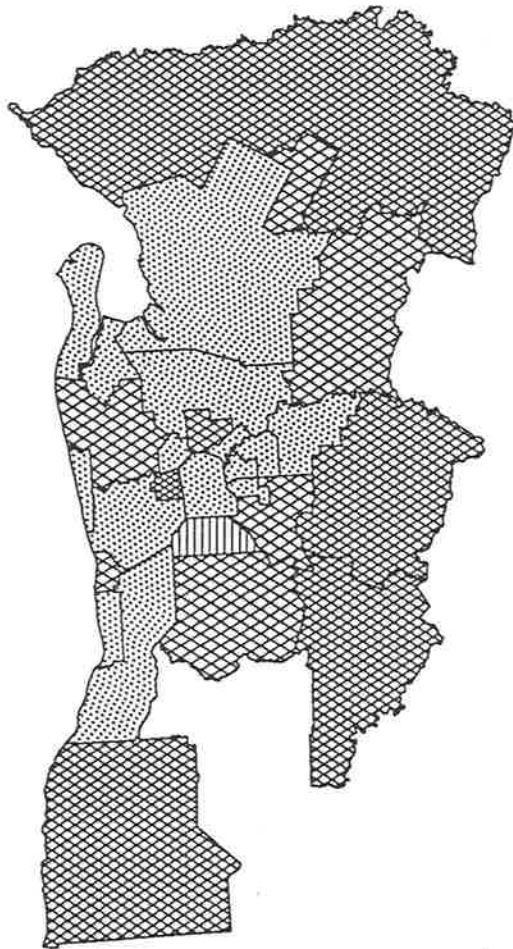


FIGURE 27C: 1980-1984

ADELAIDE: PERCENTAGE CHANGE IN LOCAL GOVT, CAPITAL EXPENDITURE, 1970-84



Mean 34.0
S.D. 23.6

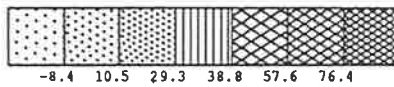
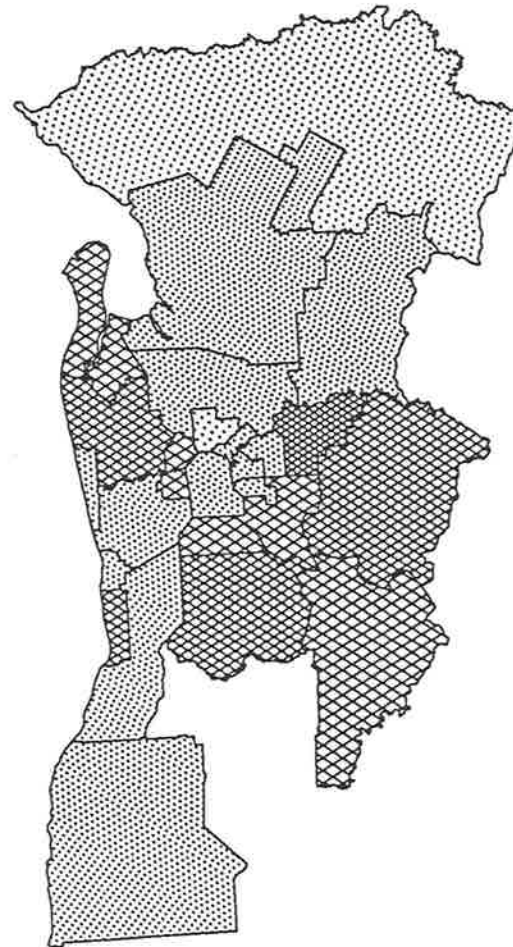


FIGURE 28A: 1970-1974



Mean 18.6
S.D. 16.6

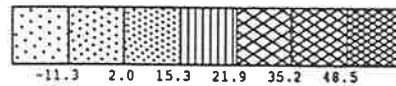
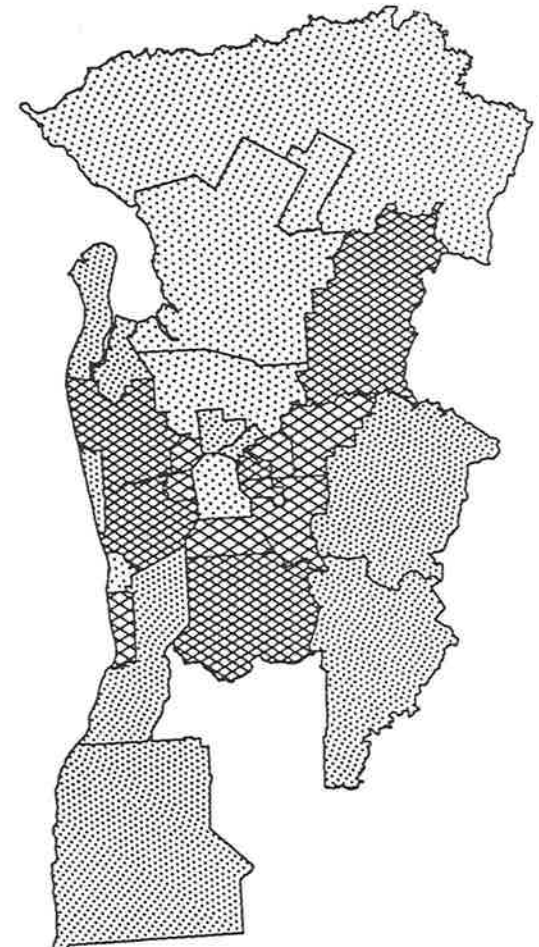


FIGURE 28B: 1975-1979



Mean 10.9
S.D. 15.1

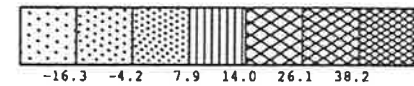


FIGURE 28C: 1980-1984

TABLE XXVIII: Adelaide: Non-Residential Investment and Local Government Capital Expenditure (in \$ million) 1968-84
[1985 \$ value]

		1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
I N N E R	Other buildings (NRI)	93.0	125.9	70.6	68.8	95.0	144.8	65.2	122.4	99.1	143.5	137.0	134.6	136.3	94.9	86.0	120.5	133.7
	Social Investment (LGI)	34.2	40.4	47.2	51.6	50.9	50.0	53.6	59.9	53.5	51.0	50.5	45.2	51.3	53.0	53.7	56.7	52.4
M I D D L E	Other buildings (NRI)	97.9	79.4	63.8	136.5	89.8	82.8	135.3	99.4	160.9	147.2	172.2	164.1	139.3	119.7	70.4	111.4	82.8
	Social Investment (LGI)	53.7	42.1	43.6	43.7	56.5	45.3	58.8	58.7	58.6	57.9	52.8	50.9	64.1	65.8	64.6	77.2	70.8
O U T E R	Other buildings (NRI)	38.9	28.1	42.8	64.7	44.5	76.1	46.5	62.8	79.3	75.9	98.1	65.3	68.2	51.5	16.7	44.1	27.7
	Social Investment (LGI)	39.5	40.3	41.2	44.2	47.3	47.5	47.6	52.4	46.1	50.8	50.3	42.5	45.2	47.2	46.2	47.9	48.0

Source: Non-Residential Investment (Private & Public): Australian Municipal Information System (AMIS), Cat. No. 1104.0
Local Government Capital Expenditure: AMIS (Interim Socio-Economic Data File) Cat. No. 1103.0, SA=4, Sheet 0-001.

NRI = Non-Residential Investment

LGI = Local Government Capital Expenditure.

roads, streets, bridges and their maintenances and also the creation of council properties like parks, gardens, swimming pools, public libraries and other recreation systems and their maintenance. These have traditionally been provided by local authorities, partly financed from loans and partly from rate revenue (Neutze, 1978).

In Adelaide patterns showing the distribution in Local Government investment have undergone significant variations during the 1970-84 period. These variations reflect changes in the State's economy and institutional policy over the fifteen year period. In Adelaide the post-war period saw the beginning of decay in the inner areas and a rapid expansion of the outer boundaries in a north-south direction. With the influx of overseas immigrants, the demand of these newly developed areas also increased. The rapid suburbanization of the outer areas did involve a high level of public investment. In the same period, the residential land prices in the outer suburbs were pushed to inflated levels.

The total non-residential investment totalling in six developing outer suburbs of the Adelaide Metropolitan Area during 1970-74 was \$274.6 million. On the other hand, during 1980-84, non-residential investment in the outer areas had declined to \$208.2 million, reflecting a real decrease of about -24.18 per cent (dollar converted to 1985 values). This indicates the reduction in urban capital formation that has occurred in the outer areas (Table XXVIII).

In the middle suburbs, during 1970-74, a total of \$508.2 million was invested in the non-residential sector. In some of the LGA's like Marion, Mitcham and Campbelltown, re-subdivision of large blocks occurred and these areas received investment for further development, for example, construction of regional shopping districts. During

1975-79 the total non-residential investment in the middle areas increased to \$743.8 million but by 1980-84, this amount had fallen in real terms to \$523.6 million. Therefore, modest outlays on non-residential investment were made in the middle suburbs during the 1975-84 period.

On the other hand, since 1977, with more emphasis on inner city re-development, the traditional inner areas have received significant non-residential reinvestment (CBD office development). Between 1970-74 a total of \$444.4 million (real value) was invested in the inner areas for redevelopment. Between 1975-79, the amount rose to \$636.6 million and then during the five year period 1980-84, the total investment levelled off to \$571.4 million (Table XXVIII). Such considerable public investment was devoted to renewing infrastructure in the inner suburbs. During the 1970-74 period, outer suburbs like Tea Tree Gully, Stirling, East Torrens, Munno Para and Noarlunga had high levels of Local Government capital expenditure compared with the decaying inner areas as these outer suburbs were undergoing rapid suburbanization. But with the shift in development activities from the outer to the inner areas, the distribution patterns of Local Government expenditure also have changed (Table XXVIII).

5.9 SUMMARY REMARKS

The description of the main patterns formed by each of the independent variables has laid the groundwork for the analysis of their interaction within a set of three regression models. One would expect their respective contributions to the explanations of variation in the dependent variable, vacant residential allotments, to reflect the different phases of the urban development cycle during the fifteen

year period 1970-84, as it has impacted upon Metropolitan Adelaide. Indeed, it should be possible to make some sense of the general course of urban restructuring in the post-war era identified as characteristic of western cities (Cardew et al., 1982; Smith, 1986; Williams, 1984). To some extent each of these writers has commented upon the switching of public and private investment from the outer suburbs to the inner suburbs, and this phenomenon is implicit in the relative movement of vacant residential allotment prices between 1970-84, not only in this study of Metropolitan Adelaide, but in Melbourne as well (King, 1986).

CHAPTER 6: APPLICATION OF REGRESSION MODEL AND INTERPRETATION

Multiple regression is a statistical model which can be used as an aid in causal or predictive modelling. Regression is used in this chapter as a descriptive tool to describe relationships within the residential land sub-market, rather than more formally as a test of a causal model. The application of regression analysis that has been used in this report resembles the studies conducted by Daly (1967) or Yeates (1965). In addition, as the regression analysis is restricted to a description of relationships, some of the very technical assumptions can be relaxed (e.g. linearity, homoscedasticity, multicollinearity). Stepwise multiple regression is really a search procedure by which variables are entered, one at a time, into the regression equation in a sequence determined by the level of the individual variables' contribution to the total variance. The largest contributor is entered first and others entered in decreasing order of contribution.

6.1 ANALYSIS

Table XXX shows the main relationships between residential land prices (the dependent variable Y), and other independent variables across the three periods. In the ten variable equations, 'Local Government capital expenditures' and the 'Non-Residential Investment' are the two regressors that are consistently related to changes in residential land prices (Residential Allotment Price) within Metropolitan Adelaide. The behaviour of 'Local Government capital expenditures' and 'Non-Residential Investment' in the three models is a reflection of their roles embodied in institutional processes currently active in

Metropolitan Adelaide. 'Changes in Population' and 'Private Dwelling Construction' exhibit modest but positive correlations with 'Residential Allotment Price' in the first and in the third model, representing the 1970-74 and 1980-84 periods respectively. These two periods are noteworthy as they are associated with land market inflation in the outer suburbs of Metropolitan Adelaide. On the other hand, the second model (1975-79) covers a period when the residential land and housing markets of Metropolitan Adelaide were quite depressed.

Apart from 'Changes in Population' and 'Private Dwelling Construction', 'SAHT Dwelling Construction' has weak co-efficients. However, the signs, which are negative, all comply with the predicted relationship between public housing and land prices. The South Australian Housing Trust often competes with the private housing sector for scarce land and also for established structures in the central areas ($\gamma = -.28$, $\gamma = -.18$, $\gamma = -.21$). In the second and third models, other supply variables like 'Vacant Allotment Stocks' and 'Creation of Vacant Allotment' show very weak relationships with 'Residential Allotment Price'. 'Private Dwelling Construction' involves consumption of the available land stock and so acts directly upon residential land prices. 'Private Dwelling Construction' shows a mild correlation with 'Residential Allotment Price' during the land price spiral in the early 1970's and again in the early part of the 1980's ($\gamma = .27$, $\gamma = .18$, $\gamma = .43$).

The derivation of a number of the variables present in the three models is based upon assumptions used in traditional urban rent theory. They are 'White Collar Workers', 'Adelaide City Work Trips' and 'Job Opportunities within 20 km' (Table XXIX). 'White Collar Workers' obviously identifies higher income suburbs with the associated

TABLE XXIX: Correlations Between Land Price and Other Independent Variables

PERIOD	1	2	3	4	5	6	7	8	9	10	11
1970-74	1.00	.52*	.30	.27	.33*	.27	.80**	-.28			.69**
		.003	.062	.082	.04	.083	.000	.076	-	-	.000
1975-79	1.00	.13	.30	.18	.07	-.112	.73**	-.18	-.07	-.24	.39*
		.252	.061	.184	.350	.288	.00	.186	.353	.114	.048
1980-84	1.00	.46*	.14	.43*	-.13	-.05	.74**	.21	-.38	-.16	.73**
		.008	.245	.013	.255	.397	.000	.138	.024	.200	.00

- | | | |
|-----------------------------------|--|---------------------------------------|
| 1. Residential Allotment Price. | 5. Adelaide City Work Trip. | 9. Vacant Allotment Stocks. |
| 2. Changes in Population. | 6. Job Opportunities Within 20 km. | 10. The Creation of Vacant Allotment. |
| 3. White Collar Workers | 7. Local Government Capital Expenditures | 11. Non-Residential Investment. |
| 4. Private Dwelling Construction. | 8. SAHT Dwelling Construction. | |

** Significant at .01 level.

* Significant at .05 level.

amenities. The white collar professionals are willing to pay high rents for locations that are most accessible for the consumption of residential land and housing at a very high price.

Mills in his 'trade-off' model of residential location argues that -

... all workers are assumed to receive the same gross wage. CBD workers are nevertheless in equilibrium wherever they live in the suburbs because land rents just offset transportation costs. But some workers are employed in the suburbs and they are obviously better off than CBD workers living in the same neighbourhood. (Mills, 1969:231)

Therefore, the availability of manufacturing jobs for 'blue collar' workers living in the fringe areas of Metropolitan Adelaide is one reason for a weakening of the standard prediction that household income increases with distance from the city centre.

However, this study concerning change in residential land prices within Metropolitan Adelaide during the 1970-84 period, has produced quite a different result given the expectations of the Alonso, Mills, Evans, Wingo or Muth models. From the three models, it is clearly evident that in the Adelaide Metropolitan Area, the variables derived conceptually from the 'trade off' theories are no longer the most influential in explaining changes in residential land prices. 'White Collar Workers', 'Adelaide City Work Trips' and 'Job Opportunities within 20 km' do not show strong coefficients in relation to 'Residential Allotment Price'. The 'White Collar Workers' variables have shifted from positive coefficients of .3 (1970-74) to -.14 (1980-84) and that of 'Job Opportunities within 20 km' from .27 (1970-74) to -.05 (1980-84). Thus the variables that owe something to the conceptualisation of urban rent found in the static equilibrium models

TABLE XXX: Matrix of Zero-order Co-efficients: Residential Land Price and the Independent Variables, 1970-74.

	1	2	3	4	5	6	7	8	9	10	11
1. Residential Allotment Price	1.000 .999	.52** .003	.30 .062	.27 .082	.33* .046	.27 .083	.80** .000	-.28 .076	.69** .000		
2. Changes in Population		1.000 .999	.11 .294	.91** .000	.23 .120	.31 .056	.38* .026	-.35 .036	.28 .080		
3. White Collar Workers			1.000 .999	.08 .340	.22 .130	-.22 .130	.227 .128	.164 .208	.030 .440		
4. Private Dwelling Construction				1.000 .999	.13 .255	.23 .122	.16 .206	-.24 .112	.062 .380		
5. Adelaide City Work Trips					1.000 .999	.15 .215	.33 .047	-.40 .018	.16 .210		
6. Job Opportunities Within 20 km						1.000 .999	.34* .040	-.11 .286	.18 .177		
7. Local Government Capital Expenditure							1.000 .999	-.01 .484	.59** .001		
8. SAHT Dwelling Construction								1.000 .999	-.24 .110		
9. Non-Residential Investment									1.000 .999		

** Significant at .01 level F & t distribution;

* Significant at .05 level F & t distribution.

TABLE XXXI: Matrix of Zero-order Co-efficients: Residential Land Price and the Independent Variables, 1975-79.

	1	2	3	4	5	6	7	8	9	10	11
1. Residential Allotment Price	1.000 .999	.13 .252	.30 .061	.18 .184	.07 .350	-.11 .288	.73** .000	-.18 .186	-.07 .353	-.24 .114	.39 .068
2. Changes in Population		1.000 .999	-.26 .095	.90** .000	.05 .390	.02 .495	.01 .469	-.26 .094	.12 .268	-.04 .415	.23 .123
3. White Collar Workers			1.000 .999	-.21 .139	.49* .004	-.17 .188	.07 .366	.39 .022	-.14 .234	-.36 .029	.45 .008
4. Private Dwelling Construction				1.000 .999	.31 .058	.07 .358	-.05 .397	-.11 .284	.15 .219	-.06 .383	.18 .176
5. Adelaide City Work Trips					1.000 .999	.30 .061	-.04 .492	.49* .005	-.04 .404	-.25 .103	-.30 .059
6. Job Opportunities Within 20 km						1.000 .999	-.25 .104	.03 .434	.13 .247	.27 .080	.02 .447
7. Local Government Capital Expenditures							1.000 .999	-.21 .145	-.18 .186	-.13 .254	.25 .103
8. SAHT Dwelling Construction								1.000 .999	-.23 .122	-.18 .175	-.16 .202
9. Vacant Allotment Stocks									1.000 .999	.49* .004	.02 .445
10. The Creation of Vacant Allotment										1.000 .999	.01 .465
11. Non-Residential Investment											1.000 .999

** Significant at .01 level F & t distribution; * Significant at .05 level F & t distribution.

TABLE XXXII: Matrix of Zero-order Co-efficients: Residential Land Price and the Independent Variables, 1980-84.

	1	2	3	4	5	6	7	8	9	10	11
1. Residential Allotment Price	1.000 .999	.46 .008	.13 .245	.43 .013	-.13 .255	-.05 .397	.74** .000	.21 .138	-.38 .024	0.16 .200	.73** .000
2. Changes in Population		1.000 .999	.26 .096	.72** .000	.10 .298	-.09 .320	-.17 .189	-.10 .295	.13 .250	-.06 .380	.14 .236
3. White Collar Workers			1.000 .999	.17 .190	.39 .021	-.38 .023	.17 .199	.20 .153	-.30 .063	-.29 .006	.19 .162
4. Private Dwelling Construction				1.000 .999	.23 .122	.02 .458	-.29 .071	-.01 .498	-.03 .437	-.18 .181	.26 .096
5. Adelaide City Work Trips					1.000 .999	-.02 -.047	-.08 .342	.43 .012	-.03 .426	-.12 .276	-.25 .103
6. Job Opportunities Within 20 km						1.000 .999	.12 .275	-.10 .300	.16 .213	.10 .301	.09 .483
7. Local Government Capital Expenditures							1.000 .999	-.02 .463	-.28 .073	-.22 .137	.73** .000
8. SAHT Dwelling Construction								1.000 .999	-.13 .246	-.20 .150	-.15 .229
9. Vacant Allotment Stocks									1.000 .999	.87** .000	-.18 .175
10. The Creation of Vacant Allotment										1.000 .999	.02 .459
11. Non-Residential Investment											1.000 .999

** Significant at .01 level F & t distribution;

* Significant at .05 level F & t distribution

TABLE XXXIII: Stepwise Regression of Residential Land Prices Against Ten Independent Variables.

PERIOD	STEP	VARIABLE	R	R ²	β	PARTIAL	
						VARIABLE	CO-EFFICIENT OF CORRELATION
1970-74	1	'Local Government capital expenditure'	.80388	.64623*	.803883	'Changes in Population' 'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'SAHT Dwelling Construction' 'Non-Residential Investment'	.390229 .208616 .243958 .118955 -.020159 -.464542 .460912
	2	'SAHT Dwelling Construction'	.85004	.72257*	-.276313	'Changes in Population' 'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'Non-Residential Investment'	.262127 .329419 .152137 -.099190 -.064940 .382180
1975-79	1	'Local Government capital expenditure'	.73171	.53540*	.731712	'Changes in Population' 'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km.' 'SAHT Dwelling Construction' 'Vacant Allotment Stocks'	-.214049 .374326 -.208264 .118849 .107101 -.037013 .081406
1980-84	1	'Local Government capital expenditure'	.74059	.54848	.740592	'Changes in Population' 'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'SAHT Dwelling Construction' 'Vacant Allotment Stocks' 'Creation of Vacant Allotment' 'Non-Residential Investment'	-.495259 .020299 -.334481 -.107235 -.212688 .343870 -.265508 -.010516 .414919
	2	'Changes in Population'	.81193	.65923	-.338125	'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'SAHT Dwelling Construction' 'Vacant Allotment Stocks' 'Creation of Vacant Allotments' 'Non-Residential Investment'	.202439 .029819 -.070167 -.288315 .333175 -.255374 -.071996 .465068
	3	'Non-Residential Investment'	.85611	.73293	.398036	'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'SAHT Dwelling Construction' 'Vacant Allotment Stocks' 'Creation of Vacant Allotments'	.166329 .075710 .070695 -.265122 .492705 -.308542 -.232232
	4	'SAHT Dwelling Construction'	.89318	.79777	-.261733	'White Collar Workers' 'Private Dwelling Construction' 'Adelaide City Work Trips' 'Job Opportunities Within 20 km' 'Vacant Allotment Stocks' 'Creation of Vacant Allotments'	.027589 .034591 -.168500 -.226846 -.280101 -.163935

* Significant at .01 level.

have clearly diminished in importance. Over 15 years the residential land prices have lagged somewhat in the outer areas of Metropolitan Adelaide and the low income people have occupied those blocks at a cheaper price, comparative to the central areas. 'Adelaide City Work Trips' show a positive and mild correlation to 'Residential Allotment Price' during the 1970-74 period. But the effect of the variable diminishes during the later periods. More job creation in the newly developed outer suburbs and the decentralization of the retail trades have reduced the number of work trips to the CBD and hence the predictive power of 'Adelaide City Work Trips'. Table XXIV shows that workers from almost all of the outer suburbs and from some industrial middle suburbs now find suburban employment at the expense of what were formerly central area jobs. The total number of available jobs in the CBD has fallen from 87,312 (1971) to 67,670 (1981) [Australian Bureau of Statistics, 1971, 1981]. It can be argued that because Adelaide's urban structure was formed under nineteenth century transport technologies, one would still expect to find the centralising influence in the residential land price surface.

The 1970-74 model consists of eight independent variables and those of 1975-79 and 1980-84 ten variables each with the addition of 'Vacant Allotment Stocks' and 'Creation of Vacant Allotments (Tables XXX, XXXI and XXXII). In all the three models 'Local Government capital expenditures' and 'Non-Residential Investment' have been found to be the most influential variables producing the greatest change in 'Residential Allotment Price'. (For 'Local Government capital expenditures' $\gamma = .80$, $\gamma = .73$ and $\gamma = .74$ for 1970-74, 1975-79 and 1980-84 respectively, and for 'Non-Residential Investment' $\gamma = .69$, $\gamma = .39$ and $\gamma = .73$ for 1970-74, 1975-79 and 1980-84

respectively.) The other two important indicators 'Changes in Population' and 'Private Dwelling Construction' are found to be very closely associated ($\gamma = .91$, $\gamma = .90$, $\gamma = .72$).

In the first model (1970-74), between step 1 and 2, following the entry of 'SAHT Dwelling Construction', the partial coefficients of 'Private Dwelling Construction', 'Adelaide City Work Trips' and 'Job Opportunities Within 20 km' are significantly undermined (Table XXXIII). On the other hand, 'White Collar Workers' actually increases in magnitude. The second model (1975-79) reflects the insignificance of the variables other than 'Local Government capital expenditures'. This was the period when the land and housing markets were in recession. The third model (1980-84) also reflects the weakening of the 'trade-off' determinants, e.g. 'Adelaide City Work Trips' and 'Job Opportunities Within 20 km'. Between step 1 and 2, following the introduction of 'Changes in Population' a significant increase in 'White Collar Workers' is evident and at the same time 'Private Dwelling Construction', 'Adelaide City Work Trips' and 'Job Opportunities Within 20 km' show some decrease in their magnitude. Between step 2 and 3, following the introduction of the variable 'Non-Residential Investment', which is significant at the .01 level, the partial coefficients of the variables like 'White Collar Workers', 'Private Dwelling Construction', 'Adelaide City Work Trips' and 'Creation of Vacant Allotments', are diminished. Another variable 'SAHT Dwelling Construction' is found to affect the partial coefficient of correlation of variables like 'White Collar Workers', 'Private Dwelling Construction' and 'Job Opportunities Within 20 km.'

6.2 INTERPRETATION

A close examination of the correlation coefficients as outlined in Tables XXX, XXXI and XXXII is suggestive of the following causal structure (Figure 29). The structure should not be regarded as definitive in any sense but more as an indication of the main effects operative in Metropolitan Adelaide's residential land market. It is necessary to have a look at the processes involved in the changes in residential land market activities in order to assess the role of institutional processes in determining residential land price variations in the Adelaide Metropolitan Area.

Restructuring of urban space affects the residential land market in two ways. Firstly, whilst new capital investment occurs in one part of the city, there may be a running down of old fixed investments in another part, better known as disinvestment (Badcock, 1989). This gives rise to a transfer of value in the residential land and housing market. This has been observed during times of volatile land prices in Australia. During boom periods, as with other major Australian cities, Adelaide's expansion was accompanied by impressive public and private investment in the outer suburbs and a decline in the residential land and housing stock in the inner suburbs. During the land boom in Adelaide (1972-74), the most spectacular rises in land prices were recorded in the outer areas where the land speculation was concentrated. Development in the suburban areas was encouraged by the financing agencies through preference for the purchase of newly erected dwellings rather than purchasing or improving older housing stock. Badcock (1988) stressing this point argues that, "... Inevitably this dampened the prospect of capital gains accruing to home owners in the inner suburbs of Australian cities. Similarly, improved transportation flattened

ADELAIDE: CAUSAL RELATIONSHIP BETWEEN
LAND PRICE & OTHER DETERMINANTS, 1970-84.

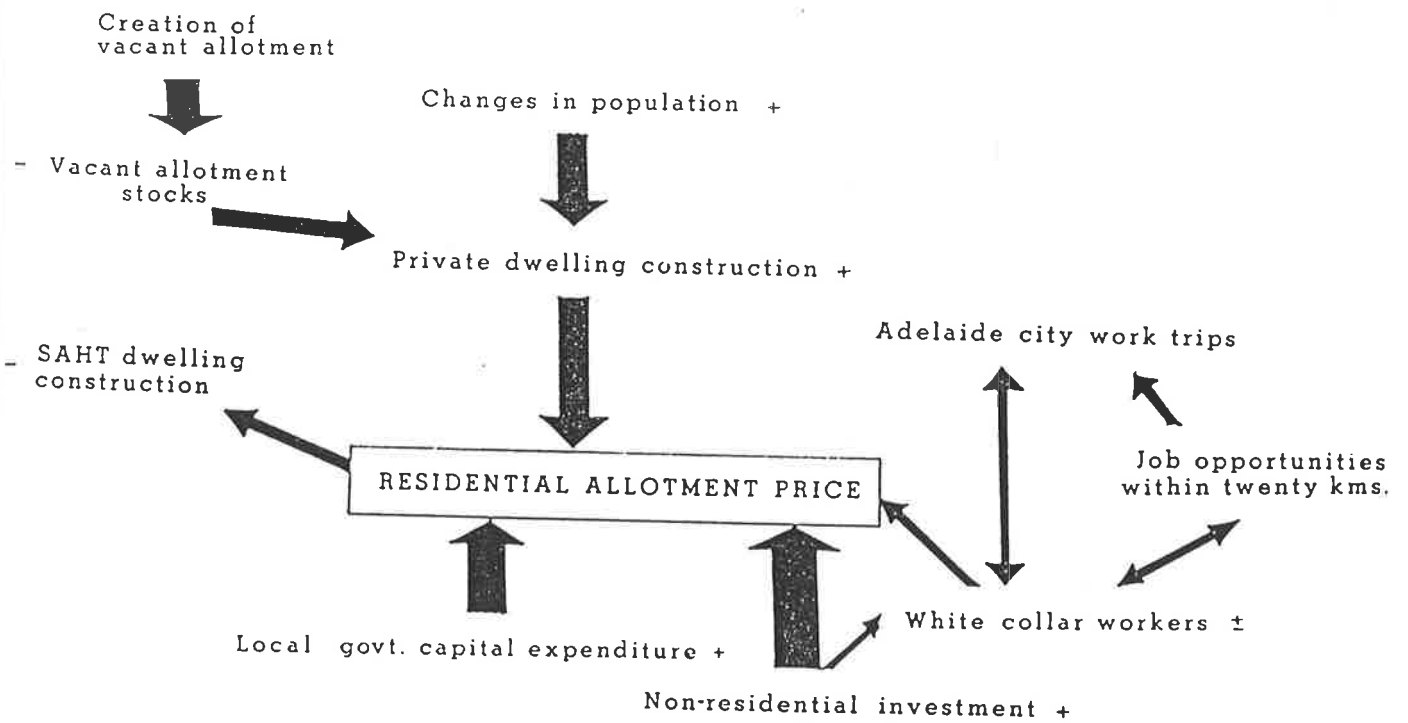


Figure 29

accessibility contours within the metropolitan region and invariably advanced the devalorisation of inner area property stock." Consequently, as the land supporting housing through the inner suburbs become more and more undercapitalized, a rent gap formed (Smith, 1979). Badcock (1989) continues, "With the declining value placed on accessibility and notwithstanding local exceptions bearing the mark of externality effects of monopolistic market practices, one would expect to find a general pattern of greater relative capital gains in the outer suburbs and diminishing real grains in the inner suburban residential property market." This was the situation before the collapse of the land market during the mid 1970's. After the mid 1970's, the outer suburbs ceased to act as a place for over-accumulation in property. "In Australia, 'fiscal stress' in the public sector produced a slowing of capital formation in the outer suburbs, which was inevitably followed by a reduction in the capital gains accruing to new home buyers on the outskirts of Australian cities." (Badcock, 1984:254-255). Stressing the potentiality for the reinvestment in the inner areas Smith argues, "the long run movement of capital into the construction of new suburban landscapes and the consequent creation of a rent gap that eventually restore the market conditions offer the potential for reinvestment in the older core of capitalist cities." (Smith, 1986:24). Further, it has been argued by Smith and others that such reinvestment (public or private) in the improvement of infrastructure and the social environments of the inner areas, accompanies the process of gentrification. In Adelaide, the reinvestment associated with the gentrification of inner area neighbourhood was preceded by a gradual withdrawal of industrial capital and blue collar employment to the newly developed outer suburbs. This brought a change in the

occupational composition of the resident workforce of the inner areas with the displacement of core blue collar workers. According to Williams,

The decentralisation of blue collar jobs, the continuing centralisation of white collar jobs (reflecting changes in the labour process and technology), and the growth of two earner households were clearly important elements in the restructuring of the housing market. At the same time, a fragment of the 'middle class' has been able to exploit the relatively weak market for dwellings which had developed in the inner suburbs. Prices were relatively low, reflecting the use value of the dwellings concerned. But given the high cost of new housing, the continued attractiveness of housing investment, the overall shortage of desirable and accessible dwellings and the shifting labour market, the inner areas provided an attractive possibility to would-be owners and entrepreneurs.

(Williams, 1984:42)

Mullins (1982) discussing the role of the upper white collar inner area resident workforce in the inner suburbs of Australian cities, says that the new ratepayers began to dominate and then reform Local Government in the inner suburbs; whereupon the newly installed councils set about creating an investment environment that could eventually secure the consumption landscape coveted by the middle classes. In fact, this had frequently involved substantial public reinvestment throughout the gentrified suburbs. This reinvestment - Local Government capital expenditure and non-residential (public and private) - has led to commercial revitalization, the replacement of ageing infrastructure, and the development of community programmes. Such public reinvestment has been capitalized into the residential land and housing values of the inner areas and raised their market prices.

To summarize, partly because the objective in this thesis has been to model change in residential land prices through time (i.e. a dynamic approach), as well as across space, the results emphasize factors responsible for variations in urban development at the expense

of the traditional causal variables (journey to work, centrality, employment location) which are integral to the static models of urban rent.

Nonetheless, the dominance of the variables reflecting public and private investment decisions, urban capital formation in its broadest sense, indicate that the traditional conceptualization of the land market in terms of a trade-off between accessibility (or centrality) and housing space in the suburbs has perhaps been overplayed. Harvey (1973) hinted as much in Social Justice and the City when he concluded that whilst urban rent theory (Alonso, Wingo, Muth, Mills, Evans, etc.) produces acceptable general predictions, it obscures the role of institutions in the urban land market. While indicators like 'Non-Residential Investment' and 'Local Government capital expenditures' are very partial measures of these processes they, nevertheless, incorporate the effects of investment decisions made by both the private financial sector (banks, finance companies, etc.) and government agencies. It is this disinvestment, new construction or redevelopment activity that has the potential to produce a local or regional alteration in residential land prices once the 'betterment' is capitalized into the value of land and housing. This involves the redistribution of real wealth across urban space, and transfers between land use sectors, built structures, and social classes. Some of the implications of this redistribution through the medium of the urban property market are sketched in the final section of this thesis.

CHAPTER 7: CONCLUSION

7.1 ORGANISATION OF THE ARGUMENT

The presentation of material throughout this study has proceeded on two levels, the empirical and the conceptual. On one level, evidence has been assembled at the general restructuring and redirection of investment that has occurred over a 15-year period in Adelaide. The time series data record changes to Adelaide's population and employment base, to the household formation rate and the growth of the dwelling stock; in the distribution of jobs and the reorientation of journey to work flows; in the geographical pattern of urban capital formation in the metropolitan area.

The point of investigating these trends and changing patterns in the physical and social structure of the city is to try to account for variations in (vacant) residential land prices through time and across space in a complex urban property market. And because this entails a dynamic approach to modelling the residential land market, it has been necessary conceptually to rethink the traditional body of urban rent theory which has been principally concerned with the modelling of a static representation of the residential land value surface (i.e. a time slice of space). As indicated in the literature review, this approach draws on neo-classical economics for the analysis of the residential land market, e.g. Alonso, Wingo, Evans, Mills, Muth, etc. In their accounts of the residential rent structure they emphasise urban rent determinants like changes in income, transport costs between workplace and residence, job opportunities in the outer areas, etc. Basically, Alonso, Mills, Evans and others have derived the expected response in the land market from changes in income, community costs,

technology, etc. But these processes are operationalised in general equilibrium models, which places the theorist under severe constraints (e.g. the ceteris paribus assumptions) and leaves the analysis overly contrived. Indeed, once solved, the equations leave the modeller with a static representation of the residential land market.

In order to try and accommodate the dynamic processes which are thought to be responsible for the changing distribution of vacant residential land prices in a metropolitan system it has been necessary in this study to adopt an approach that owes rather more to urban political economy (no matter how loosely). That is one which emphasises exogenous forces in the broader economy (national and regional) as well as those more obvious effects that have their origins within the urban system itself (changing accessibility, redistribution of employment, the provision of physical infrastructure and community facilities, environmental qualities). This approach emphasises institutional intervention, and the relevant questions included the part played by the State when it intervenes in property markets - zoning, price or rent control, taxation policy, investment decisions, etc. All these things lead to imperfections and produce changes in the land and housing markets, which may confer monopoly rights and financial advantage on particular land holders, or result in social and public investment being capitalized into the value of house sites.

In the two remaining sections the very empirical findings are summarized, and then some of the conceptual implications of the regression analyses are outlined.

7.2 EMPIRICAL FINDINGS

During the early 1970's, vacant allotment prices in Metropolitan Adelaide greatly exceeded the rate of inflation within the Australian economy. In particular, the demand for dwelling sites on the fringe of the urban area produced a doubling and even a trebling in some outer suburbs between 1970-74 (Chapter 3). For example, in Noarlunga, the average price of a vacant block rose from \$2318 (1970) to \$7406 (1974) or in Stirling, from \$1450 (1970) to \$8651 (1974). Inner area LGA's, with the exception of Burnside and Prospect, lagged behind by comparison. In fact, the rapid development of the outer areas in the early 1970's helped to stimulate demand for sites in those areas. After the end of the land boom, building activities in the outer areas slowed and between 1977-83, there was very little movement of the land and housing prices in the outer suburbs. In general terms, the changes in price relativities in the metropolitan residential land market between 1970-74 can be attributed to national forces (population growth, a steady increase in household formation rates, plentiful funds for land and house purchase) moderated by regional effects (a shortfall in the supply of vacant allotments, excessive speculative activity in the fringe land market). In addition, the impressive investment in urban infrastructure that occurred in the newly developed suburbs in outer Adelaide would also have indirectly contributed to a rise in residential prices in those areas. The impact of non-residential investment as a lagged effect on the residential land prices coincided with the land price inflation in the developing outer areas during 1970-74. Outer suburbs like Tea Tree Gully, East Torrens, Stirling, Munno Para and Noarlunga experienced highest level of non-residential investment as well as a rapid escalation in residential land prices. In fact,

the outer suburbs gained most during the early 1970's. The total investment during the 1968-72 period in the outer suburbs was \$219.0 million (Table XXVIII). By way of contrast, parts of inner suburbs like Hindmarsh and Thebarton suffered from the disinvestment characteristic of a running down of built structures and a failure of Local Government to replace ageing infrastructure and services.

During the late 1970's the situation was reversed as a considerable amount of public money was invested in the inner areas. Suburbs like Burnside, Kensington and Norwood, St. Peters, Payneham, Walkerville, Hindmarsh, Thebarton, West Torrens and Campbelltown gained considerably during the 1977-82 period. Between 1977 and 1984, non-residential investment in the inner residential areas totalled \$986.3 million (Table XXVIII). At the same time the average residential land prices in these areas had also shown an increase from \$25,092 (1977) to \$43,090 (1984) (Table XVIII). Since 1977 redevelopment investment in the traditional inner suburbs has been capitalized into value of residential land, contributing to the current rise in residential land prices in those areas. During the 1970-74 period, the total non-residential investment made in the inner suburbs was \$444.4 million (real value) and by 1977-83 that had increased to \$852.8 million (Table XXVIII). On the other hand, the total non-residential investment made in six growing outer suburbs of the Adelaide Metropolitan Area during 1968-72 and 1977-83 was \$219.0 million and \$419.8 million respectively. In the inner suburbs of Adelaide, some of this investment has been directed to improving residential amenity. The decline of these areas, which were developed in the late nineteenth century, had been hastened by the post World War II suburbanization of the outer areas of the Adelaide Metropolitan Area. The density of population in

the inner suburbs had declined from 2099 persons/km² in 1966 to 1838 persons/km² in 1981. Moreover, within a decade from now, the projections for the inner suburbs of the Adelaide Metropolitan Area like Adelaide, Thebarton and Unley, suggest that they will lose about 6600 persons.

Neutze, stressing the significance of the capitalization of improvements in the local environment, argues that -

... if the improvements make the area attractive to people with higher incomes, the previous occupants may be displaced and the housing either redeveloped or upgraded by its owners to attract richer families. This can actually make the relatively poor families worse-off by reducing the supply of low-cost housing. (Neutze, 1978:47)

This has happened in inner Adelaide as a result of the growing popularity amongst middle class couples of inner city living. Moreover, the scarcity of vacant allotments and adaptable dwellings in the inner city areas may result in the demolition of undercapitalized structures for further development. The residential land sales figures for the inner IGA's of Metropolitan Adelaide in the late 1970's and early 1980's inevitably reflect these trends (see Chapter 3). Since 1983, with the resurgence of the land and housing markets in the inner suburbs the number of vacant lot sales rose from 194 (1979) to 292 (1984) (Table XVIII). In addition to that, between 1980-84, a total of 3674 building permits for flats in the inner suburbs were approved which has hastened the demolitions of many former buildings in residential zones. The rapid escalation of residential land (and housing) prices during the 'land boom' of the early 1970's also provided the conditions under which redistribution via the property market is likely to occur. For example, vertical redistribution has occurred in the form of income or wealth transfers from the new home buyers in outer

suburbs with fewer resources, to the established households with more resources. Likewise, private land holders and property valuers were able to extract the 'unearned increment' from their property investment during the land boom. In periods of inflation, new buyers have to pay current prices for housing. On the other hand, the established house owners enjoy substantial capital gains as land and house prices rise across the whole market.

Similarly, with the gentrification of the inner suburbs to the immediate north, east and south of the central city, together with the modernization of their Local Government infrastructure and services, the conditions have been created for the 'capture' of unearned capital gains by land owners and home buyers in the inner suburbs (Badcock, 1989).

7.3 CONCEPTUAL IMPLICATIONS

The present study concerning changes in residential land prices within Metropolitan Adelaide, bears on the debate about the nature of the urban rent structure within advanced capitalist cities (Harvey, 1973).

The three models derived from the equation provide some clarification with regard to the ideas that have been canvassed earlier in this study. It was presumed that the changes in residential land prices in Metropolitan Adelaide over the period would undermine some of the traditional urban rent theory determinants; and in contrast to the assumptions underlying the static-equilibrium models, would reflect the influence of variables associated with government land development policy and decision making processes. The findings in Chapter 6 clearly justify the presumption made earlier. The findings

also indicate that the variables derived conceptually from the traditional 'urban rent' theory have failed to produce any significant effect upon changes in residential land prices within Metropolitan Adelaide, during the Study period. In some 'tests' of the models (e.g. Alonso, Muth, Mills, Evans, etc.), such variables as the concentration of upper income people in the outer areas, journey to the CBD and job opportunities in the fringe areas make a significant contribution to the explanation of the rent land value surface in United States and British cities. On the other hand, this study of land price variations through time has produced quite different results. From the three models, it is evident that variables like concentration of white collar workers, work trips to the Adelaide CBD and job opportunities in the outer areas, are not the most influential factors in explaining the changes in residential land prices in Metropolitan Adelaide. Since the late 1970's, the relative concentration of white collar workers in the traditional inner residential suburbs of Metropolitan Adelaide reflects the desire of the upper income people to live as close as possible to their place of work. At least one of their aims is to reduce the direct and indirect costs involved in the daily work trip. Partly as an outcome of this trend, gentrification has occurred on some of the inner suburbs of the Adelaide Metropolitan Area. Of course, the recent debate on the underlying causes of gentrification suggest that the process is considerably more complex than this (Smith and Williams, 1986). Thankfully, there is now a growing readiness amongst neo-classicists and Marxists alike to accept that both production and consumption based explanations have to be built into the argument.

With the post-war relocation of economic activities, mainly the manufacturing and retail trades that have relocated to the outer suburbs, the inner areas (CBD - Greenhill Road - Dequetteville Terrace - North Adelaide) still contain the highest number of white collar jobs. Adelaide's newly developed suburbs have absorbed predominantly low income blue collar workers, mostly engaged in locally available manufacturing jobs and retail trades. Since the mid 1960's, the number of blue collar workers in the inner areas has declined which is offset by an increase in the number of white collar workers in those areas.

At the same time, the variables associated with more general effects (demand and supply) were found in the models to produce only modest change in residential land prices in Metropolitan Adelaide. Variables designed to measure fluctuations in demand and supply, change in population, change in the number of private and public dwellings, the creation and consumption of residential vacant allotments, all tend to be relegated in the regression models. On the other hand, regression models highlight the significance of institutional activity in shaping the rent structure of Metropolitan Adelaide. The variables 'Non-Residential Investment' together with 'Local Government capital expenditure' consistently produced the greatest change in residential land prices in the metropolitan area between 1970-84. The high levels of urban capital formation characteristic of the rapidly developing outer areas of Australian cities in the 1960's and early 1970's coincided with intense pressure on the fringe land market between 1970-74, such as to produce an abnormally rapid rise in vacant residential land prices in the outer zone of the Adelaide Metropolitan Area. Then, after a prolonged period of

stagnation in the residential property market (1977-83), there was a period of revival reflected in the upward movement of vacant residential land prices in the mid 1980's. The South Australian Government adopted a strongly interventionist stance in the metropolitan land market during the mid 1970's in an effort to dampen land price escalation (e.g. the role of the South Australian Housing Trust, the Land Price Control Act of 1975, the formation of the South Australian Land Commission in 1973, creation of the Urban Development Co-ordinating Committee, et.c). However, the greatest relative increases in prices between 1980-84 were recorded in the inner zone suburbs where there has been considerable private housing reinvestment and new Local Government capital expenditure. It is interesting to note that in Adelaide with gentrification plus the State Government promotion of urban consolidation, a stage could be reached where central land prices have appreciated to such an extent that there are mounting pressures to 'up-zone' for higher residential densities in the inner zone. A recent study by the Department of Environment and Planning (1987) has given full emphasis to the redevelopment of the central areas instead of outer suburban sprawl of Adelaide.

... More flats, townhouses, granny flats and rows of joined dwellings could be build in Adelaide's inner suburbs under a radical new plan to limit the outer suburban sprawl. The high density housing would be built on subdivided blocks and aims to bring more people closer to the city ... The whole thrust of the new plan is for better use of existing urban areas, to try to confine the urban sprawl and to restore traditional population levels in older suburbs. (Department of Environment and Planning, 1987:21)

This certainly reflects the great concern present amongst the policy makers over the continued growth of the Adelaide outer suburbs. The traditional suburban sprawl is no longer considered appropriate

for a city like Adelaide because as the social, financial and environmental costs associated with development in the outer areas. This latest plan would undoubtedly continue the trend that has seen the redevelopment of the central area that started in the early 1970's. This plan, which aims to curb urban growth of Metropolitan Adelaide, reflects the ideas that undermine the traditional trade-off variables, like the CBD trip, concentration of white collar workers and the availability of jobs in the outer areas. Moreover, it places the emphasis on the public investment policies on the ground that consolidation will produce efficiencies and save on the continued extension of the infrastructure. These policies adopted by the planning authorities, if implemented in future, will significantly affect the overall residential rent structure of Metropolitan Adelaide. Finally, these results lend some support to David Harvey's alternative conceptualisation of the urban land market (Harvey, 1973), with its stress on the role of the state administrative activity in shaping urban development. Although they are very partial measures of institutional activity in the property market, 'Non-Residential Investment' does reflect the urban building programme funded by government agencies at the Commonwealth, State and Local levels together with private institutional investors. As a result of the creation and transfer of wealth within the built environment of Adelaide over 15 years, there has been a redistributive 'undertow' beneath the surface of the residential land market which has a profound effect upon the distribution of real wealth over fifteen years. These transfers of value are also consistent with the processes that Harvey (1973) argued for conceptually in 'Social Justice and the City'.

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APPENDIX A
RESIDENTIAL ALLOTMENTS: No. OF SALES AND PRICES
ASA, 1970-84

	1970		1971		1972	
	No. of Sales	Average Price	No. of Sales	Average Price	No. of Sales	Average Price
ADELAIDE	16	39,525	10	40,322	16	42,575
BURNSIDE	166	9,753	195	9,125	289	10,466
HINDMARSH	27	8,949	16	9,842	19	9,288
KENS. & N'WOOD	25	16,572	18	13,322	15	13,410
PAYNEHAM	85	11,926	70	8,513	42	10,347
PROSPECT	17	6,539	15	8,351	18	10,171
ST. PETERS	16	8,175	9	5,989	17	7,164
THEBARTON	2	9,429	9	8,891	7	9,747
UNLEY	31	10,323	24	11,604	27	14,235
WALKERVILLE	15	9,156	22	8,936	30	11,734
CAMPBELLTOWN	467	8,093	495	5,076	510	6,497
ENFIELD	404	8,353	384	5,022	360	7,093
GLENELG	17	15,617	2	16,851	6	17,157
HENLEY & GRANGE	99	11,985	131	12,482	55	9,900
MARION	308	9,750	381	5,651	362	6,167
MITCHAM	613	6,134	663	6,466	722	6,967
PORT ADELAIDE	74	6,422	77	8,864	73	7,806
WEST TORRENS	174	12,708	130	13,881	89	16,022
WOODVILLE	340	9,861	468	9,086	470	10,058
EAST TORRENS	124	4,598	175	5,134	146	7,191
BRIGHTON	29	11,424	56	10,125	41	14,211
ELIZABETH	20	5,615	118	8,750	53	7,361
NOARLUNGA	1,425	2,318	1,251	2,847	1,792	3,187
SALISBURY	4	5,876	7	6,321	11	7,293
MUNNOPARA	7	6,018	6	6,233	19	5,695
STIRLING	2	2,621	4	3,057	29	5,038
TEA TREE GULLY	1,806	6,913	1,969	6,503	2,155	6,094

APPENDIX A
RESIDENTIAL ALLOTMENTS: No. OF SALES AND PRICES
ASA, 1970-84

LGA	1973		1974		1975	
	No. of Sales	Average Price	No. of Sales	Average Price	No. of Sales	Average Price
ADELAIDE	10	44,545	8	39,595	1	38,311
BURNSIDE	3	16,917	45	18,349	78	17,856
HINDMARSH	38	11,533	14	13,742	7	18,214
KENS. & NORWOOD	1	15,000	2	18,826	12	18,500
PAYNEHAM	46	12,847	28	18,337	4	21,250
PROSPECT	13	14,230	5	17,548	17	21,865
ST. PETERS	11	11,882	8	10,300	5	10,680
THEBARTON	5	11,252	2	12,492	3	9,650
UNLEY	1	13,595	2	14,100	13	15,221
WALKERVILLE	3	15,333	31	17,133	15	22,960
CAMBELLTOWN	559	9,807	389	11,074	485	10,554
ENFIELD	303	9,120	120	12,726	106	19,252
GLENELG	13	25,197	9	23,286	5	29,375
HENLEY & GRANGE	44	12,521	7	14,579	28	20,796
MARION	525	8,120	627	9,818	591	12,626
MITCHAM	818	10,237	411	12,675	389	12,791
PORT ADELAIDE	60	7,780	234	7,755	205	9,587
WEST TORRENS	172	17,382	59	16,770	60	25,924
WOODVILLE	822	11,954	594	15,613	597	17,920
EAST TORRENS	176	8,815	99	11,935	9	14,609
BRIGHTON	61	11,744	22	14,527	9	13,100
ELIZABETH	242	9,949	184	11,811	104	18,945
NOARLUNGA	2,432	5,147	1,297	7,406	1,368	9,997
SALISBURY	9	8,105	11	10,126	8	12,250
MUNNOPARA	22	11,194	14	13,409	44	15,226
STIRLING	655	6,626	322	8,651	356	10,463
TEA TREE GULLY	2,346	9,126	1,397	11,807	1,312	11,598

APPENDIX A

RESIDENTIAL ALLOTMENTS: No. OF SALES AND PRICES
ASA, 1970-84

LGA	1976		1977		1978	
	No. of Sales	Average Price	No. of Sales	Average Price	No. of Sales	Average Price
ADELAIDE	12	37,028	8	37,845	13	43,414
BURNSIDE	130	23,956	144	34,063	139	27,239
HINDMARSH	14	20,031	19	24,666	13	29,142
KENS. & NORWOOD	9	22,272	6	25,833	5	24,535
PAYNEHAM	26	15,234	16	17,424	10	20,604
PROSPECT	13	24,398	4	26,328	5	22,333
ST. PETERS	2	13,387	4	15,242	7	15,440
THEBARTON	1	10,550	3	12,375	2	14,797
UNLEY	16	26,345	16	32,325	23	33,525
WALKERVILLE	20	23,045	10	24,822	12	28,888
CAMPBELLTOWN	485	15,520	339	19,037	253	18,612
ENFIELD	155	32,661	95	35,765	70	39,696
GLENELG	7	22,521	5	25,100	5	29,300
HENLEY & GRANGE	54	20,400	49	21,577	20	27,292
MARION	744	16,098	435	14,849	307	13,577
MITCHAM	436	16,865	215	20,162	312	19,995
PORT ADELAIDE	228	11,609	156	15,336	106	17,229
WEST TORRENS	39	29,178	22	31,246	38	32,220
WOODVILLE	564	20,375	270	22,393	267	28,762
EAST TORRENS	99	17,284	71	18,606	60	21,217
BRIGHTON	21	24,467	19	24,771	14	25,561
ELIZABETH	65	22,726	39	20,557	74	21,180
NOARLUNGA	1,495	14,691	802	16,578	374	15,307
SALISBURY	1,097	14,546	787	16,322	398	14,052
MUNNOPARA	279	15,742	360	14,109	288	16,293
STIRLING	549	12,019	256	14,315	254	13,609
TEA TREE GULLY	1,273	15,307	1,049	15,059	833	17,288

APPENDIX A

RESIDENTIAL ALLOTMENTS: No. OF SALES AND PRICES
ASA, 1970-84

LGA	1979		1980		1981	
	No. of Sales	Average Price	No. of Sales	Average Price	No. of Sales	Average Price
ADELAIDE	18	44,142	35	49,068	27	51,117
BURNSIDE	102	28,255	123	32,036	128	33,769
HINDMARSH	7	30,269	7	23,779	12	29,379
KENS. & NORWOOD	6	21,083	9	26,270	4	29,118
PAYNEHAM	14	20,371	14	20,043	10	31,650
PROSPECT	9	21,389	8	24,229	5	26,700
ST. PETERS	3	21,700	7	25,643	3	35,477
THEBARTON	2	13,944	5	13,090	2	15,726
UNLEY	15	35,221	18	33,292	12	36,468
WALKERVILLE	19	25,253	15	27,890	7	28,393
CAMPBELLTOWN	278	17,478	270	16,565	238	18,211
ENFIELD	80	24,465	90	38,212	68	34,395
GLENELG	4	41,430	5	44,380	2	47,330
HENLEY & GRANGE	9	20,872	8	26,381	10	26,250
MARION	343	14,600	320	13,906	386	12,118
MITCHAM	197	20,683	230	19,925	204	22,479
PORT ADELAIDE	119	16,552	122	17,487	126	18,423
WEST TORRENS	48	25,257	45	25,888	48	29,517
WOODVILLE	283	30,519	366	28,326	392	29,765
EAST TORRENS	63	22,626	68	26,279	67	26,334
BRIGHTON	15	27,448	23	26,872	13	30,125
ELIZABETH	22	21,545	4	19,672	3	23,208
NOARLUNGA	294	12,047	373	12,921	456	11,321
SALISBURY	338	15,904	353	15,805	341	16,343
MUNNOPARA	197	16,260	192	16,127	201	10,888
STIRLING	237	16,595	189	16,137	203	17,824
TEA TREE GULLY	803	14,939	725	15,621	668	16,544

APPENDIX A
RESIDENTIAL ALLOTMENTS: No. OF SALES AND PRICES
ASA, 1970-84

LGA	1982		1983		1984	
	No. of Sales	Average Price	No. of Sales	Average Price	No. of Sales	Average Price
ADELAIDE	16	53,626	31	58,644	42	92,092
BURNSIDE	63	43,060	77	40,610	124	57,279
HINDMARSH	11	26,273	2	30,125	37	42,225
KENS. & NORWOOD	5	25,450	4	38,174	38	43,320
PAYNEHAM	12	36,304	18	28,181	12	34,600
PROSPECT	10	27,700	5	27,800	18	37,088
ST. PETERS	6	45,667	11	46,036	17	48,594
THEBARTON	3	17,828	3	18,522	8	22,873
UNLEY	21	33,245	18	42,277	30	55,646
WALKERVILLE	4	31,626	1	32,287	5	40,950
CAMPBELLTOWN	198	23,692	256	30,708	211	30,608
ENFIELD	79	34,210	103	33,818	166	28,741
GLENELG	1	42,121	3	42,333	3	47,220
HENLEY & GRANGE	16	26,281	25	32,752	10	38,003
MARION	420	13,179	538	14,263	624	21,042
MITCHAM	191	26,810	257	24,412	336	34,359
PORT ADELAIDE	131	16,793	196	17,509	194	23,766
WEST TORRENS	19	31,210	52	32,108	72	41,388
WOODVILLE	251	31,418	307	36,101	211	46,202
EAST TORRENS	70	23,415	92	27,576	144	36,121
BRIGHTON	14	28,699	27	41,252	23	47,381
ELIZABETH	5	20,693	2	21,977	9	23,921
NOARLUNGA	661	7,207	1,028	8,340	994	12,265
SALISBURY	266	14,205	481	13,321	1,134	19,431
MUNNOPARA	259	8,565	431	9,128	909	14,225
STIRLING	195	16,230	235	19,045	390	20,837
TEA TREE GULLY	1,920	11,322	2,283	13,879	4,368	16,977

ADELAIDE: WHITE COLLAR WORKERS, PERCENTAGE CHANGES, 1970-84.

LGA	1970-1974 % Change	1975-1979 % Change	1980-1984 % Change
ADELAIDE	+3.82	+3.29	-4.29
BURNSIDE	+0.46	+0.85	+2.37
HINDMARSH	+1.00	+3.58	+2.61
KENS. & NORWOOD	+5.72	+5.96	+5.27
PAYNEHAM	+1.27	+1.57	+1.20
PROSPECT	+2.62	+5.06	+5.48
ST. PETERS	+4.14	+5.60	+6.48
THEBARTON	+0.99	+2.36	+2.51
UNLEY	+3.79	+4.81	+4.80
WALKERVILLE	+1.20	+3.25	+3.71
CAMPBELLTOWN	+0.87	+1.07	+1.57
ENFIELD	+0.70	+1.01	-0.98
GLENELG	+2.58	+1.08	+0.64
HENLEY & GRANGE	+0.88	+1.76	+0.92
MARION	+0.74	+1.44	+1.40
MITCHAM	+1.67	+2.71	+3.20
PORT ADELAIDE	+0.28	+1.65	+2.00
WEST TORRENS	+0.19	+0.46	-0.43
WOODVILLE	+1.99	+1.97	+2.22
EAST TORRENS	+6.93	+6.33	+7.34
BRIGHTON	+0.40	+2.22	-1.54
TEA TREE GULLY	+4.16	+0.77	+2.04
ELIZABETH	-0.96	-0.18	-0.84
SALISBURY	+1.22	+0.38	+0.87
NOARLUNGA	+0.90	+0.59	+1.42
MUNNOPARA	+0.87	+1.72	+2.29
STIRLING	+7.94	+3.52	+5.27

ADELAIDE PERCENTAGE CHANGES IN LAND PRICES, 1970-1974

LGA	1970-1974	1975-1979	1980-1984
ADELAIDE	0.03	3.04	2.338
BURNSIDE	17.62	11.64	15.76
HINDMARSH	10.71	13.23	15.51
KENS. & NORWOOD	1.42	2.79	12.98
PAYNEHAM	10.75	1.76	14.52
PROSPECT	33.67	0.436	10.61
ST. PETERS	5.19	20.63	17.90
THEBARTON	6.49	8.90	22.58
UNLEY	7.31	26.28	13.43
WALKERVILLE	2.93	1.99	9.36
CAMPBELLTOWN	7.36	13.12	16.95
ENFIELD	0.2006	4.24	4.95
GLENELG	14.94	8.20	4.85
HENLEY & GRANGE	4.32	0.07	8.80
MARION	0.14	0.80	10.26
MITCHAM	21.32	12.33	14.48
PORT ADELAIDE	0.88	14.53	7.18
WEST TORRENS	8.02	0.51	11.97
WOODVILLE	11.66	14.06	12.62
EAST TORRENS	31.91	10.97	7.49
BRIGHTON	3.68	21.90	15.26
TEA TREE GULLY	14.15	5.76	13.33
ELIZABETH	22.08	2.74	4.32
NOARLUNGA	43.90	4.10	1.67
SALISBURY	2.80	5.96	1.85
MUNNOPARA	-3.02	-8.29	24.56
STIRLING	5.82	11.42	1710.20

ADELAIDE: PERCENTAGE CHANGES IN THE NUMBER OF DWELLING
CONSTRUCTION, 1970-1984

LGA	1970-1974 %	1975-1979 %	1980-1984 %
ADELAIDE	9.85	8.63	9.84
BURNSIDE	12.62	3.90	2.53
HINDMARSH	6.03	6.24	6.95
KENS. & NORWOOD	11.92	7.26	6.11
PAYNEHAM	14.91	4.62	3.59
PROSPECT	9.48	3.12	1.39
ST. PETERS	7.37	1.99	3.80
THEBARTON	5.54	1.58	1.05
UNLEY	8.99	4.47	3.29
WALKERVILLE	15.81	4.68	3.52
CAMPBELLTOWN	20.00	10.83	7.89
ENFIELD	12.00	1.03	1.25
GLENELG	18.07	3.31	3.78
HENLEY & GRANGE	18.77	4.22	1.97
MARION	12.71	8.95	9.05
MITCHAM	17.24	5.91	3.95
PORT ADELAIDE	7.98	7.37	6.44
WEST TORRENS	12.17	3.29	2.61
WOODVILLE	15.26	9.89	6.39
EAST TORRENS	21.98	16.11	11.86
BRIGHTON	10.23	2.20	2.66
TEA TREE GULLY	54.40	22.28	11.54
ELIZABETH	12.19	10.70	0.82
SALISBURY	74.54	26.35	12.67
NOARLUNGA	58.83	27.93	13.43
MUNNOPARA	15.31	24.59	17.12
STIRLING	25.12	21.15	12.66

ADELAIDE: NUMBER OF DWELLINGS, PERCENTAGE CHANGES, 1970-1984

LGA	1970-1974 %	1975-1979 %	1980-1984 %
ADELAIDE	9.85	8.63	9.84
BURNSIDE	12.62	3.90	2.53
HINDMARSH	6.03	6.24	6.95
KENS. & NORWOOD	11.92	7.26	6.11
PAYNEHAM	14.91	4.62	3.59
PROSPECT	9.48	3.12	1.39
ST. PETERS	7.37	1.99	3.80
THEBARTON	5.54	1.58	1.05
UNLEY	8.99	4.47	3.29
WALKERVILLE	15.81	4.68	3.52
CAMPBELLTOWN	20.00	10.83	7.89
ENFIELD	12.00	1.03	1.25
GLENELG	18.07	3.31	3.78
HENLEY & GRANGE	18.77	4.22	1.97
MARION	12.71	8.95	9.05
MITCHAM	17.24	5.91	3.95
PORT ADELAIDE	7.98	7.37	6.44
WEST TORRENS	12.17	3.29	2.61
WOODVILLE	15.26	9.89	6.39
EAST TORRENS	21.98	16.11	11.86
BRIGHTON	10.23	2.20	2.66
TEA TREE GULLY	54.40	22.28	11.54
ELIZABETH	12.19	10.70	0.82
SALISBURY	74.54	26.35	12.67
NOARLUNGA	58.83	27.93	13.43
MUNNOPARA	15.31	24.59	17.12
STIRLING	25.12	21.15	12.66

ADELAIDE: PERCENTAGE CHANGES IN POPULATION, 1970-1984

LGA	1970-1974	1975-1979	1980-1984
ADELAIDE	-11.77	-11.40	-2.04
BURNSIDE	+2.52	-1.80	+2.01
HINDMARSH	-11.37	-10.90	+3.62
KENS. & NORWOOD	-9.12	-7.12	-2.71
PAYNEHAM	+0.81	-3.56	-10.33
PROSPECT	-4.58	-4.18	+1.68
ST. PETERS	-8.81	-8.16	-1.3
THEBARTON	-8.38	-8.44	+1.55
UNLEY	-4.27	-4.55	+10.87
WALKERVILLE	+1.37	-3.07	+3.44
CAMPBELLTOWN	+8.58	+4.34	+7.25
ENFIELD	-3.21	-6.47	-2.79
GLENELG	-2.62	-5.69	+2.48
HENLEY & GRANGE	+4.26	-3.32	-3.99
MARION	-0.06	+0.71	+5.65
MITCHAM	+4.51	+4.41	+3.57
PORT ADELAIDE	-4.94	-8.50	+5.32
WEST TORRENS	-0.98	-4.45	+5.32
WOODVILLE	+1.73	+2.55	+5.11
EAST TORRENS	+13.00	+8.31	+12.51
BRIGHTON	-3.08	-4.46	-2.24
TEA TREE GULLY	+43.66	+21.32	+13.63
ELIZABETH	+0.86	-1.82	-2.09
SALISBURY	+32.24	+13.13	+10.17
NOARLUNGA	+55.38	+27.36	+18.95
MUNNOPARA	+9.19	+16.85	+14.05
STIRLING	+19.53	+18.96	+15.33

ADELAIDE: CREATION OF VACANT RESIDENTIAL ALLOTMENTS, PERCENTAGE
CHANGES, 1975-1984

LGA	1975-1979	1980-1984
ADELAIDE	8.1	2.3
BURNSIDE	-25.5	29.2
HINDMARSH	15.2	-5.3
KENS. & NORWOOD	-5.4	2.1
PAYNEHAM	-7.1	-2.2
PROSPECT	60.3	12.2
ST. PETERS	12.2	-6.8
THEBARTON	2.3	1.1
UNLEY	80.4	2.7
WALKERVILLE	-1.5	-0.5
CAMPBELLTOWN	0.16	-2.7
ENFIELD	11.0	4.2
GLENELG	-5.0	1.6
HENLEY & GRANGE	-2.0	17.5
MARION	110.0	85.3
MITCHAM	-2.1	42.1
PORT ADELAIDE	-0.06	23.3
WEST TORRENS	13.2	10.1
WOODVILLE	3.1	0.5
EAST TORRENS	-4.1	-1.2
BRIGHTON	42.1	9.3
TEA TREE GULLY	-15.2	-1.7
ELIZABETH	61.3	73.5
SALISBURY	-12.6	11.7
MUNNOPARA	92.3	-1.8
NOARLUNGA	-17.2	3.3
STIRLING	-3.1	-5.2