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AFFORDABLE WHITE HOUSING IN SOUTH AFRICA
- A PERSPECTIVE ON NEW PRIVATE SECTOR SPECIAL RESIDENTIAL DEVELOPMENT IN THE 1970'S AND 1980'S

LAURENCE BEDER

A Dissertation Submitted to the Faculty of Commerce,
University of the Witwatersrand, Johannesburg for
the Degree of Master of Commerce.

Johannesburg 1991.

ABSTRACT

This dissertation has studied the past and present problems together with the advances associated with the affordability of special residential housing for middle-income whites in the private sector, residing in the Republic of South Africa. The emphasis of this study has been in the assessment of the problem from the viewpoint of those specific factors which tend to influence affordability for a potential purchaser specifically when involved in a first-time homeownership situation. Although the study has touched on the many macroeconomic factors which directly affect the homebuilding industry in general, specific priority has been given to the factors which influence the homebuilding firm's ability to offer affordable housing to the market sector in question. Thus the accent has fallen on factors such as new home financing, the cost of developing raw land as a component of the financial package, the implications of building cost increases, as well as to a lesser degree the problems associated with home loan institutions and home design criteria. Potential solutions have also been addressed in terms of new industrialised building products and other innovative housing methods which might help resolve the future affordability of the housing problem.

In order effectively to combat the affordability problem associated with this housing market segment, further research has been proposed to implement new techniques into each of the areas of the firm's operations in order to provide better housing opportunities into the future.

DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted for the degree of Master of Commerce in the University of the Witwatersrand. It has not be submitted before for any degree or examination in any other University.

LAURENCE BEDER

28th day of March, 1991.

DEDICATION

In Memory of my Grandfather
Myer Wolfe Beder
1892 - 1981

"Come to Zion with singing everlasting joy" (Isian 3:10)

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PREFACE

The massive increase in homebuilding costs during the early 1980's, which had placed a considerable strain on the ability of potential new homeowners in the White private sector middle-income group of South Africa to afford new housing, resulted in the urgent need to assess, exactly what factors would be likely to influence the marketability and affordability of new housing now and into the future. Against this background, this study has attempted to demonstrate once again, that the aspirations of young people entering the new homeowners marketplace have been pitched at too high a level and that the old adage of "cutting the cloth to suit the pocket" must apply. In an answer to this, the homebuilding industry has attempted in many different ways to market services aimed at alleviating this pressure on the level of affordability. In the light of these different approaches to solving the various problems associated with the affordability of this type of new housing, this study has purported to analyse the areas of most concern to the potential new homeowner.

The purpose of this thesis has been to introduce marketers and developers of new housing developments to the major variables which need to be considered when attempting to formulate their strategic alternatives and as how best to tackle the whole question of acceptable affordable housing. Knowledge of the variables themselves would, however, not be sufficient, unless the characteristics of each of these variables can be seen to act together in a synergistic fashion to formulate the best solution to the accommodation problem in general, and the middle-income housing problem in particular. Most probably, however, the greatest single factor associated with the latter housing problem has been the fact that new house prices have tended to have exceeded the ability of ordinary middle-income families to be able to afford to pay for their accommodation.

Whilst economic pressures and related market factors have brought about far reaching changes in the dwelling habits of new home owners in the 1980's, there has been a positive attitude adopted by the government, the homebuilding industry and the new homeowner in the acceptance of the challenge to overcome the new homeownership affordability problem and to replace it with the opportunity of providing meaningful solutions to afford a greater number of new homeowners the chance to own a brand new home.

There have been many people whose assistance and advice have contributed to the completion of this thesis. Mention must be made of my supervisors; Dr Robert Jones, my first supervisor and Mr David Solomon, my second supervisor. Mr Solomon has been a strong influence in helping me to understand the essential links between the theoretical and practical aspects of this study. Furthermore, I would like to thank my colleagues at Sage Schachat Limited for their invaluable time and tremendous input into the research of some of the more difficult areas of this study. A special thanks must also be extended to Mrs Reine Heintzberger for the many hours she has spent typing and re-typing parts of this dissertation. Finally, to my wife, children and parents, a thank you for never allowing me to forget the most important word associated with this thesis - perseverance.

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SECTION A

CHAPTER 1

INTRODUCTION

1.1 *GENERAL BACKGROUND*

The middle-income white population of South Africa now face a major struggle to buy a home of their own. The unrestricted choice and socio-economic lifestyle enjoyed in the seventies and early eighties can no longer be seen today, but rather a scenario has emerged of high interest rates, increasing homebuilding costs together with a low economic growth pattern. This has necessitated a greater portion of the household income being utilised to pay off mortgage finance which in turn has caused more working wives and mothers to emerge in order to make ends meet.

More specifically, with the erosion of the savings, the ever increasing cost of obtaining accommodation or shelter has tended to be neglected, which has not only allowed less choice in accommodation alternatives, but has also stunted the growth of investment in the residential and housing industries, with attendant lack of supply of housing and provision for future population growth, net immigration and urbanisation.

These and other negative factors have led to the call for solutions to housing problems for private sector individuals wanting to build residential housing. The move to medium density types of accommodation has borne this out (i.e. townhouses, cluster and group housing). However amongst the group of people described above there there has still been a demand to live in a new home on an individual site being controlled by site size, coverage and height where there would be full and non-conditional title associated with that type of ownership.

The cyclical nature of the building industry combined with low productivity and uncertainty regarding future Government policy on new housing issues, have also contributed towards pushing up the price of housing. These could be important areas that both developers along with Government could help to improve, so as to be more efficient and in so doing introduce a realistic pricing and affordability structure back into the market place for the potential new homeowner.

As Franklin D. Roosevelt has said:"A nation of homeowners - of people who own a real share in their own land - is unconquerable". If we can obtain a nation of homeowners, comprised of all race groups, many of South Africa's political and socio-economic problems would be solved. However as can be understood, there has and will be for some time in the future, an enormous problem in the provision of housing for the low-income group and it should be imperative that this problem does not creep any further into the realms of the middle-income marketplace, with reference in particular for the purposes of this study, to the white middle-income marketplace. It must be understood that solutions to the problem of affordability amongst the private sector white income group should be reviewed with particular reference to that group that finds itself interested in building a new home in the future.

1.2 *THE IMPORTANCE OF THE WHITE MIDDLE-INCOME AFFORDABILITY PROBLEM*

This thesis deals with the problems of affordability associated with new special residential housing for whites. Although greater emphasis has been placed on low income mass housing, the white middle-income housing problem has become increasingly important. This sector has formed the backbone of the residential real estate arena in South Africa. Without it, property values would never be able to be seen in their true context as valuers would not be able to have a viable residential property compari-

son. Thus, housing as a national priority must be looked at in terms of how it would affect this group i. 'cular.

In terms of middle-income housing, as a national priority, the problem must not be seen in technical and economic terms alone, but rather in socio-economic terms and in terms of the expectations of the people. Educational, health care policies and housing would be other issues which confront the developed nations and its people. It has been however normally housing, which unlike the other has tended to feel the brunt more harshly in adverse economic conditions.

Miners has suggested a viewpoint to sum up the present situation regarding affordable housing for the white middle-income group.[1]

"As far as middle-income housing is concerned, there can at this stage be no reason why people should not be able to afford a modest roof over their heads. The expectations, aspirations and degree of choice which people have, in procuring accommodation appropriate to their current or expected lifestyles, is important. Notwithstanding the key role of macro-economics via the provision of housing (financial aspects), the size of a stand and related engineering services and the design and specifications applicable to a house, directly influence costs and prices. If one cuts one's coat according to one's cloth, an affordable house is a straightforward exercise in self-discipline."

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1. Miners, T. Affordable Housing for the Middle-Income Group. from Affordable Housing in the Eighties and Nineties. Edited by Franco Frescura. 1983. Wits Housing Research Unit p.76.

The affordability of housing in the middle-income group has primarily been influenced by a number of real factors which in turn have tended to become more and more problematic over the last number of years. The most important of these have been the level of incomes and the savings/income ratio, mortgage rate fluctuations, bond repayments periods, subsidies, the lending policies of financial institutions, the second hand market and the replacement value of new housing, fringe benefits taxation, the costs of servicing land and the major fluctuations of building costs. Each of these factors in turn have made their mark on the affordability capabilities of the market segment under review.

1.3 *AN INITIAL ASSESSMENT OF POTENTIAL SOLUTIONS TO THE PROBLEMS OF AFFORDABILITY*

At the hub of the affordability problem for potential middle-income homeowners, incomes, costs and financing have formed the largest hurdles to be overcome. Other factors such as land development, policies of financial institutions and the state of the second hand market have also had some bearing on the problem.

It follows that there are a number of ways of making middle-income new homeownership more affordable. These would be to reduce costs, implement more economic ways of financing and as a final measure making use of subsidies, bearing in mind some of the detrimental effects that the latter could have on the housing market in the future.

In an inflationary climate, the capital value in money terms of a new house will rise from year to year. For the same reason, as the long term interest rate would rise to take cognisance of high inflation, not only would capital values rise, but the borrower's earnings would be likely to rise in money terms. In order to create a more affordable homeownership climate, building societies could design instruments to account for inflationary

conditions and accept payments which would not amortize the loan during a limited initial period. This would take cognisance of the increase in the capital value in money terms of the asset, likely salary increases through the same inflation and also in the case of young middle-income potential homeowners, of likely increases in their income over a period and a capacity to pay higher instalments at a later stage. This could be achieved by various techniques such as progressively increasing instalment payments, buy-down schemes, flexible loan insurance plans and relaxation of the rule of thumb allowing instalments to exceed the 25% of family income. These are discussed in Chapter 8.

At the same time the developer could attempt to make his products more affordable by containing product price increases during periods of high interest and low income growth as well as procuring or offering financing at interest rates below commercial interest rates. Furthermore the firm could possibly subsidise his clients for an initial period whilst their incomes would grow in order to enable them to afford unsubsidised monthly instalments.

In order for the firm to offer the most cost effective but aesthetically pleasing product, cost efficient designs would have to be prepared as well as considering whether or not to possibly offer one of the industrialised building systems as an alternative. Labour relations, wage negotiations and improved purchasing techniques would also have to be seriously considered in order to keep the eventual product price down.

On the macro-economic side of the equation, the more efficient use of resources could be made by the building industry if its cyclical "stop-go" character could be stabilised. Improvements would follow in building cost levels, labour utilisation and management efficiency. It would seem unlikely however that this primary industry will ever be freed from its cyclical disadvantages.

1.4 *THE AFFORDABILITY PROBLEM IN RELATION TO MEETING THE HOMEBUILDING FIRM'S MANAGEMENT AND MARKETING OBJECTIVES*

When assessing the homebuilding firm's strategic environment and how this would relate to the affordability problem, there are numerous areas to be addressed. In order for the firm to be marketing orientated and to adopt the marketing concept as its credo, emphasis has to be placed on the fact that the interests of the potential customer must be paramount. In order for this to occur and for the client to receive the best possible deal, the firm has to assess numerous strategic areas of concern.

Firstly the firm must address the macro environment in which it operates, looking specifically at the construction and homebuilding arena. Secondly, the firm must assess the internal environment addressing such areas as the structure of the organisation, personal requirements and present operating systems and procedures. Having successfully completed this analysis, the firm should assess its position in relation to its strength, weaknesses, opportunities and threats, weighing up which of these would give the homebuilding firm a so-called differential advantage to offer the potential client the most affordable homebuilding package. Thereafter, it would be most important to set well defined marketing objectives which would go hand in hand with the planning objectives. In this instance, target market groups would be selected and a marketing strategy and program with prescribed objectives would be developed in order to help obtain the goals of the firm. Finally an implementation and control system would have to be set up in order to assess whether the management decisions and tactical implementation of these decisions would be in line with the initial objectives.

This in effect would ensure that the firm could operate at its required level of capacity, maintaining the profit margins as set in its objectives and keeping a close watch on its level of overheads. It can then offer its potential clients the most affordable housing options possible.

1.5 *STUDY OBJECTIVE*

This study has been structured in such a way as to deal with the topics surrounding the major affordability problems in the white middle-income market segment. It does not purport to specialise in one specific area and has thus drawn its major elements from many disciplines associated with the problems of affordability in order to give a rounded, practical approach to the broader issues.

The objective of this study has been to analyse, discuss and pose alternative and potential solutions to the basic problems associated with affordability with specific reference to the white private sector middle-income market segment involved in the purchasing of new special residential housing.

Emphasis has been placed on what can be done with each of the relevant factors which affect affordability, to try and help improve the ability of middle-income first-time homeowners to own their own homes.

Given recent political and economic developments in this country together with the vagaries of the construction and homebuilding industries, there have been great fluctuations in the supply of new units over the past decade in particular. It has been against this background that a fairly detailed analysis of factors which indirectly affect the potential homeowner, but directly affect the more extended environment in which the homebuilding marketing firms operate, have also been discussed.

This thesis therefore would seek to:

(a) Analyse the concept of affordability with its broader implications, together with those specific factors which influence it directly or indirectly.

(b) Evaluate the demand characteristics including the macro-economic factors which directly affect the ability of the potential homeowners to afford new homes.

(c) Discuss the impact of the supply side of the equation and how it has influenced the construction industry in general and the homebuilding industry in particular with specific reference to the market segment under discussion.

(d) Review the characteristics of the different cost indicators and how they have impacted on the problem, in order to motivate viable solutions such as cost effective design and the use of other than normal residential building methods

(e) Assess the role of the various financial institutions and present the various financing techniques available to potentially help solve the various financing problems associated with affordability.

(f) Discuss the problems and potential solutions associated with the availability of land for new homes to be built for the potential middle-income white homeowner market segment.

(g) Consider future developments to help alleviate the marketing problems associated with the affordability of special residential housing for private sector whites in South Africa.

1.5.1 *DEFINITIONS OF TERMINOLOGY*

In discussion of the title of this thesis there should be some explanation of terminology presented, in order to clarify what this study has set out to achieve.

The term affordability would relate to those factors that have and do play a role in assessing what standard or level of housing in this instance that a middle-income family can acquire.

Although it has a major bearing on the financial aspects, factors such as land, availability of mortgages, building costs, design controls etc. influence this term greatly.

In explaining the term affordability the major market segment under consideration in this study would be the white middle-income group.

The best way of defining middle-income would seem to be that of defining what low-income and high-income constitute, and stating that middle-income lies in the range in between. To qualify as low-income, it has been generally held that an income of below R1200 p.m. would apply, being the maximum salary enabling one to still get assistance from the National Housing Trust. On the other hand the "high" income group could constitute the group being taxed 32% and more, i.e. over R5 500 p.m. (1988).

Therefore on a financial scale, middle-income would constitute the group earning between R1 200-R5 500 p.m. However, having discussed this with members of financial institutions and building firms, it has been generally held that a joint income of ±R2 500 would just qualify for middle-income. This view has been confirmed by the Government's policy regarding first time homeowners and the R40 000 subsidy system which effectively ran between 1983-1989[1]. Together with the land a middle-income house can be assumed to cost in the region of R85 000 (1987-1988). This type of house would be about 80-90m² containing two to three bedrooms, a lounge/dining room, a kitchen and a bathroom. The bedrooms and kitchen would have simple built-in cupboards and generally only splash back tiles would be provided in the kitchen and bathroom. Ceilings would be provided and the floor finishes would be simply carpeted. Electricity, hot and

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1. Explained in detail in Chapter 8.

cold water and water-borne sewerage would furthermore be included. This type of house would generally be built on a 400-500m² stand with the required infrastructure services. As can be seen this type of house can be regarded as modest and representative of what a middle-income category person may expect to build.

The term Private sector would apply to all those potential new homeowners who would not rece a public service or Government subsidy and obviously have been incorporated in private sector employment.

One must however note that private sector homebuilding firms would build for Government employees and contained in the statistics in the course of this study, those houses built for Government employees by private sector homebuilding firms, have been included. The emphasis however has been on trying to demonstrate the relative severity of the problem associated with the potential new homeowners who neither receive a public service nor a corporate subsidy.

Special Residential Housing or Residential 1 housing as it is more recently described would be that type of housing zoned for one dwelling per erf/stand. This would be opposed to General Residential 2 or 3 zonings where a greater zoning density such as 20 units per hectare would be allowable. As regards special residential housing in more recent times, there has been a move to have the erf/stand sizes reduced in order for these stands to not only be more manageable, but more affordable. However as will be discussed later in this study, certain local authorities have tended to frown upon erf/stand sizes being lower than 500m². They have felt that this would be impinging upon the realms of a higher density zoning.

1.6 *SCOPE*

The topic of affordability of new special residential housing for the group under consideration has within its scope a multitude of discussion areas. One approach for example would have been to merely discuss the affordability situation from a purely financial viewpoint with emphasis placed on the aspects of financial packages.

However it has been felt that the broader implications of the topic should be addressed and thus the reason for the wide spectrum of topics that have been covered. It has not been the intention of this study to discuss them to the very limits of their detail.

The intention has been to highlight the most salient points and features concerned with the factors that have been presented to try and give the reader the bread and in some cases detailed highlights of what the potential problems and advances in this area of this study really have been.

1.7 *FRAMEWORK OF THE STUDY*

The overall disseration has been divided into a number of sections, namely:-

A. Introduction to the problems of affordability.
B. Demand and supply characteristics of special residential housing.
C. The implications of the cost factor.
D. The financial aspects of the affordability problems.
E. Problems associated with land availability.
F. Conclusion.

1.8 *METHODOLOGY*

In order to achieve the stated objectives, a comprehensive analysis of the relevant and non-published articles has taken place on the local as well as the international front. The theory behind the strategic marketing problem has also been addressed. Comments on the advances and new problems in this particular area of study have been included to give a broader understanding of the potential future solutions to the general affordability problem.

CHAPTER 2

THE AFFORDABILITY PROBLEM IN PERSPECTIVE

2.1 INTRODUCTION TO THE CONCEPT OF AFFORDABILITY

The aim of this chapter is to discuss the concept of affordability and thereafter to discuss the macro-economic indicators which affect it in order to demonstrate how changes in these indicators can make large differences to varying levels of affordability. This chapter also introduces the concept of the "Affordability Margin" (a term coined for this study which has demonstrated the differing levels of affordability due to the changing levels of income, interest rates and new home prices), as well as a short discussion of the American situation prevailing in the 1980's and an explanation and evaluation of the concepts of Static and Dynamic Affordability and how these concepts would tend to affect first time homeowners.

2.2 DEFINING THE CONCEPT OF AFFORDABILITY

Until now, the major approach to addressing all of the components of the housing affordability issue has been the traditional rule of thumb that families can and should spend about one-quarter of their incomes on shelter (i.e. income before taxation). This rule it seems is more of a tradition than a fixed rule. The old adage "a week's wage for a month's rent" appears to accurately describe the housing expenses of many tenants.

The statistics cited when housing affordability has been discussed have been frequently unclear in definition and meaning.

De Vos has defined affordability as the amount of money that households are prepared to spend on accommodation depending on their particular value systems, priorities, preferences, perceptions and circumstances.[1]

According to the American National Association of Home Builders; 'Owners have shelled out more than 29% of their take home pay (not gross income) to own and run a new home (in 1975), up from 23% in 1965.'[2] In order to show the variance in the meaningfullness of the statistics (and this will be the case as well in the formulation of the affordability margin) questions such as the following have needed to be asked:-

a) How does take home pay compare to total income?

b) How would the costs of owning and running a new home be calculated and how would this affect the question of affordability?

c) Have possible tax advantages and potential capital gains been taken into account?

d) What cost savings if any would occur for renters?

In order to deal with these questions, one would need a uniformly defined indicator of shelter spending and a set of standards against which to measure the observed patterns of shelter spending. When defining the issue of housing affordability Feins and Lens have found that the ratio of shelter expenditures

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1. De Vos, T.J. The Housing Market in South Africa. National Building Institute. Pretoria. 1987.

2. National Association of Homebuilders Economic Department. NAHB Washington. 1977.

to household income would be the appropriate indicator of measuring the proportion of income allocated to housing-related expenses.[1]

Separate affordability standards are needed in the housing market for each of the two major groups; namely, renters who normally have little or no discretionary income and thin budgets to just cover the costs of necessities versus middle-income tenants and homeowners "his study addresses this group) whom have a wider range of discretionary income that can be devoted to shelter.

In addition Feins and Lane have stated that:[2]

"The renter and owner affordability standards must be relevant to current housing market conditions and flexible enough to reflect changes in consumer behaviour prices of goods and services, housing supply and lending mechanisms".

2.2.1 *DETERMINANTS OF THE SHELTER INCOME RATIO*

Feins and Lane have discussed what they believe to be the relationship between certain socio-economic characteristics and the proportion of income spent on shelter. They have further proposed the following:[3]

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1. Feins, J.D. and Lane, T.S. How Much for Housing? Cambridge MA : Abt Books 1981. Chapter 1. pp.8-14.

2. Feins, J.D. and Lane, T.S. Ibid. pp.8-14.

3. Feins, J.D. and Lane, T.S. Ibid. pp.8-14.

"Analyses of housing demand have long included household characteristics, in addition to income, as determinants of housing consumption. The premise behind this approach is that households with similar demographic or socio-economic characteristics are likely to share needs, aspirations, and tastes to some degree (more formally, they have similar demand functions). Level of income is widely recognised as the most important explanatory variable for differences in the ratio of shelter expenditures to income, with higher income households typically spending a smaller part of their budget for housing. In addition, tenure (owner vs renter), the sex, race and age of the household's head, household size, moving status, region and location of residence (central city or suburban) have been found to account for some of the ratio variation among households of similar income."

It would seem that because of the importance of income and tenure as determinants of the shelter income ratio, these two facts would normally shape the discussion of housing affordability. Due to the lack of South African statistics especially regarding rentals as well as the non-formalised statistics regarding owners shelter expenditures, a cost comparison (ratio comparison) cannot be completed.[1]

2.3 *STATIC AND DYNAMIC AFFORDABILITY*

2.3.1 *STATIC AFFORDABILITY*

Jorgenson has proposed that a simple definition of affordability would be that percentage of present income that a person,

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1. Certain data from Market Research Africa and the Newspaper Market Bureau has some bearing.

household or family can afford to spend on housing.[1] He has further suggested that four pertinent questions emanate from this definition which have been quoted as follows:-

"a) What constitutes Income?

b) Why use present income when borrowed funds for housing are paid off out of future income?

c) Do all families spend the same percentage of income on housing at all times?

d) Who decides what a family can, should or will want to spend on housing?"[2]

It has been important then that these questions could be answered to the satisfaction of the consumers in order for this definition to gain any credibility at all. However, it would seem that in fact this definition can at present hold little credibility. Jorgenson has then proposed that affordability should be broken down into its three component parts:-[3]

a)	Income	(I)
b)	Cost	(C)
c)	Finance Terms	(F)

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1. Jorgenson, N.O. Affordable Housing - World Wide. Paper presented at DBSA - SBL Conference "Housing Under the New Dispensation". 23-24 July, 1986. Johannesburg. p.2.

2. Jorgenson, N.O. Ibid. p.3.

3. Jorgenson, N.O. Ibid. p.3.

Income which would be related to cost in a direct way has posed the question of deciding on a certain income group and then trying to fit the cost of a house to it.

Rent propensity would normally be a certain fixed factor of income but it could also be related to cost. Finance Terms would be the most important factor due to its impact on the way that repayments (cost) could be spread over a period of time. Jorgenson has felt that it would be just as important to Income and Rent Propensity because the profile of loan payments should relate in a direct manner to Rent Propensity and Income Over Time.[1]

The limiting factor of this approach has been that the relationships between these variables offer limited alternatives, e.g. if Finance terms had become more expensive, then often cheaper and smaller housing must have been built or people must have paid more of their limited income. In essence this has caused a "vicious circle of affordability."

2.3.2 *DYNAMIC AFFORDABILITY*

Another side to the affordability problem, has emerged this being a dynamic and changing situation which has been less restricted. Having used the same components as discussed under Static Affordability, the dynamic parameters can be seen in the following:[2]

COST	INCOME	RENT PROPENSITY	FINANCE TERMS
Housing standards Self Help Incrementality Service level Taxes, rates Management	Combined income Inflation Seniority Letting Wealth	Size of family Age of the head of household Level of income Capital appreciation Priorities	loan form Deposit Incentives Interest rates Maturity Security

1. Jorgenson, N.O. Op Cit. p.3.
2. Jorgenson, N.O. Op Cit. pp.5-8.

The Cost of housing would not be given if taken over time, and a house would not be a given entity once and for all. The obvious break-away point would be to think in terms of self-built, improvable housing, as in the case of the so called site and services schemes. The initial cost would then only have to cover land, services, planning and design, but little or no superstructure except for materials. Already, the cost has been split into immediate and future costs of about 40:60. Scenarios exist too numerous to mention here, but the important point would be that all of the cost would not be incurred from the start and much of it could be left over to suit the individual's rent propensity over time though incremental consolidation.

Income can be defined in almost as many ways as there have been ways of making it. Therefore income data has perhaps been the most difficult to make reliable.

A few examples of this would be:

- salary from employment which would change from year to year
- transfer income which would include anything from government subsidies to what "rich" relatives pass on to other members of the family
- rental income from rooms let to tenants, or for a right to cultivate a piece of land or build on it
- profit on trading or sale of produce, houses, services, etc.

This list could go on.

Consider also the income created by capital appreciation on a piece of land or a house. This income may not be in cash until one can sell or borrow against it, but would be income just the

same. All of which can add up to a very flexible and dynamic component, particularly if income from all of the household members would be included.

Rent Propensity has been a constantly misunderstood component. First of all, rent propensity has to do with what people want to spend on housing, not what consultants, planners or politicians think they should be able to spend, - or to afford. Thus, one would be dealing with something which at times can be as high as 45% and as low as 10% depending on, e.g.:-

- size of family
- age of the head of household
- tradition and location
- other priorities for consumption
- income expectations

Finance Terms have become the real "culprits" in the housing dilemma. The most common method of providing housing finance has still been the so called "fixed annuity" type loan, which has called for equal periodic (usually monthly) payments of capital and interest. Since these loans would normally run over 20-30 years, the payments would stay fixed, while other factors, such as the price level, changes. This fact could create the well known situation of a potential buyer having to give up acquiring a house, because the loan repayments are "un-affordable" initially. Later on, they would present less of a problem, but the project would never get off the ground. There have been many other loan forms which would be more appropriate. Likewise, there would usually be a requirement that the purchaser pays a lump-sum deposit or downpayment before the loan can be obtained. Often this requirement would be what makes or breaks the project for a low-to-middle-income family. If the house should represent the security for the loan, there should be no need to require a substantial deposit at the very start of the transaction when legal fees and other charges would also be due. The fact that

these fees need to be paid should prove the purchaser's seriousness of purpose. The added security required by Building Societies in the form of a deposit could be taken care of by public sector guarantees or an insurance policy or done away with through more competition in the finance market.

2.4 *WILLINGNESS-TO-PAY*

After having considered the implications of both the static and dynamic approaches to the question of affordability, the final concept to be considered is that of the potential home-owners "willingness-to-pay".

For a prospective home-owner a home should not merely be a place of shelter alone. It has other significant attributes such as being an asset which could most likely appreciate as well as being a "status symbol". Over and above this, due to the house being the biggest single investment that a household would be likely to make in most of their lifetime, it has a certain "user-value" besides the other attributes discussed above. Jorgenson has discussed these "user-values" as follows in qualifying the "willingness-to-pay concept"[1].

"User-value" would be defined as the value the user will put on an asset, whether he/she can afford it or not, i.e. what it would be worth to him/ her as a user or owner. Some of the practical implications of user-value with respect to affordability can be enumerated:

a) normally a potential owner would find the value of a house by capitalising the monthly rental of this or a similar house,

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1. Jorgenson, N.O. Op. Cit. pp.5-6.

b) if the house would be a base for income creating activities, such as rental income or profit from conducting a business, then this would be an added value to the capitalised value of the owners own rental,

c) if the potential owner could be a businessman, who at times would need to borrow money to invest in the business, the house can serve as security, because the loan on the house would be reduced or the house could appreciate in value, or both,

d) the location and immediate environment of the house has obvious user value, e.g. if the location has been located near the place of work and/or near schools, shopping, recreational facilities etc., or in a pleasant neighbourhood,

e) the design and appearance of the house obviously would make a difference to user value. If, for instance, the number of rooms and their sizes are just what the family would need, or if the shape and appearance of the structure would conform with the family's aesthetic criteria, the user value could go up,

f) the possibilities for alterations/extensions as the family's requirements change could also be seen to be an added value at a low cost,

g) it would be quite evident that if there had to be a choice of different finance terms, the most popular would be those which best fit the borrower's income profile over the period of the loan. The user value of a house financed in this way would therefore be higher, i.e. the borrower would be prepared to pay a higher price for the house or a higher interest rate for the loan than in a situation where the terms of finance would be different.

2.5 *THE AMERICAN SITUATION REGARDING AFFORDABILITY*

Housing prices in the United States have risen faster than incomes from 1955 to 1981. This can clearly be seen in Figure 2.1. Between 1970 and 1980 mortgage interest rates also had doubled. By 1981, a point had been reached where only 15% of first time homebuyers could afford to purchase the medium priced new house - a sharp drop from the 50% who could do so some 10 year ago. Furthermore, housing prices at this stage together with interest rates had in fact been so high that 60% of existing homeowners could not afford to purchase their present homes without the benefit of their accrued equity.[1]

Hoben has proposed that housing affordability will continue to be a problem as housing demand increases.[2] This will partly be due to the 1950's 'baby boom' which has been projected to result in approximately 9 million new households in the 5 year period (i.e. 1980-1985). This would be a 15% increase over the high level of household formations that took place between 1975 and 1980. As Hoben has described the issue:[3]

"The component costs of housing will continue to rise sharply if no corrective actions are taken. Land and site improvement costs have increased 250% in the last 10 years. Growth controls, environmental protection policies, and cutbacks in public funding

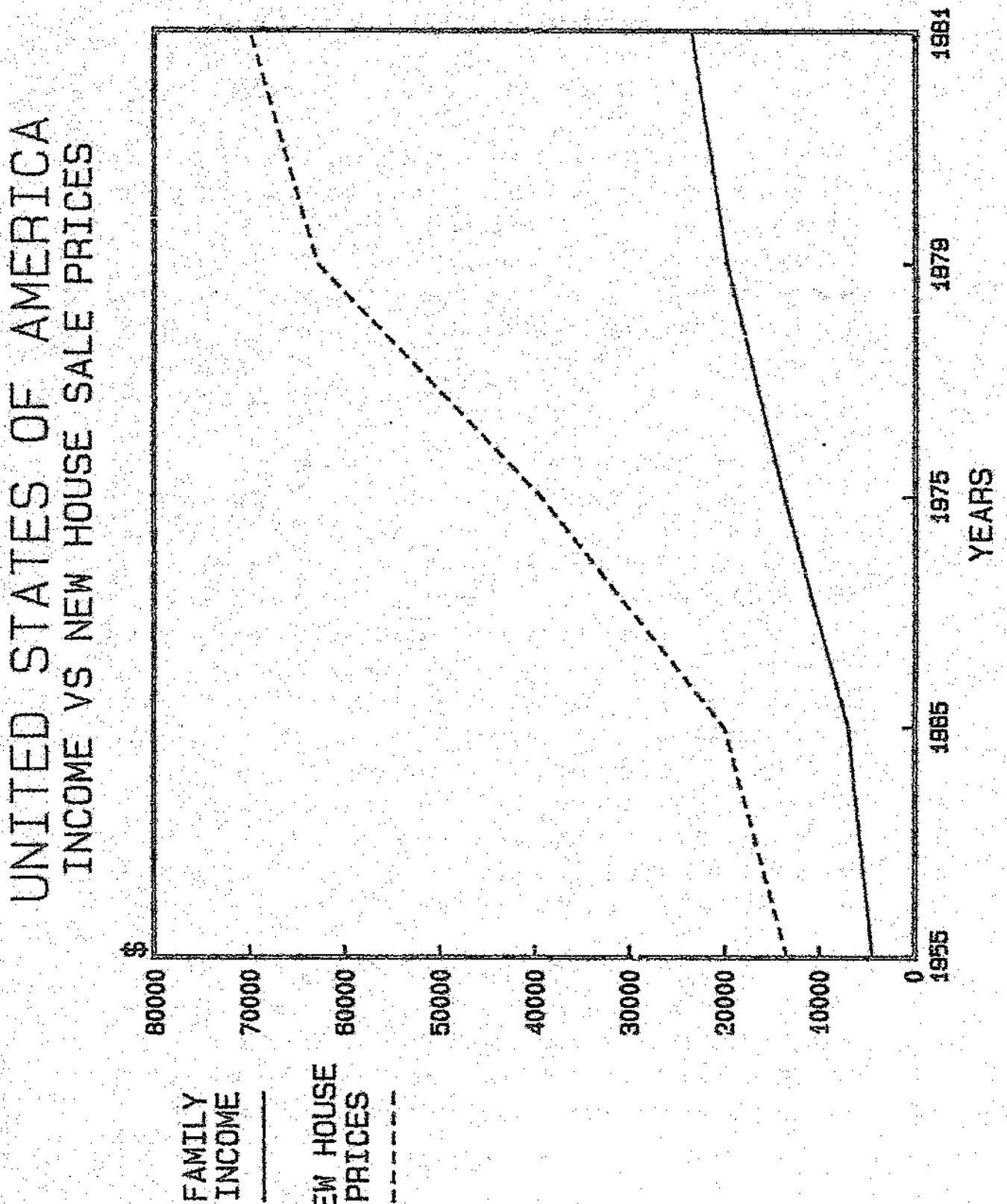
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1. Hoben, J.E. Affordable Housing : What States Can Do. U.S. Department of Housing and Urban Development. September 1982. p.1.

2. Hoben, J.E. Ibid. p.2.

3. Hoben, J.E. Ibid. p.2.

FIGURE 2.1



SOURCE: Hoben, J.E. Affordable Housing. Op. Cit. p.1.

for infrastructure have reduced the supply of developable land. As a result residential land prices in growth areas have shot up at rates well above the national inflation rate. In additi..., in the last 10 years, other component costs of housing such as labour and materials have risen by more than 100%."

The cost of financing a housing would be expected to remain high in the 1980's. During the late 1970's the 'real' rate of mortgage interest had been zero - the mortgage interest levels had been at or below the rate of general inflation. Interest rates may come down with reductions in general inflation (as had been the case in the mid 1980's). H: ever, a drop in mortgage interest rates may only rekindle the rise in housing prices, given a shortage of new housing and pent-up demands.

In the early 1970's, home buyers had been able to make some financial adjustments to meet higher prices and interest rates. They had increased their incomes by increasing the number of household members working. Between 1970 and 1980, households with two working members rose from 40% to 60% of total households. Moreover, first time home buyers began to spend a larger share of their gross income on housing - the proportion went from 25% to 30% (certain major South African homebuilders have together with building societies made allowance for a 30% joint income qualification to be considered when making mortgage bond applications). But such future adjustments will be difficult. People have not been able to do much more to increase their spending for housing without cutting back substantially on other expenditures such as food, clothing and education.

Table 2.2 has shown a table compiled by the United States NAHB Economics Department (National Association of Homebuilders) representing statistics of housing expenses and income required to buy the median - priced new home in successive 10 year periods. As can be seen from the table there has been a much

TABLE 2.2

HOUSING EXPENSES AND INCOME REQUIRED TO BUY THE MEDIAN-PRICED NEW HOME IN 1955, 1965, 1975 & 1979 - UNITED STATES OF AMERICA

	1955	1965	1975	1979	% CHANGE 1965 - 79
Median sales price	$13.400	$20.000	$39.300	$62.900	215
Median square feet	NA	1.495	1.560	1.645	10
Sales price per square foot	NA	13.38	25.19	38.24	186
Loan to value ratio	75.3	83.3	75.2	73.9	
Mortgage amount	10.090	16.660	29.554	46.483	179
Length of mortgage	23years	28years	27years	29.5 years	
Interest rate	4.875	5.75	8.75	10.75	
Total monthly housing expenses	$ 102	$ 163	$ 382	$ 644	295
Total mortgage payment	77	128	307	521	307
Principal and interest	61	100	238	436	336
Real estate taxes	13	23	59	70	204
Hazard insurance	3	5	10	15	200
Total other monthly expenses	24	35	75	122	249
Maintenance and repairs	7	11	26	43	291
Heat and utilities	17	25	49	79	216
Annual income needed to afford	6.593	9.930	18.346	30.900	211
Median family income	4.418	6.957	13.719	19.136	175
% of families who can afford	23%	26%	34%	24%	

1. Median means that half the houses sold cost more (or had more square feet) and half cost less (or had fewer square feet).

2. Figure not available.

3. Four times annual housing expense.

Source: NAHB Economics Department.

greater coverage of vital information and statistics regarding the affordability situation than that in the section to be presented on South Africa.

2.6 *THE SOUTH AFRICAN SITUATION - FORMULATION OF THE AFFORDABILITY MARGIN*

The formulation of the term "affordability margin" has been coined to illustrate the difference between what an average white couple could afford and what the market has allowed in terms of affordability in the South African private sector market place for new housing.

As has been discussed above, the lack of formal statistics to accurately measure how much of the white population can in fact afford new housing, can be seen to be scandalous. Certain sources have given for example, the breakdown of incomes for the white population group, but only recently have median figures been disclosed, as can be seen in Section 2.8. The previous unavailability of these figures tended to lead to some inaccuracy and distortion in the calculation of important and meaningful statistics which could give developers and urban planners a much more finely tuned idea of potential demand and market places.

Table 2.3 has demonstrated the affordability margin for the years 1973-1988 as well as how it has been calculated in two situations. The first has excluded land whilst the second includes land as a component. Due to the fact that our local statistics have not reflected such items as total monthly housing expenses of the median priced new home, median family income (whites in this case) and median sales prices of new homes constructed and sold, it has become almost impossible to identify the percentage of white families who can now afford this median priced home. The affordability margin, then has sought to

TABLE 2.3 AFFORDABILITY MARGIN TABLE

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
A) Average Annual Completion Value	13824	15956	18280	19849	21010	21913	23765	28871	35826	43852	51489	57550	60760	58112	56621	66717	8680
B) Building Society and Deposit	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
C) Deposit (Rands)	2764	3191	3656	3970	4202	4383	4753	5774	7165	8770	10298	11510	12152	11622	11324	13343	17360
D) Amount of Bond	11060	12765	14624	15879	16808	17530	19012	23097	28661	35082	41191	46040	48608	46490	45297	53374	6844
E) Highest Mortgage Rate for 6 Month Period	10,5	10,5	12,0	12,0	12,0	12,0	11,5	11,0	14,25	16,25	18,25	20,0	18,25	14,0	12,5	17,0	28,75
F) Period of Loan (years)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
G) Monthly Mortgage Payment	110	127	161	174	185	193	202	238	361	494	659	782	759	578	514	782	122
H) Monthly Payment x4	440	508	644	696	740	772	808	952	1444	1976	2636	3128	3036	2312	2056	3131	4828
I) Average Monthly White Income	350	398	511	570	623	698	806	956	1133	1315	1479	1669	1849	2078	2365	2742	3139
J) 1/4 of Income	88	100	128	143	156	175	201	239	283	329	370	417	462	519	591	686	784
K) Repayment Allowed with 1/4 of Income	8814	10016	11625	12987	14167	15893	18848	23154	22429	23333	23106	24546	29567	41736	52018	46768	44500
L) Affordability Margin (I/H)	0,795	0,783	0,793	0,819	0,842	0,904	0,997	1,004	0,784	0,665	0,561	0,534	0,609	0,898	1,150	0,876	0,64
M) Land Component (Inc.)	4100	4300	4700	4300	3700	4600	4700	6000	7000	8800	12300	16900	15800	19900	21500	23400	2590
N) Amount of Bond (Rands)	13939	16204	18384	19319	19768	21210	22772	27897	34261	42122	51031	59560	61248	62409	62496	72094	90161
O) Monthly Payment x4	556	647	808	848	868	932	968	1148	1728	2372	4047	3828	3104	3108	3108	4230	6859
P) Package Deal Affordability Margin	0,629	0,615	0,632	0,672	0,717	0,749	0,833	0,833	0,656	0,554	0,453	0,412	0,483	0,669	0,761	0,740	0,495

demonstrate the difference between the average monthly income and the required monthly payment multiplied by four (bearing in mind the 25% of income rule of thumb) with the different interest rates for the period concerned. Although the margin has in essence only been a factor of the one figure (average white monthly income) divided by the other (monthly repayment multiplied by 4), the differing levels indicate a greater or a lesser degree of affordability. The closer the margin would be to 1,000 then the greater the degree of affordability whilst the further away from 1,000 and tending towards 0,001, the less affordable the situation should be at that time. The divergence and convergence of the two lines can be seen in Figure 2.4.

When measuring their level of correlation it would seem that the regression values have been relatively closely correlated. i.e. R=0,945 for the average monthly income, whilst for the monthly repayment multiplied by 4, the R value would equal 0,804. The co-efficient of determination, R, indicates the quality of fit achieved by the regression values of R close to 1.00 and would indicate a better fit than values close to zero. Although at specific times there has been a divergence of the one line away from the other (denoting a situation of being less affordable) the potential correlations of the two lines have tended to be relatively good.

2.6.1 *ASSUMPTIONS, SOURCES AND COMMENTS REGARDING THE AFFORDABILITY MARGIN TABLE*

a) *AVERAGE ANNUAL COMPLETION VALUES OF NEW WHITE HOMES*

As opposed to a median priced new home as defined in Table 2.2, the South African Statistics which can be seen to be most similar to that of the median price of the United States would be that of the Statistical Bulletins 0544-06 to 0544-16 (from 1973-1985) as well as the Statistical News Releases P5041.2 for the period 1986-1988. It has been both these series in particular (which

have reflected figures for the private sector only) which have been published on the basis of providing completion values in this case. i.e. the average rand value for the annual period divided by the number of completions for each of these periods. This completion value has grown at an average of 11,64% per annum over the 16 years.

b) *BUILDING SOCIETY PERCENTAGE DEPOSIT*

Building Societies would normally require a twenty percent (20%) deposit as equity in order to raise the other 80% in the form of a mortgage bond. For a number of years now, this deposit has been a major problem and some builders have accepted smaller deposits (5% or 10%) and they themselves have provided interim collateral to make up the 20% deposit. The societies have also changed their deposit structures more recently.

c) *DEPOSIT IN RANDS AND THE AMOUNT OF THE BOND*

Both of these would be purely arithmetical calculations, the former being 20% of the contract value (assuming that there would be no land component and therefore no land price) and the latter 80% of the contract value.

d) *HIGHEST MORTGAGE RATE FOR THE PARTICULAR YEAR*

This would be one area in which some inaccuracy might creep in. This would be due to the fact that firstly, the highest rate must be used for the year period (an average rate might have been better although also not very accurate). Also the highest rate might not apply in the case of the bond amount when the land component has been excluded. When the opposite occurs, i.e. the land component has been included, then it would be likely to be more of a true reflection of the situation.

e) *PERIOD OF THE LOAN*

The period of the mortgage loan can make some difference in terms of selective affordability levels. However, it can be proven that there would be a negligible difference between a bond running for a twenty year and thirty year period. The normal building society bond at present would run for a twenty year period, this being the choice in the present discussion.

f) *MONTHLY MORTGAGE PAYMENT*

This would be calculated by use of a calculator or computer with the necessary functions to work out the periodic payment of the annuity, having been given the following:-

i = interest rate compounded by 12 months
pv = present value or the amount of the bond
n = number of periodic payments (12 x 20 = 240 in this instance)

g) *MONTHLY MORTGAGE PAYMENT X 4*

Simply multiplying the relevant figure by 4.

h) *AVERAGE WHITE MONTHLY INCOME*

As has already been noted, a more favourable figure to be used here would be the monthly median income. Due to the fact that only the average is available, it can be used as an alternative. The figures in question have been gleaned from two sources. Firstly, the more recent figures have as its sources, Statistical News Release p.8.5 (P0200). Secondly, the figures for the 1970's are to be found in the Quarterly Bulletin of Statistics as published by the Central Statistical Services. Looking then, at the growth of the figures over the period in question, there has

been an average growth per annum of 13,8%. If one has to look at the consumer price index for the years 1975-1985, the average growth per annum has been 13,3% per annum. This would mean that in essence there has been very little real growth in incomes whilst the average completion value has been growing at a positive rate over this period. Of course the mortgage bond rate has played a large role in helping to determine the affordability or lack of affordability over this period. The Bureau for Economic Research's Trends report has also been consulted for specific years.

i) *ONE QUARTER OF THE INCOME*

As discussed previously this has been set as 'The Rule of Thumb' by building societies, not only in South Africa, but in other countries such as the United States and the United Kingdom.

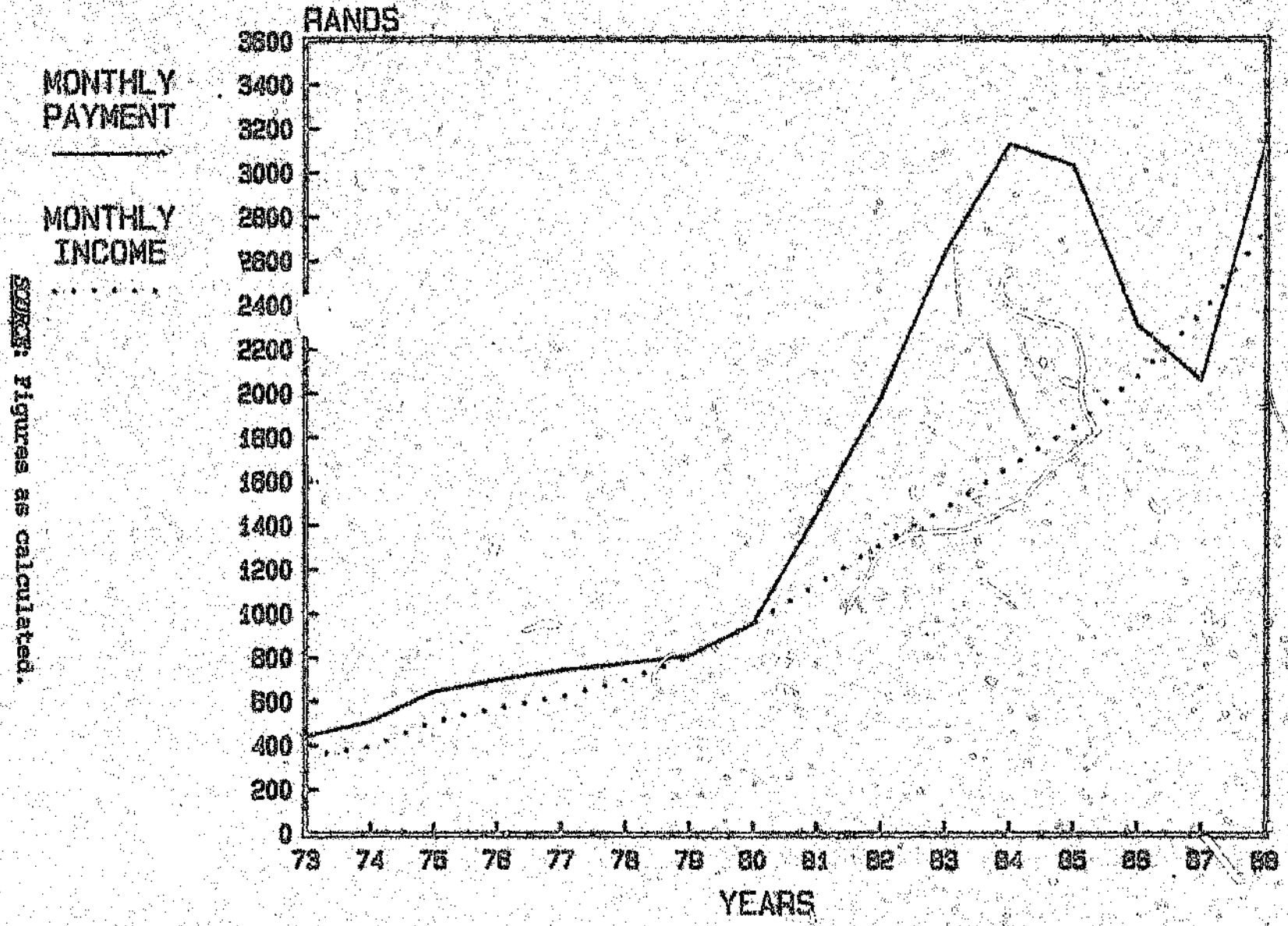
j) *REPAYMENT ALLOWED WITH A QUARTER OF THE INCOME*

The point of this exercise would be to demonstrate what has happened when one takes a quarter of the salary and works out what bond the person in question would qualify for. This should then be compared to (d) the amount of the bond (in Table 2.3) as worked out based on the average completion value. As can be seen the deviation will be great at certain points, particularly in the period 1981-1986, when the interest rates were high. Figure 2.5 has demonstrated this point clearly.

k) *AFFORDABILITY MARGIN*

This has been calculated by dividing the average monthly income into the monthly payment multiplied by four (I : H) in the table. As the figures would approach 1,000 the affordability margin would narrow giving greater affordability, whilst as it has tended away from 1,000 towards 0,001, the affordability margin would widen allowing less ability to afford. Figure 2.6 has demonstrated the affordability margin for the period concerned.

AVERAGE MONTHLY INCOME
VS MONTHLY PAYMENT TIMES 4



SOURCE: Figures as calculated.

FIGURE 2.4

AMOUNT OF THE BOND
VS REPAYMENT ALLOWED ON INCOME

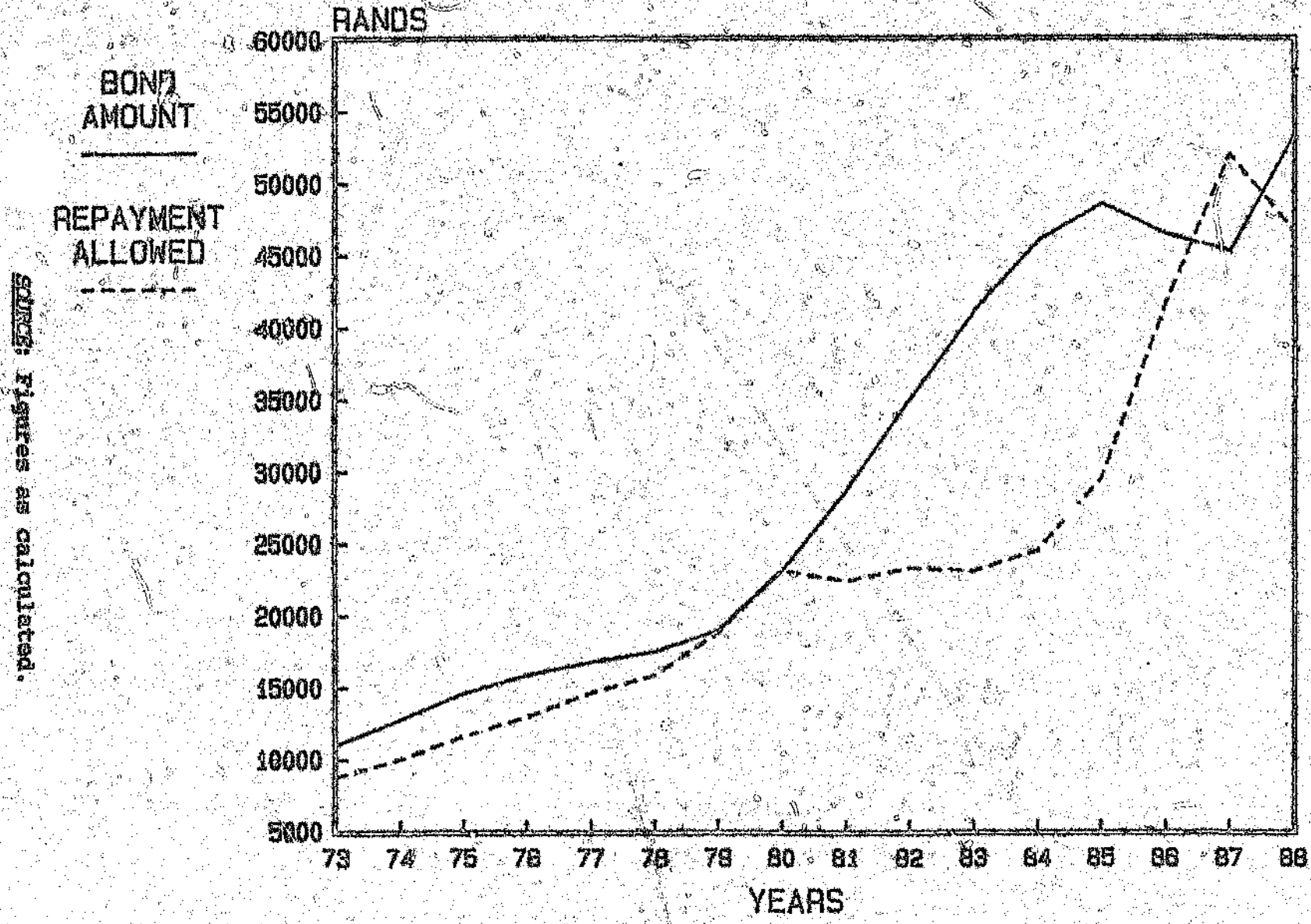


FIGURE 2.5

Source: Figures as calculated.

THE AFFORDABILITY MARGIN
EXCLUDING LAND

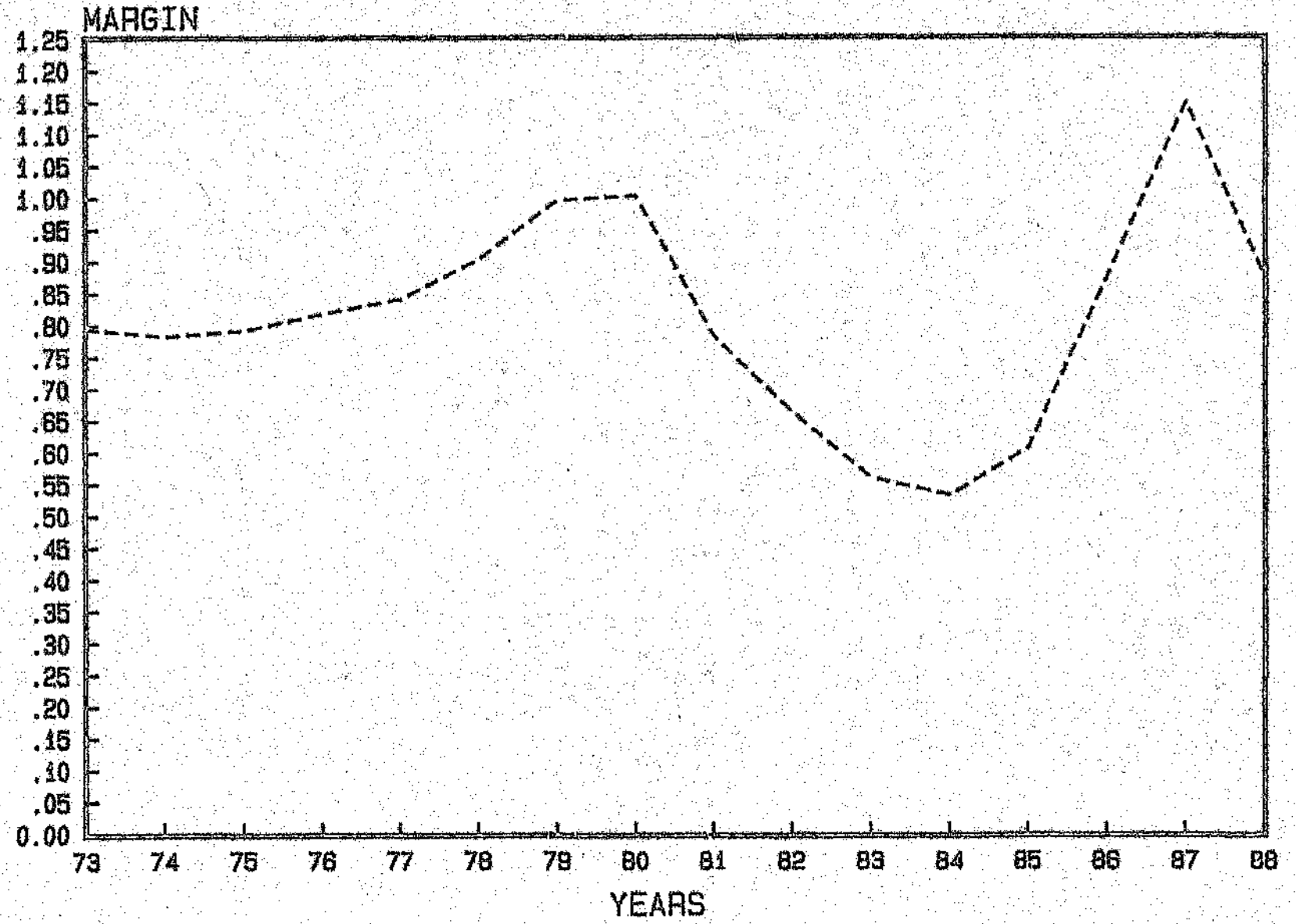


FIGURE 2.6

SOURCE: Figures as calculated.

l) *LAND COMPONENT*

With the land component having been included, this affordability situation once again would change. The land prices as can be seen in Table 2.3 have been based on a 1000m² (squared metre) stand. Since 1974, the average stand size has tended to reduce, similar to that of the size of the house. In order then to keep the component constant, a constant stand size has been used. Annual figures as valuated by the United Building Society economic department have been used. Although these would be slightly lower than a market valuation, they can be seen to be about the only reliable source of stand prices that have been made available.[1]

m) *THE AMOUNT OF THE BOND* (LAND COMPONENT INCLUDED)

As can be seen, this amount has now increased due to the land component being included. In the mid-to-late 1970's, more prospective new homeowners had stands which had been either partly or fully paid off. With large builders becoming involved in package deals towards the end of the 1970's and the first half of the 1980's, less prospective new home-owners had stands of their own (the basic cost of these had also increased tremendously over this period - can be seen in Table 2.3). This had caused a greater need for increased bond finance which unfortunately had not been forthcoming at the time, causing a further major bond availability and thus affordability problem.

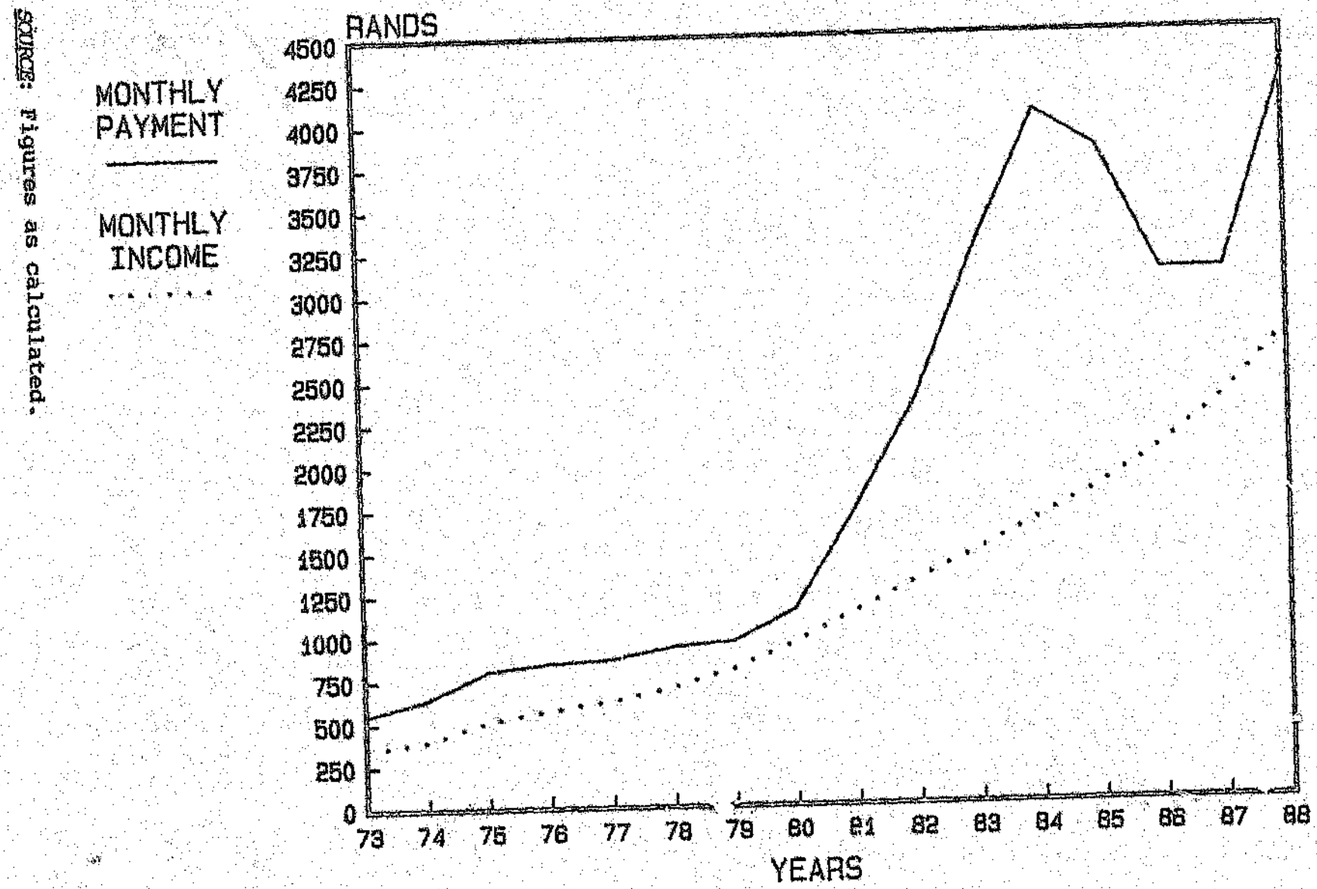
n) *MONTHLY PAYMENT MULTIPLIED BY 4* (INCLUDING LAND COMPONENT)

This figure would be needed to be compared with the average monthly income in order to measure the width of the affordability margin. This can be seen in Figure 2.7 which has shown the margin

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1. Figures gleaned from the United Building Society Economics Department under the auspices of Dr. Hans Falkena.

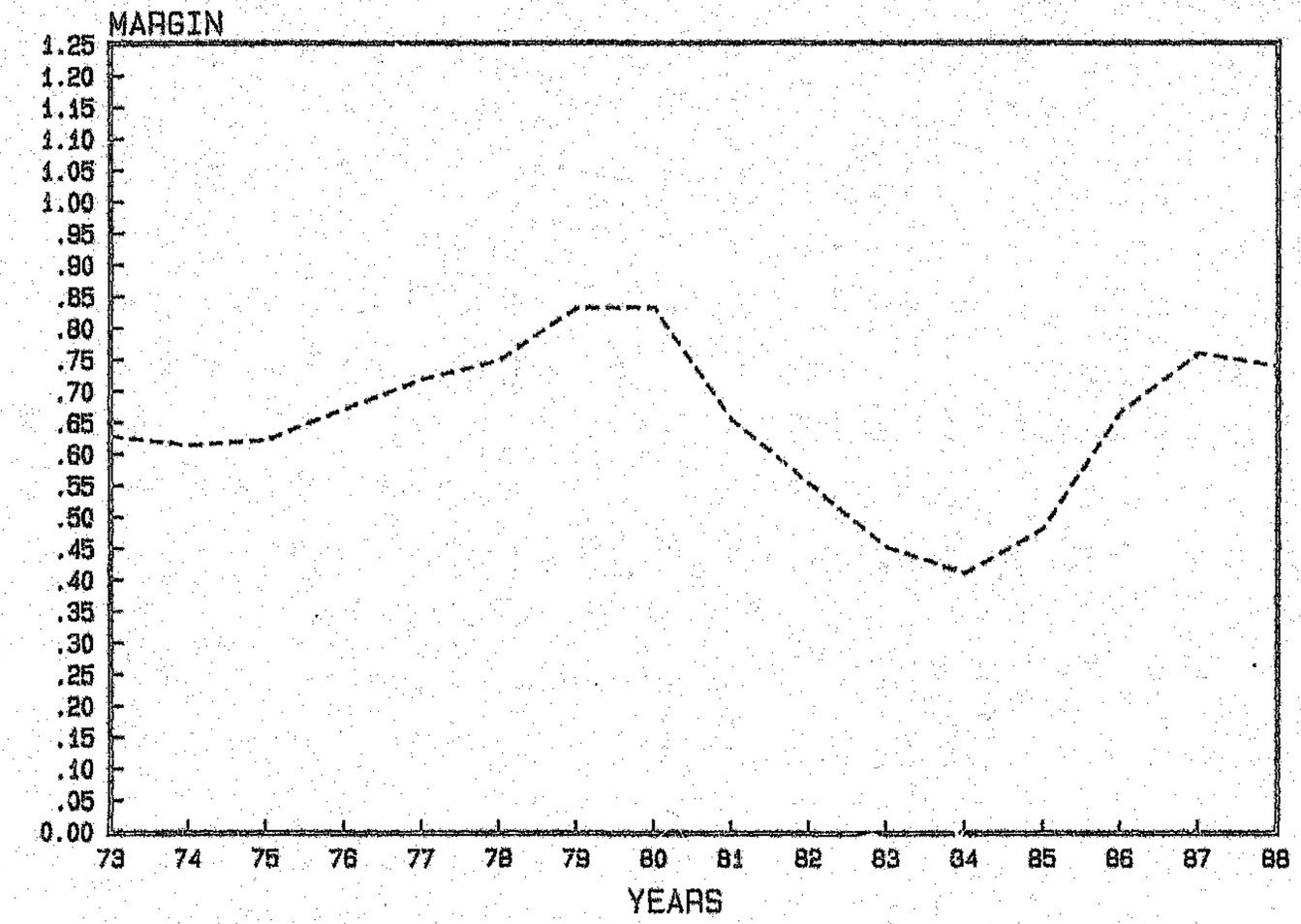
AVERAGE INCOME
VS MONTHLY PAYMENT (PACKAGE)



SOURCE: Figures as calculated.

FIGURE 2.7

THE AFFORDABILITY MARGIN
(LAND INCLUDED)



SOURCE: Figures as calculated.

FIGURE 2.8

becoming wider denoting less affordability. This should be compared to Figure 2.4.

o) *PACKAGE DEAL AFFORDABILITY MARGIN*
(INCLUDING LAND COMPONENT)

When one would compare these figures (too be seen in Figure 2.8) with those in Figure 2.6, it can be seen theoretically how the package deal has now become less affordable. The question to be asked then, would be - how did some people actually still afford housing if on average it had become unaffordable? Briefly the answer would be equity loans by parents and friends, second bond schemes, wife's income included, suspensive sale agreements as well as subsidies provided by builders. The impact of these different forms of financing have been addressed and discussed in Chapter 8.

2.7 *RENT PROPENSITIES FOR WHITE MIDDLE-INCOME HOUSEHOLDS*

The classic 'rule of thumb' which has used a flat rate of 25% of income as a 'reasonable' proportion of income to be spent on housing regardless of income levels, now needs to be investigated a little further. When one considers an average figure for rent propensities for all income groups, this 25% guideline may not be far off. However, when one considers a more differentiated pattern of income as opposed to the average used in Table 2.3 then the rent propensity tends to change in terms of what level of payment could be allocated to shelter (housing) as compared to what level of single or household income has to be used. This in effect would help to qualify the concept of the affordability margin. As one would move up the income scale toward the top end of the market, the proportion of income to be spent on housing should tend to approach the 10%-15% mark, whilst the opposite would occur with lower incomes where as much as 40%-50% can be spent on rent (or a repayment on a bond). The latter would mainly apply in the case when a family with a limited income could

just manage to afford a house at a time when interest rates would be low. With a sudden upsurge in interest rates as had been the case in 1982/1983 and with incomes only tending to rise fractionally, the family would be expected to pay much more than they had originally bargained for; in fact, if they had to make an application for the same bond at this stage (with the new ruling high interest rates), they would certainly not qualify.

Looking at Table 2.3 in order to determine the rent propensity in the case of those households who do not need the land component included, one would find that the bond repayment divided by the average monthly income would give an idea of what really should be spent in terms of shelter. This has been clearly indicated in Table 2.9 and Figure 2.10.

2.8 THE ABILITY OF WHITE HOUSEHOLDS TO AFFORD HOUSING

As an adjunct to the data supplied and the interpretation of the affordability margin by the author, De Vos has calculated affordability estimates for white households in South Africa based on various levels of income and interest rates[1]. The ability of such households to afford accommodation should be evaluated in terms of their disposable incomes for housing i.e. that portion of household income remaining after those items have been deducted which would be necessary to maintain a minimum standard of living according to the socio-economic status of that family. In accordance with the normal rule of thumb policy as accepted by the funding institutions, loan repayments have been

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1. De Vos, T and Touzel, H. The effect of interest rate fluctuations and the first-time home-buyer subsidy on home loan affordability. A CSIR Report commissioned by the NAHB September 1989.

TABLE 2.9

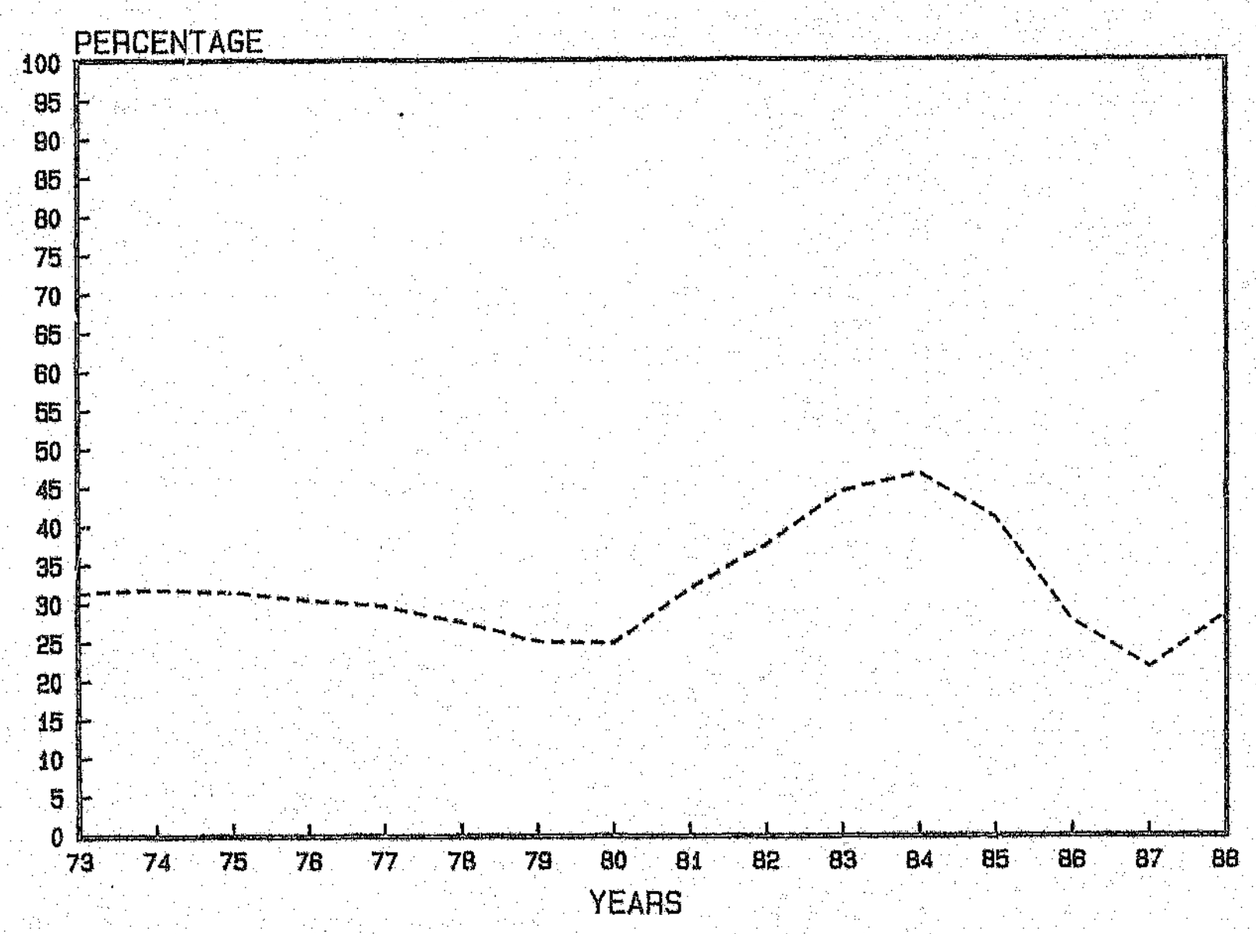
RENT PROFENSITIES BASED ON INCOME FOR THE PERIOD 1974-1985

(Percentages)

YEAR	PERCENTAGE
1973	31,4
1974	31,9
1975	31,5
1976	30,5
1977	29,7
1978	27,6
1979	25,1
1980	24,8
1981	31,8
1982	37,6
1983	44,5
1984	46,8
1985	41,0
1986	27,8
1987	21,7
1988	28,5

SOURCE: Calculated from Table 2.3.

RENT PROPENSITIES
(BASED ON INCOME)



SOURCE: Figures as calculated.

FIGURE 2.10

limited to 25% of the gross income. Table 2.11 has reflected the ability of white households to pay for housing based on 1987/88 figures.

As can be seen from Table 2.12 which has its values derived from Table 2.11, the more marked effect in terms of affordability has been for loan amounts of R30 000 or more i.e. approximately 69% of whites can afford a loan of R30 000 at a 20% interest rate increasing to approximately 81% at a 12% interest rate. However the latter low rate (of 12%) has not been in effect for many years, so what with increasing interest rates of recent moment, together with increased applications for higher loans (due to the increased costs of new housing), new housing has become less affordable. At the R65 000 loan level which even by the last number of year's standards is a medium sized bond, only 19,3% of the white population can afford that bond without a subsidy. This figure would almost double when taking into account the first time homebuyers subsidy, but in many cases this has not applied since 1988, due to the new house plus land price being well off that mark i.e. greater than R65 000 with only a 90% bond being applicable. (The first-time homeowner subsidy has been discussed in greater detail in Chapter 8).

TABLE 2.12

PERCENTAGE OF THE POPULATION THAT CAN AFFORD A GIVEN LOAN (WHITES)

Interest Rate	*LOAN ACCOUNT*							
	R10000		*R20000*		*R30000*		*R65000*	
	No Subsidy	*First-Time Home-Buyer Subsidy*	*No Subsidy*	*First-Time Home-Buyer Subsidy*	*No Subsidy*	*First-Time Home-Buyer Subsidy*	*No Subsidy*	*First-Time Home-Buyer Subsidy*
20%	*92,8%*	*96,8%*	*80,4%*	*87,9%*	*68,9%*	*80,2%*	*19,3%*	*33,0%*
18%	*93,9%*	*97,3%*	*81,2%*	*89,7%*	*73,6%*	*80,9%*	*20,9%*	*40,7%*
16%	*95,1%*	*97,8%*	*84,1%*	*91,2%*	*78,2%*	*81,7%*	*32,7%*	*48,1%*
14%	*96,4%*	*98,3%*	*87,1%*	*92,5%*	*79,8%*	*85,8%*	*42,4%*	*55,2%*
12%	*97,3%*	*98,7%*	*89,7%*	*93,7%*	*80,9%*	*87,8%*	*51,6%*	*62,3%*

Note: Values in this table derived from Table 2.11.

TABLE 2.11:

THE ABILITY OF WHITE HOUSEHOLDS TO PAY FOR HOUSING (R.S.A.) 1987/88

Income Group P.M. Before Tax		<1000	1000-1099	1100-1199	1200-1999	2000-2999	3000-3999	4000+
Percentage Households		14.5%	3.90%	2.70%	21.70%	23.50%	14.40%	19.30%
Cumulative % Households		14.50%	18.40%	21.10%	42.80%	66.30%	80.70%	100.00%
Median Income		550	1060	1150	1600	2500	3500	4000
Repayment Amount		137.50	262.50	287.50	400.00	625.00	875.00	1000.00
Interest Rate								
Housing	20%	8190	15640	17130	23830	37110	52130	59580
Loan	18%	9060	17300	18950	26360	41090	57660	65900
Without	16%	10120	19320	21160	29440	45990	64390	73590
Subsidy	14%	11420	21810	23880	33230	51920	72690	83070
(2)	12%	13060	24920	27300	37980	59340	83080	94950
Interest Rate								
Housing	20%	11930	22770	24930	34690	49760	64650	65000
Loan	18%	13060	24920	27300	37980	53420	65000	65000
With	16%	14380	27450	30070	41290	57850	65000	65000
First	14%	15950	30450	33350	44580	60270	65000	65000
Time	12%	17820	34010	37250	48670	65000	65000	65000
Subsidy								

SOURCE: De Vos, T and Touzel, H. Op. Cit.

2.9 *MACRO-ECONOMIC FACTORS AFFECTING AFFORDABILITY*

Helmut Peters has proposed how two key elements which are supposedly in equilibrium with each other can help to determine the ability to own or build a new dwelling.[1] Figure 2.13 has proposed all the macro-economic elements that react together to make up the two key elements, national sentiment and availability which in turn interplay to determine the ability of potential new homeowners to actually own or afford a new home.

2.9.1 *NATIONAL SENTIMENT*

Peters has described National Sentiment as the measure of the willingness to own a property.[2] He has explained as follows:

"Every individual should be regarded as a rational being, contributing his share to the total economy of the country. If he feels secure he will want to build his future in the country."

Furthermore Peters describes national sentiment as being closely related to the underlying political situation in a country at any specific time. Two major indicators are involved under this heading as seen from Figure 2.13.

a) *UNEMPLOYMENT*

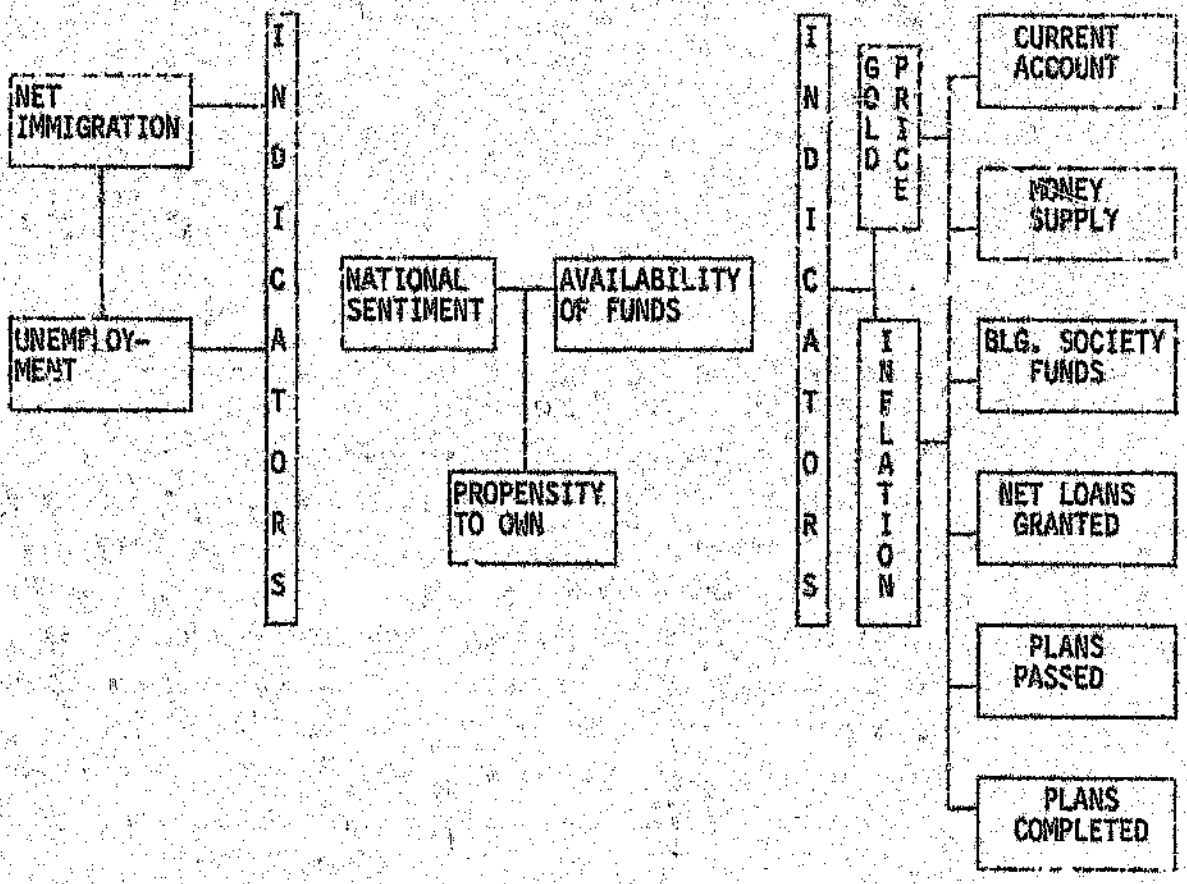
The trends for the White, Coloured and Asian figures have shown a movement in the mid 1980's similar if not worse than the situation found in the last downturn period (late 1970's). This

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1. Peters, H.G. Predicting Future Trends in the Residential Property Market. The Property Economist. Opinion Survey of Future Trends. May 1985. pp20-22.

2. Peters, H.G. Op Cit. p.20.

FIGURE 2.13 - MACRO ECONOMIC ELEMENTS



SOURCE: Peters, H.G. Op. Cit. p.20.

situation has not only undermined and destabilised the public in general, it has also caused prospective buyers to channel personal savings away from the residential building market. Trends in unemployment can be seen in Table 2.14.

TABLE 2.14

REGISTERED UNEMPLOYMENT (WHITES, COLOUREDS AND ASIANS)

1973	10 785	1979	28 239	1985	62 106
1974	8 350	1980	21 958	1986	77 775
1975	10 305	1981	15 948	1987	68 582
1976	11 516	1982	21 537	1988	55 440
1977	28 493	1983	35 775		
1978	30 927	1984	31 969		

b) *NET IMMIGRATION*

One of the major demographic influences affecting population growth and thus supply and demand for housing has been that of immigration/emigration. On the whole, South Africa has had a favourable trend in terms of a greater number of white immigrants arriving on its shores as opposed to emigrants leaving. This trend has at times been in the reverse situation especially during periods of political and/or economic instability, which has deterred immigration and increased emigration. The unrest and declaration of the state of emergency in July 1985 has caused the net immigration figures to turn to net emigration figures in the years 1986 and 1987. In essence this has been the first time in seven years that this has happened. Trends in net immigration can be seen in Figure 2.15.

2.9.2 *AVAILABILITY OF FUNDS*

The Property Economist has summarised the interaction of indicators affecting the availability of funds as follows:-[1]

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1. The Property Economist. Quarterly Investment Report. March 1984.

"Because South Africa has an open economic system and is therefore largely dependent on export earnings, the local money market is strongly influenced by the economic conditions of South Africa's principal trading partners. Since 45% of the country's export earnings are dependent on gold, there is a strong correlation between the following:

- the balance on the current account of the balance of payments

- liquidity in the economy

- net liquidity of Building Societies which determine the availability of funds for the property market

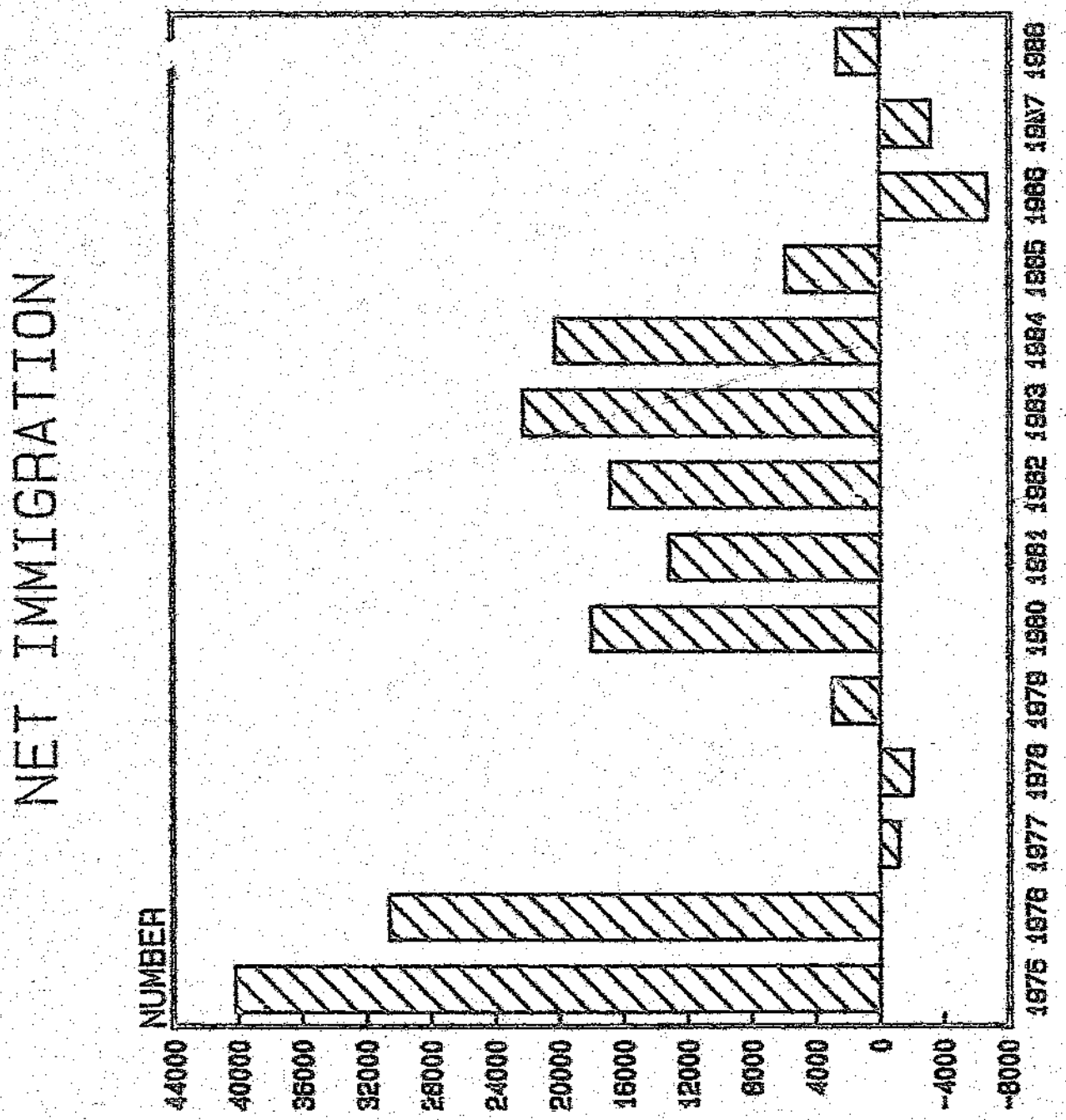
- the total Gold and Foreign Reserves."

The availability of funds has largely determined the demand and supply for housing, especially in the case of the white community and thus the level of affordability at any one point in time.

The lending of Building Societies funds has affected supply and demand in the housing market which in turn has determined price levels and rental levels. These price and rental levels would determine the level of construction activity that would be likely to take place in the residential market which in turn then would affect the price of township land. The price of township land has determined the willingness of township developers to create new townships on which to build homes. The price, rentals, developments and conversions of multi-units in the residential market have also formed part of this cycle.

The importance of gold earnings to the well being of our economy cannot be overstressed. This in turn has affected the performance of the residential market as seen in the relationships of the indicators which now follow.

FIGURE 2.15



SOURCE: *South African Reserve Bank Quarterly Bulletins.*

(a) *PERSONAL INCOME*

Real disposable personal income (what people have to spend or save after paying taxes) which has always been an important determinant in the affordability aspect of housing, increased somewhat in 1984 but started to fall again drastically in 1985. The decrease in the mid 1980's was most probably due to the small real salary increases together with inflation increasing at an alarming rate. This has put pressure on the demand and supply of housing in the late 1980's. This can further be seen by the fact that individual's debt (including mortgages) amounted to over 55% of their personal disposable income, compared to a third in the mid 1970's with almost a quarter of disposable income being spent on servicing this debt.

To add to this pressure, personal savings as a percentage of personal disposable income fell dramatically over the past few years making it much more difficult for prospective homeowners to put down substantial deposits and help them overcome burdensome loan repayments. In fact most building firms now offer prospective clients the chance of building up a deposit over a period of 6 months, whilst the building of their house taken place. This would be done in the form of an Acknowledgement of Debt over the 6 months. The fall in the savings/disposable income ratio can be seen in Figure 2.16.

(b) *THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS AND INTEREST RATES*

The level of interest rates has been a function of the supply and demand for money and credit. When liquidity in the economy has tightened, interest rates rise and conversely increasing liquidity have caused interest rates to fall. There have been many factors affecting liquidity and interest rates. As has been mentioned, these are the position of the current account of the balance of payments, the rates of growth of the money supply, the

gold price, exchange rates, foreign interest rate patterns, inflation rate movements as well as the supply and demand for funds.

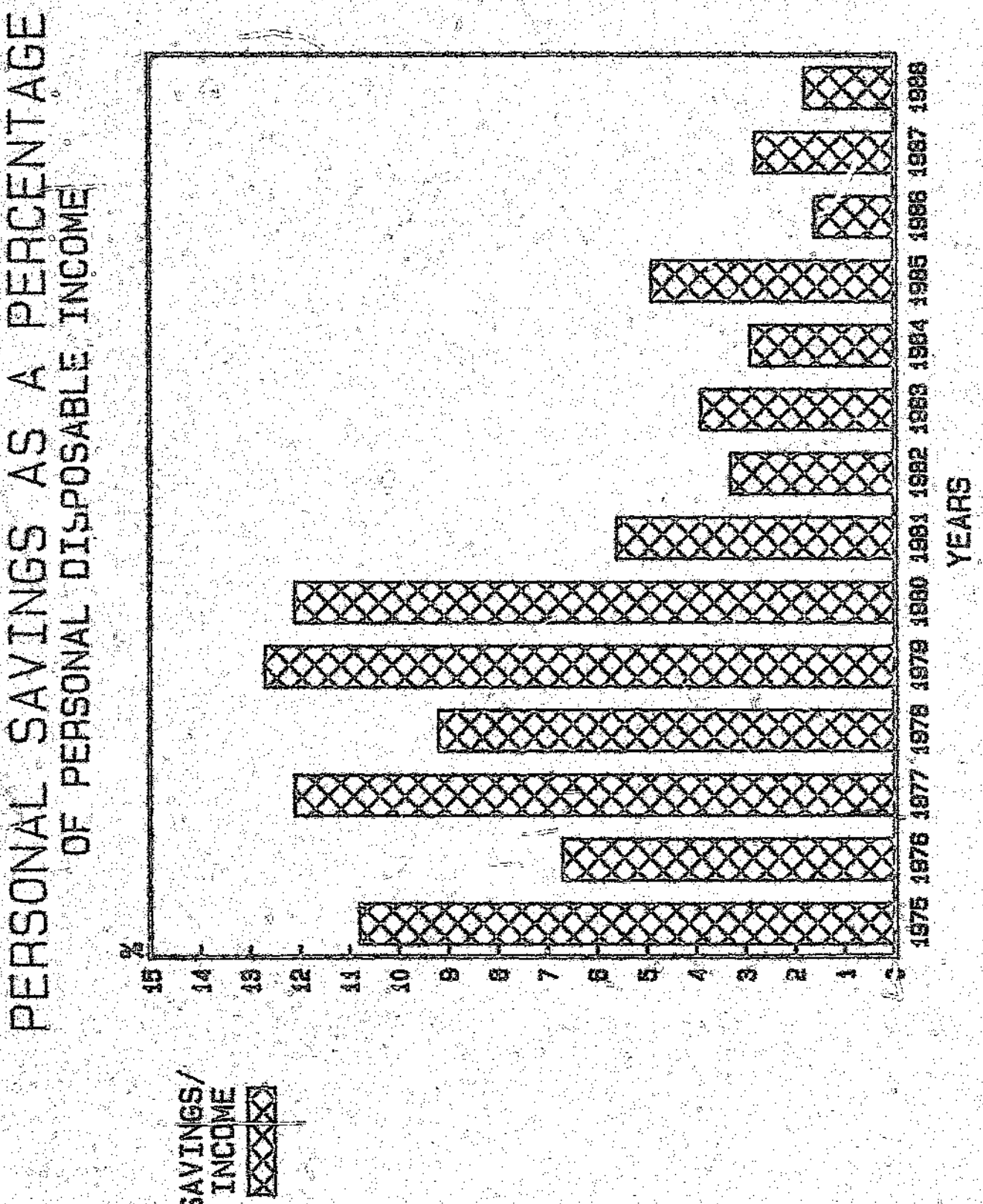
In determining interest rate patterns, a correlation has been found by The Property Economist between the position of the current account of the balance of payments and the short term interest rates, specifically the prime overdraft rate.[1] Having inverted the current account figures, the relationship between the current account figures and short term interest rates has become quite startling. The deficits on the current account in the years 1974 to 1977 have coincided with a high prime overdraft rate of over 12% whilst the current account surplus that existed for the period 1977 - 1980 has coincided with a fall in the prime overdraft rate to less than 10%. As the size of the deficit has become worse, the higher the prime rate has tended to become. These interactions can clearly be seen in Figure 2.17.

The short term interest rate which would affect the residential building market most, however, would not be the prime overdraft rate but rather the mortgage bond rate. If the hypothesis could stand true for the relationship governing the prime overdraft rate and the current account of the balance of payments, there must in essence be a relationship between the latter and the mortgage bond rate, because of the relatively close correlation between the prime overdraft rate and the mortgage bond rate which can be seen in Figure 2.18.

---

1. The Property Economist. Quarterly Investment Report. Influence of Balance of Payments of Future Interest Rates. July 1984.

FIGURE 2.16



SOURCE: *South African Reserve Bank Quarterly Bulletins.*

(c) *MONEY SUPPLY*

The rapid growth of the money supply has normally been due to four important factors:

- Excessive increases in government expenditure,
- Increases in the inflation rate,
- The increased use of credit by the private sector,
- Increase in the gold price.

If one has to look at the growth of the broad money supply (M2) which includes total money and near money, it can be seen how the increased inflation rate in particular has taken its toll in effecting an increase in the money supply over the past few years. Figure 2.19 has revealed the annual percentage growth in the broad money supply.

The Government in an effort to curb both inflation and money supply introduced certain monetary policies in the mid 1980's in the expectation that growth in private sector borrowing would more or less match the inflation rate. In spite of relaxation in the hire purchase regulation (due to too great a drop off in consumer demand) it seemed that individuals have still been reluctant to incur further debt as a result of declining personal disposable incomes, pessimistic expectations about wage and salary increases and due to an unfavourable political environment. This has caused a slowdown in broad money supply growth as can be seen in the graph.

Only in the mid 1980's, had the supply of money really come into line with the recessionary conditions of most of the economy. The old adage "too much money chasing too few goods" has held firm for the affordability concept related to the residential market as well.

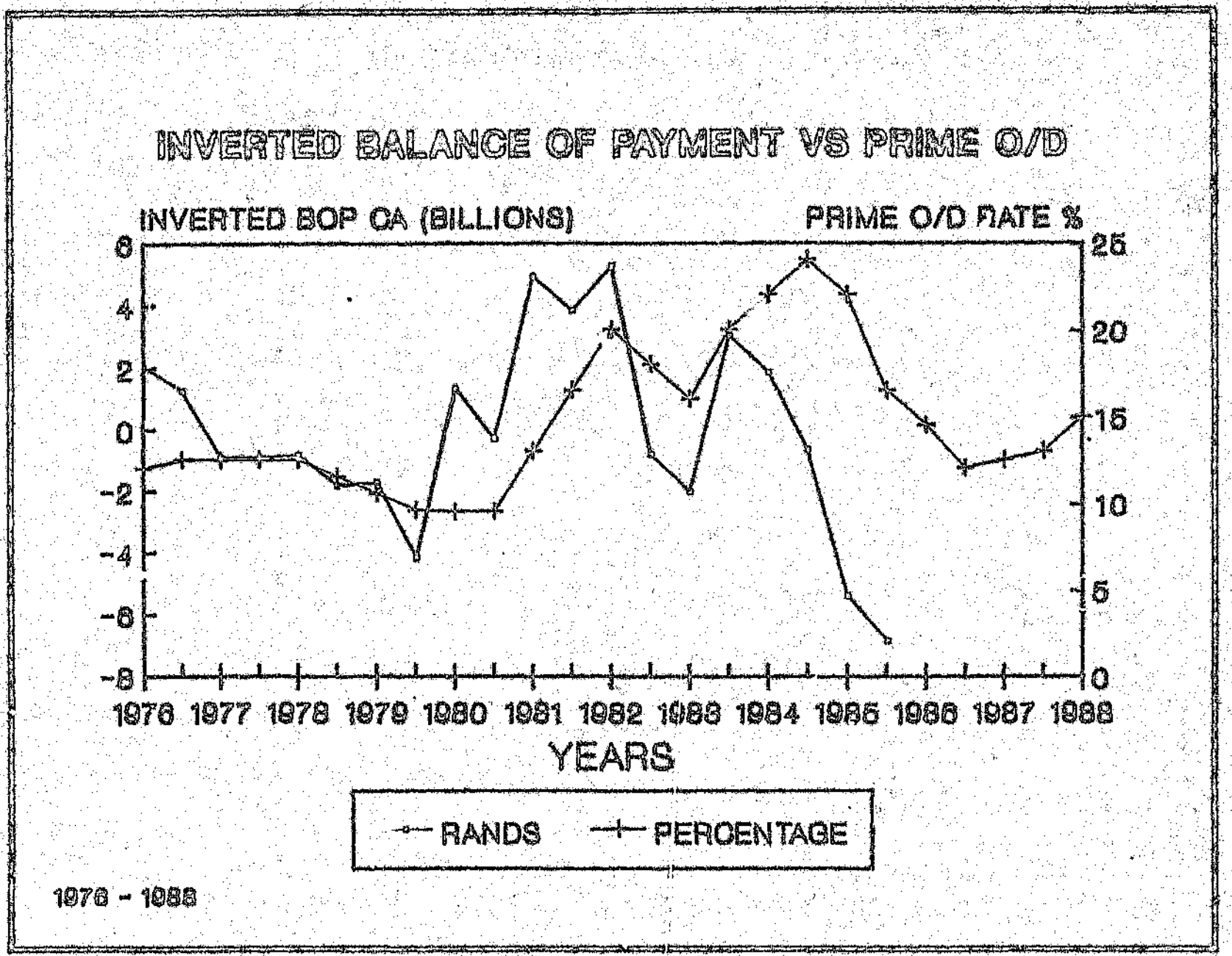
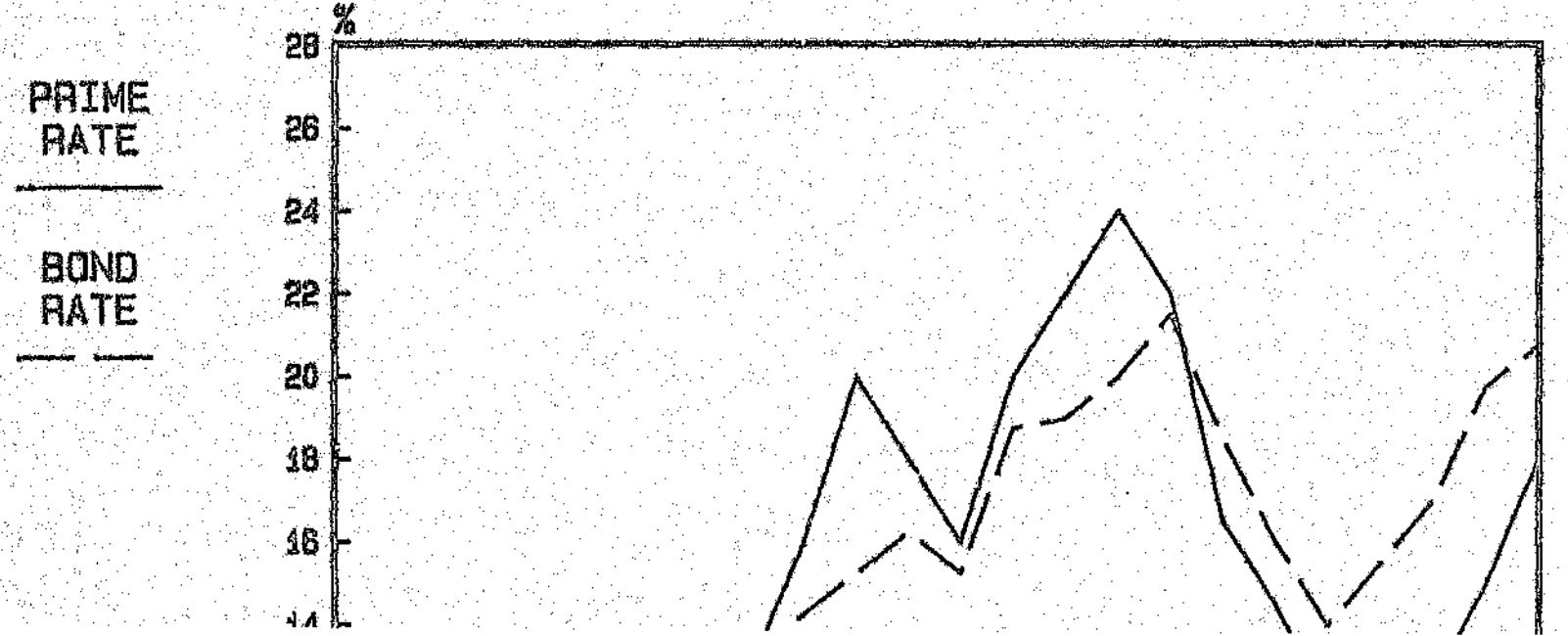


FIGURE 2.17

SOURCE: The Property Economist.

PRIME OVERDRAFT RATE VERSUS
MORTGAGE BOND RATE (DWELLINGS)



SOURCE: South African Reserve Bank

FIGURE 2.18

BROAD MONEY SUPPLY

SOURCE: South African Reserve Bank

FIGURE 2.19

(d) *BUILDING SOCIETY FUNDS AND MORTGAGE LOANS GRANTED*

The role of the Building Society, which in the early 1980's had been under scrutiny and whose type of operation has dramatically changed, has always played an important role in the effective demand of housing. During the 1970's for example, the change in amounts granted by the building societies for mortgages fluctuated so wildly that there were decreases ranging from 15-63% per annum and increases ranging from 40-88% per annum.[1]

Thus the flow of funds to building societies and the policy associated with making loans in accordance with the inflow has had a highly unstabilising effect on the building industry. Martin Boddy has suggested that strong variation in mortgage availability and the level of effective demand for new housing, seriously affects the viability and efficiency of the private homebuilding industry. Furthermore the whole structure of the homebuilding industry has been fragmented into relatively small labour-intensive units with low costs, mainly relying on sub-contracting which has tended to respond in a more flexible manner to changing demand patterns.[2]

The Du Plessis commission report has suggested that the government in formulating it's general economic policy should assign greater priority to stabilising the flow of funds for mortgage purposes.

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1. South Africa. Report of the Commission of Enquiry into matters relating to Building Societies in South Africa (Du Plessis) Government Printer. 1982. p.40.

2. Boddy, M. Building Societies. MacMillan London. 1980. pp.97-98.

The importance of this economic stabilisation policy can clearly be seen from the fact that an important relationship has existed between gross gold and foreign reserves and building society inflows and outflows.

In discussing the influence of stability of macro-economic factors affecting the building industry in general and the liquidity of funds in particular, the relationship between gross gold and foreign reserves and the building society liquidity has come into play.

To stabilise the rand-dollar exchange rate, the reserve bank has needed a stock of gold and other foreign reserves. Moreover in a small open economy that would be subject to political shocks and confidence crises, this level of foreign reserves could be critical as it has become in South Africa.

Thus any movements in this indicator would tend to affect the stability of many liquidity movements amongst different indicators in the economy in general. That is, the more money available for circulation via the gold and foreign reserves would allow greater inflows and outflows of moneys into and out of building societies in terms of new deposits made on behalf of individuals and institutions.

A secondary consequence of the instability of building society flow of funds has been the amount of money that has been granted to existing dwellings as opposed to new dwellings.

What has happened is that there had been a lack of increase in the financing of brand new homes. This had resulted in demand inflation. Too much money had been spent on a limited amount of homes which has automatically pushed prices up (even to the extent of a 200% increase in a matter of a year).[1]

---

1. The Property Economist. Op. Cit. p.49.

This apparent disproportionate amount of spending on existing dwellings can be seen in Figure 2.20 which has shown that a much greater amount of money has still been lent to the existing housing market allowing less money to be channelled into new housing

The building society movement must therefore have discipline in the granting of loans by allowing an increase in the amount of loans for the construction of dwelling units and a decrease in the amount of loans granted for existing buildings. Naturally this increased loan ratio in favour of the construction of dwellings would be at the expense of loans advanced upon existing dwellings and this should in some way provide a dampener on escalating house prices for two reasons, viz. the increase in supply should prove sufficient to satisfy demand; and reduced mortgage availability for the purchasing of existing living units, should restrict the excess demand for existing homes.

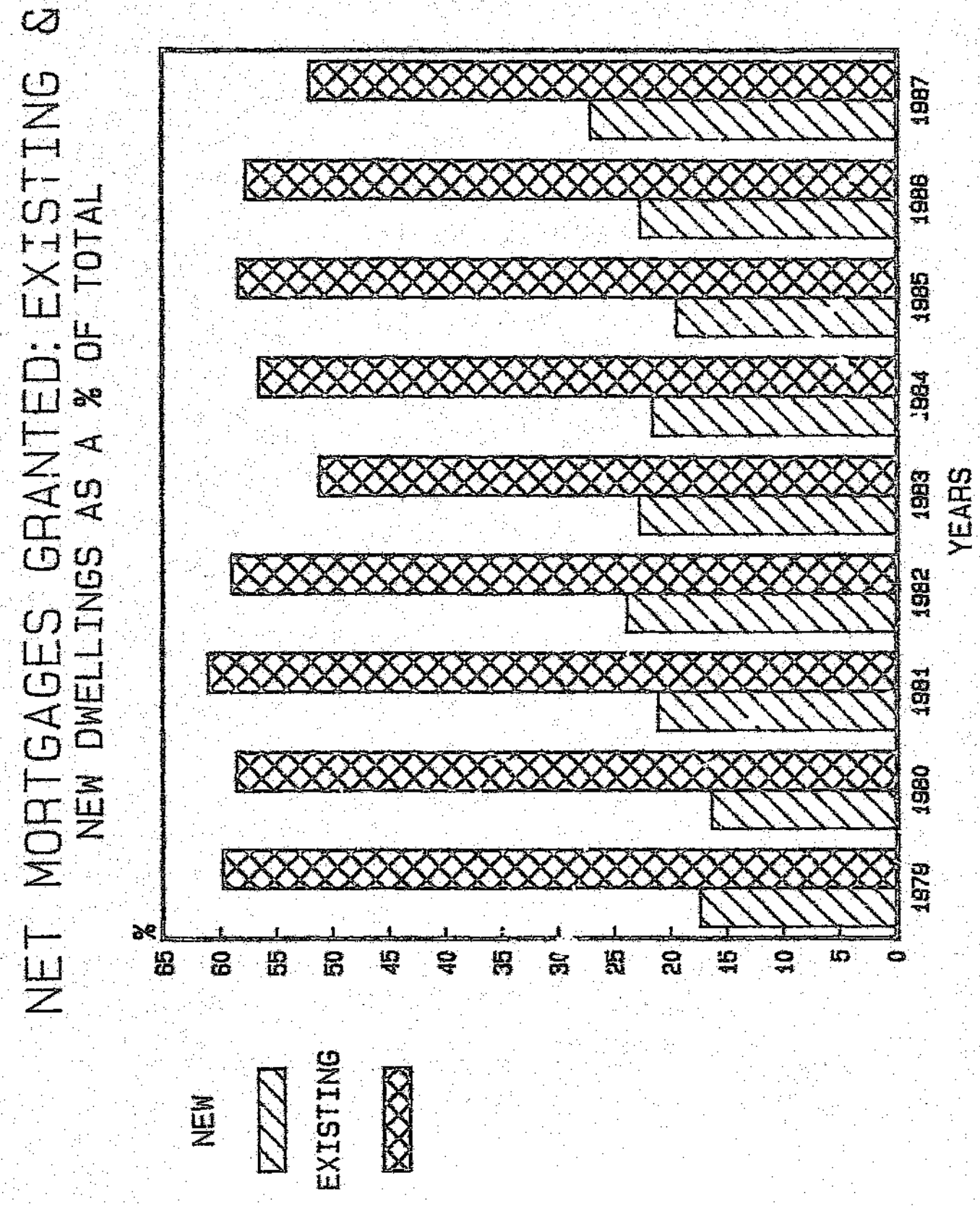
(e) *THE GOLD PRICE*

The Gold Price which has been closely correlated with Gross Gold and Foreign Reserves and has thus impacted on the total liquidity of the economy has tended to have more than just a financial impact on the country to South Africa's heavy reliance on its export value - it has an impact at every level of society conscience. Currently the gold price has been determined solely by free market forces, reflecting among other things inflationary expectations and exchange rate instability. Moreover as gold would tend to offer complete anonymity, it has been usually a highly sought after, as a store of value.

(f) *INFLATION*

The inflation rate can be seen to be a macro-economic indicator affecting largely the whole economy but has an important affect on both the building industry in general and residential building

FIGURE 2.20



SOURCE: *South African Reserve Bank Quarterly Bulletins.*

in particular. With the inflation rates having soared as they have during the late seventies and early 1980's, it could now be possible that the costs of housing could double every seven to eight years - a truly frightening thought. The man in the street it seems has become the weakest link in the inflation cost spiral and would be the victim who has to pay the final price at the end of the day. Apart from the constantly rising building prices due to demand pull and spiralling cost push factors, the impact of the erosion of the public's savings for potential deposits has become frightening. Young and old alike could well come unstuck without sufficient capital unless either the Government or the builders step in. Over the past few years, the homebuilding fraternity have in fact done just that in order for their businesses to survive - having used acknowledgement of debt and equal collateral deposits to help the potential clients in these markets. According to the Steering Committee into Housing Costs Research all the current problems of housing can be traced back to "the evils of inflation."[1] However, Schlesinger has proposed that in certain instances where a buy down scheme would be offered (a scheme by which the mortgage bond holder does not pay the full instalment in the first years of repayment), inflation has been needed in order to make the scheme work.[2] If inflation in property values and incomes would not continue at a rapid rate, both the seller (builder) and the purchaser could be losers.

In the long run however, it would be likely to affect building costs more and more as the production price of goods tend to increase through cost push inflation or demand pull inflation.

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1. Steering Committee into Housing Costs Research - Interim Report. Pretoria. April 1982

2. Schlesinger, A.M. Affordable Housing Finance. Proceedings of a NAHB Seminar on Affordable Housing. Johannesburg 1986. p.12.

2.10 *EVALUATION AND CONCLUSION*

In order to solve the affordability problem, a much more open minded approach to the question of dynamic affordability should be adopted as well as considering the "willingness-to- pay" approach. If the static affordability approach continues with the present market circumstances prevailing, it is unlikely that a meaningful improvement in the size of this specific market will take place.

The greatest responsibility as to how much a new homeowner can afford to pay, must however rest with the individual. He should be able to determine in relation to his total disposable or discretionary income, what amount he would comfortably be able to spend on a mortgage bond repayment on a monthly basis. A person's own house would probably be the most valuable asset that an individual would ever be able to acquire and unless he would make provision for that ultimate goal, it might never materialise. Besides the problems surrounding the monthly repayment which have been discussed in some length and which really determine the level of affordability that a new homeowner can expect to have (which also would depend upon the prevailing interest rate at any one time), some emphasis must be placed on the deposit which has to accrue from some source of savings. Thus it should be a credo amongst new income earners that a certain proportion of their salaries might be placed automatically by their employers into some type of savings fund which could help them with a sizeable deposit into the future.

From some of the figures presented in this Chapter which have emphasised the so-called "Affordability Margin", it has been demonstrated that with the general high level of interest rates prevailing, together with an increase in inflation and building costs, the move to make housing affordable and reach the number of units demanded, would be almost impossible based on the present annuity repayment system and the static affordability approach.

SECTION B

CHAPTER 3

THE DEMAND FOR NEW SPECIAL RESIDENTIAL HOUSING FOR WHITES

3.1 *INTRODUCTION*

In this chapter, the housing requirement (which is the broad generic term given for the need and demand for housing) will be discussed. Chapter 4 will then address the present supply of white special residential housing and the likely situation as regard any backlogs.

The determination of housing requirements in any market economy is very complex. Present and future housing requirements are dependent on a number of factors:

(a) The method of providing housing, i.e. state housing, private housing, or a combination of the two methods.

(b) The methods of financing and the availability of finance for housing - both for rental and ownership - and the methods of redeeming investments in housing.

(c) Population growth and family formation.

(d) Economic activity, the standard of living and the expected economic growth

3.2 *THE REQUIREMENTS FOR WHITE SPECIAL RESIDENTIAL HOUSING*

3.2.1 *DEFINITION OF TERMINOLOGY*

Research on the determination of housing requirements has been taking place throughout the world for some time. Due to the fact

that there are varying conditions from country to country and as respective policy tends to change as regard financing, standards and responsibilities etc., there has been no one totally accepted method for the measurement of these requirements. Thus for purposes of this study, housing requirements will be seen as an all embracing term for housing need and housing demand.

(a) The need for housing has been determined on the basis of population growth, family formation, family size and the minimum acceptable standards for housing and has been defined as the volume of housing of all types that would be necessary to house the total population of the country at the minimum allowable standards regardless of the means of the people to be housed. Replacement of housing also would fall within the ambit of the needs of housing.[1]

(b) The demand for housing has been defined as the demand that exists in terms of the means of the population to pay and the cost of housing and would be determined by two factors:[2]

(i) Potential Demand

The potential demand would be that demand for housing which would exist if all who could afford housing did in fact demand it.

(ii) Active Demand

The active demand for housing would be that which exists in terms of personal performances and the means to pay for housing.

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1. Evenwell, K. and de Vos, T. Housing Requirements in South Africa. National Development Fund. May 1969. pp.2-4.
2. Evenwell, K. et al. Ibid. p.2.

3.2.2 *HOUSING REQUIREMENTS*

When looking at the two components of "housing requirements", it can be seen that "housing needs" refers to the housing of that sector of the population that requires financial assistance i.e. that does not have the means to pay for minimum housing standards, whilst "housing demand" would refer to that part of housing where the prospective occupants do have the means to pay for housing of a standard that would at least be equal to the minimum allowable housing standard.

A simple approach to the determination of housing requirements, would entail deciding what percentage of the gross domestic product needs to be spent on housing; then to establish the number of people to be housed (i.e. the growth in the population) and then divide the number into the amount allocated for housing. This would then give a per capita expenditure on housing for any one period. The only problem then would be to mobilise the home-building industry to actually go ahead and construct the houses. This would be a straight forward economic solution to the problem. Obviously however, little choice of specifications could be allowed for the home occupier. The approach must therefore allow for the specific requirements of those to be housed and for the community into which this housing would be introduced.

In South Africa today, considerable pressure has been placed on authorities concerned with the provision of housing. This is due to the increasing escalation in prices, land, cost of money, services, building and rates. Housing requirements forecasts could be affected significantly by changes in the incomes/costs ratio and it seems that this latter relationship has continuously changed as can be seen in Table 3.1.

Table 3.1 demonstrates the fact that in effect costs and incomes do not rise at the same rates of increase. In those so called 'boom' years, costs seem to escalate at a much greater rate than in the 'trough' years of the property cycle.

TABLE 3.1

PERCENTAGE NOMINAL CHANGE IN AVERAGE WHITE'S INCOME, HBCI AND B.E.R. BUILDING COST INDICES

YEAR	AVERAGE WHITE INCOMES	HBCI	B.E.R. BUILDING COSTS
1976	9,1	12,1	8,6
1977	9,0	2,4	2,4
1978	9,2	11,9	3,4
1979	12,2	19,7	17,7
1980	17,1	24,7	26,7
1981	22,0	18,7	31,4
1982	16,8	11,9	12,1
1983	11,1	13,2	4,1
1984	15,6	8,9	9,4
1985	10,8	9,0	3,7
1986	12,4	10,1	7,7
1987	14,4	14,0	14,8
1988	15,9	19,7	22,7

Please Note: None of the above take inflation into account.

Source: Average White Incomes: B.E.R. Trends Vol.8 No.2 June 1985.

Homebuilders Cost Index: NAHB

B.E.R. Building Cost Index. B.E.R. Building Survey No.65 March: 1985

If it were possible to try and predict with confidence what the possible income/costs ratio relationship would be in good and bad times, it might be easier to formulate more accurate predictions of housing requirements in this way. What would be needed at this stage then could be a more accurate approach to measuring needs and demands.

3.2.3 *THE DEMAND FOR HOUSING*

Definitions have already been supplied regarding the two distinct facets of demand. Each of these will now be looked into more closely.

3.2.3.1 *POTENTIAL DEMAND*

The demand for housing is an indirect function of population growth and a direct function of incomes and the cost of housing. In order to determine the potential demand for housing, information on the following has become essential:

1. Incomes and the expected real growth of incomes during the period in which the estimates would be made. This information can be gleaned from many sources including the Central Statistical Services News Release p.8.5 (P0200) and the quarterly report "Trends" provided by the Bureau for Economic Research.

2. The costs of housing which have a number of contributing factors making up the total cost as viewed by the prospective occupant. The most important of these is the cost of land, cost of money (controlled by money market activities and legislative control), cost of building (mentioned above) and the period over which the mortgage bond would run.

3. The relationship between income and rental. No hard and fast rule has existed fixing the relationship between income and rental for housing as this would be virtually impossible to control, particularly when rentals have regular periodic payments for accommodation not linked with eventual ownership.

3.2.3.2 *ACTIVE DEMAND*

The active or effective demand for housing would be the expression of the desire for housing helped by the ability, economically to satisfy the desire. Not only would it be subject to the cost of housing and personal incomes, it would also be exposed to the personal preferences of those to be housed. In order to satisfy these personal preferences, decisions regarding size, type and standard of accommodation have to be made. The

availability and cost of funds for building has a significant influence on the apparent active demand. The relative cost of funds for building has modified the standard of accommodation available to individuals. Future active demand would therefore not necessarily be in keeping with past and present experience. Formulae for different countries have been applied but none as yet have quite fitted the needs of the South African situation.

For example in Germany it has been estimated that separate housing units would be required for:[1]

(a) All married men.
(b) 75% of all persons divorced or widowed.
(c) 33% of all unmarried persons 25 years or older.

3.2.4 *HOUSING NEED*

Following on from our earlier definition, housing need has been used when referring to the estimate directly derived from population figures, taking account of the relevant family structure. It has therefore become a theoretical estimate that does not take economic and cultural inputs into account. The need for housing has been considered to be a function of population growth, rate of family formation, family structure and replacement of housing. It would provide for every family to have a home of its own and would not then presume that families live with relatives i.e. parents do not live with married children and families then ideally consist of a father, mother and unmarried children. "Housing need" represents the maximum need for which it would be necessary to provide housing under ideal conditions. Need varies with factors such as quality of life and expectations whereas demand varies with factors such as

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1. Evernbll, K. and de Vos, T. Op Cit. p.15.

availability of materials manpower and finance. It would therefore be unlikely that housing need would ever be equal to the demand for housing in today's complex society.

3.2.4.1 *DEMOGRAPHICS AFFECTING HOUSING NEED*

In the earlier definition of housing need, it has been seen that population and population movements play an important role in defining the volume of housing necessary.

(a) *POPULATION GROWTH - WHITES*

A summary of the historical growth of the South African white population has been provided in the following table.

TABLE 3.2

HISTORICAL GROWTH TRENDS IN THE WHITE POPULATION

(AVERAGE ANNUAL GROWTH)

YEAR	PERCENTAGE
1904 - 1970	1,9
1904 - 1946	1,8
1946 - 1960	1,9
1960 - 1970	2,0
1970 - 1980	1,9
1980 - 1985	1,7
1985 - 1990	1,7 *

* Estimate.

Source: CSS Statistical Year books
CSS 1985 Census Newsletter

Due to the fact that in Table 3.2 the preliminary results of both the 1980 and 1985 censi have been used in accordance with the undercount principle, the true figures for 1985 white population figures as they stand would be 4 597 975 as compared to 1980 when the true figure had been 4 355 567. This would mean that over the

period there would be a real increase of 242 400 whites which would approximate to an increase of 48 500 per annum. (These figures would be inclusive of immigration and changes in the national states).

There have been many sources quoting statistics on future population growth projections for the period 1980 - 2000. One of the more widely regarded growth projections can be seen in Table 3.3.

TABLE 3.3

FUTURE POPULATION GROWTH PROJECTIONS FOR WHITES IN SOUTH AFRICA - 1985-2000

YEAR	000	% OF TOTAL POPULATION
1985	4 823	15
1990	5 163	14,2
1995	5 517	13,6
2000	5 817	13,0

Source: H.S.R.C.: Moontlike Bevolkingsgroei in Suid Afrika tot die middel van die 22st eeu: Mostert en Van Tonder - 1982.

As can be seen, not only has the growth rate come down, the percentage of the total population has also declined. This would obviously have a marked effect on the future need for white housing.

(b) *FERTILITY RATES*

Fertility rates (based on an index of the likely number of children a woman would bear) for South Africa have fallen amongst white women from 3,03 in 1970 to 2,03 in 1980.

(c) *URBANISATION*

Based on the 1985 census, 89% of all white residents of South

Africa are regarded as urbanised. This could be compared to a figure for black residents of 37%. By the year 2000 it has been projected 95% of all whites will be urbanised whilst only 75% of all blacks will be living in urban areas.[1] The whole issue of urbanisation has been found world-wide and its course seems set to run. Urban studies have shown that authorities can direct it only to a limited extent from a spatial and time point of view. It has however been influenced by such factors as employment creation, availability of housing, influx control etc. An analysis of the different non-black (i.e. white, coloured and asians) population groups would indicate a high degree of urbanisation and tending to reach the upper level of the S-curve of urbanisation, with the result that rural-urban migration has dried up and future likely movements in population would be inter-urban. According to Oosthuizen, South Africa must decide what urbanisation model it should adopt for the future in order that urbanisation does not become uncontrollable.[2] Thus the provision of law services and different forms of help with housing programmes should be provided in order to cope with the future influx of blacks specifically. Urban population projections for whites can be seen in Table 3.4.

TABLE 3.4

URBAN WHITE POPULATION PROJECTIONS, 1980 - 2000

YEAR	PROJECTION
1980	4 002 000
1985	4 297 300
1990	4 626 000
1995	5 059 000
2000	5 340 000

Source: Mostert, W.P. en van Tonder, J.L. Moontlike bevolkingsgroei in Suid Afrika tot die middel van die 22ste eeu. H.S.R.C. Report S-83, 1982.

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1. Oosthuizen, A.J.G. Demographic Analysis and Forecast. Institute of Urban Studies - RAU. Paper presented to SAPOA on May 18, 1983.
2. Oosthuizen, A.J.G. Ibid.

AGE STRUCTURE IN 1980 - THE SOUTH AFRICAN POPULATION

FIGURE 3.5

SOURCE: Oosthuizen, A.J.G. Op. Cit.

(d) *AGE STRUCTURE OF THE SOUTH AFRICAN POPULATION*

The age structure of the South African population has been presented in Figure 3.5.

The main area of concentration for white South African housing has tended to be in the interval with a frequency of 40% of the white population, which would fall between the ages of 15 and 39. What with the lower fertility figures, after the year 2000, it seems that less housing will be needed for whites and rather more for the other groups.

(e) *LIFE EXPECTANCY*

Table 3.6 has revealed life expectancy trends for white males and females from 1920 onwards.

TABLE 3.6

LIFE EXPECTANCY

YEAR	MALE	FEMALE
1920 - 22	55	59
25 - 27	57	61
35 - 37	59	63
45 - 47	63	68
50 - 52	64	70
59 - 61	65	72
69 - 71	65	72
1980 - 84	68	73
84 - 86	68	76

Source: Central Statistical Services.

(f) *TRENDS IN HOUSEHOLD SIZES*

Trends in household sizes in a number of countries have become one of the most important factors that influences the need for the number of dwelling units. This factor ought to enjoy thorough consideration when considering future or projected housing needs. Again at present, different sources have quoted

different trends. Market Research Africa has provided the following figures for white households in 1977 and 1982 - 3,4 and 3,28 respectively.[1]

However, based on some of the previous demographic factors, it has been estimated that the average white household size is not likely to change dramatically from now until the year 2000.

(g) *HOUSING STANDARDS*

Another factor which affects demand and falls more under the heading of psychographics rather than demographics would be Housing Standards. Dorida Management has described different housing categories based on different factors.[2]

TABLE 3.7

HOUSING STANDARDS FOR URBAN AREAS OF SOUTH AFRICA

CATEGORY	AVE HOUSEHOLD INCOME (1983) PER ANNUM	MEDIUM BUILDING COST	AVERAGE PRICE	APPROX. SIZE IN M	% OF WHITES PER CATEGORY
Luxury	R26 000 +	360	R70 000+	170	42
Standard	18 000 +	320	44 000	100-170	36
Economic	10 000 +	280	24 000	70-100	12
Sub-economic	4 800	200	12 000	50- 70	10
Basic shelter	3 000			50	0

Source: Dorida Management Services : Housing Demand in South Africa 1980-2020.

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1. Market Research Africa - A.M.P.S. Survey. 1983.

2. Dorida Management Service - Housing Demand in South Africa 1980-2000. June 1983. p.40.

(h) *NUMBER OF DWELLINGS PER 1 000 INHABITANTS*

This theoretical approach which has been based on population demographics has been used to determine the number of dwellings per 1000 inhabitants and then to analyse the expected and accustomed cause of the different variables involved. It might look easy, but if it had to be done methodically, the number of dwellings per 1 000 inhabitants calculation, itself, would be the end product of many divergent variables and many involved calculations which do not have to be addressed in this study.

3.2.4.2 *HOUSING NEEDS IN WHITE URBAN AREAS*

The determination of housing needs has depended largely on the composition and size of the population and on other demographic factors as discussed above. To determine housing needs, certain assumptions have to be taken into account in order to best calculate current and projected needs for whites in urban areas and these will be clarified as much as possible.

(a) *CURRENT HOUSING NEEDS FOR WHITES IN URBAN AREAS*

In 1980, the following assumptions had been taken into account in order to determine the housing needs of whites which have been listed below:[1]

i) The urbanisation figure that became valid in the case of whites in 1970, namely 89,8% has also been applied to the 1980 figure.

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1. Business and Marketing Intelligence. Prospects for building materials and fittings in South Africa. 1984-1989. December 1984. Volume 1. pp.92-93.

ii) The average number of persons per family had been about 3,7 in 1970 but owing to a sharp decrease in births, this ratio was put at 3,5 for 1980, on the recommendation of the H.S.R.C.

iii) In 1970, 26% of the single persons occupied a dwelling as head of a household and the same proportion was accepted in 1980 again.

TABLE 3.8

TOTAL HOUSING NEED OF WHITES IN URBAN AREA OF THE R.S.A., 1980

i)	Total estimated white population	4 002 000
ii)	Family persons (89,8% of (i))	3 593 800
iii)	Number of families (3,5 persons/family)	1 026 000
iv)	Non-family persons	408 200
v)	Housing need of non-family persons (26% of (iv))	106 100
vi)	Total housing need ((iii) and (v))	1 132 900

Source: B.M.I. Prospects for Building Materials and Fittings in South Africa 1984-1989.

Although the rest of the figures in the calculation of the exercise have been based on 1980 figures, if the projected urban population figure for 1985 had been substituted and all the other assumptions had remained constant, then the theoretical 1985 white housing need would be as follows:

TABLE 3.9

THEORETICAL HOUSING NEED FOR WHITES - 1985

i)	Total population (urban only)	4 297 300
ii)	Family persons (89,8% of (i))	3 858 975
iii)	Number of families (3,5 persons/family)	1 026 564
iv)	Non-family persons	438 325
v)	Housing need of non-family persons (26% of (iv))	113 965
vi)	Total housing need ((iii) and (v))	1 216 529

The difference in theoretical housing need for the 5 years has been calculated to be 83 628 which would be a low figure considering that in the period almost 111 000 privately owned urban houses had been built.

Of more recent moment, De Vos has proposed another set of housing requirement figures for whites in urban areas. Once again, these figures have been calculated at January 1986 and can thus be compared to the BMI figures[1].

The determination of the housing requirement in this case is made on the basis of the following statistical ratios viz.

(i) 89,6 percent of the total population live in urban areas.

(ii) Family members represent 89,9% of the total white population in urban areas (based on the 1985 census).

(iii) 26 percent of the total number of non-family persons occupied housing units as the head of a household (1970).

Two further assumptions would be that every family should have a housing unit of its own and that the average family consists of 3,45 persons (1980 census).

Once again, this would by no means be a sophisticated method for the determination of the housing requirement but would act at another reasonable indication.

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1. De Vos, T.J. The Housing Market in South Africa. National Building Research Institute of the CSIR. Pretoria. 1987. pp9-10.

TABLE 3.10

THE HOUSING REQUIREMENTS OF WHITES IN THE URBAN AREAS OF THE RSA (JANUARY 1986)

(a)	Total urban population (89,6% of 4 877 100)	4 369 882
(b)	Family persons (89,8% of (a))	3 928 524
(c)	Non-family persons (a-b)	441 358
(d)	Number of families (3,45 persons per family)	1 138 703
(e)	Housing requirements of non-family persons (26% of (c))	1 114 753
(f)	Total housing requirements ((d) + (e))	1 253 456

(c) *URBAN HOUSING NEEDS FOR WHITES FOR THE PERIOD 1980 - 2000*

The future urban housing needs for the white population has been determined using an empirical formula as set down by the United Nations and then adapted for the South African situation by the N.B.R.I. The essence of the formula for the sector concerned has been measured by the annual additional housing need for whites amounting to 10 dwellings per 1000 of the total population. Based on figures supplied by the N.B.R.I., Table 3.11 has given estimates of the housing need expected to arise during the 20 year period 1980-2000; it would not however make provision for meeting current shortages.

TABLE 3.11

ANNUAL HOUSING NEEDS FOR WHITES IN URBAN AREAS OF THE R.S.A. 1980-2000

PERIOD	AMOUNT
1980 - 1985	41 500
1985 - 1990	44 600
1990 - 1995	48 500
1995 - 2000	52 000
AVERAGE	46 600

Source: B.M.I. Op. Cit. p.99.

Furthermore, following on from the situation set by De Vos in Table 3.10, the requirements for white housing units have been presented in Table 3.12.

TABLE 3.12

ADJUSTED CURRENT AND PROJECTED URBAN HOUSING REQUIREMENTS () INDICATES A SURPLUS

Housing Stock 1986 1 336 000

		Cumulative Shortage	
		Not Adjusted	Adjusted
Number of Housing Units Required			
January 1986	1 253 000	(83 000)	25 000
1990	1 332 000	(4 000)	104 000
1995	1 430 000	94 000	202 000
2000	1 517 000	181 000	289 000

De Vos has presented two sets of figures for his scenario, one of which has addressed the situation of a surplus of housing, whilst the other has addressed the situation of a cumulative shortage in the 1980's and 1990's. The analysis of the figures has revealed that although the surplus scenario would be a theoretical possibility, it would be likely that the shortage and the cumulative shortage into the 1990's would be the more likely scenario. This would be due to the fact that the households

could very well be underhoused i.e., certain households would tend to experience financial hardship, overcrowding or occupy inadequate houses. In a survey which had been established by the House of Assembly in 1987, approximately 25 000 white families were inadequately housed at that time, thus agreeing with the adjusted scenario figure for 1986/1987 that has appeared in Table 3.12. The situation has been further complicated by certain demographic changes which have created shortages and surpluses in different areas.

The situation regarding backlogs will be discussed in greater detail in Chapter 4, when the supply of new white special residential housing will be assessed.

3.2.5 *VAGARIES IN THE HOUSING REQUIREMENT ESTIMATES*

As has been mentioned above, the number of housing units required depends on amongst other factors, the total population, the number of families and single persons, their housing preferences and the existing stock of housing. Furthermore in order to determine the housing shortage or surplus at any one time, it would be necessary to determine the number of housing units required and to relate this figure to the units available.

Because the housing data collected for the 1980 and 1985 censi have not been published by the Central Statistical Service, one would have to estimate present housing stock figures as well as future housing requirement figures, taking into account such vagaries as demolitions, additions and all the other factors mentioned.

It has not been surprising then that many divergent estimates for housing requirements have emerged in the media, research reports and seminar proceedings. Confusion has also been caused by the publication of figures without defining whether or not they refer

to the need or demand or whether they refer to urban areas alone, together with the inclusion or exclusion of present backlogs and for what time period they would apply.

The requirement figures presented within this study have purported to reflect the most accurate assessment of the situation as it stands both now and into the future and this has been done on the basis of the presentation of the two scenarios as discussed.

3.3 *CONCLUSION*

Due to the cyclical nature of the industry in general and the varying levels of affordability at specific times (normally during high interest rate periods, demand decreases) co-ordinated planning for housing requirements (by the industry) has been disorganised and unsuccessful.

The socio-political environment in which the new white housing market has found itself in, specifically in the 1980's, has furthermore disallowed the industry to make demand assumptions due to unexpected migration figures which have caused shock waves in normal demographic growth assumptions which previously were fairly predictable.

These factors have led to the industry functioning in a most inefficient manner. It has thus been recommended that a major attempt be made to introduce a methodic and numeric system whereby the new white housing industry in particular, could be analysed in order to produce a databank of information, being capable of measuring and projecting trends based on the present housing stock and being able to measure expected trends in housing demand. This would have to be carried out via a formalised policy and strategy in respect of the expected housing requirements as detailed above. A high level governmental

committee would need to be appointed in conjunction with such organisations such as the Building Technology unit at the CSIR and the National Association of Homebuilders representing the homebuilding industry in general, as well as those large homebuilding firms dealing in the white housing market arena. The specific task to be tackled would have to include the evaluation of potential and active housing needs per geographical area and per affordability and income levels, bearing in mind present demand profiles.

Following on from these recommendations, Chapter 4 has discussed the problems associated with the supply side of the equation. As will be discussed, the housing production does not seem to tie up with housing needs as discussed above, due to in the main, the relative level of non-affordability amongst the middle-income whites in South Africa.

CHAPTER 4

THE SUPPLY OF NEW MIDDLE INCOME WHITE HOUSING

4.1 *INTRODUCTION*

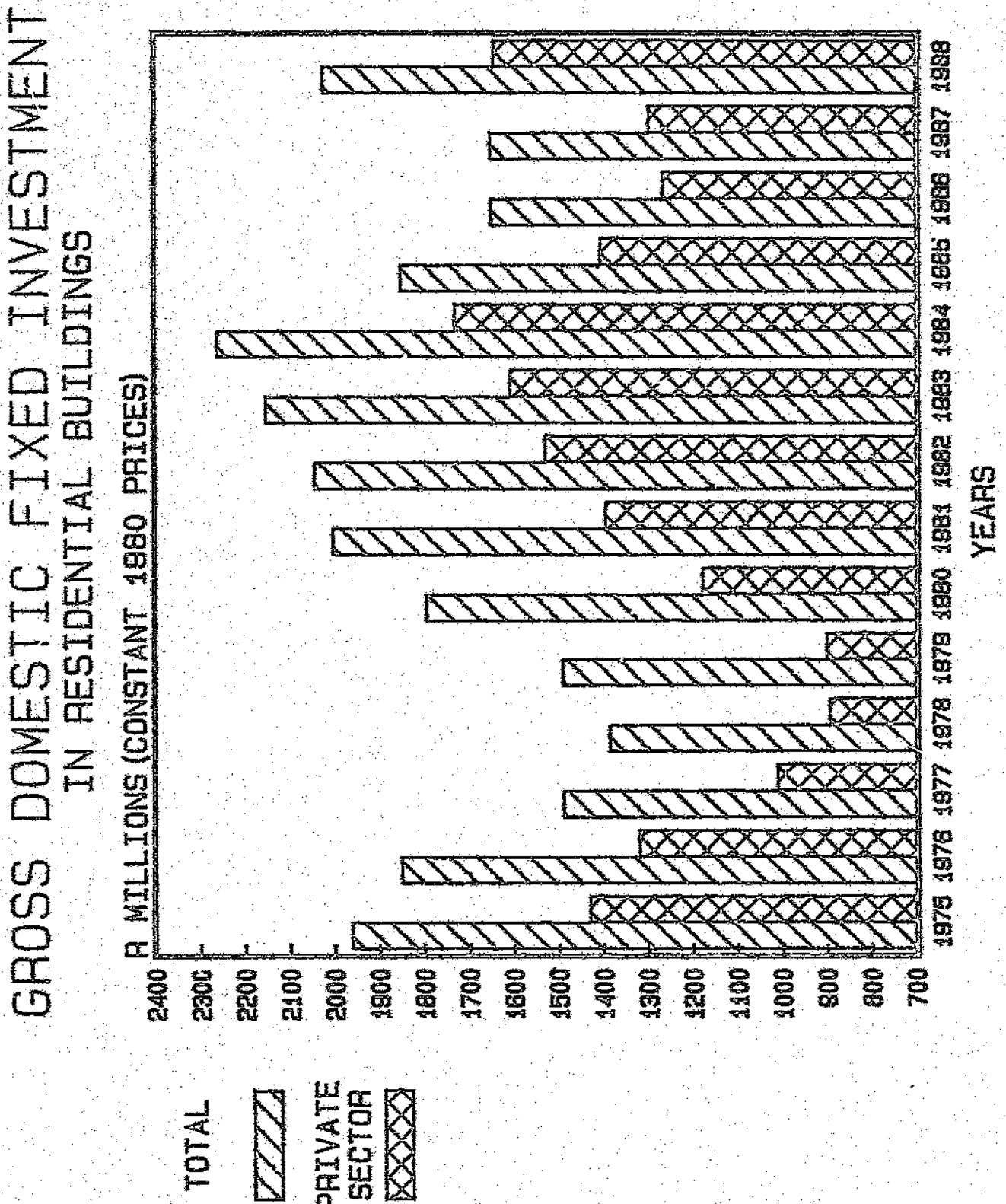
This chapter will discuss the supply of housing using a two pronged approach. The supply of housing in general in the economy has been broached from an investment point of view. Thereafter, figures and analyses of the supply of the white housing situations in particular will be presented. Finally an assessment of the present backlog based on one of the demand scenarios found in Chapter 3 will be addressed.

4.2 *TRENDS IN THE INVESTMENT IN RESIDENTIAL BUILDINGS AND ITS IMPACT ON THE SUPPLY OF HOUSING*

The residential buildings component of the gross domestic fixed investment can be broken down into public authorities, public corporations and private business enterprise. As it would be the task of this study to only deal with private sector business enterprises and the investment of this sector, more emphasis has been placed on this sector. However, in order to understand the total macro-economic overview associated with residential buildings, it should be important to note the trends of these sectors generally and specifically. Figure 4.1 has displayed both the total and the private gross domestic fixed investment in residential buildings.

In understanding the contribution that the investment in residential buildings has made towards the total gross domestic fixed investment of this country, Table 4.2 has dealt with the comparison between investment in residential buildings and total gross domestic fixed investment.

FIGURE 4.1



SOURCE: *South African Reserve Bank Quarterly Bulletins.*

TABLE 4.2

COMPARISON BETWEEN INVESTMENT IN RESIDENTIAL BUILDINGS AND TOTAL GROSS DOMESTIC FIXED INVESTMENT IN RAND MILLIONS AT CONSTANT 1975 PRICES

YEAR	PUBLIC AUTHO-RITIES	PUBLIC CORPO-RATIONS	PRIVATE BUSINESS ENTER-PRISES	SUB-TOTAL	TOTAL GROSS DOMESTIC FIXED INVEST-MENT	PERCENTAGE INVESTMENT		ALL
						PUBLIC	PRIVATE	
	R'M	R'M	R'M	R'M	R'M	%	%	
1960	73	9	349	431	2 520	3,25	13,85	
1961	77	10	308	395	2 525	3,44	12,20	
1962	76	10	263	349	2 461	3,49	10,69	
1963	75	1..	333	424	2 910	3,13	11,44	
1964	102	14	429	545	3 499	3,32	12,26	
1965	158	16	500	674	4 112	4,23	12,16	
1966	168	17	452	637	4 049	4,57	11,16	
1967	147	19	521	687	4 177	3,97	12,47	
1968	158	31	505	694	4 355	4,34	11,60	
1969	170	24	583	777	4 903	3,96	11,89	
1970	179	12	680	871	5 616	3,40	12,11	15,5
1971	209	35	724	968	6 230	3,91	11,62	15,5
1972	202	40	717	959	6 579	3,68	10,90	14,6
1973	160	48	767	975	6 895	3,02	11,12	14,1
1974	170	36	810	1 016	7 389	2,79	10,96	13,7
1975	225	61	696	982	8 110	3,52	8,58	12,1
1976	222	62	643	927	7 932	3,58	8,11	11,7
1977	196	58	528	782	7 404	3,43	7,13	10,6
1978	216	46	467	728	7 195	3,63	6,49	10,1
1979	241	70	476	787	7 469	4,16	6,37	10,5
1980	238	87	587	912	8 696	3,74	6,75	10,5
1981	231	94	724	1 049	9 404	3,45	7,70	11,8
1982	193	86	797	1 076	9 296	3,00	8,57	11,5
1983	168	126	852	1 146	8 431	3,48	10,10	13,6
1984	163	123	932	1 218	8 144	3,51	11,44	14,9
1985	156	82	702	940	7 993	2,98	8,78	11,8
1986	127	35	658	820	5 749	2,81	11,43	14,3
1987	116	28	664	808	5 586	2,57	11,88	14,5
1988	118	37	740	895	5 942	2,61	12,45	15,1

Source: Compiled from the South African Reserve Bank Quarterly Bulletins-Different Volumes.

If one has to look closer at the figures from Table 4.2, the total investment in residential buildings has produced the following average growth rates:

1960 - 1969	6,8%
1970 - 1979	-9,6%
1980 - 1984	7,6%
1985 - 1988	-6,6%

Expressed as a percentage of the total gross domestic fixed investment, however, the total investment in residential buildings has decreased from 17,1% in 1960 to 5,5% in 1970 and a smaller 10,5% in 1980. In 1984 the figure had picked up once again to almost 15% where it has stayed into the late 1980's. This was largely due to an increasing investment made by the private sector between the period 1980 - 1984 after a massive fall off in the 1970's. However there was a general fall off even in private investment during the late 's, most probably due to an increase in lower cost housing - increased interest rates.

Looking at the trends of the three different sectors of the investment in residential buildings, it can be seen how the private sector investment area has reacted in a much more unstable manner, compared to its two public sector counterparts.

There has been a greater reduction in the public authorities investment area in the 1980's whilst there had been an increase during this time in investment made by the private sector.

If one has to examine the percentage of the investment of all residential buildings as a proportion to that of total gross domestic fixed investment, then it can be noted that the investment in residential buildings had dropped for most of the 1970's, but started picking up once again in the 1980's. The reason has mainly been due to [illegible] increase in total gross

domestic fixed investment in the years when investment in residential buildings had been falling and not keeping pace with other areas in the national economy. The increase in the early 1980's was mainly due to investors in the private sector realising that investment in residential buildings has been somewhat of a hedge against inflation.

As regard the private sector residential building market, the rand values have tended to decrease toward the late 1980's, most probably due to the introduct'on of the first-time homeowners subsidy and the increased percentage in the investment in other than white houses with lower contract values.

Furthermore this sector (which would cover the middle to upper class income groups) had started to suffer in the mid 1980's from a confidence crisis due to the continued political unrest situation as well as the deepening recession. People in this market place had not been prepared to commit themselves to such a large investment and capital expenditure in the form of the building of a new home. To make it more difficult, the inflation rate eroded away their personal savings and disposable income in real terms. What with relatively cheap alternate accommodation available in the form of rental accommodation, the prospective buyer opted for the latter route.

Toward the latter half of the 1980's however, the situation had once again changed. In real terms, the investment in residential building and particularly by the private sector, had tended on average to decline. This can be noted from the figures from 1985-1988 in Table 4.2. The impact of this decrease has been noticed in the supply of housing in general but particularly amongst the white market segment.

4.3 *TRENDS IN THE SUPPLY OF NEW WHITE SPECIAL RESIDENTIAL HOUSING AND ITS IMPACT ON AFFORDABILITY*

Certain problem areas have existed in terms of the series building plans passed and building completions and Martin has noted the following salient drawbacks:[1]

i) Although at this point in the study only unit plans passed and completions have been under consideration, the value series have been published in monetary terms at current prices and therefore a decline in real activity could consequently be concealed by increases in building costs.

ii) The series building plans passed and buildings completed would not coincide in time due to the time lag between the date on which the plan had been passed and the date on which the building had been officially published as completed. This time lag has differed according to the type of building and one would not expect this lag to remain constant over time due to improving building methods. An average time lag of approximately one year has existed in the case of dwelling houses.

4.3.1 *UNIT COMPLETIONS*

Table 4.3 has presented completion figures of white special residential housing built by the private sector in South Africa for the period 1970-1989.

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1. Martin, C.H. A survey and evaluation of available economic time series which are related to building activity with special reference to their prognostic value. Published MSC Thesis. Stellenbosch. December 1981. p.24.

TABLE 4.3

COMPLETIONS OF WHITE SPECIAL RESIDENTIAL HOUSING BY THE PRIVATE SECTOR IN SOUTH AFRICA FOR THE PERIOD 1970 - 1989

YEAR	AMOUNT	YEAR	AMOUNT
1970	15 674	1980	20 674
1971	16 615	1981	24 961
1972	16 762	1982	25 463
1973	27 033	1983	25 561
1974	27 775	1984	31 170
1975	23 207	1985	21 112
1976	21 256	1986	16 649
1977	18 539	1987	17 443
1978	15 878	1988	18 226
1979	16 582	1989	15 301

SOURCE: Central Statistical Services

Looking at the growth figures for the unit completions (supply of housing) the following comes to light:

i) Over the 20 year period 1970 - 1989, the average annual growth rate has been 3,42% per annum.

ii) For the period 1970 - 1979, the average annual growth rate was 3,16%. This period had been marked with an initial growth period (1970-74) followed by a decline period (1975-78); the latter period figure being due to amongst other factors, the political disturbances of the late 1970's. The important point to note would be that a peak in the number of completions had been reached in 1974 (27 775) from a low base of 15 674 new housing units in 1970. The second half of the 1970's saw the low base once again achieved in 1975 and 1979.

iii) The 1980's heralded in an initial growth period (1980-1984) with an annual year on year growth rate in 1980 and 1984 of 24,7% and 21,9% respectively. However, 1985 brought in a massive decrease in the number of units built from a peak of 31 170 to 21 112 (a 32,3% decrease).

This would most probably be due to the previously new unheard of mortgage bond rate structure, the Rubicon speech and the general emigration trends amongst young whites. One must bear in mind, that over this period the first-time homeownership subsidy limit on interest had been lifted from 25% to 30%; this normally would have engendered a growth in supply of new housing units especially amongst the middle-income white market segment.

Furthermore, in order to get a better understanding of the average supply situation in relation to the need and demand profile, the average supply should be measured against the demand.

4.3.2 *UNIT COMPLETIONS VERSUS UNITS DEMANDED*

In order to put the supply of special residential housing for middle-income whites into perspective, an analysis of actual units completed has been compared to the theoretical demand as presented in Chapter 3. According to Business and Marketing Intelligence the annual housing needs for whites in urban areas of South Africa between 1980 and 2000 on a five year basis measured 41 500 per annum for the period 1980-1985 and 44 600 per annum for the period 1985-1990 with increasing annual amounts for the next two five year periods until the year 2000[1]. If one would compare those figures to the supply side of the equation then the production is far short of what would be required i.e. over the former two periods 24 823 and 17 746 units had been produced on average per annum causing a theoretical shortfall of many thousands of units for the two periods concerned. This

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1. Business and Marketing Intelligence. Op. Cit. p.99.

accumulated shortfall for the period 1986-1990 tends to approximate the figure presented by De Vos in Table 3.12 for 1990 of 104 000 i.e. (44 600 - 17 746) x 4 i.e. 1986-1990 = 107 416.

The most important conclusions from this exercise would be if the backlog is not accommodated, the demand figures for new white especial residential housing will rise to such a level that market forces will automatically push up prices, making entry into the existing second hand market almost impossible and increasing the chances of allowing building costs (due to demand for all building products) to rise concomitantly. This attendant rise in costs would decrease the chances of first-time homeowners being able to enter the new housing market.

4.3.3 *UNIT PLANS PASSED*

Although not a true measure of active homebuilding activity, this indicator has been used as an excellent measure for quantifying the potential need for housing and thus would tend to impact on the supply side of the equation, normally sometime into the future. Studies have shown that if one would move the plans passed figures between nine months and one year ahead, there would be in all likelihood, a rough correlation between the trend lines of plans passed and completions.

Plans Passed hint at what the supply figures should be and tend to be monitored by all the suppliers in the industry. These firms have tended to base their pricing policies to some degree on the state of the growth of the plans passed figures. Furthermore they tend to discount this figure by at least 30% due to plans not coming to fruition. The financial institutions also keep a watchful eye on these figures because to some extent it determines the movement of interest rates based on demand and supply of mortgage finance. The building firm in particular would also analyse these figures in order to determine what potential share of that specific group's market share it might

capture and what competitor and/or niche strategy it might want to utilise in order to reach its predetermined objectives and goals. This might be done in conjunction with the measurement of average rand values for plans passed and completions in order to determine profitability.

The Unit Plans Passed figures have now been presented in Table 4.4, followed by a brief analysis of the actual figures.

TABLE 4.4

UNIT PLANS PASSED FOR WHITE SPECIAL RESIDENTIAL HOUSING BY THE PRIVATE SECTOR FOR THE PERIOD 1970 - 1989

YEAR	AMOUNT	YEAR	AMOUNT
1970	22 062	1980	30 003
1971	18 778	1981	26 422
1972	22 419	1982	27 103
1973	29 613	1983	37 424
1974	23 506	1984	25 498
1975	21 121	1985	24 631
1976	20 803	1986	16 824
1977	12 867	1987	22 546
1978	15 241	1988	23 042
1979	18 784	1989	14 719

Source: Central Statistical Services.

Analysis of these figures has revealed that:

(i) For the period 1970-1979, there had been a 1,8% per annum growth rate as compared to the 3,6% figure for completions. Again there had been a major drop-off in the years before and after the 1976 Soweto riots. The impact of this obviously had caused a diminished supply which only started to lift again toward the middle of 1979.

(ii) For the period 1980-1989 there had been a 2,1% growth rate compared to a 4,16% figure for completions. In order for

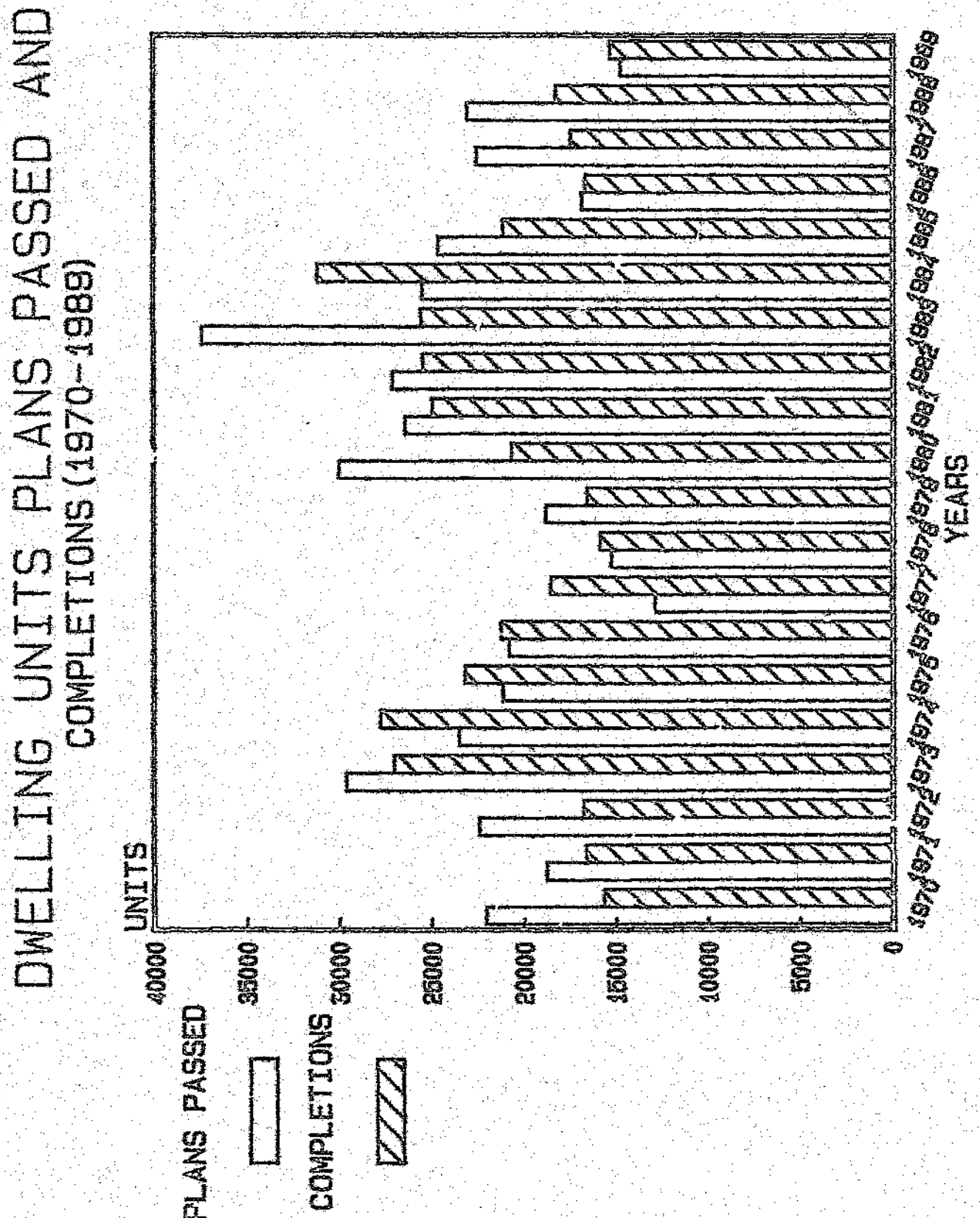
there to be positive growth the normal trend would be for the average growth rate of plans passed to be higher than that of the completions for the same period. As can be seen, this has not occurred. In fact from a high of 37 424 units in 1983, the plans passed situation has gradually declined to just half of that, in 1989, which to some degree has suggested a dramatic fall off in the production and supply of new special residential accommodation for whites. As average annual nominal completion values (see Table 4.3 (A)) have also tended to decline in the late 1980's, homebuilding firms have been hard pressed to reach profitability and volume objectives causing some to go into liquidation. Others have been unable to pass on any cost savings which they had received from suppliers in a similar position, onto the potential homeowner, thus decreasing the affordability level for the homeowner.

Figure 4.5 has presented a graphical presentation of the plans passed versus the dwelling completion figures for the years 1970-1989.

4.4 CONCLUSION

The dilemma that the white residential housing industry has found itself in with regard to the supply of new housing has definitely had a dampening effect on allowing the homebuilding industry to provide affordable options in accommodation to the middle-income segment. Previously, this market segment lived in housing which was larger than their minimum space requirements and was characteristic of a free market economy where resources and the ability to pay, did not inhibit personal preference in the choice of housing size and standards.

FIGURE 4.5



Source: Central Statistical Services.

A new scenario has arisen whereby radical changes in the level of affordability have affected the ability to enter the middle-income housing market. Completion figures in this chapter have demonstrated this clearly. This has been borne out by the negative growth in the new supply of housing during the late 1980's.

Once again, certain macro-economic factors have played a role, causing the general investment in residential investment to fall and a lesser share of these monies to be apportioned to new white residential housing. The fact that the net immigration figures have dwindled, has further complicated the problems, as has the general political scene.

The whole question of holding down supplier and material costs as well as the cost of labour, has needed to be addressed. Many major suppliers held back prices over the late 1980's period, whilst homebuilding companies reduced margins or increased subsidies, in order to pass the benefit onto the new homeowners. It seems however, that there was a greater movement of larger houses being built over this period and these strategic management moves did not really benefit the middle-income home purchaser as much as was intended.

In order to try and balance supply and demand and furthermore to increase the supply of units, the relevant cost structure of new housing together with innovative financing techniques and new building systems, will now be addressed.

SECTION C

CHAPTER 5

BUILDING COSTS AND AFFORDABILITY

5.1 INTRODUCTION

The aim of this chapter is to describe, compare and evaluate building cost indicators with respect to the role that they have played in addressing the increasing affordability problem. The effect of cost instabilities on economic growth and the building industry have also been addressed.

5.2 THE EFFECT OF COST INSTABILITIES ON ECONOMIC GROWTH AND THE HOMEBUILDING INDUSTRY

The building industry has always been known for its unstable effects on the South African economy. Its changes as expressed in percentage form, have been far more erratic in terms of peaks and troughs, as compared to the change in the growth of the economy. The turbulence has been due largely to changes in the financial markets, liquidity and the associated fluctuations which it has had on the demand and supply situations. Figure 5.1 has compared the fluctuations associated with the changes in the growth of production in the economy (GDP) with the changes in the Bureau of Economic Research building cost index.

As can be seen there has been a greater level of instability in the cost index as opposed to the economic growth index. This is largely due to the fact that building cost increases are subject to demand-price factors such as construction activity and movements in economic growth, whilst cost-push factors such as labour earnings and cost of materials would further affect the rate of decrease or increase in building costs.

Economic growth has furthermore been associated with an increase in building costs as seen by an analysis done by the Property Economist.[1] The demand pull effects of economic growth have shown that when economic growth has been greater than 5%, as seen during the period of the second half of 1973 to the second half of 1974 and again from the beginning of 1980 to the end of 1981, then building costs in turn have increased at an abnormally fast rate. Conversely when economic growth has been negative as in parts of 1977, 1978, 1982 and 1983, building cost increases have tended to decline. Less volatility has been shown in periods of average economic growth.

Figure 5.1, has reflected the many changes that have occurred causing tremendous variances in the levels of the cycles, but specifically in the building cost cycle.

As can be seen from the graph, building cost increases have tended to lag behind the GDP cycle graph by between 3 and 6 months. Thus in order to forecast to some degree any stability in building costs, the economic growth cycle has had to be closely monitored.

The Property Economist has provided a table outlining the likelihood of different growth rates with different average building cost increases.

Although this would be seen to be an empirical approach to the effects of building cost changes, movements in the building cost cycle can be determined by the duration and intensity of upswings and downswings of the GDP as well.

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1. The Property Economist. The Effect of Economic Growth on Building Cost Increases. October 1984. pp.35-37.

CHANGES IN THE GDP AND THE BER BUIILDING COST INDEX

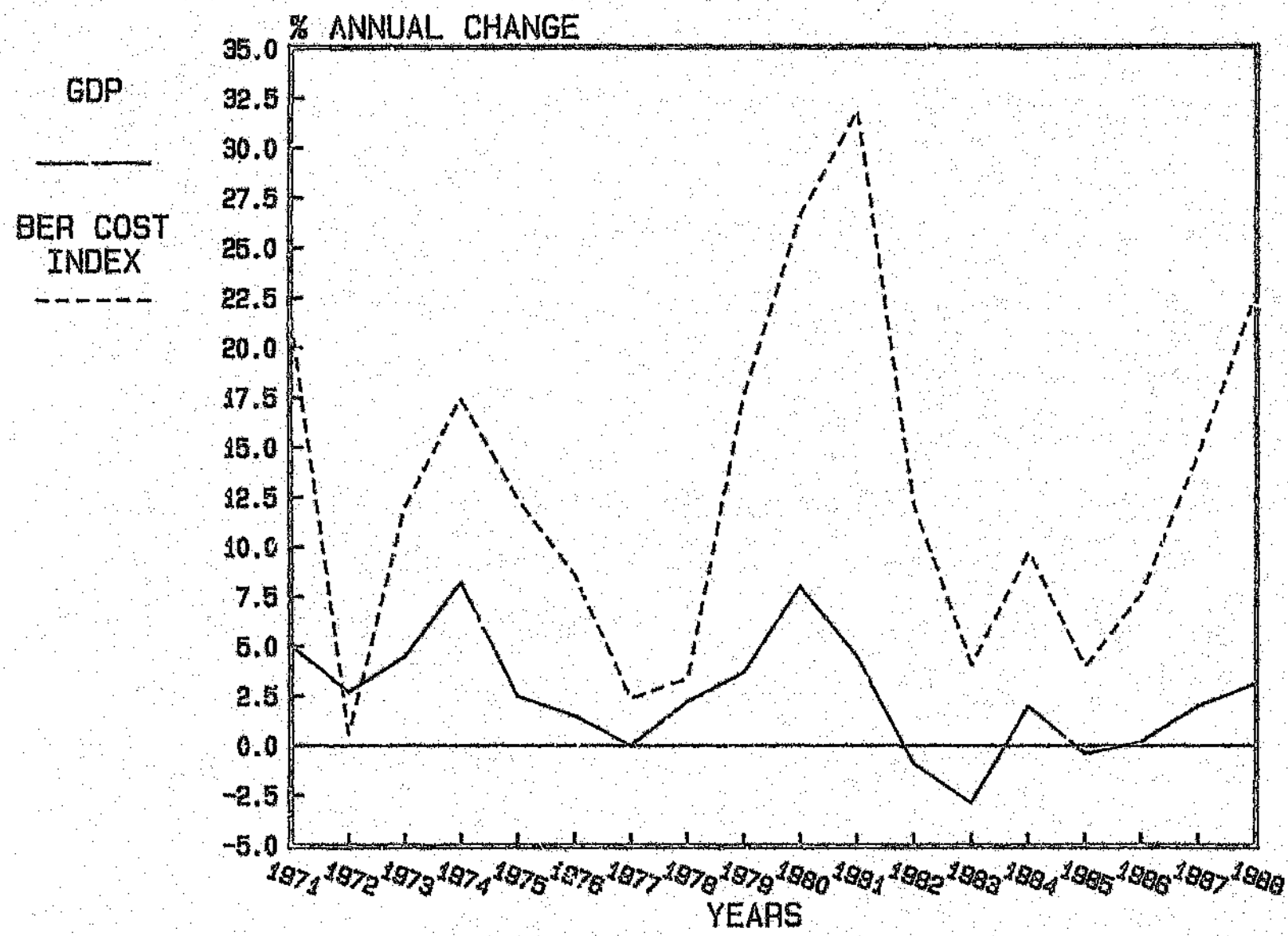


FIGURE 5.1

SOURCE: South African Reserve Bank Quarterly Bulletins.

Another factor which would be associated with the instability of the building industry has been the change in the consumer price index or inflation in nominal terms. This has also had fairly significant increases during the period 1973 to 1985. With the increased cost of living, (the CPI itself including about a 20% housing component), the increased production prices of consumer based goods and services, have in turn helped to cause an increase in building costs and created greater instability in the residential building sector.

TABLE 5.2

GUIDELINE OF THE EFFECTS OF ECONOMIC GROWTH ON BUILDING COST INCREASES

POSITIVE ECONOMIC GROWTH PHASE (%)	AVERAGE BUILDING COST INCREASES (%)	NEGATIVE ECONOMIC GROWTH PHASE (%)	AVERAGE BUILDING COST INCREASES (%)
0,0 - 1,0	8,0	- 0-2	7,0
1,0 - 3,5	13,0	- 2-4	2,5
3,5 - 5,0	18,0	- 4-7	- 1,0
5,0 - 6,0	22,0	- 7-10	between zero depending on duration of downswing
6,0 - 8,0	25,0		
8,0 - 10,0	32,0		

SOURCE: The Property Economist. Op. Cit. p.37.

5.3 *AN EXAMINATION OF RELEVANT BUILDING COSTS*

Building costs have a direct relationship with the two types of inflation, i.e. demand pull and cost push inflation. The inflationary process which has entailed a declining purchase power of the country's monetary unit, would have an impact on most building contracts in that, what with an increase in material and labour costs and the declining purchasing power of the potential homeowner, some provision has had to be made to safeguard the contractor's margins. This would normally be done by the

inclusion of price revision clauses especially in longer contracts, i.e. greater than a 1 year period. As most homebuilders normally complete contracts within a year, some short term provision has had to be normally added into the margin to cover any cost increases.

As will be seen under the discussion of the impact of building costs compared to the rise in incomes, inflation in most cases has been somewhat higher than the increase in incomes.

This study will now consider the different relevant building costs.

5.3.1 *CONSUMER PRICE INDEX* (STATISTICAL NEWS RELEASE P0141.1)

According to Snyman, it can be argued that the consumer price index under normal consideration would not warrant discussion in terms of being a building cost indicator as it really has not been an indicator of building costs per se. Snyman has discussed three reasons why it should be mentioned:[1]

"Firstly, the C.P.I. has become a very convenient measure of the general rise in the prices of goods and services for the consumer and consequently often it has been referred to as a measure of 'the inflation rate'. Secondly, the C.P.I. due to its general acceptability as a measure of the depreciation of the purchasing power of the South African Rand, has become a most convenient yard-stick with which to compare other cost indicators. Thirdly, the C.P.I. would bear scrutiny because it has been used as a

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1. Snyman, G.J.J. On Building Cost Indicators. Bureau of Economic Research Building Survey. No. 44. University of Stellenbosch. January 1980. pp.ii-iii.

proxy for the increase in labour costs in some contracts and as a measure of building cost increases by those less well versed in economic analysis".

How has the C.P.I. been made up? It could be described as a basket of goods and services where the quality and quantity has been held constant. Simple in concept, there have been many different categories into which the items have been broken down. The Reserve Bank has broken it down under the headings of goods and services as follows:

a) Services

Housing	19,5%
Transport	3,7%
Other	9,7%

b) Goods 67,1%

Food	25,5%
Furniture and Equipment	6,0%
Clothing and Footwear	8,8%
Vehicles	5,6%
Other Transport Goods	5,6%
Beverages and Tobaccoes	3,8%

It might be interesting to note that second to food, the housing component at 19,5% makes up a large proportion of monthly expenditure pro rata. Table I in Appendix A has shown the Consumer Price Index on an annual basis for the period 1970-1985.[1] The percentage annual changes have also been reflected. In Appendix A, Table II, the figures have reflected the decreasing purchasing power of the rand for the period 1950-1985. As can be seen from this latter table, the purchasing power has decreased by about 5 times between 1950 and 1980.

However, certain disadvantages have emerged when the C.P.I. has been used for linking prices, salaries and wages in general. This has resulted in an inflationary bias of the economy because it

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1. S.A. Reserve Bank Quarterly Bulletin. December 1985. Pretoria. S-106.

would virtually ensure that any price increase would automatically be passed on in the form of further increases. It has also been used indiscriminately to deflate various other indices as well as the fact that it has tended to relate only to certain consumer goods and services, some of which have been arbitrarily priced such as owner-occupied housing.

However, on the positive side, it has been one of the most explicit price indices.

So much has been written about inflation and its effects on the cost of living (which includes the cost of housing or shelter) that it has become imperative to compare its changes in comparison to the changes of the other building costs.

5.3.2 *WHOLESALE PRICE INDEX OF BUILDING AND CONSTRUCTION MATERIALS. DEPARTMENT OF STATISTICS. STATISTICAL NEWS RELEASE. P.16.* (NOW P0142.1)

The Wholesale Price Index of Building and Construction Materials has been a composite index relating to many important components involved in the total building process and thus in the total building cost. The composite index has been made up of many items, the more important being cement and slagment (approximately 9%), various kinds of steel (approximately 18%), bricks (approximately 10%) and electrical materials and equipment (approximately 10%). The Statistical News Release has also given in depth indices into each of these individual items plus others. Appendix A Table III has given details of the average annual index and annual percentage changes for the years 1970-1988. The most important comment to be made regarding this index would be that even in times of economic downturn or recession, the material costs have risen steadily. After the 1976 Soweto riots the index had dropped after a high in 1975 of a 22% increase, but picked up in the late 1970's and early 1980's. This index would be seen to be more of an associate measure of building activity as compared to the fully fledged building cost indices.

5.3.3 *INDEX OF ACTUAL LABOUR COSTS. DEPARTMENT OF STATISTICS. STATISTICAL NEWS RELEASE. P.18.* (NOW P0281)

The index of actual labour costs would refer to a component of total building costs. Unfortunately this index has only run since 1970. The Bureau of Economic Research however, has extrapolated information back to 1968 and thus created an actual labour cost index for this period. The index which has been derived from actual wage rates and statutory labour costs would contain statistical data derived from wage agreements of Industrial Councils for the building industry. These agreements have been ratified by the ministers and thereafter have become the legal (statutory) minimum to be paid to certain categories of labour.

The retrospective index as compiled by the Bureau of Economic Research (B.E.R.) had proven to be problematic in its make-up. This has been discussed in the B.E.R. Building Survey No. 30 of 1976:[1]

"These labour indices had been correlated with the indices calculated from the statutory wage increases to ensure that they could validly be regarded as proxy for labour cost".

The index has been broken up into two sub-sections. Firstly, artisans and secondly, others. Each of these have been considered in Appendix A - Table IV. The "others" section had previously been attributed mainly to black unskilled labourer's wages and thus the massive increases between 1973 and 1976 had basically been attributable to a "societal responsibility" on the part of certain of the large contractors. This had resulted in an

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1. Kilian, W.F. and Layman, G.J.J. "An Evaluation of the Influence of the CPAP-Formulae". Building Survey No. 30. Bureau for Economic Research. Stellenbosch. March 1976. p.8.

increase in prices to be borne by the public itself as well as the fact that in order to keep the labour overhead relatively constant, a drop-off in the number of black labourers employed had taken place.

Compared to the late 1970's, the figures for the 1980's have taken off, sometimes well beyond those of the consumer price index. This has been especially sad due to the fact that there had been initially a so-called link between the two.

5.3.4 *BIAC CONTRACT PRICE ADJUSTMENTS (PREVIOUSLY THE HAYLETT FORMULA). STATISTICAL NEWS RELEASE P.22, DEPARTMENT OF STATISTICS* (NOW P0151)

Both the labour costs index together with the material index and a plant price index (not mentioned) would form the main components of building costs. These three components have been combined to form the contract price adjustment provision index. The three components have then formed a basis for price revision clauses in contracts in terms of what has been called the Haylett Formula. There are 26 work groups associated with this formula and the data has been computed from national wholesale price indices of the three major components mentioned.

For the purposes of this study, work group 24.1 has been used from 1978. This work group is a weighted average of lump-sum domestic buildings and can be seen in Appendix A - Table V. According to Kilian and Snyman, the introduction of the contract Price Adjustment Provisions in early 1976 gave rise to much contention and debate as regard its accuracy and usefulness. According to them, many interest groups have each had axes to grind regarding different issues including points such as the accuracy, the size of the non-adjustable element, over and under compensation and finally the most contentious of all; would this formula be inflationary or not? Most of these issues have continued to still be under debate and aspects of it continue to undergo careful observation.

However, to some degree, this indicator would tend to serve its purpose. This has been to provide a measure of the rise in building materials, prices and labour costs over the period of the contract.

5.3.5 *B.E.R. BUILDING COST INDEX. BUREAU FOR ECONOMIC RESEARCH. STELLENBOSCH*

This building cost index which has been accepted for many years as probably being the most useful index for building in general (but not necessarily for homebuilding) has been an analysis of accepted tender prices. The one major shortfall associated with it has been the fact that a certain element of profit has automatically been built into the tender prices and this would be something that needs to seriously be borne in mind.

The workings and methodology and use of this indicator will now be discussed:

The basic logic has involved the assumption that total building costs will move in correspondence with the cost of the specific items selected for the purpose. The accuracy of the index will, accordingly, depend on the degree to which these items can be representative of the most common, and therefore most widely used, construction and finishing materials. To this end the items have been selected in such a manner that the resulting index will be indicative of relative cost levels not only for various types of buildings but also for various regions in the Republic of South Africa and also Namibia.

Twenty-two cost components have been selected and expressed as quantities. The latter have been weighted in proportion to the role played by each in the total cost, in which consideration had been given to the incorporation of basic design criteria which vary from the simplest one of the fundamental ratio of light or window area to floor area, to the more complicated criterion of a

predetermined floor loading in respect of the ratio of formwork, steel and concrete in the selected floor slab component.

The index has then been obtained by simply multiplying each weighted component by its current market price and expressing the total of all items as a percentage of the total obtained in the base period, which has been set at March 1970.

The index measures the "in place cost" of the 22 relevant representative items. In practice this would mean that responding quantity surveyors all over South Africa could analyse their bills of quantities and thereafter "price" the 22 items. This information has then been processed and the index calculated by means of a sophisticated computer programme. The figures published on a quarterly basis have become more reliable as more projects have been analysed over the last four quarterly periods. Snyman has warned that research indicated that the index has tended to stabilise when more than 40 projects would be analysed. It must however, be stressed that in cases where less than 7 projects have been analysed, the results obtained, must be treated with the greatest caution.

It can be maintained that the B.E.R. Building Cost Index has been a comprehensive index which has tended to reflect changes in labour costs (as distinct from wage rates), materials prices, scarcity or otherwise of materials and labour, complexity of projects as well as profits or losses of contractors.

Finally, it should be pointed out that the B.E.R. Building Cost Index has mainly analysed accepted tenders of a non-residential type. The question may then rightly be posed as to how applicable the index has been as an index and a deflator for dwellings and flats. Kilian, however, has found a close correlation co-efficient of 0.991878 between the B.E.R. Building Cost Index and the adjusted trend cycle of average prices of "dwelling house

plans passed of the 18 principal municipalities".[1] The B.E.R. Building Cost Index may therefore be used as an index and a deflator for both residential and non-residential buildings. The B.E.R. Building Cost Index can be seen in tabular form in Appendix A - Table VI.

5.3.6 *INDEX OF AVERAGE PRICES OF DWELLING HOUSES COMPLETED IN 18 PRINCIPAL MUNICIPALITIES (NOW 22 PRINCIPAL MUNICIPALITIES) DEPARTMENT OF STATISTICS. INFORMATION FROM STATISTICAL NEWS RELEASE P.3 PRETORIA* (NOW P054.2)

This index has been derived from the series Building Completed which has been published by the Department of Statistics on a monthly basis and in a more composite manner on a quarterly basis. The value of the houses (dwelling units) have been divided by the number of houses in order to yield a relevant index. When this has been expressed in index form, there would seem to be a noticeable correspondence between this index and that of the B.E.R. Building Cost Index. Snyman has proposed that the co'noidence would be all the more remarkable if it can be realised that the results could be obtained by means of totally different methods of computation.[2] The discrepancies between the two indices which have been slight, could be explained in terms of certain deficiencies in the series Buildings Completed. The close correlation can be seen in Appendix A - Table VII and the two indices can be compared graphically in Figure 5.3.

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1. Kilian, W.F. On Stabilising Construction. Bureau for Economic Research. Stellenbosch. April 1976. p.95.

2. Snyman, G.J.J. On Building Cost Indicators. Op Cit. p.(xiv).

HOUSE PRICE INDEX
VS B.E.R COST INDEX

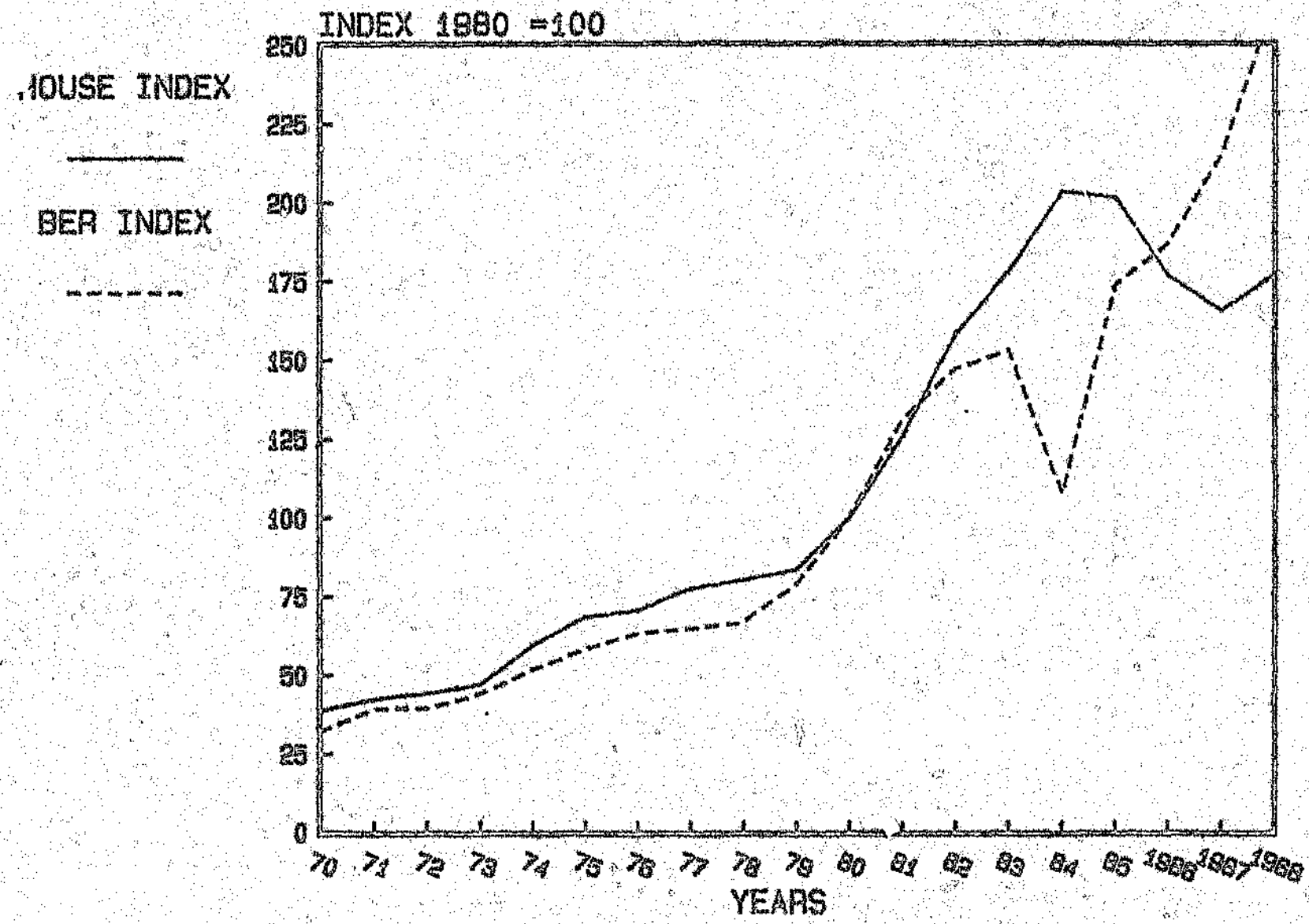


FIGURE 5.3

SOURCE: Central Statistical Services. B.E.R. Building Surveys.

5.3.7 *CONTRACT PRICE INDEX FOR NEW DWELLING HOUSES, DEPARTMENT OF STATISTICS. STATISTICAL NEWS RELEASE. P.3.9.* (NOW P0153)

Although, the contract price index has been an index of relatively recent moment (it has now been running since 1976) it has proven to be a most useful index and has been well accepted amongst the homebuilding fraternity.

The index has been compiled by analysing the contract prices of new dwellings financed by mortgages passed by all Building Societies. This has tended to represent a large portion of white housing.

The basic philosophy underlying this index can be described as follows:[1]

"The index is produced by preparing a regression analysis obtained from certain characteristics of the contract value of an average house which is priced quarterly. These characteristics would include floor area, roofing materials, number of rooms etc. The results of the analysis would be interpreted into a composite unit, for example, price per square metre of actual floor area".

From the data obtained from Building Societies, 75 characteristics can be identified. The regression analysis of the base period showed that only 12 characteristics are meaningful on the 95 percent level of significance. The same 12 characteristics were used for subsequent quarters. The significance of these characteristics will be revised periodically. The quarter July to

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1. Department of Statistics. Statistical News Release. P.3.9. Pretoria. 2 August 1981.

September 1976 serves as base period." (This study will only deal with average annual figures).

Although the Contract Price Index and the B.E.R. Building Cost Index have been compiled in different ways, both indices have displayed the same general trend. This can be observed in Figure 5.4. The advantage of the B.E.R. Index, however, has been that this index has been available from 1962 whereas the contract price index only dates back to the third quarter of 1976.

Figures for the index are presented in Appendix A - Table VIII.

5.3.8 *NATIONAL ASSOCIATION OF HOMEBUILDERS (NAHB) HOME BUILDERS COST INDEX (HBC INDEX)*

The NAHB Homebuilders Cost Index has measured the average change in building costs for housing on the Witwatersrand only and has been published on a quarterly basis. This cost index had originally been derived from an index as formulated by the Witwatersrand Master Builders Association. According to the NAHB the index has been determined as follows:

"This index has been based on an average 3 bedroom dwelling with outbuildings with a total area of between 150m² to 175m².

Furthermore it has related to all direct production costs including costs of plans, services, connections, materials, labour and sub-contract work, but excluding costs not directly related to the construction process such as land, supervision, head-office charges, overheads, sales commission, finance charges and profits. It has therefore been an index of actual house building/production costs and would neither be an index of contract values nor of market or valuation values.

It has been supplied by several members in the area on a confidential basis whom contribute information for calculation.

It has provided the homebuilder with a management tool to monitor his own cost structure and his own position in relation to the homebuilding market".

The index can be observed in Appendix A - Table IX and has run from 1975.

5.3.9 *MERKELS BUILDING INDEX (MERKELS BUILDERS PRICING AND MANAGEMENT GUIDE)*

This index which has been calculated on a rand per square metre basis has been formulated by means of a composite index of material prices, labour costs and contract prices. The sources have been selected by the compiler and computed accordingly. The index has been based on housebuilding costs per square metre excluding site works. The rates per square metre, index and percentage changes can be observed in Appendix A - Table X.

5.4 *THE IMPACT AND EVALUATION OF BUILDING COSTS ON AFFORDABILITY*

Having now observed and discussed in some detail the indices and percentage changes of some of the most important building cost indicators, the impact on affordability must be discussed.

At the present rate of growth of inflation in general and building inflation in particular, a normal small home at the end of the century would be expected to cost in the region of R980 000 whilst projections indicate that the rate per m^2 (sometimes a biased judge of building costs) could be in the region of R4 .09.

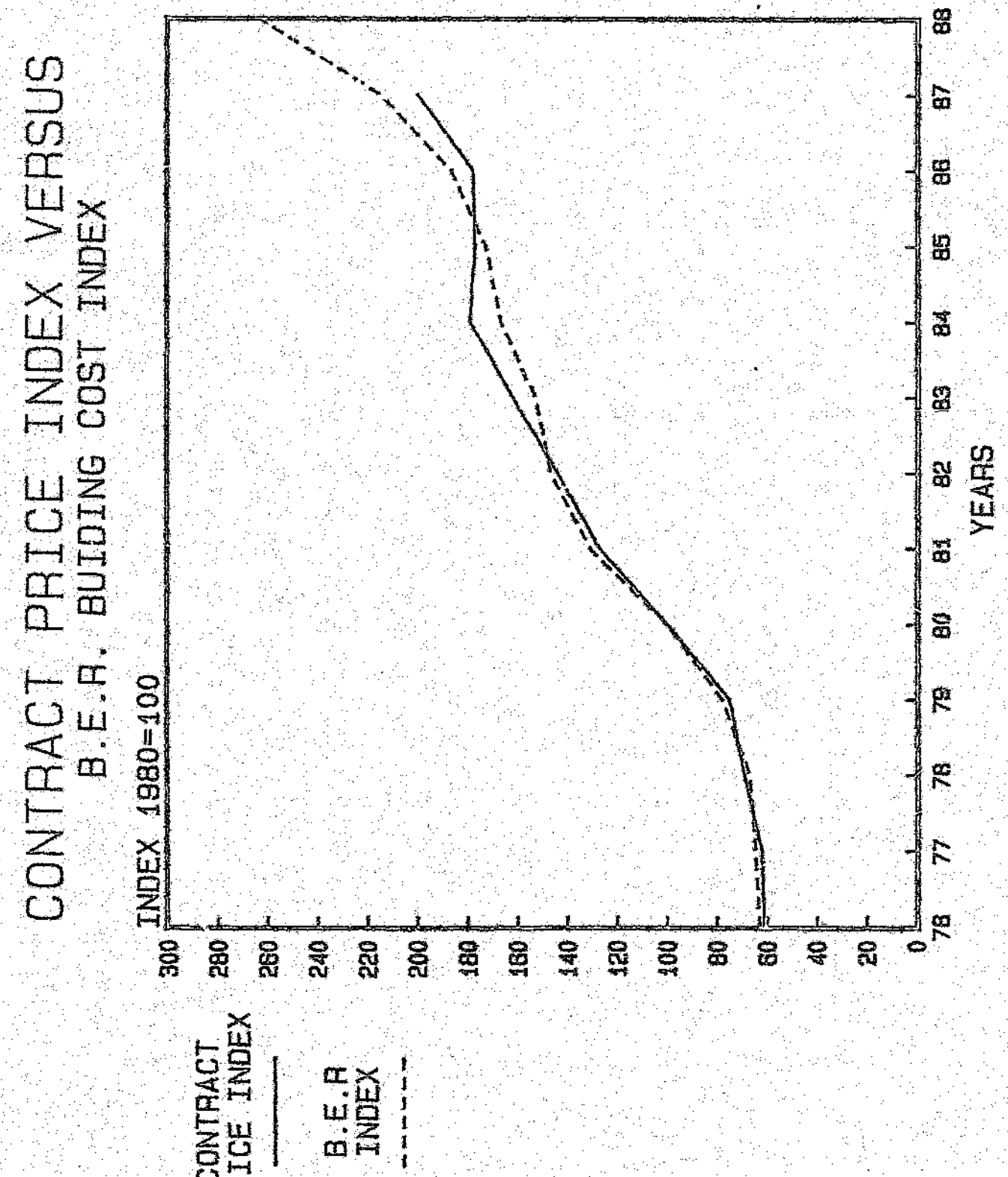
Although these figures seem to be rather alarming, they must indeed be placed into perspective. This can be done by asking the question, what will an average white South African's median income be at that stage? This would help to address the recent

CONTRACT PRICE INDEX VERSUS
B.E.R. BUIDING COST INDEX

SOURCE: Central Statistical Services. B.E.R. Building Surveys.

FIGURE 5.4

FIGURE 5.4



SOURCE: Central Statistical Services. B.E.R. Building Surveys.

and present situation regarding affordability and building costs, where a measure must be made of whether building costs and/or inflation could grow at a faster rate than average white incomes. If they can grow at a faster rate than average white incomes, then the attendant level of affordability would most probably be reduced. The measure of most importance here however, would be that of the consumer price index, because the increase in the cost of living should be taken as being a fairly good indicator against which building costs can be measured. The Consumer Price Index should provide some kind of benchmark due to its bearing on the everyday implications of livin .

In the assumption that salaries keep pace with the C.P.I. over the medium term, it becomes an interesting exercise to actually compare the relative cost increases of building a house compared to the overall increase in the cost of living. As has been mentioned above, this does not totally measure the affordability of individuals to own a new house since another most important variable, the cost of money, must be taken into account. As has been reported frequently in recent times, the current high interest rates together with the problem of inflation in the building industry have ately put the concept of owning a home beyond the reach of many people.

If the high interest rate problem can be of a relatively short term nature, then the major determining factor in the affordability and rises of new houses would be that of the cost increases in the building industry which have exceeded the consumer price index. This has not however tended to occur in the 1980's, based on the recent trends in mortgage bond rates.

In order to gain a better perspective of the similarity and dissimilarity in the percentage growth and indices growth of the respective building cost indicators as opposed to the relevant growth of the average white incomes and the consumer price index,

TABLE 5.5

TABLE OF AVERAGE WHITE INCOMES, CONSUMER PRICE INDEX AND BUILDING COSTS

I = Index
% = % Change

YEAR	AVE. WHITE INCOME	AVERAGE WHITE INCOME		CONSUMER PRICE INDEX		MATERIALS PRICES INDEX		INDEX OF LABOUR COST (ARTISAN)		B.E.R. BUILDING COST		HAYLETT (BIAC)		AVE PRICE INDEX NEW DWELLINGS		CONTRACT PRICE INDEX		NAHB HBC INDEX		MERKELS INDEX	
	(R)	I	%	I	%	I	%	I	%	I	%	I	%	I	%	I	%	I	%	I	%
1970	3 252	28,3		36,1	5,8	28,2	4,8	40,0	9,4	32,2	10,3	30,9	4,7	38,7						40,4	2,2
1971	3 576	31,2	10,0	38,3	6,1	29,3	3,7	44,6	11,6	39,2	21,9	31,9	3,1	42,4	9,6					42,6	5,3
1972	3 804	33,2	6,4	40,8	6,5	30,6	4,5	47,3	6,2	39,4	0,6	33,7	5,7	44,2	4,1					45,1	6,0
1973	4 200	36,6	10,4	44,7	9,4	34,2	11,6	51,5	9,3	43,9	12,0	36,9	9,8	47,1	6,5					48,5	7,5
1974	4 776	41,6	13,7	49,4	11,7	40,5	16,5	56,2	8,5	51,8	17,5	44,6	20,5	59,6	26,5					55,3	14,0
1975	6 132	53,5	13,8	56,5	13,5	49,5	22,0	63,8	13,5	58,3	12,5	54,1	21,6	68,5	14,9			52,2	13,9	62,9	13,8
1976	6 840	59,6	11,5	63,2	11,2	57,9	17,2	73,1	14,5	63,3	8,6	62,1	14,7	70,7	3,4	61,2		60,7	12,1	68,1	8,1
1977	7 476	65,2	9,3	70,4	11,2	65,0	12,3	80,8	10,5	64,8	2,4	69,6	12,0	77,6	9,6	62,0	1,4	69,0	2,4	75,7	11,3
1978	8 376	73,0	12,0	78,0	10,2	72,9	12,2	86,2	6,7	67,0	3,4	77,1	10,8	80,3	3,4	65,7	6,0	70,7	11,9	80,0	5,6
1979	9 672	84,3	15,5	88,4	13,1	86,6	18,7	91,2	5,8	78,9	17,7	86,9	12,9	83,6	4,1	75,0	14,1	80,3	19,7	85,5	6,9
1980	11 472	100,0	18,6	100,0	13,8	100,0	15,5	100,0	9,7	100,0	26,7	100,0	15,0	100,0	19,6	100,0	33,3	100,0	24,7	100,0	16,9
1981	13 596	118,5	18,5	114,5	15,2	111,9	11,9	113,8	14,3	131,4	31,4	114,5	14,8	126,1	26,1	127,2	27,2	118,7	18,7	121,2	21,3
1982	15 780	137,6	16,1	131,9	14,7	131,2	17,3	133,8	17,3	147,3	12,1	137,1	19,4	158,3	25,5	143,9	13,1	132,9	11,9	151,0	24,6
1983	17 748	154,7	12,5	147,8	12,3	149,6	14,2	158,5	18,6	153,3	4,1	161,3	17,6	178,4	12,8	162,3	12,8	150,4	13,2	168,1	11,3
1984	20 028	174,6	12,8	165,3	11,7	162,2	8,5	179,8	13,5	167,7	9,4	181,3	12,4	203,5	14,0	179,0	10,3	163,7	8,9	182,9	8,9
1985	22 188	193,4	10,8	193,9	16,7	185,5	14,4	199,0	11,0	173,9	3,7	207,6	14,5	201,5	(0,9)	176,9	(1,2)	178,5	9,0	199,2	8,0
1986	24 940	217,4	12,4	229,9	8,6	232,1	25,1	210,3	5,7	187,2	7,7	238,3	14,8	176,7	(12,3	178,6	1,0	196,6	10,1	216,9	8,9
1987	28 380	247,4	14,4	266,9	16,1	266,3	14,7	236,6	12,5	215,0	14,8	270,0	13,3	165,7	(6,2)	200,8	12,4	224,1	14,0	246,6	13,7
1988	32 906	286,8	15,9	300,3	12,5	313,6	17,8	250,6	5,9	263,0	22,7	313,8	16,2	176,8	6,7	-	-	268,1	19,7	289,0	17,2

a composite table must be studied. This has been presented in Table 5.5.

5.4.1 *ANALYSIS OF TABLE 5.5: TABLE OF AVERAGE WHITE INCOMES, CONSUMER PRICE INDEX AND BUILDING COSTS*

In order to analyse this table, a simple average arithmetic method will be employed which will involve looking at four time periods and discussing the arithmetic mean over the respective periods. Secondly, the compound average annual growth rates for the periods concerned will be examined. This should give a more correct perception of the average and total growth over the 1970-1985 period.

5.4.1.1 *METHOD - ARITHMETIC MEANS*

The four periods under question to be looked at would be 1971-1975, 1976-1980, 1981-1985 and 1985-1988. The arithmetic means of the different indicators for each of the periods have been presented below in Table 5.6. The arithmetic mean has been used to facilitate easier comparison.

TABLE 5.6

COMPARISON OF INDICATORS - AVERAGE ANNUAL INCREASES

PERIOD	AVE. WHITE INCOME	CPI	MATE-RIALS INDEX	LABOUR INDEX	BER	HAYLETT (BIAC)	NEW DWEL-LINGS	CONTRACT PRICE INDEX	WAHB HBC INDEX	MERKELS
1971-1975	10,9	9,4	11,7	9,8	12,8	12,1	12,3	-	-	9,3
1976-1980	13,4	11,9	15,2	9,4	11,8	13,1	8,0	13,7	14,2	9,8
1981-1985	14,1	14,1	13,3	14,9	12,2	15,7	15,5	12,4	12,3	16,3
1985-1988	13,4	13,4	18,0	8,8	12,2	14,7	(3,2)	4,1	13,3	12,2

Comparing the average growth patterns of average white incomes versus the consumer price indices for three of the four periods

indicated, the increase in white incomes have kept pace with inflation. The boom period in the building industry of the early 80's had shown an unprecedented building cost increase due to the high demand for housing compared with the free flow of funds. This had become evident during the first part of the 1980's (1981-1985). During this period, not one of the indicators had fallen below an average of 12% which can be considered high if compared to the first two periods. Although in this period average incomes had risen at an average of 14,7% per annum, the Merkels, Haylett, labour and new houses indices rose at a faster rate, determining to some extent the increased level of less affordable new housing being built.

Comparing the 1985-1988 period with the 1981-1985, a new picture starts to emerge; that of a decrease not only in white incomes but also the consumer price index and all the building costs. Over this period the B.E.R. index has shown a brave 5,7% average annual increase which has demonstrated how tight the tendering had become and how much margins must have been squeezed. The index for all new dwellings had been negative, indicating that most homebuilders alike started taking advantage of the benefit that the first time homeowners subsidy had offered over this period. In general there had been a greater trend towards an affordable housing approach, but average annual costs like inflation (CPI) had still been too high to be healthy. This had also been the case with labour and materials which by this stage had started to flow more freely and had not been experiencing the bottlenecks that had been the order of the day in the early 1980's. The Contract Price Index, the Haylett Index and the Homebuilders Cost Index had also begun to follow this pattern of decreasing annual costs, due to the greater acceptance and understanding of what the market demanded as opposed to dictating what had been thought that the market wanted. However, with the high interest rates bei., experienced at that stage (right up to recent times), the financial implications still have offset any benefit resulting from a downward trend in building costs. It is

interesting to note how the historic increase in building costs have played a subsidiary role to the current high rates of interest which have forced potential homeowners to modify their aspirations when attempting to satisfy their housing needs. The information contained in Table 5.6 can be seen in a graphical perspective in Figures 5.8 and 5.9.

5.4.1.2 *METHOD 2 - COMPOUND AVERAGE*

Similarly as in 5.4.1.1 the same four periods under question have been scrutinized.

TABLE 5.7

COMPARISON OF INDICATORS - AVERAGE COMPOUND ANNUAL INCREASES

PERIOD	AVE. WHITE INCOME	CPI	MATE-RIALS INDEX	LABOUR INDEX	BER	HAYLETT (BIAC)	NEW DWEL-LINGS	CONTRACT PRICE INDEX	NAHB HBC INDEX	MERKELS
1971-1975	10,8	3,8	15,0	8,8	11,1	15,2	13,9	-	-	9,9
1976-1980	11,4	11,9	15,2	7,0	12,2	12,3	7,4	13,3	12,3	8,8
1981-1985	12,5	18,5	12,7	16,2	6,3	16,1	11,6	8,2	10,1	13,6
1985-1988	12,2	13,7	16,8	6,9	13,4	12,8	(3,3)	4,6	12,9	11,6

The situation regarding compounded averages has shown the actual average annual growth over the period concerned. This has not merely been an average, but a growth average which should give a better perspective of not only how much the index has grown by, but also a more correct impression for comparison purposes. The table has shown how over the different periods from 1971 to 1988, most of the indicators have grown at a faster rate than that of average white incomes, but for the period 1983-1985 when the affordability problem had obviously started to present itself in perspective, particularly with decreased average white earnings, the indicators had begun to decrease even below that of average white earnings in the case of the B.E.R. Building Index, Completion Values of new dwellings, the Contract Price Index and

the Homebuilders Cost Index. The same would be true for the period 1985-1988 where most of the indicators have either been equal or lower in percentage to that of the average white earnings or the C.P.I.

However, if one has to take into account the importance of the Consumer Price Index as being not only a general measure of the cost of living, but also having a strong housing component within its make-up, then its average annual compound growth over the latter three periods has been greater than that of the average compounded annual income for the same periods. In essence this had shown a true lack of affordability because of the fact that prices had been rising faster than incomes and in those cases where some of the building costs had been rising at a greater rate than that of the consumer price index, the situation had now been aggravated even further.

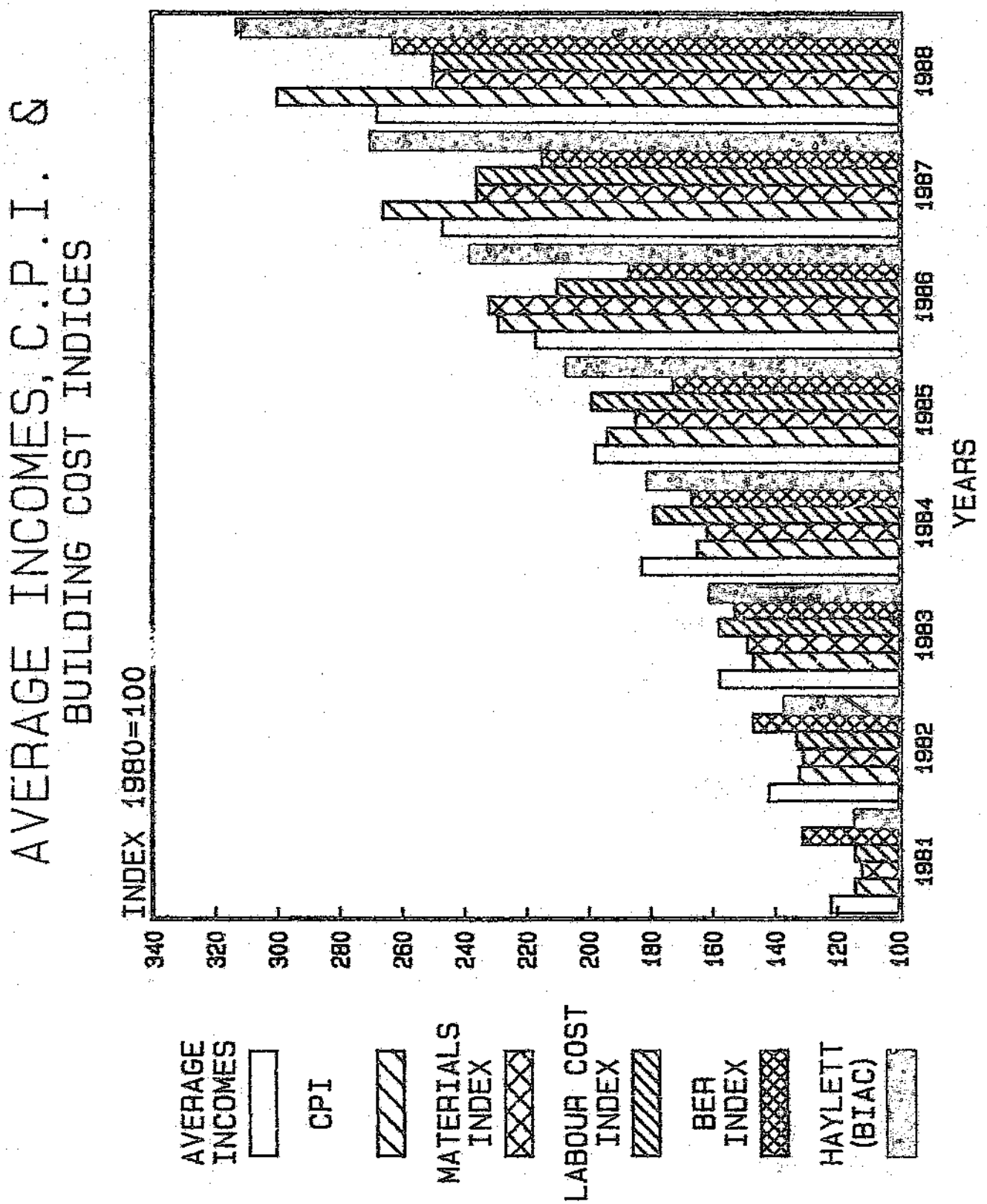
Again as has been discussed above, the whole issue of comparing building costs must be seen in perspective, i.e. the issue of changing interest rates and its effect not only on costs but also on affordability must be considered at all times.

5.5 *THE USE OF BUILDING COSTS AS DEFLATORS - A BRIEF DISCUSSION*

In order to establish real growth trends in terms of value in the homebuilding industry, current values (nominal values) have needed to be adjusted with realistic deflators in order to reap real figures. The relevant time series such as buildings completed and building plans passed can only be compared if the monetary values remain constant and certain time adjustments to a common base can in fact be made.

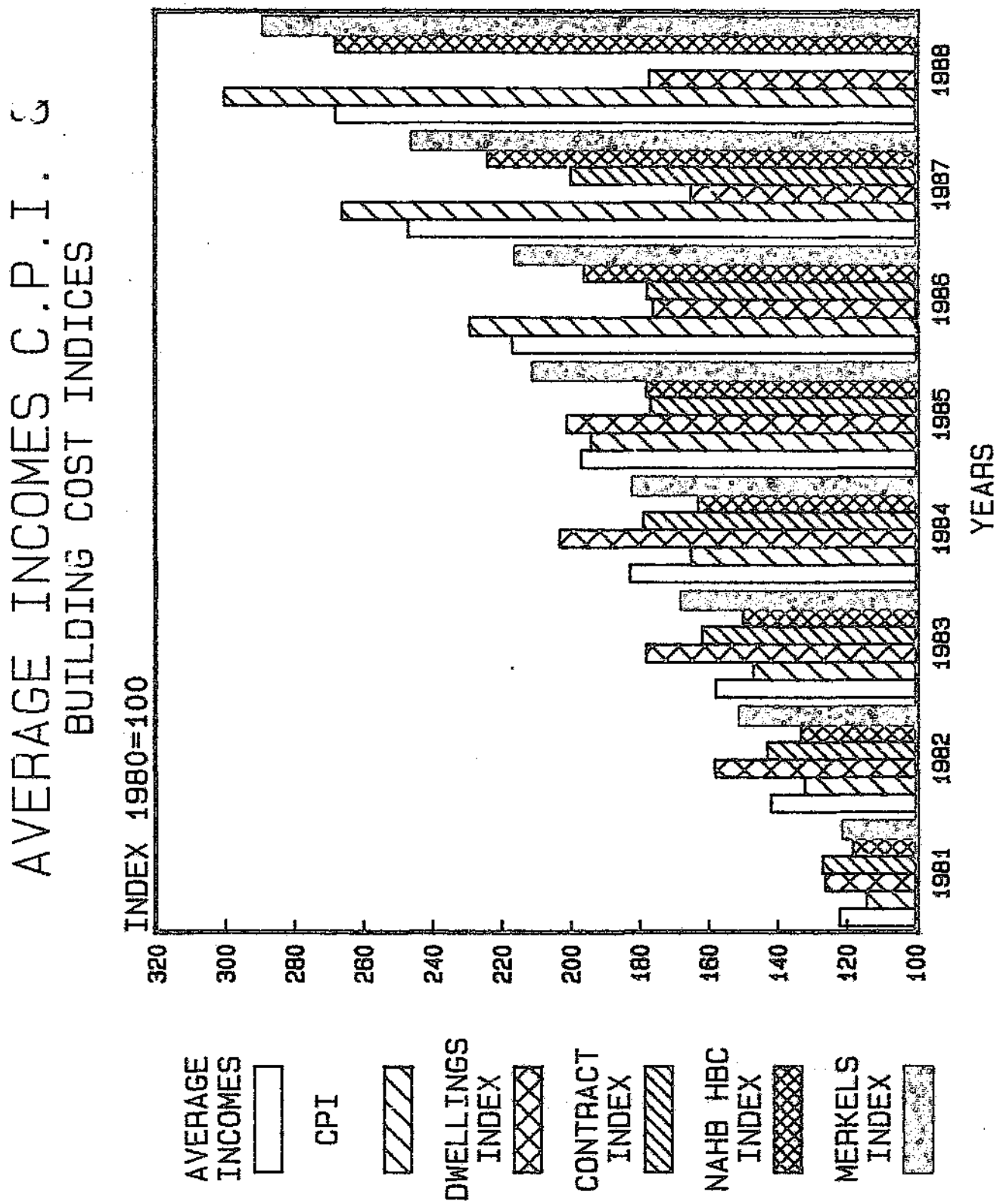
A further factor which must seriously be considered when comparing relevant time series, is the aspect of quality. Killian

FIGURE 5.8



SOURCE: Central Statistical Services. B.E.R. Building Surveys.

FIGURE 5.9



SOURCE: Central Statistical Services. B.E.R. Building Surveys.

has referred to this in some detail.[1] For example, an increase in the real value of building plans passed, may not occur due to an increase in real activity, but rather due to an increase in the quality of the building work.

In essence, the value of a deflator would be to eliminate inflation from a time series. The more important deflators available in South Africa today would be as follows:

i) B.E.R. Building Cost Index and Deflator,
ii) Consumer Price Index,
iii) The Contract Price Index for Buildings,
iv) Wholesale Price Index of Building and Construction Materials,
v) S.A. Reserve Bank Deflators,
vi) B.E.R. Index of Labour Cost in the Industry.

The validity of the successful use of some of these deflators should be borne in mind before choosing one at random. Business and Marketing Intelligence have ventured that the two most worthy of consideration would be the B.E.R. building deflator and the S.A. Reserve Bank deflator.[2] The reason given for this has been that in the case of the former, its validity stems from its length as a time series whilst for the latter, it has recently diverged from the B.E.R. deflator and thus has historical credibility. Had the Contract Price Index for New Dwelling houses been running for a longer period of time (it was initiated in 1976), it might have gained greater credibility due to its relatively popular acceptance as a good indicator over the past few years.

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1. Kilian, W.R. On Stabilising Construction. Bureau for Economic Research. Stellenbosch. April 1976. p.82.
2. Business and Marketing Intelligence. Prospects for Building Materials and Fittings in South Africa 1984-1989. Volume 1. Industry Overview. pp.12-13.

5.5.1 *HOW THE DEFLATOR WORKS AND ITS USEFULNESS FOR THE COMPARISON OF TIME SERIES*

It has become most important when choosing a suitable deflator that the index be related to and be a good yardstick of the rise in the cost of the series which has to be deflated. Due to its popularity, this study will observe the BER building cost deflator and its effect on building plans passed and buildings completed. The BER deflator has been derived as a deflator based on the series BER building cost index. The essence of the usefulness of the deflator then would be to show that the number (volume) of houses published in the series Building Plans Passed and Building Completed should compare similarly with those of the constant or deflated values of the two value series in question. Martin has proposed that theoretically, if the deflator would accurately reflect increases in building costs, the two lines of the time series involved (i.e. the number and the deflated value) should in fact coincide.[1] Martin has further postulated that if the deflator would tend to be biased downwards (i.e. deflates too severely) the value at constant prices may be too low and inversely, if smaller houses were to be built, this would have the effect of "building more houses per constant rand".[2]

5.6 *CONCLUSION*

As can be seen, costs almost always tend to escalate whether the business and/or property cycles are in a state of peaks or

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1. Martin, C.H. A Survey and Evaluation of Building Activity Indicators. Published Thesis. University of Stellenbosch. 1981. pp.5-9.

2. Martin, C.H. Ibid. pp.5-9.

troughs. Together with various factors such as mortgage rates, the general availability of finances and prospective clients equity base, the cost of housing it seems has now been pushed beyond the reach of many of the white middle income group.

In a free economy private sector, homebuilders have tended to build the types of houses that yield the best return on shareholders equity. The result has been that many new houses have been built beyond the financial reach of most of the market place, never mind the middle-income housing group. This has hindered the erection of affordable housing for the group under discussion. Builders however have remained basically a service industry supplying what the market demands. However they have not always correctly used the marketing strategy adage of determining exactly what target market should be addressed and then preparing a product or package to service that market.

In order to try and dampen the potential increases in building costs, the following suggestions might have some bearing.

(a) To try and even out the demand for the products being produced by the building industry. This could be done by emphasis on contra-cyclical expenditure by large private sector institutional investors.
(b) Allowing contractors and sub-contractors to be involved in the planning stages in order to get their input as to potential problem areas whilst building. This might cut down on time and unnecessary cost increases and material wastage.
(c) The client should be forewarned of unnecessary and costly specifications and items which might only need to be added in time to come.
(d) The final suggestion would be to allow market forces and competition to operate in the most effective manner in order to allow the most competitive supplier and client negotiation to take place.

APPENDIX A - Table 1

CONSUMER PRICE INDEX

(ALL INCOME GROUPS 1970-1974 AND HIGHER INCOME GROUP 1975-1985)

(1980 = 100)

YEAR	INDEX	% CHANGE
1970	36,1	5,3
1971	38,3	6,1
1972	40,8	6,5
1973	44,7	9,4
1974	49,4	1,7
1975	56,5	13,5
1976	68,2	11,3
1977	70,4	11,3
1978	78,0	10,2
1979	88,4	13,1
1980	100,0	13,8
1981	114,5	15,2
1982	131,9	14,7
1983	147,8	12,3
1984	165,3	11,7
1985	192,9	16,7
1986	228,8	18,6
1987	265,6	16,1
1988	299,0	12,8

Source: B.E.R. Trends and Department of Statistics, Pretoria.

APPENDIX A - Table II

PURCHASING POWER OF R1 (C.P.I. DEFLATED 1980 = 100)

YEAR	AMOUNT - R	YEAR	AMOUNT - R
1950	5,14	1968	3,00
1951	4,79	1969	2,92
1952	4,40	1970	2,77
1953	4,26	1971	2,60
1954	4,17	1972	2,46
1955	4,05	1973	2,24
1956	4,00	1974	2,01
1957	3,85	1975	1,77
1958	3,73	1976	1,59
1959	3,68	1977	1,43
1960	3,64	1978	1,31
1961	3,57	1979	1,15
1962	3,52	1980	1,00
1963	3,46	1981	0,87
1964	3,37	1982	0,76
1965	3,25	1983	0,67
1966	3,15	1984	0,60
196	3,06	1985	0,52
		1986	0,44
		1987	0,38
		1988	0,33

Source: B.E.R. Trends.

APPENDIX A - Table III

WHOLESALE PRICE INDEX OF BUILDING AND CONSTRUCTION MATERIALS

(1980 = 100)

YEAR	INDEX	% CHANGE
1970	28,2	4,8
1971	29,3	3,7
1972	30,6	4,5
1973	34,2	11,6
1974	40,5	16,5
1975	49,4	22,0
1976	57,9	17,2
1977	68,0	12,3
1978	72,9	12,2
1979	86,6	18,7
1980	100,0	15,5
1981	111,9	11,9
1982	131,2	17,3
1983	149,6	14,2
1984	162,2	8,5
1985	185,5	14,4
1986	232,1	25,1
1987	266,3	14,7
1988	313,6	17,8

Source: Statistical News Release. p.16. (P0142).

APPENDIX A - Table IV

B.E.R. INDEX OF LABOUR COST IN THE CONSTRUCTION INDUSTRY

(NOW INCORPORATED INTO T. ' DEPARTMENT OF STATISTICS

STATISTICAL NEWS RELEASE P.18)

(1980 = 100)

YEAR	ARTISAN INDEX	% CHANGE
1970	40,0	9,4
1971	44,6	11,6
1972	47,3	6,2
1973	51,5	9,3
1974	56,2	8,5
1975	63,8	13,5
1976	73,1	14,5
1977	80,8	10,5
1978	86,2	6,7
1979	91,2	5,8
1980	100,0	9,7
1981	113,8	14,3
1982	133,8	17,3
1983	158,5	18,6
1984	179,8	13,5
1985	199,0	11,0
1986	210,3	5,7
1987	236,6	12,5
1988	250,6	5,9

Source: B.E.R. Building Surveys - Various and Statistical News Release p.18. - Various.

APPENDIX A - Table V

BIAC CONTRACT PRICE ADJUSTMENT PROVISIONS

(WORK GROUPS 24.1 OF THE HAYLETT FORMULA)

DEPARTMENT OF STATISTICS, STATISTICAL NEWS RELEASE P.22

(1980 = 100)

YEAR	INDEX	% CHANGE
1970	30,9	4,7
1971	31,9	3,1
1972	33,7	5,7
1973	36,9	9,8
1974	44,6	20,8
1975	54,1	21,6
1976	62,1	14,7
1977	69,6	12,0
1978	77,1	10,8
1979	86,9	12,9
1980	100,0	15,0
1981	114,5	14,8
1982	137,1	19,4
1983	161,3	17,6
1984	181,3	12,4
1985	207,6	14,5
1986	238,3	14,8
1987	270,0	13,3
1988	313,8	16,2

Source: Department of Statistics

APPENDIX A - Table VI

BUILDING COST INDEX, BUREAU FOR ECONOMIC RESEARCH

(1980 = 100)

YEAR	INDEX	% CHANGE
1970	32,2	10,3
1971	39,2	21,5
1972	39,4	0,6
1973	43,9	12,0
1974	51,6	17,5
1975	58,3	12,5
1976	63,3	8,6
1977	64,8	2,4
1978	67,0	3,4
1979	78,9	17,7
1980	100,0	26,7
1981	131,4	31,4
1982	147,3	12,1
1983	153,3	4,1
1984	167,7	9,4
1985	173,9	3,7
1986	187,2	7,7
1987	215,0	14,8
1988	263,8	22,7

Source: Various issues of the B.E.R. Building Survey, Stellenbosch.

APPENDIX A - Table VII

INDEX OF AVERAGE PRICES OF DWELLING HOUSES COMPLETED

COMPARED TO THE B.E.R. BUILDING COST INDEX

YEAR	AVERAGE HOUSE PRICE (R)	% INCREASE	HOUSE PRICE INDEX (1980=100)	B.E.R. COST INDEX (1980=100)
1970	10 717		38,7	32,2
1971	11 743	9,6	42,4	39,2
1972	12 228	4,1	44,2	39,4
1973	13 025	6,5	47,1	43,9
1974	16 483	26,5	59,6	51,8
1975	18 940	14,9	68,5	58,3
1976	19 581	8,4	70,7	63,3
1977	21 465	9,6	77,6	64,8
1978	22 205	3,4	80,3	67,0
1979	23 118	4,1	83,6	78,9
1980	27 667	19,6	100,0	100,0
1981	34 891	26,1	126,1	131,4
1982	43 787	25,3	158,3	147,3
1983	49 370	12,8	178,4	153,3
1984	56 303	14,0	203,5	107,7
1985	55 772	-0,9	201,5	173,9
1986	48 164	-12,3	176,7	187,2
1987	45 152	-6,2	165,7	215,0
1988	48 208	6,7	176,8	263,0

Source: Department of Statistics

APPENDIX A - Table VIII

CONTRACT PRICE INDEX FOR NEW DWELLING HOUSES

DEPARTMENT OF STATISTICS

(1980 = 100)

YEAR	INDEX	% CHANGE
1976	61,2	
1977	62,0	1,4
1978	68,7	6,0
1979	75,0	14,1
1980	100,0	33,3
1981	127,2	27,2
1982	143,9	13,1
1983	162,3	12,8
1984	179,0	10,3
1985	176,9	-1,2
1986	178,6	1,0
1987	200,8	12,4
1988	-	-

Source: Department of Statistics.

Note: Series was discontinued in 1988.

APPENDIX A - Table IX

NATIONAL ASSOCIATION OF HOMEBUILDERS

HOMEBUILDING COST INDEX (HBC INDEX)

(1980 = 100)

YEAR	INDEX	% CHANGE
1975	52,2	13,9
1976	60,7	12,1
1977	69,0	2,4
1978	70,7	11,9
1979	80,3	19,7
1980	100,0	24,7
1981	118,7	18,7
1982	132,9	11,9
1983	150,4	13,2
1984	163,7	8,9
1985	178,5	9,0
1986	196,6	10,1
1987	224,1	14,0
1988	268,1	19,7

Source: NAHB.

APPENDIX A - Table X

MERKELS BUILDING INDEX

YEAR	RATE PER SQ. METRE	INDEX	% CHANGE
1970	95	40,4	2,2
1971	100	42,6	5,2
1972	106	45,1	6,0
1973	114	48,5	7,5
1974	130	55,3	14,0
1975	148	62,9	13,8
1976	160	68,1	8,1
1977	178	75,7	11,3
1978	188	80,0	5,6
1979	201	85,5	6,9
1980	235	100,0	16,9
1981	285	121,2	21,3
1982	355	151,0	24,6
1983	395	168,1	11,3
1984	430	182,9	8,9
1985	468	199,2	8,9
1986	510	216,9	8,9
1987	580	246,6	13,7
1988	680	289,0	17,2

Source: Merkels Builders Pricing and Management Guide.

CHAPTER 6

COST EFFICIENT HOME DESIGN AND THE USE OF INDUSTRIALISED BUILDING SYSTEMS

6.1 *INTRODUCTION*

In assessing the widening gap between the cost of housing and the affordability of potential middle-income homeowners during the 1980's in particular, various potential solutions have had to be proposed in order to ensure that buyers will get the chance to own their own homes, now and into the future. In essence this has necessitated a reduction of standards and expectations of new housing designs and products. A twofold solution approach has resulted. In order to decrease direct housing costs, cost efficient home designs as well as reduced standards and expectations of housing, together with the potential use of industrialised building systems should be proposed.

Since 1970, the average house size has fallen by over 20% and based on present trends, this would be likely to continue.[1] The average size has been affected in a number of ways:

(a) Room sizes have fallen dramatically

(b) Less number of rooms have been incorporated into new homes

(c) Garages and/or outbuildings have tended not to feature in newly designed homes.

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1. World Housing Paper. South Africa. Compiled by the International Housing Association. Edited by the National Association of Home Builders of the United States. p.90.

Housing costs have obviously been related to the design and specifications applicable to the house required. This aspect of cost must be seen to be an exercise in self-discipline. Research into elemental cost analysis has shown that design, shape, area and actual finishes have influenced the cost of a house tremendously.[1]

One of the ways of containing increasing housing costs has been to change house design and construction production techniques. This would entail improved productivity by streamlining construction techniques, the use of lower quality more easily handled materials etc. However, there has definitely been the need for a reduction in the overall house area. Although a reduction in area would normally be accompanied by a comparative increase in cost per square metre, cost benefits would be obtained in terms of absolute savings.

In addition to this, Industrialised Building Systems in general and manufactured homes in particular would seem to hold some hope for helping to meet at least a portion of these potential buyers who cannot afford housing in the segment of the market place being studied.

The Industrialised Building Association of South Africa has defined the concept of industrialised building as follows:[2]

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1. Middle-Income Housing Costs. Interim Report prepared by The Steering Committee into Housing Costs Research. NBRI 1981.

2. Thompson, D.M. Industrialized Building in South Africa. Keynote address to the conference held at CSIR on the 29th August 1989. Innovation in building the way ahead. Pretoria. p.3.

"Industrialised Building shall mean the process of manufacturing processing, assembling and erecting buildings, or parts of buildings from components and elements manufactured in a factory or on a site, using a clearly defined or definable innovative process or system which is usually, but not necessarily modular, and the manufacture and processing of components, and/or elements for use in such buildings".

However, during the last two or three decades, the Industrialised sector of the building industry has been widely discriminated against and often unjustly maligned. This has mainly been due to ignorance, not only from the man in the street, but also on the part of architects, consultants and official associates with public sector client bodies and the approving bodies such as municipalities (local authorities).

Whilst a great deal of ignorance still remains, the gradual growth of the industrialised industry has brought about the realisation that if appropriate, Industrialised Building (IB) methods could be correctly applied, there would indeed be a great benefit in terms of the provision of more affordable accommodation types for the entire spectrum of the market place.

This should be further demonstrated by the fact that whenever there has been an upturn in the homebuilding industry in particular, serious bottlenecks and cost increases have occurred due to the lack of artisans and skilled labour generally, as well as a serious shortage of key materials, mainly bricks, which have had more adverse cost and time effects on the traditional industry than on Industrialized Building.

The aim of this chapter is twofold. Firstly the needs and wants for the group under discussion relating to design and standard requirements will be discussed, together with proposals for more cost efficient housing. Secondly, the potential of the Indus-

trialised Building System as a cost saving housing alternative will be addressed together with an overview of the positive features as well as the constraints that these systems pose.

6.2 *HOUSING NEEDS AND EXPECTATIONS*

Housing standards should ideally reflect human needs and have been basic to future community planning. The regulation of housing standards will always affect to a lesser or greater degree the cost of the provision for housing. Given acceptable and adequate resources, housing needs and expectations have reflected the sociological and cultural needs of the potential group to be housed.

Human needs and preferences regarding the expectation of housing have tended to change over time depending upon which life cycle phase the family would find itself in. During the life cycle of a family, the dwelling which would be required at various stages could in fact change drastically. Young couples, who either have or would be about to start a small family, would prefer to live in their own detached dwelling even if this dwelling would not necessarily be in the exact location or suburb in which they aspire to live.[1]

In the process, changes in the financial status of the family have become an important determinant in assessing the affordability level of the family at any one period in their particular life cycle. Furthermore, according to the Ventor Commission, investigations by the National Building Research

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1. Research carried out by the author at the "Rand Daily Mail Ideal Homes Exhibition" held in Sunninghill Park during the months of September and October 1983.

Institute have indicated that there could be quite a large imbalance amongst the different racial groups and communities within those groups as regard the available supply of housing. This obviously would have a bearing on the present housing standards and upon the future design and standards criteria.

The Venter Commission has discussed this as follows:[1]

"While there is a large surplus of unused bedrooms in certain communities, there is over crowding in other cases. Differences in the financial means of families are probably the main reason for the imbalance in housing facilities, but surveys nevertheless indicate that there is insufficient differentiation in the types of housing available. This lack of a sufficient variety of types of housing (the emphasis being on size and number of bedroom areas) makes it essential that a greater variety of residential sites be ensured in new suburbs (in order for various levels of housing affordability to be attained)".

A serious conflict of interest would occur where a potential homeowner's housing demands and expectations, demand a decreased housing cost but not a reduction in his proposed standard of living. This situation has been brought about by a luxurious level of housing which the sector under discussion has experienced in the past. Following from this, the high level of housing has created an unaffordable market place for new potential homeowners. Professor Webb, a doyen of the homebuilding industry has discussed this as follows:[2]

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1. South Africa. Commission of Inquiry into Township Establishment and Related Matters. Venter Commission. Third Report. Government Printer. 1984. p.28.

2. Webb, T.L. Article in The Star Newspaper. Johannesburg, 27th April 1987.

"In the short term we are still looking at an indefensibly luxurious level of middle-income housing which neither the majority of the people nor the country can afford. People and with them, the building industry will have to adapt to reduced living standards".

6.3 *THE DEFINITION AND APPLICATION OF STANDARDS*

According to the National Building Research Institute, standards can be regarded as quality control measures applied to maintain health and safety.

As such they have associated with authority and become tools of control.[1] However a third element would now need to be added. That would be the element of affordability. This should go hand in hand with certain economic criteria which previously have tended to stifle creative design concepts when the standards have been lowered. There can be no reason why beneficial effects intended by the application of predetermined minimum standards, should create a situation where adverse aesthetic and sociological consequence result.

As far as housing has been concernsd, it has been felt that the following attributes as presented by the N.B.R.I., can be accepted as some of the more objective criteria applied for evaluating housing standards. This can only be done if there has been consideration of the unit in question in relation to all other housing units and in relation to the size and composition of the occupying household.[2]

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1. National Building Research Institute. Steering Committee into Housing Costs Research. April 1982. Interim Report. Pretoria.

2. National Building Research Institute. Ibid.

(a) Number and size of rooms
(b) Number and size of bedrooms
(c) Number of bathrooms
(d) Cost of construction per square metre
(e) Municipal or other valuation of land per square metre
(f) Municipal or other valuation of land
(g) Size of the stand
(h) The area of the main buildings
(i) The area of the outbuildings

In applying these standards however, the homeowner or potential homeowner would wish to have the following needs and wants fulfilled in order for him to reap the greatest benefit. Page-Shipp has prepared such a list:[1]

(a) Accommodation for his (the potential homeowner's) family and a secure investment for his money, at a price he can afford.

(b) Durability in that the home should maintain its essential characteristics for as long as possible.

(c) Safety from structural collapse of the home from fire and from harmful effects deriving from the materials or methods of construction.

(d) Privacy and security from casual intrusion where in fact a sensation of security may be more significant than the reality.

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1. Page-Shipp, R.J. An approach to essential standards for housing. The housing challenge : a positive approach. Building Research Conference held at the C.S.I.R. on the 24th-26th May 1983. Pretoria. p.6.

(e) An acceptable environment and protection from the effects of wind, rain and temperature extremes.

(f) Convenience and habitability.

(g) Space and facilities.

(h) Protection from hidden defects.

(i) Marketability for resale purposes.

(j) Attractive appearance in that it should have identifiable characteristics.

(k) Access to work, shops, educational opportunities, health care facilities etc.

Essential standards then concern themselves closely with building regulations laid down either at a national or local level.

6.4 *GOVERNMENT REGULATIONS AND THEIR EFFECT ON AFFORDABLE HOUSING*

The Venter Commission of 1983 following on from recommendations of the Fouche Commission of 1976 recommended a series of changes and reductions to statutory requirements which has partially taken the form of the revised so-called "National Building Regulations".

In terms of providing standards which when implemented would provide a basis for more affordable housing and housing designs, this introduction of the National Building Regulations has been a step in the right direction. It seems though, that the standards demanded have still very much been based on First World standards, which to some degree might still be perceived to be too high based on the enormous demand for lower income housing in

other racial groups. These standards however have positively affected the construction section of the house, but the need for adequate measures to be implemented in the development of land and infra-structure services, still seems to be lacking somewhat.[1]

6.4.1 *THE EFFECT OF THE NATIONAL BUILDING REGULATIONS*

Most probably the most important factor regarding the National Building Regulations and the innovative IB products has been the fact that one set of regulations should apply throughout the country and more importantly, these would be performance based. Furthermore, they have provided quite specifically for the acceptance of any industrialised building method which has an Agrement certificate, or for construction which meets the requirements of an appropriate Code of Practice. This would mean in effect, that no Agrement approved method could be rejected by a local authority, except on the grounds of aesthetics or if it would detract from the value of adjoining property.

The whole objective behind the National Building Regulations from an affordable housing point of view, has been that with a set of similar controls, cost considerations in innovative housing techniques would begin to play a vital role in ensuring the best value-for-money products for amongst others, the market segment under consideration.

The typical code of practice regarding the mobile home specifications (SABS 1122) and for mobile home parks (SABS 0130) has started to become more and more acceptable to local

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1. Webb, T.L. The Future of Industrialised Building in South Africa. Conference held at the C.S.I.R. on 27th-29th August 1985. Innovation in building - the way ahead. Pretoria. p.13.

authorities and it would be hoped that due to continuously spiralling costs of land and of conventional building materials, that the government might seriously consider the introduction of these type of homes as a more permanent type of accommodation.

Although the National Building Regulations (NBR's) have been in force for a while now, there still seems to have been some confusion as regard the true meaning and value of the functional regulations. A functional regulation would set out in general terms, what must be required (e.g. a structure must be safe).

Van Zyl has commented as follows:[1]

"The deemed-to-satisfy schedules do not form part of the mandatory requirements of the regulations but are empirical rules giving one conservative solutions to a particular problem. Local Authorities may not demand more than these empirical rules lay down, but may be satisfied with less if adequacy can be proven".

The areas in which there would likely to be significant improvements compared to the previous municipal-by-laws and which can be likely to improve the degree and amount of affordable housing passing through the pipeline, would be as follows:

(a) Time for approval has been shortened to a thirty day period.

(b) Aesthetic and environmental control.

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1. Van Zyl, I.J. The National Building Regulations and Housing. Paper delivered at the DBSA-SBL Conference. "Housing under the new Dispensation". July 1986. Johannesburg. p.1.

(c) Technical innovations in the form of the schedules as discussed in the quote above as well as the use of alternative materials. The most important innovation has been the extensive use of "functional" regulations supplemented by "deemed-to-satisfy" regulations.[1]

On reflection then, there seems to have been some improvement with the introduction of these regulations which to some degree will have a bearing on the affordability problem.

6.4.2 *AGREMENT CERTIFICATION AND MANTAG*

Although these concepts have been introduced mainly to deal with the extensive housing problems relating to the lower income groups, they have some bearing on the affordability problem at all levels and should thus be mentioned, as they have a major impact on design technology and the use of Industrialised Building Systems.

In 1969, the National Building Research Institute via the Building Industries Advisory Council, initiated the Agrement Board which had been set up to provide assurances to approval granting authorities, via the performance based certification. The main aim was to guide users as to the rational application of the techniques, and to assist manufacturers in improving their products. Up until 1982 some 69 agrement certificates had been granted.[2]

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1. Brand, J.G. Some Implications of the NBR's. SAPOA News. Johannesburg pp.20-21.

2. Business and Marketing Intelligence. Prospects for Building Materials and Fittings in South Africa 1984-1989. Volume 1. Industry Overview. Pretoria. p.191.

Considerable progress has been made in realising the potential benefits of Agrement certification and a number of constraints on the use of innovative building methods which arose from doubts about technical adequacy and quality assurance, have now been removed.

In 1983 the Agrement Board released a booklet entitled Performance Criteria and Minimum Requirements for the Assessment of Innovative Methods of Construction (December 1983, Pretoria) which resulted in the consideration of realistic criteria and requirements, which would ensure a level of performance comparable with that achieved by acceptable traditional construction and which would be appropriate for the requirements and expectation of the first world society and middle income housing in particular.

It has long been recognised by the Board that its present criteria have not been appropriate for the third world low-cost housing situation prevalent in South Africa today. Thus the board has introduced a second-tier system of certification, referred to as the MANTAG system (Minimum Agrement Norms and Technical Advisory Guide). However, this control measure does not form part of this study.

Today, the Agrement Board, through its certification process has succeeded in removing a number of obstacles, notably those of a regulatory nature, that militated against the use of innovative building systems in the past. The so-called "deemed-to-satisfy" status, accorded Agrement certificates, should effectively remove any remaining obstacles of this nature.

The present widespread acceptance of Agrement certification can be ascribed to the development of appropriate criteria, close co-operation and consultation with industry the professions and building authorities, and the greater assurance of quality engendered by the Board's post-certification inspection scheme.

The concept of the Agrement Certificate has concerned itself solely with the technical performance of building innovations and its primary purpose would be to provide objective and informed technical opinions on the "fitness-for-purpose" of such innovations.[1] Fitness-for-purpose would be determined by using the performance approach, whereby the desired qualities of a completed building or building component when installed, could be specified without prescribing how those qualities can be achieved. Criteria used would be based upon First World perceptions of what actually could constitute acceptable performance. Those criteria for example which deal with health and safety must be compatible with the functional requirements of the National Building Regulations.

Due to the fact that the South African society would tend to contain elements of both First and Third World communities, the Agrement Certificate has not catered for the lower standards sometimes required.

The Mantag has become a second tier system of certification.[2] In addition to providing extra information on durability and habitability, it has complied with minimum Agrement norms which would safeguard occupants and the community.

According to Schlotfeldt, the success of the Mantag concept has been dependent on users having a choice, influenced by what they can afford.[3]

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1. Schlotfeldt, C.J. Mantags and the Agrement Certificate. Paper delivered at the DBSA-SBL Conference. Housing under the New Dispensation. Johannesburg. July 1986. p.1.

2. Schlotfeldt, C.J. Ibid. p.2.

3. Schlotfeldt, C.J. Ibid. p.2.

6.5 *VARIATION IN THE CHARACTERISTICS AND SIZE OF HOUSING*

The wants and needs of different households would be many and have always varied. Differences of income, social strata, religious habits and values, employment, eating circumstances and family life have influenced the selection of a particular house plan and its area. Today, however, there has been more and more emphasis placed on what the household can afford, which would then tend to determine what house style and special needs should be taken into account, as well as what the size and accommodation make up should be.

According to research carried out by BMI (Business and Marketing Intelligence), not only has the average house size fallen dramatically, but the average new special residential house in the private sector has less number of rooms (as well as being smaller in area) and in the main have no outbuildings and/or garages.[1] The National Building Regulations have also deemed it possible to have a minimum room size requirement of only six square metres where previously the average size of a second bedroom was say nine square metres.

Table 6.1 has demonstrated the trend in average size of new houses since 1970, together with the average cost per house and average annual building costs.

Although there would be certain hiccups in the figures for the average size of a new house, the trend has certainly been a downward one. Although this has been partly due to high interest rates and soaring building costs (the latter can be reflected in

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1. Business and Marketing Intelligence. Prospects for Building Materials and Fittings in South Africa (1984-1989). Volume 1. Industry Perspective. Pretoria 1984. pp.102-105.

the table), the ability to afford larger houses has had a big impact on this situation as well.

The potential middle-income homeowner's major determinant in affording a new house has been his budget and consequently the size of the house that he had been capable of buying, has decreased.

In Table 6.1, figures for white dwellings only were available from 1986-1988. Prior to that about 80-90% of the completions were for whites only, which would still give a fair indication as to the averages presented.

TABLE 6.1

ANALYSIS OF DWELLINGS COMPLETED IN ORDER TO ESTABLISH HISTORICAL TRENDS IN HOUSE SIZES IN THE PRIVATE SECTOR

YEAR	INFORMATION ON HOUSES		AVERAGE COST PER HOUSE (R)	AVERAGE ANNUAL BUILDING COSTS R/M²	AVERAGE SIZE OF HOUSE M²
	NUMBER OF UNITS	CURRENT VALUE (R MILLION)			
1970	17 229	191	11 086	74	150
1971	18 256	224	12 270	90	136
1972	18 277	240	13 130	90	146
1973	22 239	312	14 029	101	139
1974	24 124	383	15 876	119	133
1975	20 377	370	18 158	133	136
1976	20 437	400	19 572	145	135
1977	17 399	357	20 518	153	134
1978	15 178	321	21 149	158	134
1979	17 353	380	21 898	180	122
1980	20 555	542	26 368	219	120
1981	24 298	809	33 295	270	123
1982	25 678	1 051	40 930	320	128
1983	29 162	1 436	49 240	395	125
1984	31 082	1 682	54 114	430	123
1985	24 199	1 327	54 836	468	120
1986	16 649	1 329	58 065	510	164
1987	17 448	987	56 622	590	154
1988	18 226	1 215	66 715	680	167

SOURCE: P.3. Series/Merkel's Guide.
05.44 and P5041.2

In a survey conducted by BMI in 1984/85, 65% of those interviewed (which included builders and new homeowners) tended to confirm that houses had become smaller. The reasons for this diminishing trend could be given as follows:[1]

Reasons for Houses becoming smaller	*% of Respondents*
Smaller rooms	29%
No outbuildings/servants rooms	25%
Only one garage	24%
Fewer rooms	11%
No garage	11%
TOTAL	100%

Although figures for the average size showed a marked increase from 1986-1988, this was mainly due to the lesser number of government subsidised houses (for first-time homeowners) being built, as private homebuilding firms could not offer this product to the market on a profitable basis. As can be seen the number of units completed had also shrunk dramatically.

In the main, however, with houses becoming smaller in order to cater for a more affordable approach to the question of new accommodation, more emphasis from a design point of view has had to be laid down, separating groups of activity into the most convenient areas of the house.

The house area should be divided for convenience sake, so that privacy can be obtained by different groups or persons. It would be preferable to have good separation by distance or insulation between living and sleeping areas, but this has not always been possible. Normally, if a house has been built for a certain

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1. Business and Marketing Intelligence. Op Cit. p.107.

family, individual preferences would tend to be catered for. However in most new houses, it has become almost inevitable that some compromises connected with the use of certain space will have to be made. Spaces allocated should if at all possible, be universal enough to adapt to a variety of life-styles, with a maximum amount of privacy for movement and activities in any room but without having to go through another room.

6.5.1 *DESIGN CONSTRAINTS*

In general, there seems to have been two approaches to the design of new houses. The first has been the so-called professional approach where professional expertise has been imposed based on what the builder and designer/architect believe would be right. The second has been based on an approach which would be market needs driven and could attempt to provide the area and plan features that the prospective homeowner would want.

The professional or "imposed" approach would usually be backed up by considerable experience and research as regard what the company or persons would best believe suits the prospective new household in terms of space requirements, based upon what they believe the homeowner can afford.

The second would pertain to a situation where depending upon the prospective homeowner's affordability profile, which would include his ability to qualify for a certain contract value, he could try to guide the builder as to what his needs and wants would be. Obviously, it has not always been possible to match these needs and wants with what the homeowner can afford.

Clearly then, the affordable house should have the area and standard of finish which the particular homeowner's salary group would match and which can be afforded by that group. Many series of plans could be designed for different income categories and

made suitable for different sizes and aspects of the land the homeowner has chosen.

With the constraints placed on the design by the present level of affordability of the prospective homeowner, together with houses particularly designed in order to qualify for the Government's first-time homeowners subsidy, future and forward planning as regard extensions, need to be prepared prior to the building of the home. This would give the homeowner potential planning possibilities for his dwelling for the future and this could then be expanded at different phases of the family life cycle.

Up until the introduction of the Government's first-time home ownership subsidy, the average white middle-income South African house had been larger in area than the average house areas in most other countries. Affordability and economic pressures have since forced this group of people to initially manage without certain areas in the new home, which previously had been an expected extra. With new homes being built in the second half of the 1980's, domestic help and in most cases the live-in servant's room have been omitted as has the garage, the second bathroom and separate dining areas.

Together with this, open plan kitchen and common living areas have also become the order of the day. There still has however been some emphasis on the open air living style and features such as patios, pergolas and braaing areas have remained. (See Appendix B for the relevant changing floor plans).

6.6 *HOMEBUILDERS ATTITUDES REGARDING AFFORDABILITY AND DESIGN*

In a free economy society, private sector homebuilders, like other businesses have been driven by the profit motive. Since the introduction of the government's first-time homeowners subsidy where the contract value had a ceiling of R40 000, margins had been eroded to a large degree by an increase in

building costs. Builders however, should remain a service industry and should thus provide a level of housing which can be market needs driven and affordable to potential homeowners.

What with these building cost increases, increases in mortgage rates and at times the general lack of available finance, the cost of housing has been pushed beyond the reach of many of the potential middle-income homebuyers. Due to a high fixed cost structure, the larger builders have shown reduced profit margins on these smaller houses, causing them to either increase their volumes in this existing market place, or move into new potential market places such as lower income, higher income or group and cluster housing schemes.

According to BMI who carried out extensive research amongst homebuilders, the following areas of new homes have been perceived as the main targets for cost reduction.[1]

(a) Smaller or less number of non-living areas e.g. bathrooms
(b) No garages, cargolas or carports
(c) No outbuildings such as maids quarters, laundries etc.

Furthermore, builders have believed that single bathroom houses have become acceptable but unpopular, whilst 2 bedroom dwelling units had been perceived to only be acceptable if there has been provision made for future extensions.

Builders believe that their profit margins have not necessarily been responsible for the high current costs and have thus rated other factors as being largely responsible as well. These factors would be:

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1. Business and Marketing Intelligence. Op Cit. p.122.

(a) The cost of building stands (as mentioned in Chapter 9)

(b) The high cost of various building materials as well as the high specifications demanded by homeowners.

Over and above this, building societies whom have always tended to value new housing on a square metre basis, would not give affordable valuations for smaller houses with better finishes, as opposed to larger houses with adequate finishes.

With cost reduction becoming the order of the day in order to provide more affordable special residential housing and dwelling units, some companies have introduced schemes whereby new houses (and specific areas in new houses) have a minimum specification of normal standard items. For example, bathrooms and kitchens have been left in a shell state without wall tiles, kitchen or bathroom cupboards, stoves, etc. This would be left to the new homeowner to accessorise according to his needs and financial situation. The concept of upgrading one's own home through renovations and additions has proven to be popular in the past number of years and the do-it-yourself market place has thus boomed accordingly.

Other innovations which have been proposed by the larger homebuilders have been as follows:[1]

(a) Efficient planning of electrical and plumbing points
(b) The proposed use of dry walling partitions
(c) Inexpensive light fittings and plumbing accessories
(d) A single primer of paint
(e) Splashback tiling to keep costs down

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1. Information as gleaned from Schachat Homebuilders, Gough Cooper, Vista Homes, Habitech and Darveg Construction.

(f) Open cupboard spaces without cupboard doors
(g) No landscaping or gardening
(h) The introduction of zero lot lines and shared boundaries.

It would be hoped that in order to combat the affordability problem then, that the public, especially the private sector middle-income market, would be more accepting of the concept of "core housing" and "lock-up shells" in the future. That is, emphasis should be placed on building greater, more affordable areas with low specification finishes - maybe not even painted or without floor coverings or wall tilings.

6.7 *THE FUTURE USE OF RESIDENTIAL SPACE - AN AMERICAN SCENARIO*

What with population statistics showing a downward trend in the United States of America, there has been a pronounced increase in the number of small families with a corresponding decrease in the number of large households. In essence this has caused residential space under-utilisation.

Johnson and Schambacher have explained that for many young families in America, investment consideration would still dominate their purchase decision and thus demand for housing space becomes a function of expected return on investment. Over the past number of years, real returns to home ownership have been unmatched by alternative investment opportunities so that there has been a strong motive to purchase more housing than would strictly be needed for shelter purposes.[1]

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1. Johnson, D.L. and Schambacher, G. Using Residential Space Wisely. Urban Land. Washington. November 1981. pp.16-20.

This has caused an excess of new units to be built which could only be affordable to specific market places and this has caused an under-utilisation of existing housing stock.

6.8 *FACTORS LIKELY TO INFLUENCE INDUSTRIALISED BUILDING IN THE FUTURE*

As an overview, it is important to briefly consider the following factors which could play a vital role in determining the future role of industrialised buildings and the attendant effect it could have on the homebuilding industry and the design or make-up of units in the future.

Webb has taken consideration of the following factors:[1]

(a) Policy

The most important single factor that has to be addressed by both the public and private sectors would be the acceptability of innovative new methods to combat affordability.

(b) Economic

Although IB systems have been more capital intensive in nature and would thus be prone to sensitivities in the peaks and troughs of the building industry, it has many advantages from the economic and affordability point of view, such as the design of buildings to more modest standards, more effective use of manpower, better cost planning and cost control, economics of scale in building projects and greater emphasis on the use of appropriate methods and materials.

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1. Webb, T.L. The Future of Industrialised Building in South Africa. Conference held at the CSIR on the 27th-29th August 1985. Innovation in building - the way ahead. Pretoria. pp.3-13.

(c) Technological

The emphasis in this instance, would be on the most appropriate application of technology suited for the specific project, in order for the greatest economies of scale to apply, so that the most affordable product may be passed on to the potential home-owner.

(d) Manpower Education and Training

Experience from countries, heavily involved in IB, has shown that traditional approaches to and methods of education and training, do not fully apply to the IB industry. Emphasis would have to be laid on Management skills, production in the factory and site and erection procedures.

(e) Building Regulations, Approval Procedures and Related Matters

Although South Africa has been known to be one of the most over-regulated countries in the western world, which has at times caused a disunity between local authorities, the introduction of the National Building Regulations in 1985 together with provision made by the Agrement board in 1969 and the typical code of practice regarding mobile homes, has ensured that the IB industry maintains minimum standards for the construction of specific structures in South Africa.

(f) Attitudinal and Social

Much of the difficulties experienced with IB has been due to a negative attitudinal and prejudicial approach to the concept. It has thus been important to prompt vigorous and effective image building by proving, rather than by merely proclaiming the important advantages of this more affordable building approach. This could be done as follows:

- Produce a better home at a lower price in a shorter time and doing so better than with a traditional building method.

- Better ergonomic designs.

- Undertaking in-depth studies of what clients want and thus meeting their needs and demands. This would offer a correct marketing approach.

(g) Assess changes in the level and nature of the demand for buildings in general and housing in particular

A most important consideration as regards the future of industrialised building is in the form of what demand considerations need to be borne by the IB industry.

Whilst the long-term growth of the homebuilding industry must rely on such basic demographic trends such as population growth, urbanisation, increased living standards and psychographics, quite radical changes in the nature of the demand for this type of accommodation must be looked at.

As far as the white middle-income market segment is concerned, there could be an increase in the demand for smaller and more modestly finished and affordable dwelling houses, many of them based on higher densities and smaller erven. This would take up a market segment where conventional building methods would be unaffordable or where the new technology would be seen as providing a better alternative to existing structures.

(h) Research and Development

Research and development into the IB process has played a particularly important role in the formulation of policy regarding appropriate standards in the housing industry. More

importantly however, its impact upon affordability at different levels for different market segments, has led to the fact that the IB industry has tried to not only reduce instability in this industry by reducing costs and improve efficiency and productivity, but has also researched the greater rational use of materials and other natural resources, to effect even greater savings in the long run.

Webb has indicated that the growth of this industry, whilst depending on the factors as mentioned above, will focus on three key aspects, namely:[1]

"- upgrading the usage (of the industry) via good results, professionalism, and meticulous quality assurance,

- developing and gaining acceptance of appropriate tendering and contractual procedures, and

- implementing good management and innovative technology".

6.9 *THE CHALLENGE FACING INNOVATIVE NEW HOUSING METHODS*

As has been mentioned on numerous occasions, middle-income housing expectations and aspirations have tended to remain too high in the face of increasing costs and less affordable housing opportunities. Thus with greater rationalisation and standardisation, and the use of economies of scale, the reduction of the cost of traditional building could even be far outweighed by the favourable introduction of innovative homebuilding methods.

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1. Webb, T.L. Op Cit. p.13.

More specifically, measures that would promote the image and potential advantages of innovation in general and IB systems in particular would include the following:[1]

"There should be increased recognition by state and local authorities of the need for experimentation in the context of middle-income housing. Zones should be set aside within which Agrement certificated innovations in building technology and standards may be seen and assessed in a real "lived in" environment. In essence, the building industry should be encouraged to demonstrate innovations in the market for middle-income housing. Secondly, the building society movement should consider a formalised modus operandi to allocate more loans against innovative building systems that have been evaluated by the Agrement Board".

In addition, it is proposed that mortgage finance for those systems should be considered on a more equitable basis.

6.10 *INNOVATIVE BUILDING CONCEPTS - PRESENT AND FUTURE*

If one has to put the affordable middle-income situation into perspective worldwide, then the emphasis surely has to be on the fact that there has been a movement away from conventional brick and mortar into other types of building methods. Certain of these building methods have become the norm such as Timber Frame Housing in the United States, where 92% of American homeowners have been accommodated in such structures.[2] This has definitely

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1. National Building Research Institute. Unpublished report on housing costs. Pretoria 1982. p.261.

2. Housing. Ninety-Two Percent of all Americans can't be wrong. May 1985. Johannesburg. p.14.

had the effect of affording a greater number of middle-income homeowners the ability to own and afford this type of housing. Moreover, with mobile homes having become another affordable alternative, the Americans have been able to reduce the cost of such homes to fifty percent of the price of conventional homes.[1]

It has been in this vain then, that South Africa has a long way to go in respect of reducing prices of these innovative building concepts. This would most probably be due to the fact that with little economies of scale taking place, current mobile home prices have only been 12% below the conventional price, but it can be forecast that a stage could be reached when this figure could become 25% in the not too distant future.[2]

At this stage, the alternative innovative building concepts should be looked at.

6.10.1 *TIMBER FRAME HOUSING*

For many years, South Africans have accepted brick and mortar as the only traditional method of building their homes. This acceptance has developed almost into a custom, notwithstanding the many attempts by various organisations and competitive industries to introduce new building methods, systems and materials into the South African way of life.

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1. The Professional Builder. Housing : A Growing Need for a Review of Attitudes. April 1984. Johannesburg. p.20.

2. The Professional Builder. Ibid. p.20.

However there would also be the understanding that most products have a life-cycle and sooner or later competitive products will emerge and take their rightful place. In the homebuilding industry, if we look around at the homes that have been built primarily in the western world, it can be seen that most of the new homes use timber frame construction. At this stage, South Africa is one of the only Western countries where timber frame has played only a very minor role in the domestic housing mix.

As far as the aspirant homeowner has been concerned, rising conventional building costs have certainly contributed to the search for alternative building methods. But more than this, it has been the growing awareness of other benefits of timber frame construction, that has already dissipated long-held misconceptions about these homes.

Apart from other cost savings, the greatly reduced construction time of timber-frame houses has saved on occupational rent and capital payments during construction, thus providing a positive move to greater affordability of the product. Constructing a timber frame house would take only one-fifth of the time required to build a conventional house.[1] Once the concrete slab has been laid, the frames, trusses and roof cladding can be erected in the space of a few days. To build an entire timber frame house can take in the region of only 4-5 weeks.

The main difference between a conventional brick constructed house and a timber frame house has been in the wall construction.[2] The external walls of a conventional house would normally measure about 230mm thick, resting on a concrete foundation which would measure on average 600mm by 300mm.

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1. Housing. May 1985. Op Cit. p.14.

2. Lubbe, W.F. Timber-framed versus conventional houses. Housing. Johannesburg. August 1986. p.24.

Internal walls would normally be at least 110mm thick and rest on a similar thickness as that of the external walls.

The most accepted concept of timber-framed houses in South Africa has been in the form of timber frame brick veneer. A light weight timber frame would form the external and internal skeleton for the walls of the house.

This skeleton would be erected on the substructure, i.e. the foundations for the external walls, whilst a timber suspended floor or a cement slab would suffice for the internal walls. The roof would be anchored and supported on the external walling system. Windows and door frames would then be mounted in the external frames prior to cladding, with a single leaf of non-load bearing brickwork or other acceptable cladding materials. Cladding materials could also consist of stone, cement render tile hanging, wood cladding, composition board and plastic. Internal walls would be cladded with gypsum board, timber or any other approved and acceptable cladding material.

As regards the quality of timber frame houses, they have been proven durable and acceptable by the National Timber Research Institute in terms of their thermal properties, fire resistance, long lasting materials support, etc.

The case presented by Lubbe would indicate that one of the most important properties of this flexible construction method has been the fact that the building can take place on unstable ground or surfaces which in itself can be a massive cost saving which can be passed onto the potential new homeowner in the form of a more affordable product.

What with the structural design of components and the overall design structure of the housing system conforming to the SABS requirements as set out in the new National Building Regulations,

it could be likely that a much more lenient attitude would be taken by the various financial institutions and local authorities.[1]

Of the sample of 62 major municipalities that Lubbe has approached, 21% intimated that they would not allow the erection of timber frame housing in their areas of jurisdiction.[2]

However, if the bottom line should be that the future homeowner can cut down the time span between preparation of the land until the day he can move in, as well as saving on the cost of an alternative dwelling unit and interim interest in financing the building costs of the new house, as well as stopping the escalation in material costs to some degree, then this must have an impact on the marketability and affordability of such a product.[3]

6.10.2 *THE MOBILE HOME CONCEPT*

The introduction of this concept took place in the early 1970's when the design of the units had been based largely upon their American counterparts. Due to the fact that this concept has up until now, had no cost efficiencies due to lack of demand, their use has been largely confined to temporary housing structures on construction sites.

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1. The Star. Timber Frame Houses can solve Housing Shortage. Johannesburg. 17th May 1986.

2. Lubbe, W.F. Op Cit. p.24.

3. The Star. Homeowners can save a lot with timber frame homes. Johannesburg. 7th June 1986.

In more recent years what with increasing building costs, high interest rates and the affordability problem in general, there has been a substantially keener interest from the man in the street.

Mobile home development in South Africa has followed the trend in the United States with emphasis on more conventional designs, larger areas than new average sized homes, as well as better finishes.

With this in mind, the SABS has produced a specification for mobile homes designed for permanent living (SABS 1122) as well as a code of practice for the development of mobile home parks (SABS 0130) and only mobile homes conforming to the SABS specification have been allowed to be sited in these parks.[1]

But would it be possible for this concept to work in South Africa like it has in the United States? This would depend upon whether a project could be feasible or not. The feasibility would be based on the following guidelines which have been presented in Table 6.2.

TABLE 6.2

FEASIBILITY AND PRE-DEVELOPMENT STAGES OF A NEW PROJECT

Feasibility

a) Marketing Research
b) Costing and Price Analysis
c) Cash Flow Pro-Forma (Optimum and Conservative Strategies)
d) Competitive Project Analysis

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1. Housing. Local Authorities - The Onus is on You. June 1984. Johannesburg. p.11.

Pre-Development

a) Planning/Zoning Support
b) Land Appraisal
c) Licencing Fees
d) Architectural Model Construction

Source: Housing. June 1984.

The development of subdivisions and rental parks in accordance with the table as presented, has become a flourishing industry in the United States. In 1985, there were about 25 000 parks and since then, there has even been a further trend toward freehold subdivisions, although in essence the majority of residential parks have fallen within the rental format category.[1] The rental park category however seems to have been the more favoured option as the majority of residential park mobile homeowners have favoured the lifestyle it affords. This would be due to the fact that the ground does not have to be purchased and the monthly levy would be kept low, so that the overall financial package could be affordable to a larger proportion of the population, that needs to be housed.

As regard lifestyle and privacy, with the rental parks in particular, mobile home parks desi[illegible] would include such amenities as landscaping and open space provision, community activity, security in some cases and curvilinear streets and neighbourhood facilities such as sport complexes and shopping facilities, to improve the quality of life. In the United States, a typical mobile home park would include a central clubhouse with tennis

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1. Housing. Residential Parks - can they work in South Africa? January 1985. Johannesburg. p.22.

courts and swimming pools etc. The provision of services and the construction of roads would be the responsibility of the developers. These facilities would be managed and maintained by the park operator. This would be opposed to the normal subdivision, where the mobile homeowner would not only be responsible for the purchase of the unit, but the stand as well. Here it would be unlikely that any communal facilities would be found such as in the rental parks.

One of the major criteria and potential problem areas regarding the establishment of residential mobile home parks would however be the suitable and appropriate locality of the proposed development. Furthermore as will be seen from Chapter 9, ground as a component in the new housing package has become increasingly more expensive and what with the emphasis on affordable housing opportunities for middle-income homeowners, attention would have to be paid in the local context, on what land usage could be set aside for such accommodation in a cost efficient and affordable manner.

The potential major advantage for the middle-income group requiring this type of accommodation, would be in buying the pre-manufactured unit and siting it in a residential park. The cost of the home would generally be more affordable than a conventional home in that these homes would cost between 25% and 30% less than the equivalent home built on a permanent site. (This would be if the correct economies of scale had been applied). The pre-manufactured home would normally include all plumbing, electrical systems, carpets, cupboards etc. that in many cases do not come as standard specification items in the new site-built homes today.

The speed with which the manufactured home can be erected has an obvious cost advantage which can help save the potential homeowners thousands of rands in normal interim interest costs.

As regard financing for these manufactured homes, there has been a greater move by the financial institutions to finance homes and/or land in this category of accommodation via a normal 20 or 30 year mortgage bond.[1]

After working successfully in the United States for many years now, residential parks and the mobile home concept could become a highly acceptable way of combating affordability for thousands of middle-income South Africans, presently battling to afford so-called conventional housing. Although the term "mobile homes" would conjure up the idea that these homes would be mobile, it would be unlikely that these homes would ever move once they have been placed in their initial position.

Manufactured homes via the mobile homes banner, could offer an affordable solution that would be developed to satisfy the needs of urban community developments wherever people need to be housed, not only in outlying areas. This type of housing would meet the demands of people in their evaluation of dwelling place, not only in terms of aesthetic appeal, but also in terms of their security, safety and pride of ownership needs.

6.10.3 *PREFABRICATED HOUSES*

The majority of prefabricated homes that have been built for South African purposes, have in fact been based on the use of asbestos timber frame panels with a core of woodwool and cement. The panels which make up this system would be produced in a factory and transported to site where they could be created on a concrete slab. Many of these building structures had originally been purchased for on-site accommodation for large projects or mining housing needs, with the potential purpose of subse-

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1. Housing. Residential Parks. Op Cit. p.23.

quently moving them to new projects. However due to the expense involved in such a move due to dismantling, transporting and re-erecting, these homes have never really been moved and thus generally would form part of the official housing stock.

Although the previous purposes for which this product had been utilised would not have been thought to have an impact on the middle-income housing problem, there could definitely be a use for such a product (which already has a Agrement certificate) with a more upmarket internal specification. This intended product would be used as a stepping stone for those middle-income couples who tend to be at the lower end of the affordability scale or whom had a lesser ability, to repay bond payments.

6.10.4 *TRANSPORTABLE HOMES*

As has been seen, mobile homes have generally been best suited to the mobile home park developments. At present however, very few local authorities have allowed mobile home developments to take place on private stands in urban areas. This has further been hindered by the fact that building societies have been unable to provide mortgage bonds, due to the fact that this latter home type could not be classified as fixed property.

It has been as a reaction to this that the transportable home has been developed.

Although it could be built entirely on a factory floor and transported to site in sections, it would be placed on a permanent foundation and built to conventional timber-frame housing costs. With the Agrement certificate acceptance, the house could conform to local authority requirements and would qualify for long-term building society loans.

The beauty of this type of structure has been seen in its design and specification flexibility.[1] The walls of the units would normally be timber framed with the unit having fully engineered truss systems, together with timber joisted floors. It can boast upmarket internal finishes with four alternative cladding methods.

As the units have successfully begun to look similar to standard or traditional middle-income housing units, they have become more marketable products to this sector.

6.10.5 *FUTURE TRENDS IN FACTORY BUILT HOUSING*

If one wants to define the term factory-built housing correctly, it would include the above three sections which have been discussed i.e. prefabricated housing, transportable homes and mobile homes.

Table 6.3 has compared the three types of housing products as illustrated overleaf.

In helping to provide an affordable solution to the problem of middle-income housing in the future, the following four major aspects would have to be addressed:[2]

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1. Done, B.M. The Economics of Factory Built Houses. Affordable Housing in the Eighties and Nineties. Ed. Franco Frescura. Johannesburg August 1982. Wits Housing Research Unit. p.171.

2. Done, B.M. Ibid. p.167.

TABLE 6.3

SOUTH AFRICAN FACTORY BUILT HOUSING

SPECIFICATIONS	MOBILE	TRANSPORTABLE	PREFABRICATED
Agrement Certificate	-	X	X
SABS Specification	X	-	-
Timber Frame Code	-	X	X
Floor Construction	Steel Chassis	Suspended Timber	Concrete Slab
Type of Foundation	Temporary	Permanent	Permanent
Factory: on-site Cost	90:10	80:20	35:65
Man Hours *	200	300	500
Plant Capital Cost	High	High	Low
Transportation Cost	High	High	Low
End User Finance	Medium Term	Long Term	Long Term

* Above Foundation - USA Statistics.
SOURCE: Done, B.M. Op Cit. p.167.

(a) Marketing

This in effect would be the most important component in that the future demand would be based on the middle-income housing problem being market needs driven. That is, based on the market need for a specific product at any one stage, the producers would have to supply a specific product, at a specific price which would have to be acceptable in the market place, in the right place and promoted to the right target market. Linking in with this, the greatest difficulties which factory-built housing manufacturers would have to face, would be the ability to control costs whilst volumes would fluctuate. This would necessitate manufacturers becoming involved in the large scale township developments. This would help to enable manufacturers to be responsive to consumer preferences, with regard to capabilities to provide variety and styles needed and to compete with conventional housing whilst retaining the cost advantages.

(b) Distribution

It would be of grave importance that factories be located reasonably nearby the homebuilders sites. A marketing strategy that might include the sale of homes through conventional builders, would help the builder assume relatively little risk, whilst the manufacturer would be responsible for the capital in the construction process.

(c) Financing

It should be important that a more concerted effort be made by both the building society and banking sectors to become involved in the financing of the various types of factory-built housing. This would lend greater acceptance and credibility to the new housing process.

(d) Building Suppliers

Material suppliers should work closely with the manufacturers in the development of innovative new products to suit production line techniques and the use of semi-skilled labour. Factory-built housing would represent an opportunity for the supply of pre-assembled building components rather than raw materials such as pre-cut timber units, sanitary units etc.

6.10.6 *NEW MASONRY UNIT DEVELOPMENTS*

As most of the middle-income housing development has included housing built with brick and mortar, much emphasis has been placed on the availability, cost and handling of bricks in terms of the way it could affect the building cost and thus the affordability of new special residential housing.

A number of newer type masonry units have been developed, to help solve the affordability problem of new housing, via not only the

route of reduced costing, but also by effectively reducing the construction period which would in itself reap an immense cost saving.

This can be seen in Corobrik's clay maxi brick which has proven successful and has been incorporated into a new "Fastwall" system which supposedly should improve productivity and bring cost savings of up to 33% in labour and mortar.[1] The "Fastwall" system has proven that there can be an increase in bricklayer's productivity of 25 to 30%, transport savings of up to 15% and mortar usage decreasing up to 25%. Because of the greater size of the unit compared with the conventional brick, roof heights have been reached in two thirds of the usual time. The whole emphasis of the system has been to reduce the cost of walling and thus the cost of housing.

Another masonry unit type that has been under some consideration by the National Building Research Institute, has been the 140mm masonry unit. Due to the fact that the latter organisation has not released any formal statistics regarding either its durability or potential acceptability, it would be difficult to comment as to its potential cost saving effectiveness. However, in the main, certain homebuilders whom have become hyper-aware of the affordable issues at hand, have used and tested this masonry unit and have found a degree of acceptability in the product.

6.11 *CONCLUSION*

In conclusion, consideration must be given by both potential homeowners and homebuilders to accept selective measures which would discourage the demand for excessive housing standards for

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1. The Citizen. Maxi Brick Proves Its Cost-Saving. 10th July 1986. p.26.

the white middle-income housing market in South Africa. Hopefully this will be achieved, by taking greater cognisance of the realistic affordable accommodation needs of individual families through cost efficient design standards and the attendant use of internal and external finishes, which whilst creating a low maintenance situation, should prove to be durable and long lasting.

Since most middle-income houses would be built by the private sector, for clients who can and would exercise a wide degree of choice in specification and design elements, unrealistic aspirations in the market place would be likely to creep in.

It would be by the mere economic fact alone, that ends in affordability will dictate the future in standards and design of white middle-income housing.

Furthermore, the problems of high interest rates, escalating costs, skilled labour and material shortages have become an accepted set of new rules in the middle-income affordable housing crisis. With the change in rules there has been a move to change traditional forms of construction to new more cost-effective, labour saving and product manageable approaches to the question of new housing development. The role of industrialised building systems, manufactured housing and innovative building concepts up till now, has been to some degree to supplement traditional methods, but in the long term, based on consumer needs and wants within an affordable ability to pay, there could be a greater move to these new types of housing systems and away from the traditional "brick and mortar" approach.

However, financing institutions will have to readily accept these new construction methods in order to provide potential owners with suitable borrowing facilities. At present there has been a resistance to provide mortgage finance on a large scale to the industrialised building industry.

SECTION D

CHAPTER 7

THE ROLE OF THE FINANCIAL INSTITUTIONS

7.1 INTRODUCTION

In assessing the problems associated with the provision of funds for new special residential housing for whites in South Africa and how it has impacted on affordability, a number of implications have been considered. Firstly, in addressing the direct problems of affordability, the provision of mortgage finance can be seen to be one of the business activities directing the flow of the product (a new house in this case) from homebuilder to the eventual user or client. If the flow of funds is impeded, this in turn would limit the flow in production of new houses. Secondly, after having discussed the problems regarding liquidity in the economy in general and its impact on the flow of funds into and out of institutions in Chapter 2, a discussion of the motives and role of the various financial institutions now need to be appraised.

Housing funds represent the key to control of the available resources. Labour, building, cement, land, civil engineering services and water cannot be found in infinite supply, but can be expected to increase in supply in direct response to the availability of funds. In a capitalist society, the distribution of these resources would most effectively be done through the price mechanism of the market place which should try to equalise supply and demand and direct available resources to the areas where they would most urgently be required. In the housing field, not only in South Africa but internationally as well, the deployment of funds for housing has become distorted and politicised. In South Africa, control over such funds has been

used not only in distributing the resources required to supply housing but as a means of exercising influx control and providing subsidies and perks to the public service. As this study will only deal with the private sector and special residential housing for whites in particular, not too much emphasis will be made as regard what role the government should play. However it should be worthwhile to note that there has been a dilemma as regard whether or not the state should influence the flow of funds for housing for different groups in South Africa. Should the state influence the flow of funds by subsidies, control over interest rates, direct allocation of money or by influencing or applying pressure to institutions which could draw funds from the general public? It has always been generally accepted that the state does have a function to play in assisting the poor, indigent and aged with housing. Many of the ways that this has been done has proven to be counterproductive e.g. rent control and housing subsidies for public servants. On the other hand the private sector, operating with a profit motive in mind, would be considered by many to be more efficient and effective than the state in the provision of housing and thus the major share of available funds should not be diverted away from this latter sector.

It must then be the aim of this chapter to investigate a number of topics and attempt to place the problems regarding mortgage finance and the attendant financial institutions in perspective.

7.2 *RELATIVE IMPORTANCE OF SOME FINANCIAL INSTITUTIONS IN THE ADVANCING OF MORTGAGE FINANCE FOR RESIDENTIAL ACCOMMODATION*

A lack of meaningful statistics has prohibited an exact analysis of the relative role of the different financial institutions involved in the financing of residential accommodation in general. This has been due to the fact that the available information regarding these financial institutions relates to

total mortgage financing as opposed to that of special residential housing alone. (This would also include private and public sector financing for residential and non-residential projects). Moreover, to the extent that the institutions in question have been engaged in residential financing, the amount may not necessarily be in the form of mortgage loans, but may consist of direct real estate development. Table 7.1 has demonstrated an overview of the involvement of the various institutions and their outstanding mortgage loan amounts as a percentage of their total assets for certain years.

TABLE 7.1

OUTSTANDING MORTGAGE LOANS (EXCLUDING MORTGAGES BY THE LAND BANK)

	1972		1982		1984		1987	
	Rm	% OF ASSETS	Rm	% OF ASSETS	Rm	% OF ASSETS	Rm	% OF ASSETS
Building Societies	3076	78,8	12124	77,6	16700	81,7	26116	82,4
Banks (Commercial)	506	6,9	2247	5,8	-	-	-	-
Participation Bond Schemes	806	99,4	1552	99,6	2202	99,7	3010	99,8
Insurers	419	11,0	410	1,9	434	2,0	481	0,8
Private Pensic Funds	236	6,8	260	1,9	242	1,2	236	0,7

Source: S.A. Reserve Bank : Quarterly Bulletins.

From this it can be seen that the building societies have been a major force in the mortgage market followed more recently by banking institutions and participation mortgage bond schemes. As regard pension funds (private) and insurers, their commitments in the mortgage market seems to have dwindled somewhat in the 1980's.

TABLE 7.2

PRIVATE FUNDING OF NEW RESIDENTIAL BUILDINGS

INSTITUTION	1979	1981		1983	
	R MILLION	R MILLION	% CHANGE	R MILLION	% CHANGE
Residential:					
Building Societies	435	722	+ 33,2	1 392	+ 34,3
Participation Bonds	4	8	+ 41,4	15	+ 36,9
Personal Savings/ Developments	130	379	+ 70,7	485	+ 13,1
Banks			+ 38 7	385	+ 96,2
Landbank -		.	+ 17,7	40	- 33,3
Insurance Companies	21	20	- 2,4	20	-
Pension Funds	9	13	+ 20,2	10	- 12,3
Other	60	113	+ 37,2	325	+ 69,6
	776	1 495	+ 38,8	2 672	+ 33,7

Source: S.A. Reserve Bank.

To impress upon this point to a greater extent, Table 7.2 has presented figures for 3 years showing the private funding of new buildings for the same institutions.

The institutional financing of residential accommodation therefore, has appeared to come predominantly from the building societies. Future institutional financing of new residential units will be largely dependent on the continued ability of the societies to provide this form of finance. However what with the possible changes of legislation regarding building societies, it can be assumed that banks will pay an increasingly more important role in the financing of new special residential housing in the future.

In assessing the role of building societies then, as being the largest mortgage finance institutions for new dwelling units, it has been seen that the personal private sector has funded societies with a high share of its savings. However, of more recent moment, there has been a trend by the man in the street to place his savings with other institutions such as pension funds and insurance companies, where the tax concessions tend to look more attractive. It has always been thought that savings in the building societies have been placed increasingly due to a convenience factor and where funds would be accumulated for specific home purchasing, this would contrast with savings which could be aimed at generating future income.

7.3 *THE CHANGING ROLE OF THE BUILDING SOCIETIES*

7.3.1 *THE NATURE OF THE BUILDING SOCIETY BUSINESS*

According to the Building Societies Act, of 1965, a building society has been defined as:

"An association of persons the principal object of which is the making out of funds derived from the issue of shares to and the acceptance of deposits from the public or from subscriptions by members, of advances for any purpose upon the security of the mortgage of urban immovable property".[1]

According to the United Building Society, building societies have become financial intermediaries in every way. The following has been quoted from the above source:[2]

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1. Institute of Estate Agents. Real Estate Sales Guide. The Role of Building Societies. Juta - Cape Town. p.138.

2. Falkena, H.B. et al (Ed). Building Societies. The Mechanics of the S.A. Financial System. MacMillan. Johannesburg 1986. p.90.

"Building societies stand poised between two distinct markets: the market from which they obtain savings (from surplus units), and the market into which they channel them (the deficit or borrower units). Their objective of promoting private home ownership implies that their second market consists primarily of the market for mortgage loans. The societies account for some 73% of all mortgage lending in the country, even when loans against commercial property are included in the total."

"As non-profit-seeking institutions, building societies may be characterised as asset maximisers that are constrained in their objectives only by the need to preserve the net worth of their shareholders. As such they strive to equate average revenue and average costs rather than the marginal counterparts of these variables. Of necessity, therefore, their profitability, as well as their interest rates charged, tend to be relatively low. Surpluses, which remain after the payment of dividends and taxes, emerge essentially as a result of the need to provide a safety margin in their pricing policies. Against this background, the behaviour of building societies would become understandable. It would explain, for example, their apparent preoccupation with market share and asset growth. It also tends to indicate that situations can and will arise in which the societies offer higher interest rates on portions of their funds than they receive from their mortgage loans."[1]

In terms of assets, the building society had shown the fastest growth between 1946-1960 with a compound annual growth rate of 10,3%. However since 1960, building societies have lost ground to all the banking institutions as well as to contractual savings institutions such as long term insurers and private pension funds. This can clearly be noted from Table 7.3.

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1. Falkena, H.B. et al (Ed). Op Cit. p.90.

TABLE 7.3

TOTAL ASSETS OF SELECTED GROUPS OF FINANCIAL INSTITUTIONS

FINANCIAL INSTITUTIONS	1946		1960		1984		GROWTH RATE 1960-1984
	Rm	%	Rm	%	Rm	%	
Building Societies	331	20,7	1297	28,1	20448	16,0	12,2
Commercial Banks	712	44,4	1252	27,1	39767	30,9	15,5
General Banks	46	2,9	253	5,5	15495	12,0	18,7
Merchant Banks	-	-	76	1,6	3075	2,4	16,7
Government Savings Schemes	237	14,8	252	5,5	2943	2,3	10,8
Long-Term Insurers	276	17,2	963	20,9	27691	21,5	15,0
Private Pension and Provident Funds	-	-	52	11,3	19188	14,9	16,2
T O T A L	1602	100,0	4614	100,0	128607	100,0	14,9

Source: Commission of Inquiry into the Monetary System and Monetary Policy in South Africa: De Kock Final Report. Pretoria 1985 p.78.

This in effect has meant that there has been a gradual decrease in the size of the building society movement, thus denoting once again the future importance of other institutions as well as the provision of mortgage finance.

In terms of research conducted by the three De Kock Commission reports[1] and the Du Plessis Commission report[2] into matters

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1. South Africa Commission of Inquiry into the Monetary System and Monetary Policy in South Africa. Reports 1-3. Pretoria 1978, 1982 and 1984.
2. South Africa Commission of Inquiry into certain matters relating to Building Societies in South Africa. Report. Pretoria 1982.

relating to the Monetary System in general and the building societies in particular, the reports have highlighted the evolutionary change in the operations of building societies as far as liabilities are concerned. In essence, societies have changed from institutions of pure savings to quasi-banks. The societies can no longer rely on personal savings as the lone source of funds, but they can compete actively with banking institutions for moneys from business enterprises, public bodies, companies etc.

Although the building societies have come to compete actively with banking institutions, the competition has not been on an entirely equal basis. The mutual status of societies (up until 1986) has enabled the authorities to award special privileges in the form of tax incentives to investors with building societies. It has enabled building societies to supply a larger volume of mortgage finance at lower mortgage rates than would be possible for profit orientated intermediaries. The special position of building societies has made it unattractive for other financial intermediaries to participate in the financing of residential home ownership unless demand would far outstrip supply.

Because the societies have competed actively for relatively liquid funds they have become more sensitive to interest rate changes, as reflected in the increased volatility of their interest rates on deposits, shares and mortgage loans. The societies' mortgage rates nevertheless have remained politically sensitive and they have been discouraged from time to time by the authorities from adjusting their mortgage rates to the extent that they might have wished to, in light of changes of market conditions. This has limited the interest rates that the societies have been able to offer on their deposits and shares and has served as a further inducement for shortening the maturities of their liabilities.

As far as their assets have been concerned, the building societies have been restricted mainly to providing mortgage loans and investing in prescribed gilt-edged, and semi gilt-edged securities. Apart from the concessions that the societies may own and operate property development and insurance companies, the asset side of their balance sheets has shown little change over time. At the end of 1983, the building societies' main asset being mortgage loans, reflected almost an 80% proportion of total assets. The other 20% had been made up of prescribed investments totalling some 14% whilst the last 6% constituted loans against the security of shares and deposits and of fixed property. Table 7.4 has reflected the changes of the asset structure of building societies for specific years.

TABLE 7.4

THE ASSET STRUCTURE OF BUILDING SOCIETIES

ASSETS	1946		1960		1970		1983		1984	
	Rm	%	Rm	%	Rm	%	Rm	%	Rm	%
Cash and Deposits	8	2,8	25	1,9	226	7,4	1271	6,9	1110	5,4
Government Securities	32	11,3	53	4,1	112	3,6	548	3,0	650	3,2
Other Securities	16	5,7	135	10,4	156	5,1	870	4,7	829	4,1
Total	56	19,8	213	16,4	494	16,1	2689	14,6	2589	12,7
Mortgage Loans	218	77,3	1024	79,0	2397	78,0	14833	80,3	16706	81,8
Loans against Shares and Deposits	1	0,4	8	0,6	60	2,0	493	2,7	535	2,6
Fixed Property	7	2,5	51	3,9	101	3,3	429	2,3	486	2,4
Other Assets	-	-	2	0,1	20	0,6	26	0,1	101	0,5
Total assets	282	100,0	1298	100,0	3072	100,0	18470	100,0	20417	100,0

Source: De Kock Commission. Op. Cit. p.80.

7.3.1.1 *SOURCES OF BUILDING SOCIETY FUNDS*

Table 7.5 has demonstrated just how important a role the personal sector has played in terms of deposit holdings in building societies and it should be remembered that in essence, it has been this sector that has been the main recipients of the service that building societies have provided i.e. finance at a rate which ought to be affordable so that affordable housing can be built. This main source, being the personal sector, has banded the mobilisation of small savings together in order to perform the essential function of the building society A legal limit on the acceptance of large deposits by the man in the street (especially where a tax-free or partially tax-free saving deposit has been in operation) therefore has called for many depositors to make up the large part of total deposits. This personal sector contribution to total building society funds has been fairly stable apart from a temporary increase between 1981-1982. Between 1980 and 1983 however, funds had been accepted on a larger scale from non-financial companies and these latter organisations reflected a higher level of liquidity and flow of funds in the economy in general.

TABLE 7.5

BUILDING SOCIETIES : CLASSIFICATION OF DEPOSITORS AND SHAREHOLDERS

DEPOSITORS AND SHAREHOLDERS	END OF					
	1960		1978		1983	
	Rm	%	Rm	%	Rm	%
Personal sector	1062	87,6	6911	87,3	14670	83,8
Financial institutions	38	3,1	332	4,2	895	5,1
Non-financial private-sector companies	63	5,2	389	4,9	1351	7,7
Public authorities and public corporations	33	2,7	203	2,6	533	3,1
Other	17	1,4	79	1,0	55	0,3
Total	1213	100,0	7914	100,0	17504	100,0

Source: De Kock Commission. Op. Cit. p.80.

7.3.1.2 *MORTGAGE LOANS GRANTED BY BUILDING SOCIETIES*

As has been discussed in Chapter 2, it must be important to note just how much of the new loans being granted on the construction of new buildings in general and new dwellings in particular, has been devoted to affordable special residential dwellings. If the former figures have shown any decline at all, one can assume that the latter figure (which affects this study and which has unfortunately not been able to be measured) will be scarcely affected. Looking at a more general trend over the period 1950-1984, Table 7.6 has reflected the figures of the classification of mortgage loans granted. This table has shown how the proportion of new mortgage loans granted by the societies for the purpose of construction of new buildings (of which the group under study forms part) has declined from 33% during the sixties to 23% during the latter seventies and early eighties. During the latter period, building society funds seemed to have been used more so for the financing of transactions involving existing buildings.

TABLE 7.6

CLASSIFICATION OF MORTGAGE LOANS GRANTED BY BUILDING SOCIETIES

MORTGAGE LOANS	YEARS ENDED 31 DECEMBER							
	1951-1960		1961-1970		1971-1975		1976-1984	
	Rm	%	Rm	%	Rm	%	Rm	%
Construction of new buildings	527	30,3	1314	32,6	1546	29,7	6422	23,3
Existing buildings	1178	67,7	2550	64,3	3496	67,1	20808	75,5
Vacant land	35	2,0	123	3,1	165	3,2	324	1,2
Total	1740	100,0	3967	100,0	5207	100,0	27554	100,0

Source: De Kock Commission. Op. Cit. p.81.

7.3.2 *POLICY IMPLICATIONS AND DESENSITISING THE MORTGAGE RATE IN ORDER TO HELP WITH THE CHANGE IN ROLE OF THE SOCIETIES*

The increased 'moneyness' of the building societies liabilities has had the effect of reducing the effectiveness of monetary policy because this policy has traditionally been directed at the control over money or liquid funds held with the banks. A second way in which building society operations have come to influence the effectiveness of monetary policy has been via interest rates. For an effective market orientated money policy to succeed, the attainment of realistic market related and appropriately aligned interest rates in the various financial markets would be a prerequisite. The greater volatility of the societies' mortgage rates and the fact that these rates have been politically sensitive have at times had the effect of limiting monetary authorities in their policy actions.

The special advantages which the building societies have enjoyed in the competition for funds have had other implications. The unequal competition has tended to result in lower housing mortgage rates and the larger flow of funds into mortgage loans than would have been the case under a uniform set of financial requirements for all deposit-receiving institutions. Although this may have benefited the financing of housing, including affordable housing, it has not been conducive to the optional allocation of available funds among competing uses in the economy. Furthermore, the allocation of funds to more luxury housing may have been encouraged at the expense of more modest lower-income housing.

According to the Du Plessis Commission, the mortgage rate itself may be desensitised in conjunction with a means of stabilising the demand and supply of funds. From the point of view of the building societies and the economic activities that depend on them for the availability of funds, it must be important that the government in formulating its general economic policy, should

assign high priority to the stabilisation of the flow of funds for mortgage purposes. At the same time, the demand for mortgage funds should also be approached from a stabilisation point of view, meaning that amongst other things, the extent to which individuals can afford housing should not be subject to large changes from year to year. If more market orientated adjustments should be made to the interest rates on investments with building societies, this in turn would make it more likely that an even flow of funds could come about giving a greater chance for the control of funds for more affordable housing.[1]

The mortgage rate itself may be desensitised by changing the term or duration of the mortgage when the rate has been adjusted so that the monthly payments of the mortgager can be kept as stable as possible. In view of the high level that the rate has already reached in the past number of years, little scope has remained for extending the term without increasing the total burden of interest payments excessively. Nevertheless it would remain important to meet the needs of especially first time homebuyers (where affordability has been a major criterion) by reducing the redemption of capital initially together with greater use being made of insurance against increases in mortgage rates.

Another proposal made to the Commission in question has been whether or not interest payments of the mortgagor should be allowed as a deduction against income tax. The main argument against this proposal (which this study believes would certainly have helped promote a more affordable manner of housing finance) has been the fact that by introducing it, the market mechanism would not then operate in a normal way and the achievement of the

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1. South Africa. Commission of Inquiry into certain matters relating to Building Societies in South Africa. Du Plessis. Pretoria 1982. p.40.

highest economic welfare in terms of resource allocation would not come about. Also it would be a double entendre if certain investments had to be tax free. The Commission had also been of the opinion that the group who would most benefit would not necessarily be the group for which affordable mortgage finance needed to be provided. It would further not be applicable to rentals on dwellings so that this sector would miss out. This proposal then has been seen to be more disadvantageous to the public in general.

According to the report, the situation regarding subsidies has been discussed as follows:[1]

"An obvious desensitising method is the direct subsidising of interest payments on the mortgage rate. The government already pays such subsidies on the mortgage instalments of civil servants under its housing subsidy scheme, while concealed subsidies are in fact paid by the government on loan funds provided by the Directorate of Community Development for housing. The Commission should be paid only in such a way that the financial effects of general increases in interest rate levels would not be nullified. For this reason such subsidy schemes should be subject to approval by authorities".

7.3.3 *THE AUTHORITIES' RESPONSE TO THE CHANGING ROLE OF BUILDING SOCIETIES*

In the budget speech at the end of March 1983, the then Minister of Finance indicated that the government had accepted the recommendations of the second interim report of the De Kock

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1. South Africa. Commission of Inquiry into certain matters relating to Building Societies in South Africa. (Du Plessis Commission). Report. Pretoria 1982. p.47.

Commission and that three broad guidelines would then be following in its approach to building societies.

Firstly, in order to attain a more effective monetary policy and a more efficient allocation of financial resources, it had become desirable that the building societies should, after a transitional period, be subjected to the same cash reserve and liquid asset requirements as banking institutions.

Secondly, in order to enhance the effectiveness of monetary stabilisation policy, building societies would be permitted and encouraged to quote realistic and market-determined borrowing and lending rates in competition with banks and other financial institutions.

Thirdly, because this approach might at times entail relatively high mortgage rates, the Government would be prepared to pay a direct interest subsidy to mortgagors in the lower and middle income groups, who have bonds with building societies and other approved financial institutions below specified amounts, but subject to certain restrictions on the income of the homeowner and on property values. The system of allowing building societies to issue tax-free shares and of according tax benefits to dividends on building societies shares, would be phased out.

7.3.4 *THE CHANGING ROLE OF BUILDING SOCIETIES AND ITS SIMILARITIES TO THE BANKING APPROACH*

Over the years the functions and operations of building societies have gradually changed and have come to resemble the activities of the banks in three ways.

Firstly, building societies can no longer be seen to be pure savings institutions which would rely largely on personal savings as a source of funds. They have become strong competitors with banks for the deposits of companies and institutions. Secondly,

the societies have now started to operate on a large scale with deposits and shares which can not only be technically withdrawable either on demand or short notice, but which in practice can be regarded by their holders as close substitutes for money, and not as relatively illiquid financial assets. These substitutes for money held with building societies would include transmission accounts and savings accounts, both of which could be withdrawable on demand. Even shares in building societies can be withdrawn within a matter of months.

The third 'banking' feature of building society operations has been the increased volatility of interest rates on their deposits, shares and mortgages. This would stem mainly from the fact that building societies have today been largely funded by relatively liquid deposits with monetary characteristics, and would compete actively with banks in tapping such funds.

They have, therefore, become more sensitive to money market interest rates which show greater fluctuations than interest rates in the capital market.

The De Kock Commission has reviewed the whole of the building society movement and their relationship with banks, and concluded that the status quo should not be maintained.[1] Adjustments have become necessary in order to render monetary policies more effective, and to improve the efficient functioning of the relevant financial markets.

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1. South Africa. Commission of Inquiry into the Monetary System and Monetary Policy in South Africa. Final Report. (De Kock Commission) Pretoria 1985. pp.71-77.

The Commission has delineated several options for reform of the building society movement ranging from a return to the traditional role of the building societies to one involving direct government regulation of the movement and more radical options.[1] The Commission has concluded that it would be prudent at this stage to accord continued special treatment of building societies which in turn might imply the retention of tighter restrictions on their fund raising and lending activities, than those of the banking institutions. As a counterbalance to these restrictions it had been thought that certain privileges and advantages which had been vested in building societies should be retained, such as their unique capital structure requirements.[2]

At the same time it has been recommended that building societies should be required to comply with the same cash reserve and liquid asset requirements as banks. Certain relaxations on their deposit taking activities, have also been suggested. In this respect the societies should be permitted to accept large deposits from companies and other business entities without first having to obtain special permission from the Registrar of Financial Institutions.[3]

7.3.4.1 *THE UNIFORM BANKING APPROACH*

In so far as the banks and building societies have become more aggressive competitors, the respective legal frameworks under

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1. De Kock Commission. Op Cit. pp.71-77.

2. De Kock Commission. Op Cit. pp.71-77.

3. De Kock Commission. Op Cit. pp.71-77.

which they could operate will probably be increasingly questioned. Under these circumstances one approach to the problem has been the so called 'uniform framework approach' or 'banking option'. Under this approach, building societies would be recognised as an integral part of the money creating banking sector through the repeal of the Building Societies Act. In effect, the societies would be brought within the purview of the Banks Act, either as ordinary banking institutions or in a category of their own.

Under this approach building societies would have to comply with the same basic and supplementary cash reserve and liquid asset requirements as banking institutions, differentiated only on the basis of short term, medium term and long term liabilities to the public.

At the same time they would become subject to the capital and reserve fund requirements of the Banks Act. Whereas at present, each banking institution has to maintain in the Republic a paid up share capital and unimpaired reserve funds which together amount to not less than R200 000, or 6% of its liabilities to the public in the Republic, plus 4% of its contingent liabilities in respect of acceptances and endorsed trade bills, no similar requirements have existed for building societies. At the present time, some building societies would be unable to meet such requirements, and any uniform treatment for them could well induce any societies, which had not already become public companies, to go along that route in order to derive greater flexibility as regards raising capital funds.

It also would follow that under the uniform banking approach, building societies would be taxed on the same basis as other banking institutions. The present tax free indefinite period shares and subscription shares issued by building societies would be phased out.

If this approach had to be adopted it would be difficult to justify the retention of the present restrictions on the activities of building societies, and they would have to be allowed the same freedom to accept deposits, and to lend and invest as banks have been allowed to do. On the assets side of their balance sheets, building societies have been restricted in their activities largely, to mortgage loans against the security of urban residential property and investments in prescribed gilt edged and semi-gilt edged securities. On the liabilities side the societies may not accept demand deposits withdrawable by cheque. Moreover, apart from savings deposits and transmission accounts, deposits received by building societies must have an original maturity of at least one year. There have also been legal limits on the size of the deposits held by one depositor, which can be exceeded only with the permission of the Registrar of Financial Institutions.

When discussing the advantages of this so called 'uniform approach', the following points should be noted. Firstly, this approach would not be able to be imposed overnight as it would otherwise cause certain chaos in the financial institution arena. However it could solve the problem of unequal competition between banks and building societies and contribute towards more competitive markets and more realistic market related interest rates which in turn could help provide a greater supply of loanable funds for affordable housing in the long run. A second benefit flowing from this uniform approach could be the more effective implementation of monetary policies. This could lead to a more stabilising and effective control of the monetary sector, which would lead to a realistic interest rate structure in the relevant financial markets. A third benefit could be the greater development of the financial sector in general. Under this uniform approach, both banks and building societies alike would be able to adjust their methods of obtaining funds as well as modify their lending, discounting and investing in accordance with the changing requirements of the economy.

On discussing the disadvantages of the 'uniform approach', the De Kock Commission has recognised that this approach might suffer from a number of disadvantages. Firstly, the major problem that building societies like other institutions have been plagued with, i.e. borrowing short and lending long. This problem has meant that the financing of medium and long term mortgage loans with volatile short term deposits on a large scale, would not be sound financial practice. In addition it may undermine monetary stability. It has been suggested by the Commission's findings, that in essence, building societies would still rely more heavily on short term finance with some form of restriction still applying. With this increased reliance on short term financing, building society rates would be more closely aligned with those offered by banks and thus changes in the Bank Rate would most probably lead to more comprehensive changes in the structure of interest rates.

Another disadvantage of the uniform approach would be greater difficulty which could face the monetary authorities in applying effective monetary policies in one environment where fluctuations in mortgage rates have become more pronounced. This would not only cause certain socio-political problems, but also cause the mortgage rate to rise sharply.

As regard the impact on mortgage rates, it would be expected that what with the abolition of unique privileges and advantages currently enjoyed by building societies, this would imply even higher mortgage rates, than would otherwise be the case. It could be likely that the impact of this could be a 2% rise in the mortgage rate, bearing in mind such factors as capital and reserve requirements, cash reserve and liquid asset requirements and the withdrawal of certain tax concessions from the societies.

Apart from the disadvantages already outlined by the Commission, it has been argued that a uniform system could not be introduced suddenly, because of the uncertainties and disruptions it could

create. In trying to legislate the move toward the registration of the societies into banking institutions, building societies might be induced to move into other areas of financing such as hire purchase, leasing personal loans, etc. This would then necessitate the movement of funds away from housing development.

It has been felt that a gradual movement toward this approach would be the required route.

7.3.5 *THE CASE FOR EQUITY-BASED BUILDING SOCIETIES IN SOUTH AFRICA*

As has been stated, the financial system in South Africa has undergone marked changes in recent years in response to a series of local and international influences which have been of a technological and economic nature. With this banks and building societies have been forced to adapt causing a blurring in destination between these two institutional sectors. Against this background it has not been surprising to note that certain societies have expressed a keen interest and have gone ahead with in fact becoming public companies.

The principle advantages that societies can enjoy by becoming equity-based joint stock companies probably stem from the increased scope which has been created for the society to expand. What with the present restrictions placed on societies via the Building Societies Act a society cannot set up a bank. Under the new legislation however, a building society turning public will have the ability to apply to the Registrar of Financial Institutions to open a bank. At the same time any society which has become incorporated as a joint stock company will have the benefit of greater flexibility in raising new capital.

An important spin-off has been that equity-based societies will be able to broaden their scope to operate in diverse financial

markets. They would be given the opportunity to expand their insurance and housing development companies. The Bill would however ensure that the major thrust of the business will be for the provision of loans for housing. Nevertheless by broadening the equity base it has been envisaged that a greater pool of funds could be tapped into.

The procedure for conversion has required that existing society members convert a portion of their building society shares into equity shares in the listed controlling company. Any listings would be subject to approval by the listing committee of the Johannesburg Stock Exchange. This would be followed by approval by members of the society.

On conversion, a portion of the members' shareholding would be converted into equity shares, whilst the remainder would remain as a deposit with the new society, being subject to the same benefits as previously enjoyed.

Greater disclosure of information would be required of an equity-based building society because they would have to conform to the disclosure requirements of the Stock Exchange and the Companies Act. This factor together with the greater scrutiny of building society accounts could enable the shareholders in equity-based societies to exert more control over management than has applied at present in the case of 'shareholder depositors' in mutual-based societies.

The issue of possible conversions by building societies has wider economic significance. Under their present status, (1986) they have largely operated on a non-profit basis, but with conversion to an equity base, they could encourage greater efficiency within those organisations under the spur of the profit motive. Conversions could also generate increased competition between banks and building societies with its attendant benefits.

Any successful conversions by building societies may furnish a boost for the movement towards privatisation in this country which would confer numerous benefits on the economy at large, in the form of improved efficiency. Privatisation could yield substantial revenues for the Treasury and render it more easy for the budget deficits to be contained, which in turn could assist the monetary authorities in their implementation of policy.

It has been argued that conversion to an equity base would raise the cost of mortgage finance because of the need to generate higher profits. Over the years the cost of mortgage loans have been moderated partly through assistance afforded to societies in respect of the operating costs of these institutions. One method employed has been to allow building societies to operate as mutual organisations without equity capital. On the basis of evidence presented to the De Kock Commission, the average mortgage rate of a building society would rise by more than 1/2% if the societies had to comply with the same capital reserve requirements as banks.[1] This would provide no proof however that mortgage rates of societies would probably be able to meet these requirements without difficulty; otherwise they would not opt for this conversion process. Banks and building societies could be highly geared organisations with share capital constituting a small proportion of total funding. Dividends paid out would therefore be a negligible portion of the total operating costs. The pressures to pay rising dividends over time could be accommodated by greater efficiency induced by the profit motive. Competition between mutual and equity based societies would also restrict the scope of the latter to raise their mortgage rates.

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1. De Kock Commission. Op Cit. pp.70-77.

Summarized, then Building Societies and the economy have much to gain from societies which become joint stock companies as can be seen by the examples below:[1]

- The mere indication that it wishes to become a listed company could be a useful marketing ploy for a society. Investors may deposit money with the institution in the belief that they could reap capital gains once the shares are quoted on the JSE.

- Societies will be able to raise equity capital at a cost well below the rates it currently offers on building society shares.

- Investors would probably rate building society shares highly because they would view the company as a form of specialised bank. For example, the share prices of savings and loan associations in the US - similar to SA's building societies - have risen sharply in recent years.

- A society with the status of joint stock company could create a holding company which owns the building society. Other subsidiary arms, such as an insurance company or development company, could conduct different types of business. The Building Society Bill, however, would make one proviso. Any holding company would have to invest at least 60% of its total business in a company conducting building society business.

- In the longer term, building societies could become an integral part of SA's banking system. Once this occurred, a

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1. United Building Society. A Corporate Report. Supplement to the Financial Mail. July 18, 1986. p.28.

uniform approach could be adopted, the Building Societies Act repealed, and societies and banks brought under one Banks Act.

- Conversion to an equity base would encourage greater efficiency within societies and competition between societies and banks, with added benefits for consumers.

- If present society members become genuine shareholders in listed companies, and their dividends and share price performance become directly related to management performance, their interest in the affairs of the societies will be keen.

- The discipline imposed by the JSE and Companies Act - in the form of financial reporting - would be incentives to better management.

- Greater information and scrutiny of building society accounts could also enable the owners to exert more control.

7.4 *OTHER SOURCES OF FINANCE FOR FUTURE HOUSING REQUIREMENTS*

At a stage, earlier on in this decade, there had been a call for building societies to create a secondary market for mortgage bonds in order to create a more even distribution of liquidity within the building society movement.[1] It has been implied that in periods of surplus money supply, a society ought to be able to buy parcels of bonds from other institutions, or sell them when money could be in short supply. From this a money

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1. Rand Daily Mail. Call for Secondary Bond Markets. Susan Dallas. 3rd July 1982. p.23.

market instrument would have to be created by which the bonds could be bought or sold. Acting as a negotiable instrument of deposit, or a debenture, this instrument would have to be legally recognised as a prescribed investment for banks or building societies.

The practice of using these instruments had initially been used in the United States. A secondary market would help to plan cash flows for the building societies and pension funds would be among institutions who would be interested in investing in such bonds.

The stumbling block it seems, would come when the societies were in fact short of money because other institutions would likewise be short of money as well.

By 1983, residential mortgages had become a booming business on the New York's Wall Street. Brokerage houses had been active in helping lenders package and sell mortgages to institutions, individual investors and in some cases even back to banks and savings and loans institutions.[1] Lenders, homebuilders and realtors had been behind the drive to broaden the market for mortgage securities. Mortgage securities could pass the interest rate risk on to investors - who could buy and sell the instruments as though they would be bonds and could relieve lenders from having to hold mortgages until maturity.

Of more recent moment, there have been monumental changes facing the building society movement in Britain.[2] By far the most

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1. Business Week. "Home Mortgage Becomes a Hot Item on the Street". 23rd May 1983. p.82.

2. Gidlow, Dr R.M. Mortgage Trends in Britain and their implications for South Africa. S.A. Reserve Bank. Unpublished Report. July 1986. p.1.

important change has been the competition that building societies have experienced for residential bond business. It seems that a so-called mortgage bond war has broken out in which a whole array of financial institutions besides building societies have now begun to offer mortgage finance. There has been an entry of insurance companies and even foreign banks into the British mortgage market arena. This intensification of interest and competition has yielded benefits to mortgagors, making finance more readily available, applications able to be processed faster and new irgenuitive methods of financing homes. For a long period of time new home buyers in the United Kingdom have been able to choose between two major options for purposes of meeting the mortgage obligations. The most popular method has been the one presently under use in South Africa known as the 'annuity method'.

The alternative option has been the endowment method under which only the interest payments would be made during the contracted period of the loan which can be paid off at the end of the period from the maturing proceeds of an endowment insurance policy.

Gidlow has remarked that these endowment mortgages have cost more than the straight repayment bonds in Britain, even though borrowers have benefited from the tax free lump sum emanating from profit bonuses at the time when the policies matured.[1] This has now changed for two reasons. Firstly, the life insurance companies have become aggressive competitors in providing these endowment linked mortgages. Secondly, due to a fall in interest rates, the cost of taking out endowment mortgages has been reduced. This, combined with the tax relief on endowment premiums and the lump sum benefit received on the maturity of the policy, has rendered them more attractive than traditional mortgages.

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1. Gidlow, Dr R.M. Op.Cit. p.2.

The British building societies have responded to this new situation in various ways:[1]

"For one thing, they have lowered the interest rates they specify on loans which are linked to endowment mortgages. In addition, the attractiveness of endowment mortgage finance has induced the societies which receive commissions from the life companies for policies written out to support mortgage loans, to carry out extensive mail campaigns directed at existing borrowers with repayment mortgages, to offer them the opportunity of switching to endowment mortgages. In addition, the building societies have encouraged new borrowers to take out endowment mortgages. In the case of one building society, roughly 60% of new mortgages granted have now taken this form. In effect the nature of building society finance has been transformed".

Business has seemed to boom in the endowment industry, so much so that closer links now seemed to have been formed between these two sets of institutions. More mortgage market mutations can be expected in the not too distant future in the United Kingdom. This will be done in order to create the most efficient tax saving method of paying off a mortgage bond by means of a pension fund scheme as opposed to an endowment.

As far as this impacts on the South African market place, the building societies have fast begun to increase pressure from banks, but little interest has been displayed so far from the local life assurance companies whom at present conduct very little endowment mortgage business.

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1. Gidlow, Dr R.M. Op Cit. p.2.

7.5 *CONCLUSION*

The cost of mortgage finance has constituted a heavy burden on individuals today, but this predicament has partly been the by-product of this country's difficult economic circumstances. It has also been partly due to the changes in the local financial environment and the institutions that have participated in the make up of this environment. In order to cope with the future development of special residential housing, it would be envisaged that new sources of housing finance will have to be found from institutions other than those normally associated with the provision of housing.

It now would seem likely that the building societies will perform the vital function of lending and administering. The major source of funds to building societies would appear likely to be the long term insurance industry, pension funds and possibly even banking institutions, if interest rates can be made attractive. It would seem unlikely that private sector bodies will make a significant contribution in this respect.

Banks will continue to play a function, albeit of limited scope, in lending for residential purposes. The banks have generally lacked the experienced infrastructure for building loans and will probably seek the cream of the established home market. They can be unlikely to lend in small amounts and accordingly it would be unlikely that commercial banks will play a major role in financing the black market as well as certain segments of white economic housing. Despite Government appeals, it furthermore would seem unlikely that employers will shoulder the housing burden for all their employees. Employers in future will probably be generally more prepared to provide security and assist with the administration of housing funds for employees than to finance mortgages directly. Housing subsidies by the employer, whether in the public or private sector, have been seen to be counter productive and inflationary and should be eliminated.

Pension funds, quite properly, have the interests of their members as their primary objective and must maximise the returns on investment. Generally, in recent times, they have stayed out of the housing field, whether by development or by providing finance. A possible contribution in the housing field in the future would appear to be in co-operation with and providing wholesale funds to building societies who would be equipped to inspect and value properties and conduct the expensive administration of the small loans necessary in this field. Little advantage can be seen in pension funds providing direct housing finance to their members or certain of their members. Conflicts of interest could arise and it would be in the interests of fund members generally for pension funds to rather channel funds at arms length to building societies at attractive market related real interest rates.

Life assurers too have a primary obligation to the interests of their policy holders. Because of inflation, rent control and prescribed investment requirements, assurers have virtually withdrawn from lending for or developing residential flats. Residential letting investments have generally provided low returns. Non-residential property and equity investments have been generally preferred in the light of past investment experience. In future it would be unlikely in any event, because of high administration expenditure, that assurers would enter the residential lending market. Life assurers, however, have large amounts available. A practical way in which it would seem they could invest their discretionary funds could be through the building societies by "index related bonds" or on acceptable "real" interest rates in excess of the inflation rate. The family has always played and will in future play an important role in providing housing finance to young home purchasers. Assistance by parents in providing housing for young couples has been seen as a general and desirable practice.

However, it would be in this vein then, that attractive alternatives will be likely to present themselves in the future provision of middle-income housing.

CHAPTER 8

TECHNIQUES FOR AFFORDABLE FINANCING

8.1 *INTRODUCTION*

Housing finance has probably been the most important determinant in the process of satisfying housing needs for all sectors of the community in developing and developed economies.

From the strategic marketing viewpoint, it has become clear that in the homebuilding industry in general and the homebuilding firm in particular, that periodical shortages in land, management, labour and materials do cause bottlenecks in the provision of housing for South Africans in the different income and population groups. However, there has been strong evidence that would suggest that in the majority of circumstances, the level of activity in the different housing markets (the white middle income private sector market in this instance) has been determined by the supply of long term mortgage finance and the extent to which the private and public sectors would be willing and able to allocate funds for the provision of housing.

It has become an accepted goal that every household in South Africa should have adequate housing at a cost which is reasonable in relation to income. The housing sector has always been sensitive to changes in monetary policy and in interest rates. The availability and cost of moneys are in fact critical factors as far as the housing market can be concerned.

Schlesinger has suggested that housing would be one of the few elements of private consumption expenditure where the financing of the product has been more critical to the consumer than the

capital cost of the product.[1] He has furthermore added that due to so few people being able to purchase homes on a cash alone basis and due to the capital and interest on most houses being paid on a monthly basis, the monthly cost of the housing loan has become much more important than the initial capital cost. Furthermore, Schlesinger has proposed the following:[2]

"While this does not mean that there is an infinite elasticity of demand for housing if the instalment can be kept low enough, it does mean that the average client will be prepared to incur a higher capital cost if the monthly instalment is kept to an affordable level".

In assessing the implications of finance on the role of affordable housing, the value of housing which a household can acquire has been limited by that household's current income and the proportion it can devote to housing. The rate of inflation and the level of mortgage rates can be critical factors in the determination of a household's ability to be able to afford accommodation. A small reduction in the mortgage lending rate has a significant effect on the cost of homeownership and the ability to pay.

Some of the factors that have adversely affected the affordability of housing have been the existing forms of financing that have been present, unrealistic housing standards

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1. Schlesinger, A.M. Finance for Housing-Problems experienced by the Private Developer. 8th National Housing Congress. 22nd October 1987. p.1.

2. Schlesinger, A.M. Affordable Housing Finance. NAHB Seminar on Affordable Housing. 24th March 1986. p.2.

and the attendant high expectations, low productivity and uncertainty regarding the governments stance on housing finance in general and subsidy schemes in particular.

High costs and inflation have become an international problem and have affected affordable financing schemes for new housing in particular. In South Africa the problem has further been accelerated due to the fact that building costs have increased at a rate higher than that of inflation.[1] Flowing from this however, without inflation there would not have been a problem of financing affordable middle-income housing and the need for alternate means of financing, as well as a reduction in total costs would not have been essential. However it has become apparent, that with South Africa's inflation rate, which has tended to be at frightening levels, it has to an extent become almost impossible for new potential homeowners to afford their own house.

Due to these factors, prices of new houses have risen at an alarming rate over the past decade. As has been mentioned above most first-time homeowners cannot readily afford to pay cash and thus have no option, but to enter into a mortgage agreement. The conventional annuity mortgage rate system has been applied for many years now, but this has not given new first-time homeowners in the middle income group, scope for more affordable housing.

It has thus become the purpose of this chapter to investigate the situation pertaining to different financing systems, which could present a more viable approach to the affordability question.

House financing systems and a brief mention regarding sources of housing finance as well as the present financial package systems and their workings will be discussed. The role of the private

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1. See Chapter 5.

sector will also be touched upon and finally an overview of the subsidies presently in operation will be discussed and how they impact on the affordability of housing.

8.2 *THE PRESENT HOUSING FINANCE PROCESS AND SYSTEMS*

Within the housing finance process that presently exists in the country, various related components have interacted to produce a fairly complex system.

The first component of the process has been the various financial institutions which have acted as intermediary between those who save and those who borrow mortgage finance. As has been mentioned in some detail in Chapter 7, the building society movement in South Africa has been the largest lender of this type of finance to prospective new homeowners. Once again it must be mentioned that there have been wide swings in the level of lending which has impacted enormously on the new housing market.

The next component would comprise of the housing related industries that serve the public. This would consist of material suppliers and manufacturers who have been involved in providing homebuilders with the elements to build the houses. Included in this component would be the agents who help with the transfer process.

The third component would be that sector which has and will be most affected in this system and on whose shoulders the whole question of affordable housing should rest. The public or housing consumer has been deeply involved as both borrower and saver in the realm of housing finance. The homeowner, as borrower, would need the financial resources of the person who has saved and the investor on the other hand would need the relatively high rates of return, financial facilities and selection or investment types which building societies could offer relative to the services that can be obtained from other major financial institutions. The

requirements of the borrower have generally tended to compete with those of the saver. The former, as potential homeowner would be looking for the lowest rate possible for a mortgage, whilst the latter has an obvious interest in the highest possible rate of return on his investment.

Finally, the state, in its role as promoter of general welfare, has an important influence on the housing finance process and this has been seen in the real life example of the 1983 introduction of the first-time homeowners subsidy scheme which until modified in 1988 had been a resounding success story.

As far as the private sector has been concerned, the organised housing finance systems can be broadly classified into three categories viz, the contract system, the savings bank system and the mortgage bank system. De Vos has discussed these categories as follows:[1]

a) Contract System is a system used mainly in the major European countries where a prospective home buyer has to contract with a financial agency for a period of time, before he becomes eligible for a loan. This would be a closed system and interest rates charged and paid would be well below the normal investment and lending rates. The problem with this system would be that it could provide the lender with only 30% of the purchase price of the new house and inflation would take its toll over the period of the investment.

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1. De Vos, T. An International Survey of Methods of Financing Housing. Affordable Housing in the Eighties and Nineties. Franco Frescura Ed. Wits Housing Research Unit. University of the Witwatersrand. 1983. pp.62-63.

b) The savings bank system which would match the local building society systems of South Africa, Britain, Australia and New Zealand, as well as the Savings and Loan Associations of the United States, has allowed short term savings deposits to finance housing loans. These savings deposits have normally been raised on the open market largely from a base of people not requiring mortgage loans, but the money raised has mainly been used for mortgages on housing. These types of institutions have managed to borrow short and lend long by changing the mortgage rate on new and existing loans at short notice in order to accommodate changes in the rate of interest on savings.

c) The mortgage bank system common in such countries as Italy, Denmark, Norway, Sweden and Finland, have operated in such a way by funding housing loans from securities which have been issued on the same or similar terms to that of the loans. The rate of interest would normally be fixed and at a market rate. Some of the problems associated with this type of system have been a committed rate of interest on a long term loan. Because the lending institution still has to find the interest payments on the corresponding issues, the borrower has been liable for any repayment levies.

A new era of mortgage finance has been ushered in by the entry into the market place for this type of service by the commercial banking sector. Since their entrance into the field of housing loans in 1982, they have played quite an important role in setting new precedents in the change in mortgage rates. This development has reinforced the trend towards the commercialisation of housing loans at market related levels. While the rates of interest at the start had been appreciably higher than those of the building societies, the rates have tended to be competitively lower over the past number of years. In November/December 1986, the banks dropped their rates to 12.5% from an

average building society rate of 14.5-15%. This had an incredible impact on the market place. However an important point must be made at this stage. The banks have tended to concentrate on the financing of the second hand home market in lieu of providing mortgage funds for new houses.

8.3 *THE IMPLICATIONS OF FINANCIAL PACKAGES ON THE AFFORDABILITY OF NEW HOUSING*

As in the South African homebuilding industry, the American homebuilding industry has shown ingenuitive methods of financing new homeownership for prospective buyers in recent years. This has come about due to major changes in the components involved in the supply of mortgage finance.

8.3.1 *FINANCE, INTEREST RATES AND AFFORDABILITY*

Although interest rates have been mentioned on numerous occasions in this study, a practical emphasis on how mortgage interest rates can and have affected affordability will now be dealt with.

A change in interest rates can have a profound influence not only on the cost of housing, but also on the ability of potential homeowners to afford new housing and thus be able to enter the new housing market.

A reduction of interest rates will have the effect of bringing down the cost of housing and also encourage an increase in new investment in other areas of accommodation.

Up until the mid 1970's, most Americans could buy or rent housing at a cost that was approximately 25% of their current earnings or less. In the mid 1970's, the dream of owning one's own house at a reasonable affordable rate had begun to show signs of diminished brilliance. The days of no deposit, no closing costs and a 6 to 7% mortgage rate had become a thing of the past. From 1976 to

1980 the median sales price of a new house had increased by 46% and existing housing values had risen even faster.[1] Housing costs had not become the only problem; interest rates raised monthly repayment costs even higher so that the home buyer of 1983 found himself having to pay almost three times more than that paid in 1975.

In order to combat this situation, the Americans had begun to market creative financial plans with equally ingenuitive names. These were developed by lending institutions and builders or developers to create an attractive and affordable market place for new prospective homeowners.

Following on from the ideas generated by the American homebuilding fraternity, the South African homebuilding industry followed suit and packaged homebuilding opportunities to assist buyers in owning their own brand new homes. Many reasons have been given as to why these new forms of financial packages had been introduced by builders in South Africa. It seems once again that this move has been largely due to the fact that interest rates had reached such unprecedented high levels, forcing clients to dramatically reassess their standards of housing to which they had previously aspired. Also due to the severe shortages of building society mortgage funds at times, builders have been required to find alternative sources of supplementary finance.

Before the different financial packages can be looked at, this study must address the role of interest rates in financial packages in general, together with the present financing system or principle being applied by the lending institutions. It also has the impact of lower repayments being effected for a given loan size and it furthermore increases the potential borrowing

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1. Schnidman, F. and Silverman, J.A. Housing Supply and Affordability. NAHB. Washington. 1983. p.VII.

capacity at a particular level of income. The most important factor would be that it has assisted previously ineligible potential homeowners, to qualify for the required financial assistance at a level of affordability which would be acceptable by the bank or building society authorities.

On the other hand, increases in mortgage rates have the effect of reducing the demand for mortgages and thus has a negative impact on the amount of new housing that can be constructed. Higher mortgage rates however, which have not been brought about by a scarcity of funds, may increase the availability of mortgage credit and thus also the volume of new housing construction.

The danger of the interest rates becoming variable too often, has been the effect it has had and can have on the marginal affordability of potential new home-owners. Variable interest rates not only have an influence on monthly payments, but also have the effect of increasing minimum repayment instalments immediately, should it not be possible to extend the redemption period. This has also reduced the active demand for new housing.

8.3.1.1 *THE ANNUITY PRINCIPLE*

The existing system applied by the building societies for mortgage loans has revolved around the annuity principle, where a fixed amount can be paid off monthly over the period of the loan.

The standard annuity principle would be given by the formula:

$$\text{Present value of the annuity} = C\left[\frac{1}{R} - \frac{1}{R(A+R)^{t}}\right]$$

Where C = cash flow in each year
R = prevailing interest rate
T = time period

An example will now follow:

Take a bond amount of R60 000 with an interest rate of 14.5% repaid over an 20 year period. This would require a monthly cash flow of:

$$60\,000 = C\left[\frac{1}{0{,}145} - \frac{1}{0{,}145(1{,}145)^{20}}\right]$$

$$\text{and } C = \frac{60\,000}{6{,}436} = R9\,323 \text{ per annum}$$

This would give a monthly payment of R776.

According to Trace, the monthly bond repayment should be R768.[1] The R8 differential has been calculated more accurately using computerised facilities.

Arising from this formula would be the fact that with the advent of change in the interest rates, the level of affordability would likewise change. As interest rates have tended to increase, the affordability level and the total amount of house worth in rands have tended to decrease.

The example that follows has demonstrated this point admirably. Assume that a potential homeowner has a R15 000 deposit which normally acts as 20% deposit for equity placed by the potential mortgager - some banks and building societies have now allowed a 10% equity deposit. Furthermore assume that the person would be willing and able to spend R600 per month (in the course of things he should be earning ± R2 400 in order to qualify for a 25% repayment value). The period of the bond has been set at 20 years which today would comprise a normal period over which a mortgage bond can be redeemed. The example demonstrates that with

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1. Trace, A.P. The Bond Book. Johannesburg 1985. p.14.

different interest rates, the amount lent by the mortgagor, (the institution with which he will take up the mortgage finance) will differ significantly.

At an interest rate of 20%, the potential homeowner can afford a mere R50 318 for his newly built home whilst at 14.5% he can afford R61 875 which could allow almost R11 500 extra towards the purchase price of the dream house. At a recently unheard of rate of 5%, he can afford a new home of R105 915. These interest rate changes and the attendant maximum loans and maximum house prices can be seen in Figure 8.1.

According to Schlesinger, the impact of instalment on affordability would indicate flexibility for the builder who could be willing to reduce the monthly cost to his clients of his products, even if this would result in an increase in the purchase price of the products.[1] The less the amount of disposable earnings that has to be spent on housing, the more would be available for other household and leisure expenditure.

The annuity principle which has always been used in this country has undoubtedly had its faults, one of which has been the incredibly high interest burden which has to be carried by the mortgagor over the period of the bond. On a R60 000 bond compounded monthly over a period of 20 years at an annual interest rate of 14.5%, the interest portion amounts to R124 318. This plus the capital layout, would amount to almost 3 times that of the original mortgage loan. In fact only after 15.25 years does the capital amount begin to exceed the amount being paid, towards interest. In the 1st year of the total repayment, which at the abovementioned interest rate would be R768.00 per month, only 5.5% of the principle or capital amount would be paid off, whilst

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1. Schlesinger, A.M. Affordable Housing Finance. Op Cit. p.2.

FIGURE 8.1

SOURCE: Schlesinger, A.M. Affordable Housing Finance, op. cit., p.3.

95% paid would be in the form of interest. If one could pay off a greater figure towards the reduction of the capital amount, the period and amount of repayments would reduce drastically.

If for example one has the ability to pay off an extra R100 per month towards the reduction of the capital amount taking into account the figures above, the period of payment would be reduced to 11.75 years.

Thus as has been demonstrated, the annuity principle does not tend to act in the favour of the mortgagor and thus would not be seen to be an affordable finance mechanism. Some examples of alternative mortgage instruments which have been applied in other countries, will be dealt with in Section 8.6.

8.3.2 *FINANCIAL PACKAGES AND MORTGAGE INSTRUMENTS - CREATING MORE AFFORDABLE HOMEBUILDING OPPORTUNITIES*

In order to assist the new homeowner in affording a brand new home, whilst still allowing adequate compensation to the lender, a number of financial packages have been devised and tested in various parts of the world in order to combat the affordability problem. Because of rising costs and unpredictable inflation rates, they all have certain advantages and disadvantages, depending upon the particular circumstances pertaining at the time.

The need for innovative financing techniques has received much attention over the past number of years due to increasing interest rates, lack of adequate building society finance, housing cost increases etc. It has normally been the first time homeowner who has been most in need of these schemes in order for him to afford new housing. His needs have generally related to the reduction of deposit moneys but more importantly, the ability to afford the monthly repayments.

It has been in this vein then, that different financial packages and alternative mortgage instruments have been formulated in order to make the affordability of new housing, easier to some.

8.3.2.1 *THE SECOND MORTGAGE BOND*

Most probably the most common form of supplementary finance which can and has been provided by institutions (normally other than building societies) to builders, has been the second mortgage bond. A building society may not lend money against security or fixed property unless the bond that would secure the debt would be a first mortgage bond. This provision does not, however, prevent the society or another appointed financial institution from holding a second or further mortgage if the property concerned has already been mortgaged to it by way of a first mortgage.

In most instances a second bond has to be provided by the builder in order to secure the difference in valuation that the initial lending institution (the building society) might provide and the actual selling price of the new house. The difference between the primary and second bond would be in the interest rate charged and the period for which it runs. In the main, the interest rate charges have been in accordance with the change in the prime overdraft rate and the period over which it would run would normally be for between three and seven years. Whilst it has succeeded in being an interest bearing financial instrument (the capital amount would be added to the capital amount of the first bond after the period for which it has run), it has allowed many builders to be far more flexible with regard to client qualification in terms of deposit or income and has helped to reduce requests for collateral security.

During the early 1980's whilst building society finance had been limited, new housing had been financed with a combination of first and second bonds with the latter sometimes being larger

than the former. However during those years when the societies have displayed greater funding opportunities to their clients with first bonds and to the public in general, building societies have been able to refinance second bonds with their surplus supply of funds.

In the various marketing programmes of the larger homebuilders, there has been a tendency not to harp on the point of selling the benefit of the second bond, due to the general lack of understanding of this type of financial scheme by the public in general. However it would be an accepted viewpoint that this type of financial package has helped many new homeowners into their houses, where previously they might not have been able to qualify based on a single bond alone.

8.3.2.2 *TERMS DEED OF SALE*

Although in terms of security, the builder has the advantage on a terms deed of sale agreement due to the fact that he normally would hold ownership of the property, the cash flow implications have been a negative factor. In fact, if the builder or developer has contracted on this basis, he would be unable to receive any cash flow from outside institutions. Furthermore the former has been limited by law to charge building society rates only.

8.3.2.3 *COLLATERAL DEPOSITS AND MATCHING INVESTMENTS*

In certain instances potential clients attempting to build their new homes have come unstuck due to a deposit problem. Where a potential client has the ability to afford the monthly repayments and still qualifies for building society finance, but lacks the total deposit, the builder has taken it upon himself to provide the use of a collateral deposit scheme. This has in recent years become less of a requirement, due to the fact that building societies have changed their policies regarding deposit struc-

tures or client equity finance. The builder has in fact been able to reduce the society's normal deposit requirement of 20% down to as low as 10% (even maybe 5% in new instances) by procuring a collateral deposit as further security for the building society's loan to a client. In essence, the use of this financial instrument has helped many potential homebuilding clients who had believed that without the correct deposit (being 20% of the total package amount), their dreams of owning a new home would be an impossibility. It has also dramatically moved potential homeowners away from the second hand market into the new homebuilding market place.

A second scheme used, has been a "guarantee scheme" whereby an insurance company would provide a guarantee or suretyship for the other 50% of the deposit (i.e. normally this has been 10% of the total selling price).

Thirdly, matching investments have also played a role, especially when building society deposit rates have been deemed to be attractive to outside investors providing collateral finance. The phenomenon of this type of investment has been due to the problem that building societies, under conditions when their loanable mortgage liquidity has been under pressure, would tend to attract sufficient deposit moneys to approve a matching loan application.[1]

Although this has had the effect of providing further stability in terms of liquidity of the funds flow in societies, it has also proven to be a fairly unpopular instrument amongst consumers. The whole question regarding raising fees and the relationship between borrower and investor has been a thorny issue which does not seem to have been resolved.

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1. Maritz, N.G. The Study Guide for Estate Agents. Principles of Real Estate. Juta's. Johannesburg 1984. p.346.

8.3.2.4 *"BUY-DOWN" SCHEMES*

In terms of the affordability question, much emphasis has been laid on trying to reduce monthly repayments, specifically earlier on in the repayment cycle, in order to try and alleviate the sometimes tremendous pressures laid on the new homebuyers. This type of scheme which has emanated from the United States, has been found to be in use to some degree in South Africa. Schlesinger has proposed the following regarding the workings of such a scheme:[1]

"Simply put, any scheme which incorporates a buy-down, makes it easier for a client to afford his purchase in the initial periods. However there is no magic formula by which clients can be assisted to escape their obligations forever. Thus in all cases of buy-down, there is some price to be paid somewhere. Very often it is an increased purchase price for the product (say a new house) resulting in an increased mortgage liability which lingers long after the initial interest rate benefit has been consumed. In other cases there is a monthly instalment which rises later in the life of the loan and offsets an instalment discount given in the early stages of the loan. Although this may be the only way in which the purchaser can obtain his home, it is nevertheless a long term price to pay".

Furthermore Schlesinger has proposed that these "buy-down" schemes depend upon inflation to work i.e. to work in a positive manner for all parties concerned. This has to work as follows. The property under consideration has to be valued at a respective amount, which would be much higher than that amount at which it had originally been built or bought for, at some future date.

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1. Schlesinger, A.M. Affordable Housing Finance. Op Cit. p.10.

Schlesinger has further outlined this situation as follows:[1]

"One way or another, the majority of financial packages result in a situation where, during the early life of the housing loan, the borrower pays an amount which is insufficient to service the interest burden on his total debt. As a result of this his total debt rises during the initial period, with the intention being that as his income increases, he will be able to afford to service the increased level of debt. From the point of view of the lending institution or the seller of the property, if the lender has recourse to the seller in the event of a default by the purchaser, unless property values are increasing, the security offered by the property is diminishing during this initial period of "negative amortization" of the loan".

Certain builders have adopted this "buy-down" scheme in principal by executing a different strategic viewpoint. In essence, they have added an amount on to the total package upfront (i.e. the selling price). When the initial repayments become smaller than what they should be, the interest shortfall incurred has been already built into the total amounts of the mortgage loan applied for.

Figure 8.2 has demonstrated the concept of the "buy-down" scheme admirably.[2] An explanation of this figure follows:

Assume a loan of R50 000 has been granted on a new house valued at R62 500, (i.e. 80% of the value of the property). Furthermore,

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1. Schlesinger, A.M. Affordable Housing Finance. Op Cit. p.12.

2. Schlesinger, A.M. Affordable Housing Finance. Op Cit. p.12.

if an interest rate of 20% has been charged to the client by the builder, but an arrangement has been made whereby the client has the option to pay a reduced instalment over the first six years of the repayment ie. in year 1, he has to pay 12%, in year 2, 13% etc. right up until year 7 in which he would start to pay the full 20%.

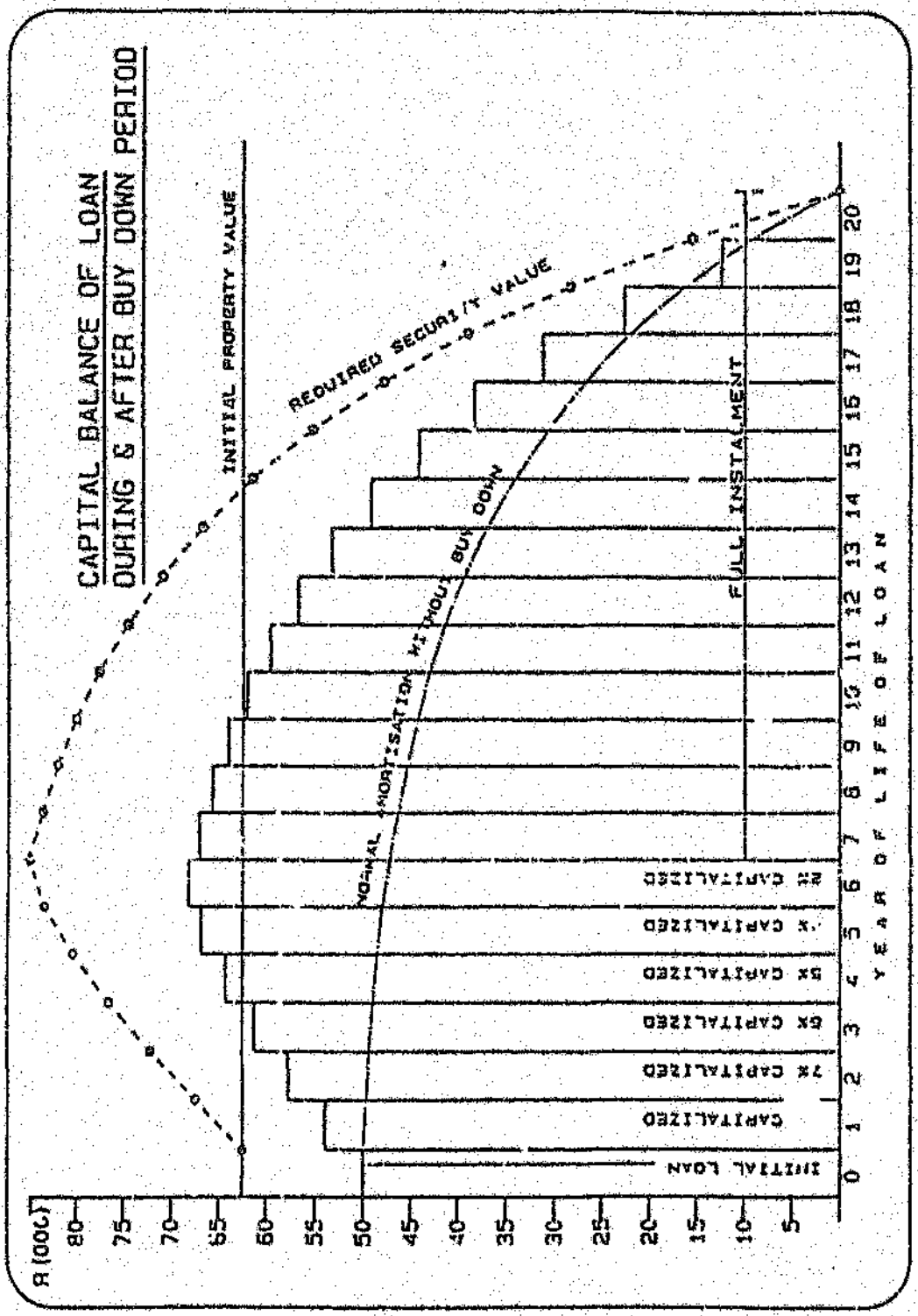
From the graph it can be seen that within three years of this repayment scheme, the balance on the loan has become equal to the full value of the property and thereafter, would exceed the value unless true appreciation in the property market has taken place during this period, bearing in mind that the initial loan had been only 80% of the property value. Under such circumstances, any defaults or arrears by the borrower would be extremely difficult to cover by the lending institution. Obviously the outstanding balance on the loan would have to be repaid in years 7-20 on an equal instalment basis.

8.3.2.5 *GRADUATED PAYMENT MORTGAGE*

The strength of this approach has been the fact that in the early years, the repayments would be made low whilst in the later years the repayment has to be made up in essence to "subsidise" the initial lower repayment.

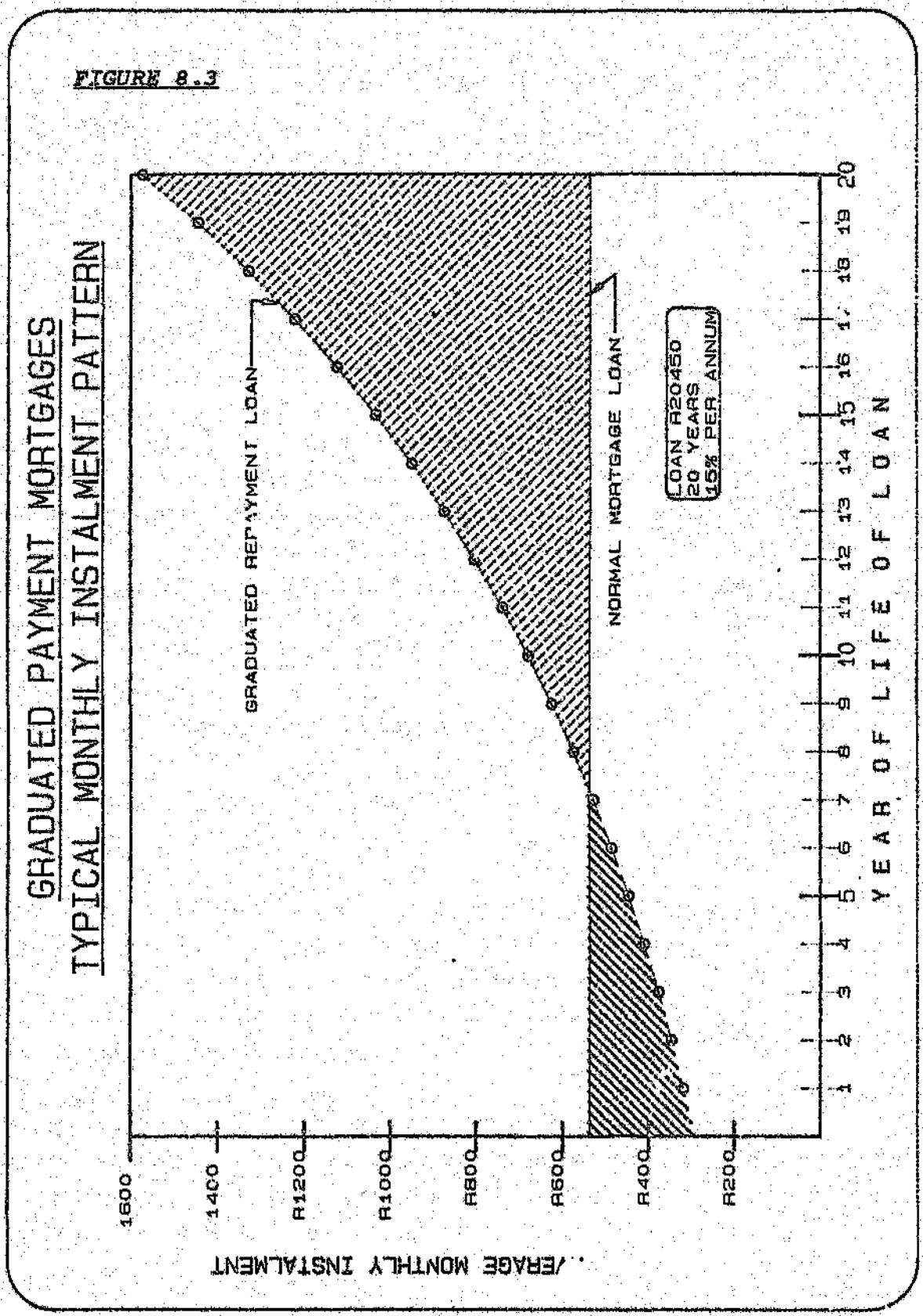
Although this has appeared to some to be an affordable option (it would be initially), the setback in later years can have a detrimental effect on the family's cash flow. Another negative effect would be the fact that with an ordinary annuity, a family would benefit in the longer term in that the proportion that the mortgage loan repayment would form of the total family household income, would normally diminish over the years whilst family income grew. With the graduated payment mortgage, it would be likely that with a rise in income, there would also be a rise in the mortgage repayment. The trend of the mortgage payment can be seen in Figure 8.3.

FIGURE 8.2



SOURCE: Schlesinger, A.M. Op. Cit. p.13.

FIGURE 8.3



SOURCE: Schlesinger, A.M. Op. Cit. p.14.

Bearing in mind that with increased interest rates, the effect of the graduated payment mortgage would also be at further risk, especially if over that period his income had not been rising.

8.3.2.6 *THE SHARED APPRECIATION MORTGAGE*

This particular type of mortgage has appeared in the United States but has not been a major success. The essence of this approach would be that the mortgagee shares in the future value of the property in exchange for a lower interest rate being offered by the mortgagee. It would be unlikely that this approach would find much acceptance in the South African financial arena due to the relatively low level of sophistication in this market place. Furthermore, it would be unlikely that the mortgagor would so readily accept the fact than any capital growth or revaluation of the new property would necessarily have to be shared with the mortgagee.

8.3.2.7 *OTHER ALTERNATIVE MORTGAGE INSTRUMENTS*

A) *VARIABLE-RATE MORTGAGE VERSUS FIXED-RATE MORTGAGES (VRM'S)*

In the United States, it has been found that where fixed rate mortgage loans have been common, there has still been a tendency to opt for the variable rate mortgage registrations. The latter type has been the conventional mortgage bond type used by South African building societies for many years.

According to De Vos, the variable rate mortgage has a large number of minor variations in terms of the formulation of this type of mortgage.[1] The rate of interest and the redemption

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1. De Vos, T. Financing Low Cost Housing. NBRI Publication. Pretoria. 1986. p.28.

period involved may change according to the type of property offered as security together with the amount of the loan. Furthermore, adjustments in the interest rate may be restricted to a certain percentage at any one time, a number of adjustments per year and a maximum rate over the life of the loan.

Borrowers have benefited from the variable rate mortgage because they can usually get the loan at a rate which would be slightly below that charged for a fixed rate loan. Lenders benefit because they do not have to be locked into one fixed rate. The variable rate mortgage has the ability to shift the risk of keeping pace with interest rates and inflation from the lender to the borrower. With a fixed rate mortgage the lender would hope that interest and inflation rates stay down and that his cost of money should not rise above the mortgage rate he has charged the borrower. Unfortunately for many lenders, interest rates have tended to rise far above what borrowers have been charged for mortgages. This has resulted in American institutions in the main, having lost money. With variable rate mortgages, it has been the borrower who has been in the position of hoping that interest rates and inflation stay low.

B) *RENEGOTIABLE RATE MORTGAGE (RRM'S)*

Renegotiable rate mortgages or roll-over mortgages operate on the basis that they have to be registered for either a three, four or five year period but would be amortised over 30 years. At each new term, the interest rate normally has to be renegotiated. In essence then, the renegotiated rate mortgage has been labelled as a form of the variable rate mortgage as there should normally be a reference rate after the adjustment at the end of a term which equates fairly effectively with the current market rate for new loans.

C) *ADJUSTABLE RATE MORTGAGE (ARM'S)*

Adjustable rate mortgages or ARM's have tended to show greater flexibility than the VRM's and RRM's especially in the United States where it has been applied. The adjustable rate mortgage would peg the rate on the loan to an index mutually chosen by the borrower and lender.[1] The index which has been chosen in the United States has been the Treasury Bill rate (T.B. rate) and thus a rise or fall of the ARM would be linked to changes in this index.

A rise in the interest rate of the loan has been seen to be passed onto the consumer in thres ways; either by keeping the payments stable and adding back the unpaid principle onto the loan or by increasing the terms of the loan up to the maximum of 40 years or in fact by increasing the monthly repayments.

According to Updegrave the ARM has been much more flexible than the VRM's and RRM's due to the fact that it has shifted the risk of predicting interest rate fluctuations from the lender to the borrower.[2] Furthermore consumer acceptance of the ARM may well hinge upon whether the benefits of home ownership outweigh the uncertainty and risk, borrowers can face with the ARM.

D) *THE GRADUATED PAYMENT ADJUSTABLE MORTGAGE (GPAM)*

This type of mortgage can be seen to be a blend of the graduated payment mortgage and the roll-over mortgage. In essence, this type has the advantage of offering homeowners the initial low carrying cost of the sliding scale mortgage, whilst the lender would obtain the advantage of the flexibility in preferential rates associated with the roll-over mortgage.

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1. Updegrave, W.L. A Guide to the Mortgage Maze. Housing. June 1981. Washington D.C. p.71.
2. Updegrave, W.L. Ibid. p.71.

E) *THE FLEXIBLE LOAN INSURANCE PROGRAMME MORTGAGE (FLIP)*

This particular mortgage type has proven to be popular in the United States of America since the late 1970's. Similar to the graduated payment in that it can reduce mortgage payments initially, it would not result in negative amortisation. The reduction of the monthly payments have come about due to a portion of the down payment being deposited into a savings account that has been pledged to the lender.[1] Using the savings account as collateral, lenders have the option of giving the buyers up to 100% of the purchase price for payment to the builder. This should be seen to be opposed to conventional financing, where the mortgage would have to be limited to the amount remaining after the down payment has been made.

The FLIP mortgage has the effect of reducing the borrower's monthly carrying cost by as much as 25% in the first years of ownership.

F) *FLEXIBLE PAYMENT MORTGAGE (FPM)*

The flexible payment has been an instrument which has been little used in general.[2] The borrower only has to pay the interest on the loan for the first five years. After that period, the loan would be amortised at a constant rate over the full term. Unlike the standard graduated payment mortgage, it would however not allow negative amortisation.[3]

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1. Mulligan, B. The New Mortgages : Salting or Inflation. Housing. Washington D.C. August 1979. p.62.

2. Updegrave, W.L. Op Cit. p.72.

3. De Vos, T. Op Cit. p.30.

As the capital redemption during the first five years would be very small, there has been little difference shown between this type of mortgage instrument and the conventional mortgage.

No benefit would be accrued to the lender, as there would be no cash flow from amortisation of the capital portion during the first five years.

G) *LEVEL PAYMENT MORTGAGE (LPM)*

The level payment mortgage (LPM) has features of both fixed rate and flexible mortgages. This scheme has allowed the borrower the benefit of paying constant carrying costs despite rising interest rates, whilst the lender has the right to adjust the mortgage rate twice a year.

According to Updegrave, payments would remain stable despite rate adjustments because the portion of the payment going to principal and interest would be varied.[1] In periods of rising rates, a greater portion of the constant payment would go toward interest. The effect would be opposite during periods of decreasing rates which would result in the principal being amortised more quickly.

Many of the loans have since incorporated the facility to readjust redemption payments at regular intervals to assure that they would be high enough to amortise the loans.

H) *NON-AMORTISED MORTGAGE*

In this instance, only periodic interest payments have to be repaid without any repayment of the principal. Although the capital amount would be due at the expiration of the mortgage

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1. Updegrave, W.L. Op Cit. p.72.

term, the lender would often extend the bond for another given period.

The advantage of this type of mortgage would be to favour affordability in the initial payments but what with access to greater financial resources in later years, the young family would make larger payments later.

I) *OTHERS*

In countries where alternative mortgage repayment formulae have been used, there has been a greater emphasis on setting affordability sometimes before practicality. In essence, this has allowed the new homebuyer the opportunity of affording a financial package to suit his particular pocket at the time of purchase.

Other variation of mortgage types which would also work to provide a more affordable repayment package, would include the following list not dealt with above: equity mortgage, reverse annuity mortgage, the option mortgage etc.

8.4 *THE IMPLICATIONS OF SUBSIDIES ON THE AFFORDABILITY OF NEW HOUSING*

According to Webb, there have been only three ways in which affordability can be increased. These have been by reducing costs, the use of subsidies and the implementation of a system of economic repayment which make houses more affordable.[1]

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1. Webb, T.L. Financing and Affordability. The Housing Challenge. A Positive Approach. Building Research Conference held at the CSIR on the 24-26 May 1983. Pretoria. p.9.

However in the main, subsidies have been used most effectively in many countries throughout the world inclusive of South Africa. Furthermore, Jorgenson has differentiated between subsidies and incentives.[1]

Subsidies have been defined as follows:

"Public outlays made to reduce the market rent or price of a dwelling".

Whilst incentives would be defined as:

"Those 'ouragements' to housing which bring no loss of revenue or outlay of funds".

While subsidies, be they direct or indirect have obviously played a role in increasing affordability, there should be a good reason for their implementation and use. The rationale behind this has been borne in the fact that subsidies can and have been frequently abused and can seriously distort the whole housing situation.[2] Furthermore subsidies have the ability to become highly inflationary, can be expensive to administer and have always been a politically sensitive issue.

Housing subsidies applied to the middle and upper income groups have often represented a misallocation of limited available money for homes that have become over-capitalised, draining it away from vastly more productive investment in other industries and sectors of the economic market place.

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1. Jorgenson, N.O. Housing Finance For Low Income Groups. Bouwcentrum. Rotterdam. 1977. p.84.

2. Webb, T.L. Op Cit. p.9.

A large proportion of households in South Africa have for a long period of time, received some form of housing subsidy. Most of these subsidies to a greater or lesser degree have emanated from the State. This has unfortunately tended to increase the demand and standard of housing that would have normally been beyond the ability of the people to afford such housing. This has reaped an inflationary effect on the price of new and second-hand housing, which in turn has created a cyclical demand for higher subsidies. According to Webb, the fact that an estimated 70% of all the bonded residential property has been subsidised in one way or another, has only tended to aggravate the situation.[1]

Furthermore, subsidies on the middle income housing have reduced interest to far below inflation. In fact the new homeowner has been paying negative real interest rates and thereby has been encouraged to increase the standard and quality of his accommodation to an extent often beyond his needs and his real means. As mentioned previously, these subsidies have not only given the homeowner a vested interest in inflation, but has tended to subsidise inflation instead of housing.

Korsman has demonstrated, in Figure 8.4, the very point that inflation has caused a vicious circle which has sometimes led to the introduction and abuse of subsidies.[2]

An essential feature of most forms of housing subsidy has been that it increases the effective demand for housing. Subsidies in the main have the effect of lowering housing costs or increasing

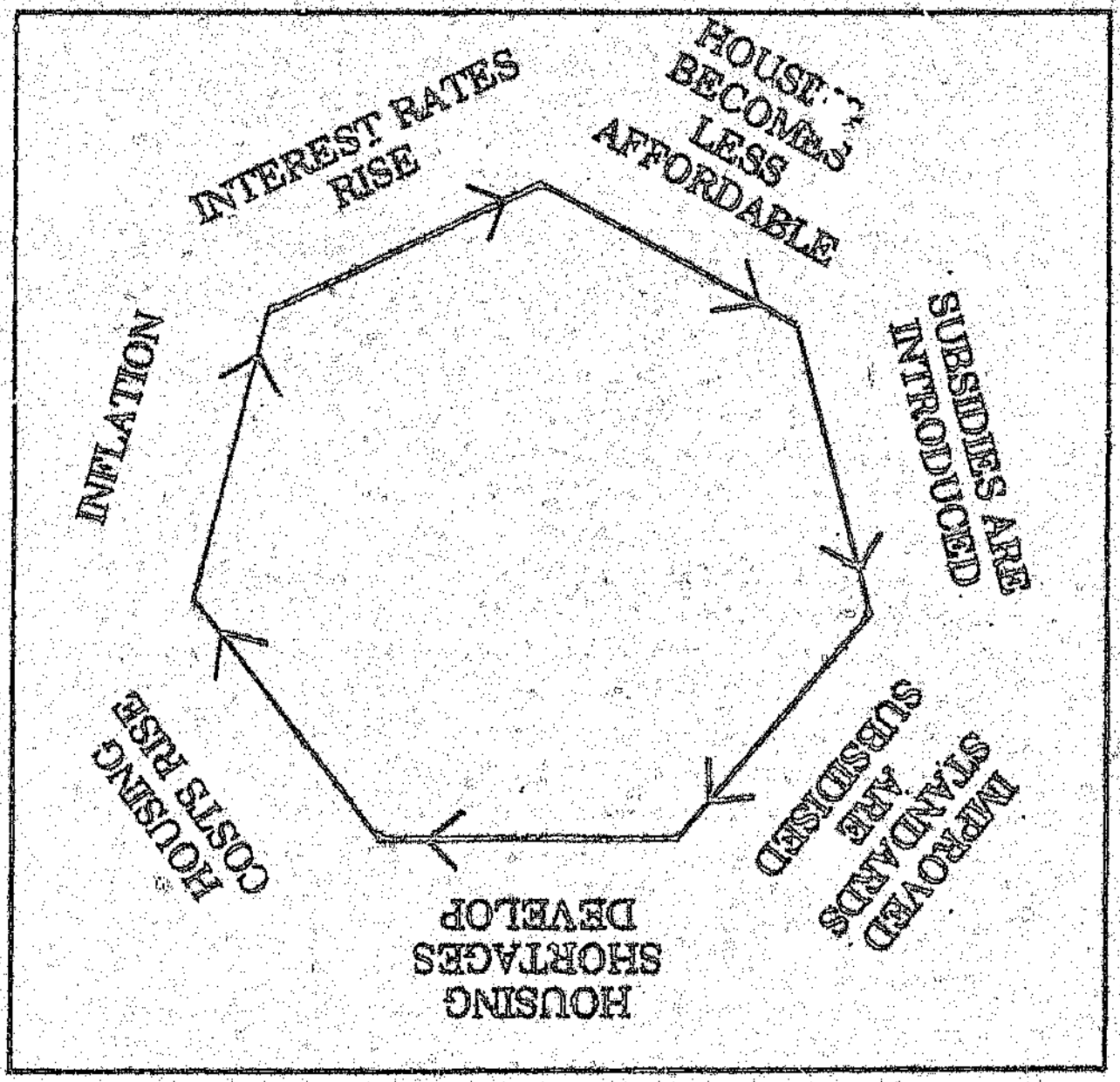
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1. Webb, T.I. Article in the Star Newspaper. April 1987.

2. Korsman, N. Low Cost Housing in South Africa. A Marketing Strategy (Part III). Housing. Johannesburg. July/August 1985. p.43.

FIGURE 8.4

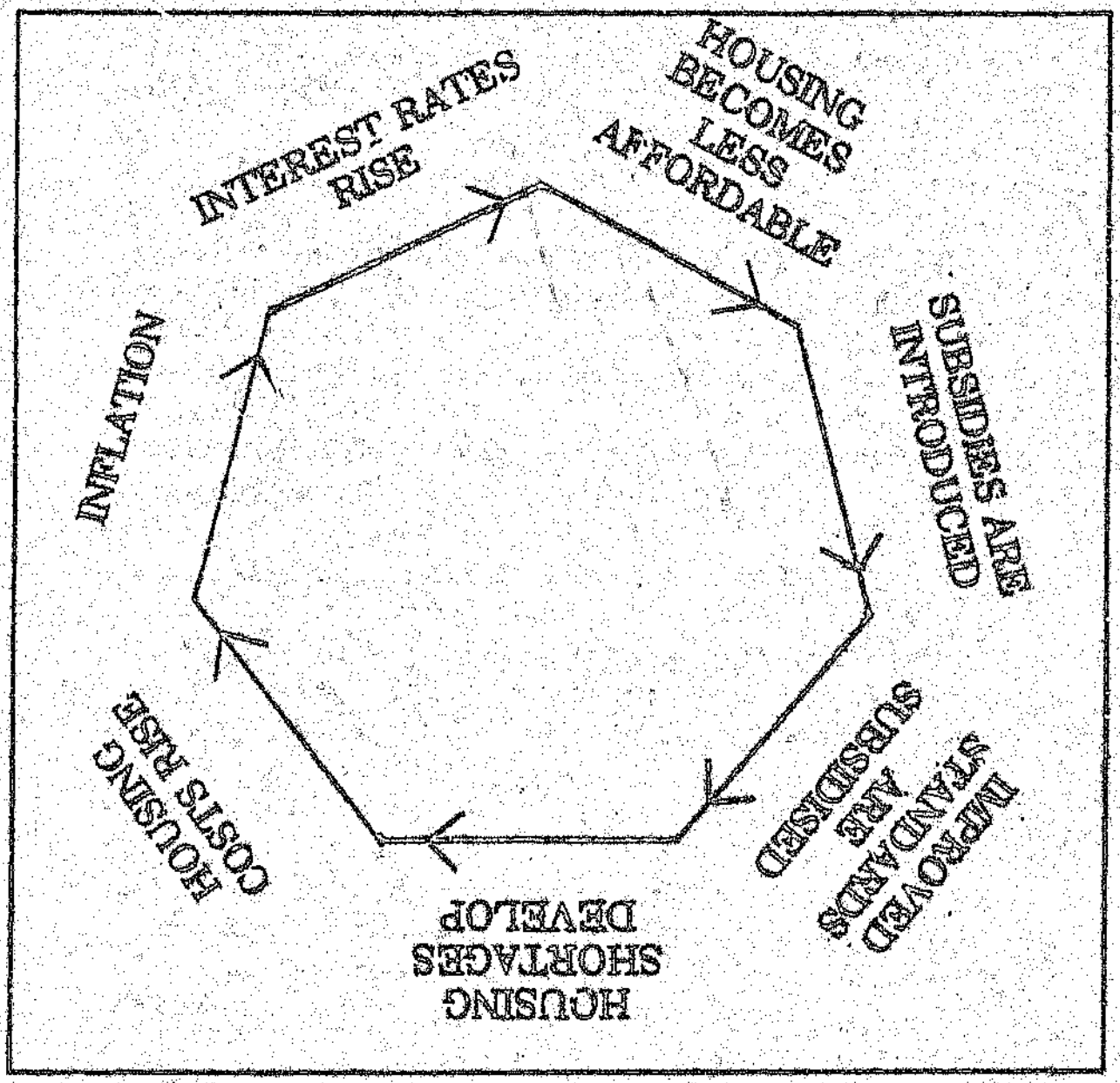
THE VICIOUS CYCLE OF INFLATION



SOURCE: Korsman, N. Op. Cit. p.44.

FIGURE 8.4

THE VICIOUS CYCLE OF INFLATION



SOURCE: Korsman, N. Op. Cit. p.44.

the ability to pay, both of which have led to families being able to procure larger and better houses. This increased demand has obviously led to an increased supply in the number, size and standard of housing units that would have otherwise not been realised. The inevitable result has been a rise in house prices (including new house prices) which in turn has created demand for higher subsidies.

As far as the white sector of the South African population has been concerned, the largest concentration of subsidies have been received by home-owning families employed by the state and quasi-state organisations as well as by various financial institutions. Although the public sector housing has not formed part of this study, the private sector has normally been involved in the construction of new housing for public sector personnel, which has meant that the demand pattern for private sector housing has definitely been influenced by the public sector.

8.4.1 *THE STATE'S FIRST TIME HOMEOWNER SUBSIDY*

In May 1983, the government introduced a subsidy which had been particularly designed to help private sector non-subsidised first-time homeowners. Different from other government schemes previously introduced, its main emphasis was that it had been restricted to those who had never previously owned homes before. A ceiling of R40 000 on the contract value (excluding land value and costs) was also set which had the effect of challenging the homebuilding industry to provide affordable accommodation within defined limits. The scheme involved the subsidisation initially of 20% of the interest portion of the loan for a 5 year period (in September 1985 this percentage was increased to 33 1/3%).

On the introduction of the subsidy the following objectives had been established by the government regarding the subsidy:[1]

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1. De Vos, T.J. State Subsidies for First-Time Homeowners : An Objective Evaluation and some Constructive Proposals. Juta's S.A. Journal of Property. February 1987. Vol.3. No. 6. Cape Town. pp.2-5.

(a) To stimulate the construction of new housing units costing not more than R40 000.

(b) To promote more modest standards.

(c) To assist those households, especially younger families, who because of high building costs and interest rates have been unable to acquire homes of their own.

(d) To promote home-ownership in general.

The objectives have largely been met but although many builders had become relatively skilled in building so called R40 000 homes, they had begun to feel that escalating building costs had made it impossible to provide such a product into the future.

According to De Vos, a point at which the standard of the finish and the size of the home cannot be further reduced, had most probably already been reached.[1] This obviously could become unacceptable, especially to the traditional market for homes for the white sector in the middle-income group.

However, in terms of a move to greater affordability in new housing, Schlesinger has noted an important change in the housing market as a direct result of the subsidy.[2] He believes that in the past, especially during recessive economic periods, rhetoric urging white South Africans to adjust to lower standards as regards their first home had little or no effect. But social

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1. De Vos, T.J. Op. Cit. p.3.

2. Schlesinger, A.M. Subsidy Shapes The New House Market. Business Day. 17 March 1987. Johannesburg. p.16.

attitudes had changed since the introduction of this subsidy due to the increase of this more modest type of housing which in essence had allowed the „roduct" to become more acceptable in the market place. In some instances this has meant that the floor area of houses were reduced to between 65 and 90m² where previously they had been well over 100m². Furthermore, in many cases the third bedroom and/or second bathroom have had to be eliminated in order to keep the total cost down below R40 000.

Due to the increase in building costs of about 30% over the period since the inception of the scheme, the real or actual house of R40 000 in 1983 had risen to well over R52 000 in 1986.[1] Creative financing schemes were introduced in some instances by homebuilders in order to cope with this problem. Some homebuilders have had land prices revalued by ...ng institutions and in turn worked this extra amount back into the contract price in the form of an internal subsidy: i.e. the package amount had not changed merely the component parts. What with this having happened throughout the new housing industry, a fair amount of pressure was exerted by the National Association of Home Builders to have the subsidy increased specifically to cater for the needs of the middle-income whites who were experiencing problems with the product based on the subsidy as it stood.

In 1987, Grotsius indicated that the first-time homeowners subsidy has become an anachronism. In 1983, it could buy an attractive house but in 1986/87 due to inflation, it could not provide suitable accommodation anymore.[2] The National Asso-

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1. Based on Average Figures Supplied by the Central Statistical Services. Statistical News Release p.7. and p.22. and NAHB Cost Index Respectively.
2. Financial Mail. Home Subsidies - is R40 000 Fair? April 10, 1987. Johannesburg. p.57.

ciation of Homebuilders further protested to the government that the ceiling should be lifted. This was based on an argument whereby up until 1986 the scheme had costed the government a mere R20 million.[1] Based on the fact that a large proportion of this figure had been recoverable in taxation, specifically General Sales Tax on materials, labour taxes and profits, it was felt by the industry that an increase in the ceiling would have been viable within limits.

Berkowitz has added that the use of alternative building materials such as clay blocks and other new forms of masonry units together with considerably reduced standards of finishes could help to accommodate the industry through 1987, but eventually the bond ceiling of R40 000 would have to be increased if homebuilders could be expected to stay solvent in this market segment into the future (1987/1988).[2]

8.4.1.1 *THE VALUE OF THE SUBSIDY AND AFFORDABILITY CHANGES*

Whatever the restrictive measures of the subsidy at this stage, the first-time home-owners subsidy has played an enormously important role in the affordability levels of first-time home-owners (during the period 1983-1988). As interest rates have changed, there has been an impact on levels of affordability, but it has been quite clear that the subsidy played a vital role in reducing qualification requirements and monthly repayments significantly. This has been demonstrated in Table 10.5. The table has demonstrated that there would be a much higher repay-

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1. The Property Economist. First-Time Home Buyers Interest Subsidy - Problems Looming for Homebuilders 1986-1988. January 1986. Johannesburg. p.33.

2. The Property Economist. Op. Cit. p.33.

TABLE 8.5

CHANGES IN QUALIFYING INCOME FOR, AND BENEFIT FROM, THE FIRST-TIME HOMEOWNERS SCHEME SINCE INCEPTION

	BEFORE 01/09/83	AFTER 01/09/83	01/02/84	01/03/84	01/08/84	01/09/84	01/10/84	01/04/85	01/12/85	01/10/86
Interest rate (%)	14,00	15,00	15,50	16,25	16,75	17,00	18,25	18,25	17,75	16,00
Subsidy factor	,00222425	,00243633	,00252150	,00264930	,00273455	,00277718	,00299030	,0049838	,0048417	,004344
Mortgage bond	R40 000	R40 000	R40 000	R40 000	R40 000	R40 000	R40 000	R40 000	R40 000	R40 000
Redemption period (years)	20	20	20	20	20	20	20	20	20	20
Monthly repayments	R497,41	R526,72	R541,55	R564,02	R579,13	R586,72	R625,03	R625,03	R509,64	R556,50
20% subsidy	R 88,41	R 97,45	R100,86	R105,87	R109,38	R111,09	R119,61			
33,33% subsidy								R199,35	R193,67	R173,76
Nett repayments	R408,44	R429,27	R440,69	R458,05	R469,75	R475,63	R505,42	R425,68	R415,97	R382,74
Qualifying income:										
With subsidy	R 1 634	R 1 717	R 1 763	R 1 832	R 1 879	R 1 903	R 2 022	R 1 703	R 1 664	R 1 531
Without subsidy	R 1 990	R 2 107	R 2 166	R 2 256	R 2 317	R 2 347	R 2 500	R 2 500	R 2 439	R 2 226
Difference	R 356	R 390	R 403	R 424	R 438	R 444	R 478	R 797	R 775	R 695

Source: Juta's South African Journal of Property.

ment and qualification factor present had no subsidy been available. This has applied based on differing interest rates and also on whether a 20% subsidy or a 33,33% subsidy would apply.

8.4.2 *LUMP SUM GRANTS*

In order to combat affordability problems, European government agencies have made lump-sum grants to families purchasing their first homes. Based on family income, the amounts of these grants have provided some citizens of these countries with monies for improvements in housing as well. The negative factor associated with this type of system has been the tendency for general rent levels to be increased, unless rent control has applied.

The basis for the workings of the lump sum grant has been the initial payout of a lump sum in roughly the same proportion as done with this country's first-time homeowners system, and with little or no obligations. This could enable a government much more freedom in the allocation of funding to different income sectors needing it most. This would apply according to income and levels of homeownership. The advantage of this type of system could be that grants would be allocated when funds would become available, in contrast to the subsidy system which would bind the government to regular payments over a long time period.

8.4.3 *TAX RELIEF*

Tax relief has for many years been used successfully as a form of housing subsidy in Europe (in countries such as Austria, Denmark, Finland, France, Germany, Ireland, Netherlands, Norway, Sweden and Switzerland) as well as in the United Kingdom and in the United States of America. The workings of the system include having interest payments deducted on loans from taxable income.

De Vos has commented that despite the positives of the system, in that it would encourage homeownership across a wide spectrum of income earners, it has suffered from the drawback that the higher the income of the homeowner, the higher the benefit would be that he would receive.[1] This would be due to the fact that interest payments would be deducted from taxable income, and the progressive income tax scale which would apply, could cause the benefit to be directly proportional to income. The system would then offer negligible tax relief to lower to middle-income earners. An additional problem would be that the tax relief schema may create an increased demand for large and luxurious homes. This could be avoided if a ceiling were laid down on the amount of the deduction.

However there has been no doubt that this form of subsidy would have an impact on the affordability of new homes for the group under study. However it would be unlikely that based on present fiscal policy adopted by the South African Government, that this type of subsidy would be introduced, especially to white income earners whom account for a large proportion of the more dependable income tax payers.

8.4.4 *CONTRACT SAVINGS PLANS*

Another schema to help made new housing more affordable, but not via lower monthly repayments, has been the state-sponsored contract savings plan. The essence of this schema has been to help the prospective new homebuyer obtain a large enough deposit to purchase a new dwelling unit. In terms of this plan, the individual would agree to save a certain amount of money by the end of the contract period, at which time the government would pay a bonus to the successful saver allowing him to enjoy a

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1. De Vos, T.J. Financing Low Income Housing. Op Cit. p.25.

higher rate of return as opposed to what he could have earned elsewhere.

The contract saving plan has sometimes been coupled with a guarantee that a mortgage loan would be available under predetermined conditions.

8.5 *RECOMMENDATIONS REGARDING SUBSIDIES AND AFFORDABILITY*

De Vos has recommended that in the main, general subsidies should be reduced and gradually replaced by specific subsidies which tend to relate more directly to the ability to pay[1]. This trend has recently become more common practice in Europe where countries have given greater attention to the needs of the recipient as opposed to the granting of general subsidies[2].

Furthermore De Vos has suggested that different subsidy packages which relate to different affordability levels, should be introduced to make provision for assistance as the recipient's income changes. A time provision should also be linked to these subsidies as subsidies should not be seen as a permanent form of assistance.

A further assistance plan in the form of a capital subsidy has also been suggested although to some degree this would tend to apply to the lower income groups in general. A once-only capital

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1. De Vos, T.J. Family Housing Assistance in South Africa. Paper presented to a seminar entitled "Subsidisation of Housing: New Approaches to Formulas". Institute for Housing in Southern Africa. Durban. March 1989. pp.29-48.

2. De Vos, T.J. Ibid. p.44.

subsidy not exceeding that amount which the state would be prepared to commit itself to (i.e. based on the first-time homeowners' subsidy, this amount would be in the region of R7 000) could be used either for land acquisition purposes or as a deposit of sorts. Once again the pitfall would be in the fact that if no equity by the borrower would be present, there would be less likelihood that the committment by the borrower would necessarily be sound.

The final suggestion that would relate to the white market place in question would be a positive savings plan, which if introduced by the State, would supplement the rate of interest paid by the building society by say 2 percent above the present rate of inflation. This benefit could also be tax free. The proposed system would not only encourage saving, but also help broaden the base of those prospective homeowners unable to make up any deposit based on present interest rate structures.

8.6 *THE "REAL" MONTHLY AFFORDABILITY PROBLEM*

As has been mentioned above, the normal building society qualification criteria or "rule of thumb" would be that the monthly repayment would be 25% of the gross income of the prospective homeowner. This would also determine his bond qualification.

In order to try and make a home more affordable to new homeowners, homebuilding companies have tended to extend the gross income of the purchaser or the joint income of the couple purchasing the new home. This has been done by taking into consideration, thirteenth cheques, overtime work, bonuses, car allowances or company vehicles etc.

The building societies have become more accepting of this practice but how has it affected the purchaser? The answer to this question would be that the net disposable income of the

purchaser now has to cover the bond repayment, leaving in some cases, only a little money to take care of other commitments. This has at times caused detrimental problems in the real affordability of housing due to the fact that with an increase in bond rates, the situation would be that repayments would increase, thus committing a larger proportion of the disposable income to housing on a monthly basis. It has been at times like this that the new homeowner would be hard pressed to budget for the increased payment and thus could put him at risk of defaulting his payments, eventually causing building society repossession of his home.

8.7 *CONCLUSION*

In terms of recommendations, the following areas would best be addressed.

A major problem has been the high rate of inflation. High long term interest rates have resulted, which have rendered few people able to afford the monthly instalments required to be paid. In accordance with the building society rule of thumb, a borrower may pay only 25% of his monthly salary in instalments. He can accordingly afford to finance a house much easier in circumstances where there has been low inflation and the interest rate has been below 10% per annum, than where for instance, it has approached or exceeded 20% per annum. Rising interest rates also would place existing borrowers in cash flow difficulties.

In the inflationary climate, the capital value in money terms of a house, has tended to rise from year to year. For the same reason as the long term interest rate would rise to take cognisance of high inflation, not only have capital values risen, but the borrower's earnings would be likely to rise in money terms. As a short term measure, building societies could design instruments to take account of inflationary conditions and accept payments which do not amortise the loan during a limited initial period.

This would take cognisance of the increase in the capital value in money terms of the asset, likely salary increases through the same inflation, and also in the case of young people, of likely increases in their income over a period and capacity to pay high instalments at a later stage. Some of the possibilities would be:

* Progressively increasing instalment repayments, possibly linked to an inflation index.

* Buy-down techniques which would allow for larger payments at a later stage.

* Flexible loan insurance plans, where a portion of the deposit would be used for supplementing initial monthly payments on a reducing basis.

* Further relaxation of the rule of thumb allowing instalments to exceed the 25% of family income.

These suggestions have limited merit and would not be without risk as has been seen recently in the American context. They certainly would not fit the institutional psychology of the most prudent lending institutions in South Africa, but offer some hope in terms of potential solutions to these daunting financial problems.

SECTION E

CHAPTER 9

THE AVAILABILITY OF LAND FOR AFFORDABLE HOUSING

9.1 *INTRODUCTION*

The present affordable housing problem that has faced Whites and the other population groups of South Africa has, to a large degree, been due to a critical shortage of new land in general, and special residential erven in particular. If one has to ponder about all the wide open spaces of undeveloped land that can be seen in the country, there has tended to be a level of complacency about this problem. However, in discussing the urban land-use, the situation has slowly begun to approach critical proportions in some race groups. Without serviced land in and around major urban growth points, where employment opportunities exist, there can be major and detrimental socio-political implications.

Whilst it has normally been the role of the Government to be involved in the provision of lower income housing (specifically economic and sub-economic housing), the private sector has of more recent moment taken the reins in all sectors; be it sub-economic, economic, middle income, upper income or luxury housing developments. Thus it has been this sector in conjunction with the public sector that to some degree has taken on a societal responsibility. Whilst these urban land-use problems are seen from many angles, including the demand and supply of new serviced erven, certain policy implications, financing, administration, education, politics, planning, etc., the eventual benefactor must be to the citizens of the country that this service has been provided for, at a cost of course. The cost price of the commodity (land in this case, but in the broader sense a developed home on an erf in an acceptable sociologically controlled environment) must be within reach of a particular

predetermined target market, otherwise the ability to afford new housing would be impossible.

It would be at this point where the bone of contention regarding the provision of affordable land has reared its ugly head. In recent years, the cost of producing new erven has rocketed to such a degree, that where once not so long ago, the land component in a new housing transaction made up 15-20% of the total transaction cost, today it can make up to 40% of the total transaction cost. Granted, what with the shift in emphasis to housing that would qualify for a first time homeowners subsidy or similar, and thus with a limit on the contract value, there has been a ceiling effect created on the contract value; nevertheless cost of new land has risen sharply causing a situation where previously affordable packages, can no longer be so, due to the land element increment.

Looking more on a macro-economic basis then, the important urban land problems have been associated with the succession of land uses that takes place with urban growth. Boruhov has explained that with urban growth, the operations of the real estate market has tended to fall into context, as do recreation facilities, open space, transit and transport facilities, the redevelopment of slums, planning for the future growth and expansion of cities and most important of all, the provision of needed (affordable) housing.[1]

Thus, it has been the aim of this chapter to discuss certain problematic areas which tend to either help or hinder the creation of suitable land for new affordable special residential housing, as well as certain recommendations as to what can be done to help alleviate the problem.

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1. Boruhov, E. The trade-off between density and other objectives : re-examination of planning norms. Geo Journal. 2 February 1971. p.71.

9.2 *AFFORDABILITY OF LAND AND HOUSING AND THE PERCEPTION OF SPECULATIVE PROPERTY VALUES*

The perception of land prices that most sellers of raw land hold, has been one that does not take into cognisance anything to do with the process of township development and establishment. In essence, most sellers of raw land have based their property valuations on what one erf would be worth in an adjoining area or neighbourhood. They then merely multiply what they believe their one erf would be worth by the number of potential erven that they believe their piece of ground can be divided into, giving a totally overpriced figure. In their calculations they do not take two important factors into consideration.

Firstly, there has been no consideration of the fact that in order to establish a township, there has to be a definite process which takes place over a period of time. This time in turn incurs finance charges for the developer, part of which he will recoup in his selling price. However, if the seller would believe that the raw land excluding services could be worth the normal market selling price of proclaimed erven, he would be very wrong and in essence can help push property values way beyond their real worth, thus incurring a true affordability problem at the end of the day.

Secondly, having assumed that the piece of raw land (normally zoned for agricultural holdings prior to residential developme would measure 100ha (hectare) in size, certain land allocations have to be made as a standard requirement by the Townships Board of the Director of Local Government for the following uses:

(a) The actual residential requirement.
(b) Provision for roads.
(c) Provision for public open space.
(d) Provision for educational requirements.
(e) Provision for shops, churches, etc.

In essence then, of the 100 hectares now zoned for residential development, only 65-70% of this amount would actually be used for housing and not 100% as some sellers seem to believe. This would mean that the perception by the seller that he can sell all his raw land at a potentially normal market selling price, has been totally unfounded and can be detrimental to the industry.

As regard speculation as a cause of high stand prices, the Venter Commission has investigated this and come to the conclusion that:[1]

"...In view of the fact that transactions take place within the framework of the prevailing market system, market prices are determined mainly by the following factors:

(a) Scarcity of residential sites in areas where there is a big demand.

(b) Availability of loan funds.

(c) The inflation neurosis from which the public suffers which would make buyers agree to pay high stand prices and offer little or no consumer resistance."

The Commission has further commented that:[2]

"...in prosperous times a favourable climate for speculation is created in certain areas, but that it would be difficult to prove that the trade in sites by speculators is in itself a cause of high property prices. It has been found in some instances that

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1. South Africa. Commission of Inquiry into Township Establishment and Related Matters. (Venter Commission 1982). Third Report. pp.30-31.

2. South Africa. Ibid. pp.30-31.

the willingness of buyers to pay more was consequently the factor that determined the high stand prices (at public auctions) and not speculation."

9.3 *RISKS AND TIME DELAYS INVOLVED IN TOWNSHIP ESTABLISHMENT AND ITS IMPLICATIONS ON COSTS AND AFFORDABILITY*

Due to the relatively long period that it would take to establish any township and the long waiting period before the developer can put money in the bank, township development can probably be described as one of the most risky ventures that exist in business today.

Further high risks in township development have been caused because of the cyclical nature of the industry. The time period alone would make it very difficult to plan ahead judiciously. For example, a township establishment could start in a period of high demand when prospects look good. But due to factors outside the control of the developer, the venture could go limp because of the time period involved. This could be due to the fact that three to four years later, the industry could be at a low once again. At this stage, the developer has already laid out a considerable amount of finance which could be difficult to recover.

Together with risks and time delays, has come the whole bureaucratic process of township development. The so-called "red-tape" has stemmed from some most important factors which would include:

(a) The lack of proper and timeous forward planning by government departments in order to determine urban growth rates and the potential demand levels.

(b) The number of departments involved in the township establishment process.

(c) Overcontrol by the Government.

(d) The lack of uniformity in approach by the various provincial administrations.

(e) Lack of the setting of time limits in approving or declining applications.

(f) The lack of productive liaison between officials and the developers.

It has been on this basis then that the Venter Commission was established to inquire into and report and make recommendations regarding:[1]

"(a) methods and proposals for the expeditious provision of more residential erven within the means of persons requiring housing, giving special attention to the sustained calls for the simplification and expediting of township establishment by, for instance, the removal at all levels of Government of inspecting statutory provisions, measures, procedures and practices and the streamlining thereof;

(b) methods to transfer land to competent institutions or any other measures in cases where the process of township establishment has not proceeded as desired;

(c) methods to promote the utilisation of land by allowing, for instance, where circumstances permit, subdivisions of the placing of more than one dwelling unit on an erf or holding more freely; and

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1. South Africa. Venter Commission. Op Cit. Report No. 1. p.V.

(d) any other methods which may promote the provision of sufficient residential erven and reduce the cost hereof."

Although many recommendations have been made from the Commission's three reports, in essence there has been little change and once again at a Symposium in 1985, Minister Venter had re-iterated certain principles that he believed needed to be brought forward and to which attention needed to be paid. The following was reported:[1]

"In an attempt to relieve the detrimental influence in a break in stability (of this industry), the Commission has accepted the following principles that -

(a) the time period during the township development process must be kept to a minimum where development finance is involv ...

(b) The procedures that must be instituted in the township development process must be suitable so that the developer can tailor his economic requirements to the development program."

It was at this time that the Minister had also made reference to phased developments based on the situation that the economy could be in, at any point in time. He also had expressed his concern about the high standard servicing costs and the fact that the authorities (especially the local authorities) should see it as a moral obligation to work together with the developer in order to keep production costs down. It had been hoped then that the advantages gained from this could eventually be passed on to the consumer in particular and the community in general.[2]

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1. Venterkommissieverslag begin werklikheid word. Housing. August 1985. p.33.

2. South Africa. Op. Cit. p.33.

It has been in this vein then that the affordability criterion can be seen, in that previously very little effort had been made either by the local or other authorities, as well as the developer to some degree, to even contemplate trying to pass on erven at a reduced cost level to potential new homeowners.

9.4 *DEMAND AND AVAILABILITY OF SUITABLE LAND*

Due to guide plans and town planning schemes that have been in existence in most towns and cities, land for development has become progressively more scarce. It has become common practice that town planning schemes make provision for rural living on the perimeters of town boundaries which would sometimes allow sub-divisions of up to 2,5 hectare plot sizes. Plots of this size have made it almost impossible for the developers to use the land for the beneficial development of townships. In addition, prices of these plots have become totally distorted, so that future development would be hindered.

As regards demand for land, this can be seen as a demand for a consumer article, a production factor or a speculation investment. The operation of the price system in the economy has made it necessary to define the effective demand for land as the willingness and ability of people to buy, rather than the mere existence of unsatisfied needs or desires for products.

According to Hibbert, the economic supply of land has concerned only that portion of the physical supply that man could use.[1] Land resources have become a matter of economic significance wherever man would show sufficient interest to use them and where

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1. Hibbert, A. 'n Model vir die Bepaling van Grondgebruikte op 'n Kerkerf. Planning and Building Development No. 35. November/December 1978. pp.36-42.

ever he would exhibit a demand for their use, or could place a value upon them, or indicate willingness to undertake the costs involved in their development. The economic supply of land resources has been responsible to price and demand factors, and it has reflected the scarcity or abundance of physical land resources and their relative accessibility. This supply can be expanded or contracted, and, in an ultimate sense, it has been limited only by the total physical supply of land.

9.4.1 *URBAN LAND DEMAND*

One of the basic factors affecting urban land demand has been that of population pressure and its attendant population growth.

Assuming that the demand for land for the White population in the Republic of South Africa has been tied to the national population growth and then assuming a density of 18 persons per hectare (a reasonable density assuming no "high order land uses"),[1] one could determine the amount of urban township area needed up until the year 2000. This has been presented in Table 9.1.

TABLE 9.1

ESTIMATE OF THE OVERALL LAND NEEDED FOR TOWNSHIP ESTABLISHMENT AGAINST A DENSITY OF 18 AND 21 PERSONS/HECTARE

(1) YEAR	(2) TOTAL WHITE POPULATION (MILLION)	(3) % URBANISATION	(4) URBAN WHITE POPULATION (MILLION)	(5) TOWNSHIP AREA (HA) (AT 18P/HA)	(6) TOWNSHIP AREA (HA) (AT 21P/HA)
1980	4.453	89	3.960	222 000	188 571
1990	5.208	90	4.687	260 389	223 190
2000	6.041	91	5.494	305 222	261 619

Source: NERI

1. "High Order" land uses refers to a higher density of persons per hectare due to the inclusion in the estimate of low and high rise flats in any specific township.

Notes:

1. p/ha means persons per hectare.

2. The difference between two consecutive figures in column (5) indicates the extra gross township area needed, in hectares, for the corresponding urban White population growth.

Based on this, it can be seen how important the township establishment industry has been and will become in order to create affordable special residential erven for future development and in order to house the increasing White population of this country.

The area of land that will be needed for township establishment has and will be extremely sensitive to a change in the average white family size, as well as what proportion of families will tend to reside in different density accommodation schemes, i.e. houses as opposed to low-rise, medium density and high-rise accommodation.

9.5 *IMPLICATIONS OF THE PRESENT TOWNSHIP DEVELOPMENT PROCESS ON THE AFFORDABILITY OF HOUSING*

9.5.1 *WHO WOULD BE INVOLVED IN THE PROCESS*

There should be three main parties to this process.

Firstly, the Provincial Administration. This has been the final approving body in terms of township establishment. Different ordinances govern each of the different provinces. For purposes of this study, the Transvaal will be used as the example. It should be noted that it is a known fact that the other provinces have a more streamlined process than that of the Transvaal. As has been noted by many developers, the serious time delays and

red tape to get approval of applications can prove detrimental to the process and cause serious financial and cash flow problems for the developer. The Provincial Administration has not always been sympathetic to the developers' time constraints and this can have serious consequences at a later stage.

Secondly, the Local Authority in which the township has been planned. Although the developer would be faced with similar problems as those encountered with the Provincial Administration, there has seemed to be more of a helping attitude presented by the Local Authority due to the fact that the latter stands to gain some benefit such as taxes, more people living in the area, greater purchasing power, etc. There have been proposals at times which suggest that Local Authorities would be in a better position to handle the process of township development.

Thirdly, the township developers themselves. With the problems associated with township development, as discussed above, it has come to be that less and less private developers can still remain in existence. This would not be unnatural, due to the time delays and red tape that exist at the various levels of authority approval. The point must be emphasised that this in essence has caused delays in the development of raw land in general. Therefore, even after the recommendations of the Venter Commission the plea to streamline the process of township establishment has still been questioned by developers and housing authorities alike.

Just as the authorities have been criticised in their process, it has become vitally important that the township developer should be totally at one with his application and ensure that every aspect of it must be correct prior to submission. It has been in this instance that auxiliary participants in the process such as engineers, surveyors and townplanners as well as the potential marketers of the future township should be totally committed to

the vital role that they must play in co-ordinating the application.

9.5.2 *REQUIREMENTS TO BE CONSIDERED PRIOR TO THE PURCHASE AND DEVELOPMENT OF RAW LAND FOR POTENTIAL TOWNSHIP DEVELOPMENT*

Just as the participants in the township development process have been discussed, there have been certain requirements, which have to be considered, which at the end of the day might have bearing on the affordability of the proposed erven within the township. Nichol has broken these requirements down under five major headings:[1]

(a) Technical
(b) Legal
(c) Financial
(d) Market Place
(e) Probable Erf Selling Prices/Prices of Sale

Each of these requirements have certain factors which must be noted.

(a) *TECHNICAL*

a1 Topography

Geological Survey including Dolomite, Clay, Rock, etc.

Flood Levels - 1 in 20 and 1 in 50 year flood levels plus water tables, site conditions, slopes and views.

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1. Nichol, A.B. The Valuation of Land with Potential for Township Establishment. The South African Institute of Valuers. Stokkiesdraai Seminar. 15-17 February 1988. pp.2-5.

a2 Pollution

Noise, i.e. airports, concrete freeways.
Small, Sewerage works (1 to 3 kilometres).

Dust, Mine dumps, etc.

a3 Density

Erf sizes 1 000m² reducing to 500m².

Group housing - 20 Dwelling units per hectare (10 000m²), i.e. 500m² less roads.

a4 Open Space Policy

Town Planning Scheme 5% to 10% or 52m² par house (39m² per group house). To be amended to 24m².

a5 Local Authority and Provincial "Regional Road" Requirements

Delays with township applications, 20 and 30 metre building line restrictions, standards laid down in the "Blue Book" (Guide Lines for the Provision of Engineering Services in Residential Townships. Department of Community Development 1983).

a6 Local Authority Regional Stormwater Requirements

Contributions by Township Developers to Regional Network.

a7 Erf Sizes and Shapes

Local Authority requirements re minimum erf sizes, i.e. Sandton 1 500m² versus DLG 1 000m².

Erf shapes, i.e. 20 x 50 = 1 000m² or
25 x 40 or 30 x 33

Pan handles, North and South entry erven, etc.

a8 Local Authority Policy re servicing contributions, bulk (external services, basic charges, etc.).

a9 Education

Land provision versus cash endowment.

a10 Servicing - internal.

a11 Ecology and Micro-Climate

a12 Public Transport

a13 Township Layout - refer to Blue Book.

(b) *LEGAL*

b1 Deeds Office

Servitude, Right of Way and Usufruct Bonds.

b2 Outspans and Graves (Historic and Other) Crops

b3 Mining Title

Surface right permits, servitudes, reservation for township purposes.

b4 Title Deeds

Farm portions/small holdings (to be excised).

b5 Commissions

Niemand, Fouche and Venter Commissions (Recommendations accepted by Cabinet).

b6 Blue Book Policy for servicing township.

b7 Local Authority Policies i.e. "White by Night".

(c) *FINANCIAL*

c1 Terms and Conditions of Purchase

Cash
Bond and interest
Capitalised interest
Security for purchaser/ seller.

c2 Bank Rate

c3 Local Authority Servicing Policy

Agreements/refunds/basic charges.

c4 Rates and Taxes

Problems of "mining land".

c5 Professional Fees

Town Planners
Landscape Architects
Attorneys
Engineers
Land Surveyors.

(d) *MARKET PLACE*

d1 Competitors - Other, township developers, State and Local Authorities (often with Building Clauses).

d2 Erf Sales by other developers (and locality of township).

d3 Availability of erven, prices, sizes, areas, soil conditions, etc.

d4 Prices and Terms relative to locality, areas, soil conditions, etc.

Cash
Terms Deed of Sale
Bulk Sales
Bonds.

d5 Regional - Growth - numbers more important than percentages.

d6 Townships in the Pipeline - future supply of erven.

d7 Statistics - the importance of accurate and up to date statistical information on townships and building activities.

(e) PROBABLE ERF SELLING PRICES/PRICE OF SALE

e1 Size, Shape, Orientation, Slope

e2 Probable Erf Prices

e3 Terms and Conditions (Cash, Terms Deed of Sale and Bulk Sales)

e4 Time Period to sell out erven related to selling prices of erven.

e5 Availability of alterrative erven (Market Place).

e6 Stage of Township Development/Servicing

Note - Selling prices may vary considerably due to the locality of a township, popularity of the township in the eyes of the public, the Local Authority rates and taxes and basic charges, but most important of all, would be the acceptance by the public of the area as a desirable area for living in.

9.5.3 *TOWNSHIP APPLICATION PROCEDURE*

The formal approach to the procedure regarding the application for township development has been presented in Fig 9.2. overleaf. As can be seen, the proclamation process has become very involved with the flow of documentation making the process even more complicated at times than it ought to be. It has been in this vein then, that the continual approaches by developers to authorities to reduce the complexity of the process, has not been unfounded.

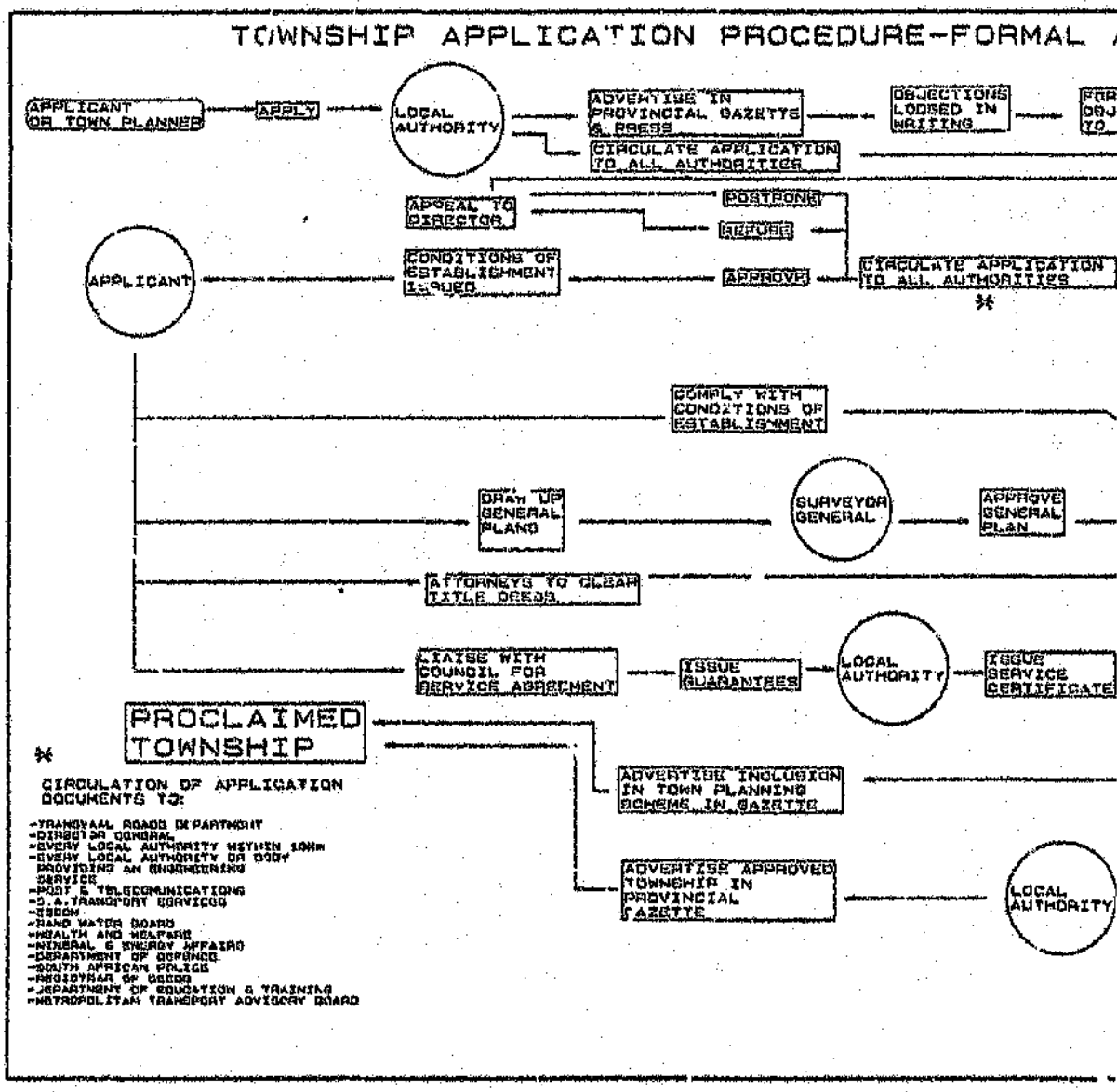
9.6 *IMPLEMENTING TOWNSHIP ENGINEERING SERVICE NORMS*

Although it has not been the intention of this study to critically analyse the technical aspects of the township engineering services, a note should be made regarding the sometimes rather high standard required by the Local Authorities. This in turn has been known to play an important role in increasing housing costs.

Earlier on in the 1980's, the Fouche Commission came to the following conclusions as regards the standards of services.[1] Extracts from some of the conclusions have been included:

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1. South Africa. Commission of Inquiry in Housing Matters. (Fouche Commission). Government Printer. 1978. pp.43-44.


TOWNSHIP APPLICATION PROCEDURE-FORMAL
APPLICANT OR TOWN PLANNER
APPLY
LOCAL AUTHORITY
ADVERTISE IN PROVINCIAL GAZETTE & PRESS
OBJECTIONS LODGED IN WRITING
CIRCULATE APPLICATION TO ALL AUTHORITIES
APPEAL TO DIRECTOR
POSTPONE
REFUSE
APPLICANT
CONDITIONS OF ESTABLISHMENT ISSUED
APPROVE
CIRCULATE APPLICATION TO ALL AUTHORITIES
COMPLY WITH CONDITIONS OF ESTABLISHMENT
DRAW UP GENERAL PLANS
SURVEYOR GENERAL
APPROVE GENERAL PLAN
ATTORNEYS TO CLEAR TITLE DEEDS
LIAISE WITH COUNCIL FOR SERVICE AGREEMENT
ISSUE GUARANTEES
LOCAL AUTHORITY
ISSUE SERVICE CERTIFICATE
PROCLAIMED TOWNSHIP
CIRCULATION OF APPLICATION DOCUMENTS TO:
-TRANSVAAL ROADS DEPARTMENT
-DIRECTOR GENERAL
-EVERY LOCAL AUTHORITY WITHIN 10KM
-EVERY LOCAL AUTHORITY OR BODY PROVIDING AN ENGINEERING SERVICE
-POST & TELECOMMUNICATIONS
-S.A. TRANSPORT SERVICES
-ESKOM
-RAND WATER BOARD
-HEALTH AND WELFARE
-MINERAL & ENERGY AFFAIRS
-DEPARTMENT OF DEFENCE
-SOUTH AFRICAN POLICE
-REGISTRAR OF DEEDS
-DEPARTMENT OF EDUCATION & TRAINING
-METROPOLITAN TRANSPORT ADVISORY BOARD
ADVERTISE INCLUSION IN TOWN PLANNING SCHEME IN GAZETTE
ADVERTISE APPROVED TOWNSHIP IN PROVINCIAL GAZETTE
LOCAL AUTHORITY

"(a) That it would be essential to provide and implement uniform national norms for all services as soon as possible. Such norms must be realistic and functional and be based on actual needs. ..

(b) Steps must be taken to speed up the provision of services. In this connection, a quicker way must be found of planning and designing services and of settling disputes. Furthermore, there should be better co-ordination of these activities of the bodies and authorities concerned.

(c) The physical and economic planning of services in townships should be more closely integrated.

(d) ...smaller plots, better land use and the concept of density planning, by which a variety of plot sizes can be planned in such a way as to optimise services, should be promoted, since this would be a way of considerably reducing the cost of services."

Furthermore, in order to move to a more affordable approach to the questions of land development and housing standards, the two should go hand in hand. This has been supported by recommendations made by the Venter Commission. The following has been quoted:[1]

"...The Commission considers it necessary to draw attention to the importance of relating the provision of engineering services to the utilisation patterns planned for sites in residential townships. There is a connection and interaction between the standard and costs of services in a residential township and the

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1. South Africa. Venter Commission. Op Cit. Report No. 2. p.35.

relevant (affordable) types of housing. The density at which housing is provided also affects the cost of engineering services, and the cost per unit of area rises with an increase in density. In order to judge the cost effectiveness of a project, it is therefore important that the costs of the site and the building should be considered together."

Since the two previously mentioned Commissions, there have been ongoing committees appointed by the Housing Matters Advisory Council, to ensure better and more uniform legislation applying to township development, as well as the drawing up of rational standardised specifications for engineering construction and services. It has been hoped that by doing this, there would be a formulation of guidelines for the valid implementation and application of more rational provision of services in township development. This would contribute to a reduction in the cost of, amongst other types, new special residential erven.

9.7 *THE MOVE TO THE CREATION OF MORE SMALLER SPECIAL RESIDENTIAL ERVEN IN NEW TOWNSHIP DEVELOPMENT*

For a long period of time now, Local Authorities have vehemently fought the idea of having higher density living in special residential townships. That is, as a rule, smaller erven have been frowned upon as "creating slums" in areas which should be zoned for lower density residential living. At the present time, new Residential 1 (special residential) townships in Local Authorities have begun to spring up in what has been considered to be the periphery areas of the municipal area. It has also been the intention of the Local Authorities to maintain a so-called "rural atmosphere" in these areas and thus there has been a tendency to promote group and townhousing rights in the simplex and duplex forms to be closer to the CBD of the respective town or city.

Of recent moment due to the political disturbances, there has also been a greater emphasis placed on security measures surrounding residential accommodation and thus by sheer ease of management, there has been a tendency for more group and townhousing establishments to spring up, thus causing a small swing away from special residential township development. However, in the main, there has still been a distinct call for special residential township development.

As regards the move by theorists to implement smaller stand sizes as a means of improving the affordability potential of the total package (i.e. house and land), this in theory has looked good, but in practice has tended to fall to the ground. The reason would be that the basic premise that creating double the number of stands on a piece of raw land does not work, due to the fact that with any particular piece of potential township land, certain standard requirements would be needed, such as park and public open space, educational requirements, etc., which would normally eat into the raw land based on the number of dwelling units planned. This can be illustrated as follows:[1]

Assume that a 100 hectare piece of township land needs to be dissected in 1 000 square metre special residential erven (previously a quarter of an acre and today a very standard erf size), then the following land allocation would have to be made as standard requirements:

(a) Park and public open space as according to the town planning scheme of the Local authority. Usually 3.5 hectares per 100 people or 24m² per dwelling unit by the developer and 24m² per unit provided by the Local Authority.

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1. Nichol, A.B. Land Development and Future Trends. First National Congress of South African Homebuilders. Johannesburg. 1975. pp.3-4.

(b) Education requirements at the ratio of 50m² per dwelling unit (d.u.). This would include a provision for nursery school education. It would be likely that the Education Department would pay for this land requirement.

(c) 7% - 20% of the total township would be made up of roads depending upon the particular situation.

Now, looking at the hypothetical situation of a (100ha) 1 000 000m² township to be divided into 1 000m² erven initially with a 40m depth by 25m frontage. From this hypothetical situation, the following assumptions would be made:

(a) Public open space at the ratio of 3,5ha per 1 000 people.

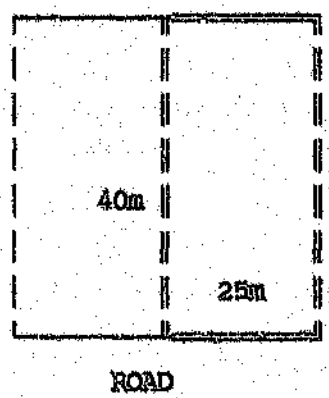
(b) Education requirements as above.

(c) Average family size per dwelling unit - 3,4 people.

(d) Road area would be in proportion to the frontage of the residential stands. The average road frontage per erf would measure out at 75% of the actual frontage of an erf.

(e) Average road width would be 16m for minor roads.

(f) Shops, churches, recreation centres would make up for any excess land available.



Therefore, in order to accommodate roads, public open spaces, education requirements and land for shops, churches, etc., the number of residential dwelling units @ 1 000m² would be cut down to 655 @ 10 dwelling units per hectare which would give 65,5ha or 65,5% of total township area.

		Ha req'd	%
1.	Residential requirement 655 dwelling units - 1 000m² (10 dwelling units per ha)	65,5	65,5
2.	Road requirement 75% of 25m = 18,75 per erf x 650 d.u. x 16m width	19,5	19,5
3.	Public open space requirement 3%ha per dwelling unit	7,7ha	7,7
4.	Education requirement 50m² per dwelling unit	3,3ha	3,3
5.	Shops, churches, etc.	4,0ha	4,0

If these existing 1 000m² erven would be subdivided into 500m² erven (panhandles) the density could increase, but would the number of units? The answer would be no. The following would in fact happen:

1. Because the stands would be panhandle, the road requirements remain unchanged, i.e. 19,5ha will still be needed.

2. In order to accommodate 1 300 or so dwelling units a further additional 15ha of land area would be needed to

meet the shortfall in education requirements, communal facilities and public open spaces as seen by the following:

		Ha req'd	%
1.	Public open spaces 3.5ha per 1 000 people - 7,7ha plus 7,7ha additional land needed	15,4ha	13,4%
2.	Education 3,3ha plus 3,3ha additional land for increased population	6,6ha	5,7%
3.	Shops, churches, etc. 4ha plus 4ha additional land for increased population	8,0ha	6,9%
4.	Roads As in earlier requirements	19,5ha	17,0%
5.	RESIDENTIAL REQUIREMENT	65,5ha	57,0%
		115,0ha	100,0%

Because the site would be only 100ha in extent, all land use allocations must be reduced by $\frac{100}{115}$ thus giving a reduced housing allocation of $\frac{100}{115} \times 1300 = 1030$ dwelling units and this would unfortunately only be 57% of the total site of the township. If the whole township could be redesigned to provide 500m² erven which would not be panhandle stands, the amount of the total township which would only fulfill a residential requirement, would be in the order of about 50%.

Summarising this town planning problem, it can be seen that reducing stand sizes in existing townships by (a) subdividing into panhandle stands or (b) consolidating and re-subdividing the entire township, can give a smaller percentage of residential area per total land area of the township. In order to get to an optimum point whereby there would be a greater area of stands available in any particular township, each stand size must be increased to obtain this optimal level.

As can be seen then, the cutting down of erven to half the original size has not necessarily presented the developer with twice as many stands as one would think.

There has, however, also been tremendous potential for savings in two major areas, these being the size of the erf and erf dimensions together with road widths and the provisions of roads. In a confidential report prepared by the National Building Research Institute, it had been found that the most significant fact had been that about 40% of the total cost of development had been attributable to roads.[1]

Other areas where savings can be made and increased affordable housing densities can become the order of the day have been noted as follows:[2]

(a) Reducing the actual road frontage of the erven, so that the total road length within a township can be shortened, making a saving in area allocated to roadways.

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1. National Building Research Institute. "Report of the Steering Committee into National Norms for Township Services". (Confidential). January 1982. Pretoria.

2. Nichol, A.B. Op Cit. p.6.

(b) If the Local Authorities would reduce their standards required, the road width could be reduced substantially.

(c) A reduction could be made in the public open space requirement by either reducing the standard, or splitting open space requirement into a local requirement for the immediate needs of the residents and allowing for the provision of a regional open space requirement outside the metropolitan area on land being more economical to provide.

(d) A reduction of the land requirement for educational purposes by combining the education requirement with public open space requirements, as has been done in Europe and by making these facilities available throughout the year, e.g. school swimming pools and sports fields should not be closed during the holidays, but should form parcels of the total open space facilities for the community.

(e) Together with this, zero building lines should be put into effect on at least one side of the erf boundary. The zero lot line housing concept can be distinguished by the location of one wall on a side property line. This arrangement has provided for better utilisation of the site for outdoor living space.[1] Side rear and occasionally front yards can be enclosed by walls to form a garden court. These walls would add to the overal site development costs, however, if used. The zero lot line has been an attractive and efficient alternative when higher densities have been used to reduce land costs.

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1. National Association of Homebuilders of the USA. Cost Effective Site Planning - Single Family Development. Washington D.C. 1976. p.17.

9.7.1 *EXISTING RESIDENTIAL AREAS - POTENTIAL FOR DENSITY INCREASES AND SUBDIVISIONS*

The Venter Commission has proposed that by varying stand sizes in any township there could be a greater likelihood that individual needs and wants will be met.[1] The Commission has seemed to doubt that the provision of a few small sites in a suburb for a high income group would detract from the image of the rest of the township. However, it has been found that those properties bordering the smaller erven, unfortunately have a lower valuation than those found elsewhere in the township.

As regard increasing the density of existing residential areas, Local Authorities have found continued resistance from local residents especially in well established and upmarket suburbs. The City Council of Johannesburg had undertaken a study on the basis of applications for subdivisions in Lower Houghton.[2] The report found that applications for subdivisions could change not only the broad urban structure of which the suburb forms part, but also the economic viability of such residential areas. From an affordability viewpoint, such suburbs usually have such high priced land that only a very small section of prospective home-buyers can afford to develop new housing on these stands.

Most of the newer townships do not really have space for subdivisions as the stand sizes would tend to vary from 1 000m² to 1 500m² in general and due to the fact that the house has been placed in a precarious position on the land, subdivision would be almost impossible.

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1. South Africa. Venter Commission. Third Report. Op Cit. p.27.

2. South Africa. Ibid. p.27.

9.8 *CONCLUSION*

In conclusion, then, rational norms together with the recommendations laid down by the various commissions should be instituted on a national basis in order that the township development process can not only be shortened substantially, (a saving for all concerned) but the end consumer can receive the land input into the new housing process at a price which would be affordable to him, in order that more affordable housing can be built and that more prospective new homeowners can enter the marketplace.

These rational norms standards for stormwater, sewerage, water and electricity, if applied, would further reduce the costs making more erven available to the middle-income housing group at a more affordable and realistic price.

Some sceptics have pointed out that cost estimates would be subject to variations in factors such as:

1. the inflationary spiral in building costs;
2. interest rates;
3. government policy;
4. housing density;
5. the standards for housing based on cost effective design;
6. the construction method employed;
7. local conditions such as topography, geology, climate, location etc.

However, these variations may be claimed to nullify savings in these areas, which if in order to work, must be regarded holistically. Affordable housing then would only be provided if the contributory costs could be minimised.