THE RESIDENTIAL PROPERTY INVESTMENT DECISION.

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DECLARATION

I declare that this report proposal is my own work. This report is submitted as a requirement for the Degree of Master of Building Science at the University of Witwatersrand, Johannesburg.

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1. INTRODUCTION

Many people see property as a hedge against inflation. It is generally accepted that the purchase of a house is the largest investment ever made by the average person. This investment is normally highly leveraged, with mortgage bonds of up to 100% of the purchase price being granted by certain banks and financial institutions. Admittedly, individual investors try to obtain a realistic and acceptable return on their investments. Individual investors (i.e. home buyers) make these types of investments without an in-depth understanding of the risk involved, and of the returns that can be realized.

The aim of this research report is to investigate potential returns that can be realized by means of :

1. Investing in certain areas of the residential property market in the Greater Johannesburg Metropolitan Area.
2. Investing in Property Unit Trusts.
3. Comparing the capital appreciation of these properties to that of the economic indicators as well as to property unit trusts.

Property Investors are often dissatisfied with the return on their investments because of their poor decision making capabilities. They suffer from the inability to analyze available information or recognize strengths, weaknesses, opportunities and or threats surrounding the property market. Real Estate agents frequently fail to identify these factors and therefore make decisions based upon incorrect information analysis. The failure by investors to take the appropriate action is essentially because they know what they want from an investment, but make inaccurate assumptions because of their inability to read the market and therefore do not achieve the ultimate objectives.

Very little research has been done in analyzing the investment performance in the residential market in South Africa. Most professionals actively involved in the property industry eg. Estate Agents, Property Institutions, Developers etc. tend to rely on crude rules of thumb, rather than systematic financial analysis, to obtain required forecasts regarding potential property.

2. RESEARCH OBJECTIVES

The objective of this research was to collect and analyze data regarding the transactions of properties purchased by individuals for investment purposes and compare the returns to that of the economic trends between 1980-1992. The ultimate objective is to assess the long term impact and the return on property investment.

Access to data for compilation was difficult and therefore restricted the study to the following :

- The consideration of Freehold residential properties in certain sample areas.
- Research with respect to residential property in the Greater Johannesburg Metropolitan Area.
- The consideration of White freehold areas were considered for this study so as to maximize 'free market policy' principles.

Ultimately, the intention of this study is to obtain a better understanding of optimal financing and the corresponding investment structures for the average South African prepared to invest in the residential property market.

The importance of this research is self explanatory. The topic affects all individual investors on a daily basis. The only exclusion is areas that are at present under legislative amendment, namely 'black townships'. I have, therefore, excluded samples from these areas from this report, but they will form an integral part of

research projects in future studies as these areas will form the core of 'low income housing ' in a new South Africa and need to be analyzed with respect to the position they hold within the residential property market.

3. INVESTMENT IN REAL ESTATE

Investment can be defined as the commitment of funds to a specific opportunity, usually involving the purchase of a real or financial assets with the expectation of increasing ones total funds over time. The individual must take certain factors into account while analyzing his opportunities, namely :

-the time period of the investment.

- uncertainty and the risk involved with the investment.

- inflation over the time period of the investment.

The 'investment decision' process can be outlined as follows :

1. Identify the investors objectives. The investor is only interested in wealth maximization given a certain risk. The individual must realize that there is a distinct difference between investment, speculation, and gambling.

The definition of speculate is, 'to assume a business risk in the hope of gain, especially to buy in expectation of profiting from market fluctuations.' The focus of speculation is invariably in short term capital gains, rather than income return.

While investors that speculate accept a high risk situation in exchange for high expected returns, investors that gamble accepts high risk in exchange for any type of return. Such returns are usually lucrative but have no substance nor support. (The investor simulates his proposal to that of playing at a roulette table where the returns are lucrative but support for the investment is unsubstantiated.)

2. Investors must consider the vehicle of ownership of the investment. Both the legal and tax implications must be considered. The alternatives of purchasing the

investment under a juristic person or individual person will have varying implications and benefits. These need to be considered prior to the purchase of the investment.

3. Analyze the investment environment in which the decision is to be made, including the market's legal and tax environments.

4. Forecast the expected future benefits and costs associated with the investment. Some investments involve a series of cash flows (eg. if the residential unit is rented out), whereas others may involve only a single cash inflow (eg. when the residential unit is used for personal benefits and resold after a certain time duration.)

5. Apply the investment criteria to compare the expected benefits and costs. These criteria involve simple rules of thumb, sophisticated discount cash flow models, and traditional valuation methods. (These methods will be explained further in this report.)

6. The final requirement in this process is to accept or reject the investment based on the analysis.

4. FACTORS INFLUENCING THE RESIDENTIAL PROPERTY MARKET

The purpose of performing a market study is to enable the investor to assess whether he is purchasing the correct type of investment in the correct location in order to maximize the potential yield envisaged by him.

The residential property market is divided up into many local submarkets that function more or less independently of one another. These submarkets are influenced holistically by macro-economic, political and social factors. The reason

the property market comprises of so many small submarkets that fixed property cannot be transported from one market to another, and the demand in property cannot therefore be shifted from an area of under supply to an area of over supply. There are also different housing markets within the same cities demarcating different suburbs and different price categories. Because the property market is unique, one submarket may have tremendous demand where others may remain depressed.

The factors that influence the demand and supply of residential property vary considerably from one local market to another. Demand, and changes in demand, are a function of the following factors :

4.1 POPULATION

Increase in population in the suburb, as well as migration from other areas, increases the demand for housing.

4.2 INCOME / WEALTH

At present expendable income of families for housing amounts to 25 % of the family's gross income (ABSA, Mortgage Division, 1993). Therefore people are restricted to what they can afford to purchase or rent. And yet, wealth appreciation received from selling previously owned houses allows people to broaden their selection and allows them greater scope in more upmarket areas.

4.3 CREDIT

Financial institutions usually finance between 80-100% of the bond. This is dependant on the location of the house as well as the credit worthiness of the potential homeowner.

The accuracy and validity of the research is to a large extent dependant on the quality of information accumulated to assess the investment. This information is obtained by doing a market study that examines national trends and specific local conditions that affect the investment in question. From this information the risk of such an investment can be determined and assessed to see whether the investment is a viable proposition or not.

By examining the macro-economic factors, the purchaser can deduce whether the investment will be affected by national trends and can forecast the potential growth of the investment. This will identify the process of growth and decline in areas where proposed investment will take place. The location of the residential property is of paramount importance and by looking at the demographic trends, migration trends, and demand and supply of residential property in the area, the investor can assess his potential investment opportunities. The land use patterns in the immediate vicinity of this potential investment must be researched in order to obtain a clear indication of the town planning forecasts envisaged by the Town Council of the area.

Demand for residential dwellings in an area can be determined by analyzing rents, sales volumes and turnovers, as well as consumer preferences and property prices. The potential supply of residential dwellings can be determined by research into available vacant properties, as well as by determining unlet and vacant units in the immediate area.

The location of the investment must be researched thoroughly as it is critical in determining the existing neighbourhood levels as well as in forecasting the demand for future purchases of residential dwellings in the area. The limitations and restrictions of the existing neighbourhood must be taken into account prior to further investigations. (ie. will there be rezoning of existing land or expropriation etc.)

The essence behind this approach for the investor is that a superior investment will sell itself. By identifying the want and needs of homeowners as well as perceived

demand by future investors, the investor will have a competitive edge over existing competition.

4.4 RENTAL

Submarkets demand specific standards, from the right income and status in society to location. The more sought after a suburb is to live-in, the higher the rentals relative to the neighbouring suburbs. Rental is therefore not only influenced by functional utility but also by hierachial needs in society. (the aspiration to show achievement a d success within society.)

5. CHARACTERISTICS OF THE RESIDENTIAL PROPERTY MARKET

There are certain micro-economic environmental factors that needs to be addressed prior to evaluation of the property.

5.1 MICRO-ECONOMIC ENVIRONMENT

It is almost impossible to draw up an exhaustive list of all the factors that will influence the value of the property. Here are the most pertinent features of the property that need to be addressed prior to proceeding with investigations as to the financial viability of the investment.

5.1.1 SIZE AND FORM OF THE PROPERTY

Often the size and shape of the property is of cardinal importance to the purchaser as it can have a tremendous impact on the resale value of the property. The investor must take into account all potential utility. Irregular shapes and sizes of the property could limit the potential of the property and therefore restrict the expectations of the investor.

5.1.2 TOPOG PHY

Dependant on what the investor has earmarked the property for, the slope and surface of the property is of fundamental importance. View and privacy form an integral part of more affluent areas and investors are therefore prepared to pay the additional construction costs for developments on steep sloping areas. Topography can also have an important influence on stormwater drainage and soil erosion. The

possibility of areas being flooded must be taken into consideration when assessing the potential of the property.

5.1.3 SOIL AND SUBSURFACE CONDITIONS

The investor must make the necessary investigations to assure himself that the soil conditions underfoot are satisfactory and that no damage such as settlement (due to clay conditions) occurs in the future.

5.1.4 SERVICES

If the property is not totally serviced. ie. water, sewers, electricity etc. the investor must take this into account when evaluating the property.

5.1.5 IMPROVEMENTS

The functional efficiency of these improvements must be considered in detail, namely:

- The quality of the construction (material and labour that is used to construct the dwelling)
- The measure of the 'serviceability' for the existing or proposed use of the dwelling. That is, how functional the house is compared to a new house. Possible upgrading and extensions must be taken into account where necessary to create a justifiable economic product.
- Appearance of the dwelling: This must be taken into account when determining functional utility.

5.1.6 LOCATION

The location is subject to the relationships external to the property. Location will determine whether there is a demand for the property. There are two aspects that need to be considered regarding location.

The first aspect is that of the convenience network ie. how close is the property to convenience stores, schools, universities, hospitals, arterial roads and highways.

The second aspect is the exposure or status of the property relative to other properties in the vicinity. This also sets the status of suburbs in metropolitan areas apart from others. Most urban areas have numerous elite residential areas. These residential areas usually have high aesthetic qualities, and in addition the address is viewed with a considerable degree of social approval. People are usually prepared to pay more to live in more affluent areas so as to obtain the status that goes with the address.

5.1.7 INSTITUTIONAL ATTRIBUTES OF THE PROPERTIES

There are certain legal restrictions that the home owner must abide with. In the interest of the general public the local authorities have restricted ownership of all properties regarding taxation and township control. The investor must make the necessary investigations to assure himself that the rates and taxes, township establishment and land use restrictions earmarked for the property are in accordance with the town planning scheme earmarked for the area.

6. RESIDENTIAL PROPERTY AS AN INVESTMENT

Residential property has several attributes which make it a unique investment asset :

- Rent is a priority payment in law, therefore provided that the investor rents the property and provided that there is a high occupancy level, the rental income ensures a cashflow to offset all or some part of the investment expenses.

- Residential property has utility to the owner if he decides to occupy the investment. The owner has the opportunity of making further investments or improvements to his property. If he improves his investment with alterations and extensions, he should recover this additional investment as value is added to the

original investment. (Note : the law of diminishing returns apply as there is a limit to the size and value that certain suburban areas will support. Thereafter for any additional improvements, the resale value of the investment would not reflect additional improvements added to the investment.)

- There is a limited supply of virgin land in established areas, therefore one might expect capital appreciation to grow in line with real Gross Domestic Product, ignoring all other short term influencing factors.

- Property is immovable in nature and therefore has stable value, and is viewed as good collateral by financial institutions. This has encouraged financial institutions to offer finar ing of 80 % and up to 100% (in certain instances) of the market value of the property at reasonable interest rates. The potential investor is thus offered an investment opportunity that is highly geared and only secured by the property value it supports on the open market.

For individual investors, given the above mentioned characteristics, property is one investment that is utilized as an investment against inflation, assuming the investor purchases the property for an extended period of time. He may offset finance charges against rental income received, for tax purposes. The major part of interest rates in an inflationary society is compensation for loss of capital value. The investor is essentially converting the taxable rental income he receives into non taxable capital gains.

7. INVESTMENT OPPORTUNITIES IN PROPERTY

Individual investors are financially not as competitive in the property market as large institutions and can essentially achieve exposure to the property market in one of two ways, Direct Investment and Property Unit Trusts.

7.1 DIRECT INVESTMENT

(Either as an individual investor or through a Property Syndication)

The main advantages of using this vehicle of investment are:

- advantages of lower management costs
- tangable investment
- greater control over choice and location of property

The main disadvantages of using this vehicle of investment are:

- The individuals small capital base means that diversification is not always possible.
- active management of the prope. is required
-the investment is indivisible

7.2 PROPERTY UNIT TRUSTS

The second vehicle of investment is by means of investing in property unit trusts. This will be explained later in the report.

8. RETURN ON INVESTMENT IN THE RESIDENTIAL PROPERTY MARKET

The return on the investment usually comprises of the rental accrued over a certain time period as well as the capital growth of the investment. Together, it is usually expressed as an annual compound rate in percentage terms.

Therefore:

Return on Investment (ROI) is broken down into the following components :

Capital Gain /Loss

This is the change in value of the investment asset over time. The full extent of the capital gain/loss will only be realized upon termination of the investment when the

price difference between the original buying price and final selling price can be determined.

Income Return (Rental)

This is accrued over the period of time when the investment was rented out to a tenant or to the investor himself.

The computation for return on the investment over a single time period (usually one year) is determined as follows :

$$Y_t = \frac{P_t - P_{t-1}}{P_{t-1}} + C_t$$

Where :

Y_t = Yield return in time period t

P_{t-1} = Price at the beginning of time period t

P_t = Price at the end of time period t

C_t = Net Rental in time period t

(Where: Net Rental = Income-Operating and Owning Costs)

There are several approaches to determining multiple return periods, namely :

1.The calculation of geometric or arithmetic average of returns in each time period

OR

2. The calculation of an 'internal rate of return' (IRR). The IRR is the percentage return which summarizes all cash flows over the life of the investment. The IRR is the equivalent steady return on a lump sum investment which results in the same accrued wealth over a period of time. The disadvantage of using the IRR method is that a finite time duration must be determined to realize the benefits, whereas the geometric or arithmetic average of returns method is more suited to ongoing investments. For the purpose of this research the geometric average of returns will be used to analyze investments in the residential market.

hedge against inflation, concluding that due to incomplete research and naivety regarding unexpected inflation rates, the measure of expectations on such investments prevented more favourable returns. In addition, they stated that ignorance of investors in the property market as well as inadequate information resulted in poorly conceived and subsequently below expectation investments.

9.1 TYPES OF RISK

There are several sources of risk that are associated with residential real estate, namely :

9.1.1 BUSINESS RISK

This type of risk is affected directly by the economy of the country. If there is a downturn in the economy there is a decrease in the demand for real estate. Business risk is also coupled with 'operating risk' as labour strikes, government regulations, increases in the petrol price all have a direct influence on the demand for real estate. This risk is unavoidable as it has an influence on the entire real estate market and cannot be reduced by diversification. This risk stems from the fact that there are other economy wide perils which threaten all businesses and cannot be avoided. (An example of this in South Africa would be the implementation of the 'State of Emergency' in the mid 1980's as it is beyond the control of the investor to avoid this additional risk.)

9.1.2 FINANCIAL RISK

If an investor decides to use debt to finance his investment he would have an obligation to pay the interest as well as the principle amount. This will change the position of the incoming cash flows and therefore increases the risk associated with the future benefits. The more the debt used by the investor the greater the risk of increased payments and even default on payments. As the percentage of debt to equity increases so does the uncertainty about the ability to pay.

9.1.3 LEGAL RISK

The property is protected by the rights promulgated by Government, such as zoning, land use controls, usury ceilings, taxes and additional rules and regulations that affect the riskiness of the investment.

9.1.4 INFLATION RISK

Inflation, is in essence, rise in all prices. Inflation in recents years has dramatically affected the environment in which decisions are made. Inflation is usually built into any long term investment, but still poses a significant risk to the investor.

9.1.5 SPECIFIC RISK (UNIQUE RISK)

Unique risk can effectively be eliminated to a certain extent by diversification as real estate has unique characteristics because of its fixed locations. The location will therefore have a great influence on the investment. Investors can diversify this risk by investing in numerous properties across the spectrum ie. from industrial to residential properties, but their capital resources restrict them to a limited selection. The investor, if he so wishes, can invest in a portfolio of properties. By doing this, he can reduce the risk of his investment.

9.1.6 RISK AND THE REQUIRED RATE OF RETURN

The property speculator should ensure that at all times he makes a good constructive decision when investing, based on an in-depth research and his sound judgement. A good decision is one that contributes to his net wealth taking the least amount of risk, wherever possible. The investor would rather invest his money on a 'sure investment' and obtain a sure return rather than investing in a higher risk investment with the possibility of not receiving any return. The investor would be exercising 'risk aversion'. Upon investigations of financial institutions as well as individual investors, evidence has shown that people are indeed risk averse. However, investors do accept certain risk provided that it cannot be avoided and provided that

there are incentives for taking that risk. The investor needs to assess what rate of return he wishes to achieve, given the risk. The greater the risk the higher the rate of return the investor uses to determine the value of the investment.

To determine the rate of return the investor requires, he must consider the following factors :

1.If the benefits are guaranteed, the corresponding rate of return is called the 'risk free rate'.

2.The required rate of return increases as the unavoidable risk increases. Therefore a premium is added to the risk free rate to compensate for the increased risk taken by the investor. The resulting rate of return is known as the 'risk adjusted rate'.

3. Another element of risk return relationship is inflation expectations.

The relationship between the level of risk and the required rate of return can be expressed as follows :

$i = i_f + p + i_i$

Where :

i = required rate of return

i_f = risk free rate

p = premium for risk

i_i = the premium for inflation expectation

The investor must take note that a residential property in one suburb has a different risk premium to a residential property in another suburb. Residential properties are not homogeneous as they differ in location, aesthetics, status, access and many more factors. Every property has its own rate. The investor therefore needs to

determine what value he anticipates from his investment given the required rate of return expected from the property and make a decision as to the viability of the investment.

The main advantage of using the 'rate of return' technique is that it is simple to apply and is easily and widely understood. An investor can analyze risk/return relationships for numerous propositions and can determine which investments would be appropriate for him given his restricted capital base, as well as the risks encountered with each investment.

10. METHODS OF PROPERTY EVALUATION

Unlike most financial assets, analysis of property investment lacks the benefit of a continuous time series of historical prices, created by the continuous process through which financial assets are bought and sold. A number of institutions have been questioned as to the valuation techniques on which their property investment decisions have been based. The following techniques are utilised :

10.1 MARKET COMPARISON APPROACH

The value of the properties is based on a comparison of the property in question with similar properties in the immediate area which have been sold in recent times. The following points must by applied :

1. Identify recently sold properties for which pertinent data is available in the market.
2. Determine whether these properties are comparable according to financial terms, motivating forces and authenticity.
3. Compare these attributes belonging to each of the properties to the subject property with regards to time, location, physical characteristics, conditions of sale, and financing.

4. Analyze the dissimilarities between the comparable properties and the subject property.

5. Estimate the market value of the subject property from this analysis.

This technique is based on the assumption that the investor will pay no more for a property than what he would have to pay for any property in the area. For this technique to be accurate the market in the immediate area must be active in order to obtain the necessary and accurate information required to determine the potential value of he property.

10.2 COST APPROACH

1. Estimate the land value. (This is usually estimated using the comparison approach, discussed previously.)

2. Estimate the cost of building the improvements. This can be done by either estimating the rate per square meter of construction or by estimating the cost of erecting all components relative to the construction.

3. Estimate the depreciated amount caused by physical deterioration, functional obsolescence as well as economic obsolescence. The present day economic climate must also be taken into account as this could affect the value of the property.

4. The depreciated costs must now be subtracted from the costs of building the house in the present economic climate.

5. Add the land value estimated in step 1. to arrive at the value of the existing residential dwelling.

10.3 INCOME APPROACH

Determining the value of a property using this method is done as follows :

1. Estimate the potential gross income of the property.

2. Based on existing vacancies and bad debt in the surrounding area, deduct allowances for these factors to derive the effective gross income.

3. Estimate and deduct running expenses and maintenance costs to derive the net operating income.

4. Estimate the length of time and the pattern of the income stream (ie. rental), including escalation.

5. Estimate the change in property value over the anticipated ownership period.

6. Determine the appropriate at which to discount the income stream to present value.

7. Select the method to convert the expected income stream into a value estimate.

The definition of value is expressed in the following equation :

$$V = \sum_{t=1}^{n} \frac{NOI_t}{(1+k)^t} + \frac{NSP_n}{(1+k)^n}$$

Where:

V = value

NOI_t = expected operating income in year t.

NSP = net sale price of investment at the end of the holding period n.

k = required rate of return.

n = expected holding period.

To simplify the equation, the reversion expectation is often built into an 'overall' capitalization rate' resulting in the basic income approach calculation:

$$V = \frac{NOI}{R}$$

Where:

V = value

NOI = expected operating income.

R = overall capitalization rate.

There is unfortunately limited data available regarding the rental and maintenance of residential property.

10.4 MODERN COMPUTER SCHOOL

A multiple regression analysis is used taking into consideration all factors that have an influence on the property.

10.5 EXPERIMENTAL SCHOOL

Statistical method using the Normal Curve.

10.6 RULE OF THUMB

Investigations into the use of municipal valuations were done to obtain support for the research, but tremendous differences were encountered between municipal values and values that individual properties were sold for. In addition municipal evaluations are not updated from year to year which contributed to inaccurate correlations.

There is an overwhelming majority of institutions that favour the use of the 'Income Approach', and other methods simply being used to substantiate their findings. The institutions used the 'Income Approach' to value specific property markets namely, industrial and commercial properties, but in the residential property market 'crude rules of thumb' and the comparison method have been used. A few of the institutions have used the cost approach to substantiate their findings when valuating the residential market.

11. PROPERTY UNIT TRUSTS

Unit trust schemes in property are regulated by the Unit Trusts Control Act No 54 of 1981 and are managed by a management Company in terms of the provisions of that Act. A property unit trust scheme is one in which unit holders buy shares in the company, and participate in the income from the portfolio. The investment activities are restricted to investment in shares of property owning companies.

Property trusts are of a closed nature in the sense that after the initial issue of units, further issues of units are restricted to right issues to existing shareholders. The property trusts therefore differs from other unit trusts which are 'open ended' with demand and supply determining the volume of shares issued.

A main attraction regarding unit trusts is the unusual tax structures that are associated with property unit trusts. Neither the listed property trust nor its underlying property companies pay tax. The companies therefore do not pay tax, but the unit holders pay tax in their own personal capacity.

- Property unit trusts therefore provide a means for investment in prime, well located real estate, without the requirement of specialized property management expertise.

- The individual investor's risk is diversified as investments are in a portfolio of properties rather than in a single property.

- The property unit trust provides relatively low risk as the portfolio acquired is based on researched information, regarding the merits of these properties and confirming the viability of each acquired property.

- The property trusts are precluded from borrowing and therefore do not have exposure to high interest rates nor potential foreign exchange loss due to overseas borrowings.

- Property unit trusts are listed on the JSE and the investment is therefore deemed as a marketable product. Investors are thus able to buy and sell shares as required. This provides relatively low risk for the investor and therefore retains his liquidity.

The individual investor, however has no control over the choice of the property decisions made by management. The dividend policy is uncertain and the investor is dependant on the expertise and efficiency of management to produce. In addition, there are added costs for the managing and marketing of these properties.

12. RESULTS OF PRIOR RESEARCH DONE IN SOUTH AFRICA AND THE UNITED STATES.

Research performed in the United States have indicated that real estate comprises approximately 50 % of the market wealth portfolios.(Ibbotson and Fall 1979)

Although real estate has not received the same accolades as the financial assets, there have been numerous investigations regarding different types of real estate. These investigations however do not include the residential property market. In South Africa very little attention has been focused on the residential property market. Neville Berkowitz & Associates, Consultant Property Economists have done some research into the property markets.

I have included certain summarised papers published by Neville Berkowitz and Associates as they illustrate the need for further investigation into the South African residential property market.

12.1 ECONOMIC TRENDS AND THE HOUSING MARKET.
(AUGUST 1988, NEVILLE BERKOWITZ & ASSOCIATES : CONSULTANT PROPERTY ECONOMIST)

The housing market is directly effected by the economy. Residential properties are always sold, be it in times of economic growth or times of recession. There are always investors that asses the risks and decide to take on investments. Important information to analyze is the volume of activity of sales and development throughout the stages of the business cycle.

12.1.1 BOTTOM OF THE BUSINESS CYCLE

In the present South African business cycle, factors contributing to the possible upswing are: low interest, rates easy availability of mortgage finance, decline in the inflation rate etc. The upswing in the business cycle has not proceeded as there is very little confidence in the market to stimulate an economic upswing.

12.1.2 EARLY UPSWING

When the business cycle improves beyond the initial stages, employment levels will rise, salary and wage increases will occur and there will be adequate food supplies to feed the masses. An improving economy is the platform to improve the social and political pitfalls.

12.1.3 MATURE UPSWING

The demand for housing increases, and prices of residential property start to rise. Interest rates start increasing however financial institutions readily offer mortgage bonds as confidence is strong.

12.1.4 NEAR THE PEAK

At this stage of the economic cycle investors become weary of the looming downswing in the market although market demand is still strong.

12.1.5 AFTER THE PEAK

Within six months of the economic confidence, price increases start slowing down and scepticism is evident regarding economic recovery reaching its peak.

12.1.6 INITIAL DOWN SWING

As the economy cools off, interest rates are still on the increase although obtaining mortgage facilities are ever more difficult. Demand for residential property declines although the momentum of house prices increase.

12.1.7 MATURE DOWNSWING

As the economy weakens, interest rates remain high, unemployment increases, surplus supply of housing stock increases and lack of confidence remains high. There are only high risk investors prominent in the housing market.

12.1.8 BOTTOM OF THE CYCLE

In this phase of the cycle very few investors reap profits, the remainder count their losses and wait optimistically for the following upswing. Most property agents, developers, contractors as well as financial institutions sit with housing stock and shelve potential investments until such time as the market shows an upswing and demand for residential property increases.

Few opportunities are present, and must be well researched, well planned and correctly financed to engender a favourable return. In these trying times security homes and retirement villages have shown demand as well as favourable returns.

12.2 TOP 25 GROWTH AREAS IN THE HOUSE, APARTMENT AND TOWNHOUSE MARKET PLACES. (OCTOBER 1988, NEVILLE BERKOWITZ & ASSOCIATES :CONSULTANT PROPERTY ECONOMIST)

Neville Berkowitz and Associates obtained information from the 'Central Statistic Services' on buildings planned and completed in the 1986/87 period for 220 local authorities. From this data they extracted information in order to identify the top 25 Local Authorities which have been actively involved in upgrading their residential market.

12.2.1 TOP 25 HOUSING AREAS

TABLE 1. identifies and ranks the number of houses built in each of the 25 top local authorities during 1987. Nine of the top 25 local authorities were in 'Black Areas' and it is expected to continue for years to come. These top 25 local authorities comprise 62% of the total private sector house construction market which in 1987 saw 33 061 houses completed with a total square meterage of 4 140 634 sqm costing approximately R1,5 Billion. The size of the average house was approximately 125 sqm costing in the region of R45 000 excluding the value of the land.

Area/Local Authority	% for 1987	1987	1986
Durban	8.59	1759	1628
Sellenbosch Council	8.57	1755	2240
Cape Town	7.78	1594	1327
Pretoria	6.93	1419	836
Botshabelo	6.03	1235	---
Vosloorus	5.41	1108	90
Verwoerdburg	5.09	1042	913
Lekoe	5.09	1042	378
Johannesburg	4.70	961	946
Roodepoort	4.06	832	704
Cape Divisional Council	3.90	798	978
Randburg	3.22	659	349
Pietermarizburg	2.98	610	570
Kagiso	2.96	607	526
Mamelodi	2.79	572	90
Port Elizabeth	2.78	570	555
Milnerton	2.55	522	345
Daveyton	2.36	483	245
Sandton	2.26	464	588
Manguang	2.25	460	329
Soweto	2.19	449	935
Akasia	1.96	401	528
Brakpan	1.93	396	510
Bloemfontein	1.80	370	501
Totals	**100.00**	**20481**	

TABLE 1. NUMBER OF HOUSES COMPLETED

12.2.2 TOP 25 APARTMENT AREAS

TABLE 2. identifies and ranks the number of apartments built in each of the 25 top local authorities during 1987. Durban once again is dominant in all three residential markets. Pretoria, however, leads the field in the Apartment developments, ie 19.86% of the market potential. These top 25 local authorities comprise 88% of the total private sector apartment construction market which in 1987 saw 2738 apartments completed with a total square meterage of 316802 sqm costing approximately R123 Million. The size of the average apartment was approximately 116 sqm costing in the region of R45 100 excluding the value of the land.

Area/Local Authority	% for 1987	1987	1986
Pretoria	19.86	450	1023
Durban	11.16	253	394
Pietermaritzburg	8.21	186	2
Randburg	7.33	166	--
Potchefstroom	6.35	144	42
Strand	5.56	126	3
Uvong	4.99	113	75
Margate	4.15	94	45
Krugersdorp	3.49	79	133
Cape Town	3.22	73	70
East London	3.05	69	60
Johannesburg	2.07	47	146
Bloemfontein	2.07	47	78
Thabong	2.07	47	--
Germiston	1.94	44	--
Sandton	1.85	42	129
Diepmeadow	1.72	39	--
Alberton	1.63	37	39
Witbank	1.63	37	4
Middelburg, Tvl	1.33	30	--
Nelspruit	1.33	30	14
Vereeniging	1.33	30	70
Kuils River	1.28	29	--
Virginia	1.19	27	--
Cape Divisional Council	1.19	27	60
Totals	**100.00**	**2435**	

TABLE 2. NUMBER OF APARTMENTS COMPLETED

12.2.3 TOP 25 TOWNHOUSE AREAS

TABLE 3. identifies and ranks the number of townhouses built in each of the 25 top local authorities during 1987. Durban and Pretoria once again are prominent. These top 25 local authorities comprise 83% of the total private sector townhouse construction market which in 1987 saw 3879 townhouses completed with a total square meterage of 447 211 sqm costing approximately R 162 Million. The size of the average townhouse was approximately 115 sqm costing in the region of R41 800 excluding the value of the land.

Area/Local Authority	% for 1987	1987	1986
Durban	18.53	595	432
Pretoria	12.21	392	41
Bloemfontein	10.56	339	210
Johannesburg	5.54	178	50
Sandton	5.45	175	493
Milnerton	5.36	172	155
Pietermaritzburg	5.29	170	60
Cape Town	4.80	154	26
Bellville	3.95	127	144
Maokeng, OFS	3.18	102	--
Verwoerdburg	2.96	95	62
Joubertina, Tvl	2.55	82	--
Vanderbijlpark	2.18	68	--
Kingburg	1.90	61	33
Randfontein	1.64	53	--
Roodepoort	1.64	53	135
Kemptonpark	1.62	52	57
Stellenbosch	1.46	47	--
Port Alfred	1.36	44	
Krugersdorp	1.36	44	--
Nigel	1.36	44	--
East London	1.30	42	14
Brakpan	1.28	41	--
Rhinl.	1.28	41	--
Parow	1.24	40	
Totals	**100.00**	**3211**	

TABLE 3. NUMBER OF TOWNHOUSES COMPLETED

12.2.4 CONCLUSIONS

From the above information investors are able to assess the market potential and make decisions regarding scarce resources of labour, capital, materials, equipment and management expertise in the most profitable ways.

The identification of the historical supply of space can be used to assess future demands in a specific location in a specific residential market. Any new proposed development can be assessed in the light of likely competition and the performance of the market. In concluding, investors or developers can obtain a

competitive advantage of competition regarding areas that have development potential but little activity.

12.3 HOUSE PRICES AND THE BUSINESS CYCLES (JULY 1989, NEVILLE BERKOWITZ & ASSOCIATES :CONSULTANT PROPERTY ECONOMIST)

12.3.1 CONFIDENCE IS THE KEY FACTOR

The prices of housing and the demand thereof is directly influenced by the confidence levels projected in the market. When there is socio-political stability, economic growth, peace and harmony then the business confidence in the country will increase and so too will the growth of the building industry. Confidence is also reflected in the South African business cycles. To generate confidence in the economic future, potential investors generally need an upswing in the economy of at least 18 months to support investment within the country. The reason for this is that investors need to take certain risks when investing in the market and they need to assure themselves that they are only exposed to the unavoidable risks of the venture.

12.3.2 FUTURE BUSINESS CYCLES

The South African business cycle is changing and with that the residential property prices. Prior to our foreign debt problems experienced since the beginning of 1985, S.A had average business cycles once every four years, with approximately 30 months of upswing and 20 months of downswing.

Neville Berkowitz and Associates do not foresee any dramatic improvement or decline in the confidence levels.

The underlying effect of this stagnation with very gradual growth is that the economy needs a substantial growth path to engender confidence in the future of South Africa and allow average housing prices to move strongly upwards.If the

opposite scenario is realized ie.a lengthy downswing coupled with the lack of business confidence, there will be a dramatic decline in prices for residential properties.

The future of the property market will be dependant on the outcome of the socio-political and economic proposals put forward at the CODESA talks.

12.4 DEMAND ANALYSIS OF RESIDENTIAL AREAS WITHIN THE GREATER JOHANNESBURG REGION (JUNE 92, NEVILLE BERKOWITZ & ASSOCIATES : CONSULTANT PROPERTY ECONOMIST)

The residential market is on the verge of an upswing. Interest rates have been dropping for the past year and the economic recession seems to have bottomed out. There are certain areas of high demand, but these must be coupled to the current state of the business confidence, that is sadly lacking at the moment.

Neville Berkowitz and Associates have conducted market research in conjunction with three main Estate Agency Groups to determine where demand is encountered in the Greater Johannesburg region and what price levels these areas support. From the research they could deduce which areas would be in great demand when business confidence and the South African economy improve.

The survey covers selected areas within the Johannesburg, Bedfordview, Randburg, Edenvale and Roodepoort Municipalities.

The results of the sample areas where as follows :

12.4.1 AFFORDABILITY

Affordability remains top of the priority list supporting residential properties. The survey indicated that the R300 000 home price bracket was in greatest demand.

12.4.2 DEMAND FOR HOUSES

JOHANNESBURG

From the 36 areas surveyed in the Johannesburg region, 22 show a demand preference for houses under the R400 000 price bracket. There are exceptions ie. Dunkeld, Houghton, Linksfield, Westcliff, Saxonwold, Senderwood, St. Andrews that support prices in the R750 000 plus range. A distinct characteristic of these houses where their modern designs.

SANDTON

Demand for houses in Sandton ranged from R150 000 to R400 000 in the majority of the suburbs. In exceptional cases ie. Atholl, Benmore Illovo, Inanda, Morningside and Sandhurst there is support for the R750 000 plus market. The market in Sandton and Johannesburg is experiencing a similar trend with an oversupply being in evidence in affluent areas.

RANDBURG

Houses in the R300 000 price bracket appear to be in great demand in this region but also seem to be in great undersupply.

EAST RAND

Edenvale and the periphery show demand for houses under R150 000 whereas in Marais Steyn Park and Klopper Park the strongest demand is for houses under the R100 000 price bracket.

WESTRAND

Houses demanded in the West Rand are in the R100 000 to R250 000 price bracket.The demand for townhouses in the northern suburbs of Sandton and Randburg is strong as the factors that influence the demand are security, convenience and social status. Cluster houses have increased in popularity over the

past few years as they offer the concept of a secure environment in a parklike setting. Convenience of minimal maintenance to gardens as well as excellent security systems have attracted many affluent people to sell large stately homes and purchase upmarket Cluster houses.

Apartments have also increased in popularity especially in the more affluent areas and can be secured for as little as R100 000. Affordability and location are usually the underlying factors supporting the demand for these apartments.

The residential market is still showing signs of demand in the affordable price brackets. As the interest rates decline, larger segments of the home buying market can afford to purchase in more expensive price categories as these houses come in reach of the lower income groups.

Confidence and political stability are still the missing ingredients to see a sizeable upswing in the residential market. The residential market peaked, in real terms, during 1983 and has been sliding ever since.

12.5 THE SUPPLY OF HOMES (AUGUST 92, NEVILLE BERKOWITZ & ASSOCIATES : CONSULTANT PROPERTY ECONOMIST)

12.5.1 FUTURE OUTLOOK

Looking at the residential property market from a holistic point of view, there are signs of a falling trend in the supply. This is directly associated with the lack of business confidence and political instability in the country.

During the past 6-7 years, only the townhouse and cluster house markets have shown reasonable growth. The scrapping of influx control, migration of some 500 000 to 1000 000 people to the greater Johannesburg region and the increased security hazard have influenced home buyers to purchase more secure homes. There

has been a marked decline in demand for free standing properties as well as large unsecured properties. The demands for flats has declined substantially although there has been a recent upswing due to the construction of upmarket apartments as secure retirement homes for more affluent elderly people.

As migration occurs to the larger urban areas, the demand for residential property will increase. In the short term, because of the insecurity as well as uncertainty, there has been a reduction in the supply of houses, flats as well as reasonably priced townhouses. However in the intermediate to longer term, housing will become scarce and, with the increase in the urban population, a sudden increase in demand will occur. This demand is forecast to be in the lower housing categories, but will inevitably have a ripple effect throughout the housing market.

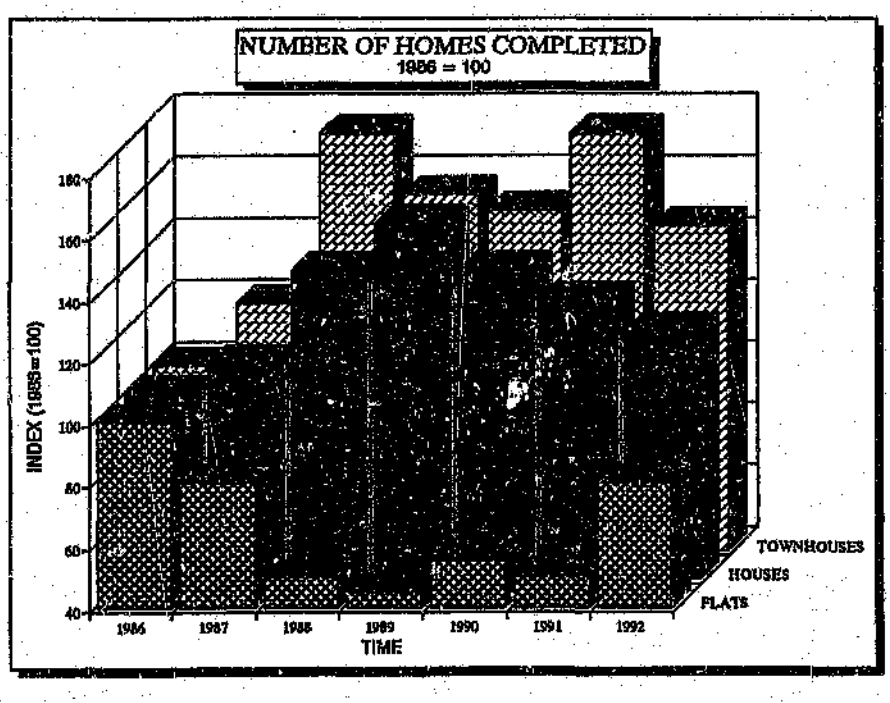

FIGURE 1. HOUSING MARKET (1980-1992)

12.5.2 CONCLUSION

The recession in the economy has bottomed out and is set to enter into an upswing phase. The interest rates are coming down and are expected to reach 15% - 16%.

Financial institutions are 'cash flush' and are eager to accept mortgage bonds within stable areas. Migration to the larger urban areas are set to increase if political negotiations stutter and delay. Based on the assumption that there seems to be potential growth in the economy in the next twelve months, real earnings will increase allowing people greater selectivity and buying power to purchase in the residential market. The supply of homes is likely to be in short supply because of the inactivity in this market over the last few years. Increased home ownership by all race groups in the traditional white areas will further increase demand for housing.

Based on the perception that there will be an economic upswing late in 1993, and taking the above mentioned factors into account, demand for housing across the board will be great. However, with confidence missing at present the potential home buyers are sceptical and will apply a 'wait and see' attitude.

13. RESEARCH METHODOLOGY

The objective of this report is to collect and analyze property transactions of certain suburbs within the Greater Johannesburg area, and to determine the economic potential of the residential market relative to general economic indicators. The various data required is identified and procedures used in the analysis are outlined in this chapter.

13.1 DETERMINE BASE YEAR

In order to determine the capital appreciation of properties in each respective suburb, it is necessary to establish a base from where appreciation can be

calculated. The data accumulated for this report ranges from 1980-1992. The base is therefore taken as 1980 and all capital appreciation is based relative to the 1980 property values in each respective suburb.

Careful consideration must be borne in mind when randomly comparing the percentage appreciation increase between suburbs, as physical characteristics, demographics, status of the suburbs etc. vary from suburb to suburb and respond differently to political and economic occurrences.

13.2 METHODS OF DETERMINING CAPITAL APPRECIATION

Information pertaining to rental income, improvements and maintenance of residential properties are not available for the entire duration considered in this report, therefore, only the actual sales transactions have been used to determine the capital appreciation encountered in each suburb.

For the research to show a true reflection of capital appreciation, it is necessary to establish average market related values for each sample interval in each respective suburb. The appreciation is therefore determined according to the movement of these average market values between 1980 and 1992.

The use of municipal valuations were considered to support the findings of market related values, but were distorted and inaccurate as they are not updated on an annual basis and therefore cannot be compared to the market values that continually adjust to accommodate political and economic occurrences. The municipal valuations are therefore omitted from the scope of this report.

13.3 SAMPLING PERIODS

The scope of this report is to establish the capital appreciation encountered over the duration of 1980-1992. To determine an accurate sample interval for each suburb,

adequate transactions must take place to obtain relatively accurate property values that can represent each sample period for each respective suburb. The duration is broken down into 26 six month intervals so as to incorporate any short term trends as well as assess the long term growth trend encountered in each suburb.

A continual problem encountered in the more affluent areas is that fewer property transactions take place on an annual basis, and the property prices vary considerably. There are several schools of thought to justify the reasoning, ranging from new developments in affluent areas that capture the lower market, to existing residents overcapitalising on their investments.

13.4 VALUATION METHOD

As adequate information regarding housing rentals, operating expenses, renovations and extensions were unavailable, only actual sales transactions have been used to determine the price appreciation in the property market.

Each submarket has its own unique attributes and characteristics that set it apart from other areas.

All transactions over a period of thirteen years ie. between January 1980 to December 1992 in each of the thirteen suburbs were compiled and analysed. Details captured include, the transaction date of sale, the value of the transaction, the erf number and size of the erf.

Raw data regarding the transactions executed in the respective areas was obtained from the Record Of Transfers (Pty) Ltd. From this data the following transactions have been omitted to obtain only the transactions applicable to developed residential properties:

1. Vacant properties
2. Commercial properties
3. Properties sold by court order
4. Deceased Estates
5. Properties sold on Auction
6. Properties sold to Relatives

The data is captured into graphic format to illustrate the trend of actual residential transactions that have materialised between 1980-1992. These graphs will be found in the chapter investigating the research results obtained.

Although this grouping process generally destroys much of the original data, an important advantage is gained in the long term growth trend encountered for each suburb.

The data is then arranged according to ascending order of transactions by date. The data is then grouped into six month sample intervals.

Each sample period is analysed to determine the following:

- The number of transaction concluded.
- The average transaction price.
- The maximum transaction price.
- The minimum transaction price.
- The standard deviation.
- The total value of all transactions concluded.

This data is compared to the, Inflation rate, the Building Indicies and Business Confidence levels to determine the correlation, market fluctuation and trends in the market.

13.5 STATISTICAL ANALYSIS

This section explains the statistical analysis used on each suburb for the duration 1980 - 1992. To determine the long term trends of housing prices in each suburb, a time series analysis is performed to establish any long term patterns and trends that have occurred during the thirteen year period.

13.5.1 SAMPLE AVERAGES

For the research to be successful, it is imperative to determine an 'average housing value' for each sample period, as the appreciation in each suburb is based on the relative movement of the average housing value during the thirteen year period. Therefore, the average housing value determined is the median for each sample period, where the median is the middle value or the arithmetic mean of the two middle values.

13.5.2. STANDARD DEVIATION

The standard deviation can be calculated as:

$$s = \sqrt{\frac{\sum_{j=1}^{N} (X_j - \bar{X})^2}{N}}$$

Where : X_j = value of an observation

$\bar{X}$ = Arithmetic mean of the observations

N = number of observations in the sample

Determining the standard deviation, gives a measure of how closely the housing values for each sample period are clustered around the average housing value.

The minimum as well as maximum transaction values for each sample period are tabulated together with the average housing values and correlating standard

deviation values so as to determine the trend in each respective suburb for the period 1980-1992.

13.5.3 ANALYSIS OF MOVING AVERAGES

Each sample period comprises of the total of all transactions that have taken place over consecutive six months periods These values are averaged out to determine the annualised averages for each suburb. In so doing, the appreciation of the housing values as well as the appreciation trends can be determined on an annual basis.

By using the moving averages method, the short term cyclic as well as seasonal trends are eliminated (to a certain extent) so as to obtain curve smoothing effect determining the longer term perspective of the trends in housing values.

13.5.4 LINEAR CORRELATION THEORY

The aim of using this theory is to determine how well a linear line describes the relationship between variables.

For the purpose of this report, the cumulative appreciation between 1980-1992 was tabulated and a regression analysis performed to determine the correlation between 'percentage capital appreciation' and time.

Therefore from a linear equation : $Y = a_0 + a_1 X$

Where : Y = Cumulative Appreciation value

X = Sample interval

and the values of a_0 and a_1 are obtained from the following normal equations :

$$a_0 = \frac{(\Sigma Y)(\Sigma X^2)-(\Sigma X)(\Sigma XY)}{N \Sigma X^2 -(\Sigma X)^2}$$

$$a_1 = \frac{N \Sigma XY -(\Sigma X)(\Sigma X)}{N \Sigma X^2 -(\Sigma X)^2}$$

The standard error of estimate can be determined using :

$$s_{Y.X} = \sqrt{\frac{\sum (Y - Y)^2}{N}}$$

Where : $s_{Y.X}$ = the standard error of estimate of Y on X.

For the purpose of this report, '$s_{Y.X}$' determines the 'standard error of estimate' of capital appreciation relative to time.

The coefficient of correlation (tabulated as the 'R Squared' value) determined for each suburb gives an indication of the linear correlation or 'goodness of fit' between the two variables ie. between the capital appreciation and time.

In order to compute any of the above statistical analysis, it is necessary to use observations obtained from the sample as well as certain population parameters. The number of degrees of freedom of a statistical analysis are defined by the number of independent observations in the sample minus the number of population parameters which are estimated from sample observations.

13.6 ECONOMIC INDICATORS

Four major economic indicators have been considered to compare to the property market. These are the inflation rate, mortgage rate, business cycle and the business confidence index. The performance of unit trusts will be discussed later in the report. The performance of these indicators will be analysed and compared to the performance of the residential property market.

13.5.1 INFLATION RATE

Inflation rate is measured by the consumer price index (CPI), and averages around 14% to 15% during the 1980's. The inflation rate has shown increased rallying around the 16% level for the early part of the 1990's.

Figure 2. illustrates the performance of the inflation rate between 1980 and 1992.

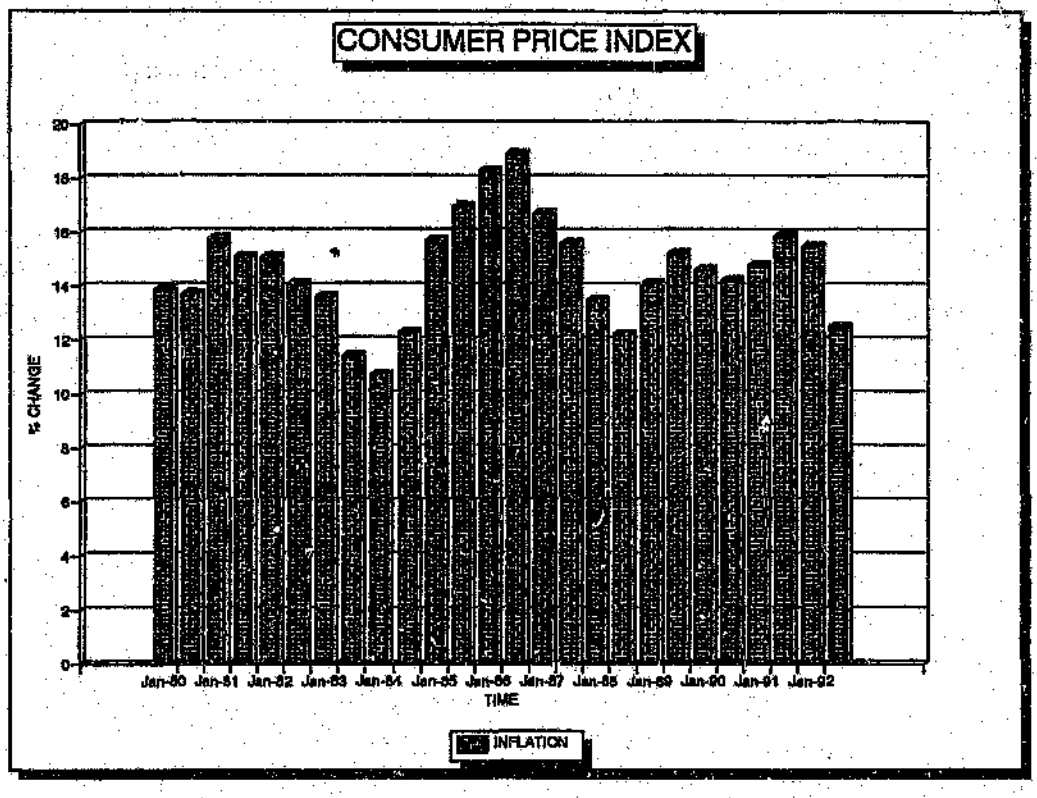

FIGURE 2. INFLATION RATE (1980-1992)

13.5.2 MORTGAGE BOND RATES

Investors assess the mortgage bond rate to determine the viability of an investment over a long term. The bond rates have been obtained from ABSA and have been graphically represented in Figure 3.

The mortgage bond rate for the residential property market has shown an improvement of approximately 4% for the first quarter of 1992 compared to the last quarter of 1991. The Reserve Bank has therefor tried to stimulate increase in demand for housing by increasing the investors effective yield and thereby stimulating growth in the property market.

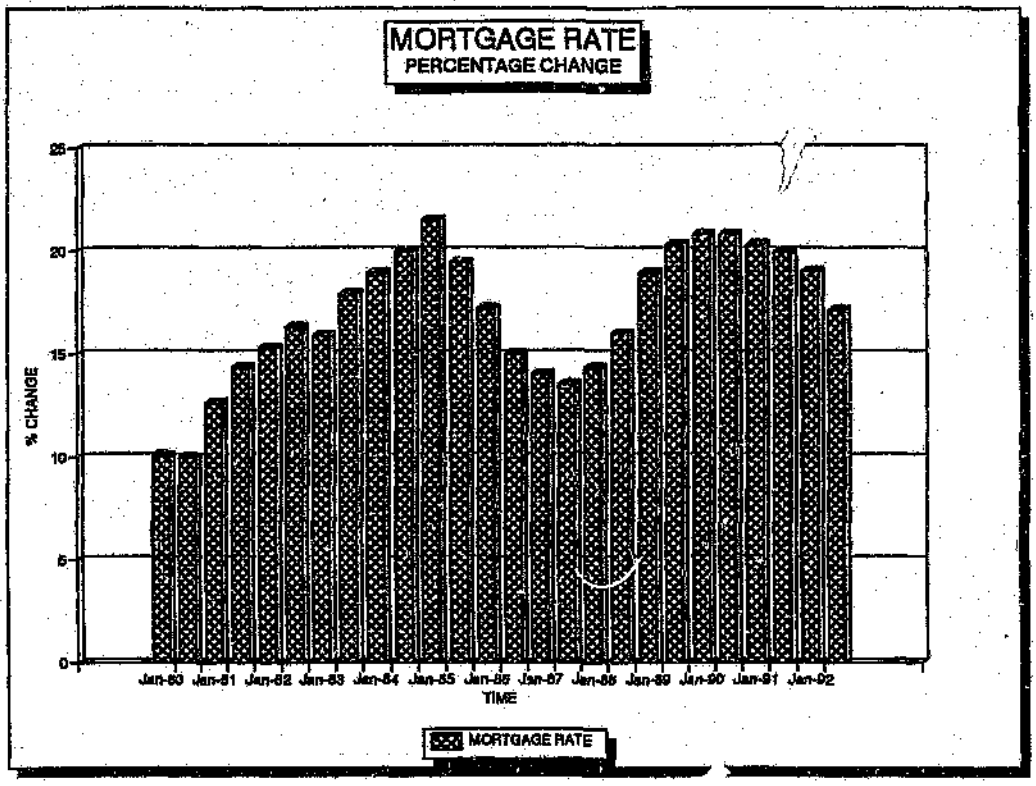

FIGURE 3. MORTGAGE BOND RATE (1980-1992)

13.5.3 BUSINESS CONFIDENCE INDEX

Figure 4. outlines the business confidence for the duration 1980 to 1992. The confidence index has shown a downward trend since the latter part of 1988 till 1992. This is due to an unresolved political situation as well as an unstable economic market.

H ...ing towards a new dispensation, increased optimism coupled to a sustainable economic upswing should improve the business confidence levels.

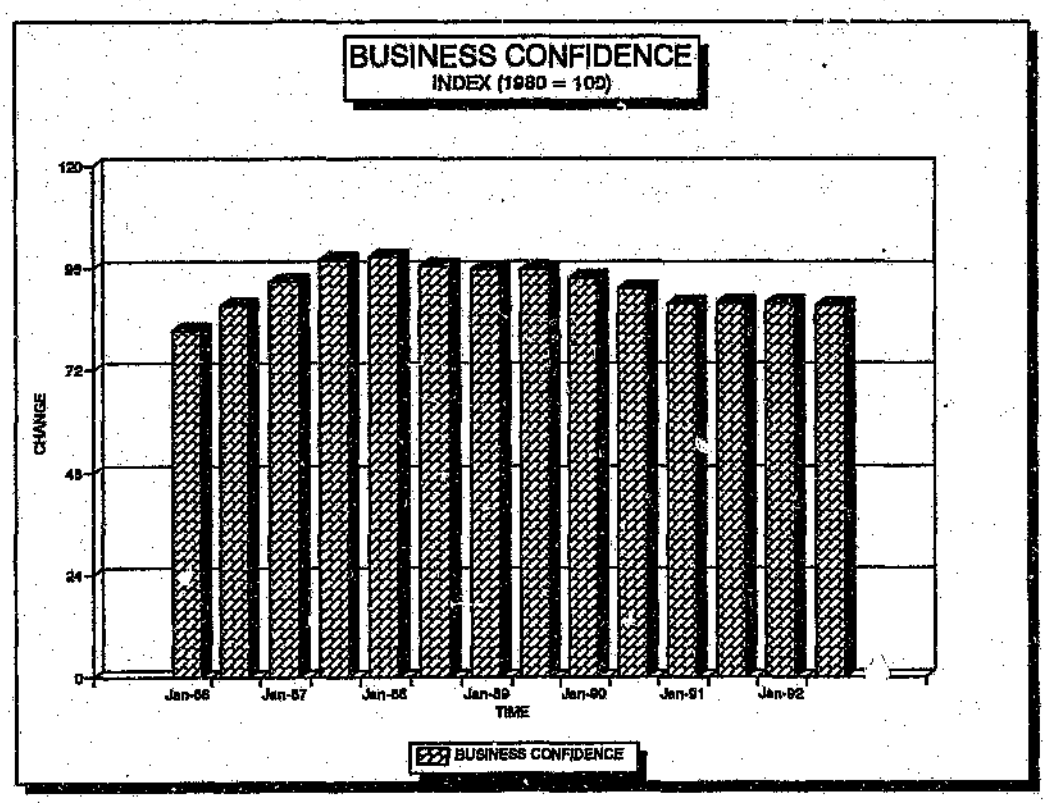

FIGURE 4. BUSINESS CONFIDENCE INDEX (1980-1992)

INDEX (1980 = 100)

13.5.4 BUSINESS CYCLE

The performance of the business cycle is illustrated in Figure 5.

The business cycle has shown a decline since 1990 which is coupled to business confidence, stagnant economic trends as well as apprehension following high levels of violence and the unresolved political climate.

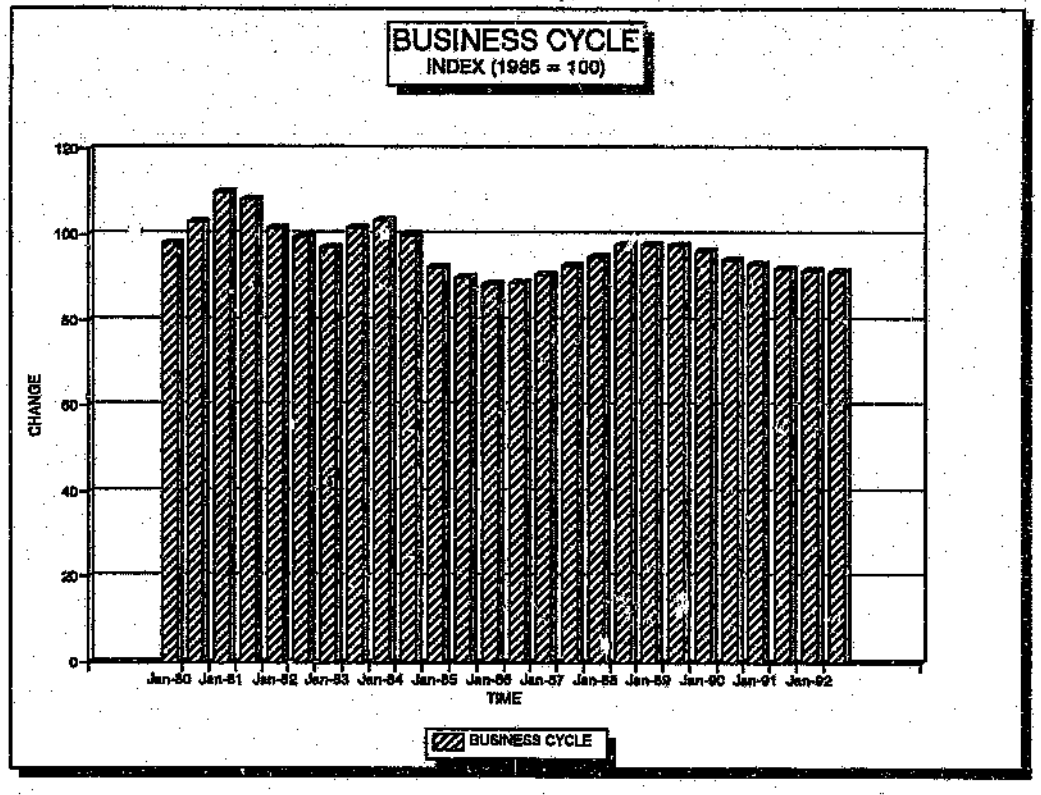

FIGURE 5. BUSINESS CYCLE (1980-1992)

INDEX (1985 = 100)

In conclusion, the economy till the end of 1992 is in a dormant mode awaiting direction. The confidence in the political arena and curtailment of violence has still to be resolved. These factors therefore have a detrimental impact on the economy which invariably affects the growth in the property industry.

14. RESIDENTIAL PROPERTY MARKET

14.1 SELECTION OF RESEARCH AREAS

In order to obtain a broad sample of the residential market, thirteen suburbs were earmarked. The suburbs were chosen across the spectrum of income groups ie. suburbs were chosen from low, middle and high income groups. From each group older and newer suburbs were selected to obtain the impact of functional utility that could influence the investor's decision making process. The suburbs had to be large enough so that adequate information regarding sales transactions could be obtained. Important criteria that were researched were the consistency and homogeneity of these suburbs ensuring that no external occurrences would influence the findings. Suburbs experiencing urban decay or neighbouring recently formed squatter areas were avoided. Certain suburbs where chosen on the merits of business and commercial infiltration to assess the impact that this has on the residential property prices.

On this basis the following suburbs were taken into consideration :

ESTABLISHED AND NEW RESIDENTIAL AREAS:

Bezuidenhout valley

Blairgowrie

Bryanston Proper

Cyrildene

Emmarentia and Emmarentia Extension 1.

Fairlands

Dunkeld

Houghton Proper and Estates

Linksfield, Linksfield Ridge and extensions

Melville

Parkmore

Parktown North

Westcliff including extensions

It is very difficult to establish complete homogeneous areas as many new developments in affluent as well as middle class areas have established new market niches that enables lower income groups to purchase in higher income areas.

15. PROPERTY UNIT TRUSTS

There is a general misconception about property trusts. People are adamant that the property unit trusts are a good hedge against inflation and a firm alternative to direct investment. They are also perceived to be a good source of income. Property unit trusts have yielded favourable returns in terms of capital appreciation over the past eight years, but most unit trusts have performed below the average inflation rate.

An additional disadvantage suffered by property trusts is that the dividend payment is taxed in the hands of the investor although, during the last few years with change in government regulations, property trusts have been taxed then tax exempt then taxed again. An obvious long-term alternative is that of a direct investment (as discussed previously). To reap the reward, not only does the investor need patience, but he also need to deal with many problems associated with direct ownership of properties.

15.1 HISTORICAL DATA : PROPERTY UNIT TRUSTS

The weak economy has continued to impact on the property industry, with the conclusion that it is very difficult to obtain tenants as there is an oversupply of lettable space available. Growth in the commercial sector should remain relatively stagnant in the short term as the property market lags behind an economic upswing of between 12 and 24 month.

During the current recessionary period, position and affordability of developments are the determining factor to ride out the difficult times and benefit from a future economic upswing.

Although property unit trusts were originally designed to afford the small investor the opportunity, to enter the property market they have become increasingly more institutionalised. Entities such as Pension funds and other yield conscious investors, that do not pay tax, are increasingly interested in property unit trusts as dividends and income are not taxed in their hands, and they pay relatively low marginal taxes.

Investors are at present enjoying higher yields although benefits from capital appreciation has waned. Figure 6. illustrates the total returns (bi-annual) generated during the 1980-1992 period.

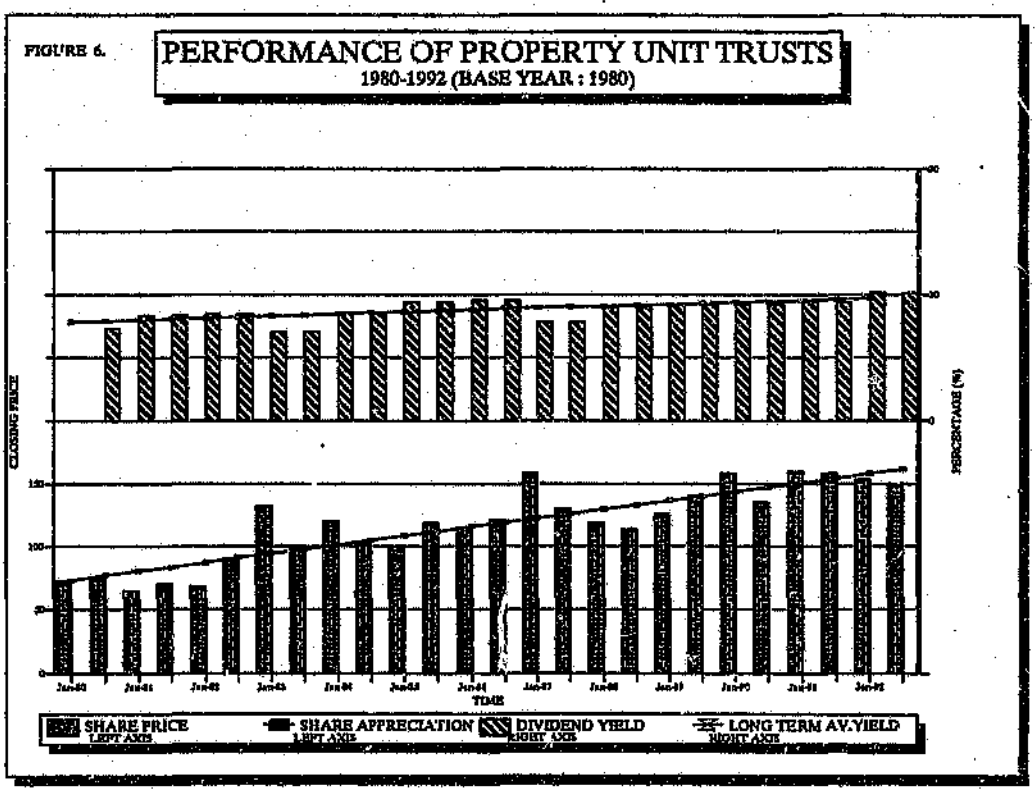

FIGURE 6. PERFORMANCE OF PROPERTY UNIT TRUST(1980-1992)

16. RESEARCH RESULTS

The focus of this research is on direct investment in residential property, however alternative opportunities for investment as well as diversification in property must be considered by the investor.

The suburbs researched in the report will be analysed independently, exposing their specific characteristics and growth patterns and thereafter comparing them to the economic indicators for the respective time series.

16.1 BEZUIDENHOUT VALLEY

Bezuidenhout Valley is a well established area with a lower to middle income group status and is located on the eastern part of Johannesburg. As illustrated in figure 8., the market values have shown a steady growth trend regarding the property transactions that have taken place over the thirteen year period. There is minimal deviation from the average growth pattern regarding property values in this suburb. This implies that the market values are resilient to any fluctuations in demand for property in general. Not withstanding this fact, the market demand in this suburb is specific regarding style and functional utility.

As illustrated in figure 7. , numerous transactions that have taken place (predominantly between February 1989 and February 1992), fall beyond the limits of the standard deviation. These transactions are the exception, where properties have been bought, with the potential for future developments.

Housing prices have increased from around R28 000 in 1980 to around R133 000 by middle of 1992. This has been an appreciation of almost 167% to the first half of 1992, but has waned during the latter part of 1992 due to external occurrences that will be discussed later in this report.

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The annual appreciation indicated in table 5. shows that property values appreciated above the average of 10.3% during 1980-1984 and since then have been performing below average throughout the remaining part of the 80's and early 90's.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R27,810	91	R42,000	R20,000	R5,078	R2,530,708
Jul-80 - Dec-80	2	R33,245	146	R70,000	R20,000	R8,201	R4,853,770
Jan-81 - Jun-81	3	R40,637	87	R67,000	R23,000	R8,802	R3,535,450
Jul-81 - Dec-81	4	R43,068	56	R95,000	R24,000	R14,852	R2,411,800
Jan-82 - Jun-82	5	R50,242	43	R94,000	R34,000	R12,318	R2,160,400
Jul-82 - Dec-82	6	R55,247	45	R85,000	R31,500	R13,669	R2,486,125
Jan-83 - Jun-83	7	R63,304	102	R102,500	R41,000	R13,470	R6,457,000
Jul-83 - Dec-83	8	R75,722	79	R160,000	R43,000	R19,837	R5,982,000
Jan-84 - Jun-84	9	R72,840	56	R115,500	R52,000	R13,039	R4,079,050
Jul-84 - Dec-84	10	R72,171	35	R100,000	R52,000	R12,543	R2,526,000
Jan-85 - Jun-85	11	R74,225	36	R105,000	R51,100	R11,923	R2,672,100
Jul-85 - Dec-85	12	R62,250	28	R80,000	R52,500	R7,430	R1,743,000
Jan-86 - Jun-86	13	R65,302	52	R142,500	R43,000	R16,302	R3,395,700
Jul-86 - Dec-86	14	R62,684	57	R115,000	R42,000	R13,120	R3,572,967
Jan-87 - Jun-87	15	R67,754	44	R93,000	R47,750	R10,471	R2,981,181
Jul-87 - Dec-87	16	R70,784	58	R130,000	R46,000	R14,835	R4,105,500
Jan-88 - Jun-88	17	R78,914	77	R140,000	R55,000	R18,965	R6,076,400
Jul-88 - Dec-88	18	R80,313	88	R155,000	R53,000	R18,109	R7,067,500
Jan-89 - Jun-89	19	R89,995	83	R230,000	R58,000	R27,498	R7,469,550
Jul-89 - Dec-89	20	R94,250	90	R185,000	R58,000	R24,194	R8,482,500
Jan-90 - Jun-90	21	R106,567	90	R170,000	R74,000	R21,463	R9,591,000
Jul-90 - Dec-90	22	R114,856	90	R245,000	R74,000	R28,689	R10,337,000
Jan-91 - Jun-91	23	R123,066	76	R190,000	R75,000	R26,118	R9,353,000
Jul-91 - Dec-91	24	R129,793	93	R295,000	R80,000	R29,524	R12,070,750
Jan-92 - Jun-92	25	R136,978	67	R250,000	R87,000	R29,731	R9,177,500
Jul-92 - Dec-92	26	R126,269	13	R158,000	R85,000	R22,642	R1,641,500
TOTALS			1782				R136,759,451

Table 4. Bezuidenhout Valley : Summary of Record of Transfers 1980-1992

This property market attracts the lower to middle status groups for formal housing and thus reaches a large portion of the home buyers market. The almost 1800 transaction that have taken place throughout the thirteen year period, imply that there is good and steady demand for housing in Bezuidenhout Valley.

Beziudenhout Valley has conservative attributes regarding housing style and functional utility and coupled to its affordability has shown steady growth. The combination of these factors makes this suburb sought after and demand for property in this suburb has been steady throughout the thirteen year duration.

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R27,810					41.25%
Jul-80 - Dec-80	2	R30,528	9.77%	9.77%	Constant	0.3609	46.41%
Jan-81 - Jun-81	3	R36,941	21.01%	30.78%	Std Err of Y Est	0.1392	51.56%
Jul-81 - Dec-81	4	R41,853	13.30%	44.08%	R Squared	0.8859	56.72%
Jan-82 - Jun-82	5	R46,655	11.47%	55.55%	No. of Observations	25	61.88%
Jul-82 - Dec-82	6	R52,745	13.05%	68.60%	Degrees of Freedom	23	67.04%
Jan-83 - Jun-83	7	R59,276	12.38%	80.99%			72.20%
Jul-83 - Dec-83	8	R69,513	17.27%	98.26%	X Coefficient(s)	0.0516	77.36%
Jan-84 - Jun-84	9	R74,281	6.86%	105.12%	Std Err of Coef.	0.0039	82.52%
Jul-84 - Dec-84	10	R72,506	-2.39%	102.73%			87.68%
Jan-85 - Jun-85	11	R73,198	0.96%	103.68%			92.84%
Jul-85 - Dec-85	12	R68,238	-6.78%	96.90%			98.00%
Jan-86 - Jun-86	13	R63,776	-6.54%	90.37%			103.16%
Jul-86 - Dec-86	14	R63,993	0.34%	90.71%			108.32%
Jan-87 - Jun-87	15	R65,219	1.92%	92.62%			113.48%
Jul-87 - Dec-87	16	R69,269	6.21%	98.83%			118.64%
Jan-88 - Jun-88	17	R74,849	8.06%	106.89%			123.79%
Jul-88 - Dec-88	18	R79,614	6.37%	113.25%			128.95%
Jan-89 - Jun-89	19	R85,154	6.96%	120.21%			134.11%
Jul-89 - Dec-89	20	R92,123	8.18%	128.40%			139.27%
Jan-90 - Jun-90	21	R100,409	8.99%	137.39%			144.43%
Jul-90 - Dec-90	22	R110,712	10.26%	147.65%			149.59%
Jan-91 - Jun-91	23	R118,961	7.45%	155.10%			154.75%
Jul-91 - Dec-91	24	R126,430	6.28%	161.38%			159.91%
Jan-92 - Jun-92	25	R133,386	5.50%	166.88%			165.07%
Jul-92 - Dec-92	26	R131,624	-1.32%	165.56%			170.23%
TOTALS					AV. Appreciation p.a.		10.32%

Table 5. Bezuidenhout Valley : Capital Appreciation 1980-1992

FIGURE 7.

BEZUIDENHOUT VALLEY
SCATTER PLOT : 1980 - 1992

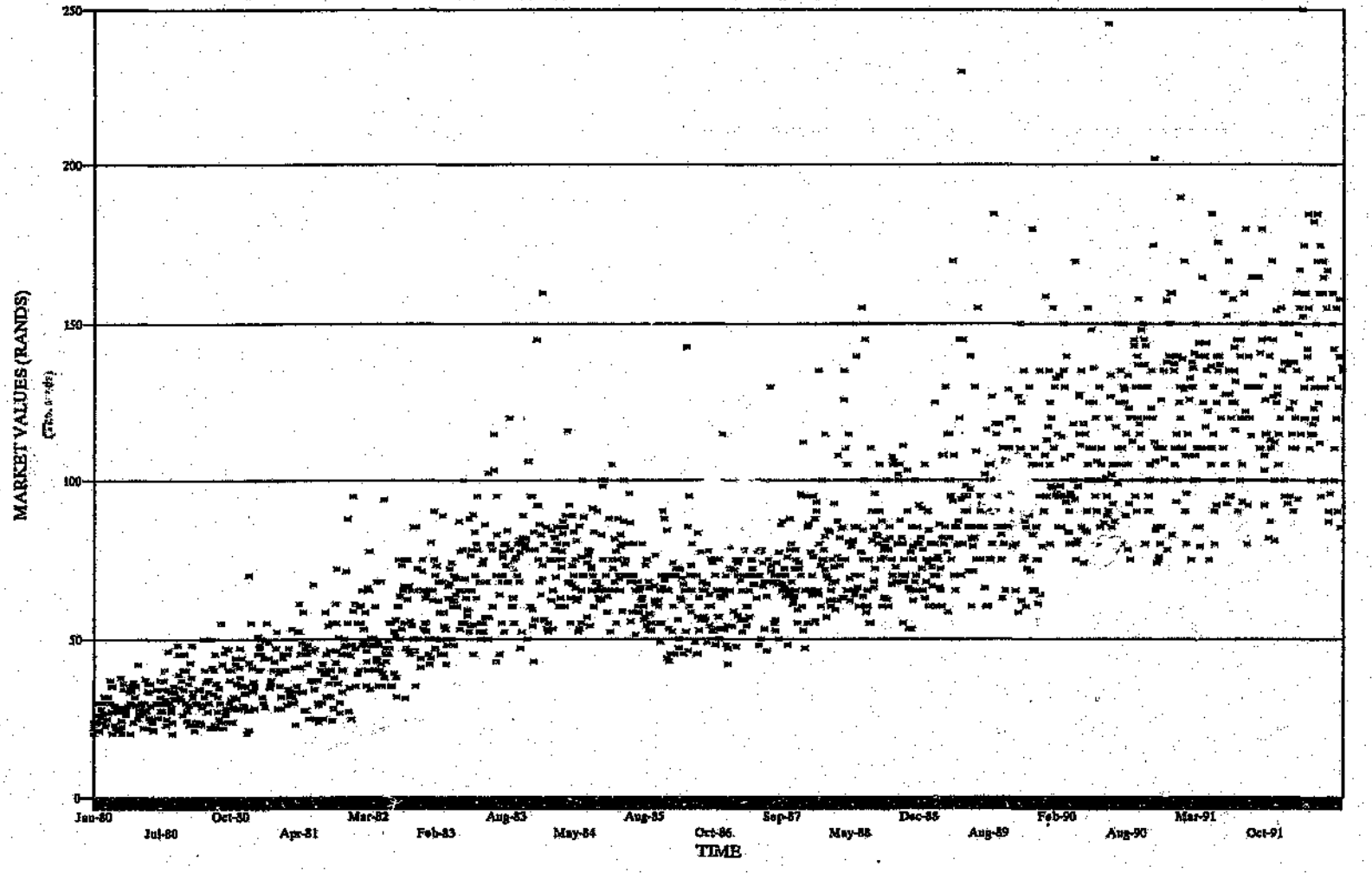


FIGURE 8.

BEZUIDENHOUT VALLEY
MARKET VALUES: 1980-1992

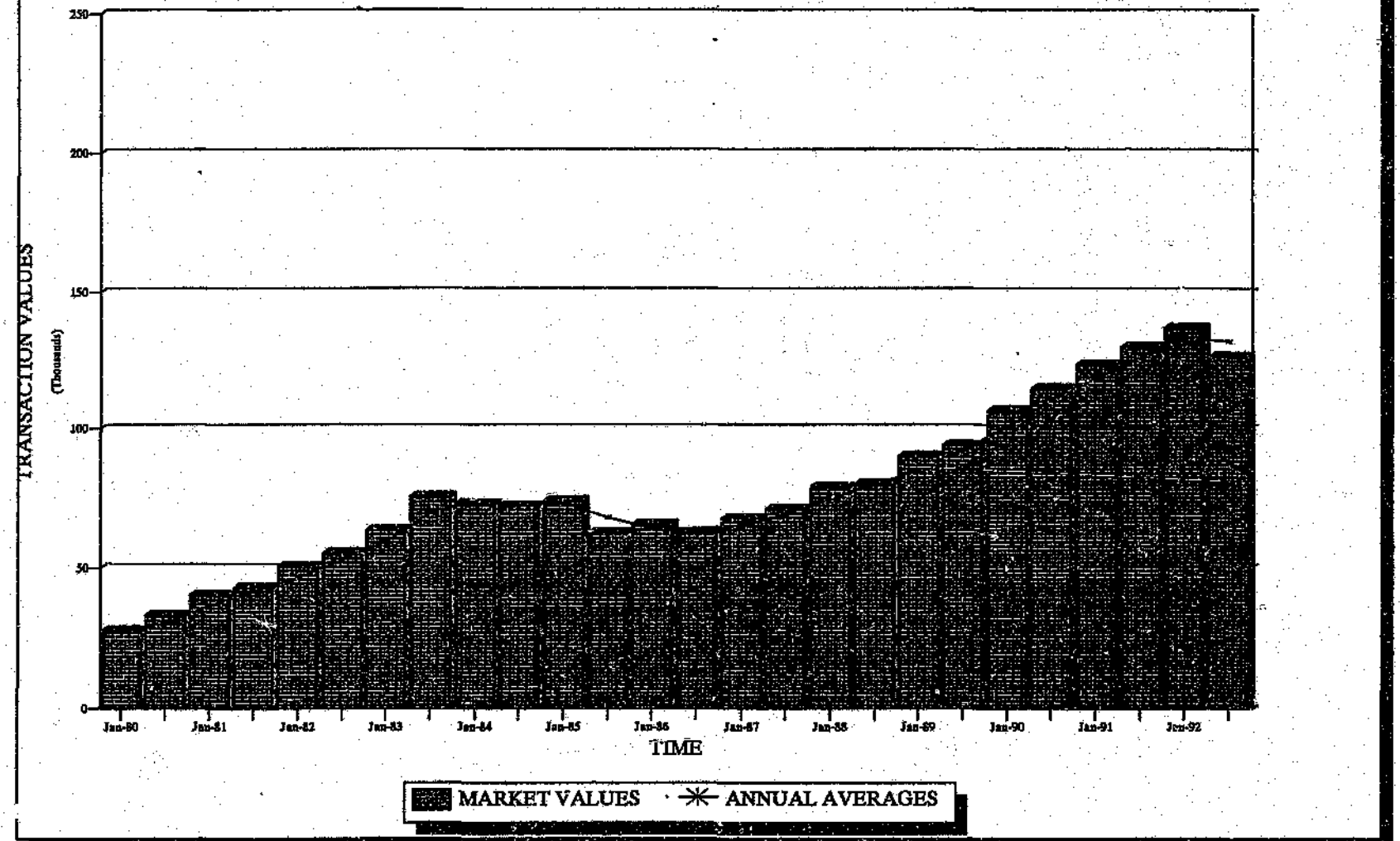
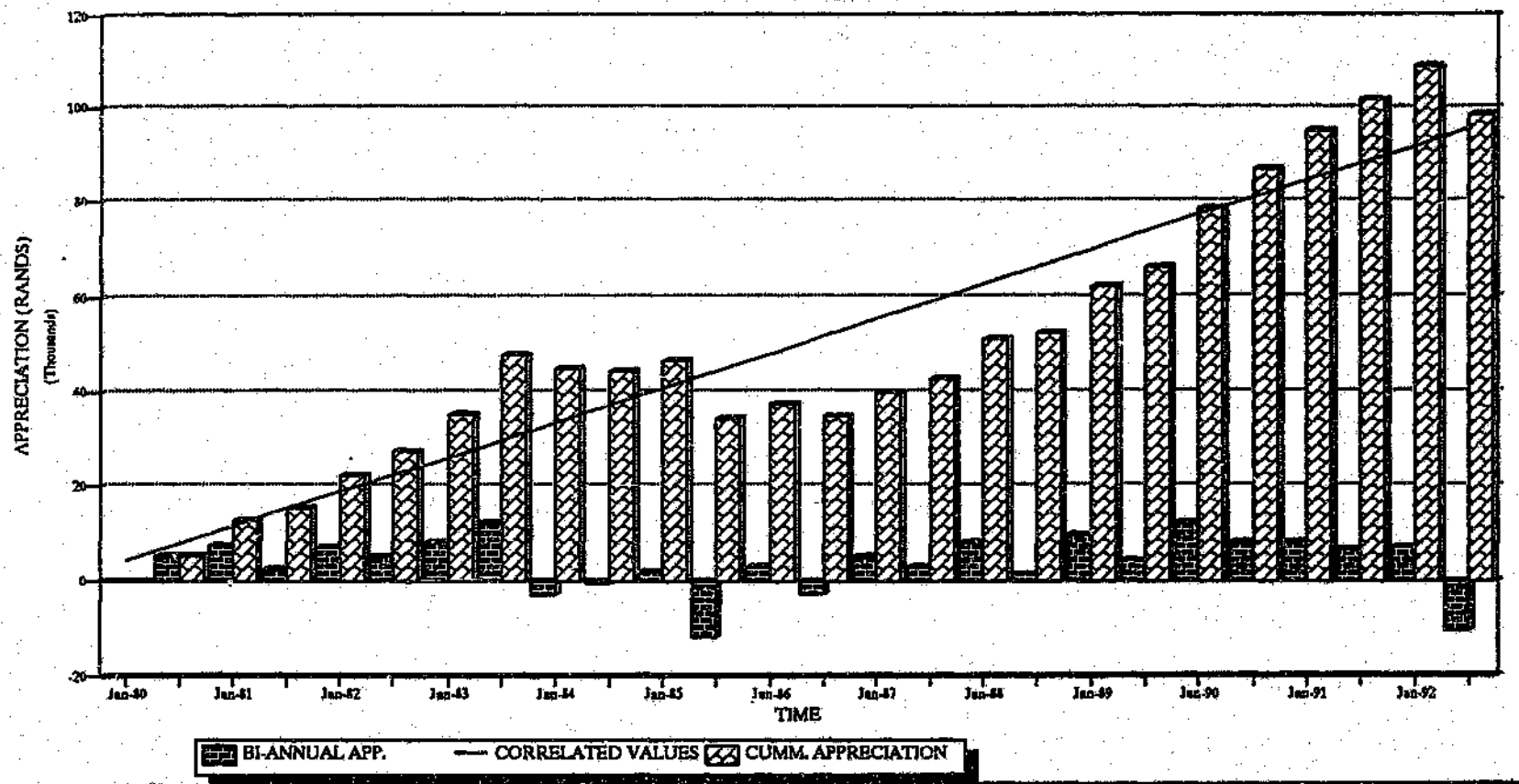


FIGURE 9.

BEZUIDENHOUT VALLEY
PROPERTY APPRECIATION : 1980-1992



16.2 BLAIRGOWRIE

Located in the north weste n area of Johannesburg, Blairgowrie is a well established middle class area. Figures 10 to 12. illustrates the property appreciation encountered in this suburb. The average growth pattern is steady and increasing through out the 1980's and early 1990's. The market values do not deviate substantially from the average market values, implying that this is a stable market with no urgency to attract a different market niche.

Market values have increased from an average of around R46 000 in 1980 to around R204 000 in the middle of 1992 have fallen slightly to around R189 000 towards the end of 1992. This has generated capital appreciation of approximately 154%.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R46,298	99	R67,700	R32,000	R6,763	R4,583,500
Jul-80 - Dec-80	2	R56,478	153	R85,000	R32,500	R9,865	R8,641,100
Jan-81 - Jun-81	3	R64,848	151	R150,000	R35,000	R11,872	R9,792,090
Jul-81 - Dec-81	4	R70,012	85	R120,000	R33,000	R12,096	R5,951,050
Jan-82 - Jun-82	5	R77,611	88	R106,000	R45,000	R10,231	R6,829,810
Jul-82 - Dec-82	6	R79,178	100	R120,000	R57,000	R10,180	R7,917,750
Jan-83 - Jun-83	7	R92,703	165	R196,000	R50,000	R18,474	R15,295,950
Jul-83 - Dec-83	8	R101,233	104	R192,500	R50,000	R19,059	R10,528,200
Jan-84 - Jun-84	9	R99,433	105	R147,500	R67,500	R13,236	R10,440,500
Jul-84 - Dec-84	10	R92,950	64	R121,560	R65,000	R12,199	R5,948,810
Jan-85 - Jun-85	11	R89,352	60	R135,000	R60,000	R10,628	R5,361,100
Jul-85 - Dec-85	12	R87,930	118	R145,985	R61,000	R13,454	R10,375,685
Jan-86 - Jun-86	13	R85,515	125	R127,000	R60,000	R13,119	R10,689,330
Jul-86 - Dec-86	14	R86,756	118	R155,000	R55,416	R15,477	R10,237,166
Jan-87 - Jun-87	15	R95,679	84	R140,000	R72,000	R15,524	R8,037,029
Jul-87 - Dec-87	16	R102,966	109	R150,000	R75,000	R15,260	R11,223,250
Jan-88 - Jun-88	17	R120,698	90	R168,000	R64,000	R18,654	R10,862,800
Jul-88 - Dec-88	18	R131,088	113	R270,000	R87,000	R30,349	R14,813,000
Jan-89 - Jun-89	19	R134,066	124	R237,000	R80,000	R20,887	R16,624,150
Jul-89 - Dec-89	20	R140,695	188	R237,000	R90,000	R22,005	R26,450,650
Jan-90 - Jun-90	21	R164,462	124	R300,000	R60,000	R30,278	R20,393,249
Jul-90 - Dec-90	22	R165,664	113	R260,000	R70,000	R27,613	R18,720,000
Jan-91 - Jun-91	23	R180,382	99	R247,000	R60,000	R31,111	R17,857,830
Jul-91 - Dec-91	24	R193,845	101	R310,000	R64,000	R37,876	R19,578,350
Jan-92 - Jun-92	25	R204,500	102	R340,000	R100,000	R46,142	R20,859,000
Jul-92 - Dec-92	26	R189,113	31	R238,000	R140,000	R23,379	R5,862,500
TOTALS			2813				R313,873,849

Table 6. Blairgowrie : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R46,298					22.01%
Jul-80 - Dec-80	2	R51,388	10.99%	10.99%	Constant	0.17	27.10%
Jan-81 - Jun-81	3	R60,663	18.05%	29.04%	Std Err of Y Est	0.12	32.20%
Jul-81 - Dec-81	4	R67,430	11.16%	40.20%	R Squared	0.91	37.29%
Jan-82 - Jun-82	5	R73,812	9.46%	49.66%	No. of Observations	25.00	42.38%
Jul-82 - Dec-82	6	R78,395	6.21%	55.87%	Degrees of Freedom	23.00	47.48%
Jan-83 - Jun-83	7	R85,941	9.63%	65.50%			52.57%
Jul-83 - Dec-83	8	R96,968	12.83%	78.33%	X Coefficient(s)	0.05	57.67%
Jan-84 - Jun-84	9	R100,333	3.47%	81.80%	Std Err of Coef.	0.00	62.76%
Jul-84 - Dec-84	10	R96,192	-4.13%	77.67%			67.85%
Jan-85 - Jun-85	11	R91,151	-5.24%	72.43%			72.95%
Jul-85 - Dec-85	12	R88,641	-2.75%	69.68%			78.04%
Jan-86 - Jun-86	13	R86,723	-2.16%	67.51%			83.14%
Jul-86 - Dec-86	14	R86,136	-0.68%	66.84%			88.23%
Jan-87 - Jun-87	15	R91,218	5.90%	72.74%			93.32%
Jul-87 - Dec-87	16	R99,323	8.89%	81.62%			98.42%
Jan-88 - Jun-88	17	R111,832	12.59%	94.22%			103.51%
Jul-88 - Dec-88	18	R125,893	12.57%	106.79%			108.60%
Jan-89 - Jun-89	19	R132,577	5.31%	112.10%			113.70%
Jul-89 - Dec-89	20	R137,381	3.62%	115.72%			118.79%
Jan-90 - Jun-90	21	R152,579	11.06%	126.78%			123.89%
Jul-90 - Dec-90	22	R165,063	8.16%	134.97%			128.98%
Jan-91 - Jun-91	23	R173,023	4.82%	139.79%			134.07%
Jul-91 - Dec-91	24	R187,114	8.14%	147.93%			139.17%
Jan-92 - Jun-92	25	R199,173	6.44%	154.38%			144.26%
Jul-92 - Dec-92	26	R196,807	-1.19%	153.19%			149.36%
TOTALS					AV. Appreciation p.a.		10.19%

Table 7. Blairgowrie : Capital Appreciation 1980-1992

This capital appreciation indicates that market values have appreciated by approximately 10% per annum. The capital appreciation for the duration 1980-1984 as well as 1988-1990 has performed above the average, with under performance encountered throughout the remaining years.

Demand for property in this suburb has been relatively strong as can be seen by the property transactions that have taken place between 1980 and 1992. A total of around 2800 transactions were approved in this time period with no noticeable decline in demand over any particular time period.

There is every indication that a good steady growth in this market, based on sound functional attributes, accessibility, as well as affordability, will persist.

FIGURE 10.

BLAIRGOWRIE
SCATTER PLOT : 1980 - 1992

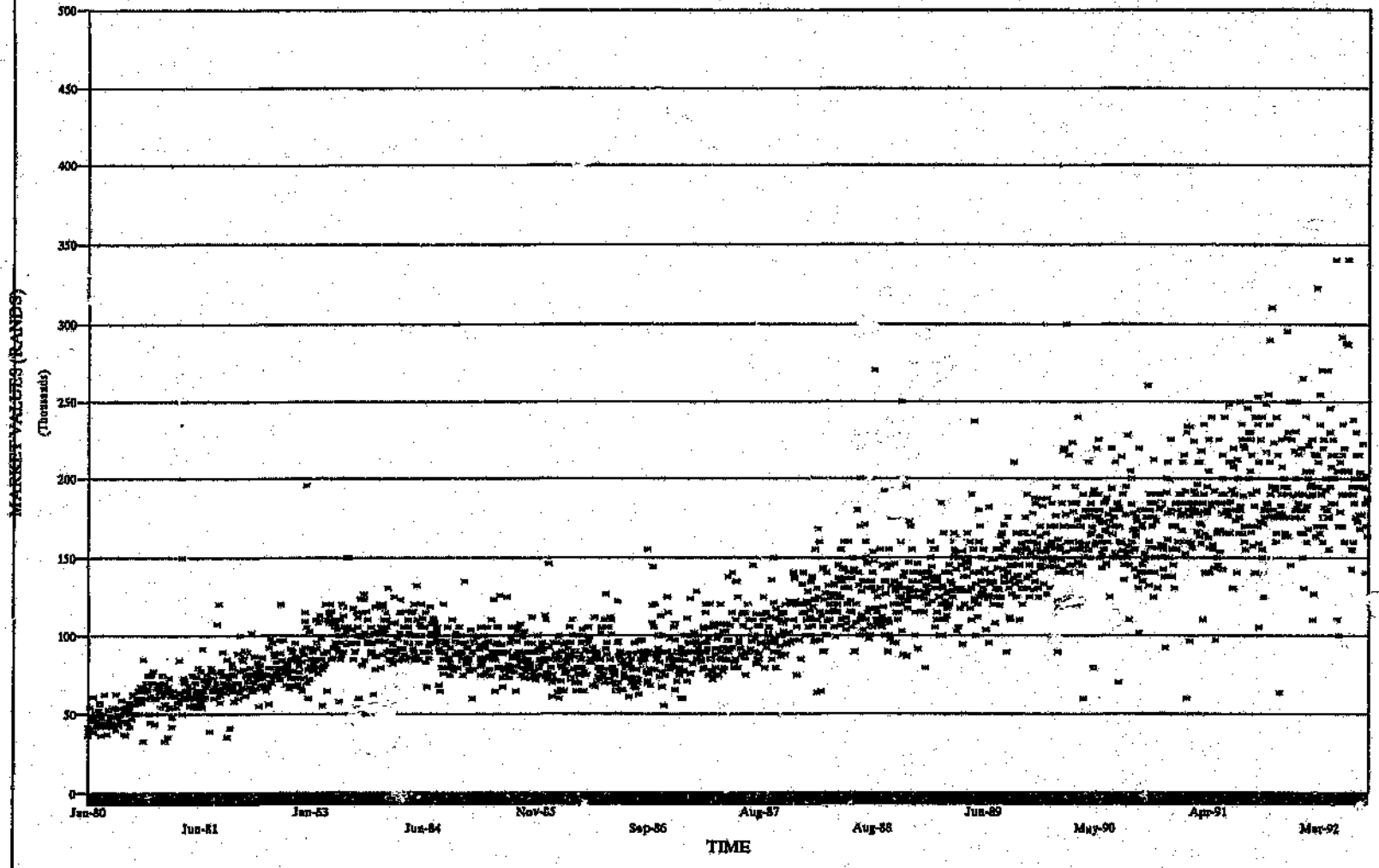


FIGURE 11.

BLAIRGOWRIE
PROPERTY MARKET VALUES: 1980-1992

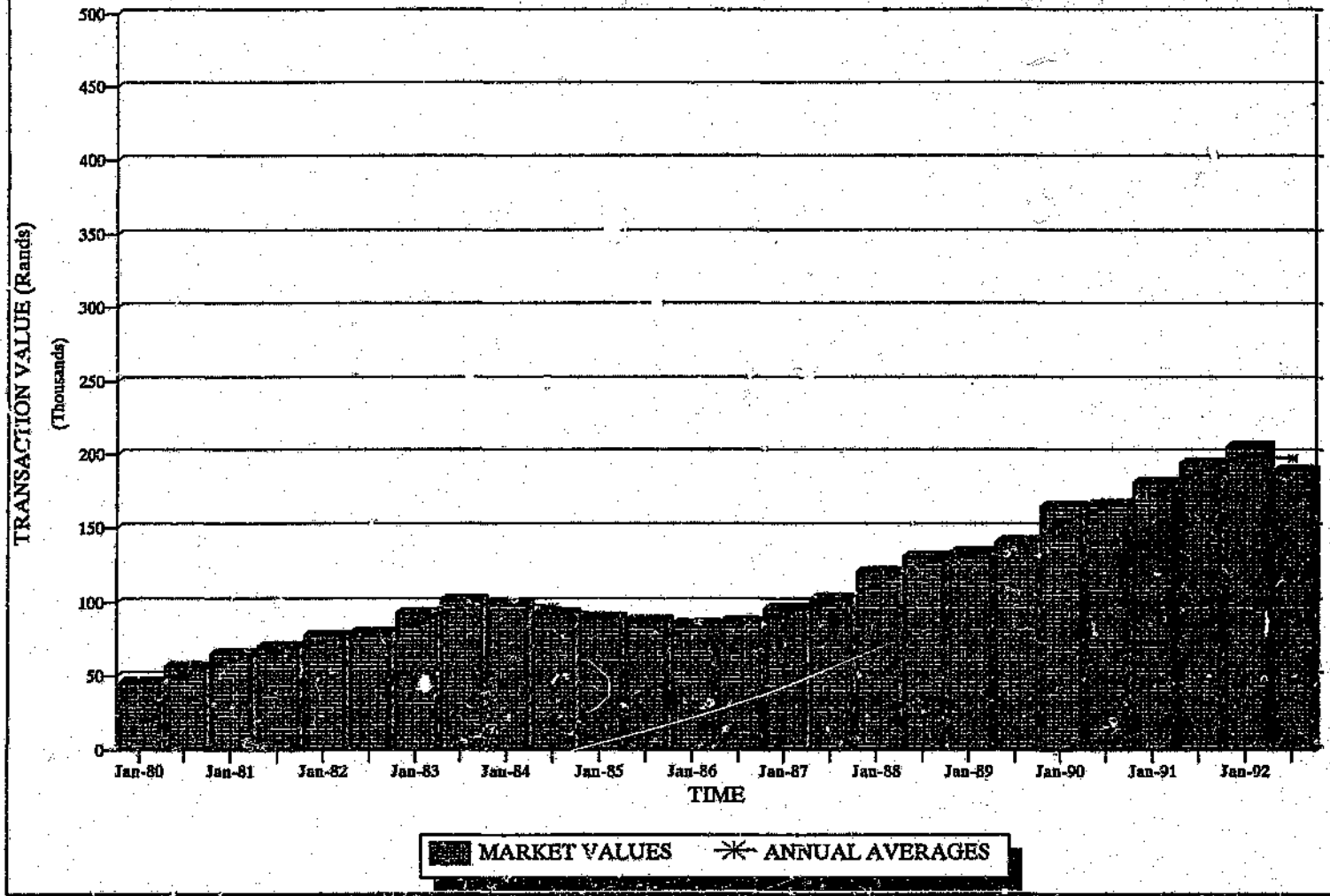
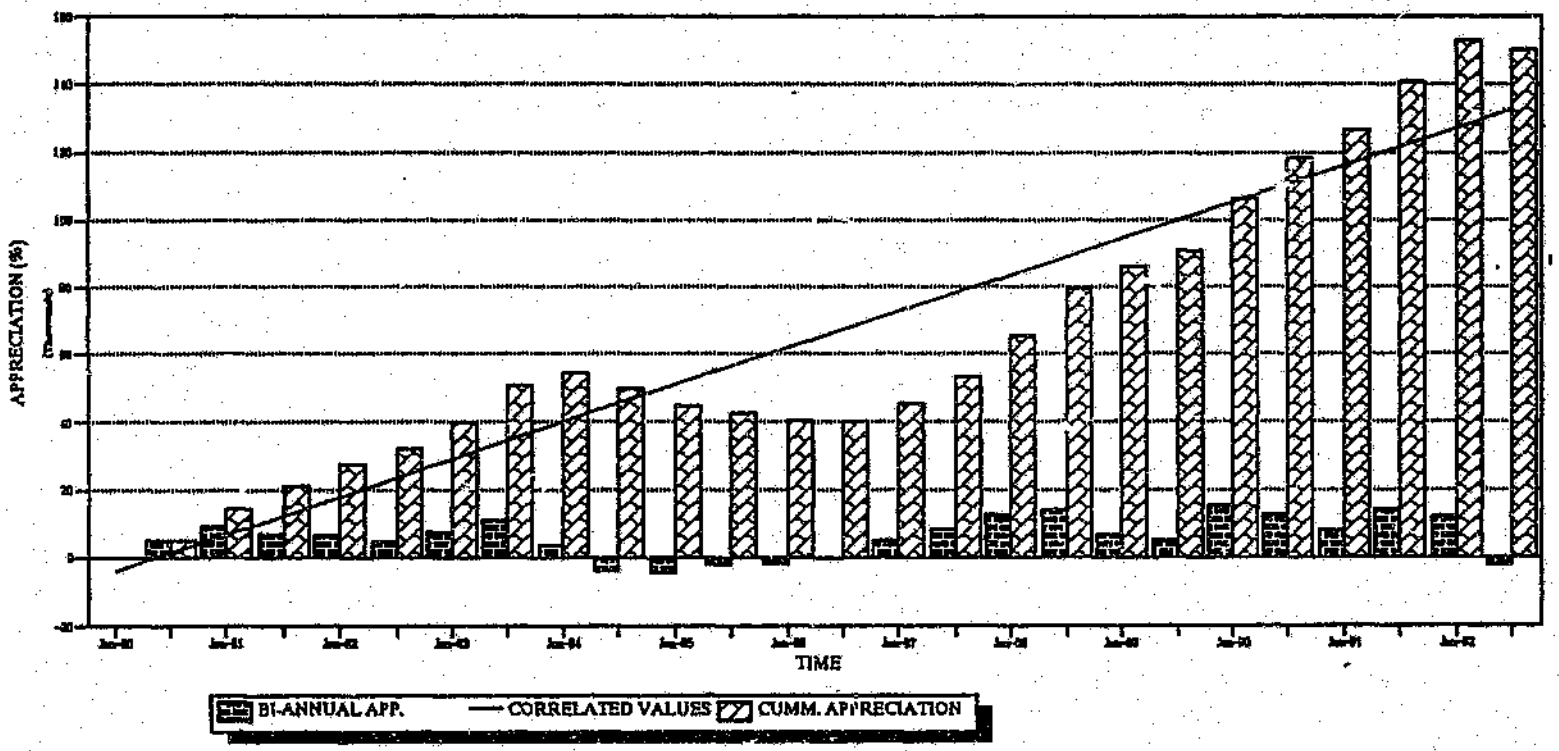


FIGURE 12.

BLAIRGOWRIE
APPRECIATION :PROPERTY PRICES 1980-1992



16.3 BRYANSTON (PROPER)

This affluent suburb, located in the Sandton Municipal area is well located and within reach of all major centers. The physical attributes of the properties namely, size of erven as well as location has increased the demand for residential property in this area.

Market demand has shown a steady increase, but the deviation from the average growth pattern has increased substantially between 1981 and 1990. There are numerous reasons that point to the divergence of these markets values. Increased activity in property development to more affluent modern design homes as well as restorations of existing housing, has increased values in certain locations substantially. Other existing homeowners have retained the existing attributes and allowed the properties to appreciate in accordance with market demand. Increased demand in modern design housing and cluster units have out performed the existing property market in Bryanston, therefore creating a divergence in the market values.

Market values have increased from around R143 000 in 1980 to around R520 000 in the middle of 1992. Thereafter declining to an average value of R483 000 at the end of 1992. Capital appreciation for the thirteen year time period is around 129% with an annual average of 10.8% .

Properties have performed above average between 1982 and 1986 as well as between 1990 and early 1992. In the years that capital appreciation fell below the annual average appreciation, the performance was only slightly less than that of the annual average. This is indicative of the resilience the Bryanston market has shown to influences from external occurrences. (These will be discussed later in the report).

Demand for property in this area has been strong as can be seen by the almost 1000 transactions that have taken place during this time period. Notwithstanding the fact that information regarding property transactions for the time period 1983-1985 were incomplete, Bryanston showed a steady demand for property throughout the 1980-1992 period.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R143,250	4	R200,000	R120,000	R32,889	R573,000
Jul-80 - Dec-80	2	R139,337	23	R175,000	R120,000	R17,871	R3,204,750
Jan-81 - Jun-81	3	R162,739	30	R237,000	R124,500	R33,438	R4,882,167
Jul-81 - Dec-81	4	R164,658	37	R242,500	R122,500	R32,058	R6,092,345
Jan-82 - Jun-82	5	R194,817	24	R375,000	R150,000	R58,981	R4,675,600
Jul-82 - Dec-82	6	R198,750	24	R400,000	R123,000	R59,387	R4,770,000
Jan-83 - Jun-83	7	R213,700	40	R365,000	R171,000	R39,615	R8,548,000
Jul-83 - Dec-83	8	R228,000	7	R318,000	R170,000	R42,258	R1,596,000
Jan-84 - Jun-84	9	R243,500	1	R243,500	R243,500	R0	R243,500
Jul-84 - Dec-84	10	R250,000	1	R250,000	R250,000	R0	R250,000
Jan-85 - Jun-85	11	R263,834	NO INFO	NO INFO	NO INFO	NO INFO	NO INFO
Jul-85 - Dec-85	12	R277,667	18	R450,000	R182,000	R82,425	R4,998,000
Jan-86 - Jun-86	13	R279,821	28	R550,000	R209,000	R71,761	R7,835,000
Jul-86 - Dec-86	14	R282,980	50	R675,000	R187,500	R96,875	R14,149,000
Jan-87 - Jun-87	15	R292,980	25	R550,000	R212,000	R86,224	R7,324,500
Jul-87 - Dec-87	16	R305,958	52	R700,000	R202,500	R111,643	R15,909,800
Jan-88 - Jun-88	17	R329,914	57	R750,000	R225,000	R91,257	R18,805,100
Jul-88 - Dec-88	18	R344,114	66	R781,500	R233,000	R102,167	R22,711,500
Jan-89 - Jun-89	19	R369,768	70	R890,000	R237,000	R125,833	R25,883,792
Jul-89 - Dec-89	20	R387,955	66	R810,000	R246,000	R122,205	R25,605,000
Jan-90 - Jun-90	21	R462,772	68	R985,000	R270,000	R166,646	R31,468,500
Jul-90 - Dec-90	22	R459,828	58	R900,000	R260,000	R160,398	R26,670,000
Jan-91 - Jun-91	23	R491,100	80	R950,000	R260,000	R165,150	R39,288,000
Jul-91 - Dec-91	24	R497,080	52	R920,000	R265,000	R170,000	R25,848,150
Jan-92 - Jun-92	25	R532,000	62	R980,000	R260,000	R202,696	R32,984,000
Jul-92 - Dec-92	26	R483,448	24	R795,000	R264,000	R128,143	R11,602,750
TOTALS			967				R345,918,454

Table 8. Bryanston (Proper) : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R143,250					-3.64%
Jul-80 - Dec-80	2	R141,294	-1.37%	-1.37%	Constant	-0.0903	1.76%
Jan-81 - Jun-81	3	R151,038	6.90%	5.53%	Std Err of Y Est	0.0422	7.15%
Jul-81 - Dec-81	4	R163,699	8.38%	13.91%	R Squared	0.9893	12.55%
Jan-82 - Jun-82	5	R179,738	9.80%	23.71%	No. of Observations	25	17.95%
Jul-82 - Dec-82	6	R196,784	9.48%	33.19%	Degrees of Freedom	23	23.34%
Jan-83 - Jun-83	7	R206,225	4.80%	37.99%			28.74%
Jul-83 - Dec-83	8	R220,850	7.09%	45.08%	X Coefficient(s)	0.0540	34.13%
Jan-84 - Jun-84	9	R235,750	6.75%	51.83%	Std Err of Coef.	0.0012	39.53%
Jul-84 - Dec-84	10	R246,750	4.67%	56.50%			44.92%
Jan-85 - Jun-85	11	R256,917	4.12%	60.62%			50.32%
Jul-85 - Dec-85	12	R270,751	5.38%	66.00%			55.71%
Jan-86 - Jun-86	13	R278,744	2.95%	68.95%			61.11%
Jul-86 - Dec-86	14	R281,401	0.95%	69.91%			66.50%
Jan-87 - Jun-87	15	R287,980	2.34%	72.25%			71.90%
Jul-87 - Dec-87	16	R299,469	3.99%	76.23%			77.29%
Jan-88 - Jun-88	17	R317,936	6.17%	82.40%			82.69%
Jul-88 - Dec-88	18	R337,014	6.00%	88.40%			88.08%
Jan-89 - Jun-89	19	R356,941	5.91%	94.31%			93.48%
Jul-89 - Dec-89	20	R378,862	6.14%	100.46%			98.87%
Jan-90 - Jun-90	21	R425,364	12.27%	112.73%			104.27%
Jul-90 - Dec-90	22	R461,300	8.45%	121.18%			109.66%
Jan-91 - Jun-91	23	R475,464	3.07%	124.25%			115.06%
Jul-91 - Dec-91	24	R494,090	3.92%	128.17%			120.45%
Jan-92 - Jun-92	25	R514,540	4.14%	132.31%			125.85%
Jul-92 - Dec-92	26	R507,724	-1.32%	130.98%			131.24%
TOTALS					AV. Appreciation p.a.		10.79%

Table 9. Bryanston (Proper) : Capital Appreciation 1980-1992

As property in the Bryanston area is earmarked for the middle to higher income groups, the demand captures only a small portion of the homebuyers market. Notwithstanding this fact, Bryanston commands a high status value and, based on the number of transactions that have taken place throughout the thirteen years, remains in high demand.

FIGURE 10.

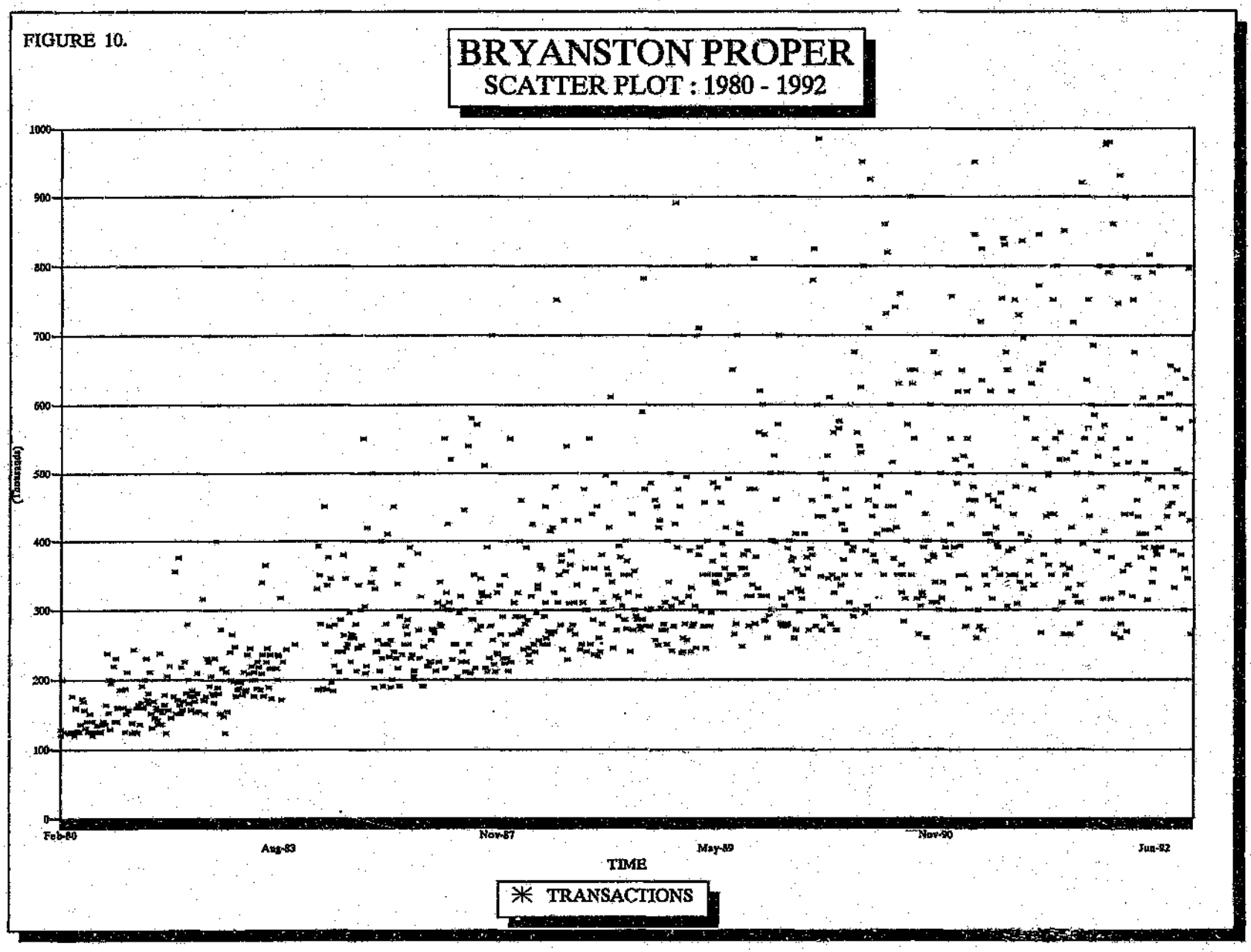

BRYANSTON PROPER
SCATTER PLOT : 1980 - 1992
1000
900
800
700
600
500
400
300
200
100
0
(Thousands)
Feb-80
Aug-83
Nov-87
May-89
Nov-90
Jun-92
TIME
TRANSACTIONS

FIGURE 14.

BRYANSTON PROPER
MARKET VALUES : 1980-1992

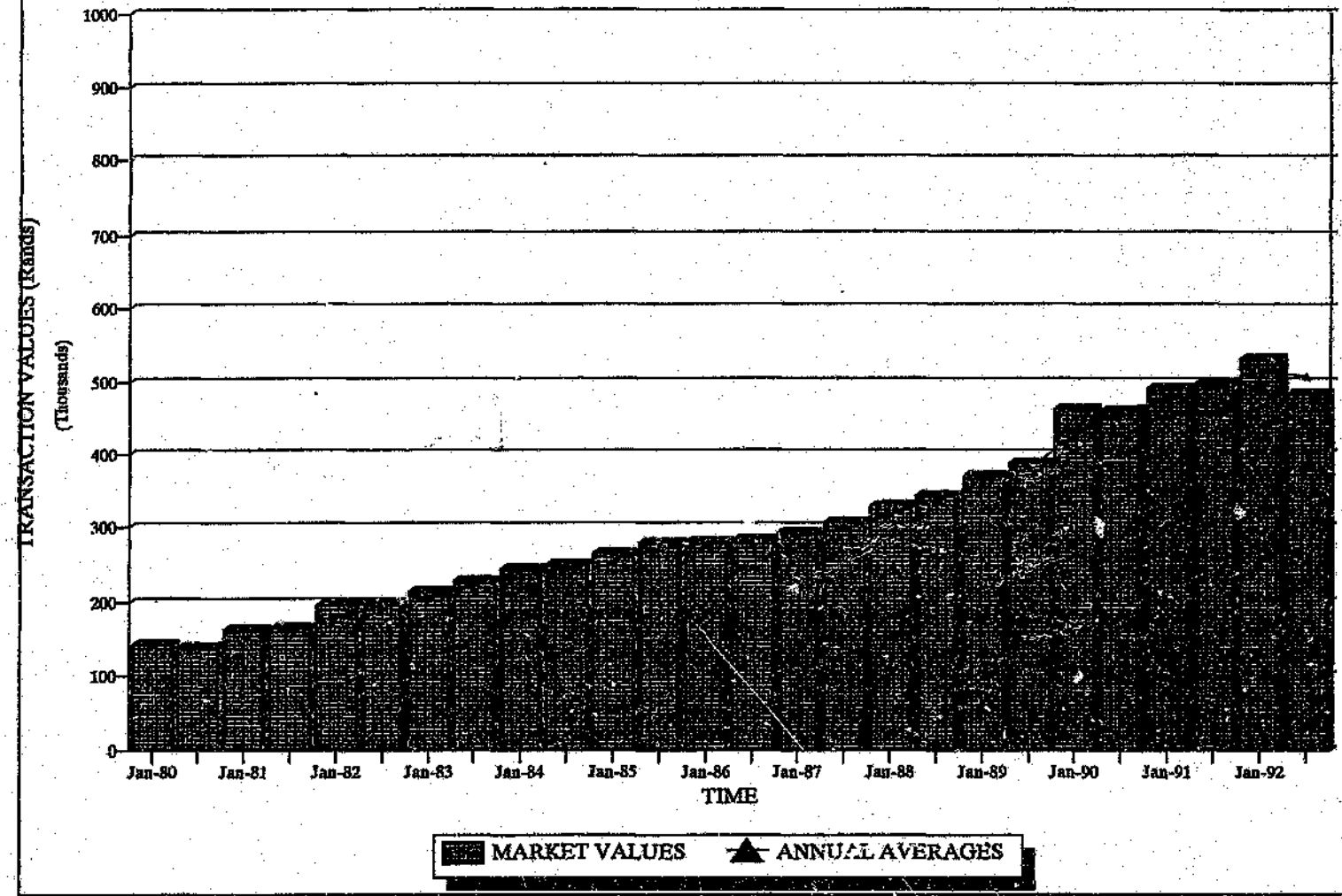
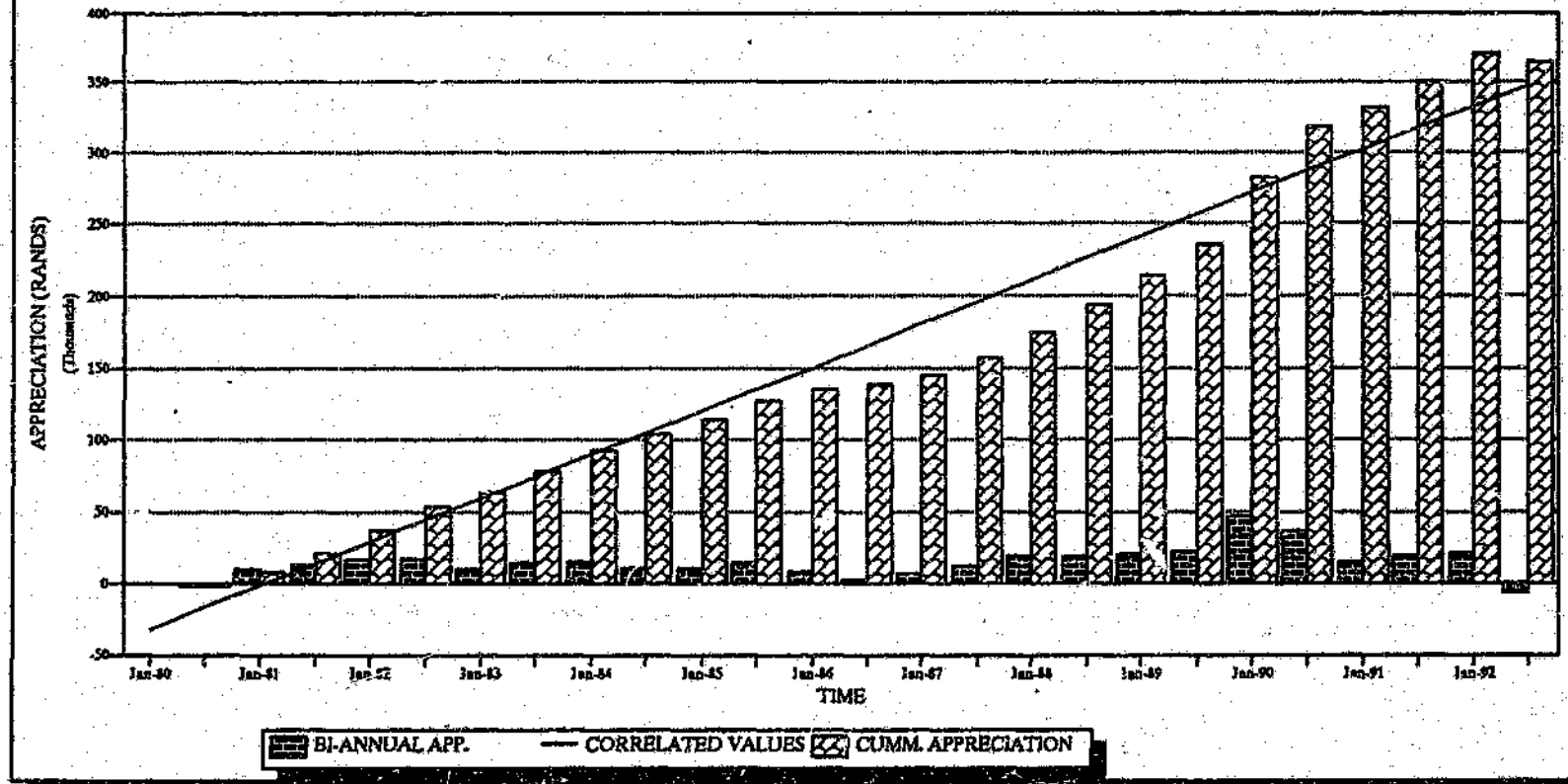


FIGURE 15.

BRYANSTON PROPER
PROPERY APPRECIATION : 1980-1992



16.4 CYRILDENE

Situated on the east of Johannesburg, this is well established suburb with a middle class status and good access to the major centers.

As illustrated in figures 17 and 18., the market values have shown a steady growth trend that has taken place over the thirteen year period. Market values have appreciated by around 163% from 1980 (R50 000) to 1992 (R243 000) with an annualised increase of approximately 10.8% The percentage capital appreciation out-performs the average appreciation during the periods 1981-1985 as well as 1990-1992, but underperformed noticeably during the remaining years.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R49,845	20	R80,000	R32,500	R11,752	R996,900
Jul-80 - Dec-80	2	R66,082	28	R98,000	R39,000	R12,768	R1,850,300
Jan-81 - Jun-81	3	R69,656	16	R98,000	R47,000	R11,490	R1,114,500
Jul-81 - Dec-81	4	R82,211	19	R127,000	R48,000	R20,415	R1,562,000
Jan-82 - Jun-82	5	R83,182	11	R115,000	R50,000	R18,706	R915,000
Jul-82 - Dec-82	6	R88,570	20	R120,000	R60,000	R14,024	R1,771,400
Jan-83 - Jun-83	7	R99,424	33	R140,000	R55,000	R17,694	R3,281,000
Jul-83 - Dec-83	8	R116,813	8	R140,000	R101,000	R13,546	R934,500
Jan-84 - Jun-84	9	R118,158	19	R165,000	R80,000	R21,532	R2,245,000
Jul-84 - Dec-84	10	R104,385	13	R160,000	R60,000	R24,914	R1,357,000
Jan-85 - Jun-85	11	R97,464	14	R142,000	R70,000	R19,547	R1,364,500
Jul-85 - Dec-85	12	R92,667	9	R120,000	R50,000	R19,245	R834,000
Jan-86 - Jun-86	13	R103,071	21	R148,000	R65,000	R25,589	R2,164,500
Jul-86 - Dec-86	14	R101,896	24	R158,000	R66,500	R24,290	R2,445,500
Jan-87 - Jun-87	15	R97,789	19	R150,000	R72,000	R20,997	R1,858,000
Jul-87 - Dec-87	16	R116,872	32	R220,000	R76,000	R32,330	R3,739,900
Jan-88 - Jun-88	17	R138,364	22	R197,000	R96,000	R25,948	R3,044,000
Jul-88 - Dec-88	18	R141,569	29	R235,000	R95,000	R36,150	R4,105,500
Jan-89 - Jun-89	19	R146,868	34	R286,000	R85,000	R34,317	R4,993,500
Jul-89 - Dec-89	20	R164,889	18	R250,000	R120,000	R36,507	R2,968,000
Jan-90 - Jun-90	21	R185,672	32	R315,000	R122,000	R40,162	R5,941,500
Jul-90 - Dec-90	22	R196,026	19	R285,000	R130,000	R44,166	R3,724,500
Jan-91 - Jun-91	23	R223,263	19	R380,000	R135,000	R54,868	R4,242,000
Jul-91 - Dec-91	24	R236,596	26	R460,000	R120,000	R78,269	R6,151,500
Jan-92 - Jun-92	25	R214,133	15	R315,000	R161,000	R48,409	R3,212,000
Jul-92 - Dec-92	26	R242,929	7	R305,000	R145,000	R53,010	R1,700,500
TOTALS			527				R68,517,000

Table 10. Cyrildene : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R49,845					24.69%
Jul-80 - Dec-80	2	R57,964	16.29%	16.29%	Constant	0.1930	30.08%
Jan-81 - Jun-81	3	R67,869	17.09%	33.38%	Std Err of Y Est	0.1310	35.47%
Jul-81 - Dec-81	4	R75,934	11.88%	45.26%	R Squared	0.9053	40.85%
Jan-82 - Jun-82	5	R82,697	8.91%	54.17%	No. of Observations	25	46.24%
Jul-82 - Dec-82	6	R85,876	3.84%	58.03%	Degrees of Freedom	23	51.63%
Jan-83 - Jun-83	7	R93,997	9.46%	67.47%			57.02%
Jul-83 - Dec-83	8	R108,119	15.02%	82.49%	X Coefficient(s)	0.0539	62.40%
Jan-84 - Jun-84	9	R117,486	8.66%	91.15%	Std Err of Coef.	0.0036	67.79%
Jul-84 - Dec-84	10	R111,272	-5.29%	85.86%			73.18%
Jan-85 - Jun-85	11	R100,925	-9.30%	76.57%			78.56%
Jul-85 - Dec-85	12	R95,066	-5.81%	70.76%			83.95%
Jan-86 - Jun-86	13	R97,869	2.95%	73.71%			89.34%
Jul-86 - Dec-86	14	R102,484	4.71%	78.42%			94.73%
Jan-87 - Jun-87	15	R99,843	-2.58%	75.85%			100.11%
Jul-87 - Dec-87	16	R107,331	7.50%	83.35%			105.50%
Jan-88 - Jun-88	17	R127,618	18.90%	102.25%			110.89%
Jul-88 - Dec-88	18	R139,967	9.68%	111.93%			116.28%
Jan-89 - Jun-89	19	R144,219	3.04%	114.96%			121.66%
Jul-89 - Dec-89	20	R155,879	8.08%	123.05%			127.05%
Jan-90 - Jun-90	21	R175,281	12.45%	135.50%			132.44%
Jul-90 - Dec-90	22	R190,849	8.88%	144.38%			137.83%
Jan-91 - Jun-91	23	R209,645	9.85%	154.23%			143.21%
Jul-91 - Dec-91	24	R229,930	9.68%	163.90%			148.60%
Jan-92 - Jun-92	25	R225,365	-1.99%	161.92%			153.99%
Jul-92 - Dec-92	26	R228,531	1.41%	163.32%			159.37%
TOTALS					AV. Appreciation p.a.		10.77%

Table 11. Cyrildene : Capital Appreciation 1980-1992

Deviation from the average growth pattern is indicative of a sensitive market effected by external occurrences as well as by demand for the specific functional utilities and style of housing available in this suburb.

FIGURE 16.

CYRILDENE
SCATTER PLOT : 1980 - 1992

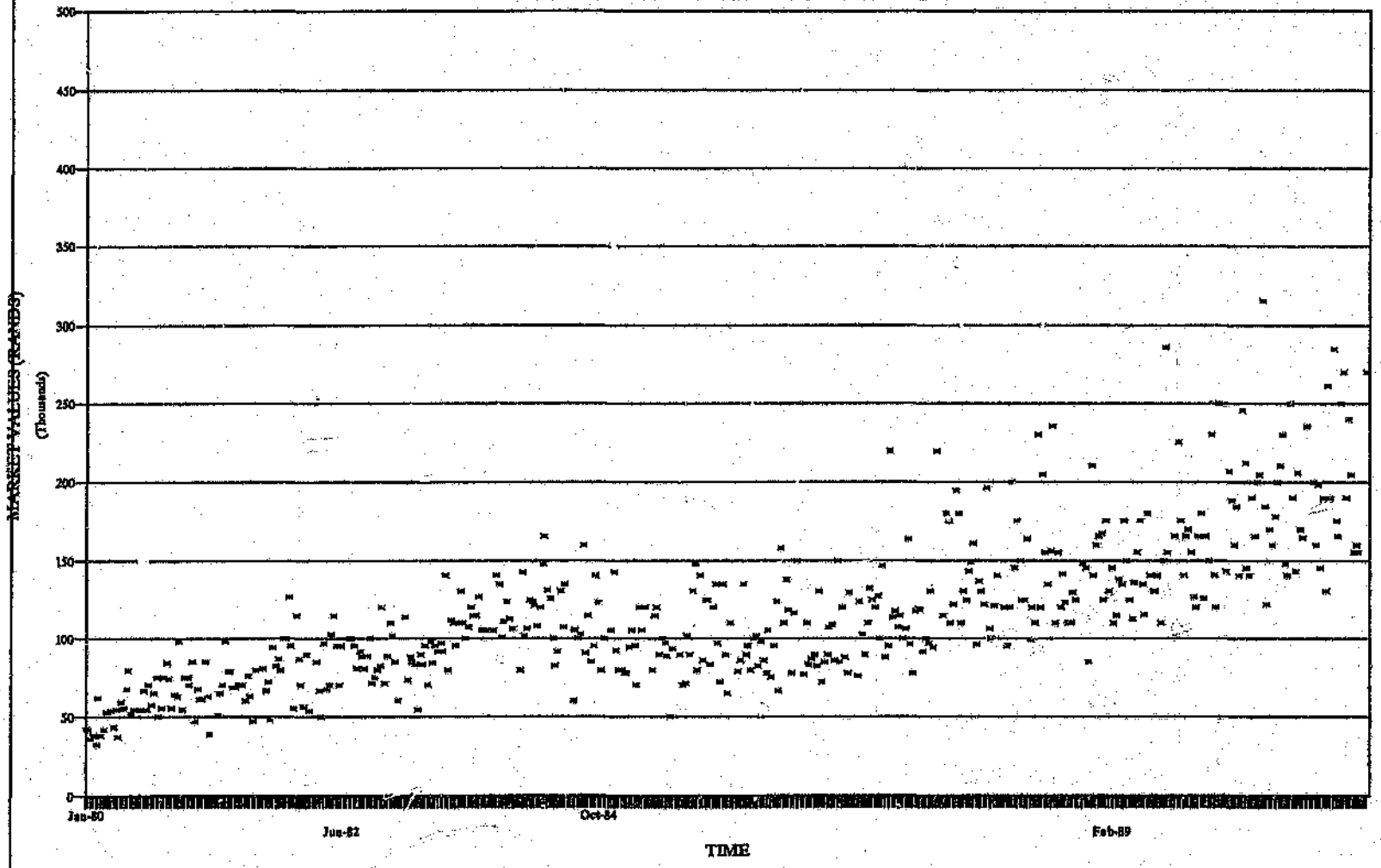


FIGURE 17.

CYRILDENE
MARKET VALUES: 1980-1992

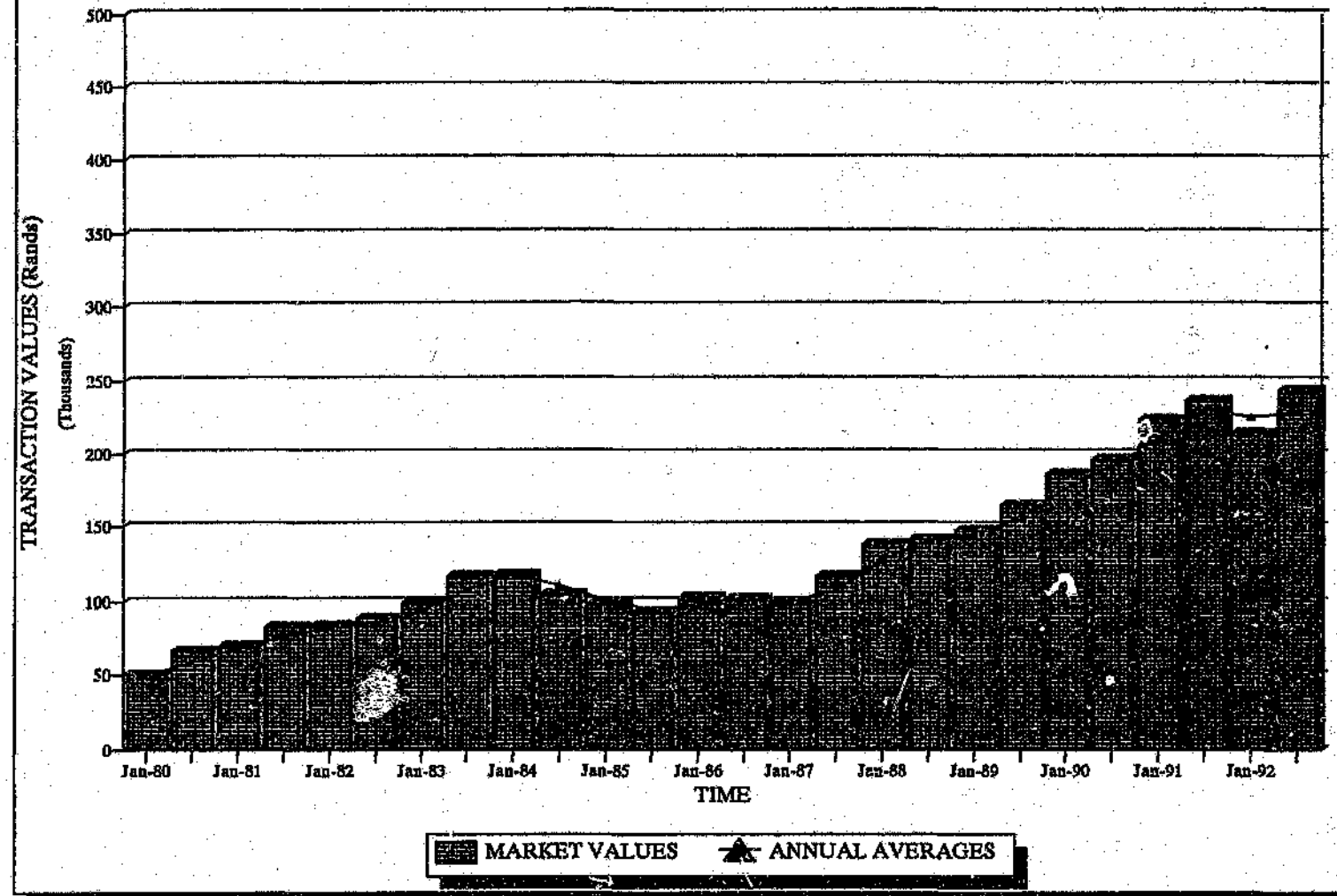
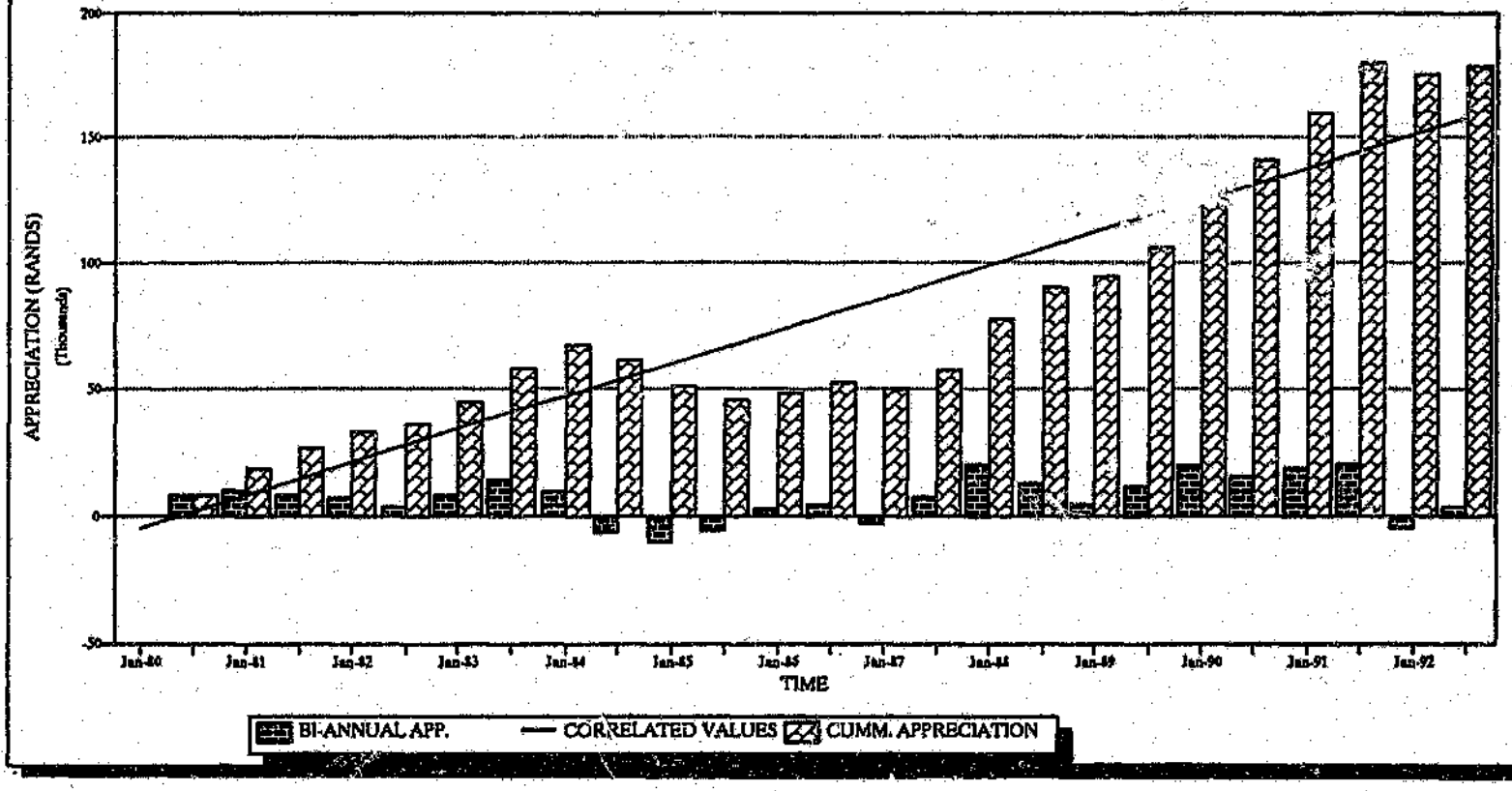


FIGURE 18.

CYRILDENE
PROPERTY APPRECIATION : 1980-1992



16.5 DUNKELD

This affluent suburb, located in the Sandton Municipal area is well located and within reach of all major centers. Dunkeld has shown great growth potential, predominantly for the more affluent market. Physical attributes of the properties namely, sizes of erven as well as new large modern designed homes have created an upper market niche accessible to a small portion of the homebuyers market.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R86,429	7	R115,000	R70,000	R15,990	R605,000
Jul-80 - Dec-80	2	R121,531	13	R160,000	R77,000	R26,016	R1,579,900
Jan-81 - Jun-81	3	R138,875	8	R227,000	R93,500	R51,359	R1,111,000
Jul-81 - Dec-81	4	R175,333	3	R216,000	R145,000	R29,892	R526,000
Jan-82 - Jun-82	5	R156,188	8	R245,000	R95,000	R52,146	R1,249,500
Jul-82 - Dec-82	6	R166,958	14	R250,000	R92,500	R48,300	R2,324,810
Jan-83 - Jun-83	7	R198,125	12	R360,000	R102,500	R75,626	R2,377,500
Jul-83 - Dec-83	8	R239,714	14	R425,000	R140,000	R90,062	R3,356,000
Jan-84 - Jun-84	9	R237,667	12	R395,000	R150,000	R75,855	R2,852,000
Jul-84 - Dec-84	10	R238,500	5	R400,000	R157,500	R93,153	R1,192,500
Jan-85 - Jun-85	11	R209,643	7	R370,000	R130,000	R75,243	R1,467,500
Jul-85 - Dec-85	12	R195,000	8	R320,000	R119,000	R59,290	R1,560,000
Jan-86 - Jun-86	13	R254,385	13	R420,000	R126,000	R91,994	R3,307,000
Jul-86 - Dec-86	14	R309,024	21	R995,000	R130,000	R203,442	R6,489,500
Jan-87 - Jun-87	15	R509,591	11	R848,000	R252,500	R210,416	R5,605,500
Jul-87 - Dec-87	16	R301,014	17	R800,000	R176,500	R142,098	R5,117,236
Jan-88 - Jun-88	17	R366,250	18	R740,000	R205,000	R127,460	R6,592,500
Jul-88 - Dec-88	18	R415,429	14	R725,000	R205,000	R131,691	R5,816,000
Jan-89 - Jun-89	19	R725,000	12	R1,200,000	R270,000	R312,663	R8,700,000
Jul-89 - Dec-89	20	R686,786	7	R775,000	R430,000	R110,022	R4,807,500
Jan-90 - Jun-90	21	R561,231	13	R815,000	R361,000	R142,142	R7,296,000
Jul-90 - Dec-90	22	R630,625	8	R1,530,000	R340,000	R377,181	R5,045,000
Jan-91 - Jun-91	23	R672,091	11	R1,100,000	R478,000	R174,562	R7,393,000
Jul-91 - Dec-91	24	R754,000	10	R1,400,000	R430,000	R251,841	R7,540,000
Jan-92 - Jun-92	25	R830,682	11	R1,700,000	R450,000	R369,281	R9,137,500
Jul-92 - Dec-92	26	R550,000	2	R650,000	R450,000	R100,000	R1,100,000
TOTALS			279				R104,148,446

Table 12. Dunkeld : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R86,429					21.20%
Jul-80 - Dec-80	2	R103,980	20.31%	20.31%	Constant	0.11	31.03%
Jan-81 - Jun-81	3	R130,203	25.22%	45.53%	Std Err of Y Est	0.18	40.86%
Jul-81 - Dec-81	4	R157,104	20.66%	66.19%	R Squared	0.95	50.70%
Jan-82 - Jun-82	5	R165,761	5.51%	71.70%	No. of Observations	25.00	60.53%
Jul-82 - Dec-82	6	R161,123	-2.80%	68.90%	Degrees of Freedom	23.00	70.36%
Jan-83 - Jun-83	7	R182,092	13.01%	81.91%			80.19%
Jul-83 - Dec-83	8	R218,920	20.22%	102.14%	X Coefficient(s)	0.10	90.02%
Jan-84 - Jun-84	9	R238,691	9.03%	111.17%	Std Err of Coef.	0.00	99.85%
Jul-84 - Dec-84	10	R238,084	-0.25%	110.92%			109.68%
Jan-85 - Jun-85	11	R224,072	-5.89%	105.03%			119.51%
Jul-85 - Dec-85	12	R202,322	-9.71%	95.32%			129.34%
Jan-86 - Jun-86	13	R224,693	11.06%	106.38%			139.18%
Jul-86 - Dec-86	14	R281,705	25.37%	131.75%			149.01%
Jan-87 - Jun-87	15	R409,308	45.30%	177.05%			158.84%
Jul-87 - Dec-87	16	R405,303	-0.98%	176.07%			168.67%
Jan-88 - Jun-88	17	R333,632	-17.68%	158.39%			178.50%
Jul-88 - Dec-88	18	R390,840	17.15%	175.54%			188.33%
Jan-89 - Jun-89	19	R570,215	45.89%	221.43%			198.16%
Jul-89 - Dec-89	20	R705,893	23.79%	245.22%			207.99%
Jan-90 - Jun-90	21	R624,009	-11.60%	233.62%			217.82%
Jul-90 - Dec-90	22	R595,928	-4.50%	229.12%			227.66%
Jan-91 - Jun-91	23	R651,358	9.30%	238.43%			237.49%
Jul-91 - Dec-91	24	R713,046	9.47%	247.90%			247.32%
Jan-92 - Jun-92	25	R792,341	11.12%	259.02%			257.15%
Jul-92 - Dec-92	26	R690,341	-12.87%	246.14%			266.98%
TOTALS					AV. Appreciation p.a.		19.66%

Table 13. Dunkeld : Capital Appreciation 1980-1992

Dunkeld has shown a rather erratic growth trend appreciating substantially in certain time periods and declining in others. The market values have shown an increase from around R86 000 in 1980, to market values in excess of R800 000 in early 1992, before declining to around R550 000 in the latter part of 1992. As illustrated in Figures 19 to 21., market values have shown an increasing deviation from the average values. This is indicative of increased activity in property development in more affluent and of homes modern design as well as in the development of cluster housing earmarked for the upper class homebuyers market.

The market values have shown a growth over the thirteen year period but with great undulations in capital appreciation. Market values have appreciated by around 259% from 1980 (R86 000) to 1992 (R690 000) with an annualised increase of approximately 19.7%. The percentage capital appreciation outperforms the average appreciation on numerous occasions during 1980-1992, but underperforms noticeably in other years, creating unpredictable forecasts for the short term outlook in this market, even though it shows excellent long term appreciation. Deviation of the percentage capital appreciation to annualised average appreciation tends to be erratic. This is indicative of a specific and sensitive market that is influenced by external occurrences as well as the fact that the housing prices in this area are earmarked for the selected affluent few.

FIGURE 19.

DUNKELD
SCATTER PLOT : 1980 - 1992

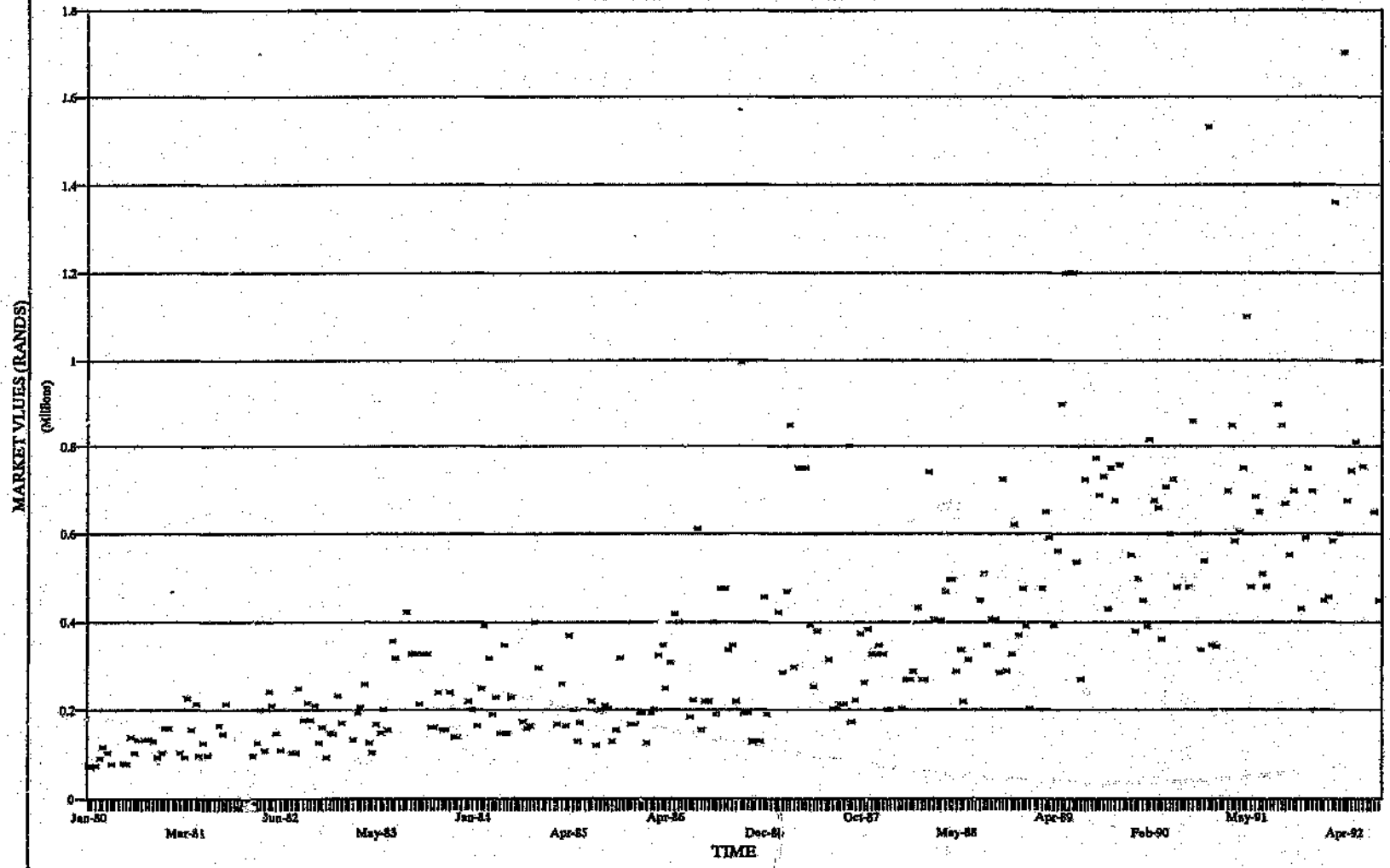


FIGURE 20.

DUNKELD
MARKET VALUES : 1980-1992

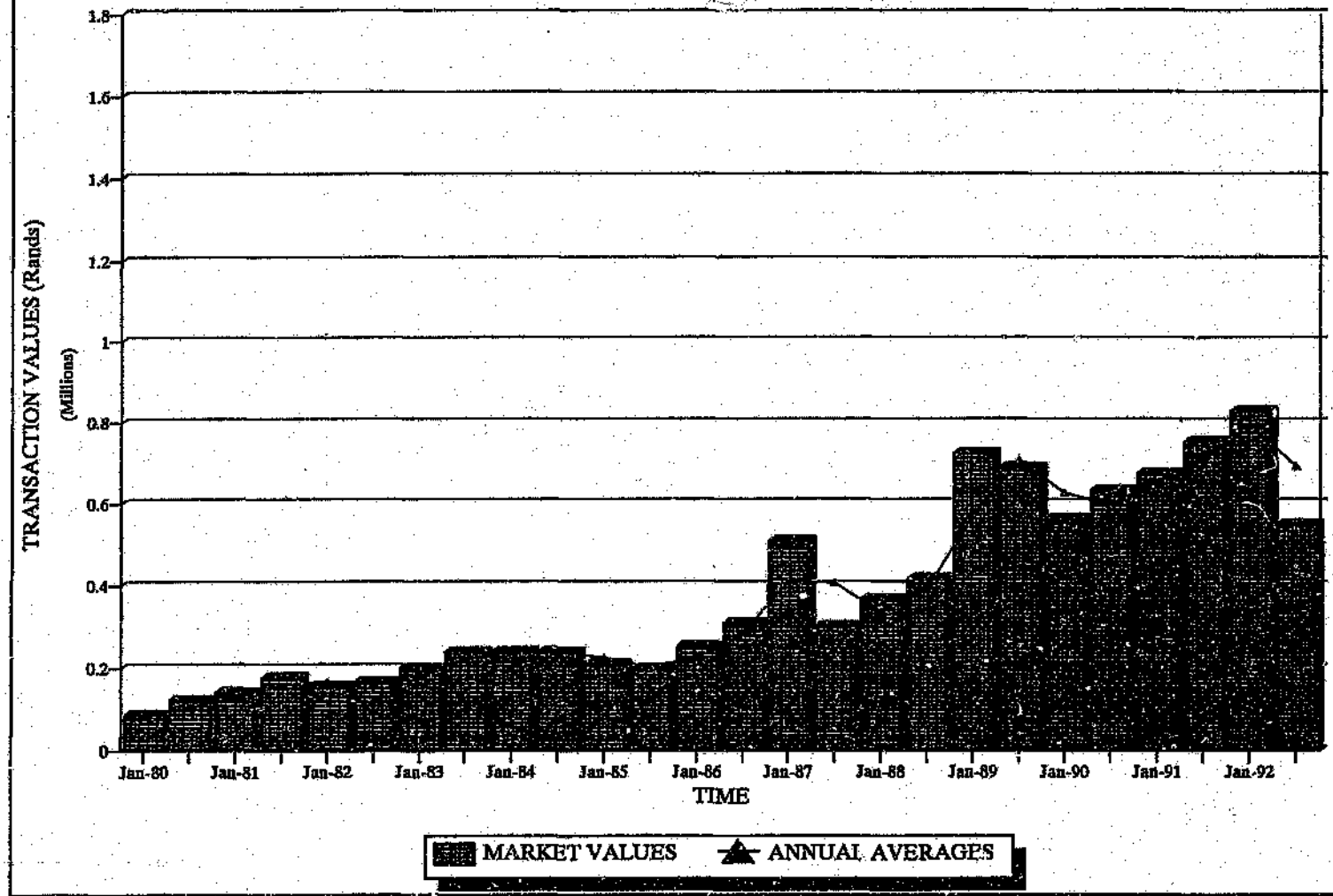
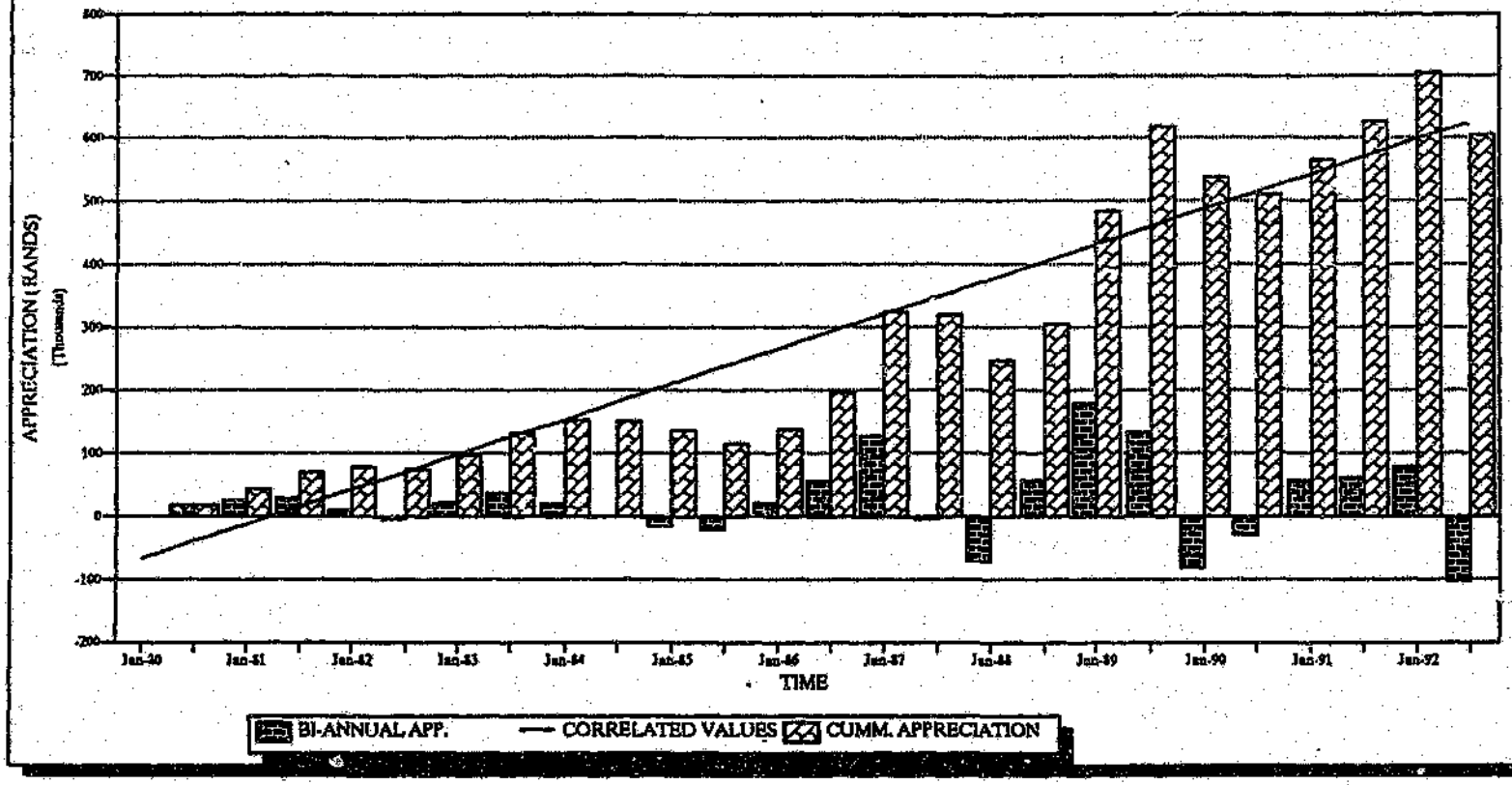


FIGURE 21.

DUNKELD
PROPERTY APPRECIATION : 1980-1992



16.6 EMMARENTIA/EMMARENTIA EXTENSION 1.

Emmarentia and Emmarentia Extension 1. are old and well established middle class areas in Johannesburg. As there is very little to choose between these two suburbs, both have been incorporated into the analysis as one sample area to obtain a better sample size in analysing the growth in the market values.

Figure 23 and 24. illustrates the property appreciation encountered in this suburb. The average growth pattern is steady and increasing through out the 1980's and early 1990's. The market values do not deviate substantially from the average housing prices as this market is established and attracts a selected group of homebuyers. Market values have increased from an average of around R62 000 in 1980 to around R336 000 at the end of 1992.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R62,063	31	R96,000	R38,500	R14,233	R1,784,950
Jul-80 - Dec-80	2	R85,278	42	R230,000	R50,000	R34,035	R3,581,675
Jan-81 - Jun-81	3	R86,405	21	R165,000	R50,000	R30,400	R1,814,500
Jul-81 - Dec-81	4	R107,342	24	R187,500	R72,000	R30,260	R2,576,200
Jan-82 - Jun-82	5	R133,208	24	R220,000	R65,000	R32,230	R3,197,000
Jul-82 - Dec-82	6	R119,880	23	R210,000	R57,500	R39,195	R2,757,250
Jan-83 - Jun-83	7	R138,405	29	R326,000	R86,000	R48,787	R4,013,733
Jul-83 - Dec-83	8	R154,227	22	R285,000	R112,000	R47,229	R3,393,000
Jan-84 - Jun-84	9	R152,452	21	R250,000	R70,000	R47,784	R3,201,500
Jul-84 - Dec-84	10	R132,263	19	R230,000	R73,000	R41,979	R2,513,000
Jan-85 - Jun-85	11	R140,282	10	R239,000	R81,000	R42,872	R1,402,819
Jul-85 - Dec-85	12	R121,825	20	R187,500	R74,000	R29,404	R2,436,500
Jan-86 - Jun-86	13	R128,475	28	R225,000	R80,000	R34,508	R3,597,300
Jul-86 - Dec-86	14	R119,699	43	R206,250	R70,000	R32,871	R5,147,050
Jan-87 - Jun-87	15	R137,536	35	R240,000	R81,000	R38,513	R4,813,750
Jul-87 - Dec-87	16	R186,827	37	R375,000	R80,000	R69,287	R6,912,600
Jan-88 - Jun-88	17	R162,497	34	R258,000	R105,000	R40,945	R5,524,900
Jul-88 - Dec-88	18	R195,880	31	R370,000	R99,233	R62,280	R6,072,283
Jan-89 - Jun-89	19	R214,386	35	R357,000	R120,000	R63,160	R7,503,500
Jul-89 - Dec-89	20	R226,267	45	R360,000	R130,000	R62,368	R10,182,000
Jan-90 - Jun-90	21	R264,213	40	R470,000	R109,000	R82,744	R10,568,500
Jul-90 - Dec-90	22	R269,431	29	R480,000	R95,000	R80,839	R7,813,500
Jan-91 - Jun-91	23	R284,683	30	R460,000	R170,000	R76,069	R8,540,500
Jul-91 - Dec-91	24	R263,045	33	R435,000	R120,000	R69,709	R8,680,500
Jan-92 - Jun-92	25	R286,196	23	R405,000	R175,000	R62,249	R6,582,500
Jul-92 - Dec-92	26	R336,667	6	R390,000	R295,000	R33,871	R2,020,000
TOTALS			735				R126,631,010

Table 14. Emmarentia/ Emmarentia Ext 1. : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R62,063					33.20%
Jul-80 - Dec-80	2	R73,671	18.70%	18.70%	Constant	0.2777	38.63%
Jan-81 - Jun-81	3	R85,842	16.52%	35.22%	Std Err of Y Est	0.1452	44.07%
Jul-81 - Dec-81	4	R96,874	12.85%	48.08%	R Squared	0.8878	49.50%
Jan-82 - Jun-82	5	R120,275	24.16%	72.23%	No. of Observations	25	54.93%
Jul-82 - Dec-82	6	R126,544	5.21%	77.44%	Degrees of Freedom	23	60.36%
Jan-83 - Jun-83	7	R129,143	2.05%	79.50%			65.80%
Jul-83 - Dec-83	8	R146,316	13.30%	92.80%	X Coefficient(s)	0.0543	71.23%
Jan-84 - Jun-84	9	R153,340	4.80%	97.60%	Std Err of Coef.	0.0040	76.66%
Jul-84 - Dec-84	10	R142,358	-7.16%	90.43%			82.09%
Jan-85 - Jun-85	11	R136,273	-4.27%	86.16%			87.52%
Jul-85 - Dec-85	12	R131,054	-3.83%	82.33%			92.96%
Jan-86 - Jun-86	13	R125,150	-4.50%	77.83%			98.39%
Jul-86 - Dec-86	14	R124,087	-0.85%	76.98%			103.82%
Jan-87 - Jun-87	15	R128,618	3.65%	80.63%			109.25%
Jul-87 - Dec-87	16	R162,182	26.10%	106.72%			114.69%
Jan-88 - Jun-88	17	R174,662	7.70%	114.42%			120.12%
Jul-88 - Dec-88	18	R179,189	2.59%	117.01%			125.55%
Jan-89 - Jun-89	19	R205,133	14.48%	131.49%			130.98%
Jul-89 - Dec-89	20	R220,327	7.41%	138.90%			136.41%
Jan-90 - Jun-90	21	R245,240	11.31%	150.20%			141.85%
Jul-90 - Dec-90	22	R266,822	8.80%	159.00%			147.28%
Jan-91 - Jun-91	23	R277,057	3.84%	162.84%			152.71%
Jul-91 - Dec-91	24	R273,864	-1.15%	161.69%			158.14%
Jan-92 - Jun-92	25	R274,621	0.28%	161.96%			163.58%
Jul-92 - Dec-92	26	R311,432	13.40%	175.37%			169.01%
TOTALS					AV. Appreciation p.a.		10.86%

Table 15. Emmarentia/ Emmarentia Ext 1. : Capital Appreciation 1980-1992

This has generated capital appreciation of approximately 175% with an annual average appreciation of approximately 10.9 % per annum. The percentage capital appreciation tends to be erratic.

Although demand for property in this suburb seems to be relatively strong with over 700 property transactions approved during the thirteen years, a growth tendency in the market seems to be evident in the early 1990's creating confidence in this specific market and therefore envisaging growth trends in the future.

There is every indication that a good steady growth in this market, based on sound functional attributes, accessibility as well as affordability will persist.

FIGURE 22.

EMMARENTIA / EMMARENTIA EXT 1.

SCATTER PLOT : 1980 - 1992

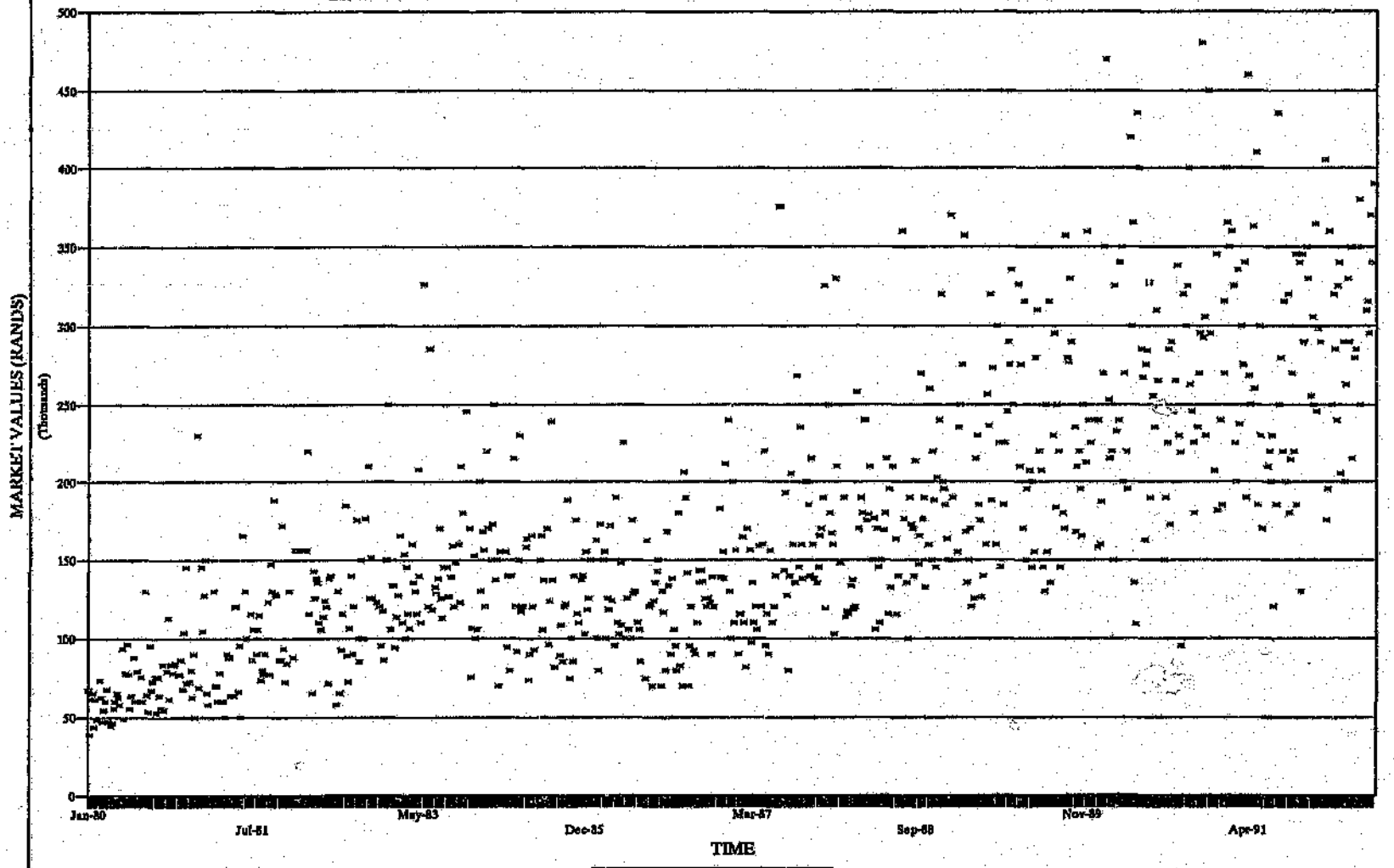


FIGURE 23.

EMMARENTIA / EMMARENTIA EXT 1.
MARKET VALUES : 1980-1992

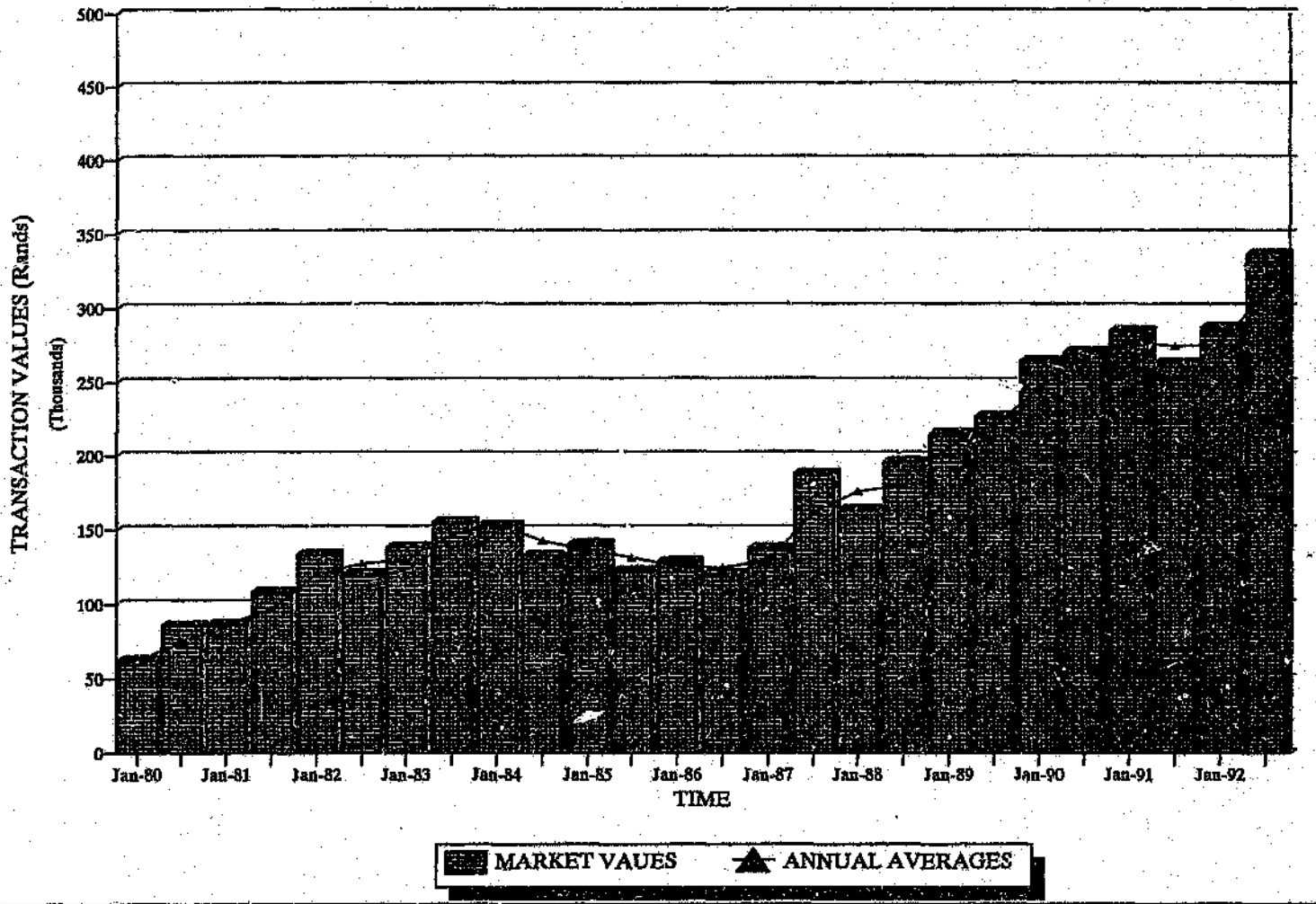
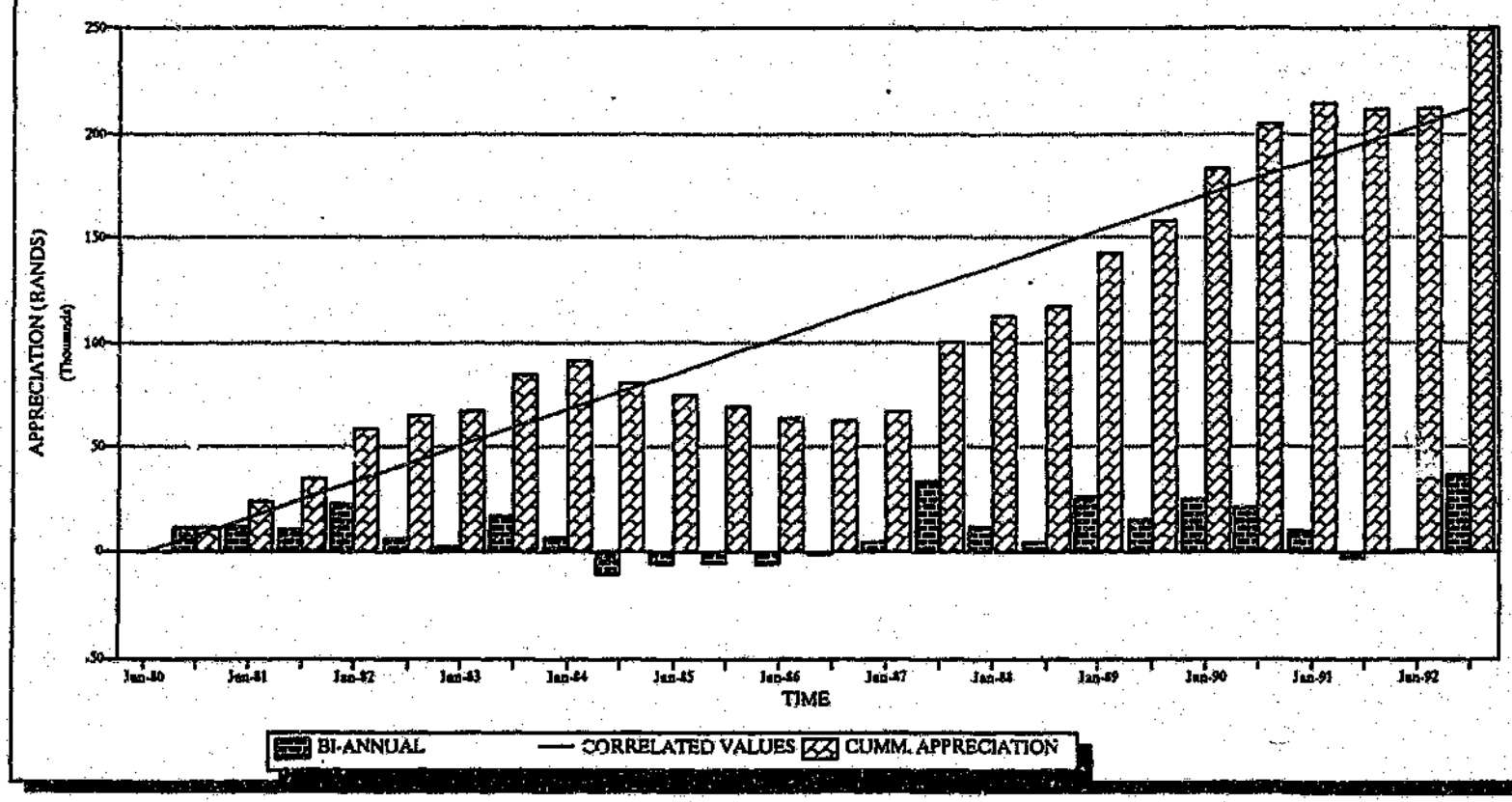


FIGURE 24.

EMMARENTIA / EMMARENTIA EXT 1.

PROPERTY APPRECIATION : 1980-1992



16.7 FAIRLANDS

Located in the north eastern area of Johannesburg, Fairlands has shown good growth trends from a partially developed area to an area both established and in high demand. This suburb attracts the middle to upper income groups. As illustrated in figure 25 to 27., the market values have shown a steady growth trend regarding the property transactions that have taken place over the thirteen year period. Market demand has shown a steady increase, but the deviation from the average growth pattern has increased substantially 1987 and 1992. There are numerous explanations for the divergence of these markets values. Increased activity in property development, with a concentration in cluster and townhouse developments so as to attract homebuyers in higher income groups, has made large in-roads in this area. Other existing homeowners have retained existing attributes and have waited for the properties to appreciate in accordance with market demands as the area develops.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R59,982	28	R86,000	R42,000	R11,723	R1,679,500
Jul-80 - Dec-80	2	R76,621	31	R135,000	R42,250	R20,344	R2,375,250
Jan-81 - Jun-81	3	R90,707	42	R195,000	R47,000	R27,718	R3,809,690
Jul-81 - Dec-81	4	R89,240	30	R140,000	R45,000	R23,109	R2,677,200
Jan-82 - Jun-82	5	R119,583	16	R170,000	R60,000	R31,229	R1,913,320
Jul-82 - Dec-82	6	R110,232	22	R200,000	R60,000	R38,020	R2,425,110
Jan-83 - Jun-83	7	R117,734	44	R185,000	R48,000	R29,945	R5,180,300
Jul-83 - Dec-83	8	R141,161	33	R245,000	R46,000	R44,752	R4,658,300
Jan-84 - Jun-84	9	R147,300	30	R250,000	R70,000	R44,160	R4,419,000
Jul-84 - Dec-84	10	R135,834	22	R210,000	R68,000	R33,075	R2,988,344
Jan-85 - Jun-85	11	R128,958	22	R215,000	R80,068	R31,648	R2,837,068
Jul-85 - Dec-85	12	R131,634	19	R200,000	R79,000	R31,795	R2,501,050
Jan-86 - Jun-86	13	R133,089	22	R250,000	R73,000	R47,840	R2,927,951
Jul-86 - Dec-86	14	R139,667	33	R260,000	R75,000	R42,548	R4,609,000
Jan-87 - Jun-87	15	R151,057	35	R300,000	R90,000	R55,559	R5,287,000
Jul-87 - Dec-87	16	R188,522	23	R350,000	R95,000	R66,176	R4,336,000
Jan-88 - Jun-88	17	R214,365	26	R330,000	R135,000	R48,226	R5,573,500
Jul-88 - Dec-88	18	R213,367	15	R280,000	R145,000	R42,704	R3,200,500
Jan-89 - Jun-89	19	R233,280	27	R525,000	R113,000	R91,719	R6,298,560
Jul-89 - Dec-89	20	R237,556	23	R500,000	R115,000	R111,275	R5,463,789
Jan-90 - Jun-90	21	R287,565	31	R500,000	R137,000	R92,247	R8,914,500
Jul-90 - Dec-90	22	R305,148	27	R600,000	R147,000	R96,889	R8,239,000
Jan-91 - Jun-91	23	R274,604	26	R460,000	R140,000	R72,943	R7,139,700
Jul-91 - Dec-91	24	R347,458	24	R555,000	R145,000	R109,490	R8,339,000
Jan-92 - Jun-92	25	R311,000	20	R630,000	R200,000	R101,697	R6,220,000
Jul-92 - Dec-92	26	R297,455	10	R380,000	R200,000	R69,527	R2,974,550
TOTALS			681				R116,987,182

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R59,982					25.36%
Jul-80 - Dec-80	2	R68,302	13.87%	13.87%	Constant	0.19	31.73%
Jan-81 - Jun-81	3	R83,664	22.49%	36.36%	Std Err of Y Est	0.11	38.10%
Jul-81 - Dec-81	4	R89,974	7.54%	43.90%	R Squared	0.95	44.47%
Jan-82 - Jun-82	5	R104,412	16.05%	59.95%	No. of Observations	25.00	50.84%
Jul-82 - Dec-82	6	R114,908	10.05%	70.00%	Degrees of Freedom	23.00	57.21%
Jan-83 - Jun-83	7	R113,983	-0.80%	69.20%			63.58%
Jul-83 - Dec-83	8	R129,448	13.57%	82.77%	X Coefficient(s)	0.06	69.95%
Jan-84 - Jun-84	9	R144,231	11.42%	94.19%	Std Err of Coef.	0.00	76.32%
Jul-84 - Dec-84	10	R141,567	-1.85%	92.34%			82.69%
Jan-85 - Jun-85	11	R132,396	-6.48%	85.86%			89.06%
Jul-85 - Dec-85	12	R130,296	-1.59%	84.27%			95.43%
Jan-86 - Jun-86	13	R132,362	1.59%	85.86%			101.80%
Jul-86 - Dec-86	14	R136,378	3.03%	88.89%			108.16%
Jan-87 - Jun-87	15	R145,362	6.59%	95.48%			114.53%
Jul-87 - Dec-87	16	R169,790	16.80%	112.29%			120.90%
Jan-88 - Jun-88	17	R201,444	18.64%	130.93%			127.27%
Jul-88 - Dec-88	18	R213,866	6.17%	137.10%			133.64%
Jan-89 - Jun-89	19	R223,324	4.42%	141.52%			140.01%
Jul-89 - Dec-89	20	R235,418	5.42%	146.93%			146.38%
Jan-90 - Jun-90	21	R262,561	11.53%	158.46%			152.75%
Jul-90 - Dec-90	22	R296,357	12.87%	171.34%			159.12%
Jan-91 - Jun-91	23	R289,876	-2.19%	169.15%			165.49%
Jul-91 - Dec-91	24	R311,031	7.30%	176.45%			171.86%
Jan-92 - Jun-92	25	R329,229	5.85%	182.30%			178.23%
Jul-92 - Dec-92	26	R304,228	-7.59%	174.70%			184.60%
TOTALS					AV. Appreciation p.a.		12.74%

Table 17. Fairlands : Capital Appreciation 1980-1992

Housing prices have increased from around R60 000 in 1980 to around R347 000 by early 1992. This has been an appreciation of almost 182% to the first half of 1992, whereafter it waned due to negative external factors that will be discussed later in this report. The annual appreciation indicated in table 17. shows that property values have performed above the average of 12.7% during the 1980-1984 and 1988-1992 periods.

There has been a steady demand for property in Fairlands as can be seen in Figure 26 and 27. Fluctuations in the capital appreciation does not seem to have affected demand for property in this area as can be seen by the steady sales of properties in this area, with over 680 transactions being approved in the thirteen year time frame.

FIGURE 25.

FAIRLANDS
SCATTER PLOT 1980-1992

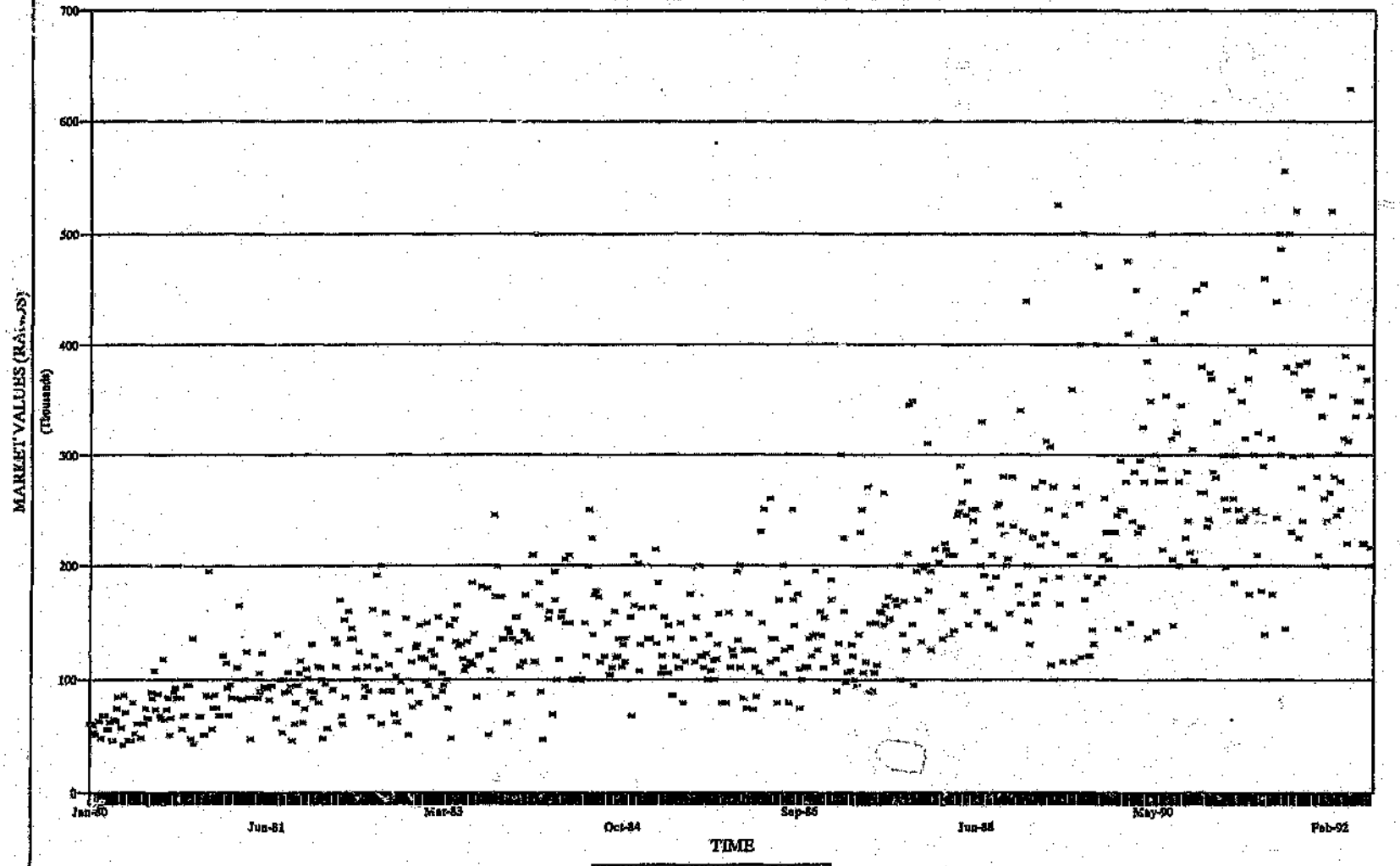
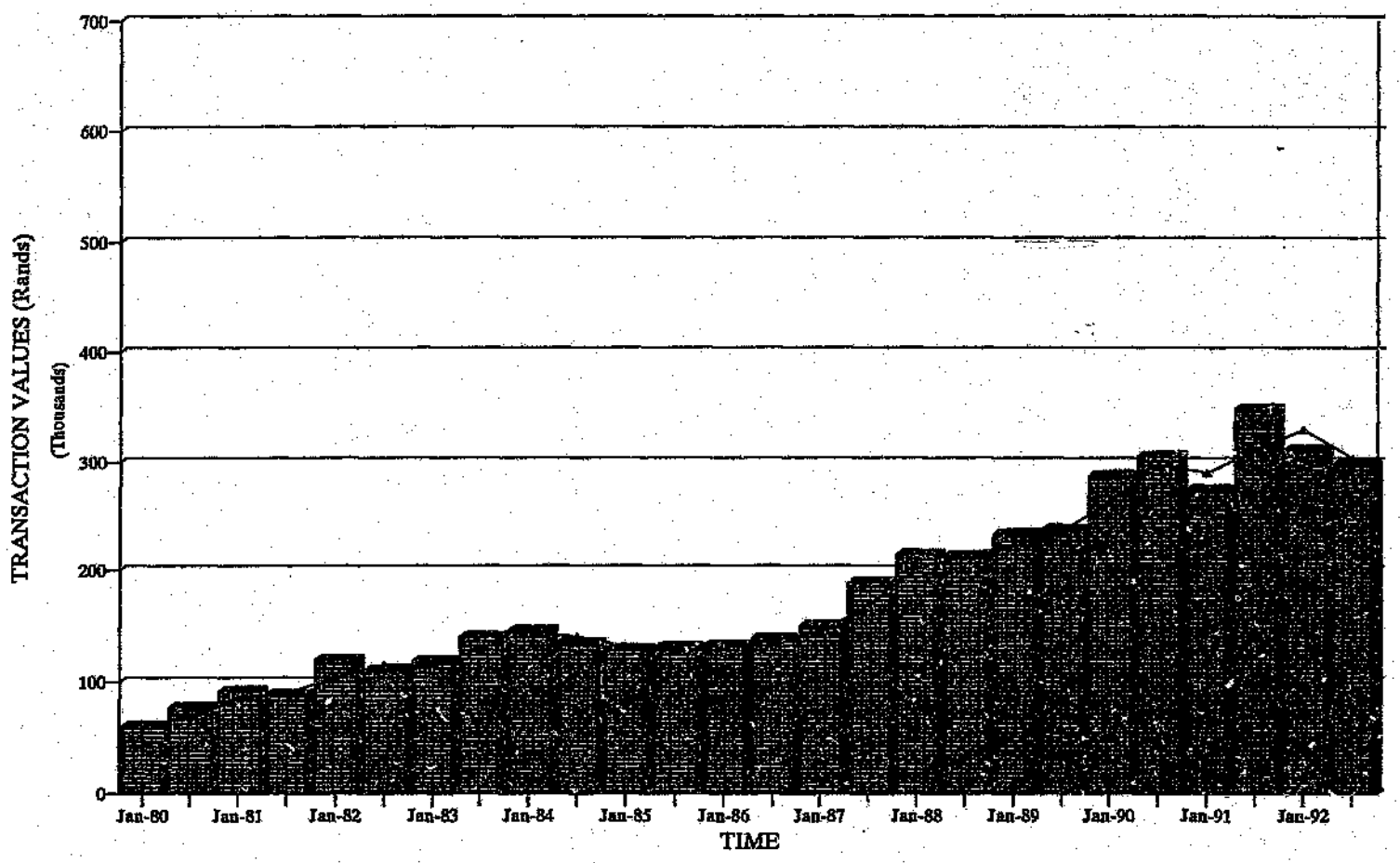
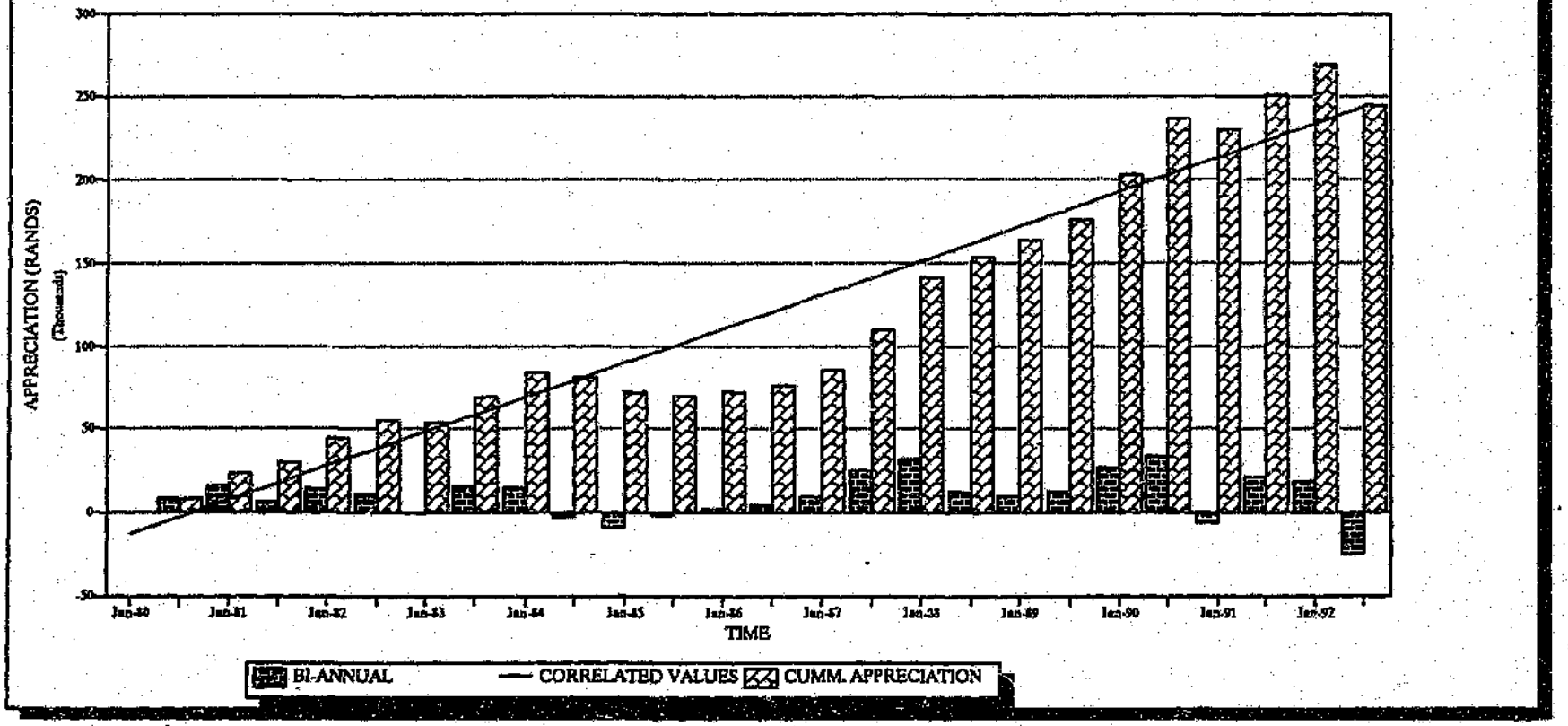


FIGURE 26.

FAIRLANDS
MARKET VALUES : 1980-1992



FAIRLANDS
PROPERTY APPRECIATION : 1980-1992



16.8 HOUGHTON (PROPER AND ESTATES)

Houghton is a well established affluent area, well located and easily accessible to all major centers. As illustrated in Figures 28 to 30. the average growth pattern has performed admirably throughout the 80's and early 90's. There has been no substantial decline in market values throughout the thirteen year duration, implying that the market is very resilient to change and nominally affected by external factors that have influenced other residential property markets.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R134,108	12	R225,000	R101,500	R41,547	R1,609,300
Jul-80 - Dec-80	2	R144,643	35	R325,000	R103,000	R44,483	R5,062,500
Jan-81 - Jun-81	3	R147,150	30	R270,000	R100,000	R32,864	R4,414,500
Jul-81 - Dec-81	4	R154,520	25	R300,000	R100,000	R47,203	R3,863,000
Jan-82 - Jun-82	5	R169,000	15	R285,000	R117,000	R39,657	R2,535,000
Jul-82 - Dec-82	6	R189,123	22	R320,000	R120,000	R58,415	R4,160,700
Jan-83 - Jun-83	7	R240,379	24	R375,000	R166,600	R46,089	R5,769,100
Jul-83 - Dec-83	8	R249,497	35	R483,000	R140,000	R75,746	R8,732,400
Jan-84 - Jun-84	9	R255,435	23	R485,000	R160,000	R72,561	R5,875,000
Jul-84 - Dec-84	10	R271,106	18	R465,000	R168,400	R88,738	R4,879,908
Jan-85 - Jun-85	11	R264,929	21	R390,000	R165,000	R64,487	R5,563,500
Jul-85 - Dec-85	12	R266,520	25	R455,000	R187,000	R63,646	R6,663,000
Jan-86 - Jun-86	13	R250,109	23	R500,000	R165,000	R84,553	R5,752,500
Jul-86 - Dec-86	14	R259,444	18	R600,000	R170,000	R94,417	R4,670,000
Jan-87 - Jun-87	15	R271,725	20	R464,000	R190,000	R70,614	R5,434,500
Jul-87 - Dec-87	16	R293,825	24	R635,000	R205,000	R89,632	R7,051,800
Jan-88 - Jun-88	17	R385,042	24	R825,000	R240,000	R150,137	R9,241,000
Jul-88 - Dec-88	18	R409,636	33	R700,000	R250,000	R93,481	R13,518,000
Jan-89 - Jun-89	19	R478,675	40	R960,000	R242,000	R180,576	R19,147,019
Jul-89 - Dec-89	20	R475,472	36	R960,750	R250,000	R165,233	R17,116,979
Jan-90 - Jun-90	21	R687,504	42	R1,550,000	R280,000	R282,194	R28,875,150
Jul-90 - Dec-90	22	R707,824	34	R1,266,000	R260,000	R259,532	R24,066,000
Jan-91 - Jun-91	23	R686,295	22	R1,575,000	R293,000	R274,787	R15,098,500
Jul-91 - Dec-91	24	R782,357	28	R1,800,000	R292,500	R343,890	R21,906,000
Jan-92 - Jun-92	25	R618,568	22	R1,250,000	R285,000	R249,738	R13,608,500
Jul-92 - Dec-92	26	R725,500	13	R1,400,000	R375,000	R323,329	R9,431,500
TOTALS			664				R254,045,356

Table 18. Houghton (Proper & Estates) : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R134,108					
Jul-80 - Dec-80	2	R139,376	3.93%	3.93%	Constant	-0.1582	-0.53%
Jan-81 - Jun-81	3	R145,897	4.68%	8.61%	Std Err of Y Est	0.1431	7.12%
Jul-81 - Dec-81	4	R150,835	3.38%	11.99%	R Squared	0.9417	14.77%
Jan-82 - Jun-82	5	R161,760	7.24%	19.23%	No. of Observations	25	22.41%
Jul-82 - Dec-82	6	R179,062	10.70%	29.93%	Degrees of Freedom	23	30.06%
Jan-83 - Jun-83	7	R214,751	19.93%	49.86%			37.71%
Jul-83 - Dec-83	8	R244,938	14.06%	63.92%	X Coefficient(s)	0.0765	45.36%
Jan-84 - Jun-84	9	R252,466	3.07%	66.99%	Std Err of Coef.	0.0040	53.00%
Jul-84 - Dec-84	10	R263,271	4.28%	71.27%			60.65%
Jan-85 - Jun-85	11	R268,018	1.80%	73.07%			68.30%
Jul-85 - Dec-85	12	R265,725	-0.86%	72.22%			75.95%
Jan-86 - Jun-86	13	R258,315	-2.79%	69.43%			83.59%
Jul-86 - Dec-86	14	R254,777	-1.37%	68.06%			91.24%
Jan-87 - Jun-87	15	R265,585	4.24%	72.30%			98.89%
Jul-87 - Dec-87	16	R282,775	6.47%	78.78%			106.54%
Jan-88 - Jun-88	17	R339,434	20.04%	98.81%			114.18%
Jul-88 - Dec-88	18	R397,339	17.06%	115.87%			121.83%
Jan-89 - Jun-89	19	R444,156	11.78%	127.65%			129.48%
Jul-89 - Dec-89	20	R477,074	7.41%	135.07%			137.13%
Jan-90 - Jun-90	21	R581,488	21.89%	156.95%			144.77%
Jul-90 - Dec-90	22	R697,664	19.98%	176.93%			152.42%
Jan-91 - Jun-91	23	R697,060	-0.09%	176.84%			160.07%
Jul-91 - Dec-91	24	R734,326	5.35%	182.19%			167.72%
Jan-92 - Jun-92	25	R700,463	-4.61%	177.58%			175.36%
Jul-92 - Dec-92	26	R672,034	-4.06%	173.52%			183.01%
TOTALS					AV. Appreciation p.a.		15.30%

Table 19. Houghton (Proper & Estates) : Capital Appreciation 1980-1992

Although the market demand has shown a steady increase, deviation from the average growth pattern has increased substantially between 1980 and 1992. This divergence is due to increased activity in property development, sub divisions of the existing erven, as well as restorations of existing housing. These factors have all contributed to the divergence in the market values. In addition, the development of modern designed housing and cluster units have also contributed to the increased performance observed in the Houghton market.

Market values have increased from an average of around R134 000 in 1980 to around R782 000 in the middle of 1992 but fell slightly to around R725 000 towards the end of 1992. This has generated capital appreciation of approximately 173% with an average annual appreciation of around 15.3%. During the 1982-1984, as well as 1987-1991 period, this market performed above average, with under performance encountered throughout the remaining years. During the period of underperformance, the market remained fairly static, and did not decline substantially. This would indicate that the market is resilient to any negative external factors and performs well under favourable buying conditions.

Demand for property in this suburb has been steady but low, as can be seen by the property transactions that have taken place between 1980 and 1992. A total of around 220 transactions have been approved in this time period. The upper market status as well as the existence of large residential properties limits the demand to a small sector of the homebuying market.

FIGURE 28.

HOUGHTON (PROPER & ESTATES)
SCATTER PLOT : 1980 - 1992

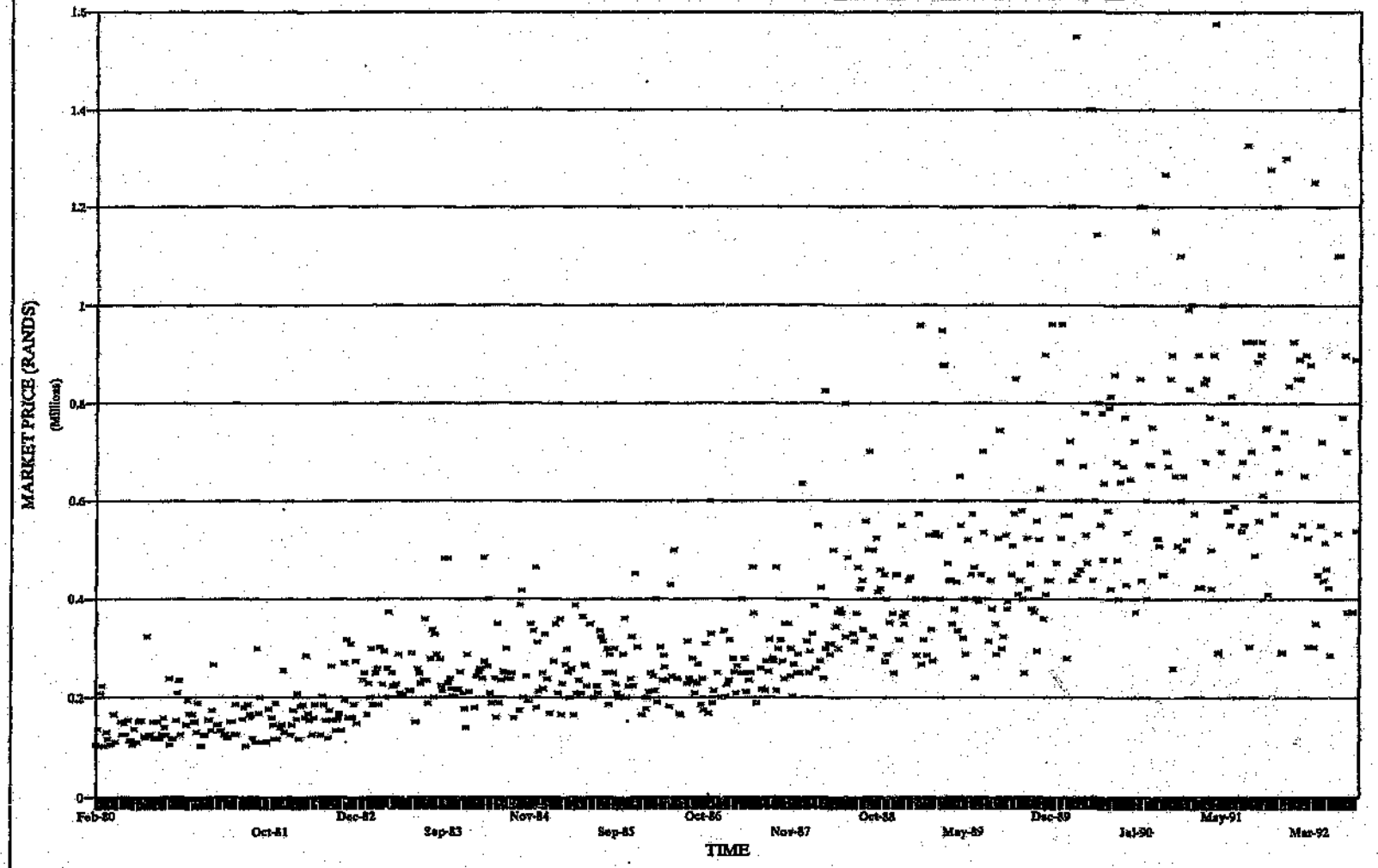


FIGURE 29.

HOUGHTON PROPER AND ESTATES
MARKET VALUES : 1980-1992

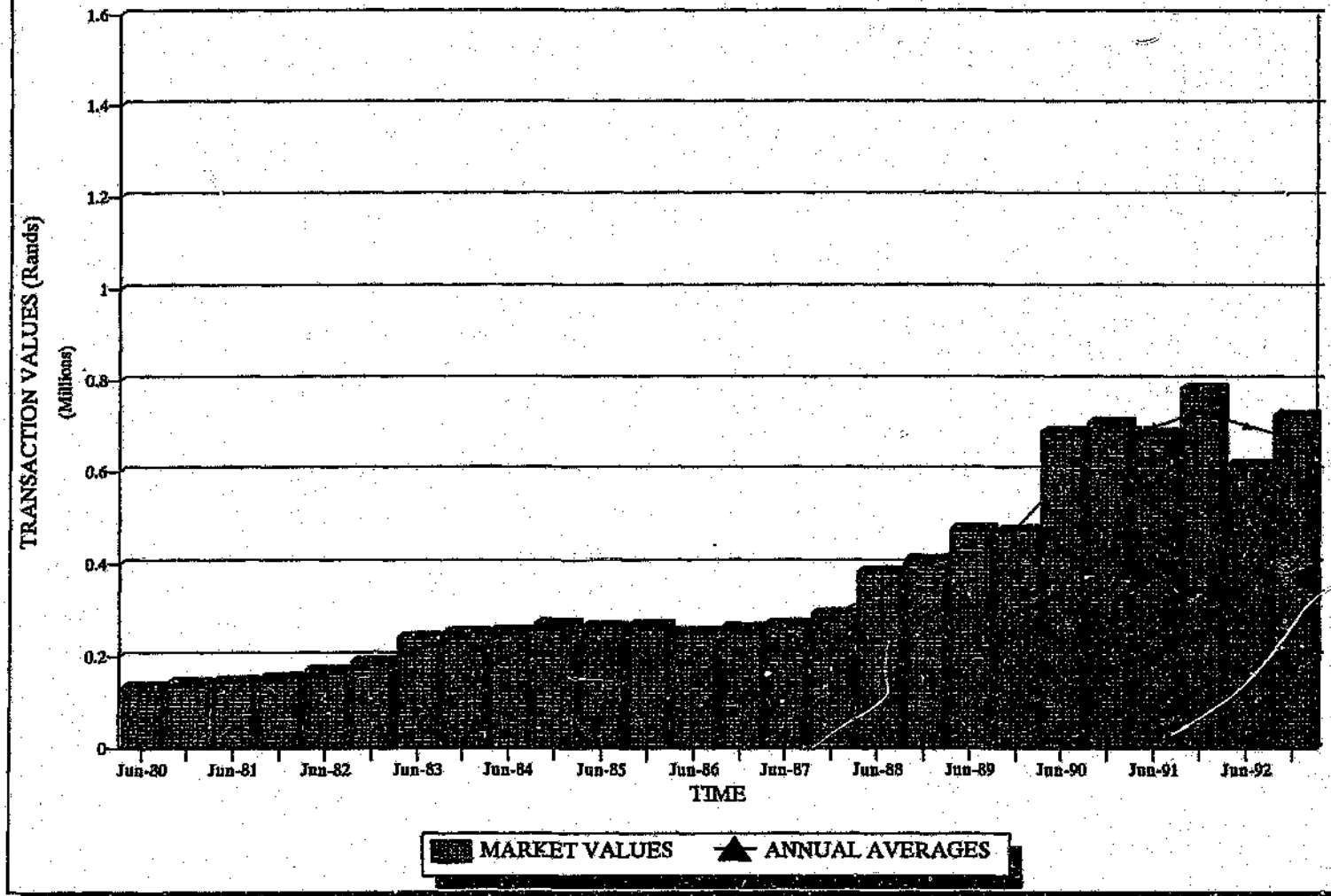
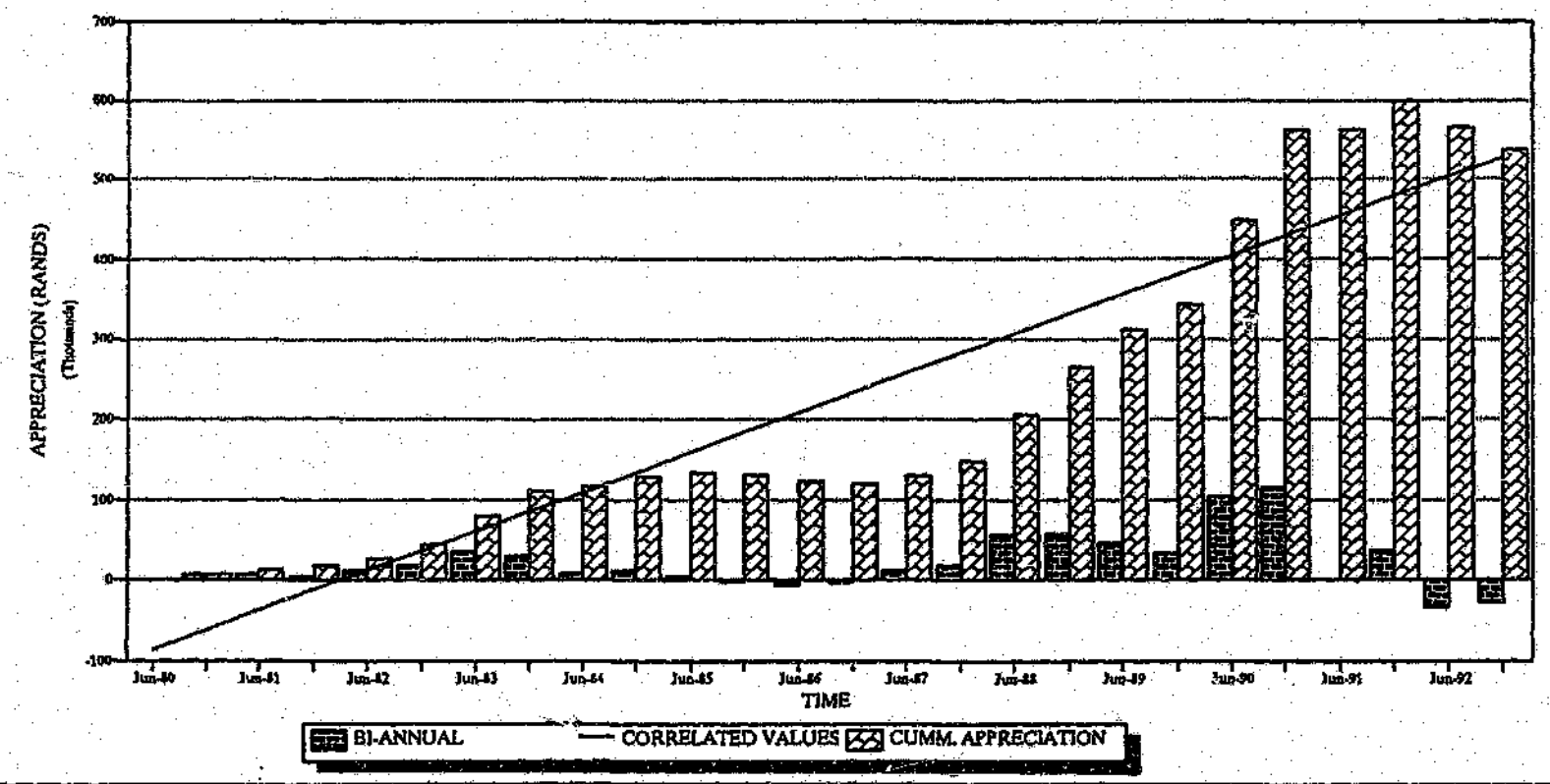


FIGURE 30.

HOUGHTON PROPER AND ESTATES
PROPERTY APPRECIATION : 1980-1992



16.9 LINKSFIELD (INCLUDING ALL EXTENSIONS)

Situated on the eastern boundary of Johannesburg, the Linksfield area is a relatively new upper class area. To obtain a better sample size in analysing the growth in the market values, Linksfield and the additional extensions, have been incorporated into one sample for the analysis.

The growth trend has increased between 1980-1992 although somewhat erratically. Average housing prices have appreciated from around R98 000 in 1980 to R572 000 in 1990, before declining to around R450 000 in late 1992. Although the appreciation has been somewhat erratic, market values have appreciated by 175% between 1980 and 1992, with an average appreciation of 14.6% per annum. Between 1980 and 1992, market values have shown an increased tendency to diverge, with some properties being sold for over R1 Million.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R98,273	11	R190,000	R72,000	R31,392	R1,081,000
Jul-80 - Dec-80	2	R109,000	13	R205,000	R80,000	R31,221	R1,417,000
Jan-81 - Jun-81	3	R142,722	9	R200,000	R105,000	R27,624	R1,284,500
Jul-81 - Dec-81	4	R146,333	6	R180,000	R113,000	R20,870	R878,000
Jan-82 - Jun-82	5	R194,250	9	R370,000	R135,000	R64 798	R1,748,250
Jul-82 - Dec-82	6	R148,820	10	R205,000	R123,200	R27,805	R1,488,200
Jan-83 - Jun-83	7	R238,188	8	R325,000	R154,000	R64,977	R1,905,500
Jul-83 - Dec-83	8	R208,188	8	R265,000	R135,000	R41,275	R1,665,500
Jan-84 - Jun-84	9	R215,571	7	R340,000	R150,000	R61,579	R1,509,000
Jul-84 - Dec-84	10	R222,500	2	R293,000	R152,000	R70,500	R445,000
Jan-85 - Jun-85	11	R171,250	4	R230,000	R145,000	R34,347	R685,000
Jul-85 - Dec-85	12	R152,500	2	R170,000	R135,000	R17,500	R305,000
Jan-86 - Jun-86	13	R184,417	6	R240,000	R133,000	R42,845	R1,106,500
Jul-86 - Dec-86	14	R218,049	13	R350,000	R135,000	R68,816	R2,834,640
Jan-87 - Jun-87	15	R227,000	5	R350,000	R145,000	R83,582	R1,135,000
Jul-87 - Dec-87	16	R188,125	8	R220,000	R150,000	R26,332	R1,505,000
Jan-88 - Jun-88	17	R293,200	5	R420,000	R244,000	R64,465	R1,466,000
Jul-88 - Dec-88	18	R285,000	9	R375,000	R205,000	R62,361	R2,565,000
Jan-89 - Jun-89	19	R378,000	13	R550,000	R220,000	R94,252	R4,914,000
Jul-89 - Dec-89	20	R430,467	15	R980,000	R240,000	R179,823	R6,457,000
Jan-90 - Jun-90	21	R621,923	13	R1,400,000	R240,000	R323,951	R8,085,000
Jul-90 - Dec-90	22	R522,273	11	R780,000	R315,000	R146,944	R5,745,000
Jan-91 - Jun-91	23	R609,686	16	R1,100,000	R345,000	R195,636	R9,755,000
Jul-91 - Dec-91	24	R510,245	11	R800,000	R300,000	R169,917	R5,612,700
Jan-92 - Jun-92	25	R540,500	4	R800,000	R260,000	R194,321	R2,162,000
Jul-92 - Dec-92	26	R361,500	4	R450,000	R286,000	R63,378	R1,446,000
TOTALS			222				R69,200,790

Table 20. Linksfield (Inc. Extension & Ridge) : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R98,273					10.93%
Jul-80 - Dec-80	2	R103,637	5.46%	5.46%	Constant	0.3612	18.24%
Jan-81 - Jun-81	3	R125,861	21.44%	26.90%	Std Err of Y Est	0.2183	25.55%
Jul-81 - Dec-81	4	R144,528	14.83%	41.73%	R Squared	0.8638	32.87%
Jan-82 - Jun-82	5	R170,292	17.83%	59.56%	No. of Observations	25	40.18%
Jul-82 - Dec-82	6	R171,535	0.73%	60.29%	Degrees of Freedom	23	47.49%
Jan-83 - Jun-83	7	R193,504	12.81%	73.10%			54.81%
Jul-83 - Dec-83	8	R223,188	15.34%	88.44%	X Coefficient(s)	0.0731	62.12%
Jan-84 - Jun-84	9	R211,880	-5.07%	83.37%	Std Err of Coef.	0.0061	69.44%
Jul-84 - Dec-84	10	R219,036	3.38%	86.75%			76.75%
Jan-85 - Jun-85	11	R196,873	-10.12%	76.63%			84.06%
Jul-85 - Dec-85	12	R161,875	-17.78%	58.85%			91.38%
Jan-86 - Jun-86	13	R168,459	4.07%	62.92%			98.69%
Jul-86 - Dec-86	14	R201,233	19.46%	82.38%			106.00%
Jan-87 - Jun-87	15	R222,525	10.58%	92.96%			113.32%
Jul-87 - Dec-87	16	R207,563	-6.72%	86.23%			120.63%
Jan-88 - Jun-88	17	R240,663	15.95%	102.18%			127.94%
Jul-88 - Dec-88	18	R289,100	20.13%	122.31%			135.26%
Jan-89 - Jun-89	19	R331,500	14.67%	136.97%			142.57%
Jul-89 - Dec-89	20	R404,234	21.94%	158.91%			149.89%
Jan-90 - Jun-90	21	R526,195	30.17%	189.08%			157.20%
Jul-90 - Dec-90	22	R572,098	8.72%	197.81%			164.51%
Jan-91 - Jun-91	23	R565,981	-1.07%	196.74%			171.83%
Jul-91 - Dec-91	24	R559,967	-1.06%	195.68%			179.14%
Jan-92 - Jun-92	25	R525,373	-6.18%	189.50%			186.45%
Jul-92 - Dec-92	26	R451,000	-14.16%	175.34%			193.77%
TOTALS					AV. Appreciation p.a.		14.63%

Table 21. Linksfield (Inc. Extension & Ridge) : Capital Appreciation 1980-1992

The reasons for the divergence is the increased development activity, with predominantly upmarket cluster developments in exclusive areas targeted for the affluent homebuyer.

Although residential properties have fetched impressive prices in this area, the average property appreciation seems somewhat tentative and influenced by external factors. During the 1981-1984 and the 1988-1991 periods, the market values outperformed the average appreciation admirably, but during the remaining years, performance was below expectation. The reason could be that few transactions had taken place between 1980 and 1992 and any external adjustments could influence this market growth trend substantially. The appreciation of residential properties in the short term seem unpredictable and risky but over the medium to long term show good growth potential with favourable returns.

FIGURE 31.

LINKSFIELD/LINKSFIELD RIDGE & EXTENSION

SCATTER PLOT : 1980 - 1992

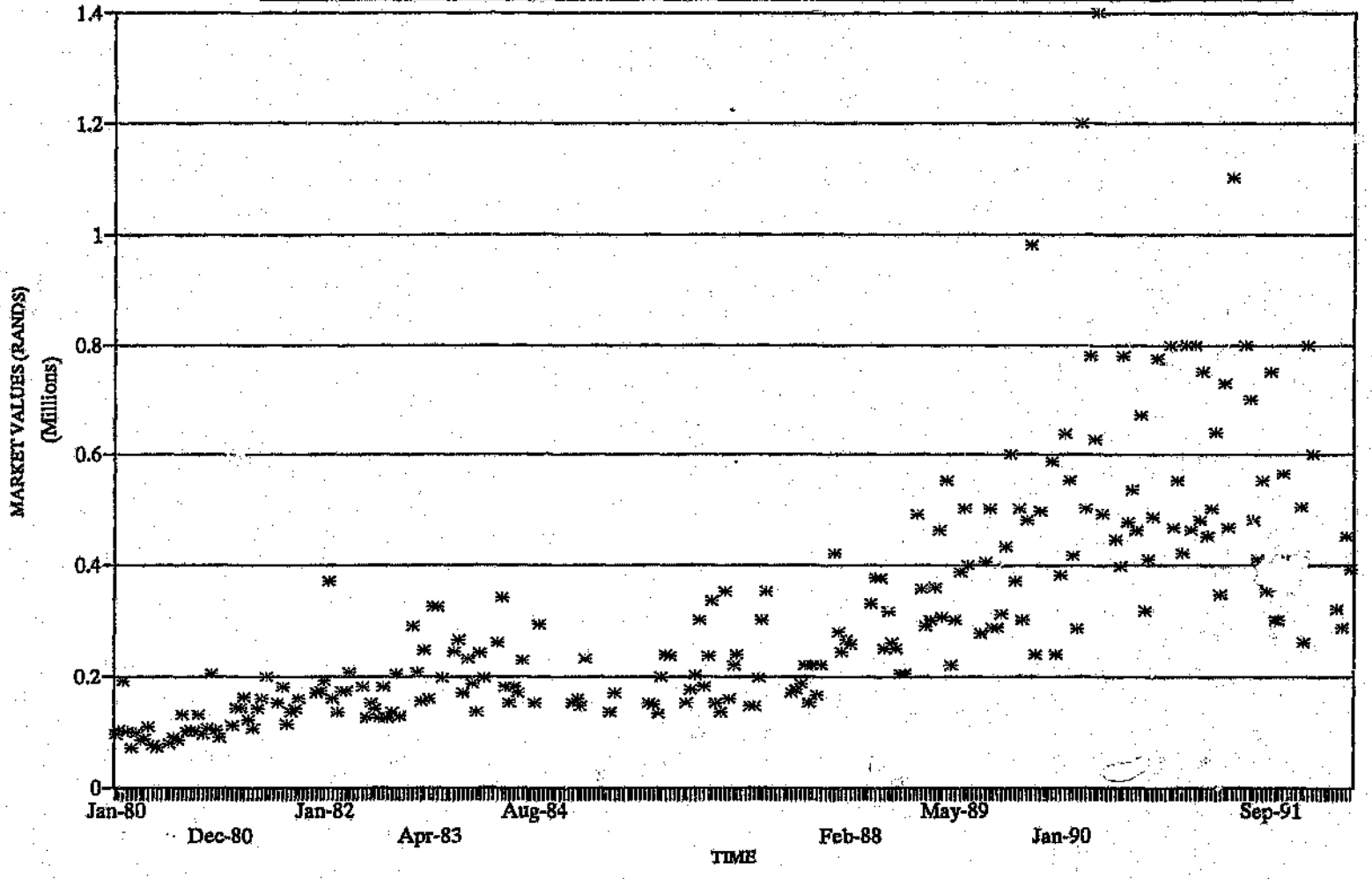


FIGURE 32.

LINKSFIELD\LINKSFIELD RIDGE & EXTENSION
MARKET VALUES : 1980-1992

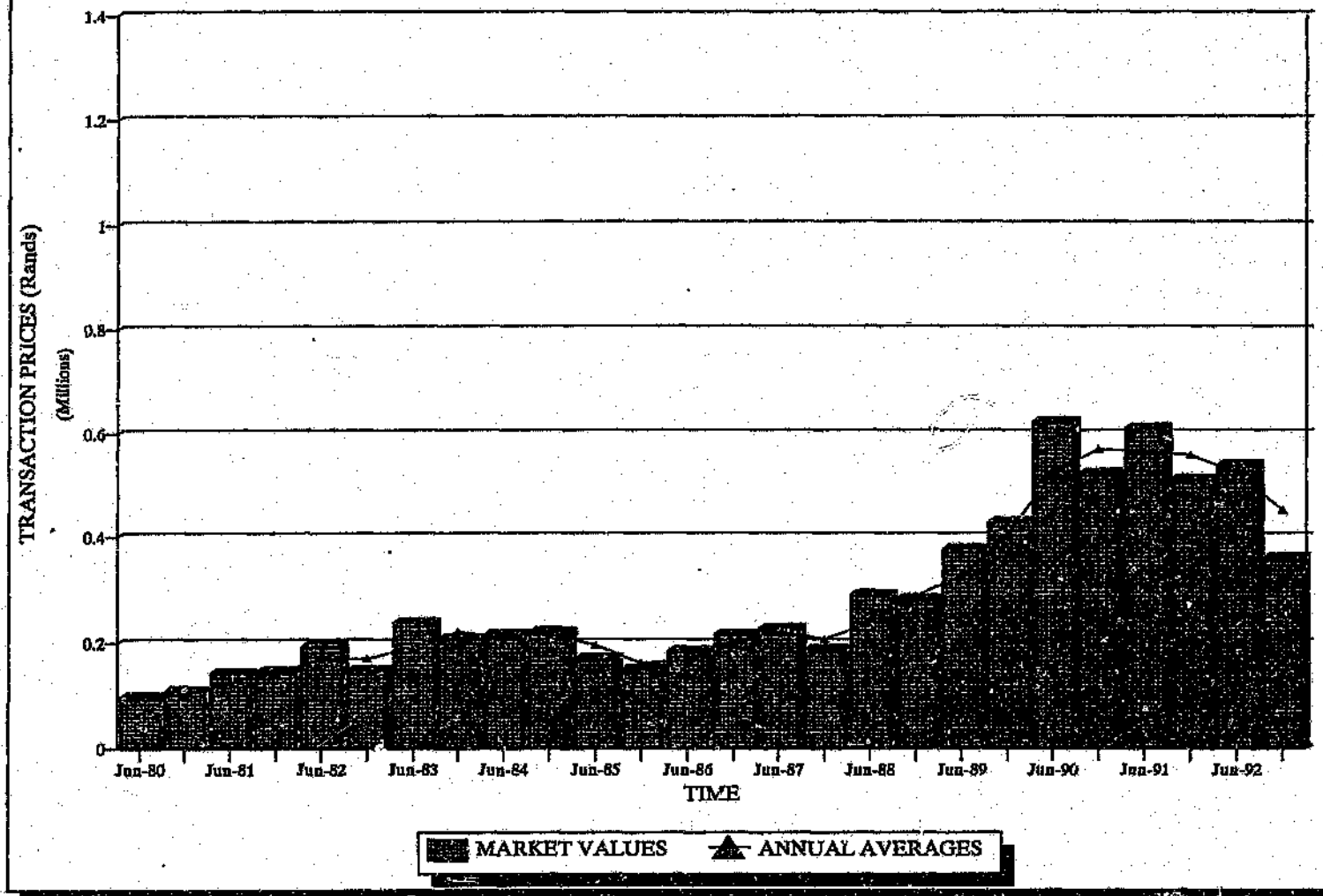
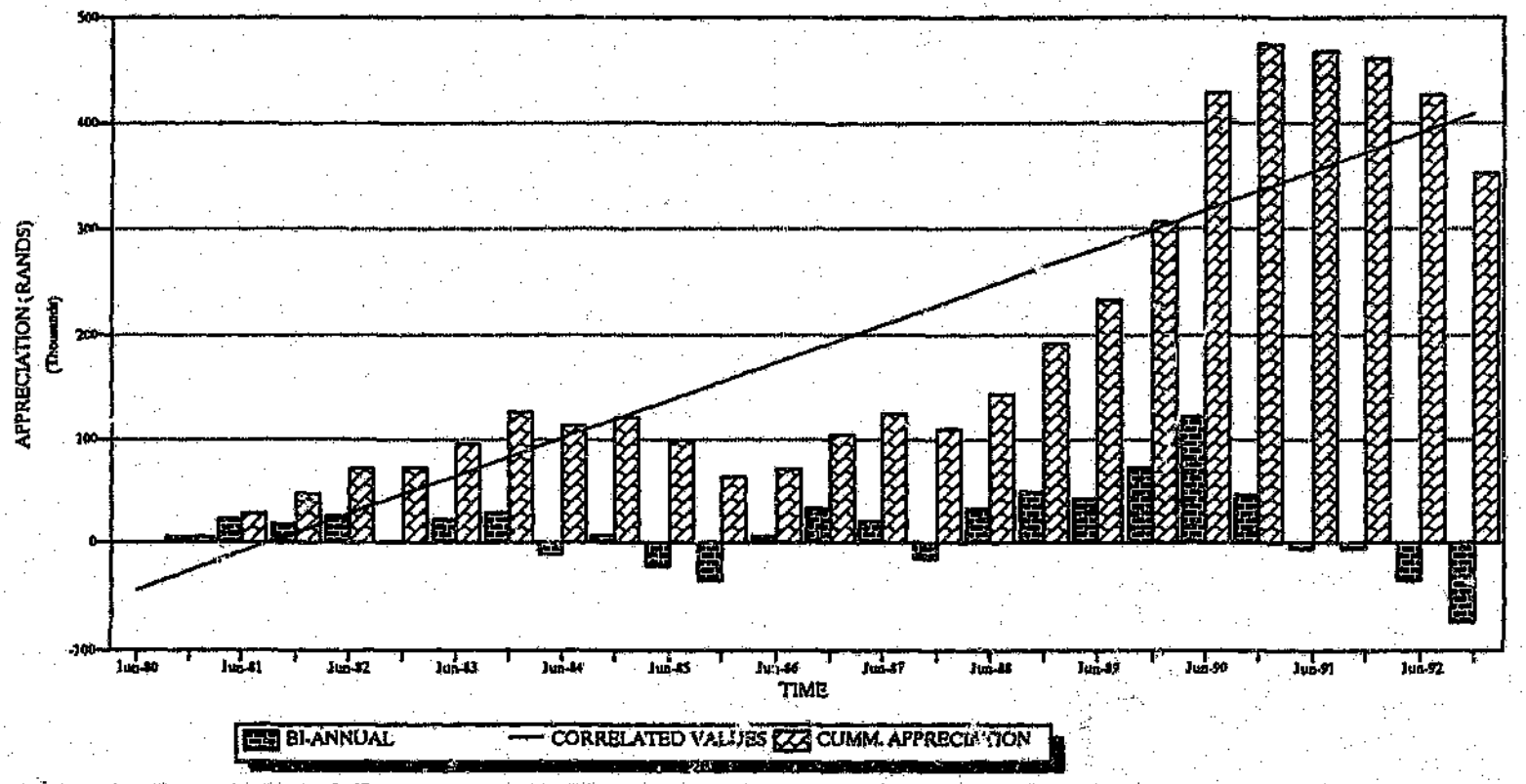


FIGURE 33.

LINKSFIELD\LINKSFIELD RIDGE & EXT 1.

PROPERTY APPRECIATION : 1980-1992



16.10 MELVILLE

Melville is an old established area in Johannesburg and is in the process of undergoing substantial restoration. Recently, Melville has changed from attracting the lower to middle income earners to a slightly upmarket area, attracting middle income earners as well as people with celebrity status. Reasons for the change in the status of the hor owners could be because of: accessibility to most major centers; attractive market values for existing housing; as well as the trendy ambiance the suburb has to offer. As can be seen from Figures 34 to 36, the market values have shown a gradual divergence through the thirteen years. This is justified by the extensive renovations of existing properties as well as the increased property development activity that has taken place in Melville.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R43,608	23	R58,000	R33,500	R6,050	R1,002,990
Jul-80 - Dec-80	2	R50,534	33	R117,500	R32,500	R14,852	R1,667,615
Jan-81 - Jun-81	3	R62,020	29	R90,000	R45,500	R11,155	R1,798,575
Jul-81 - Dec-81	4	R59,447	24	R120,000	R37,000	R18,451	R1,426,738
Jan-82 - Jun-82	5	R67,125	16	R110,000	R40,000	R15,381	R1,074,000
Jul-82 - Dec-82	6	R75,696	32	R130,000	R42,500	R22,148	R2,422,270
Jan-83 - Jun-83	7	R93,714	52	R165,000	R60,000	R22,201	R4,873,150
Jul-83 - Dec-83	8	R106,571	14	R180,000	R65,000	R28,602	R1,492,000
Jan-84 - Jun-84	9	R108,519	26	R161,000	R70,000	R25,118	R2,821,500
Jul-84 - Dec-84	10	R97,458	24	R175,000	R55,000	R26,8[illegible]	R2,339,000
Jan-85 - Jun-85	11	R96,272	25	R155,000	R55,000	R24,561	R2,406,800
Jul-85 - Dec-85	12	R91,690	15	R141,000	R69,000	R23,259	R1,375,350
Jan-86 - Jun-86	13	R90,474	34	R143,000	R62,000	R19,442	R3,076,100
Jul-86 - Dec-86	14	R86,567	33	R122,500	R63,000	R16,547	R2,856,700
Jan-87 - Jun-87	15	R92,700	30	R175,000	R65,000	R22,474	R2,781,000
Jul-87 - Dec-87	16	R95,983	30	R130,000	R63,000	R19,238	R2,879,500
Jan-88 - Jun-88	17	R136,042	48	R250,000	R85,000	R41,485	R6,530,000
Jul-88 - Dec-88	18	R129,702	42	R250,000	R60,000	R41,245	R5,447,500
Jan-89 - Jun-89	19	R141,078	51	R245,000	R40,000	R40,550	R7,195,000
Jul-89 - Dec-89	20	R161,944	45	R263,000	R60,000	R47,158	R7,287,500
Jan-90 - Jun-90	21	R178,520	49	R340,000	R69,000	R52,585	R8,747,500
Jul-90 - Dec-90	22	R190,029	35	R420,000	R86,000	R77,451	R6,651,000
Jan-91 - Jun-91	23	R219,167	24	R355,000	R115,000	R71,929	R5,260,000
Jul-91 - Dec-91	24	R228,953	43	R410,000	R106,000	R65,113	R9,845,000
Jan-92 - Jun-92	25	R243,274	28	R485,000	R99,300	R94,354	R6,811,680
Jul-92 - Dec-92	26	R244,000	13	R377,000	R160,000	R64,704	R3,172,000
TOTALS			818				R103,240,468

Table 22. Melville : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R43,608					16.84%
Jul-80 - Dec-80	2	R47,071	7.94%	7.94%	Constant	0.1043	23.26%
Jan-81 - Jun-81	3	R56,277	19.56%	27.50%	Std Err of Y Est	0.1539	29.67%
Jul-81 - Dec-81	4	R60,734	7.92%	35.42%	R Squared	0.9076	36.09%
Jan-82 - Jun-82	5	R63,286	4.20%	39.62%	No. of Observations	25	42.50%
Jul-82 - Dec-82	6	R71,411	12.84%	52.46%	Degrees of Freedom	23	48.92%
Jan-83 - Jun-83	7	R84,705	18.62%	71.08%			55.33%
Jul-83 - Dec-83	8	R100,143	18.23%	89.30%	X Coefficient(s)	0.0642	61.75%
Jan-84 - Jun-84	9	R107,545	7.39%	96.69%	Std Err of Coef.	0.0043	68.16%
Jul-84 - Dec-84	10	R102,989	-4.24%	92.46%			74.58%
Jan-85 - Jun-85	11	R96,865	-5.95%	86.51%			81.00%
Jul-85 - Dec-85	12	R93,981	-2.98%	83.53%			87.41%
Jan-86 - Jun-86	13	R91,082	-3.08%	80.45%			93.83%
Jul-86 - Dec-86	14	R88,521	-2.81%	77.64%			100.24%
Jan-87 - Jun-87	15	R89,634	1.26%	78.89%			106.66%
Jul-87 - Dec-87	16	R94,342	5.25%	84.15%			113.07%
Jan-88 - Jun-88	17	R116,013	22.97%	107.12%			119.49%
Jul-88 - Dec-88	18	R132,872	14.53%	121.65%			125.90%
Jan-89 - Jun-89	19	R135,390	1.90%	123.54%			132.32%
Jul-89 - Dec-89	20	R151,511	11.91%	135.45%			138.74%
Jan-90 - Jun-90	21	R170,232	12.36%	147.81%			145.15%
Jul-90 - Dec-90	22	R184,275	8.25%	156.06%			151.57%
Jan-91 - Jun-91	23	R204,598	11.03%	167.08%			157.98%
Jul-91 - Dec-91	24	R224,060	9.51%	176.60%			164.40%
Jan-92 - Jun-92	25	R236,114	5.38%	181.98%			170.81%
Jul-92 - Dec-92	26	R243,637	3.19%	185.16%			177.23%
TOTALS					AV. Appreciation p.a.		12.83%

Table 23. Melville : Capital Appreciation 1980-1992

Market values have shown consistent growth, increasing from around R43 000 in 1980 to around R244 000 in 1992. This is a total appreciation of around 185% with an annual appreciation of 12.8%. Demand for residential property in Melville has been steady throughout the thirteen years with a total of just over 800 transactions taking place. Capital appreciation over the short term seems slightly risky, as any external occurrence influences the performance substantially, although the long term appreciation is continuous, generating relatively good returns.

FIGURE 34.

MELVILLE
SCATTER PLOT : 1980 - 1992

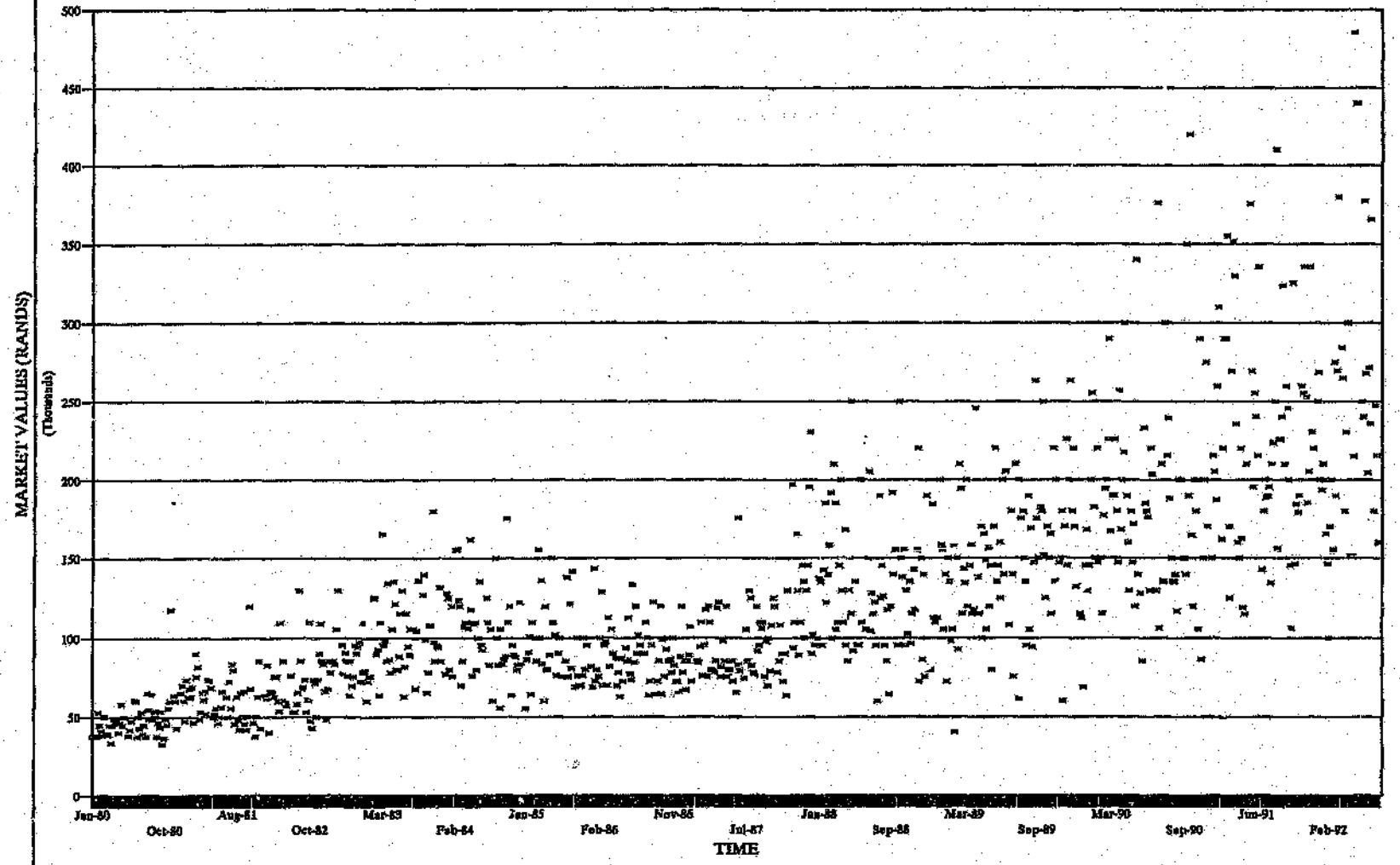


FIGURE 35.

MELVILLE
MARKET VALUES : 1980-1992

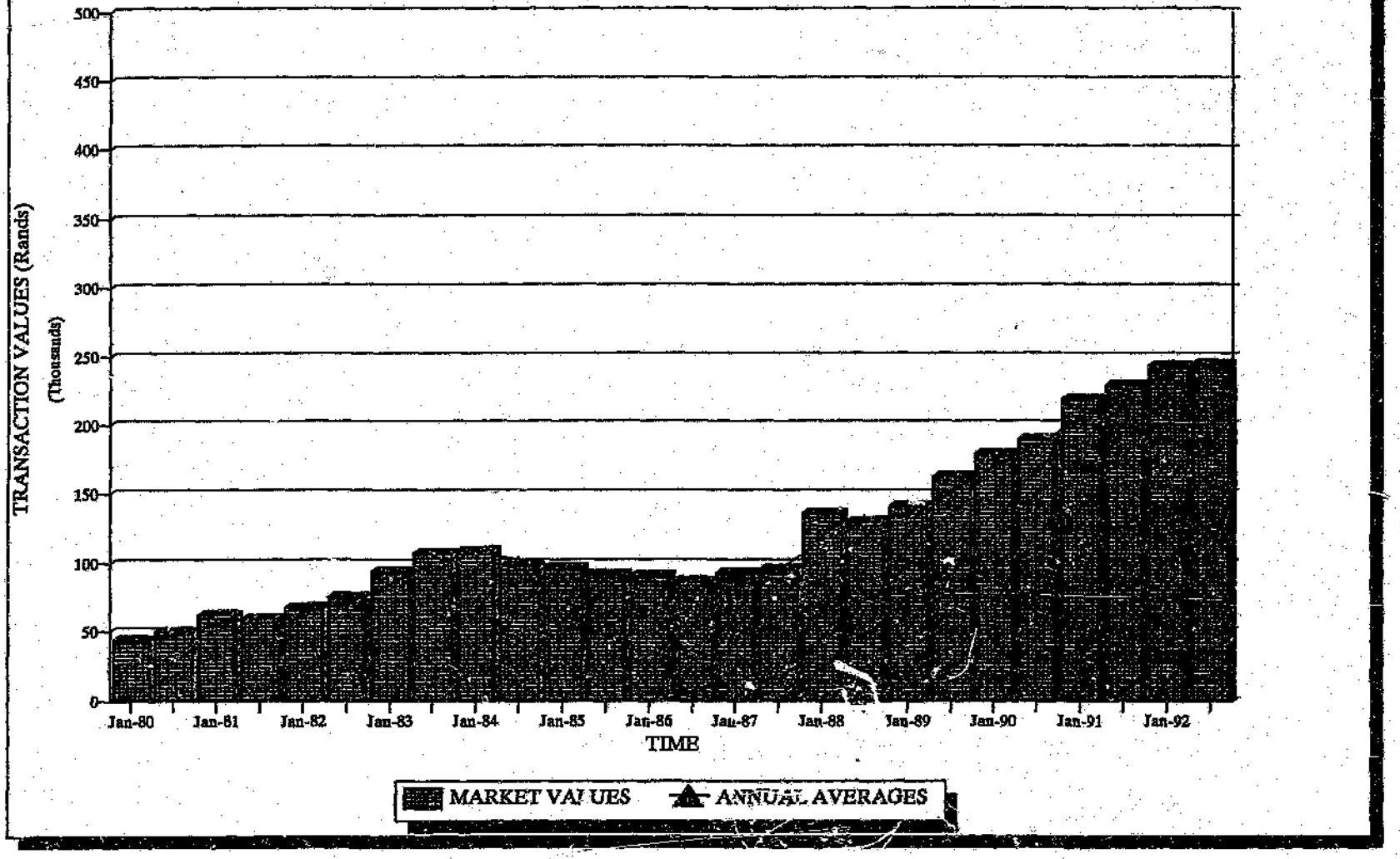
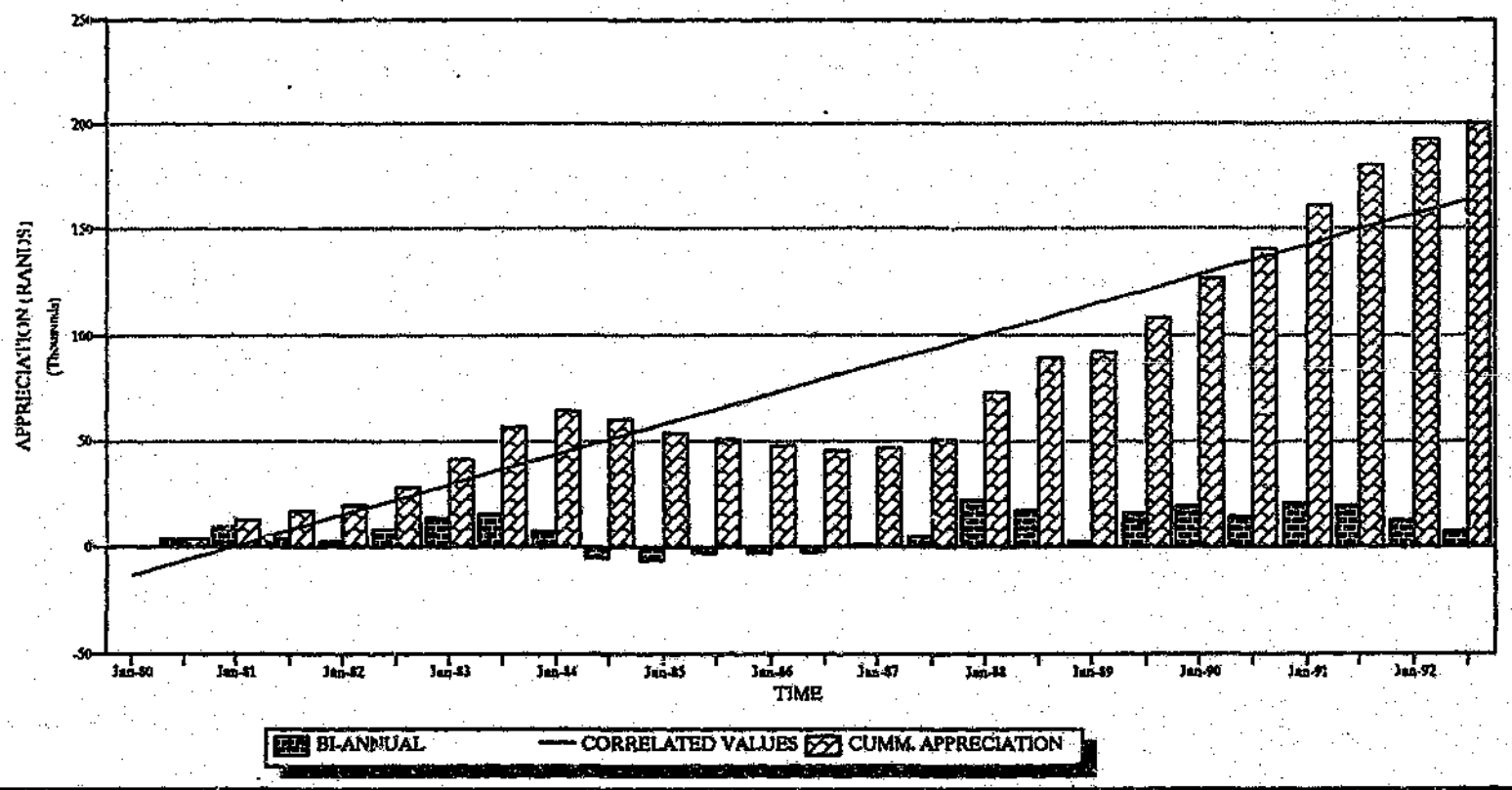


FIGURE 36

MELVILLE
PROPERTY APPRECIATION : 1980-1993



16.11 PARKMORE

Located within the Sandton Magisterial District, Parkmore has shown impressive growth from a partially developed area to an affluent area in high demand. This suburb attracts the homebuyer within the selected upper income groups. Figure 37 and 38. illustrates the market values, showing steady growth even though somewhat erratic during the 1990-1992 period.The growth trend has diverged somewhat during the thirteen years as homes of modern design, as well as upmarket cluster housing, were developed to attract homebuyers in the higher income group categories. In the 1990's numerous property transactions exceeded the R1,5 Million mark shifting the average market values substantially during the respective time intervals.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R114,794	17	R225,000	R62,000	R46,046	R1,951,500
Jul-80 - Dec-80	2	R139,355	38	R325,000	R77,000	R46,355	R5,295,500
Jan-81 - Jun-81	3	R141,977	33	R270,000	R66,750	R35,975	R4,685,250
Jul-81 - Dec-81	4	R152,250	28	R300,000	R100,000	R45,424	R4,263,000
Jan-82 - Jun-82	5	R155,389	18	R285,000	R83,000	R47,326	R2,797,000
Jul-82 - Dec-82	6	R180,219	26	R320,000	R90,000	R62,335	R4,685,700
Jan-83 - Jun-83	7	R230,104	25	R375,000	R98,500	R57,596	R5,752,600
Jul-83 - Dec-83	8	R237,168	38	R483,000	R82,000	R84,066	R9,012,400
Jan-84 - Jun-84	9	R241,269	26	R485,000	R103,000	R79,112	R6,273,000
Jul-84 - Dec-84	10	R250,043	21	R465,000	R115,000	R97,042	R5,250,908
Jan-85 - Jun-85	11	R264,929	21	R390,000	R165,000	R64,487	R5,563,500
Jul-85 - Dec-85	12	R266,520	25	R455,000	R187,000	R63,646	R6,663,000
Jan-86 - Jun-86	13	R236,250	26	R500,000	R120,000	R88,395	R6,142,500
Jul-86 - Dec-86	14	R237,714	21	R600,000	R92,000	R102,651	R4,992,000
Jan-87 - Jun-87	15	R249,587	23	R464,000	R93,000	R87,248	R5,740,500
Jul-87 - Dec-87	16	R276,081	27	R635,000	R110,000	R98,449	R7,454,200
Jan-88 - Jun-88	17	R358,500	28	R825,000	R137,000	R156,142	R10,038,000
Jul-88 - Dec-88	18	R412,125	32	R700,000	R250,000	R93,848	R13,188,000
Jan-89 - Jun-89	19	R456,500	43	R960,000	R137,000	R192,117	R19,629,519
Jul-89 - Dec-89	20	R451,448	39	R960,750	R141,500	R179,320	R17,606,479
Jan-90 - Jun-90	21	R660,855	43	R1,550,000	R142,000	R307,180	R28,416,750
Jul-90 - Dec-90	22	R665,750	36	R1,266,000	R156,000	R287,940	R23,967,000
Jan-91 - Jun-91	23	R413,261	61	R1,575,000	R140,000	R266,559	R25,208,900
Jul-91 - Dec-91	24	R732,844	32	R1,800,000	R170,000	R364,516	R23,451,000
Jan-92 - Jun-92	25	R575,229	24	R1,250,000	R240,000	R250,299	R13,805,500
Jul-92 - Dec-92	26	R672,100	15	R1,400,000	R250,000	R331,493	R10,081,500
TOTALS			766				R271,915,206

Table 24. Parkmore : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R114,794					4.48%
Jul-80 - Dec-80	2	R127,075	10.70%	10.70%	Constant	-0.0302	11.97%
Jan-81 - Jun-81	3	R140,666	10.70%	21.39%	Std Err of Y Est	0.1728	19.46%
Jul-81 - Dec-81	4	R147,114	4.58%	25.98%	R Squared	0.0008	26.95%
Jan-82 - Jun-82	5	R153,820	4.56%	30.54%	No. of Observations	24	34.44%
Jul-82 - Dec-82	6	R167,804	9.09%	39.63%	Degrees of Freedom	22	41.93%
Jan-83 - Jun-83	7	R205,162	22.26%	61.89%			49.42%
Jul-83 - Dec-83	8	R233,636	13.88%	75.77%	X Coefficient(s)	-0.0007	56.91%
Jan-84 - Jun-84	9	R239,219	2.39%	78.16%	Std Err of Coef.	0.0051	64.40%
Jul-84 - Dec-84	10	R245,656	2.69%	80.85%			71.89%
Jan-85 - Jun-85	11	R257,486	4.82%	85.66%			79.38%
Jul-85 - Dec-85	12	R265,725	3.20%	88.86%			86.88%
Jan-86 - Jun-86	13	R251,385	-5.40%	83.47%			94.37%
Jul-86 - Dec-86	14	R236,982	-5.73%	77.74%			101.86%
Jan-87 - Jun-87	15	R243,651	2.81%	80.55%			109.35%
Jul-87 - Dec-87	16	R262,834	7.87%	88.43%			116.84%
Jan-88 - Jun-88	17	R317,291	20.72%	109.14%			124.33%
Jul-88 - Dec-88	18	R385,313	21.44%	130.58%			131.82%
Jan-89 - Jun-89	19	R434,313	12.72%	143.30%			139.31%
Jul-89 - Dec-89	20	R453,974	4.53%	147.83%			146.80%
Jan-90 - Jun-90	21	R556,152	22.51%	170.33%			154.29%
Jul-90 - Dec-90	22	R663,303	19.27%	189.60%			161.78%
Jan-91 - Jun-91	23	R539,506	-18.66%	170.94%			169.28%
Jul-91 - Dec-91	24	R573,053	6.22%	177.16%			176.77%
Jan-92 - Jun-92	25	R654,037	14.13%	191.29%			184.26%
Jul-92 - Dec-92	26	R623,665	-4.64%	186.64%			191.75%
TOTALS					AV. Appreciation p.a.		14.98%

Table 25. Parkmore : Capital Appreciation 1980-1992

The market values have increased from around R115 000 in 1980 to around R730 000 in 1991 and thereafter declined to around R670 000 in 1992. The capital appreciation has shown an impressive growth of around 190% with an average annual appreciation of around 15%, although, as seen from Figure 39. the annualised appreciation tends to be somewhat erratic. Appreciation between 1982-1985 and 1987-1990 has shown substantial appreciation but has underperformed during the remaining years. The demand for property in the Parkmore area remains good with around 760 transactions taking place during the thirteen years. Demand for property is resilient to external influence as can be seen by the number of property transactions that have taken place over thirteen years.

FIGURE 37.

PARKMORE
SCATTER PLOT 1980-1992

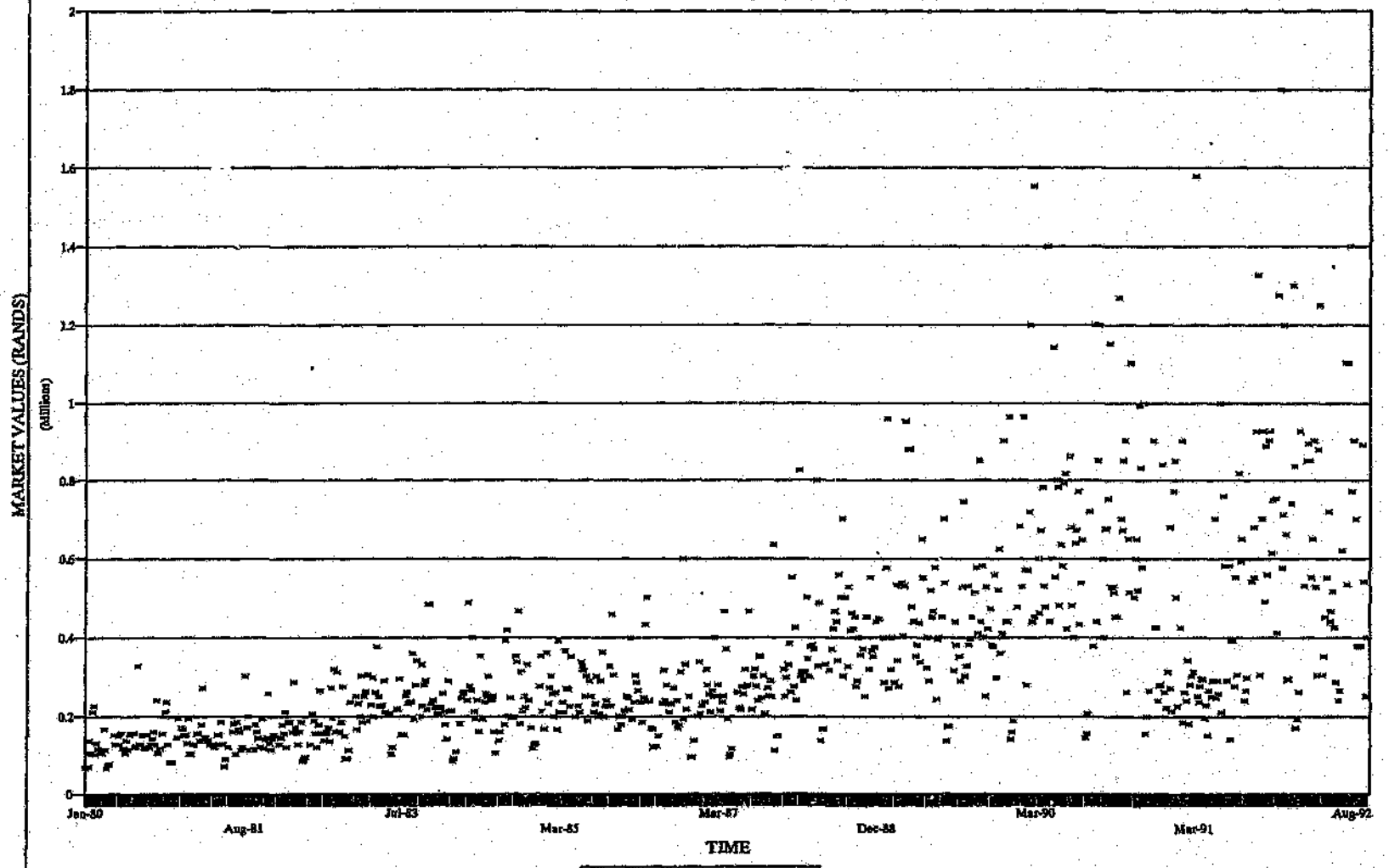


FIGURE 38.

PARKMORE
MARKET VALUES : 1980-1992

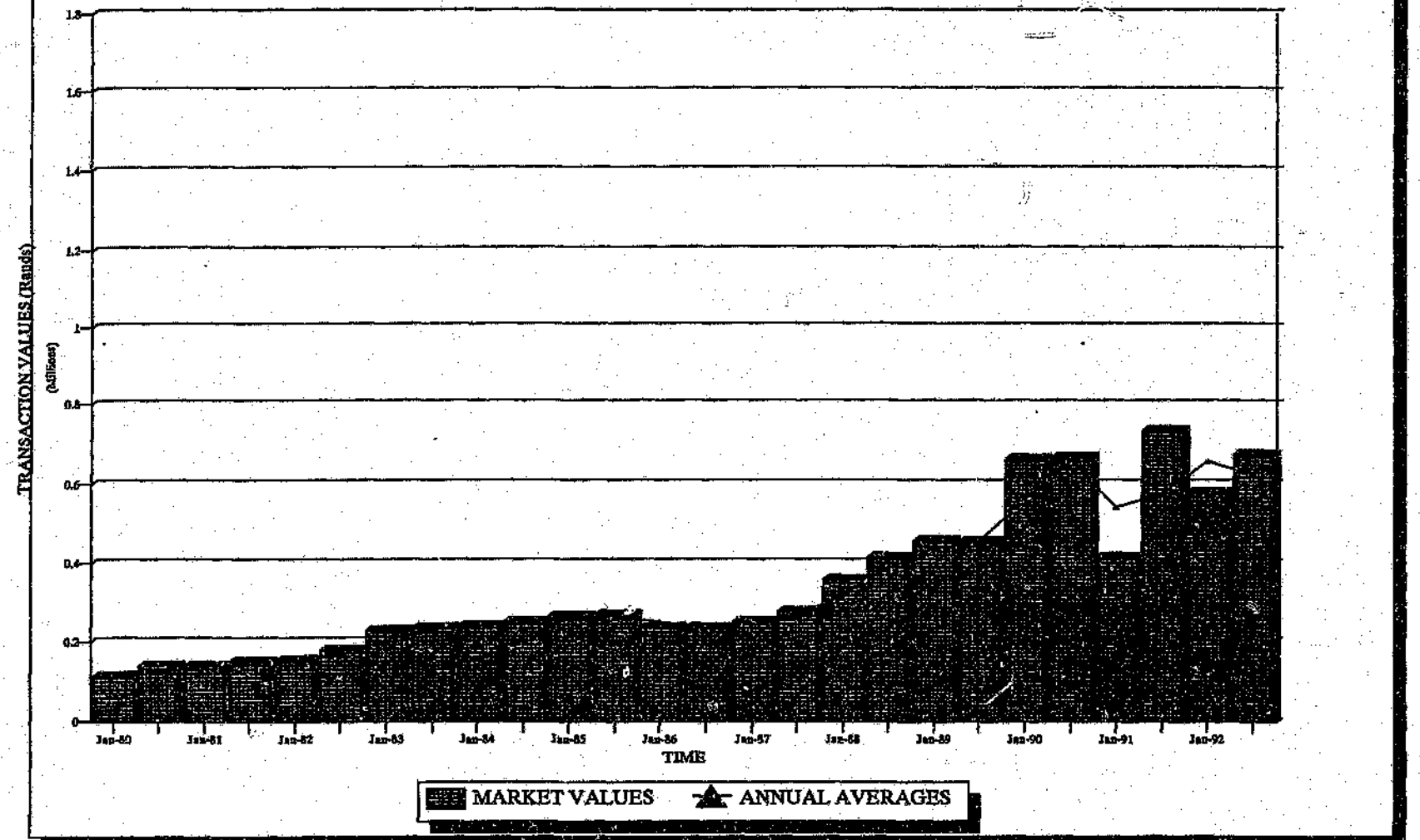
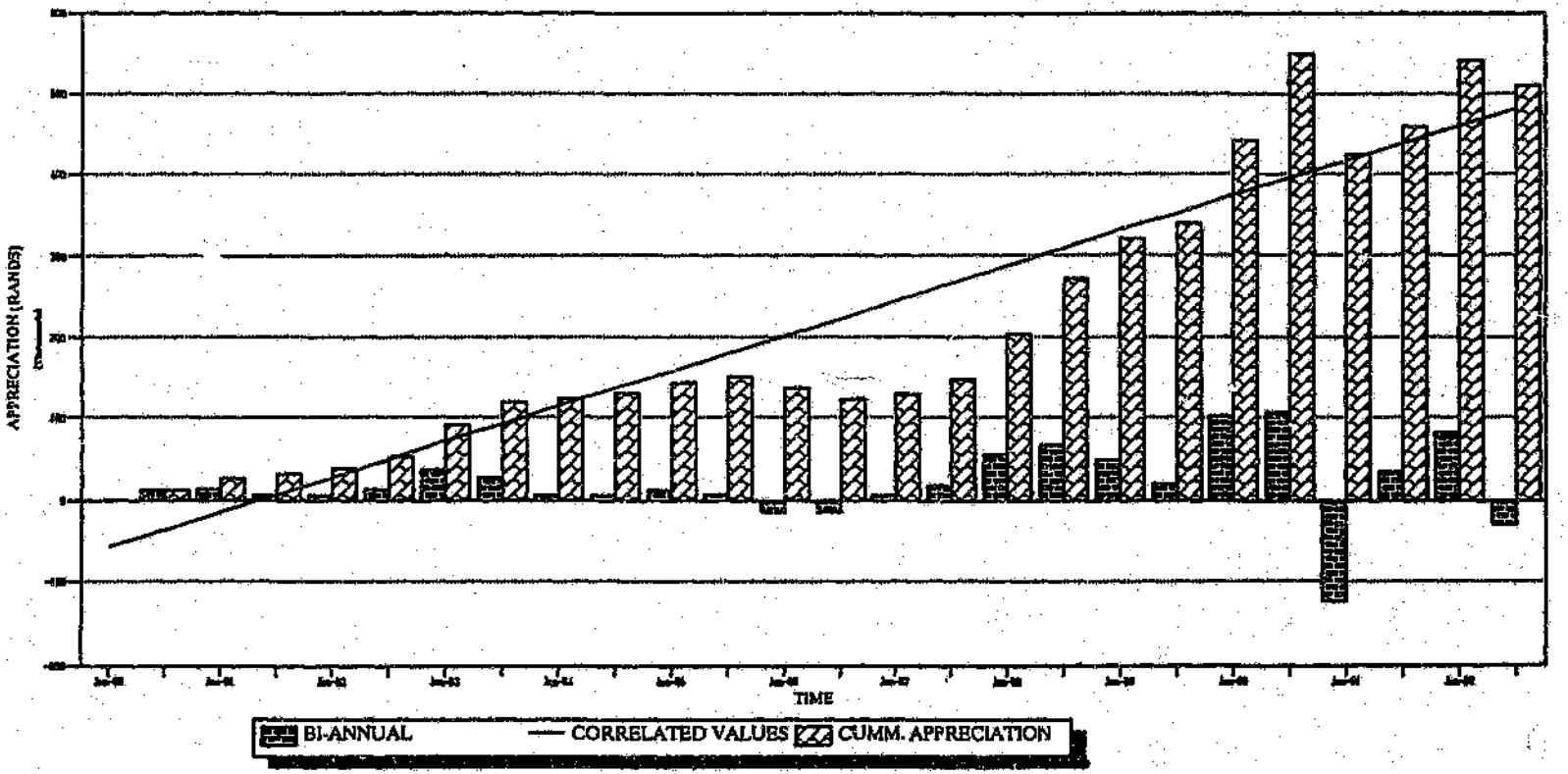


FIGURE 39.

PARKMORE
PROPERTY APPRECIATION : 1980-1992



16.12 PARKTOWN NORTH

Parktown North is a well established area in Johannesburg and is in the process of change. Parktown North has recently changed from an area attracting middle income earners to a slightly upmarket area as well attracting developers as the potential for commercial developments increases. Reasons for the change in the status of the residential properties could be the accessibility to most major centers as well as the close proximity to highways. As can be seen from Figure 40 and 41. market values have shown a gradual divergence throughout the thirteen years. This could be attributed to properties in close proximity to existing commercial developments increasing in value as the potential for rezoning increases.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R66,784	22	R104,000	R46,000	R16,610	R1,469,250
Jul-80 - Dec-80	2	R79,920	57	R135,000	R47,000	R20,488	R4,555,450
Jan-81 - Jun-81	3	R93,605	38	R140,000	R55,000	R20,144	R3,557,000
Jul-81 - Dec-81	4	R96,481	34	R165,000	R57,600	R25,846	R3,280,350
Jan-82 - Jun-82	5	R109,163	19	R167,250	R60,000	R30,614	R2,074,100
Jul-82 - Dec-82	6	R121,134	28	R200,000	R65,000	R29,116	R3,391,750
Jan-83 - Jun-83	7	R136,067	41	R245,000	R62,250	R37,096	R5,578,750
Jul-83 - Dec-83	8	R142,084	37	R255,000	R72,000	R40,991	R5,257,100
Jan-84 - Jun-84	9	R154,063	40	R300,000	R82,000	R45,623	R6,162,500
Jul-84 - Dec-84	10	R143,603	29	R210,000	R90,000	R32,575	R4,164,500
Jan-85 - Jun-85	11	R138,788	34	R380,000	R80,000	R56,934	R4,718,800
Jul-85 - Dec-85	12	R128,827	37	R200,000	R75,000	R30,971	R4,766,600
Jan-86 - Jun-86	13	R136,664	41	R250,000	R76,514	R39,557	R5,603,222
Jul-86 - Dec-86	14	R137,411	38	R270,000	R74,000	R46,950	R5,221,600
Jan-87 - Jun-87	15	R138,865	50	R250,000	R74,000	R41,494	R6,943,250
Jul-87 - Dec-87	16	R157,235	39	R275,000	R75,000	R46,777	R6,132,148
Jan-88 - Jun-88	17	R195,762	42	R385,000	R110,000	R61,539	R8,222,000
Jul-88 - Dec-88	18	R191,656	45	R425,000	R80,000	R65,028	R8,624,500
Jan-89 - Jun-89	19	R225,082	55	R475,000	R95,000	R82,567	R12,379,500
Jul-89 - Dec-89	20	R241,898	44	R605,000	R135,000	R81,781	R10,643,500
Jan-90 - Jun-90	21	R291,968	57	R665,000	R130,000	R107,586	R16,642,200
Jul-90 - Dec-90	22	R286,806	49	R695,000	R120,000	R99,173	R14,053,500
Jan-91 - Jun-91	23	R307,250	41	R650,000	R130,000	R106,272	R12,597,250
Jul-91 - Dec-91	24	R331,658	38	R565,000	R145,000	R114,346	R12,603,000
Jan-92 - Jun-92	25	R349,818	33	R700,000	R180,000	R105,803	R11,544,000
Jul-92 - Dec-92	26	NO INFO					
TOTALS			988				R180,185,820

Table 26. Parktown North: Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cummulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R66,784					17.49%
Jul-80 - Dec-80	2	R73,352	9.83%	9.83%	Constant	0.1144	23.54%
Jan-81 - Jun-81	3	R86,763	18.28%	28.12%	Std Err of Y Est	0.1338	29.59%
Jul-81 - Dec-81	4	R95,043	9.54%	37.66%	R Squared	0.9144	35.64%
Jan-82 - Jun-82	5	R102,822	8.18%	45.85%	No. of Observations	24	41.69%
Jul-82 - Dec-82	6	R115,149	11.99%	57.83%	Degrees of Freedom	22	47.74%
Jan-83 - Jun-83	7	R128,601	11.68%	69.52%			53.79%
Jul-83 - Dec-83	8	R139,076	8.15%	77.66%	X Coefficient(s)	0.0605	59.84%
Jan-84 - Jun-84	9	R148,074	6.47%	84.13%	Std Err of Coef.	0.0039	65.89%
Jul-84 - Dec-84	10	R148,833	0.51%	84.64%			71.95%
Jan-85 - Jun-85	11	R141,196	-5.13%	79.51%			78.00%
Jul-85 - Dec-85	12	R133,803	-5.23%	74.28%			84.05%
Jan-86 - Jun-86	13	R132,746	-0.79%	73.49%			90.10%
Jul-86 - Dec-86	14	R137,038	3.23%	76.72%			96.15%
Jan-87 - Jun-87	15	R138,138	0.80%	77.52%			102.20%
Jul-87 - Dec-87	16	R148,050	7.18%	84.70%			108.25%
Jan-88 - Jun-88	17	R176,499	19.22%	103.91%			114.30%
Jul-88 - Dec-88	18	R193,709	9.75%	113.66%			120.35%
Jan-89 - Jun-89	19	R208,369	7.57%	121.23%			126.40%
Jul-89 - Dec-89	20	R233,490	12.06%	133.29%			132.45%
Jan-90 - Jun-90	21	R266,933	14.32%	147.61%			138.50%
Jul-90 - Dec-90	22	R289,387	8.41%	156.02%			144.55%
Jan-91 - Jun-91	23	R297,028	2.64%	158.66%			150.60%
Jul-91 - Dec-91	24	R319,454	7.55%	166.21%			156.66%
Jan-92 - Jun-92	25	R340,738	6.66%	172.88%			162.71%
Jul-92 - Dec-92	26						168.76%
TOTALS					AV. Appreciation p.a.		12.10%

Table 27. Parktown North: Capital Appreciation 1980-1992

In addition, restoration of existing housing earmarked for office use tends to increases the market value of these properties.The average market values have increased from around R67 000 in 1980 to around R350 000 in 1992. The capital appreciation has shown an impressive growth of around 173% with an average annual appreciation of around 12%, although as seen from Figure 42. the annualised appreciation tends to be somewhat erratic. 1982-1985 and 1987-1992 have shown substantial appreciation that could continue in years to come as 'commercial sprawl' continues to capture the Parktown North market.

FIGURE 40.

PARKTOWN NORTH
SCATTER PLOT : 1980 - 1992

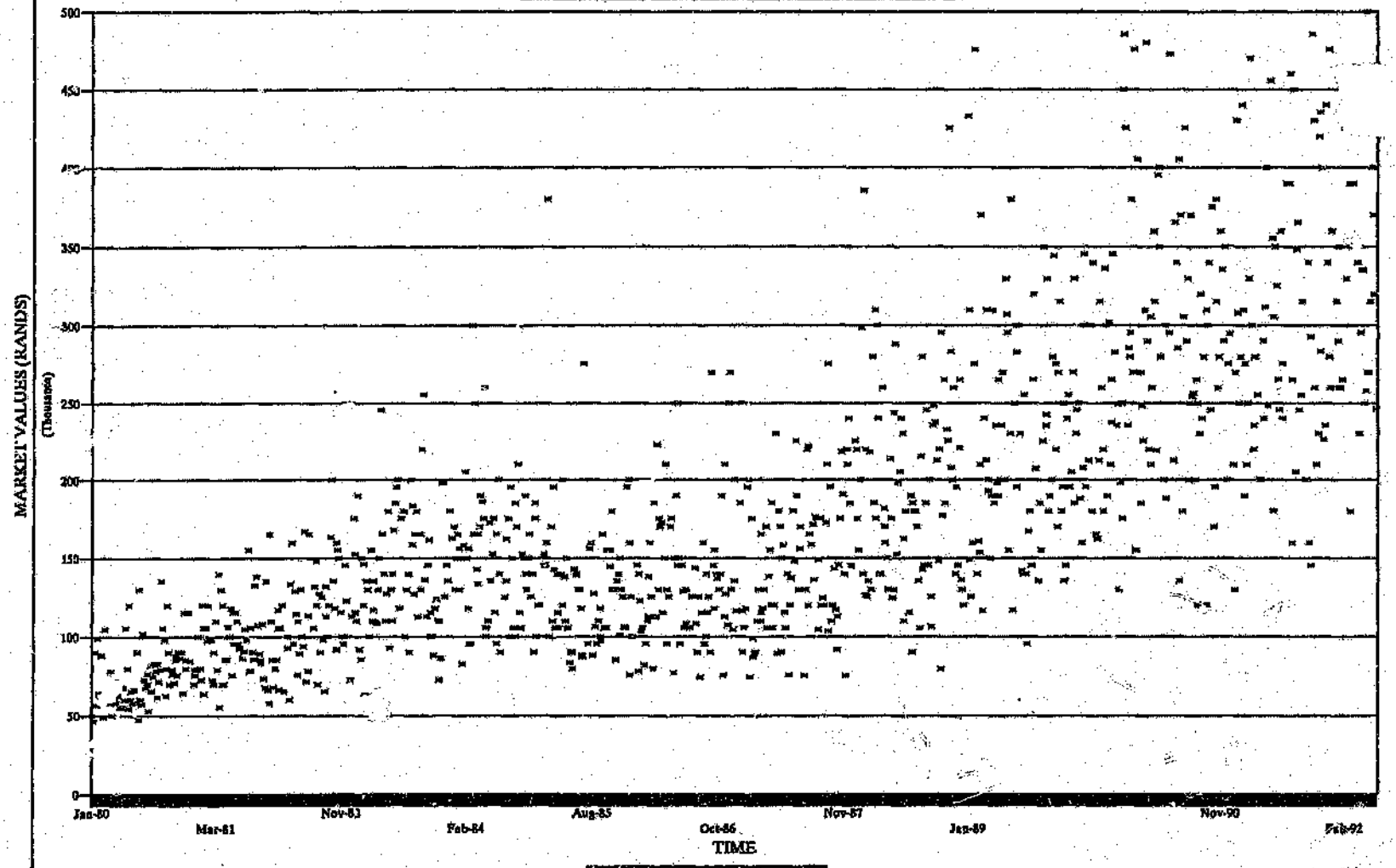


FIGURE 41.

PARKTOWN NORTH
MARKET VALUES 1980-1993

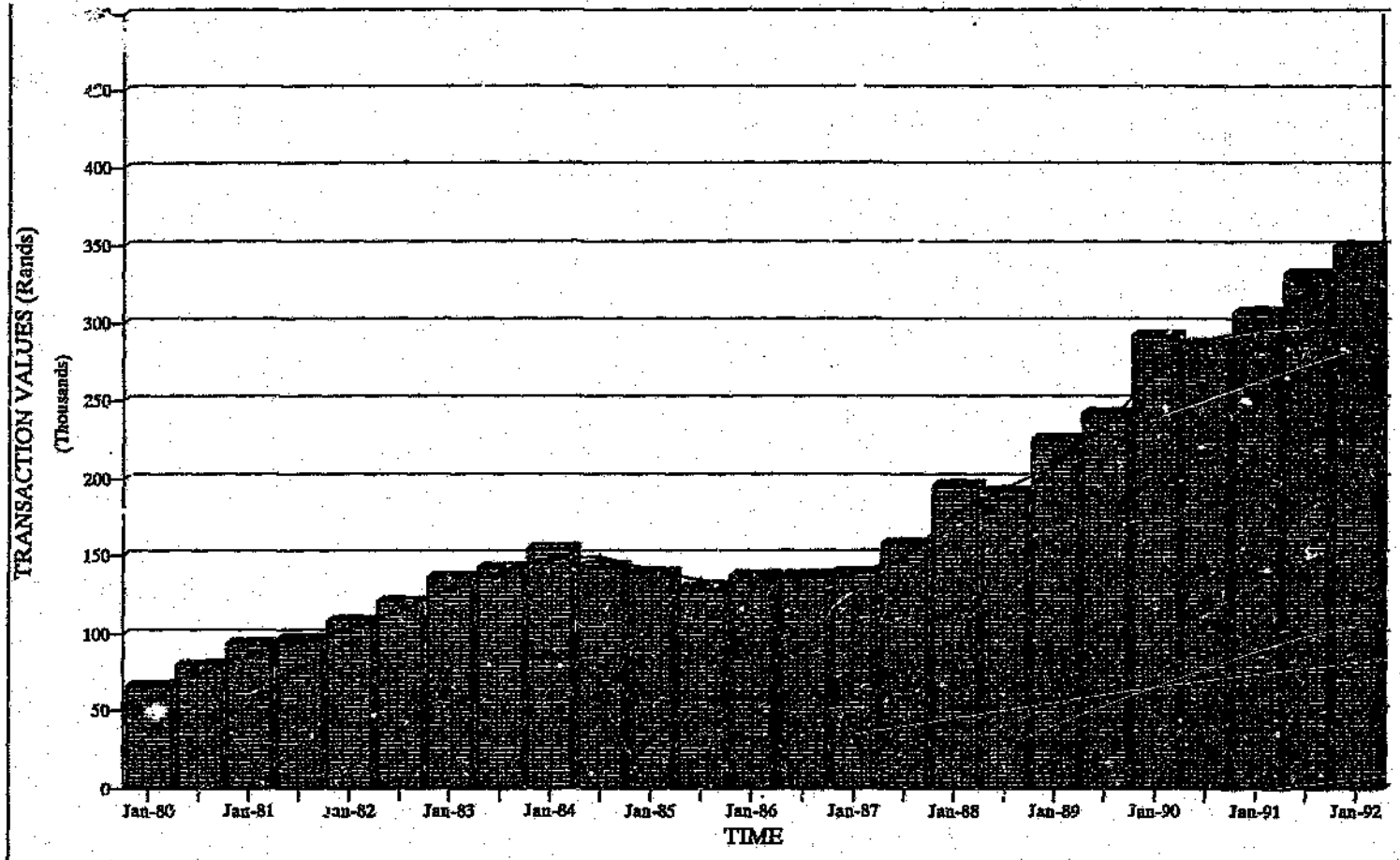
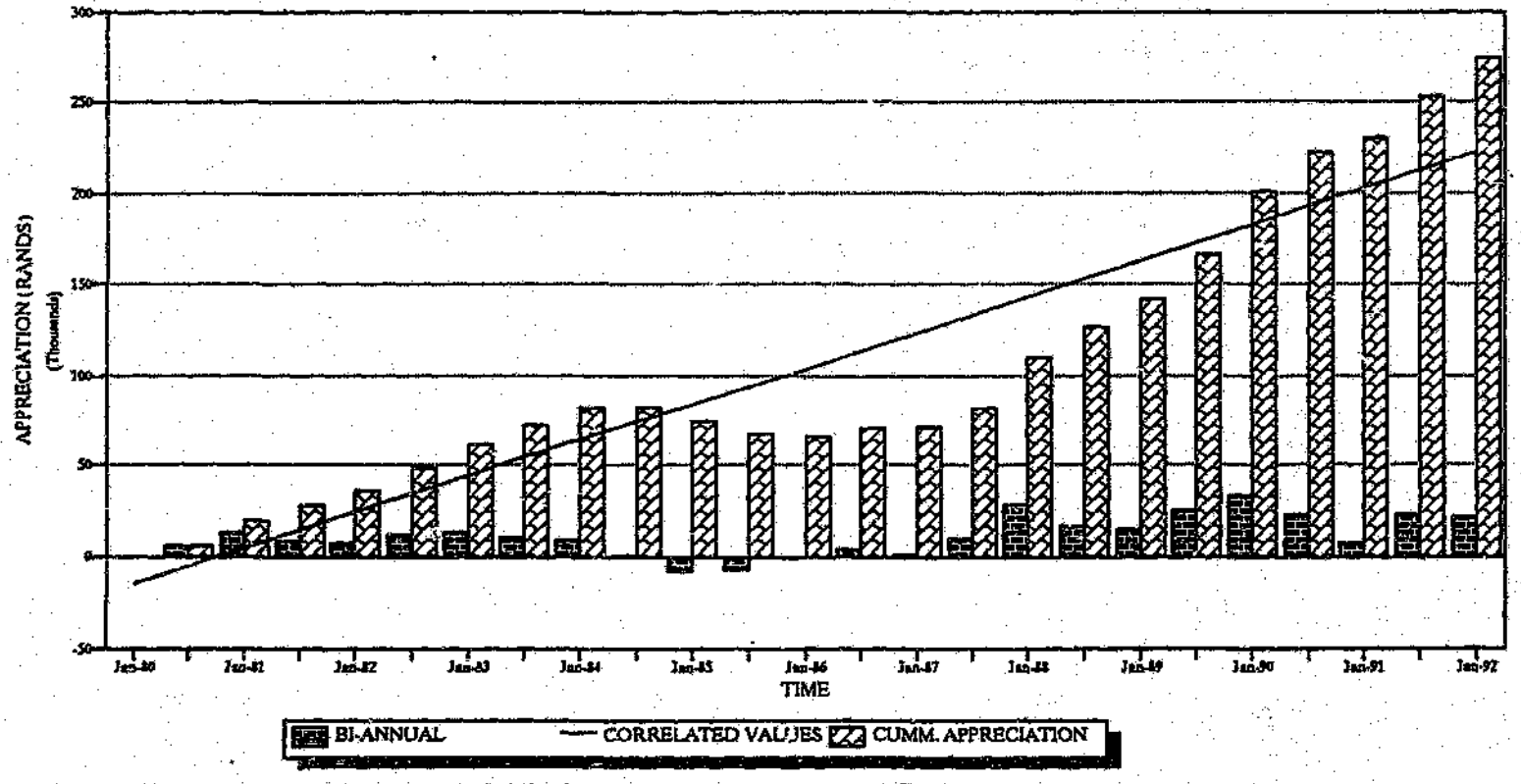


FIGURE 42.

PARKTOWN NORTH
PROPERTY APPRECIATION : 1980-1993



16.13 WESTCLIFF

This suburb, located in the Johannesburg Magisterial district is a well established affluent area. Westcliff has shown good growth throughout the thirteen year period. The physical attributes of the properties, namely, sizes of erven as well large established homes, have created an upper market niche accessible to a small portion of the homebuyers market. Westcliff has shown a rather erratic growth trend, appreciating substantially in certain time periods, and declining in others. The market values have shown an increase from around R118 000 in 1980 to market values in excess of R650 000 in early 1992 before declining to around R450 000 in the latter part of 1992. As illustrated in Figure 43 and 44., market values have shown an increasing deviation from the average values with properties being sold in excess of R900 000 between 1988 and 1992 period.

Sample Period	Sample Intervals	Average Price	No of Sales	Max Value	Min Value	STD Deviation	Total Sales
Jan-80 - Jun-80	1	R118,438	8	R150,000	R85,000	R19,277	R947,500
Jul-80 - Dec-80	2	R138,030	5	R179,150	R110,000	R25,236	R690,150
Jan-81 - Jun-81	3	R162,731	13	R345,000	R98,000	R62,282	R2,115,500
Jul-81 - Dec-81	4	R177,857	7	R240,000	R104,000	R45,019	R1,245,000
Jan-82 - Jun-82	5	R137,500	3	R177,500	R110,000	R28,940	R412,500
Jul-82 - Dec-82	6	R201,250	NO INFO	NO INFO	NO INFO	NO INFO	NO INFO
Jan-83 - Jun-83	7	R265,000	9	R500,000	R145,000	R114,988	R2,385,000
Jul-83 - Dec-83	8	R192,000	3	R198,000	R180,000	R8,485	R576,000
Jan-84 - Jun-84	9	R261,857	7	R430,000	R175,000	R82,189	R1,833,000
Jul-84 - Dec-84	10	R275,000	3	R325,000	R200,000	R54,006	R825,000
Jan-85 - Jun-85	11	R254,400	5	R315,000	R205,000	R42,889	R1,272,000
Jul-85 - Dec-85	12	R232,818	8	R335,000	R160,000	R56,307	R1,862,545
Jan-86 - Jun-86	13	R247,250	4	R300,000	R220,000	R31,744	R989,000
Jul-86 - Dec-86	14	R286,015	13	R525,200	R151,000	R102,089	R3,718,200
Jan-87 - Jun-87	15	R374,000	5	R700,000	R210,000	R195,202	R1,870,000
Jul-87 - Dec-87	16	R309,167	6	R450,000	R190,000	R97,486	R1,855,000
Jan-88 - Jun-88	17	R266,667	3	R280,000	R260,000	R9,428	R800,000
Jul-88 - Dec-88	18	R389,091	11	R600,000	R215,000	R11[illegible]127	R4,280,000
Jan-89 - Jun-89	19	R608,000	4	R950,000	R315,000	R254,685	R2,432,000
Jul-89 - Dec-89	20	R547,500	8	R735,000	R350,000	R127,328	R4,380,000
Jan-90 - Jun-90	21	R558,827	7	R1,190,000	R315,000	R281,183	R3,911,788
Jul-90 - Dec-90	22	R596,111	9	R840,000	R300,000	R209,865	R5,365,000
Jan-91 - Jun-91	23	R625,000	8	R975,000	R340,000	R216,131	R5,000,000
Jul-91 - Dec-91	24	R547,500	8	R930,000	R400,000	R172,446	R4,380,000
Jan-92 - Jun-92	25	R696,111	9	R1,000,000	R385,000	R178,991	R6,265,000
Jul-92 - Dec-92	26	R455,000	2	R535,000	R375,000	R80,000	R910,000
TOTALS			168				R60,320,183

Table 28. Westcliff : Summary of Record of Transfers 1980-1992

Sample Period	Sample Intervals	Annualised Averages	Bi-Annual Appreciation	Cumulative Appreciation	Linear Correlation Long Term Appreciation		Correlated Values
Jan-80 - Jun-80	1	R118,438					7.58%
Jul-80 - Dec-80	2	R128,234	8.27%	8.27%	Constant	-0.0029	15.44%
Jan-81 - Jun-81	3	R150,381	17.27%	25.54%	Std Err of Y Est	0.1552	23.30%
Jul-81 - Dec-81	4	R170,294	13.24%	38.78%	R Squared	0.9355	31.17%
Jan-82 - Jun-82	5	R157,679	-7.41%	31.38%	No. of Observations	25	39.03%
Jul-82 - Dec-82	6	R169,375	7.42%	38.79%	Degrees of Freedom	23	46.90%
Jan-83 - Jun-83	7	R233,125	37.64%	76.43%			54.76%
Jul-83 - Dec-83	8	R228,500	-1.98%	74.45%	X Coefficient(s)	0.0786	62.63%
Jan-84 - Jun-84	9	R226,929	-0.69%	73.76%	Std Err of Coef.	0.0043	70.49%
Jul-84 - Dec-84	10	R268,429	18.29%	92.05%			78.36%
Jan-85 - Jun-85	11	R264,700	-1.39%	90.66%			86.22%
Jul-85 - Dec-85	12	R243,609	-7.97%	82.69%			94.09%
Jan-86 - Jun-86	13	R240,034	-1.47%	81.22%			101.95%
Jul-86 - Dec-86	14	R266,633	11.08%	92.30%			109.81%
Jan-87 - Jun-87	15	R330,008	23.77%	116.07%			117.68%
Jul-87 - Dec-87	16	R341,584	3.51%	119.58%			125.54%
Jan-88 - Jun-88	17	R287,917	-15.71%	103.87%			133.41%
Jul-88 - Dec-88	18	R327,879	13.88%	117.75%			141.27%
Jan-89 - Jun-89	19	R498,546	52.05%	169.80%			149.14%
Jul-89 - Dec-89	20	R577,750	15.89%	185.69%			157.00%
Jan-90 - Jun-90	21	R553,164	-4.26%	181.43%			164.87%
Jul-90 - Dec-90	22	R577,469	4.39%	185.83%			172.73%
Jan-91 - Jun-91	23	R610,556	5.73%	191.56%			180.59%
Jul-91 - Dec-91	24	R586,250	-3.98%	187.58%			188.46%
Jan-92 - Jun-92	25	R621,806	6.06%	193.64%			196.32%
Jul-92 - Dec-92	26	R575,556	-7.44%	186.20%			204.19%
TOTALS					AV. Appreciation p.a.		15.73%

Table 29. Westcliff : Capital Appreciation 1980-1992

The cause of the divergence in market values can be attributed to increased demand for residential properties in affluent areas that are in close proximity to the CBD of Johannesburg and Sandton, as well as easy access to major centers and highways. Capital appreciation as seen from figure 45. has shown impressive growth, increasing by around 190% throughout the thirteen years, with an annualised increase of approximately 15.7%. The percentage capital appreciation outperforms the average appreciation on numerous occasions during 1982-1983 as well as 1988-1991, but seems unpredictable as the annual appreciation is erratic. This can be attributed to few transactions taking place on an annual basis and depending on the properties sold, could influence the average market values substantially. Although capital appreciation is unpredictable in the short term, growth over the long term is impressive.

FIGURE 43.

WESTCLIFF / WESTCLIFF EXTENSION
SCATTER PLOT: 1980 - 1992

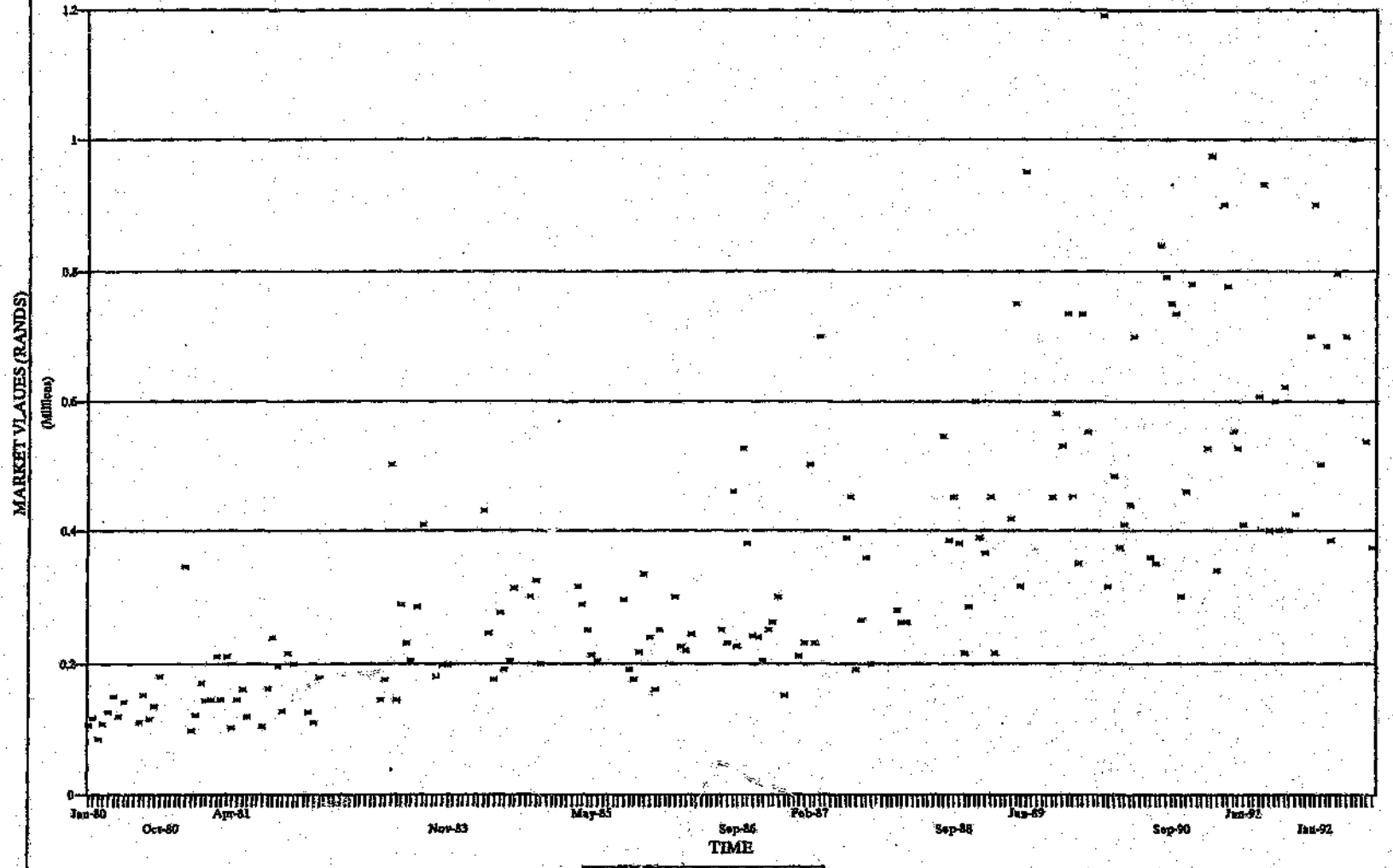


FIGURE 44.

WESTCLIFF
MARKET VALUES : 1980-1993

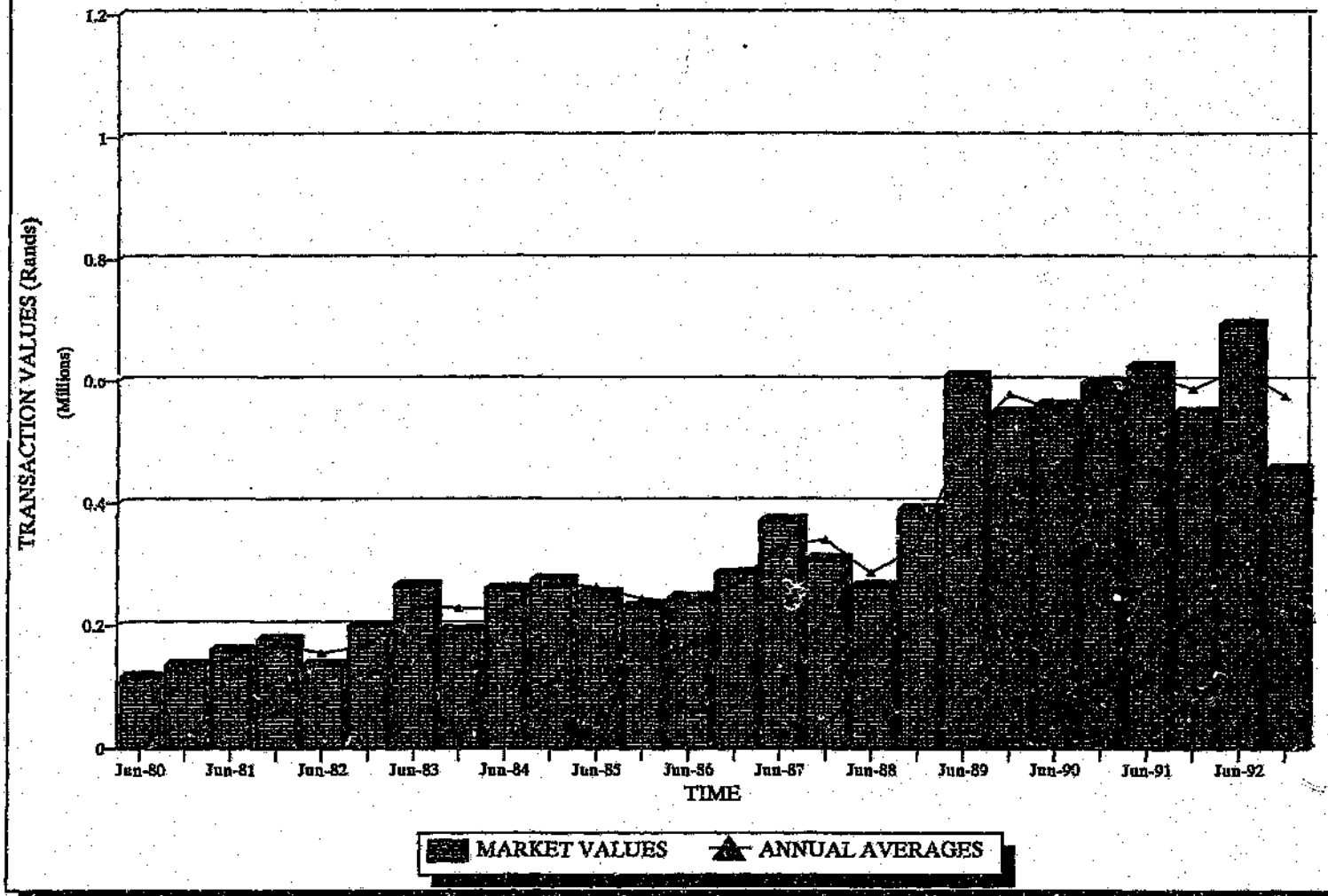
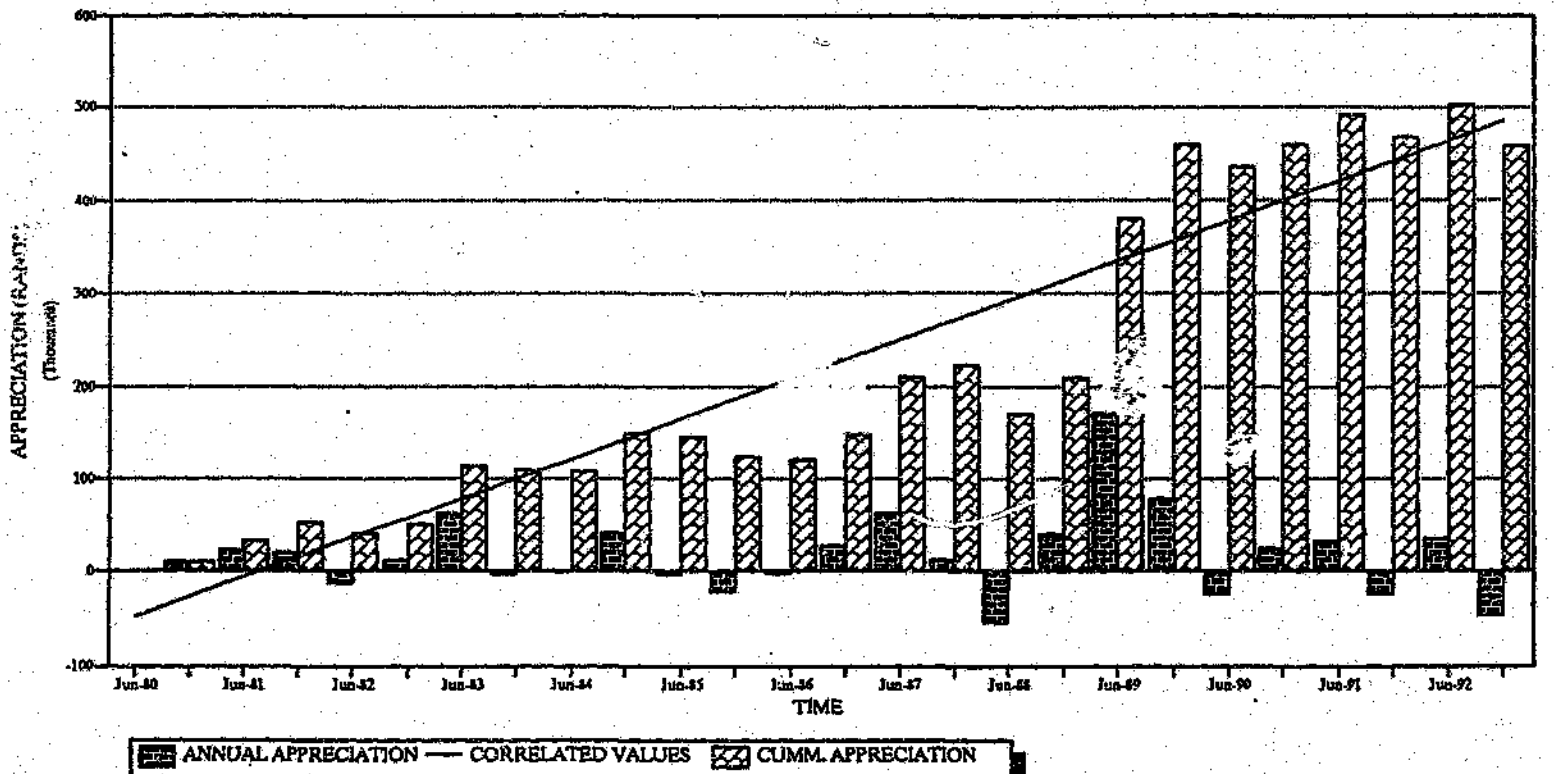


FIGURE 45.

WESTCLIFF
PROPERTY APPRECIATION : 1980-1992



17. CONCLUSIONS

Each suburb researched shows distinct characteristics regarding style, functional utility and location that makes it successful. Economic indicators present in the market, influence the property market to a certain extent. The suburbs researched in this report will now be categorised so as to compare each sample group to the macro economic indicators to assess the impact these indicators have on the property market. In addition the capital appreciation in these residential properties will be compared to returns obtained from property unit trusts.

The sample suburbs are categorised according to their status, market values, and capital appreciation generated during the past thirteen years. The following categories are analysed to determine the correlation between property values and macro economic indicators including property trusts.

Category 1. Residential Properties

These suburbs comprise of Bezuidenhout Valley that is a lower to middle income area, Blairgowrie, Cyrildene, and Emmarentia that are established middle income areas, and Fairlands that is a relatively new middle income area.

Category 2. Residential Properties in Melville and Parktown North have been influenced by demand from a different sector in the home buyers market and are categorised separately.

Category 3. Residential Properties

Bryanston, Dunkeld, Houghton, Linksfield, Parkmore and Westcliff are all middle to upperclass income areas attracting the more affluent homebuyer.

During the period 1980-1984 market values showed a steady growth in all suburbs. Following the noticeable decline in the business cycle during 1984-1986, the market

values for properties, decreased in all sample areas, with the exception of Bryanston. Bryanston was the only suburb that did not show any decrease in market values, showing resilience to any external influence. Figures 46. and 47. illustrating lower to middle income areas, do not show a substantial decline in market values during the 1984-1986 economic slump, but market values in more affluent areas such as Dunkeld, Linksfield and Parkmore, were adversely affected by the decline in the business cycles shown in Figure 48. An upswing in the business cycle, that peaked around the end of 1989 when economic growth was at its optimum, showed substantial growth in market values. This is predominant in the more affluent areas where all the upmarket suburbs responded admirably to the upturn in the economy. Thereafter, the economic growth waned until the end of 1992 which has created uncertainty in the property market, predominantly in affluent areas. Market values tended to be erratic and without any direction. During the same time period, market values in the lower to middle income areas showed a steady increase with minor undulations being encountered in the middle income suburbs.

The business cycle does not appear to have bottom out yet as it is still continuing with its decline which began in 1989. The market values, predominantly in the upper income areas, will be greatly affected by this downward trend, generating uncertainty in investors minds as well as making the property market unpredictable and very risky.

There seems to be a very close correlation between business cycle and the sensitivity of property values. Property values in uppermarket suburbs are sensitive to any change in the business cycle, but middle to lower income areas seem to be more resilient to any external influence dictated by the economy.

FIGURE 46.

AVERAGE MARKET VALUES (1980-1992)
CATEGORY 1. RESIDENTIAL PROPERTIES

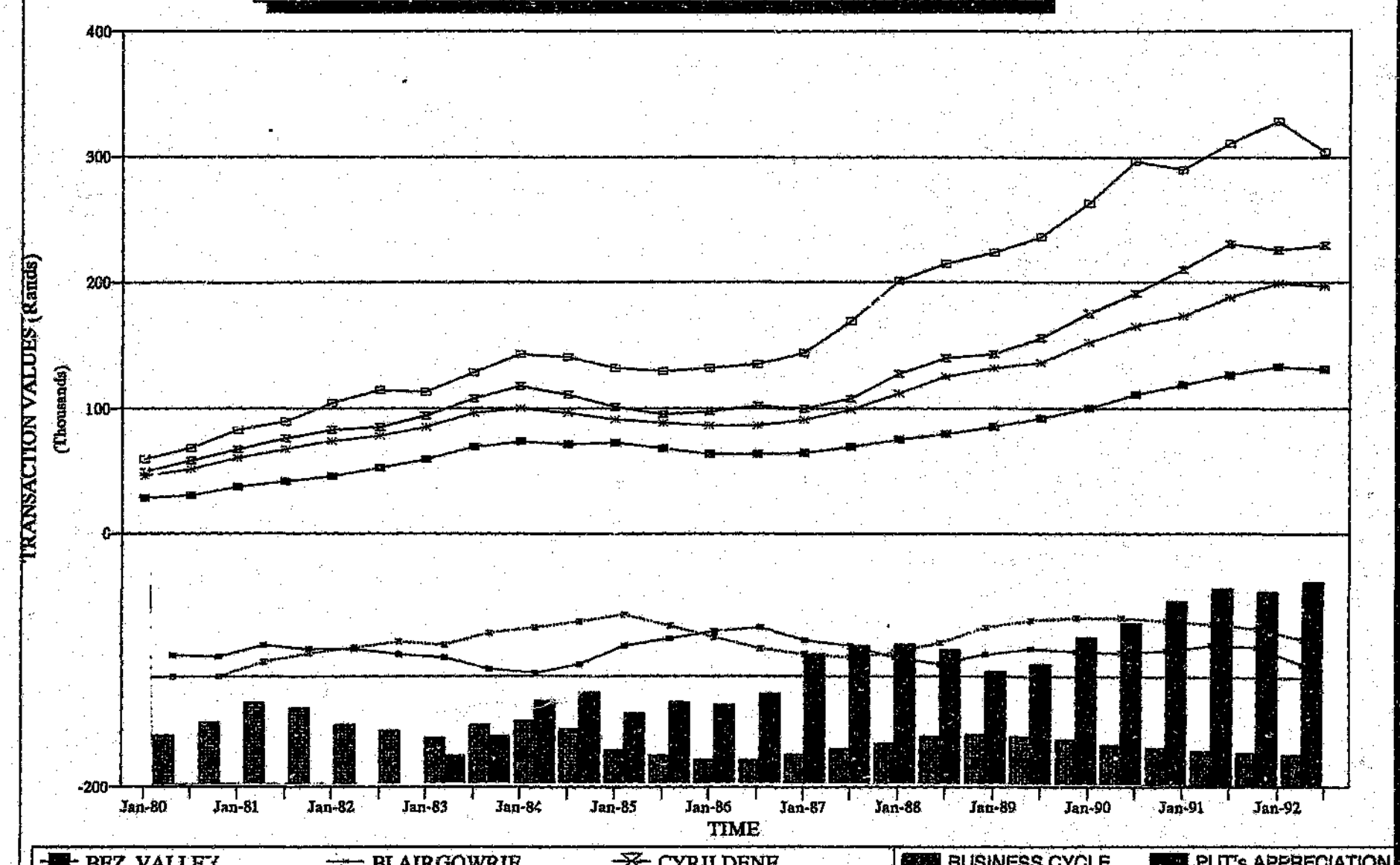


FIGURE 47.

AVERAGE MARKET VALUES (1980-1992)
CAREGORY 2. RESIDENTIAL PROPERTIES

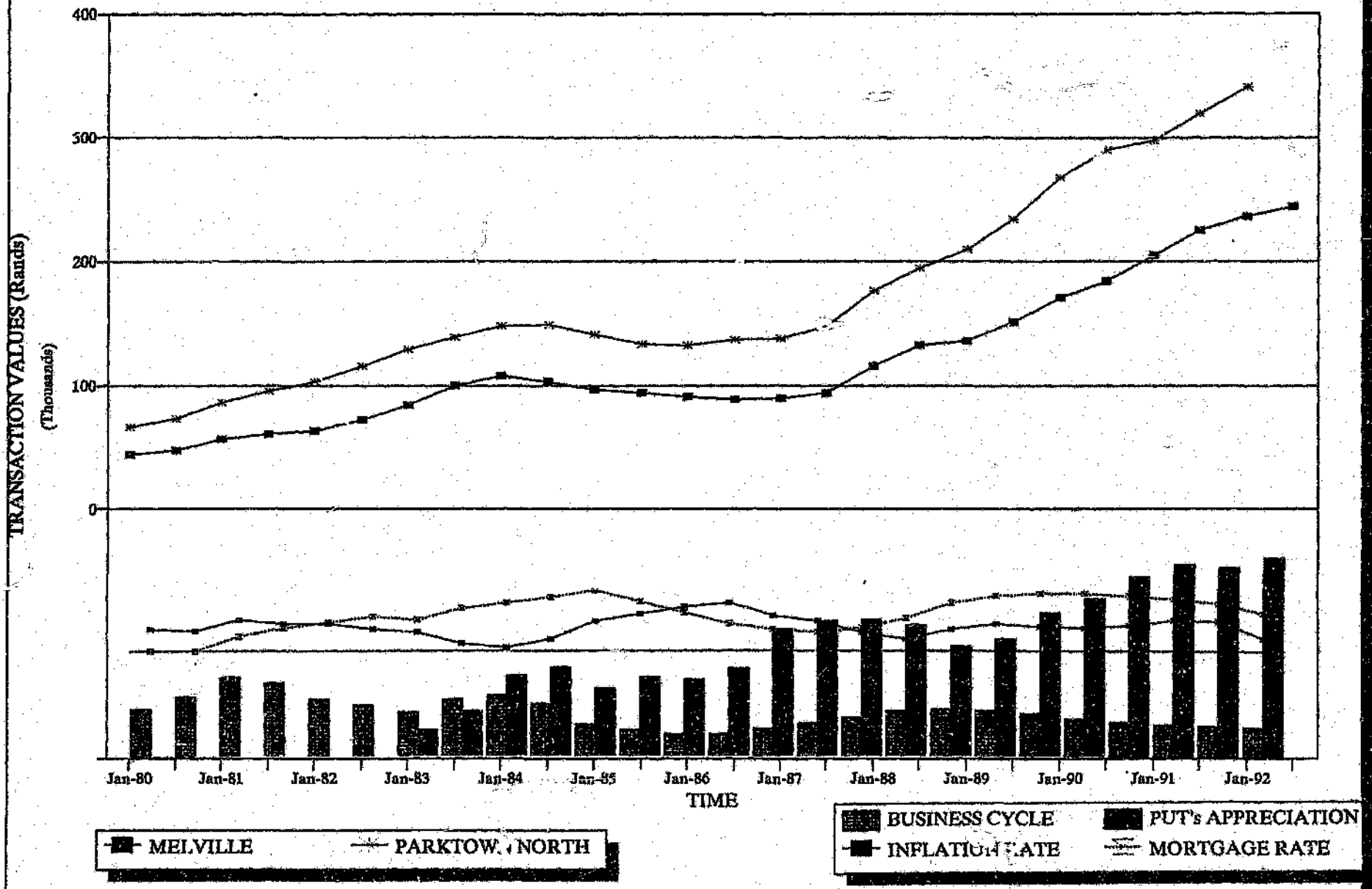
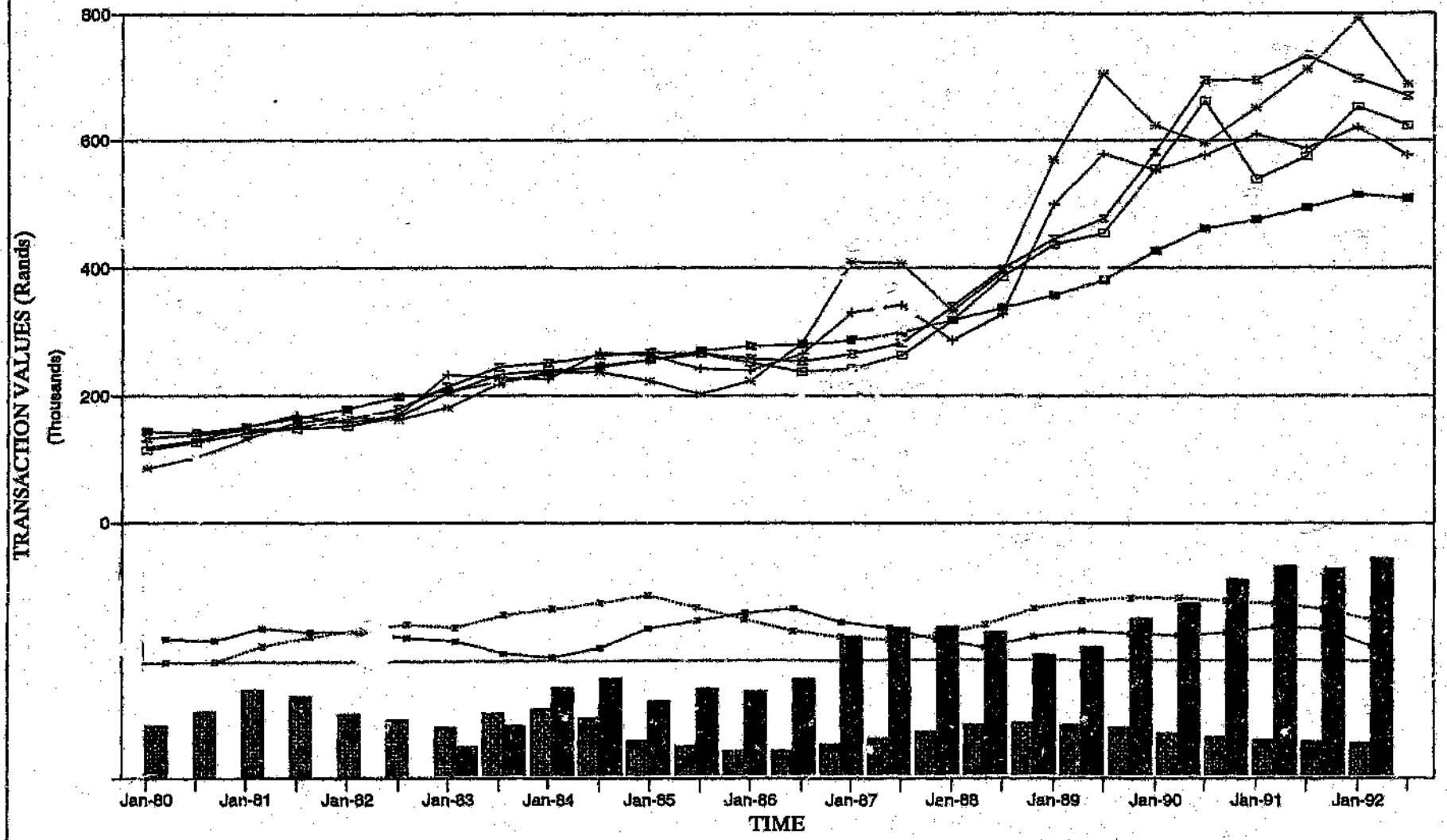


FIGURE 48.

AVERAGE MARKET VALUES (1980-1992)
CATEGORY 3. RESIDENTIAL PROPERTIES



The Business Confidence Index introduced by SACOB during 1986, gives a good indication of movements in the residential property market. The future of the residential property market is dependant on business confidence in the economy. As business confidence is still in decline, market values show erratic growth patterns. If confidence continues to decline in years to come, demand for residential property will decreases significantly as uncertainty regarding returns increases.

Growth in the residential market has shown a declining trend during the early 1990's, predominantly in the R300 000 and upwards pricing category. Investors are uncertain about the confidence in the property market and have rather invested in commodities more liquid in nature.

During the years of economic decline and apprehension amongst property investors, mortgage rates began to decline (as is illustrated in Figures 46. to 48.) in order to stimulate the property market. The inflation rate increased during the same time period as a result of the economy being injected with 'cash', creating more affordable conditions for the prospective homebuyers. Usually, the inflation cycle and the mortgage cycle are out of phase with each other as illustrated during 1980-1989. An unusual trend to note is during the late 80's and early 90's, as the business cycle declined, mortgage rates as well as the inflation rate declined and in so doing created a lucrative environment to stimulate growth in the property market.

With the exception of the 1990-1992 period, there is a relatively good correlation between the mortgage cycle and growth encountered in the residential property market. In addition, there is an inverse correlation between the inflation cycle and the growth patterns in the residential property market. The uppermarket areas have shown a sensitive response to the fluctuation in the mortgage and inflation rates.

During the 1990-1992 period the lack of investors confidence has been dominant and therefore demand in property has waned.

During the 1990-1992 period, with the decreasing inflation and mortgage rates, investors have not reacted vigorously to the increased incentive as the lack of confidence is prominent, and this has attributed to the depressed demand encountered in the property market.

Property Unit Trusts (PUT's) have in general under performed most alternative investments, from investing in fixed property to the capital and money markets listed on the JSE. Growth earnings of the PUT's have been adversely affected by the sluggish economy and lack of confidence, especially over the last two years during which the property markets have been in decline. The property market has under performed relative to the financial and industrial markets. This is highlighted in the following table of 'JSE Actuaries Indices' where the PUT's current indices are trading below its October 1987 pre-crash level while the Financial and Industrial Indices have more than doubled during the same time period.

JSE ACTUARIES INDICES

	Oct 1987	**Nov 1992**	**% Change**
PUT Sector	171	151	-14
Industrial Index	2264	4142	+83
Financial Index	1569	3007	+92

PUT's have been downrated over the previous few years despite the steady appreciation of the share and the increased dividend yields realized. However the growth in the share price has been substantially lower than that of the financial and industrial sectors during the previous 12 year period. Between 1980-1992 the PUT share prices appreciated by around 8.9% and 13.6% for the financial and industrial sectors.

As illustrated in figure 6. the downrating of the PUT's has resulted in dividend yields being increased as an incentive to attract potential investors as the share price of PUT's waned.

PUT's not only under-performed relative to the equity market, but also relative to the inflation rate. The annual rate of return (including both appreciation and dividend yield) for PUT's is approximately 10.2% for the 1980-1992 period, while the inflation rate has averaged around 13% to 15%. The financial and industrial index attained an impressive 32.1 % for the corresponding time period.

In comparing the PUT's performance to that of the residential property market, only the capital appreciation of both entities will be compared as the rental opportunities for residential investments have not been considered in this report.

The average annual appreciation for the individual sample suburbs are as follows :

CATEGORY 1.	
Blairgowrie	10.19 %
Bezuidenhout valley	10.32 %
Cyrildene	10.77 %
Emmarentia and Ext1.	10.86 %
Fairlands	12.74 %
CATEGORY 2.	
Parktown North	12.10 %
Melville	12.83 %
CATEGORY 3.	
Bryanston Proper	10.97 %
Linksfield, Ridge and Ext's	14.63 %
Houghton Proper and Estates	15.30 %
Parkmore	14.98 %
Westcliff inc Ext's	15.73 %
Dunkeld	19.66 %

On the basis of capital appreciation, the residential property market has out performed the PUT's in all sample areas researched. The capital appreciation has varied from an average of 10.19% p.a. for Blairgowrie to 19.66% p.a. for Dunkeld.

An investor must assess his alternative investments carefully as both investment opportunities have advantages as well as disadvantages.

Although the appreciation of the PUT's has underperformed relative to the residential property market, they are far more liquid in nature and easier to administer. In addition, tax implications must be reviewed to obtain the maximum benefit from the investment. Investor's must weigh up all pro's and con's so as to optimise his investment regarding both fixed assets and unit trusts.

Under present economic conditions with the decline in business confidence as well as high inflation and mortgage rates, investors are tempted to invest in fixed property, but apprehensive about the future prospects. Investors need to optimise their portfolios relative to the risk they are prepared to accept. They need to gear their portfolios, regarding PUT's and residential property in order to distribute the risk and obtain more conservative returns. Investors need to take cognisance of the fact that investing in residential property under present conditions, could find difficulty in the reselling of fixed property in the future. On the other hand investing in PUT's is risky in that stock prices have decreased and only the optimistic investors would be prepare to speculate or even gamble.

18. FUTURE OUTLOOK FOR RESIDENTIAL PROPERTY

The Residential market could be on the verge of an economic recovery. The mortgage rates and inflation rates are on a downward trend and this should stimulate the property market's recovery. Housing supply in certain areas of the greater Johannesburg Metropolitan area is in under supply and demand for housing within established areas is on the increase. Urbanisation within major metropolitan areas will see an increase of informal settlements flourishing and, depending on where

these are earmarked, could influence the formal market in the immediate surrounding areas.

Due to the changing political dispensation, a substantial increase in community development is envisaged. If town planning principles are enforced on the influx of informal housing, and improved transport facilities and amenities are facilitated for low-cost housing and squatter developments , these settlements should not necessarily effect the property values in the formal market place.

Notwithstanding these facts, the lack of business confidence in the economy as well as uncertainty in the South African future, have had a telling impact on the upswing in the property market.

The residential property market will in future be focused on serving a rapidly urbanising 'Black informal population', an increasing Black, Coloured and Asian lower to middle income market as well as an increasing, more affluent, Black, Coloured and Asian market, that could capitalise on the waning demand left by whites in the established affluent areas.

Although houses in the R600 000 plus category have been purchased in areas such as Dunkeld, Houghton and Parkmore, demand for such housing has decreased substantially. There seems to be an oversupply of housing in this price range and competition for the fewer purchases is fierce.

The residential market is still showing a relatively strong demand for more affordable housing and as a result of the lowered interest rates, the decline in the inflation rate, as well as the fact that a large sector of the suppressed population has been empowered with the ability to purchase residential property in all areas,

affordable housing is now in reach of a larger segment of the home buyers market which could have a positive impact on the residential property industry.

Political, social and economic factors remain unresolved and unless they are addressed and business confidence is restored the property market will remain stagnant or even decline still further.

History has shown that only the countries entering a new political transition period with a growing economy and both political and social stability, can achieve a successful transition into a new democratic society. If the opposite scenario occurs, where the economy is in decline and political instability is rife; socialism and mismanagement of the economy will flourish resulting in a downward spiral and the related potential threat of dictorial rule taking South Africa, and its enormous potential, back to the middle ages.

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