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AN INVESTIGATION INTO THE EFFECTIVENESS OF USING SECURITIZATION AS A MEANS OF FINANCING LOW-COST HOUSING

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A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in fulfillment of the requirements of the degree of Master of Science in Property Development and Management.

Johannesburg, 2006

DECLARATION

I declare that this research report is my own unaided work. It is being submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

Signed on this the _____ day of _____ 2007

_____

Signature

_____day of _____2007

ABSTRACT

This dissertation offers an in-depth study of the use of mortgage-backed securitization to finance low-cost housing. Although mortgage-backed securitization has been used successfully to finance residential property in the higher end of the market, private investors have shown little or no interest in exploiting the R68 billion low-cost housing market through securitization.

The descriptive survey method was used. This included a literature review of the changes that need to be made in the legal and institutional framework in order to attract private investors into the low-cost housing securitization market.

The survey indicated that for securitization to succeed in the low-cost housing sector, the government needs to form low-cost housing development partnerships with banks and developers. In addition to the partnerships, the government needs to minimize credit risk by guaranteeing low-cost housing securities and to develop economic infrastructure in the townships that will result in the creation of jobs. Most institutions favored incentives such as tax breaks and higher returns on the securities issued by low-cost housing special purpose vehicles.

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LIST OF ABREVIATIONS

ABS	Asset Backed Securitization
CP	Commercial Paper
Fannie Mae	Federal National Mortgage Association
Ginnie Mae	Government National Housing Association
LCH	Low-cost Housing
SPV	Special Purpose Vehicle

CHAPTER 1

1 INTRODUCTION

The purpose of this study is to investigate the appropriateness of using securitization as a means of financing low-cost housing. The South African securitization market has seen an increase in the number of securitization transactions recently. Most notable is the emergence of the innovative financing model introduced by South African Home Loans (Pty) Limited in the residential market. In a typical property securitization transaction a developer, usually called the "originator", transfers the right to payment from an income-producing scheme such as lease rentals from a recently developed residential property to a special purpose vehicle, or "SPV". The SPV in turn issues securities to the capital market investors and uses the proceeds of the issuance to pay for the receivables. Broadly, any property which produces a steady or predictable income stream can be securitized. One of the major challenges faced by the democratically elected government in 1994 was the enormous shortage of formal housing in South Africa, coupled with the shortage of newly constructed, fully serviced and finished houses. The growing number of informal settlements similar to Khayalethu and Alexander squatter camps highlights the extent of homelessness. An analysis of the 1996 census shows that 1.5 million households live in formal houses in urban areas and 1.6 million live in makeshift houses in the rural areas (CSIR 2002, p. 21).

In 1994, major financial institutions and lenders together with Khayalethu Home Loans repossessed approximately 49 000 properties. The total exposure on these loans was calculated to be approximately R2 billion. The major reasons cited by the Home Loan Guarantee Company (HLGC) for the loan defaults were affordability, inappropriate lending, product delivery and lack of consumer education. This made it difficult for mortgage lenders to finance the construction of new houses in the townships.

1.1 PROBLEM STATEMENT

The provision of property retail finance services has been influenced by attempts by the government to ensure the participation of banks in the financing of low-cost housing. The decade leading up to 1994 was marked by an increase in the number of mortgage defaults, rent boycotts and political instability in the townships. During this particular

period, banking institutions experienced the brunt of mortgage defaults to the tune of about R10 billion. The end result was that banks were unable to enforce their lien over the properties that they financed. In 1994 the government, in a bid to get financial institutions to provide financing, signed a Record of Understanding (ROU) in terms of which government accepted responsibility for law and order. The government committed itself to providing guarantees on problematic loans which were to be managed by a joint venture between itself and the lending community. It then became necessary for the government to form an institution called Servcon to oversee the task of dealing with problematic loans. In a further move to stimulate the financing and the delivery of houses, a mortgage Indemnity Fund (MIF) was established to cover the loss if the lender was not able to secure a vacant possession on a bonded house following the default (Porteous and Naiker 1999, p.194).

Common consensus was reached by the banks and the government on the need for a joint partnership on low-cost housing delivery, as evidenced by the ROU and the New Deal signed in 1998. In 2004, 33000 houses were repossessed with 20% percent of these losing their value (Woodstock International, 2004). The Banking Council argued that this was due to lenient underwriting requirements, resulting from attempts by banks to fulfill the requirements of the Record of Understanding (Woodstock International, 2004).

It is apparent that new measures designed to overcome the housing crisis should look beyond mere agreements on future policy, and should also investigate the conditions that are necessary to eliminate credit risk associated with low-cost housing finance. What is needed is an innovative financing method that will eliminate credit risk and yet make it possible for private investors to achieve returns on their investments.
Based on the success of SAHL's asset-backed securitization scheme in the higher end of the property market, the innovative method adopted in this study to finance low-cost housing is based on the phenomenon called mortgaged-backed securitization.

The choice of mortgaged-backed securitization is based on its potential to provide new sources of financing that will work in an environment that is characterized by high mortgage defaults and a culture of rent boycotts dating back to the apartheid-era Securitization differs from traditional ways of financing low-income housing in three ways. First, the underlying illiquid loans are structured as marketable securities. Second, the selling of these loans ensures that the associated risks are removed from

the lender's portfolio. Third, the traditional role of the lender's portfolio is bypassed in favor of securities that are packaged to meet the risk preference of investors. Securitization works primarily through risk removal and is an important risk management tool not only for the government but for lenders as well. The risks associated with the financing of low-cost housing - particularly the high mortgage default rates - can be removed and diversified through the aid of securitization.

By passing on credit and interest risks to investors or third parties when credit enhancements are involved, lenders are better able to manage their risk exposures.
The success of SAHL's residential securitization scheme has inspired research on whether the same strategy can be applied to low-cost housing. In addition, the fact that low-cost housing securitization in South Africa has not attracted potential investors as is the case in the United States of America seems to suggest that there are challenges hampering the use of this financing method.

1.2 RESEARCH QUESTION

What needs to change in order to attract lenders, banking institutions, developers and the government into the low-cost housing securitization market?

1.3 HYPOTHESES

The following hypotheses have been designed to highlight the factors that are needed to make securitization work in the low-income housing market:
The first hypothesis is that there are no factors that are preventing the development of mortgage-backed securitization in the low-cost housing market in Gauteng.
The second hypothesis is that the securitization of low-cost housing is an effective means to address housing finance in Gauteng.

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The second hypothesis is that the securitization of low-cost housing is an effective means to address housing finance in Gauteng.

1.4 OBJECTIVES

Securitization is a method that can be used to source funds for the low-cost housing sector via the open market provided that the current legal and institutional frameworks enable this financing method to be accessible to developers, financial institutions and the government.

The objectives of this study are as follows:

- To identify factors that would encourage banks to use mortgage-backed securitization to finance low-cost housing.
- To identify factors that would make it possible from a developer's perspective to participate in low-cost housing securitization.
- To identify factors that would encourage the private sector to participate in a securitization scheme that involves a partnership with the government
- To identify legal, political and social factors that are needed in order to facilitate the success of mortgage-backed securitization as a financing mechanism for low-cost housing**.**

1.5 SIGNIFICANCE OF THE STUDY

The study on the effectiveness of using securitization to finance low-cost housing will help the government realize the following advantages:

Securitization can be used to attract financial institutions back into the low-cost housing market. Borrowing money to finance low-cost housing is taken off the government's balance sheet, thus improving capital adequacy.

Tapping of new sources of capital from a wider pool of investors will lead to the delivery of a new stock of houses.

The capacity to resuscitate the primary and secondary property market in the townships and the role of securitization in the elimination of the housing backlog.

For investors this study will highlight the following advantages of securitized low-cost housing:

- The ability to gain exposure to a previously inaccessible low-cost housing market
- Improved capacity to diversify portfolios
- Low transaction and management costs
- Enhanced yield when compared to similarly risky corporate bonds
- The freeing up of funds through securitization will help kick start the secondary and primary property markets in the townships.

In addition, this study will attempt to reveal how the securitization process helps to integrate the residential property lending market with international capital markets. It is envisaged that the integration of the local residential property market will help to overcome periodic problems of capital flow, improve capital market monitoring and may result in lower interest rate spreads.

1.6 ASSUMPTIONS OF THE RESEARCH

It is assumed that the government and the banking council have agreed to embark on a project that will see the banks providing credit of more than R20 billion into the low-cost housing market. Another assumption is that the government will release vacant state-owned land that will be used to build R60 000 apartments and to provide guarantees on problematic loans.

In 2004, the government issued an announcement in which it hailed the construction of low cost houses at a cost of R20 billion. The government and commercial banks struck a deal where by both parties would work together in ensuring the delivery of low cost houses. The assumptions set out in this study are realistic because they are based on the proposed new deal.

This research will only cover asset-backed securitization and in particular mortgage-backed securitization.

Another assumption of this report is the government will give guarantees to commercial banks on problematic loans.

1.7 OUTLINE OF THE REPORT

The report begins with the definition of securitization in Chapter two, which also includes a reference to structured finance and risk management. Securitization can be the preferred method of financing housing provided legal, regulatory and psychological barriers are eliminated and key stakeholders such as financial institutions, the

government and developers understand the benefits. For this purpose, the prerequisites for the success of securitization are discussed in detail in Chapter two.

The South African Home loan model is discussed in Chapter two in order to highlight the fact that financial and institutional infrastructures exist in South Africa that can support securitization. It is important for the government to realize that securitization can be used as an alternative financing method that can supplement traditional financing methods provided by commercial banks. Furthermore, the reasons why securitization can work in the low cost housing sector are discussed in Chapter two.

The securitization process is dependent on the creation of a Special Purpose Vehicle. An exclusive section in Chapter two has been devoted for this purpose.

Chapter three discusses the methodology used to collect data. The descriptive survey method was used to collect data analyzed in Chapter four.

The concluding Chapter (Chapter five) highlights recommendations and further modifies the securitization model to one that can work for the South African low cost housing sector.

1.8 SCOPE AND LIMITATIONS OF THE REPORT

Research on low cost housing securitization was aimed at investigating the reasons why mortgage-backed securitization has not been used by the government, commercial banks and developers as a financing tool. The study was limited to finding out the views of these key stakeholders and did not include the views of low cost housing communities. The reason for the exclusion of low cost housing occupants is that securitization is a complex process that very few people understand.

In addition, only the Gauteng region was chosen for the purposes of this study because of its dominance in the South African economy and the African continent.

CHAPTER 2

2 LITERATURE REVIEW

2.1 INTRODUCTION

The use of securitization as a financing mechanism in South Africa can be traced back to 1989 when Allied Building Society issued R250 million mortgage-backed securities in addition to two other transactions placed in the open market in the late 1980s and early 1990s.

In the United States and Australia, the success of mortgaged-backed securitization as a generator of housing finance is unquestioned.

This Chapter discusses how mortgage-backed securitization is linked to structured finance and will also seek to establish the prerequisites that are necessary for this mechanism to function in the low-cost housing sector.

In this Chapter, an attempt will be made to show why securitization can be used as effective financing tool for the low-cost housing sector. First, an attempt has been made to review literature on structured finance and financial engineering in order to highlight the building blocks of securitization.

Second, the capacity of securitization to diversify risk makes it a useful mechanism for mitigating risk in a sector that is perceived to be very risky and because of this, the link between risk management and securitization will be discussed.

2.2 HISTORY OF SECURITIZATION

In the 1930s the United States government formulated a housing policy that sought to provide a stimulus to the housing sector and at the same time provide adequate affordable housing to its constituencies.

In order to achieve these objectives, the Federal Housing Act was enacted in 1934 with the aim of providing insurance for home mortgage loans made by private lenders. The Act was also intended to support the establishment of existing national mortgage associations. In 1938, the Federal National Mortgage Association was formed. Further amendments made to the Act in 1968 led to the division of the Federal National Mortgage Association into the Government National Mortgage Association (Ginnie Mae) and the Federal National Mortgage Association (Fannie Mae).

While Federal National Mortgage Association was privatized, the Government National Mortgage Association remained a state-owned institution. In 1970 the Government

National Mortgage Association started securitization and used it as a mechanism not only to raise funding for the low-cost housing sector but also to provide an efficient government guaranteed secondary market vehicle, linking the capital market with Federal Housing markets.

In Australia, although securitization technology was available since the 1970s, it was only in 1990 that securitization became established. The delay in the use of securitization was caused by legal, institutional and economic factors inhibiting progress.

Conway (1986), Finch (1995), and Thompson (1995) compared the development of securitization in the US and Australia and noted that the only difference was that in the United States, the Federal Government took only primary responsibility (with the active participation of the private sector) whereas in Australia, the state channeled massive resources in order to kick-start securitization.

2.2.1 Definition Of Securitisation

The office of the Comptroller in the United States describes Asset securitization as the structured process whereby interests in loans and other receivables are packaged, underwritten and sold in the form of asset-backed securities.

The following parties are involved in the securitization process: (i) the initial owner of an income producing asset (known as the originator or sponsor) who has a loan agreement with the borrowers (obligors); (ii) an SPV that issues debt instruments. Legal requirements stipulate that the SPV should be kept away from the bankruptcy of the originator, technically called 'bankruptcy remote'; (iii) investment bankers, whose role is to assist in the structuring of the transaction and the underwriting of securities; (iv) rating agencies, whose function is to assess the credit quality of certain types of instruments and assign a credit rating; (v) credit enhancement is normally provided by a bank, surety company, or insurer, who provides credit support through a letter of credit, guarantee, or other assurance; (vi) servicers, who collect payments due on the underlying assets and, after charging a fee, pay them over to the security holders; (vii) trustees, credit enhancer and servicer on behalf of the security holders; (viii) attorneys, who draw up the legal documents; and (ix) a financial institution that provides an interest rate swap.

2.2.2 Key Securitization Steps

According to Lieske and Blumenfield (1998, p. 8) securitization is better explained by the following steps.

Step 1

In a typical securitization process, the originator makes a loan to a borrower (Lieske & Blumenfield, 1998, p. 8). In most cases the originator is normally a financial institution that provides assets subject to the securitization.

Step 2

The originator pools loans until there is a sufficient volume of loans to securities.

Step 3

After the loans have been packaged, the originator sells them to a Special Purpose Vehicle (SPV).

According to Wood (1995) the SPV is an independent, specially formed, single purpose entity that purchases loans from the originator. In general the SPV is organized for a specific purpose and its activities are limited to those pertaining to the securitization being done at that particular point in time (Taplin 2001, p. 9).

Legal and accounting regulations may require the SPV to take the form of a company or trust (Oliver & Sallis 2000, p. 23). It is a requirement that the SPV should be structured as a bankruptcy remote entity. This means that even though the originator becomes bankrupt, the SPV is insulated from the activities of the originator.

Step 4

The SPV pays for loans by simultaneously selling certificates in the open market.

A rating agency is required at this stage to rate the securities issued by the SPV in order to reflect the quality of the securitization issue (Fergus & Jacobs 2000, p. 12).

Step 5

After the SPV has been established, it is necessary to appoint a servicer whose task is to perform the following duties:

Provide administrative duties for the duration of the issue (Lieske & Blumenfeld 1999, p. 9)

Cash collection on the underlying assets and management of arrears

Appoint a ‘back up servicer’ who would be able to take up administrative function whenever the servicer is unable to perform the aforesaid duties.

Appoint a trustee to ensure that investors are paid in accordance with the terms of the securities and to monitor the activities of the servicer (Oliver& Sallis 2000, p. 24).

Step 6

The final stage of the securitization process involves the structuring of mechanisms that will allow the servicer to receive payments from borrowers and to make the necessary arrangements for credit enhancement.

A number of parties are involved in ensuring that the servicer performs the administrative and credit enhancement functions. These include attorneys and external credit enhancement service providers. The role of the legal counsel is to draft legal documents and to assist in the interpretation of securitization legislation. The role of the credit enhancer is to take out pool insurance on the assets that produce the cash flows in the securitization process (Jennett 2001). In addition the enhancer provides a liquidity facility designed to meet short term cash requirements (Deacon 2000, p. 351)

2.2.3 Securitization Literature

The literature on mortgage-backed securitization is drawn from structured finance and risk management. An attempt has been made in this section to investigate how structured finance and risk management theories link up with mortgage-backed securitization.

2.2.3.1 Structured Finance, Financial Engineering and Securitization

Sinkey (1998) views the development of securitization as almost parallel to that of structured finance. Structured finance is defined as a deal or contract that is customized or engineered (structured, if you will) to meet a client's specific objectives. In South Africa, structured finance is not a new phenomenon. For decades financial institutions have used structured finance to customize deals. The advent of new innovative financing techniques such as swaps, futures, forwards and options have added a new twist to structured finance. Braddock (1997) came up with a broader academic definition of financial engineering by describing any business activity related to the creation, marketing, and valuation of structured products as "financial engineering". Smith and Smithson (1990) approach financial engineering from a narrow perspective by describing it in terms of building blocks whereby a complex financial solution can be structured using basic financial components.

Property can be structured to meet financial objectives by considering it in terms of debt and equity. The debt component in this particular instance is the lease or mortgage obligation whereas the equity component can be viewed as the property ownership component.

The cash flows from the lease or mortgage are generally used to evaluate the investment performance of the property. In most cases, financial institutions discount these cash flows by using an interest rate that is linked to the yield curve and the perceived risk of the tenant or borrower.

The purpose of discounting these cash flows is to enable the financier to ascertain the net present value. The net present value is the amount that the financier will lend to the developer.

An important aspect of any property structured finance deal is the risk posed by the tenant or the risk that loan borrower might default on the mortgage loan obligation. Structured finance deal makers place greater emphasis on the credit risk posed by the loan borrower rather than on the property itself.

2.2.3.2 Risk management and credit risk

Any organization that intends to commit substantial resources in the low-cost housing sector runs the risk that it will incur substantial financial losses due to credit risk.

An analysis of the historical trends in the banking industry since the 1400s shows that banks with poor risk management strategies became bankrupt. Historical trends show that a succession of bankruptcies occurred in Spain between this period as a result of a number of reasons including poor risk management strategies (Spanish crown bankruptcies occurred in the years 1560, 1576, 1596, 1606, and 1627).

The low-cost housing sector is dominated by households that earn between R1500 and R3500 per month (Statistics SA, population census 2000). In general, people who earn lower salaries tend to default on their mortgage loan repayment obligations. It is therefore imperative that an analysis of risk management should be made in this section.

Valsamakis *et al*. (2002) define risk management as a managerial function aimed at protecting the organization, its people, assets, and profits against the adverse physical consequences of event risk. It involves planning, co-ordinating and directing the risk control and the risk financing activities of the organization. It is therefore imperative that such organizations should implement risk management strategies designed to mitigate losses. Kloman (1988, p. 34) argues that the reasons for managing risk are linked to corporate policy, good citizenship and freedom from anxiety.

Merton (1995) argues that risk management should be regarded as the central topic for the management of financial institutions and, because of this; investors wishing to commit scarce resources in risky projects must become better at defining, managing and pricing risk.

The nature of the financial losses associated with investments in the low-cost housing sector can be either economic or non-economic. Greene and Serbein (1983) recognize economic and non-economic reasons for mitigating losses. In the low-cost housing sector non-economic losses may occur as a result of violent demonstrations caused by people needing shelter (as evidenced by violent demonstrations in the Free State and Mpumalanga in 2005 and 2006).

Valsamakis *et al*. (2005, p. 10) suggest that the management of risk should follow a process that entails the following:
Risk identification (discovering the sources from which losses may occur)
Risk evaluation (evaluating the impact on an organization or individual should the loss occur)

Risk control (selecting the most effective technique to minimise risk)
Risk financing (making financial provisions to finance the loss, should it occur).

2.2.3.3 Risk management and securitization

Securitization is an important tool of risk management for organizations in that it can be used to remove risk. To illustrate, a developer that has illiquid assets such as low-income houses can remove these assets from its balance sheet by transferring them to a special purpose vehicle. When assets are removed without recourse, all the risks associated with these assets are also eliminated.

2.2.4 Key Concepts Of Mortgage-Backed Securitization

In most cases a transaction that involves the purchase of a house involves two parties. A bank lends money to a borrower at time *t* and expects to be repaid at time *t+*1. This example illustrates the time dimension and the lender's expectation of repayment aspect of finance. The fact that repayment occurs at a future date, separated in time from the initial loan, is cause for concern for a lender who will demand assurances that the borrower's action will in future result in the timely payment of the debt. From a low-income housing perspective, lenders face problems of "**asymmetric information**" in that the low-income borrower is in a better position to understand his capabilities with respect to repayments than the lender.

The traditional method used to finance an asset by banks is done by (1) originating the loan, (2) funding, and (3) servicing

Origination can be described as the initial granting and funding of the loan. This process is normally preceded by a concerted effort by the borrower to get the best terms available on the market and information gathering by the originator on the credit-worthiness of the borrower. Most South African financial institutions use the credit bureau to get the borrower's financial history and employ valuers to estimate the value of the collateral (such as the house) that is pledged as collateral.

The **funding process** also requires the assessment of the borrower's credit-worthiness in order to enable the bank to assess the capacity of the borrower to make timely repayments.

Servicing is a process that requires the bank to make arrangements to facilitate the timely repayment of principal and interest.

An analysis of mortgaged-backed **securitization process** shows that the lender's **concerns about timely repayment** (credit risk) are taken care of in a number of ways.

First, mortgages are secure in that the housing unit in itself provides the required collateral. From a low-cost housing perspective, the existence of clear property rights and foreclosure processes in the event of default will go a long way in making lenders comfortable that the collateral exceeds the mortgage.

Second, credit risk is minimized when mortgages are pooled in their thousands so that the risk can be spread to a wider pool of investors.

Third, a common underwriting feature in the USA is to ensure that the Loan to Value (LTV) ratios of low-income mortgages are below 100% thus allowing for some loss in value in the collateral that would permit the loan to be repaid in full, and in addition

some financial institutions require that third party insurance be arranged to cover potential losses.[1]

Fourth, When loans are transferred to an SPV that is a separate legal entity from the packager or issuer, mortgages are unaffected by the bankruptcy of the issuer. Again, this minimizes the credit risk for investors.

Fifth, the packager/issuer must be given assurances by the originator that higher standards of origination were strictly adhered to.

Sixth, losses sometimes occur and the best way of mitigating such losses is to arrange a **credit enhancement facility**.

Credit enhancement is generally provided at two levels. When losses are suffered in relation to a specific pool of assets transferred by the originator, it becomes the originator's responsibility to provide **first loss credit enhancement**. There are a number of ways that an originator can provide this kind of credit enhancement, ranging from subordinated debt to over-collateralization.

The difference between the first and second loss credit enhancement is twofold. The second loss credit enhancement is provided by a financial institution to cover all losses suffered by the SPV and is not limited to a specific pool of assets.

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[1] Literature on MBS is covered by Fabozzi and Dunleavy (1997) and Hu (1997)

The securitization of the mortgaged-backed securitization scheme can be best explained by reference to a diagram that shows the key role players in a securitization transaction.

The diagram in figure 2.1 shows a basic structure of a typical mortgage-backed commercial paper SPV.

The originator pools mortgages and uses them in the asset-backed transaction as collateral. At this point, the originator has the portfolio of pooled mortgages listed in his balance sheet as assets. The originator's goal is to remove the assets from the balance sheet (a process called off balance sheet financing) by transferring the assets to the SPV. The true value of these mortgages lies in the fact that they generate a stream of predictable cash flows.

The pooled mortgages are then transferred to an entity (also called an issuer, asset-backed commercial paper conduit or SPV) that is structured to be legally separate from the originator of the assets. In general, the SPV is a bankruptcy remote entity that issues commercial paper (CP) to finance the purchase of assets.

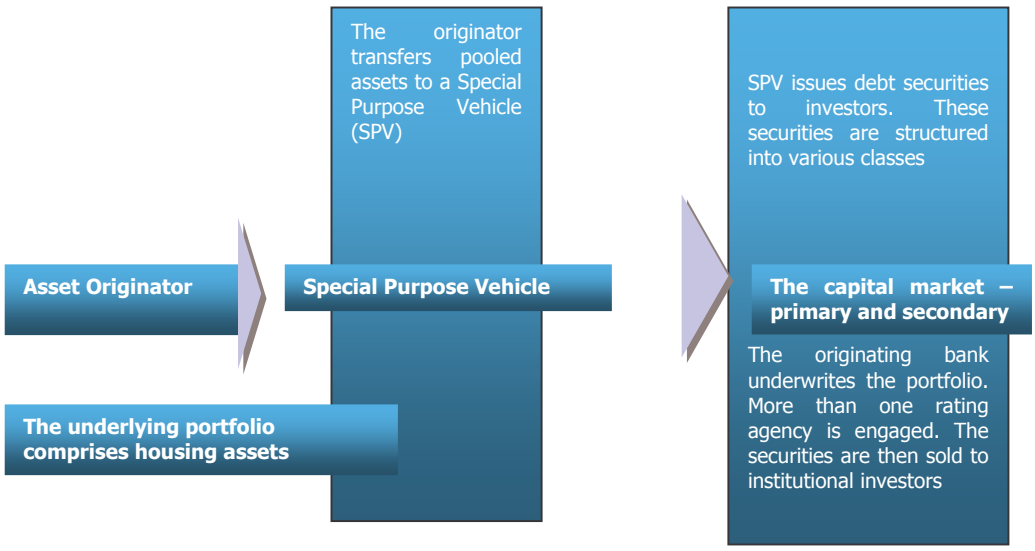


Figure 2.1 : A diagrammatic illustration of the mortgage-backed securitization process

After the receivables (pooled mortgages) have been transferred to the SPV, money has to be raised (by the SPV) to pay the originator for them.

In essence, one of the functions of the SPV is to issue commercial paper in exchange for money that is used to pay the originator for the assets transferred to it.

One of the reasons why an investor would buy debentures or notes issued by the SPV is that they are backed by steady predictable cash flows from mortgage repayments. In exchange for taking risks on a specific pool of receivables owned by the SPV and underpinning the commercial paper-note, holders are entitled to the coupon and principal payments. The SPV in turn has an obligation to repay the coupon and principal sum owed to the note holders.

Liquidity facilities are put in place to eliminate cash flow timing mismatches. These timing mismatches are caused by apparent differences in term structures of the commercial paper and the underlying assets. For example, the term structure of a commercial paper is one year whereas a mortgage loan on a house is normally repayable after 20 years. Mismatches occur when collectibles received from SPV assets and repayments from commercial papers occur at different times. Liquidity enhancement is normally outsourced.

In general, securitization provides direct financing between borrowers and investors, by short-circuiting the traditional intermediaries. The pooling of assets reinforced by private credit enhancement reduces credit risk to more acceptable levels for investors

2.2.5 Preparing For Securitization

The successful execution of any project requires detailed and thorough preparations from the outset. The securitization of residential property is no exception.

When preparing housing assets for securitization, it is crucial to understand the preferences of investors who purchase the securities issued by the SPV in pursuit of higher returns and low risk

In essence, a prudent investor will assess the credit risk associated with the underlying security in order to estimate the expected frequency and severity of losses. The best way to mitigate credit risk is to package the pool of mortgages in such a manner that will enable a rating agency to give the pool of assets a higher rating.

In general, the estimation of the credit risk of a mortgage loan is facilitated by (1) the characteristics of the properties securing the loan, as well as (2) the loan structure (the payment history of the applicant and applicable interest rates). The ability of the applicants to repay their debt is measured by (3) the debt service ratio and the LTV.

2.2.5.1 Property characteristics

One of the determinants of the value of property is its location. In statistical terms, there is generally a close relationship between the value of property and its location.

Prudent investors realize that it is imperative for them to pool properties located in prime areas (because of the high values they command) when creating portfolios for securitization purposes. The pooling of properties occurs in the second stage of the securitization process as previously outlined.

The best way of determining the value of property is to discount the cash flows over a certain period using an appropriate interest rate. Furthermore, a forecast of the appropriate yields for the subject property should be based on the relevant cash flows including the internal rate of return and net present value and the following:

- Capital expenditure, including maintenance and property expenses.
- An analysis of markets rents and future trends.
- The quality of the subject property is evaluated relative to the regional market for such property. Further evaluations are made to ascertain the quality of the construction, tenancy and income profile of the tenants.
- Internal capacity to originate and administer the SPV including the existence of appropriate information systems.

2.2.5.2 Loan structure

When mortgage loans are granted to prospective home owners (step one of the securitization process), the interest payable on the mortgage is normally pegged to the prime lending rate. Some financial institutions offer floating rate loans that have the disadvantage of increasing the credit risk in times of rising interest rates. Fluctuations in interest rates can be avoided by hedging. This is normally done by way of interest rate swaps, which necessitates the exchange of one set of interest rate payments for another (step 6). The most common type of interest rate swap (called the plain vanilla) specifies the interest rate on payments that are being exchanged and the types of interest payments - whether fixed or variable.

Besides the interest rate risk, information must be collected on the loan structure. Furthermore, borrower information is needed in order to assess the probability of default.

2.2.5.3 Structure and legal environment

The rules and regulations pertaining to asset-backed securitization are well documented in the Banks Act of 1990 (Act No. 94 of 1990). A new set of rules aimed at facilitating securitization was introduced by the South African Reserve Bank in December 2001. These rules cover a variety of securitization issues ranging from the bankruptcy remoteness status of the SPV and the implications of stamp duties and transfer tax. These rules are relevant particularly in step three of the securitization process.

From a tax perspective, the SPV pays tax (the taxable portion is tax deductible) as stipulated in the Income Tax Act, 1962 (Act No.58 of 1962).

In general SPVs can issue shares in the form of debentures or shares. Debentures issued by the SPV are exempt from stamp duty. A good feature of the Act is that the transfer of debentures and the redemption of notes are also exempt from stamp duty.

The South African Reserve Bank can at its own discretion increase an originator's control over the SPV from 50% to a figure higher than the stipulated rate under certain conditions.

Table 2.1 below shows a summary of preliminary information discussed above that has to be gathered at the property level and loan level. The list of information is however not exhaustive and is shown here for illustrative purposes only.

Table 2.1 : Factors that need to be taken into account when preparing for securitization

		ASSESSMENT CRITERIA
Category	Heading	Description
Property Characteristic	Erf Number	Erf number
	City	
	Region	For the sake of analyzing portfolios regionally, this information is required
	Property Type	A detailed description of the property and relevant submarket is required.
	Vacancy rates	A market comparison of prevailing vacancy rates is required
	Area	Expressed in square meters
	Expenditure	Actual versus expected maintenance expenditure
	Forecasts	Forecasted Cash flows from rented properties
	Value	An acceptable valuation method must be used to value the property

		ASSESSMENT CRITERIA
Category	Heading	Description
Type of Loan		
	Borrower	Name of borrower
	Amount	The current and original amount
	Maturity Date	Specify
	Interest Rate	percentage interest rate
	Loan Type	Fixed or floating rate loan
	Lien	First or second
	Rate Cap	Applies when the interest rate is caped
Performance Indicators		
	NOI	Net Operating Income including the underwriter's NOI
	Reserves	Underwriters replacement reserves
	NCF	Net Cash Flows
	Debt	Debt Service Coverage ratio

Source: Fitch ratings

2.2.6 Factors That Support The Workings Of A Securitization Process

An analysis of countries where securitization became an important financing tools shows that the legal and institutional frameworks need to be in place before any attempt is made to use securitization for financing housing.

White (2004) identified the following prerequisites of a well functioning MBS system:

- A legal system of clear property rights in housing and clear reporting of title and liens against the title;
- A legal system that permits relatively rapid foreclosure by the lender in the event of the borrower defaulting, with well understood rights and procedures for all parties.
- An institutional and legal framework that does not hinder the gathering of information by borrowers and

- A well functioning house sales market that provides comparison house based value data that, supported by appraisals, provides the basis for lenders' valuations of the housing collateral that supports mortgage loans.
- A tax system that does not unduly tax the transactional steps that are necessary for the provision of finance

In addition to these elements, MBS system requires:

- The institutional development of a set of specialized originators, servicers, and securities packagers;
- A legal and tax framework that does not hinder the specific steps that are necessary to create securities and to structure securities so as to deal with credit risk and prepayment risk;
- A legal and tax framework that does not hinder the standardization of mortgage arrangements, including terms and documentation.
- A legal and tax environment that does not discourage investors of all kinds – individuals, banks and other depositories, insurance companies, pension funds, mutual funds, finance companies, overseas investors, etc from buying MBS and;
- A securities markets institutional framework (brokers, dealers, market makers, analysts, etc.) that facilitates the buying and selling of securities.

From a South African housing point of view, a legal system of clear property rights in housing generally functions well in the higher end of the property market whereas in the low cost housing sector, the process is costly and onerous.

In addition to the challenges that low-income housing residents face when obtaining legal title to their homes, the house in itself is not regarded as sufficient collateral by banks (Rust, 2004).

A comparison of South Africa's low cost housing sector and that of other developing countries such as Chile shows a number of similarities. A large number of stands in the townships have structures built in their back yards that are not registered with the local municipality. De Soto (2000) analyzed Chile's low-cost housing market and noted that although large number of properties had value, they were however not incorporated into the legal system because the occupants did not have legal title. This is consistent with South Africa's low cost housing sector.

De sotto further argues that although poor people save, their dilemma is that they hold resources in defective forms such as houses built on land whose ownership rights are

not adequately recorded. This is relevant to South Africa in that millions of shacks in squatter camps fail to meet the general town planning requirements and are therefore not recorded. As a result, these assets are insecure, cannot be turned into capital. Another drawback of these properties is that they and cannot be used as collateral for a loan and cannot be used as a share against an investment.

The nature of these properties makes it impossible to pool these assets for securitization purposes.

The major criticism of De Soto's argument is that in general, even though these properties are granted legal title, this is not sufficient to influence banks to grant loans, particularly when the houses do not conform to town planning rules.

The view taken in this study is that the existence of clear legal title in the low-income housing market will go a long way in facilitating the growth of a buyer and sellers market.

One of the biggest drawbacks of the township property market is the lack of a vibrant buyers and sellers market. A buyers and sellers market makes it possible for the evolution of an efficient township database that provides a comparison-based housing sales data for the benefit of banks and property specialists. This in turn, makes it easier for originators to collate information that will useful in pooling assets.

From a legal and tax perspective, there are no hindrances to the creation of securities that enable investors to mitigate credit risk. There is, however, a need for tax legislation that exempts securities issued by low-income housing securitization SPV's from tax. In addition, the legal framework should also create legislation that facilitates the creation of mortgage-backed securitization channels for new players in the market.

The government needs to embark on a drive to change perceptions about the low cost housing sector. This sector has for a very long time been associated with rent boycotts and non payments of mortgage loans dating back to the apartheid era. These psychological barriers that investors have about the low cost housing sector can be changed by a concerted education drive initiated by the government.

2.2.6.1 The requisite financial infrastructure

South Africa's financial infrastructure compares favorably to that of first world financial institutions. There is a huge market for debt-like securities that can be traded in the

Johannesburg Stock Exchange. In addition to the debt securities, a vibrant equities market exists.

South Africa's financial infrastructure has built in mechanisms that can support the workings of a residential mortgage-backed securitization scheme as evidenced by the successful launch of the South African Home Loans securitization project. This therefore means that step six in the securitization process can be fully supported by the current existing infrastructure.

2.2.6.2 The legal environment

The Bank Act of 1990 stipulates the rules relating to the implementation of securitization in South Africa. The Act sets out requirements relating to the kind of information that the SPV has to disclose about the form of securities issued by the SPV, servicing arrangements and underwriting procedures.

Securitization regulations provide that assets transferred from the originator to the SPV must comply with the "true sale concept". This is a legal concept adopted from the English law that basically means that the originator must indicate a clear intention to ensure a total divestiture of all economic risk and benefit pertaining to assets transferred to the SPV. Furthermore, regulations limiting the activities of the SPV to those that are directly related to the securitization scheme must be in place.

When assets are transferred from the originator to the SPV in a practice known as off balance sheet financing, clear accounting rules have to be formulated to record the treatment of such an activity in the financial statements.

Berman *et al.* (2002) noted that the regulations also outline credit enhancement and liquidity requirements to be provided by the SPV.

South Africa's legal system rates amongst best in the world. The legal system can fully support the establishment of securitization.

2.2.7 The need for critical mass

A key success factor of securitization is the existence of a huge demand for mortgage-backed securities. Bacon (2004) defines mortgage related securities as fixed income investment instruments that represent a beneficial ownership of an interest group or pool, of mortgages. There are a number of mortgage related securities in existence and for the purposes of this study only mortgage-backed securities will be discussed.

In general, Mortgage-backed securities are issued as a "single class security with each investor having a beneficial, undivided, pro-rata, interest in the pool of mortgages"

(Bacon 2004, p. 6). The best way of illustrating how mortgage backed securities work is to begin by analyzing an investor who buys 10 certificates from a pool of 1000 certificates issued relative to a particular pool of mortgages. This investor has a right to 10/1000th of the payments of interest from the pool. Furthermore, if 10 million people or institutions make up the total number of investors in the pool of assets, this means that risk is spread over a large number of parties. In this way, securitization is a powerful tool for spreading risk and for raising money to finance property from a wide pool of investors. However, the success of securitization largely depends on critical mass.

Critical mass is required for the success of a securitization scheme. In the USA at least $50 million is required to justify a private placement of securitized assets.

In the South African scenario, securities will have to be issued with huge incentives designed to attract a huge number of investors from the insurance sector, property.

2.2.8 How Sahl Securitized The High End Of The Residential Property Market

South African Home loans was formed in 1999 to provide home loans at rates lower than those offered by traditional banks through securitization. The company found a niche in a home loans market dominated by ABSA (31%), Nedcor (23%), Standard Bank (20%) and First National Bank (16%). The numbers in parenthesis indicate the percentage market share.

According to Bagley (2003) SAHL has originated close to R2 billion of residential mortgages since its establishment. The company became the first to securitize residential property and the first to discount home loans on a national basis.

In this section, a discussion will be made of SAHL's Thekwini securitization projects with a view of illustrating how South Africa's first residential property scheme was done. First, a discussion of the higher end residential market will be made. Second, the Thekwini securitization process will be analyzed in order to highlight the important aspects of the securitization process.

First, a discussion about the higher end residential market.

The key features of the higher end residential market are as follows:

The combined incomes of most households are greater than R7500 per month.

The market is composed of many buyers and sellers. Demand for housing in this market is based on demographic, economic and speculative need.

Information on key issues such as the percentage increase in house prices and bond rates is available to developers, households and investors.

There are no barriers to entry.

Easy access to finance and innovative financing methods such as derivatives and securitization.

Most financial institutions are willing to lend to the buyers in this market because they earn high salaries and can arrange collateral security by insuring their properties. In addition, the high salaries earned by households in this market make it easier to finance residential property due to lower probability that borrowers will default on their mortgages.

Second, a discussion will be made about the type of property portfolio and structure of the loan.

An analysis of the portfolios that make up Thekwini 1 and 3 shows that the value of the portfolios was R1 321 million and R1.427 billion respectively. The size of the portfolios emphasizes the importance of critical mass. The portfolios have interest rate margins of 2.10 which are lower than that of banks (3-5 percent).

The loans were originated by SAHL and were serviced by Standard Bank

Table 2.2 : The structure of Thekwini 1 and 3 Projects

		Thekwini 1	Thekwini 3
	Type of Loans	Variable rate annuity mortgages	Variable rate annuity mortgages
Portfolio Characteristics	Total Amount	ZAR 1321M	ZAR1427 759 511
	Interest Rate Margin	2.10%	2.10%
	Weighted Average Maturity	18.9 years	18.9 years
	Weighted Seasoning	11Months	5 Months
Structure	Originator	SAHL	SAHL
	Servicer	SAHL	SAHL
	Backup Servicer	Standard Bank of South Africa	Standard Bank of South Africa
	Arranger	Standard Corporate Merchant Bank	
	Account Bank	SBSA	SBSA
	Redraw Facility	SCMB	SCMB
Property Characteristics	Minimum Capital Sum	ZAR 100 000	ZAR 100 000
	Maximum Capital Sum	ZAR 1 500 000	ZAR 2000 000
	Term	20	20 Years
	Type	Residential	Residential

Table 2.2 shows that the values of these properties range from R100 000 to R2 million rand. In addition, the redraw facility allows borrowers additional funds should they need extra cash. The arranger and servicer of the transaction is Standard Bank.

The success of the SAHL securitization scheme is attributed to the fact that it originates mortgages from private home owners for the purposes of securitization unlike banking institutions.

Third, a discussion of the Thekwini securitization projects will be made with the aid of a diagram

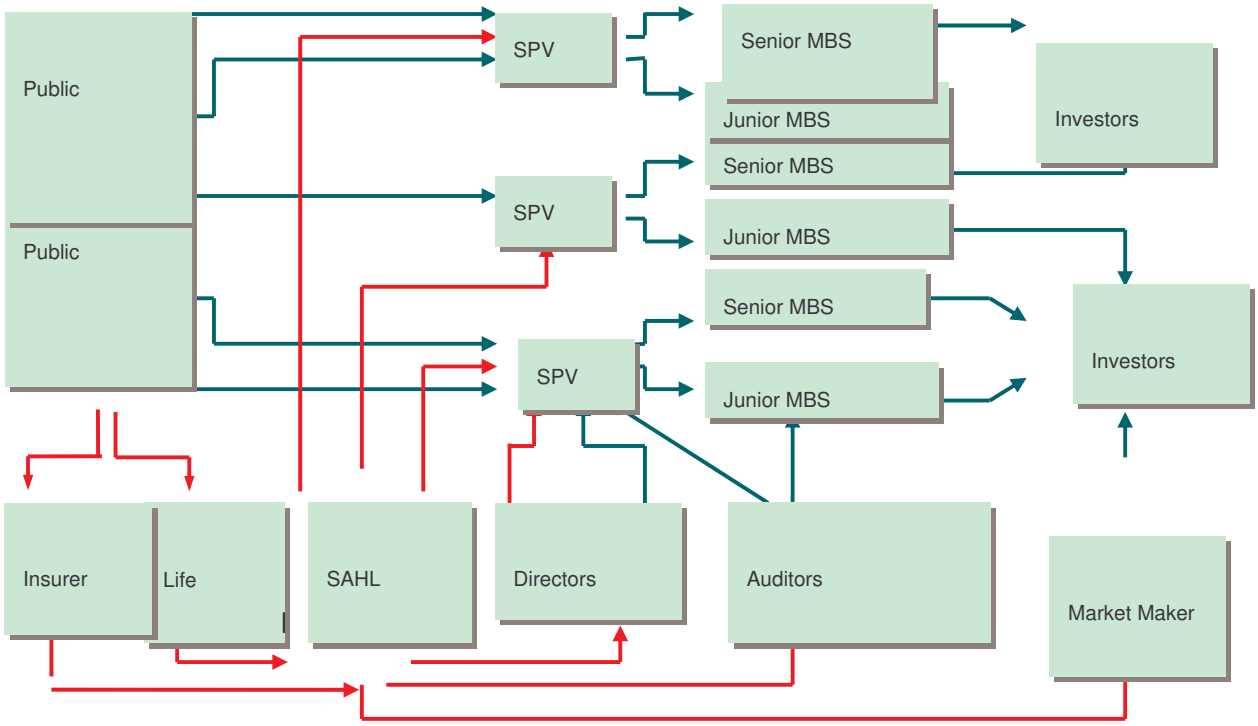


Figure 2.2 : A diagrammatic representation of one of the Thekwini projects-adapted from the SAHL model

The diagram above shows that SAHL issues loans to the members of the public for their homes. The properties are registered in the name of the home loan borrowers even though the loans in respect of these properties are pooled and transferred to an SPV. The home-owners have two major obligations. The first one is to make monthly mortgage loan repayments to SAHL. The second obligation that borrowers have is to ensure that they arrange adequate collateral security by taking up personal insurance or life insurance.

When SAHL was involved in the process of originating loans to borrowers, an arrangement was made with the borrower to allow money to be withdrawn from the borrower's bank account on a monthly basis. An amount equivalent to a single month's mortgage repayment is transferred into SAHL's Subsidy Trust account via a debit order. The trust in turn transfers mortgage repayments to the SPV within 24 hours upon receipt of the monthly repayment.

The role of SAHL in the Thekwini securitization scheme was to arrange and manage the process. The function of the Thekwini SPV was to repackage individual loans into securities that would attract institutional investors. In addition, the SPV's were set up

amongst other things to receive deposits from investors in manner that meets the requirements of the Bank Act of 1990

The mortgage-backed securities were split into either junior or senior mortgage backed securities. These securities were further split into classes A, B and C.

A further analysis of the Thekwini 4 transaction shows that Class A securities were assigned a triple A rating, while a triple B rating was assigned to Class B mortgage-backed securities. No rating was assigned to Class C securities.

Triple A securities offered investors an interest return on investment equivalent to the interest rate set by the market + 70 points. The riskier triple B Class B securities rewarded investors with the interest rate set by the market +230 points interest rate return.

An important fact about the securitization process was the appointment of Standard bank as a servicer and hedger provider. The function of the hedger provider (Standard Bank in this instance) was to put measures in place (such as the interest rate swap) designed at mitigating fluctuations in interest rates.

The model incorporates a second SPV called the security SPV. The role of the security SPV is to act as guarantor to note holders that the SPV will make timely payments for its obligations.

One of the most attractive features of the securitization process is the redraw facility. The purpose of the redraw facility is to assist borrowers who need extra cash for personal reasons.

Finally, Thekwini issues notes or securities to individual and institutional investors who are entitled to receive interest on investment on a quarterly returns basis.

2.2.9 Reasons Why Securitization Would Work In The Low Cost Housing Sector

Prior to 1994, the township property market was in shambles due to a number of reasons. First, political violence and rent boycotts were used as a strategy to fight apartheid.

Second, the apartheid government's principle of separate development was enforced in the townships in order to ensure that no meaningful development occurred in this sector. The result was that the decade leading up to 1994 was marked by a large number of mortgage defaults, the increase in the number of informal settlements and political instability.

In a bid to address the housing backlog the 1994 democratically elected government realized the necessity of persuading the banking fraternity to finance the low cost housing sector. The Mortgage Indemnity Fund and the Record of Understanding

contain resolutions drafted by the government and financial institutions in a bid to reach consensus on low cost housing finance. Woodstock (2004) argue that the Banking council attributes the increase in the number of houses repossessed to lenient underwriting rules imposed on banks by the Record of Understanding agreement.

The benefits of financing low cost housing through securitization can now be seen. Securitization widens the sources of funding beyond the finance packages offered by traditional banks in South Africa. The widening of finance to encompass the low cost housing sector will mean that assets that were largely ignored (such as homes that have no legal title) form part of South Africa's broader gross domestic product radar.

In addition, investors have the choice of investing directly in the low cost housing sector by purchasing mortgage- backed securities. More importantly, the creation of low cost housing mortgage backed securities permits the structuring of securities in such a way that they can appeal more closely to the preferences of investors with differing appetites for risk.

Studies in the USA show that the impact of institutions created for the purpose of financing the low cost housing sector on the housing finance market serves to reduce interest rates on residential mortgages that conform to underwriting standards by as much as 25 basis points (USCBO, 2001). Further research shows that during the mid

1990s, the differential was between 25-35 basis points.[2]The multiplier effect of a 25 basis point reduction in mortgage interest rates in the South African financial market is likely to create huge economic spin-offs in the low-income sector.

Kolari *et al*. (1998) argue that an increase in MBS issuance by 10% lowers mortgage yield spreads by 20 basis points.

The securitization of the low cost housing sector can supplement South Africa's bank - oriented finance system and can allow the housing finance system to access the capital market directly.

2.2.10 Conclusion

The SAHL's securitization scheme has demonstrated that a mortgage-backed securitization scheme can be done successfully in the higher end of the property market. The legal, economic and institutional frameworks exist in South Africa that can sustain securitization projects. However, the low-cost housing sector presents numerous challenges that can be addressed by the government, financial institutions and the beneficiaries of low-cost housing.

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[2] See Hendershott and Shilling (1989) and Cotterman and Pearce (1996)

The biggest challenge is to convince the government to consider the use of securitization as a financing tool for the low-cost housing sector. The literature review showed that in Australia, the government took deliberate steps to influence the private sector to be involved in securitization projects for low-cost housing. The private sector normally engages in housing projects with a view of getting financial rewards and not for social reasons. However, the private sector cannot be expected to drive securitization projects designed to eliminate social housing challenges.

CHAPTER 3

3 RESEARCH METHODOLOGY

3.1 RATIONALE FOR RESEARCH METHODOLOGY

Chapter two discussed the literature pertaining to mortgage-backed securitization and further highlighted the need to investigate the changes that are needed in the legal, social and economic environment. This Chapter discusses the researcher's choice of the face-to-face interview method, sample design and reliability.

A literature survey was conducted to identify the reasons why the government, developers and banking institutions have not exploited the gap in the market for low-cost housing. The survey identified factors that must be present in order to make the securitization of low-cost housing possible.

From this literature review, both open-ended and closed questionnaires were then formulated based on the respondents' opinions concerning credit risk and how changes in the legal and institutional frameworks are likely to entice all three key stakeholders into the low-cost housing securitization market.

The methodology of the research chosen in this study was the face-to-face interview survey method. This method was chosen over telephonic surveys because it enabled the researcher to establish rapport with participants. Although telephone surveys are not time consuming, their response rate is not as high as that of face-to-face interviews. In addition, the sample in telephonic interviews is biased to the extent that some representatives of the entire population with no telephones are excluded.

Respondents were asked to fill in questionnaires during the interviews.

Gall, Borg and Gail (1996) argue that findings from survey questionnaires can be generalized to the larger population that the sample is supposed to represent.

3.2 PARTICIPANTS

Five groups were solicited for participation. The first group represented large commercial banks which provide financing through the issuance of mortgages. Questionnaires were designed to find out from key property finance experts how low-cost housing could be securitized successfully. Only the big four banks (ABSA, Nedcor Group, Standard Bank and First National Bank) were chosen because of their involvement in the financing of property. Very few small banks are involved in the housing market and because of this they are excluded.

In the second subgroup, randomly chosen Gauteng developers registered with the National Housing Builders Registration Council (NHBRC) were asked to give their opinions on the securitization of low-cost housing. In order to randomly select developers from a population of thirty five, a statistical chart with random numbers was used.

The third group of experts was solicited from government policy makers dealing with housing in national and local government level. The bulk of these managers were randomly selected from the Department of Housing. Top housing officials were asked to give their views on whether government guarantees on defaulting home owners would make securitization a success.

In the fourth group, institutions involved in the construction of low-cost housing such as the Social Housing Corporation, National Department, National Association of Social Housing Organization and the Social Housing Foundation were solicited.

The fifth group consisted of the three SAHL residential projects. Questionnaires were designed to gauge the extent of the success of the projects with a view to find out if the same solution can be used for low-cost housing.

3.3 SAMPLE DESIGN

The biggest advantage of a sample survey is its ability to estimate the distribution of a characteristic on a defined population with precision. The best way of structuring sample designs is to devise a method that involves the selection of a technique that enables one to choose elements from the population of interest. Sample designs should enable one to choose either a probability or non-probability design (Emory and Cooper 1991). However, sample surveys are fraught with serious errors that need to be monitored if a research report has to produce credible results

Groves (1989) noted that sample surveys are subject to the following sources of error:

Coverage error: The result of all units in a defined population not having a non-zero probability of being included in the sample drawn to represent the population.

Sampling Error: The result of surveying a sample of the population rather than the entire population

Measurement Error: The result of inaccurate responses that stem from poor question wording, poor interviewing, survey mode effects and some aspects of the respondents' behavior.

Non-Response Error: The result of non-response from people in the sample, who, if they had responded, would have provided different answers to the survey questions than those who did respond to the survey.

An attempt was made to minimize sampling error, coverage error and non-response error by the use of a sampling design technique that ensures that the samples are randomly chosen and representative of the parent population.

Smith (2000) suggests a five point process of determining the sample size. However in this research, the sample relating to developers was randomly selected from the NHBRC registered developers. The small number of financial institutions involved in low-cost housing finance and the fewer number of government officials involved in low-cost housing influenced the choice of a method that entailed a random selection of 15 participants from each organization.

In addition to the fewer number of financial institutions servicing the low cost housing sector, very few rating agencies operate in the South African financial market and because of this, only two rating agencies were solicited.

3.4 DATA COLLECTION

The instrument for the study consisted of questionnaires personally administered by the investigator to interviewees.

The questionnaires used to collect data from developers had 26 items. There were 16 items in the questionnaire designed for financial institutions and 22 for government officials. In addition, the questionnaires contained intervening questions with open ended responses that were categorized upon collection.

The survey asked respondents questions regarding factors that are limiting their participation in the securitization of low-cost housing and solicited their opinions on what needs to change in order to make securitization an effective mechanism for financing low-income housing. The last five items on the survey related to the role of the government, developers and financial institutions in the securitization of low-cost housing.

A variety of questions were posed to respondents. A few questions asked respondents to suggest other factors that might be relevant besides the ones specified on the questionnaire. Most of the questions were posed in a Likert – scale design while some required categorical responses.

There are a number of reasons why the Likert scale was chosen. First, these scales produce data that can be scaled using intervals (Madsen 1989; Schertzer & Kernan 1995). Second, Likert scales are almost always treated as interval scales (see Kohli 1989).

The major drawback about Likert scales concerns the controversy surrounding the number of points in the scale (Armstrong 1977) and because of this experts have

mixed views about letting respondents remain “neutral” about a question (Newman, 1994).

Respondents completed questionnaires during the interview.

The last stage of the process involved the screening of the collected data for missing responses.

3.5 RELIABILITY AND VALIDITY

The degree to which a questionnaire measures what it is supposed to measure is called validity. Validity data describes the range of interpretations that can be appropriately used to explain test results (adapted from McDowell and Newell 1996).

Reliability – refers to the extent to which test scores are consistent if the test is administered to the same person on different occasions. The purpose is to estimate the degree of variance caused by error (adapted from Groth and Marnat 1988 and from Vanderploeg 2000). In this study, internal consistency reliability, which refers to the individual items in the scale, was used. Cronbach’s alpha test is a model of internal consistency reliability based on the extent to which a participant who answers a question in one way will respond to another question in a similar manner (Gall et al, 1996)

Cronbach’s alpha can be written as:

$$\alpha = \frac{k(average\,\mathrm{cov}\,ariance)/(average\,\mathrm{var}\,iance)}{1+(k+1)(\mathrm{cov}\,ariance)/(average\,\mathrm{var}\,iance)}$$

Where:

k = the number of items in the scale

Average covariance = the average covariance between the scale items

Variance = the average variance of the scale items

In this study, a cronbach alpha of 0.7 or higher is considered to be “acceptable”

The numerical results obtained from questionnaires completed by developers, financial institution and government questionnaires (respectively) were analyzed with the aid of a formula designed to ascertain the reliability coefficient of the data.

CHAPTER 4

4 DATA ANALYSIS

4.1 INTRODUCTION

The previous Chapter dealt with the reasons for the choice of the research methodology and the context in which the research took place.

This Chapter provides a detailed description of how the research was conducted.

What follows is an overview of the process. The rest of the Chapter describes the stages of the data collection and analysis.

4.2 QUESTIONNAIRE RESPONSES

A total of 62 people were interviewed and a further 5 property experts were solicited for their views on low-cost housing securitization.

4.3 DEMOGRAPHIC PROFILES OF CLIENT RESPONDENTS

Table 4.1 shows a demographic profile of the key stakeholders involved in the low-cost housing sector. In addition, the table shows that most of the people interviewed were key decision makers holding senior positions ranging from managers to directors of companies involved in the development of low-cost houses.

The existence of small number of financial institutions specializing in financing low cost housing coupled with an even smaller number of government officials in charge of housing, resulted in only 15 bank managers and 15 government officials being solicited for their opinion on low-cost housing issues.

Five of the region's leading property experts and five managing directors gave their insightful views on the securitization of low-cost housing.

Table 4.1 further shows that property developers were also solicited for their views on issues relating to low cost housing securitization.

Table 4.1: Demographic profiles of respondents

'Que #' = Number of question in the questionnaire;

*Client respondents: 'Dev' = Developer; 'Gvt' = Government Official; 'Build' = Builder; 'Fin Inst' = Financial Institution; 'Prop E' = Property Expert; 'Real E'= 'Real Estate 'All' = All clients combined.

% = Percentage of number of respondents in the category.

Que #	Demographic question in clients' questionnaire	Client respondents*						
		Dev	Fin Inst	Prop E	Gvt	Build	Real Est	All
		%	%	%	%	%	%	%
	Client category	1	2	3	4	5	6	
	Total number of respondents	25	15	5	15	5	2	67
	Organization's property experience:							
	< 5 yrs	0	0	0	0	0	0	0
	5 - 10 yrs	3	4	0	3	0	2	12
	> 10 yrs	2	3	2	7	0		14
	Total number of respondents	5	7	2	10	0	2	26
	Respondent's experience in the low-income housing sector							
	< 5 yrs	0	0	0	0	0	0	0
	5 - 10 yrs	10	7	3	6	0	0	26
	> 10 yrs	15	8	2	9	10	4	48
	Total number of respondents	25	15	5	15	10	4	74
	Organizational status:							
	MD	5	0	0	0	0	0	5
	Director/senior executive	0	0	5	0	0	0	5
	Manager	17	15	0	0	0	0	32
	Senior staff	3	0	0	15	0	2	20
	Supervisor	0	0	0	0	15	0	15
	Government Administrator	0	0	0	15	0	0	15
	Other	0	0	0	0	0	0	0
	Total number of respondents	25	18	5	15	15	2	87
	Number of usable responses:	25	15	3	15	25	2	67

Table 4.1 shows that Real Estate professionals were interviewed. These professionals were composed of rating agencies such Fitch Ratings and Moody. In addition, different types of property developers were solicited. These included professionals specializing in town houses, residential property and low cost housing.

4.4 ANALYSIS OF KEY HOUSING STAKEHOLDER RESULTS

Developers, financial institutions and government institutions were asked to identify factors that are currently limiting their involvement in the securitization of low-cost housing and to rate the level of impact that changes in the legal, economic and social environment would influence their involvement in low cost housing securitization initiatives.

4.4.1 Method of Measurement

Respondents were asked to rate securitization related issues through the medium of a 5 point Likert scale as discussed in Chapter 3.

4.4.2 Key Parameters Involved in Computing Scores

The formula used to calculate mean return scores was adapted from Mbachu and Nkado (2002)

In this research, satisfaction scores (SS) are described as the rating that respondents assign to each securitization issue that they are asked to rate. Each subcomponent of the research is assigned a relative weight (RW). In addition to the (RW), a success index (SI) is described as the summation of the product rating point (R_{pi}) and their corresponding response (R_i%) described in Chapter 3

$$SS = RW \times SI \quad (4.1)$$

Where

SS = Satisfaction score for the subcomponent

RW = Relative weight of the subcomponent as established in the descriptive survey data analyses

SI = Success index, expressed as follows:

$$SI = \sum_{I=1}^{5} (Rp_i \times R_i\%) \quad (4.2)$$

4.4.3 Interpretation Of Results Obtained From Questionnaires Distributed To Developers

Out of 25 questionnaires administered to developers involved in the construction of low-cost houses, 25 were received as at the time of compiling this report. This represents a 100 % usable response rate. In terms of the experience the respondents had acquired in the low-cost housing sector, 60% of the respondents had operated in this sector for more than 10 years. This demographic profile implies that the respondents are highly experienced in the field of low-cost housing development. There is therefore reasonable evidence to assume that the responses were of high quality.

4.4.3.1 Factors needed to change for developers in the legal, economic and social infrastructure

The literature review showed that for securitization to take place in the low-cost housing sector changes were needed in the economic, social and legal frameworks. The relative levels of importance of factors limiting the involvement of developers were explored during the survey by asking the respondents to rate their levels of importance on a five-point scale. The factors that need to change in the legal, social and economic environment were analyzed from the respondents' basis of computed mean returns (MR). Factors having a positive influence on securitization are identified as those having mean returns greater than four to the highest point range of the five-point rating scale. Values greater than three but less than four are important even though they are perceived to have less influence in enticing developers to explore low-cost housing securitization. The results obtained are presented and analyzed in table 4.2.

The choice of values greater than four as against 3 (Neutral rating point) is to allow for the influence of a deviation of plus or minus one.

4.4.3.2 Interpretation of results

Table 4.2 is split into sections A-F: Section A covers factors that limit the participation of developers from taking part in the securitization process. Sections B, C and D discuss changes required in the legal, social and economic environments for low cost housing securitization to occur. Section E discusses policy changes required and finally, the role of developers in the securitization process is discussed in Section F.

Results showed that developers rated credit risk as a deterrent to their entry into the securitization of low-cost housing, followed by the lack of knowledge about securitization.

From a legal perspective, most developers preferred laws that allow them to repossess property whenever the buyer of a housing unit defaults on loan repayments. Despite the concerns of most property experts that our legal system has no clear property rights (with regards to low-cost housing in particular), most developers assigned a poor rating of 2.44 to the need to set up clear property rights (see section B of table 4.2).

Section D shows that developers assigned a higher rating to government guarantees and tax cuts granted to them as an incentive for their participation in securitization projects. Government guarantees and tax incentives received ratings of 4.98 and 4.13 respectively.

Section E results show that developers preferred that the government should enforce policies designed at encouraging insurance companies holding government pension funds in their portfolios, to invest in low-cost housing securitization initiatives. In other words, insurance companies benefiting from government pension funds should be involved in the origination of low cost housing assets. Results in section D show that developers are willing to take part in the securitization provided that they share credit risk with the government (mean rating of 4.65).

In addition, developers are willing to participate in securitization partnerships involving the government, developers and a financial institution (Section F). Furthermore, the role of developers should be limited to the task of developing houses while the role of the government should be that of providing land for developmental purposes. Section F shows that developers assigned a poor rating of 3.95 to the feasibility of building low-cost housing on government land located in elite suburbs.

Values in Table 4.2 show that developers assigned a poor rating to the idea of building low cost houses in the elite suburbs.

Table 4. 2: Levels of importance of securitization factors from a developers perspective

	LEVELS OF IMPORTANCE						
	VH	H	M	L	V L	TR	MR
	5	4	3	2	1		
A. Factors that limit the participation of developers in securitization projects							
1. Credit risk (the probability that the borrower will default)	0.40	0.33	0.17	0.07	0.03	25.00	4.00
2. Lack of knowledge of how securitization actually works.	0.33	0.40	0.17	0.07	0.03	25.00	3.93
3. The complexities of the securitization process	0.23	0.57	0.07	0.03	0.10	25.00	3.80
B. Changes that need to take place in the legal environment for low-cost housing securitization to take place							
1. Laws that allow a developer to repossess the house whenever a borrower defaults	0.57	0.20	0.07	0.13	0.03	25.00	4.14
2. A legal system of clear property rights	0.03	0.06	0.27	0.57	0.07	25.00	2.44
C. Changes that need to take place in the social environment for low-cost housing securitization to take place							
1. Communities should have a say in developmental issues	0.60	0.17	0.13	0.07	0.03	25.00	4.23
D. Changes that need to take place in the economic environment for low-cost housing securitization to take place							
1. Government guarantees should be given to investors buying low-cost housing securities in the open market	0.70	0.20	0.40	0.02	0.04	25.00	4.98
2. Tax incentives offered to organizations involved in the securitization of low-cost housing assets	0.63	0.10	0.13	0.07	0.03	25.00	4.13
E. Policy changes need for low-cost housing securitization to take place							
1. Developers and government should share credit risk	0.80	0.10	0.05	0.05	0.00	25.00	4.65
2. Policy that forces government pension funds to invest in low-cost housing securities	0.67	0.07	0.10	0.13	0.03	25.00	4.20
F. The role of developers in the low-income housing securitization process							
1. A partnership between the government, a financial institution and developers whereby the role of your organization is to develop low-cost houses	0.65	0.16	0.10	0.07	0.03	25.00	4.32
2. The feasibility of building low-cost townhouses in elite suburbs	0.59	0.08	0.05	0.26	0.03	25.00	3.95

* Levels of significance: VH = Very High; H = High, M = Medium; L = Low; TR = Total number of respondents

4.4.4 Low-Cost Housing Securitization From A Financial Institution Perspective

4.4.4.1 Financial institution response survey

Out of 10 questionnaires administered to financial institutions involved in the financing of low-cost houses, 10 were received as at the time of compiling this report. This represents a 100 % usable response rate. In terms of the experience the respondents had acquired in the finance industry, 80% of the respondents have financed low-cost housing for more than 10 years. This demographic profile implies that the respondents are highly experienced in the development of low-cost housing. The limited number of institutions specializing in financing low-cost housing casts some limitations on the quality of the data.

4.4.4.2 Factors underlying the financing of low-cost housing

One of the biggest challenges facing financial institutions wishing to invest in the low-cost housing sector is the high rate of loan defaults. During the 1990s, defaults on loans in this market increased and banks cited credit risk as the number one reason for limiting their investments in this sector.

Fifteen constructs were identified as recurring themes and results showed that these could broadly be classified as factors that need to change in the legal, economic and social sectors.

Respondents were asked to indicate the relative importance of these factors in contributing to the success of securitization as method of financing low-cost housing.

Factors having a positive influence on securitization are identified as those having mean returns greater than four to the highest point range of the five-point rating scale. Values of less than four are perceived to have less influence in enticing financial institutions to take part in low-cost housing securitization.

The results obtained are presented in table 4. 3

Table 4.3: Levels of importance relevant to financial institutions

	VH	H	M	L	V L	TR	M R
	5	4	3	2	1	25	
A. Factors Limiting financial institutions from taking part in Securitization projects							
1. Bank policy	0.80	0.07	0.13	0.00	0.00	25.00	4.67
2. Inability of the bank to exercise its lien whenever a borrower defaults	0.53	0.33	0.07	0.07	0.00	25.00	4.33
B. Changes Needed in the economic environment in order to facilitate the success of securitization							
1. The development of economic infrastructure in the low cost housing areas	0.53	0.27	0.13	0.07	0.00	25.00	4.27
2.The establishment of easier rules designed to assist smaller players in the LIH securitization market	0.07	0.13	0.47	0.20	0.13	25.00	2.80
3. Government guarantees on defaulting borrowers	0.13	0.20	0.27	0.33	0.07	25.00	3.00
4. Investment return guarantees by government on LIH securities purchased by private investors	0.10	0.23	0.27	0.27	0.13	25.00	2.90
C. Policy changes required in order to facilitate the success of securitization							
1. The elimination of crime	0.67	0.13	0.07	0.13	0.00	25.00	4.33
2. A government policy designed at creating sustainable jobs in the townships	0.53	0.20	0.20	0.07	0.00	25.00	4.20
D. The Role of Financial Institutions In the Securitization Process							
1. Your organization's capacity to enter into low-income securitization joint venture agreements with the government and a developer	0.66	0.20	0.13	0.00	0.00	25.00	4.50
2. Your organization's capacity to finance low-income housing beneficiaries by way of mortgages	0.40	0.26	0.20	0.07	0.07	25.00	3.84
3. Your organizations capacity to pool mortgage loans and to arrange the necessary insurance	0.33	0.46	0.20	0.00	0.00	25.00	4.11
4. Your organization's capacity to pool mortgage loans and to transfer them to a special purpose vehicle.	0.40	0.27	0.07	0.00	0.27	25.00	3.54
5. Your organization's capacity to service loans and to ensure that the SPV issues securities to the public	0.47	0.20	0.13	0.13	0.07	25.00	3.87

* Levels of significance: VH = Very High; H = High; M = Medium; L = Low; VL = Very Low; MR = Marginal Rate

* TR = Total number of respondents rating a particular variable

4.4.4.3 Interpretation of financial institution survey results

From the mean return values in table 4.3, it can be deduced that factors identified as those limiting the participation of financial institutions are significant in that their mean scores are greater than four.

In Section A of Table 4.3, the need to change bank policy was rated as an important factor in changing negative perceptions towards meaningful investment in low-cost housing sector. Most respondents expressed the need to scrap policies such as redlining and negative perceptions of the low-cost housing sector.

When asked about what factors in the economic environment need to change in order to facilitate low-cost housing securitization, most respondents rated the development of economic infrastructure in the low-cost housing sector as a significant factor in reducing credit risk (mean return 4.27). In contrast, the idea of establishing easier rules designed to assist new players in the securitization arena received poor ratings (mean rating 2.80). In addition, government guarantees on defaulting borrowers received poor ratings (mean rating 3). This is surprising because credit risk is rated highly as one of the factors limiting the participation of financial institutions and developers.

From the mean return values in Section C of table 4.3, it is clear that respondents rated the elimination of crime and creation of jobs in low-income communities as significant since their mean returns range above 4. Most respondents suggested that some of the ways of creating jobs was to relocate government departments to townships and to give tax concessions to companies creating factories in these areas. In addition, developers could assist by developing shopping malls and the banking fraternity should relocate some of their braches to the townships.

In Section D, results show that respondents rated their organization's capacity to originate low cost housing assets highly. Despite the fact that respondents rated the ability of banks to pool mortgage loans for securitization purposes (mean return of 4.11), most respondents rate the granting of mortgages to low income earners negatively (mean return of 3.84).

Results show that respondents assigned a rating of 3.87 to the financial institutions capacity to service loans and to ensure that SPV's functions optimally.

4.4.5 Low-Cost Housing From A Government's Perspective

Table 4. 4 shows that there are currently a number of factors that are limiting the participation of the government in securitization projects. The need to address poverty dating back to the apartheid era has influenced the choice of the current financing

method that the government is using to finance low-cost housing (subsidies instead of mortgages). A number of changes need to happen in the economic, legal and social institutions in order to make securitization an attractive finance mechanism for the government. It is imperative that the government should work hand in hand with financial institutions and in particular with banks.

4.4.5.1 Government response survey

A total number of 15 questionnaires were administered to key government policy makers in the National and Provincial government sectors.
The response rate was 100% because all 15 questionnaires were received.
In terms of experience, 67% of the respondents had worked in the Housing Department for more than 10 years.

An analysis of the demographic profile shows that respondents are highly experienced in the housing development field. The limited number of government officials interviewed should not in any way be seen as affecting the quality of this report.

4.4.5.2 Interpretation of Government results

From the values in Table 4. 4, it can be deduced that respondents indicated that their organization's non involvement in the securitization of low cost housing is due to the fact that the government is concerned about the level of poverty and therefore would rather resort to subsidizing low income earners. In addition to the government's concern for the poor, the need to address the housing crisis has to a large extent resulted in the government shelving immediate plans for resorting to the financing of low cost housing via securitization.

Furthermore, values from table 4.4 show that most respondents did not have a good knowledge of how securitization actually works (mean return of 4.75). This seems to suggest that even if securitization is ultimately chosen as the appropriate financing method, the state lacks the capacity to implement securitization initiatives.
Respondents rated the inflexibility of the National Housing Code as one of the reasons for the government's none participation.
Results in Section B show that respondents would like to see changes in legislation forcing financial institutions to finance housing when required by government (mean rating 4.65). The suggested method of achieving this objective is to pass legislation

advocating the formation of a bank charter that will require banks to invest a significant portion of their funds in low cost housing.

When asked about what social issues needed to be addressed, most respondents rated the elimination of crime and the creation of job opportunities in low-income communities as significant factors in kick-starting securitization (mean returns of 4.20 and 4.80 respectively). Most respondents regard these factors as key drivers in attracting key stakeholders such as financial institutions and developers in the low-cost housing sector.

When asked about what changes are needed in the economic environment, most respondents rated the establishment of key economic growth points in the townships highly (mean return of 4.90), whereas the willingness by the government to bear partial losses that may arise due to mortgage defaults received poor ratings.

Results in Section F show that respondents rated the government's role in providing land for housing highly and regarded such an initiative as highly feasible as well (mean return of 4.75).
In section F, respondents were asked whether they regarded the participation of government in the securitization of low cost houses by forming partnerships with developers and financial institutions as an activity that respondents would deem to be feasible or otherwise. Results show that most respondents regarded the participation of government in such initiatives as highly feasible (mean rating of 4.50).

Table 4.4: Levels of importance of securitization factors from a government perspective

	Levels of importance						
	V H	H	M	L	VL	TR	M R
	5	4	3	2	1	10	
A. Factors Limiting government from taking part in Securitization projects							
1. The need to address the housing crisis dating back to the legacy of apartheid and separate development	0.90	0.10	0.00	0.00	0.00	15	4.90
2. The level of poverty of low income earners	0.80	0.15	0.05	0.00	0.00	15	4.75
3. Lack of knowledge of how securitization works	0.75	0.25	0.00	0.00	0.00	15	4.75
4. Government policy- the inflexibility of the Housing Code is an inhibitor	0.65	0.32	0.00	0.00	0.03	15	4.56
B. Changes Needed in the legal environment in order to facilitate the success of securitization							
1. A bank charter that forces banks to fund housing whenever the government needs funding	0.70	0.25	0.05	0.00	0.00	15	4.65
2 Tax breaks for organizations involved in low-cost housing securitization with the government	0.15	0.15	0.70	0.00	0.00	15	3.45
C. Social changes required in order to facilitate the success of securitization							
1. The creation of job opportunities in the low-income communities	0.80	0.20	0.00	0.00	0.00	15	4.80
2. Elimination of crime in the townships	0.53	0.20	0.20	0.07	0.00	15	4.20
D. Changes Needed in the economic environment for securitization to take place.							
1. The creation of local economic development zones and government jobs in the townships	0.90	0.10	0.00	0.00	0.00	15	4.90
2. A commitment by the government to bear a portion of the losses that come about as a result of mortgage defaults	0.40	0.26	0.20	0.07	0.07	15	3.84
E. Policy changes needed to kick start low-income housing securitization							
1. Tax incentives for banks and developers	0.05	0.20	0.10	0.65	0.00	15	2.65
F. The role of the government in the securitization of low-income housing							
1. If the government's role in the securitization process was to make available vacant land on which to build low-cost housing. How feasible is this for the government?	0.80	0.15	0.05	0.00	0.00	15	4.75
2. How feasible is it for the government to enter into partnerships with developers and banking institutions?	0.75	0.10	0.05	0.10	0.00	15	4.50

* Levels of significance: VH = Very High; H = High; M = Medium; L = Low; VL = Very Low; MR = Marginal Rate

* TR = Total number of respondents rating a particular variable

4.4.6 Interpretation Of Satisfaction Scores Obtained From Questionnaires Distributed To Developers

What follows is an analysis of satisfaction scores calculated according to equation 4.1

Respondents were asked to analyze, limiting factors, the legal, economic and social factors in terms of their importance to the securitization of low-cost housing

In addition, respondents were also asked to analyze the role of developers, government and financial institutions in the securitization process.

After analyzing these five factors, respondents were further asked to rank them according to their levels of importance and to assign relative weights to each of the six categories shown on table 4.5.

Table 4.5 Developer satisfaction scores

Securitization satisfaction scores relating to Developers

*RW = Relative weights of subcomponents as established in the descriptive survey data analyses (Table 4.5);

*Satisfaction levels: VH = Very High; M = Medium; L = Low; VL = Very Low

SI = Satisfaction index (Eq. 4.2); SS = Success score (Eq. 4.1); TR = Total number of respondents

		* Levels of importance								
		VH	H	M	L	VL				
		5.00	4	3	2	1				
*Factor	*RW	%	%	%	%	%	TR	SI	Rating	*SS
a) Limiting Factors	0.3	0.65	0.1	0.05	0.1	0.1	25	4	1	1.2
b) Economic Factors	0.2	0.4	0.3	0.2	0.1	0	25	4	2	0.8
c) Legal Factors	0.14	0.6	0.35	0.05	0	0	25	4.55	3	0.637
d) Policy	0.16	0.45	0.15	0.3	0.1	0	25	3.95	4	0.632
e) Social	0.1	0.8	0.1	0.05	0.05	0	25	4.65	5	0.465
f) Role of Developers	0.1	0.7	0.12	0.08	0.1	0	25	3.95	6	0.395
	1									4.129

Low-income housing Securitization issues from a developer's perspective:

a) Factors limiting the involvement of developers; b) Factors that need to change in the economic environment; c) Factors that need to change in the legal environment; d) Policy changes needed; e) Social changes needed; f) the role of developers in the securitization process

When developers were asked to indicate a relative weight to each of the six factors shown in Table 4.5, thirty percent rated factors limiting their participation in low-cost

housing securitization projects as important in influencing their decision whether to securitize low cost houses or not. The resultant satisfaction score of 1.2 shows that developers are of the opinion that the presence of limiting factors such as credit risk and a lack of knowledge about how securitization works (see Table 4.2) are important issues that need to be addressed before securitization becomes an attractive financing mechanism.

Twenty percent of the respondents regarded changes in the economic environment as crucial in influencing their decision to participate in securitization initiatives. An analysis of the rankings and satisfaction scores shows that economic factors were ranked second and the resultant satisfaction score is 0.8.

It is surprising that respondents regarded factors such as government guarantees and tax concessions as falling within the economic environment.

Furthermore, results in Table 4.2 show that respondents would like the government to provide guarantees to investors buying low cost housing securities.

From a tax perspective, tax concessions given to developers involved in low cost housing would entice developers into the low cost housing securitization market (see Table 4.2).

Table 4.5 shows that respondents assigned a weight of 14% to the importance of legal issues that they would like to see happen before securitization occurs in the low cost housing sector. Legal changes were ranked third. An analysis of Table 4.2 show that developers would like law makers to draft legislation that would allow them to repossess low cost houses whenever borrowers default. Such laws would give make it attractive for developers to participate in low cost housing securitization.

Developers ranked their role in the securitization of low cost housing sixth. This is surprising in that there are economic benefits associated with getting involved strategic partnerships with the government and financial institutions.

Changes in the social environment were ranked fifth in terms of their relative importance to the success of the securitization process. Table 4.5 shows that these factors received a satisfaction score of 0.465.

4.4.7 Interpretation Of Satisfaction Scores Obtained From Questionnaires Distributed To Government Officials

In this section, government officials were asked to review the six categories relating to securitization and to rank their level of importance in limiting them from using securitization. Government officials were also asked to rank the impact that changes in the legal, economic and social environment will have on their capacity to participate in

low cost housing securitization initiatives. In addition, officials were also asked to rank the six categories according to their relative importance.

Table 4.6 : Government satisfaction scores

Securitization satisfaction scores relating to Government

*RW = Relative weights of subcomponents as established in the descriptive survey data analyses (Table 4.5);

*Satisfaction levels: VH = Very High; M = Medium; L = Low; VL

SI = Satisfaction index (Eq. 4.2); SS = Success score (Eq. 4.1); TR = Total number of respondents

		*levels of importance								
		VH	H	M	L	VL				
		5.00	4	3	2	1				
*SF	*RW	%	%	%	%	%	TR	SI	Rating	*SS
a) Limiting Factors	0.26	0.77	0.08	0.07	0.06	0.02	15	4.5	1	1.17
b) Social Factors	0.19	0.86	0.04	0.04	0.03	0.03	15	4.64	2	0.8816
c) Role of Government	0.16	0.7	0.12	0.08	0.1	0	15	4.5	3	0.72
d) Policy changes	0.15	0.8	0.15	0.05	0	0	15	4.75	4	0.7125
e) Economic Factors	0.15	0.7	0.25	0.05	0	0	15	4.65	5	0.6975
f) Legal Changes	0.09	0.4	0.3	0.2	0.1	0	15	4	6	0.36
	1									4.5416

*SF: Low-income housing Securitization factors from the government's perspective:

a) Policy changes; b) Factors that need to change in the social environment; c) Role of Government; d) Limiting factors; e) Economic changes needed; f) Changes needed in the legal environment

Results in Table 4.6 show that government officials identified factors that are limiting them from taking part in securitization projects and ranked these factors number one. Table 4.4 identified these factors as the level of poverty prevalent in low income earners, the urgent need to address the housing crisis dating back to the apartheid era and the inflexibility of the housing code.

The high relative weight and ranking assigned to **the limiting factors** suggests that the government will have to drastically change its current housing policy. A change is required in the methodology of financing low cost houses-from one that finances houses through subsidies to one that uses mortgages.

Values in Table 4.6 show that government officials will consider taking part in the securitization process provided that certain changes need to occur in the **social**

environment. Table 4.4 identified these factors as the elimination of crime and the creation of job opportunities in the low cost housing sector. Social changes were ranked second and were assigned a relative weight of 0.8816.

Results in Table 4.6 show that the role of government (that of providing land for houses) was assigned the fourth highest ranking. Furthermore, the needed to change government policy was raked fifth.

4.4.8 Financial Institution's Satisfaction Scores

In this section, senior managers working for financial institutions were asked to review the factors listed in Table 4.7. The managers were then asked to rank these factors according to their importance in influencing their organization's capacity to take part in low cost housing initiatives. Furthermore, they were also asked to weight these factors according to their level of importance.

Table 4.7 shows a summary of the weighted average results

An analysis of the results shown in table 4.7 shows that limiting factors are of great concern to financial institutions. The number one ranking of limiting factor scores serves to underline the fact that factors such as bank policy and the inability of the banks to attach property whenever a borrower defaults, severely limit the participation of banks in low cost housing securitization initiatives. The results in Table 4.7 are consistent with the results in Section A of Table 4.3 where the marginal returns are high (4.67 and 4.33 respectively.

Results in Table 4.7 show that financial institutions ranked the need to change the economic environment (ranked second) highly. This is consistent with Table 4.3 where a mean return of 4.27 was assigned to the need to create economic zones in the low cost housing sector.

Table 4.7 : Financial Institution satisfaction scores

Satisfaction scores relating to financial institutions

*RW = Relative weights of subcomponents as established in the descriptive survey data analyses (Table 4.5);

*Satisfaction levels: VH = Very High; M = Medium; L = Low; VL

SI = Satisfaction index (Eq. 4.2); SS = Success score (Eq. 4.1); TR = Total number of respondents

		*Levels of importance								
		VH	H	M	L	VL				
		5.00	4	3	2	1				
*SF	*RW	%	%	%	%	%	TR	SI	Rating	*SS
a) Limiting Factors	0.24	0.8	0.15	0.05	0	0	15	4.75	1	1.14
b) Economic	0.21	0.7	0.25	0.05	0	0	15	4.65	2	0.9765
c) Legal changes needed	0.17	0.4	0.3	0.2	0.1	0	15	4	3	0.68
d) Role of Financial Institution	0.16	0.7	0.12	0.08	0.1	0	15	3.85	4	0.616
e) Policy	0.12	0.43	0.15	0.3	0.1	0.02	15	3.85	5	0.462
f) Social changes required	0.10	0.77	0.10	0.05	0.05	O03	15	4.5	6	0.45
	1									4.3245

*SF: Low-income housing Securitization issues from a financial institution's perspective:

a) Factors limiting the involvement of financial institutions; b) Factors that need to change in the legal environment; c) Factors that need to change in the economic environment; d) Factors that need to change in the social environment; e) Policy changes needed; f) the role of financial institutions in the securitization process

Lower satisfaction scores were recorded for the impact of changes in policy (satisfaction score of 0.45). This is not surprising, as financial institutions are concerned about credit risk and returns on investment rather than policy changes.

What is rather surprising is that the relative weight figure for social factors is low considering the fact that crime and rampant unemployment make investing in the low cost housing sector unattractive.

4.4.9 Reliability And Fit

Cronbach Alpha coefficients were calculated for the components of each measurement scale to verify internal consistency. The internal consistency estimates for every component of each subscale are featured in Table 4.9 below. The Cronbach alpha levels of all subscales exceeded the value of 0.70 suggested as adequate by Nunnally and Bernstein (1994) with the exception of the financial institution's subscale ($\alpha =$

0.69). Although sub-standard reliability scores were obtained from the financial institutions questionnaires, an alpha of 0.69 was considered to be close enough to 0.7 and because of this, the results were considered to be authentic. Scale fit was assessed via a confirmatory factor analysis performed on each scale using
LISREL 8.70 software (SSSI Scientific Software, Lincolnwood). The calculated fit indices for all scales can be found in Table 4.9.
An analysis of the Root Mean Square Error of Approximation for all scales shows that it was at or below 0.1, the maximum value threshold suggested by Steiger (1990) and Kelloway (1998) to indicate reasonable fit of the data to the model. Comparative fit was assessed via the Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), and Comparative Fit Index (CFI). A further analysis of the fit indices for all scales met or exceeded the minimum threshold value of 0.90.

Table 4.8 : Reliability statistics

Fit Index	Developers	Government	Financial Institution
RMSEA	0.1	0.08	0.095
NFI	0.95	0.8	0.76
NNFI	0.94	0.93	0.97
CFI	0.97	0.93	0.92
Alpha	0.7	0.7	0.69

Where:
RMSEA = Root Mean Square Error of Approximation;

NFI = Normed Fit Index;

NNFI = Non-Normed Fit Index;

CGI = Comparative Fit Index

4.4.10 Summary

The conclusion that can be drawn from the findings of this study is that developers, financial institutions and government are keen on forming low-income housing

securitization partnerships, and that changes are needed in the legal, economic and social environment in order to create the right conditions for a well functioning securitization system.

There are a number of factors that are limiting the participation of key stakeholders in the securitization market. For the government, the need to address poverty and the housing backlog dating back to the apartheid era discourages the government from adopting any financing system that might cause financial hardships for the poor. In contrast, most banking institutions have policies that discourage investments in low-cost housing projects (for example redlining). However, financial institutions rated the creation of employment opportunities in the low-cost housing sector as drivers for securitization but mentioned the fact that they have little incentives to engage in securitization projects.

Although developers are very keen on forming housing development partnerships for the low-cost housing sector, most were concerned about credit risk and rated the sharing of credit risk with the government highly.

What was evident from the interviews with industry experts was that most industry experts rate the lack of a large number of mortgage buyers and credit risk as two factors that are making low-cost housing securitization unattractive. The results, however, show that for securitization to take place in the low-cost housing sector, changes in the economic and social environment are necessary.

Figure 4.1 shows a summary of Chapter 4 results and further highlights the fact that banks and developers are concerned about credit risk. Furthermore, measures such the development of economic infrastructure, tax concessions and job creation were suggested as ways of eliminating credit risk. Furthermore, the government needs to change its financing policy and at the same time educate officials on the benefits of securitizing the low cost housing sector.

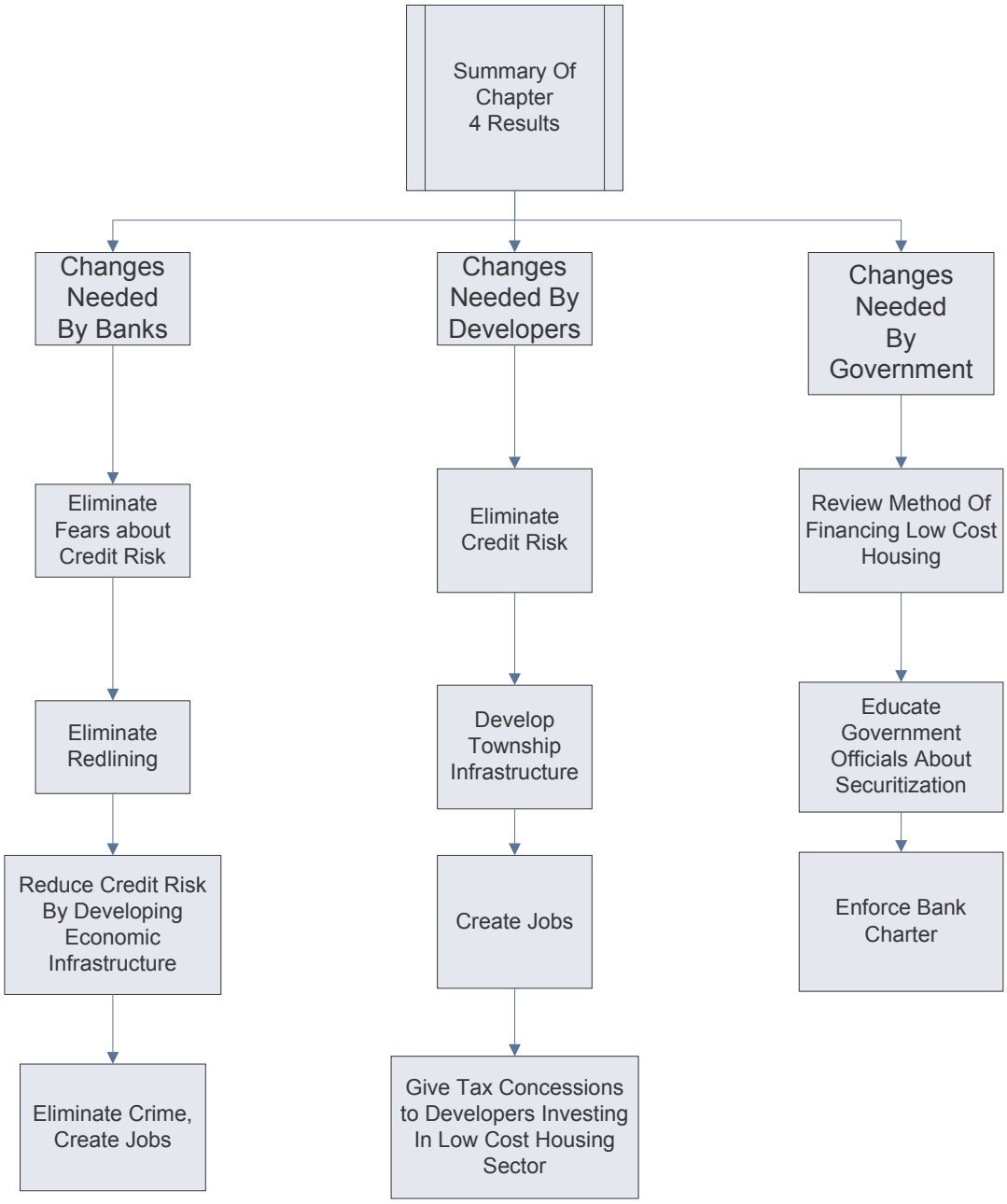


Figure 4.1: A summary of Chapter 4 results.

Figure 4.1 further shows that developers are concerned about credit risk and therefore regard job creation and tax concessions as important in making the low cost housing sector attractive.

CHAPTER 5

5 CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

In section 2.3 of Chapter two, Lieske and Blumenfield (1998) introduced literature on how mortgaged-backed securitization actually works and how securitization can be used to finance housing. In addition, Chapter two reviewed literature that highlighted the fact that securitization is currently being used by SAHL to finance residential property in the higher income bracket and that although an opportunity exists for a similar financing method in the low-income housing sector, no organization seems to be exploiting this opportunity.

From the survey that was conducted on government institutions, developers and banking institutions, it is clear that these key stakeholders are willing to take part in low-cost housing securitization projects provided that conditions in the legal, economic and social environment are right.

Chapter 4 discusses the results of the research finding. Some of the research's findings do confirm expectations from extant literature. However, this is the first time that mortgage-backed securitization has been discussed from the perspective of developers, government and financial institutions, with particular emphasis on South Africa's low-cost housing sector.

An attempt was made to find out whether a partnership involving all three key stakeholders in a securitization project would stimulate renewed interest in the low-cost housing sector. Results show that all key stakeholders favor this approach for the South African low-cost housing sector.

Chapter four highlighted the factors that all key stakeholders regarded as important and suggested ways of mitigating credit risk ranging from the development of economic infrastructure, job creation initiatives and tax concessions.

5.2 CONCLUSIONS ABOUT RESEARCH ISSUES & PROPOSITIONS.

The final set of factors in the initial conceptual framework of this research illustrated in sections 2.4 to 2.6 of Chapter two show that securitization can be used as a financing mechanism for the low-cost housing sector and to reduce credit risk.

In this section, the existence of legal, economic and institutional frameworks necessary to support securitization will be discussed.

First, the appropriate legal frameworks and institutional structures will be discussed.

The need to change the legal framework and institutional structures in order to create conditions that are conducive for securitization to take place in the housing sector, have attracted considerable attention in literature.

White (2004) and Lange (1999) argue that appropriate legal frameworks and institutional structures must be in place to support mortgage-backed securitization and that the government must be sympathetic to mortgage-backed securitization initiatives.

This research had interesting findings about these factors. The values in Table 4.2 section D show that developers prefer that the government should give guarantees and tax concessions to organizations involved in the securitization of houses. In addition, values in Table 4.3 Section F show that respondents regarded the participation of the government in low-cost housing partnerships with developers and financial institutions highly.

The results in Chapter four show that in the economic environment for instance, there is a need to change the current macro-economic policy to one that focuses on the development of economic infrastructure in the low cost housing sector, in such a way that sustainable jobs are created. In general, these findings about the need for government to drive the economic development of the low cost housing sector are consistent with the literature reviewed in Chapter two.

When asked about what changes are needed in the social environment, respondents cited the elimination of crime and initiatives to educate low cost housing dwellers the importance of making mortgage repayments. Values in table 4.3 show that respondents rated the elimination of crime and the creation of jobs highly (mean returns of 4.20 and 4.80 respectively).

Furthermore, the results in Table 4.2 are consistent with securitization initiatives particularly in the United States where the government's intervention in the housing and finance markets was motivated by the failure of private markets to meet its housing objectives (Vandell, 1995, Fabozzi and Mogidiliani, 1992).

An analysis of the factors that are limiting the participation of key stakeholder's shows that for government, the need to reduce poverty and the lack of knowledge about securitization were significant issues hampering entry into the securitization market. Financial institutions on the other hand, cited bank policy and the inability of banks to exercise their lien whenever borrowers default on their loan obligations (Table 4.3).

Another factor limiting the participation of banks is bank policy. In general, credit risk is the driver of bank policy (Table 4.3 section A). However, securitization is a structured finance mechanism that can be used to diversify credit risk. This is consistent with

Bar's argument that securitization can be useful as a market-oriented credit risk management mechanism (Bar, 1997, pp 198). Furthermore, Benveniste and Burger (1987) demonstrated that securitization tranches resemble secured debt, whose agency costs may be lower than unsecured debt (Stulz and Johnson, 1985, Berkovitch and Kim, 1990).

Securitization is a financing mechanism that is favored by corporations seeking new sources of financing and ways of diversifying risk. Kloman (1988) argues that reasons for managing risk are linked to corporate policy. Corporate policy is indeed paramount for organizations embarking on a risky project such as the securitization of low cost housing.

When asked whether it is feasible for government to provide land on which to build low-cost housing, respondents rated government's capacity to do so highly (Table 4.3). However, developers rated the idea of building low-cost houses in elite suburbs negatively (mean return of 3.95).

Values in Tables 4.1, 4.2, and 4.3 show that all key stakeholders assigned a high rate to the formation of low-cost housing securitization partnerships.

5.3 RECOMMENDATIONS

South Africa's housing crisis is understood primarily as an outcome and aspect of poverty. In this regard, the country's housing policy takes into account the fact that the bulk of low income earners cannot afford to finance their homes. The state assists low income earners by giving them subsidies. The bulk of such subsidies have been delivered through developer-driven mass projects that do not give beneficiaries the onus of choosing the location and type of shelter they prefer

Furthermore, it is increasingly accepted that developers and financial institutions cannot be expected to participate in the securitization of low cost housing because their profit driven motives conflict with the state's need to alleviate the housing crisis. The government needs to drive the securitization process by changing the economic, legal and institutional frameworks in a manner that aligns the motives of developers and financial institutions to its overall objective of reducing the housing crisis.

In this section, an attempt will be made to suggest a low cost housing securitization model based on securitization building blocks first introduced in Chapter two. However, the model introduced in this section incorporates most of Chapter four's results.

The assumptions of the model are:

- The first phase of the project will start with the construction of low-cost houses on vacant government land.
- securitization can only succeed in the South African scenario provided that the government, developers and financial institutions agree to work together by forming low cost housing securitization partnerships
- Beneficiaries will be required to pledge their mortgages and pension funds as collateral security. The government will provide additional collateral.
- That the government will guarantee mortgages on problematic mortgage loans.
- Beneficiaries will be educated on issues that relate to mortgages and on what to do when they face financial difficulties.
- Developers and construction companies are aware of the benefits of securitization.
- The book value of the mortgage loans is large enough to justify a private placement.

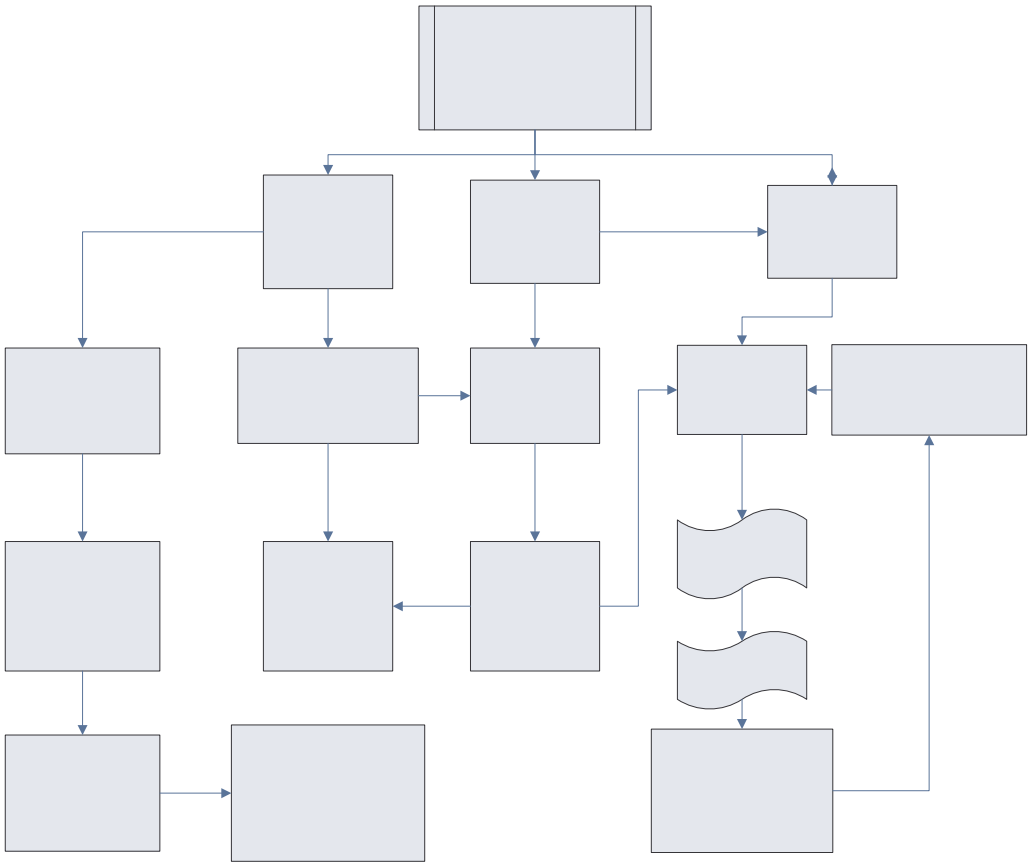


Figure 5.1: Low cost housing model

Figure 5.1 shows the proposed low cost housing model. The model proposes a partnership involving the government, developers and a financial institution (results in Table 4.2 section F show that developers favor the formation of such partnerships). Each of the three parties has a specific role to perform.

The government should play a major role in minimizing credit risk by developing economic infrastructures in the townships (see section D Table 4.4) and by creating job opportunities in the low cost housing sector.

In addition, the government should perform the following additional roles.

To make available land on which to build low-cost houses (section F, Table 4.4).

To identify beneficiaries that earn R3500 per month, to process applications and to transfer title (section B, Table 4.3)

To guarantee returns on investment for developers and financial institutions (section B, Table 4.3).

To link the low-cost housing beneficiaries with a financial institution that will grant pre-approved mortgage loans.

To provide collateral for mortgage loans (section B, Table 4.3)

To give guarantees to mortgage-backed securities.

The developer's role is to:

To build apartment blocks within a complex that has 24 hour security, a dedicated play area and a garden service or

To transfer these units to the government

The role of the bank is to:

To grant mortgages to beneficiaries (Table 4.3, section D)

To pool those mortgages, arrange insurance, and transfer assets to an SPV (section D Table 4.3)

To originate and to service the mortgage loans

The SPV has the following obligations:

To service the assets, to arrange credit enhancement, to put in place a security SPV.

To sell the pooled mortgages as securities to individuals and institutional investors.

5.3.1 Phase One of the Model

In the proposed model mentioned above, a tripartite joint venture takes part in a turnkey project that starts with the government releasing vacant land earmarked for the construction of two story apartments or houses. The role of the developer is to build homes and to hand over the new homes to the government at the completion of the project.

The government, on the other hand, identifies beneficiaries who are gainfully employed and issues guarantees to the bank that it will bear part of the risk on problematic loans (results in table 4.3 show that respondents assigned a rating of 3.00).

The model is expected to work because (1) the construction of the apartments does not have to follow strictly the NHC guidelines, (2) all the parties will frequently work together to iron out any hiccups that might occur during the life of the project, (3) credit risk is mitigated by government guarantees and pension fund pledges, and (4) the project can be done on a massive scale within a short period thus increasing demand and the size of the book value.

5.3.2 Phase Two of the Model

In the second phase of the model, there are three primary parties to the securitization deal such as the originator, the SPV and investors.

The originator (assumed to be a financial institution) sets up the necessary structures required to execute the securitization project by selling low cost houses from its books and receives cash from the sale.

An analysis of figure 5.2 shows that the bank issues loans to low cost housing beneficiaries. The beneficiaries in turn, have an obligation to repay the principal sum (including the accrued interest). The model shows that the bank sales the assets to an SPV and is entitled to receive payment for assets purchased. An important aspect of the model is that the SPV issues securities to investors in return for cash that is used to repay the bank.

The second most important party to the deal is **the SPV.** The SPV buys assets from the originator and receives upfront payment from deal. In essence, the originator benefits in that it removes the risky assets from its balance sheet.

The model shown in figure 5.2 incorporates the existence of **investors**. These include organizations such as mutual funds, venture capital funds and insurance companies.

In addition to the three primary parties mentioned earlier, there are other parties involved in the securitization deal such as the obligor(s), rating agencies, servicer and structurer.

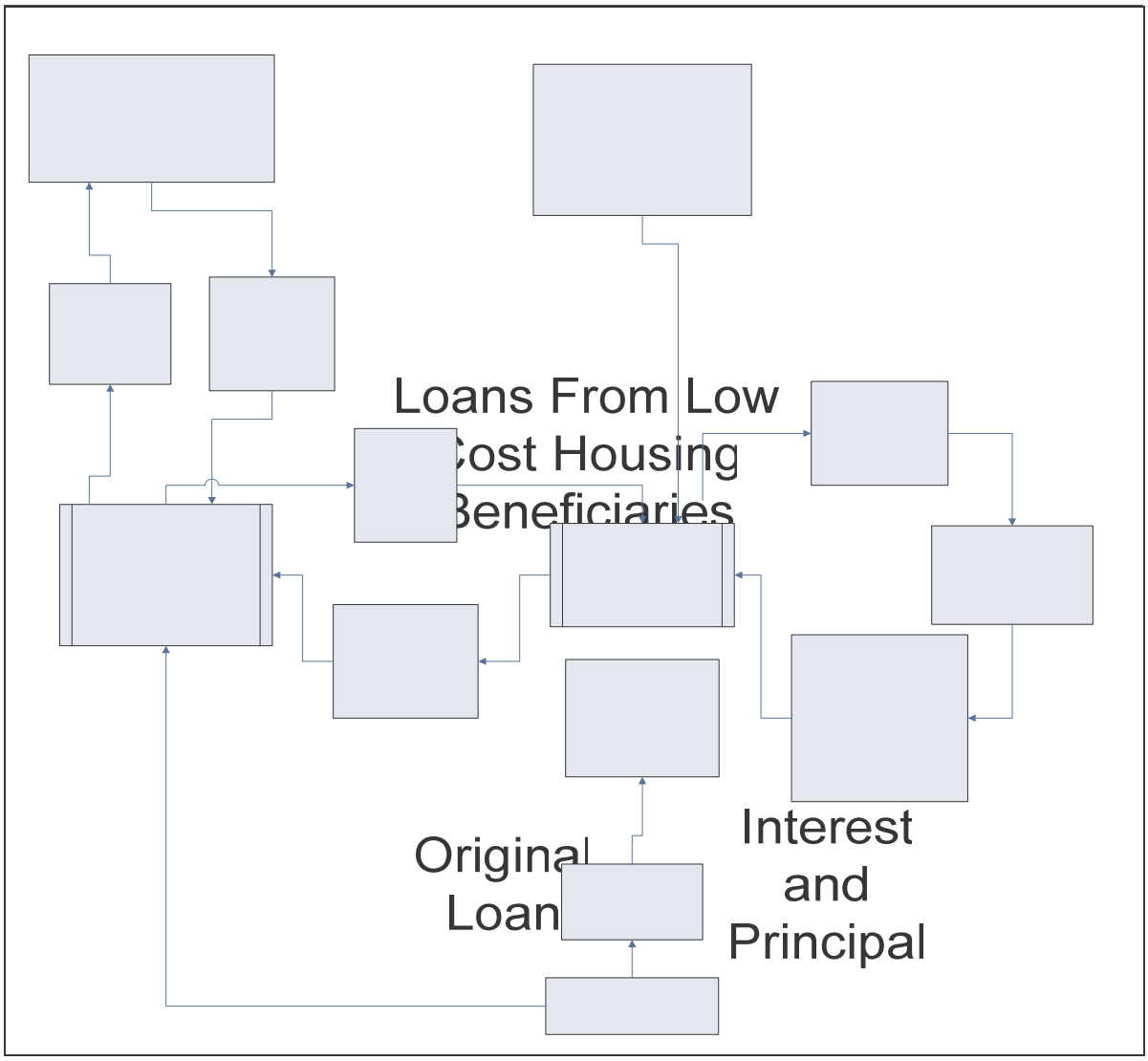


Figure 5.2: Phase two of the securitization model

The obligor in the low cost housing model is defined as the person that borrows money from the originator. In most cases, originators do credit checks on the borrower's payment history. However, in this model credit checks are not necessary because the government guarantees that it will incur partial losses whenever obligors default on their mortgage loan commitments.

Investors take on risk on the pool of low- cost housing assets and not on the originator. As a result of this, external credit rating is required. In this model, a rating agency is required in order to assess the riskiness of low cost housing assets.

5.3.3 Phase Three of the Model

The third phase of the model can be explained by way of a diagram.

The first part of the diagram shows that after pooling low-cost housing mortgages, the originating bank transfers the portfolio to a special purpose vehicle and at the same time retains a first loss position. The special purpose vehicle arranges the portfolio into two tranches consisting of the superior senior and mezzanine and tranches.

The basic structure of phase three is similar to the SAHL model with the exception that loans are to borrowers at a rate agreed upon by the government and the financial institution while at the same time taking into account the collateral that the borrower offers and the nature of government guarantees.

What follows is a discussion of the structure of mortgage-backed securities for low-cost housing.

The loans are arranged into tranches as shown in figure 2.5 below with only the super senior tranche split into AAA, AA, A, BBB, and B classes. This is done in order to broaden the product offering to a wider pool of investors seeking returns on investment commensurate with their differing risk profiles. The super senior tranche is composed of credit-linked certificates that have high quality collateral thus making them particularly attractive to investors who are extremely risk averse.

An analysis of the diagram in figure 5.2 shows that the diagram is broken down into three phases. The first phase has already been discussed. What is, however, significant is that the originating bank retains the first loss position.

The role of the SPV is to issues subordinated commercial paper consisting of the super senior and mezzanine tranches.

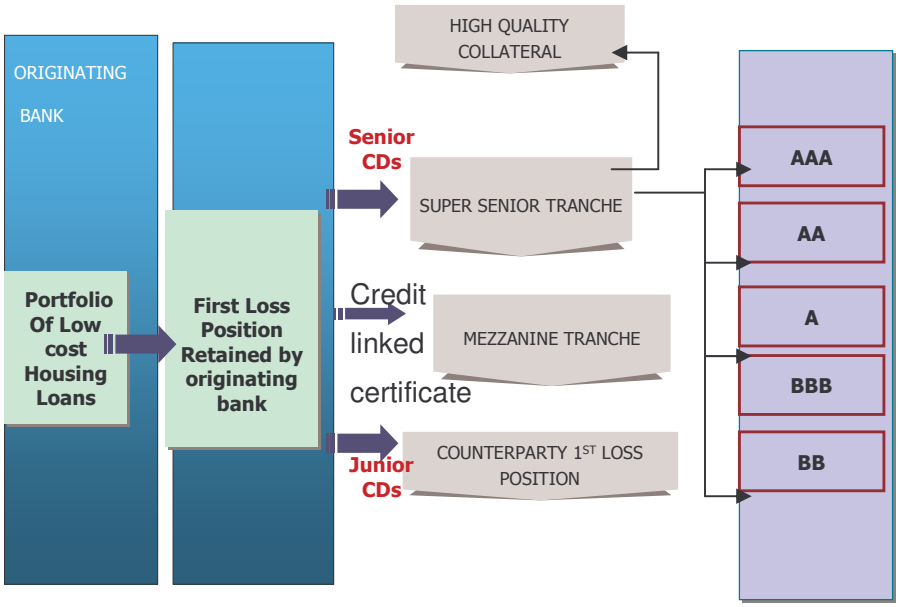


Figure 5.3 : An illustration of the various tranches

After the partnership has built low-cost houses, the role of the originating bank is to make an arrangement to enter into a credit default swap (CDS) with a government institution such as the National Housing Finance Corporation. The aim of the credit swap is to transfer the entire default risk of a selected Low-income Housing pool of mortgages to the NHFC. It is necessary to ensure that the transferred credit risk is structured in a subordinated set of tranches with differing seniority as is shown in the table above. The super senior tranche will have 90% of its share of risk exposure default free. The target market for the super tranche is for investors who are very risk averse, such as pensioners, and who and seek low returns for their secure investments. The remaining mezzanine tranches composed of credit-linked certificates of indebtedness are sold as subordinated commercial paper to the capital market via the SPV. The mezzanine tranches should be targeted at investors seeking high returns from very risky investments.

The originating bank takes over the junior tranche because it carries the lion's share of the default risk.

5.3.3.1 Advantages of the Model

The advantages of the model can now be seen. The cooperation of the three key stakeholders will speed up the housing process delivery and eliminate any bottlenecks that are encountered during the process will be eliminated as quickly and efficiently as possible. The government and the banking institutions have the financial capacity to engage in the construction of low-cost houses on a large scale. The larger the project, the better the chances of justifying a low-income housing securitization scheme on the market. By converting non tradable low-income mortgages into liquid securities, the mortgage-backed securities process enables the government to source financing from a wider pool of investors and not necessarily from a bank. Furthermore, the literature review in Chapter two showed that in the United States, the link between the MBS process and the wider securities market, results in lower interest rates. Another advantage of the MBS process is that government guarantees and tax exemptions on the dividends are likely to attract local and international portfolio managers that are looking for securities that offer high returns and lower risks.

5.3.3.2 Disadvantages of the Model

There are three potential disadvantages of the Model. First, there is scarce government land on which to build low-cost houses in the CBD and elite suburbs. Second, securitization is a complex process that most low-income housing developers are not sure about how it works in practice. Third, the demand for mortgaged securities might not be large enough to justify a private placement (3).

5.3.4 Conclusions About The Research Problem

South Africa is blessed with a sound financial infrastructure and a good legal framework that has supported mortgage-backed securitization in the higher end of the property market. Despite the existence of legal frameworks and institutional structures, low-income mortgage-backed securitization cannot be solved by market forces alone. Most of the financial institution's managers interviewed indicated that banking institutions have little incentive to securitize low-cost housing.

It is therefore imperative that the government should kick-start the securitization process by focusing on the development of appropriate infrastructures in the townships. What emerged from face-to-face interviews was that the government was under pressure to reduce the housing backlog and was therefore not too keen on further burdening the poor by getting involved in a financing mechanism that involves mortgages. Furthermore there are calls to change the housing code in such a way that

it will make it easy for the government to be involved in private partnerships with developers and financial institutions.

Credit risk is a big concern for all key stakeholders. The probability that a low-income mortgage holder can default on his or her loan is high. The best way of eliminating credit risk is to phase the loan to borrowers and to link the loan to savings. Collateral should be based on the borrower's pension fund with the government guaranteeing a certain percentage of the total value of the loan.

Chapter four highlighted the findings of the survey and listed a number of changes that developers, financial institutions and the government want to see happen before they can commit resources to the securitization of low-cost housing.

Some of the suggestions highlighted in Chapter 4 include the need to eliminate crime in the low-cost housing sector and to create jobs by establishing viable local economic area development initiatives.

The survey in Chapter four highlighted a number of key issues such as the need to create jobs, to develop township economies, to enforce bank charters and to form partnerships with key stakeholders in the low-cost housing securitization sector.

Until all these key issues have been addressed, the securitization of low-cost housing will not be possible. What is needed is perhaps to start with the middle income sector (households earning between R3500 to R15000 per month).

Most middle income earners are regarded by banks as having a lower default risk and affording mortgage repayments.

5.3.5 Implications For Policy And Practice

The Department of Housing has for a number of years financed low-cost housing through subsidies and has used the National Housing Code as its framework for the delivery of housing.

A shift in policy is needed. The Department of Housing should follow trends in the United States and Australia where the failure of the market to address housing objectives led to the establishment of state-run institutions that initiated mortgage-backed securitization to finance housing.

South Africa's home-grown securitization initiative should start with the development of sound economic infrastructure in the townships that will lead to job creation. The government should encourage developers and financial institutions to form low-income housing securitization partnerships designed to attract local and international funds into the housing finance market

5.3.6 Limitations

Although this research report was done in the Gauteng region and the number of financial institutions and low-cost housing developers is limited, these limitations should not detract from the findings.

5.3.7 Suggestions For Further Study

The primary and secondary township property markets in most townships are dysfunctional. In this study the primary market is composed of all groups that are involved in the supply of housing (supply side), while the secondary market is composed of buyers and sellers of properties.

There is a need to make these two township property markets functional and to create a comprehensive data-base of properties that can be combined with the main stream medium-to-higher end of the property market.

A functional property market will make it easier for properties in the townships to be securitized.

APPENDIX A : Developer Questionnaire

University of the Witwatersrand

Faculty of Engineering and Built Environment

School of Construction Economics and Management

Research Survey

An investigation into the effectiveness of using securitization to finance low cost Housing

Done by: Lloyd Dube

Section 1: Demographic Background

(Please tick the appropriate answer (x)

1. Which property development discipline does your company fall under?

☐ Low cost housing ☐ Residential Property developer

☐ Commercial Property ☐ Town Planning

☐ Project Management ☐ Town Planning

☐ Other (please specify): _____

2. Kindly indicate your length of experience in the property development industry:

☐ < 5yrs ☐ 5-10 yrs ☐ 11-15 yrs ☐ > 15yrs

3. Please indicate your rank within your organization

☐ Junior Manager ☐ Senior Manager ☐ Director

4. Where is your company located?

☐ Gauteng only ☐ Nationally ☐ Internationally

PART A; Factors that have been identified as hindrances to the successful implementation of low cost housing securitization

The following have been identified as factors that hinder the participation of Developers in the securitization of low cost housing schemes.

Kindly rate the level of importance of these factors in your organization's decision to take part in a low cost housing securitization scheme by ticking the appropriate rating scale provided below.

* Levels of impact: 5=Very High (VH); 4= High (H); 3= Moderate (M) 2= Low (L); 1= Very low

Factors Hindering the participation of developers	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
1, The inability of the borrower to repay the mortgage loan on time					
2. The lack of a large number of mortgage backed security buyers					
3. Lack of knowledge of how securitization works					
4. Government policy- the Housing Code is an inhibitor					
5. Lack of skilled personnel and management information systems					
6. Other. Please specify					

What other factors do you think limit your involvement?

PART B: Factors that need to change in the legal system in order to facilitate LIH securitization

The following are suggested factors that need to change in the legal environment in order to make low cost housing possible. Kindly rate the level of importance of these factors in your organization's possible participation in a low cost housing securitization scheme.

	*Level of impact				
	VH	H	M	L	VL
Factors that need to change in the legal system to facilitate the development of low cost housing securitization	5	4	3	2	1
7. A legal system of clear property rights					
8. Laws that allow a developer to repossess the house when borrower defaults					
9. Tax breaks for organizations involved in low cost housing					
10. Changes in the housing code					
Other. Please specify					

Any other comments will be greatly appreciated.

PART C: Changes needed in the social environment

The following are suggested factors that need to change in the social environment in order to make low cost housing securitization possible. Kindly rate the level of these factors in your organization's participation in a low cost housing securitization scheme

	*Level of impact				
	VH	H	M	L	VL
Changes needed in the social environment	5	4	3	2	1
11. Communities should have a say in developmental projects					
12. Job creation in the low cost housing sector					

Other please specify

PART D: Factors that need to change in the economic environment in order to facilitate LIH securitization

Kindly rate the level of importance of these factors in your organization's decision to take part in a low cost housing securitization scheme by ticking the appropriate rating scale provided below.

	*Level of impact				
	VH	H	M	L	VL
Changes in the economic environment	5	4	3	2	1
13, Less stringent rules for new entrants into securitization market					
14. Developers and government share credit risk					
15. Tax concessions for organizations involved in securitization projects					
16. Government guarantees for low cost housing securities					
17 Laws forcing govt to invest pension funds into housing projects					

Please kindly state in your opinion other economic changes that need to occur in order to facilitate the growth of low cost housing securitization

PART E: Government policy changes needed in order to facilitate LIH securitization

Kindly rate the level of importance of these factors in your organization's decision to take part in a low cost housing securitization scheme by ticking the appropriate rating scale provided below.

	*Level of impact				
	VH	H	M	L	VL
Changes in government policy needed for securitization	5	4	3	2	1
18. A taxation policy that allows 3 year tax cuts for developers					
19. Changes in the housing code					
20. More flexibility in the current housing policy					
21. Government guarantees for low cost housing securities					
22. Tax exemptions for developers involved LIH securitization projects					

Please kindly state in your opinion other economic changes that need to occur in order to facilitate the growth of low cost housing securitization

PART F: Role of developers in the securitization process

Kindly rate the level of importance of these factors in your organization's decision to take part in a low cost housing securitization scheme by ticking the appropriate rating scale provided below.

	*Level of impact				
	VH	H	M	L	VL
Role of developers in the securitization process	5	4	3	2	1
23. A partnership between the govt, developers and private investors					
24. The feasibility of building low cost house in elite suburbs					
25. The prospect of getting good returns from securitization investments					
26. Government guarantees for low cost housing securities					
27. Tax exemptions for developers involved LIH securitization projects					

Any other comments will be greatly appreciated

APPENDIX B : Financial Institution Questionnaire

School of Construction Economics and Management

Research Survey

An investigation into the effectiveness of using securitization to finance low cost Housing

Done by: Lloyd Dube

Section 1: Demographic Background

(Please tick the appropriate answer (x)

1. Under which financial institution does your company fall under?

☐ Property Loan Stock ☐ Rating Agency

☐ Corporate Bank ☐ Private Investor

☐ Merchant Bank ☐ Insurance Company

☐ Other (please specify): _____

2. Kindly indicate your length of experience in the financial industry:

☐ < 5yrs ☐ 5-10 yrs ☐ 11-15 yrs ☐ > 15yrs

3. Kindly indicate you rank within your organization

☐ Junior Manager ☐ Senior Manager ☐ Director

4. Where is your company located?

☐ Gauteng only ☐ Nationally ☐ Internationally

PART A: Factors hindering the participation of financial institutions from taking part in securitization projects

The following have been identified as factors that hinder the participation of banking institutions in the securitization of low cost housing schemes. Kindly rate the levels of impact of these factors on your company's ability to participate in the securitization of low cost housing

* Levels of impact: 5=Very High (VH); 4= High (H); 3= Moderate (M) 2= Low (L); 1= Very low

	*Level of impact				
	VH	H	M	L	VL
Factors Hindering the participation of banks in low cost housing securitization	5	4	3	2	1
1. Credit risk					
2. lack of large number of mortgage backed security buye					
4. Inability to evict a defaulting mortgage borrower					
4. Bank policy					
5. Low expected returns on investment					

Any other comments will be greatly appreciated.

PART B: Changes need in the legal system

In this section respondents are asked to rate the impact on securitization of changes in bank policy listed below.

	*Level of impact				
	VH	H	M	L	VL
Policy Changes for financial institutions	5	4	3	2	1
6. Elimination of red lining					
7. The implementation of a bank charter that forces					

Any other comments will be greatly appreciated.

PART C: Changes need in the economic system

The following are suggested factors that need to change in the economic environment in order to make low cost housing possible. Kindly rate the level of importance of these factors in your organization's possible participation in a low cost housing securitization scheme.

Factors that need to change in the legal system to facilitate the development of low cost housing securitization	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
8. A legal system of clear property rights					
9. Laws that allow banks to repossess the house when					
10. Tax breaks for organizations involved in low cost hou					
11. Changes in the housing code					

Any other comments will be greatly appreciated.

PART D: The role of financial institution in the securitization process

Kindly rate the level of importance of these factors in your organization's decision to take part in a securitization scheme by ticking the appropriate rating scale provided below.

Factors that are need to change to make the proposed model work	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
12. Your organization's capacity to enter into low cost housing securitization joint ventures with developers and government					
13. Your organization's capacity to finance the low cost housing sector					
14. Your organization's capacity to originate low cost					
15. You organization's willingness to securitize low cost housing assets					

Any other comments will be appreciated.

APPENDIX C : Government Questionnaire

University of the Witwatersrand

Faculty of Engineering and Built Environment

School of Construction Economics and Management

Research Survey

An investigation into the effectiveness of using securitization to finance low cost Housing

Done by: Lloyd Dube

Section :Type of Institution

(Please tick the appropriate answer (x)

1.Under what government department does your section fall under?

☐ Local government ☐ Local Municipality

☐ Provincial Government ☐ Non Governmental Organization

☐ City Council

☐ Other (please specify): _____

2. Kindly indicate your experience in government housing delivery projects:

☐ < 5yrs ☐ 5-10 yrs ☐ 11-15 yrs ☐ > 15yrs

3. Kindly indicate your rank in your organization

☐ Senior Manager ☐ Junior Manager ☐ Councillor

PART A: FACTORS HINDERING THE GOVERNMENT FROM TAKING PART IN THE LOW INCOME HOUSING SECURITIZATION PROCESS

In this section, respondents are asked to rate the level of impact caused by the non existence of factors listed below that have influenced government housing departments from participating in low cost housing securitization projects.

Kindly rate the level of importance of these factors in your organization's decision not to take part in low cost housing securitization projects

* Levels of impact: 5=Very High (VH); 4= High (H); 3= Moderate (M) 2= Low (L); 1= Very low

	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
1, The level of poverty of most beneficiaries					
2. The need to address the housing crisis dating back to the apartheid era					
3. Lack of knowledge of how securitization works					
4. Government policy- the inflexibility of the Housing Code is an inhibitor					
5. Lack of skilled personnel and management information systems that are necessary for securitization					

In your opinion, what other factors are preventing the government from initiating a low income securitization project in the townships and elite suburbs?

Part B: Changes needed in the legal environment

The following are suggested factors that need to change in the legal environment in order to make low cost housing possible. Kindly rate the level of importance of these fact in your organization's possible participation in a low cost housing securitization scheme.

	*Level of impact				
	VH	H	M	L	VL
Factors that need to change in the legal system to facilitate the development of low cost housing securitization	5	4	3	2	1
7. A legal system of clear property rights					
8. A bank charter that forces banks to increase investments in low cost housing					
9. Tax incentives for organizations involved in low cost housing					
10. Changes in the housing code					

Any other comments will be greatly appreciated.

_____

_____

_____

_____

Part C: Changes needed in the social environment

The following are suggested factors that need to change in the social environment in order to make low cost housing possible. Kindly rate the level of importance of these fact in your organization's possible participation in a low cost housing securitization scheme.

	*Level of impact				
	VH	H	M	L	VL
Factors that need to change social environment in order to facilitate the development of low cost	5	4	3	2	1
11. The launch of an awareness program about securitization					
12. Creation of economic zones in the low cost housing sector					
13. Elimination of crime					
14. Job creation					

Any other comments will be greatly appreciated.

_____

_____

_____

_____

Part D: Changes needed in the economic environment

For securitization to take place in the low cost housing sector, changes in the economic environment are necessary.

Kindly rate the level of importance of these factors in your organization's possible participation in a low cost housing securitization scheme.

	*Level of impact				
	VH	H	M	L	VL
Factors that need to change economic environment in order to facilitate the development of low cost	5	4	3	2	1
15. A commitment by the government to guarantee returns on investment pertaining to securities issued in the open market					
16. A commitment by the government to bear partial losses due to defaulting low cost housing loan holders					
17. The active trading in low cost housing securities by the government					

Any other comments will be greatly appreciated.

PART E: POLICY CHANGES REQUIRED

Kindly rate the level of impact that government and taxation policy has on the success of a low cost housing securitization project

	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
18. Changes in the National Housing Code					
19. Tax concessions for developers intending to securitize					

Any other comment will be greatly appreciated

PART F: THE LOW INCOME HOUSING SECURITIZATION PROCESS

Kindly rate the importance of the government's role in the low cost housing securitization process

	*Level of impact				
	VH	H	M	L	VL
	5	4	3	2	1
20. If the government's role in the securitization process was to make vacant land available for the development of low cost housing. How feasible is this for the government?					
21. How feasible is it for the government to enter into partnerships with developers and banking institutions?					
22. How realistic is it for the government to bear a portion of the credit risk?					

Any ither comments will be greatly appreciated

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