

HOUSING FINANCE INTERNATIONAL

The Quarterly Journal of the International Union for Housing Finance



- ➔ **Mortgage Risk Management in Rwanda**
- ➔ **Mortgage Market in Ghana:
The past and the future**
- ➔ **Pro-Poor Housing:
An idea whose time has come**
- ➔ **Mortgage Banking Development
in the Slovak Republic**
- ➔ **Financial Crisis and
Asset Disposition**
- ➔ **The Ecological Way of Building**

International Union for Housing Finance

Housing Finance International

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Contents:

- 4..... Editor's Introduction
- 5..... **Rwanda: Financial Risk Management in Mortgage Lending & Effects on Creation of a Liquidity Facility**
Raymond Struyk
- 10..... **Mortgage Market in Ghana: The past and the future**
Nicholas A. Boamah
- 15..... **Pro-Poor Housing: An idea whose time has come**
Zaigham Mahmood Rizvi
- 20..... **Mortgage Banking Development in the Slovak Republic**
Viktória Múčková and Ľubica Hrnčiarová
- 32..... **Financial Crisis and Asset Disposition: History lessons for affordable housing preservation?**
Heather MacDonald
- 37..... **The Ecological Way of Building**
Holger Horn

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Editor's Introduction

↳ By Friedemann Roy

This edition of Housing Finance International offers a broad selection of different articles, varying from individual country reports to specific housing finance themes.

Our first article is written by Raymond Struyk and deals with the current financial risk management capacity of commercial banks in mortgage lending in Rwanda. The overall study was commissioned by the Rwandan Ministry of Finance and Economic Planning. Mr. Struyk's paper describes how the assessment was executed and its results. Detailed interviews, guided by well-crafted questionnaires, were conducted in the key areas of risk management and mortgage origination, and servicing operations to understand current practices and capacity. Results indicate systemic weaknesses in banks' risk management practices.

The author of the second article is Nicholas A. Boamah, who describes the development of the mortgage market in Ghana. He outlines that the mortgage market has had a chequered history since 1957 and that most of the interventions put in place have failed to yield the desired results. Mr. Boamah notes that the demand side of the mortgage market has been boosted by a high rate of household formation. However, low-income levels in the country have blighted the market outlook. The supply side of the market has also been constrained by the absence of the basic infrastructure required for the development of a well functioning housing finance system. He suggests that policy makers should address how to overcome low-income levels, information asymmetries and the macro-economic instability in the country.

The author of the third article is Zaigham Mahmood Rizvi. In his article, he looks into policies and approaches to improve the housing situation of low-income housing groups in seven South Asian countries, namely Afghanistan, Pakistan, India, Bangladesh, Sri-Lanka, Thailand and Indonesia. Mr. Rizvi believes that the supply of low-income housing does not comply with the considerable shortage in this category. Rather, in most of these countries the entire urban housing shortage is in this segment of the population. Every country has its own challenges in terms of geo-socio-economic parameters and has taken different initiatives to

address this issue, resulting in different experiences. He sees a need to share the regional success stories and successful models that may be adopted by other countries after adaptation to the individual country context.

Viktória Múčková and Ľubica Hrnčiarová are the authors of our next contribution. They analyse the development of the covered bond system in Slovakia. In 1996, Slovakia was one of the first central and eastern European countries, which enacted legislation on covered mortgage bonds. The aim of their paper is to explain the basic internal characteristics of covered mortgage bonds, identify some of the problems (covered bonds versus global crisis) and provide an overview of the recent developments of the mortgage loan and mortgage bond market in Slovakia.

The author of our next contribution is Heather MacDonald, who assesses financial crisis and asset disposition. Asset disposition is an inevitable accompaniment to financial crises. This paper evaluates the historical experience of two entities with regards to asset disposition, following two previous US financial crises – the Home Owner's Loan Corporation (in the 1930s) and the Resolution Trust Corporation (in the 1990s). The paper discusses the potential for asset disposition strategies to expand or preserve the supply of affordable housing and stabilise communities. The paper concludes by discussing the lessons that may be learnt from three challenges: the conflicting pressures to protect taxpayers versus the financial industry; the difficulty of ensuring disposition agencies have a lifespan appropriate to their task; and the likely conflicts between social mandates (such as affordable housing) and the imperative to minimise taxpayer costs.

Our last contribution, by Holger Horn, covers a topic which has not been discussed in our journal to date but which has been gathering attention. Since the apparent changes in the world's climate are expected to have an impact on housing, solutions that reduce carbon dioxide emissions both during the construction and the use of a dwelling are sought. Mr. Horn's article describes ecological construction technologies as a response to this challenge. He believes that these technologies

are not only more cost-effective but also healthier than conventional ones.¹

As always, I hope that you will enjoy reading these articles and your comments on them are more than welcome!

Finally, I would also like to draw your attention to a forthcoming further exchange in the current debate in housing finance, which is offered by the 4th Global Housing Finance Conference in Emerging Markets organised by the World Bank and the International Finance Corporation. This event will be held on the 26th and 27th of May 2010 in Washington D.C., USA. The impact of the subprime crisis reverberated around the world, especially where capital markets were more developed and sophisticated. A deep crisis in confidence developed against a background of falling house prices in countries that have experienced an asset-bubble phenomenon. This led to the questioning of some of the well established premises of housing finance and a revision of the way to approach the subject, both at the policy and at the market levels.

However, mobilising finance for housing remains crucial and encounters the same challenges as before – rapid urbanisation, growing populations, limited land availability, access for lower-income groups and sources of long-term funds. What impact did the crisis have on how these challenges should be met? What should be the role of governments as policy makers and regulators? How can private markets develop in a sustainable way?

This event will address the above questions and provide participants with a full picture of the post-crisis housing finance landscape across various countries by way of a series of presentations on the following themes: the impact and responses to the crisis in emerging economies; the changing face of the regulatory framework for mortgage lending; residential rental markets; prospects for the mono-line lending business model; responsible lending to lower-income groups; mobilising savings for housing; and capital markets for housing – post-crisis outlook.

Friedemann Roy²

¹ For further information, please also see a recent study by Deutsche Bank Research ("Green Building – a Niche becomes Mainstream", 12 April 2010).

² The findings, interpretations, statements and conclusions expressed herein are those of the editor alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organisations, or those of the Executive Directors of The World Bank. The authors of the articles in this edition present their independent views, opinions and assessments and necessarily do not reflect the views of the World Bank and/or its affiliated organisations, or those of the Executive Directors of The World Bank.

Rwanda: Financial Risk Management in Mortgage Lending & Effects on Creation of a Liquidity Facility

↳ By Raymond Struyk¹

1. Introduction

In the autumn of 2008 the Rwandan mortgage market was small, with a few hundred loans being originated annually. Interest rates were high (14%) but lower than they had been. Banks' liabilities were highly concentrated in demand deposits and one-year savings instruments. Loan tenors were generally short, traditionally around five years with a modest share being extended to as long as 10 years, and one bank was offering a 20-year term thanks to a 10-year bond issue (Table A.1).

Lending was focused on the small share of households who could afford the price of a dwelling meeting banks' lending requirements - a dwelling built of durable materials on a lot with clear ownership records. However, with the urban population growing at over 5% a year and the middle class expanding, mortgage lending could expand sharply.

In this context, the Ministry of Finance decided that substantially expanding the volume of mortgage finance required: increasing housing affordability through extending mortgage tenors; increasing liquidity; and, possibly, lowering interest rates through the setting up of a liquidity facility that would provide banks with market rate long term funds for mortgage lending.

An important question at this point was the degree to which the liquidity facility's risk management services might reduce interest rates through better risk management. Credit risk would fall if the quality of the underwriting is increased. Interest rate risk to the lender would nearly be eliminated if it issues loans with tenors that correspond to term loans it receives from the liquidity facility.

Risk reduction is critical to the financial feasibility of the liquidity facility. The facility's price of money will be higher than the interest rates banks pay on liabilities. Hence, for banks to be willing to refinance loans with the facility, they will have to be able to realise savings in the risk allowance portion of the interest rates they charge mortgage borrowers. The greater the reduction in risk, the higher the price banks should be willing to pay for the liquidity facility's funds (and risk management services).

This paper presents a straightforward analysis of selected risk management procedures at a sample of seven Rwandan commercial banks in order to provide a basic understanding of contemporary mortgage financial risk management in Rwanda. The paper begins with a quick review of the status and recent developments in Rwanda's housing finance and capital markets as of early 2009. Section 3 outlines the methodology followed and Section 4 presents the results. Section 5 concludes.

2. Recent Developments in Mortgage Lending and Capital Markets

Rwanda has been the subject of a number of financial and housing market analyses in recent years; these studies provide a wealth of information.² Developments in Rwanda are, however, dynamic. Below is a list of additional facts about recent developments in the mortgage and capital markets.

2.1 Mortgage Lending

- The main recent innovation is that one bank,

Banque Commerciale du Rwanda (BCR), obtained long-term finance through its 10-year bond issue, which permits it to reduce its interest rate risk substantially. The bank is issuing 20-year loans.³ To remain price competitive, however, BCR is funding mortgages with a blend of short-term deposits (65%) and bond issue proceeds (35%).⁴

- No voluntary standardisation in mortgage loan underwriting and servicing among lenders is now in prospect.
- A new provident fund (see below) is to be structured so that it will be possible for participants to make pre-retirement withdrawals for defined purposes including home purchase. This source of downpayment funds could provide a major mortgage demand stimulus.
- Two major fees associated with home purchase with a mortgage were sharply cut in 2008: (1) the transfer fee (formerly 6% of appraised value) and (2) the mortgage lien registration fee (formerly 1.2% of the recorded amount). Each is now a flat fee of RWF 20,000.⁵

2.2 Capital Markets

- Capital market development was accelerated by the passage of the Companies Act that included the basis for creation of the Capital Markets Advisory Council (CMAC) and the OTC⁶ market. The broad strategy is the development of the bond market before the equity market.
- To help establish a yield curve, the Government issued two-year and three-year bonds in 2008. The yield for the first (of the two) two-year bond

¹ Mr. Struyk is a Senior Fellow at National Opinion Research Center (NORC) at the University of Chicago at the Bethesda office. The work reported here was undertaken by NORC under contract with Ministry of Finance and Economic Planning of the Government of Rwanda. Views expressed are those of the author and not necessarily those of NORC or the Ministry. The Findings, interpretations, statements and conclusions expressed herein are those of the author alone and do not necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organisations, or those of the Executive Directors of The World Bank or the institutions the author works for or is affiliated with. The author is not an employee of the World Bank Group.

² The main reports are: CMHC, *Housing Finance Gap Analysis in Francophone Sub-Saharan Africa: Housing Finance Market Study in Rwanda*, March 2007; G:ENESIS, *Developing a Mortgage Finance Market in Rwanda*, January 2008; Murgatroyd, P., J. Dry, T. Power, and Wm. Postgate, *Rwanda Financial Sector Development Program, Draft Report, FIRST Initiative*, March 2007; Ministry of Finance and Economy, *Draft Concept Note: Housing Finance in Rwanda*, 2008; and, World Bank, *Financial Sector*

Assessment Program: Rwanda; Technical Notes: Housing Finance, December 2005.

³ At the time of this analysis the mortgages issued did not have a defined interest rate adjustment process at the end of the life of the bond when different interest rates could be in effect from those at which the mortgage are originated.

⁴ It is standard for mortgage contracts in Rwanda to include an article permitting the lender to change the interest rate at its discretion. No one interviewed has changed rates upward. But they have on an individual basis changed rates downward upon borrower request, presumably to avoid loan prepayment. BCR mortgages are not variable rate loans in the sense that the interest rate changes in line with an index.

⁵ The USD: Rwandan Franc exchange rate in January 2010 was 1 USD = RWF 560.

⁶ All abbreviations are spelled out in the appendix.

issues was 8% and it was 8.25% for the three-year issue. Further longer-term Government bond issues were not expected in 2008.

- BCR placed a 10-year bond with a variable interest rate determined as the two-year government bond rate plus 1 percentage point; the interest rate resets every two years. Under a shelf registration, several bond tranches are to be offered for a total of RWF 5 billion. The first issue of RWF 1 billion, sold via placements, was oversubscribed. Proceeds are to be used to finance mortgage loans.⁷
- Generally, there is very little secondary bond trading.
- The market for long-term bonds is difficult to estimate. A number of large firms maintain substantial time deposits (with negotiated interest rates) in commercial banks that are regularly rolled-over. Some of these funds are anticipated to migrate to bonds when bond yields are sufficiently favourable.
- The Caisse Sociale du Rwanda (CSR), the social security fund, is a principal source of long-term investment funds, with currently invested funds of RWF 127 billion, growing at around 15%. Bonds collateralised by home purchase mortgages would be in the corporate bond segment of the portfolio, which is limited to 15% of the total. Presently, only around 3% of the portfolio is in this investment class.
- A provident fund designed to supplement the defined benefit government retirement programme is under preparation and may be operational in the next year or so. This would be an additional major source of long-term investment funds.

2.3 Risk Management

- Poor risk management is seen by the central bank as a general weakness of the banking system.
- Several banks are improving risk management through the assistance of foreign banks that have purchased shares in Rwandan banks.
- The School of Finance and Banking (Kigali) does not offer risk management courses outside of its MBA programme or workshops for individual banks that contract with it, i.e. there are no open-enrolment short courses.
- According to mortgage lenders, mortgage liens are taking 4 to 12 months to register. They are hopeful that a letter they send by the district registration office saying that registration is in

process will protect them. This kind of delay is clearly a major concern for the secondary facility model.

- BHR, a specialised government housing bank, will be privatised as a general purpose commercial bank.

3. Method

In assessing banks' current capacity to manage mortgage lending risks two principles were followed. First, we used current practices to indicate its capacity, with the assumption being that individual senior managers and the Bank as a whole would employ the best practices they know. Second, interviews with appropriate bank officers would be considered as informed and accurate sources of information about each bank's practices.

Detailed interviews, guided by well-crafted questionnaires, were conducted in the key areas of risk management and mortgage origination and servicing operations to understand current practices and capacity. Such interviews were conducted with six commercial banks active in mortgage lending to develop a general understanding of the situation. The banks whose staff were interviewed are listed in Table 1. Resumes of key staff were also reviewed.

In the tables below presenting summaries of findings, results are shown for BHR and

comparator banks. BHR is singled out because as a specialised housing finance bank its practices could well be stronger than those of other banks. The comparator banks are not named because they were assured confidentiality in order to encourage openness in the interviews. Each bank that appears in the two results tables is identified with the same letter, e.g. A, in both tables. Respondent positions for the different areas are shown in Table 2.

4. Findings

4.1 Mortgage Lending

Bank staff were interviewed on several aspects of mortgage lending operations, including topics such as the extent of specialised staff training on mortgage lending, the quality of the mortgage underwriting and servicing procedures manuals, and the allocation of authority to approve a mortgage loan. Captions for the areas appear in the left-hand column of Table 3. For each area a bank was rated on a scale ranging from "adequate" to the complete absence of a procedure or practice.

Using the quality of the mortgage lending procedures manual as an example, one sees that BHR's manual consists of two pages and is rated as "major issues," and Banks A and C have no procedures manual whatsoever that cover mortgage lending. While the Bank D respondent stated a number of strong underwriting practices are

Table 1. Meetings with Banks by Topical Areas Covered^a

Bank ^a	Topical Areas Covered		
	Mortgage Plans, Views on Liquidity Facility	Administration of Mortgage Origination and Servicing	Current Risk Management Practices
BHR	X	X	X
BCR	X	X	X
BK	X	X	X
BPR	X	X	
ECOBANK	X		X
COGEBANK	X		
BANCOR	X		

^a See list of abbreviations for banks' full names.

Table 2. Respondent Type for Different Lines of Inquiry

Substantive Area	Respondent Type
Mortgage Plans, Views on the Secondary Facility	Director General
Mortgage Operations	Head of the Mortgage Department, Retail Lending or similar position
Risk Management	Head of Risk Management Department, Head of the Asset Liability Committee, or Chief Financial Officer

⁷ The bond was placed and then listed on the OTC market.

followed in principle, but without written procedures consistency may well be a problem. Only Bank B had practices sufficiently strong to be rated “limited issues.” The standards used in making these ratings are accepted international best practices, as stated in the IFC’s Global Mortgage Toolkit.⁸

A few highlights of other findings follow. Three of the four banks, including BHR, have no classroom training for loan officers or credit officers. Rather, new staff “shadow” experienced staff to learn what to do. This practice combined with the weak or non-existent procedures’ manuals suggests potentially significant problems in loan underwriting. No lender is including an analysis of the applicant’s non-housing expenses as part of the loan underwriting, which could cause a major overestimation of the applicant’s ability to make his mortgage payments.⁹ Lenders are generally focusing on the applicant’s current job, ignoring the employment history that could show a pattern of significant instability.

On the other hand, all banks interviewed are using a conservative method to compute the share of income the borrower will be allocating to mortgage payments. In particular, all regular monthly payments, particularly debt repayments, are subtracted.

Loan approval is generally adequately handled with one exception. In Bank A, the head of the department alone makes the decision on granting a mortgage loan.

With respect to the software employed for mortgage loan origination and servicing, three out of the four banks use the Delta-Bank Universal Banking system.¹⁰ This French system is widely used in West Africa and beyond. Its modular structure has all major retail banking elements and within it a module for real estate finance. It appears to be a sophisticated system. However, two of the three banks appear not to take much advantage of its features. Only one bank enters borrower data while taking the loan application and then using the electronic record for all subsequent steps in the origination process. All banks offer only a single mortgage product, while the package could handle many.

Overall, the entries in the table make clear that in general, mortgage lending requires broad additional professionalisation. The liquidity facility will have to define (with lenders and the central bank) and enforce much stronger standards. It will have to prepare and promulgate a comprehensive procedures’ manual.

Table 3. Ratings of Mortgage Loan Administration at BHR and Selected Other Banks^a

Area	BHR	Comparator Banks		
		A	B	D
Staff training, specifically in mortgage origination and servicing	Major issues	Major issues	Major issues	Limited issues
Procedures manual exists, is comprehensive and credit officers have ready access to it	Two-page manual; Major issues	No procedures manual	No procedures manual	Major issues
Loan underwriting and information verification	Major issues	Major issues	Limited issues	Limited issues
Loan approval	Adequate	Major issue	Adequate	Adequate
IT, system—capable system, features used effectively	Software OK; underutilised	Software OK; underutilised	Software OK; well-utilised	Weak software

^a Ratings based on information received through interviews with responsible bank staff.

4.2 Risk Management and Loan Pricing

The approach here was somewhat different from that for mortgage operations. The larger block of questions asked whether the bank computed specific measures or indicators for three kinds of risk: credit, interest rate and prepayment risk. Respondents were queried first about the simplest, most widely employed measures and then progressively more sophisticated measures. Respondents were also asked about the way the bank prices its mortgage loans and whether it has an asset-liability management committee (ALCO).¹¹

For credit risk, these lenders are only computing what they are required to do by the national bank (BNR). They are not taking the next logical step and, for example, performing detailed analyses comparing borrower and loan characteristics of those who remain current on their payment versus those who default or are often delinquent in their payments.

For interest rate risk, only two lenders are employing term gap analysis. To their credit, both of these are also making simulations of the impact various interest rate changes would have on net interest income. Just one bank (“A”) is computing durations for a few products and this has been done by outside consultants as part of vetting new products.

BHR is the only bank that does not have an ALCO in place. Two of the other banks have only established their ALCOs in the past few months.

How are these banks pricing their loans? Broadly speaking, they have an all-in margin that they add to their cost of funds to obtain the interest rate to be

charged. This is tempered as needed by the necessity of a bank’s loan interest rate being competitive in the market. A more sophisticated alternative is to price each risk component, the cost of loan servicing, and add a profit margin to the all-in cost of funds. No bank is doing this or, with one exception, pricing any component. The exception is that one bank has computed the costs of loan origination and servicing.

The results of these interviews are summarised in Table 4. With respect to employment of various risk measures, the summary statement is that by-and-large only the simplest measures are being used in credit risk and interest rate risk management. No bank is making any calculations for prepayment risk. In short, risk management is very basic.

5. Conclusions

The findings indicate that risk management is at a low level and that the weakness is pervasive with credit risk running from the application process through underwriting and registration, and interest rate and prepayment risk being scarcely addressed. These risks are not taken into account in any meaningful way the pricing of mortgage loans.

In this environment, the proposed liquidity facility will have a major impact on forming the mortgage market. Imposition of strong loan origination and servicing standards will have a direct impact on credit risk. Furthermore, the facility’s refinancing will dramatically mitigate interest rate risk. It is little wonder that the Government of Rwanda is moving forward with the facility’s creation.

⁸ M. Medigovich and C. Sitarz, *Global Mortgage Toolkit: Mortgage Origination and Servicing*. Washington, DC: IFC, 2008.

⁹ Actually, one bank does this analysis as part of underwriting the loan where the applicant is self-employed.

¹⁰ Further description is available at www.delta-bank.com and Rob Murray, “Delta Informatique: Out of Africa,” *International Banking System Journal*, issue 13.4, Dec/Jan 2004.

¹¹ For a general review of pricing these loans, see R. Struyk, *Global Mortgage Toolkit: Pricing Mortgage Loans*. Washington, DC: IFC, 2008.

Table 4. Overview of Mortgage Loan Risk Management and Pricing Practices at Rwandan Banks^{a,b,c,d,e,f}

Risk and Type of Analysis Prepared	BHR	Comparator Banks		
		A	B	C
Credit risk				
Aged delinquencies?	Y	Y	Y	Y
Portfolio at Risk?	Y	Y	Y	Y
Analysis of type of loan, properties and borrowers that have higher incidence?	N	N	N	N
Estimation of probability (logit) models of default or similar?	N	N	N	N
Credit scoring?	N	N	N	N
Interest Rate Risk				
Term gap analysis? ^c	N	Y	N	Y
Durations for any asset or liability classes?	N	S ^d	N	N
Duration gap? All assets and liabilities/equity?	N	N	N	N
Estimate of the actual period demand deposits will remain in the bank?	N	Y	N	N
Mortgage Prepayment Risk				
Bank offers fixed interest rates mortgages (FRM), ^e variable rate mortgages (VRM), both?	FRM	FRM	FRM	FRM
Simple incidence and distribution of time of prepayment after loan origination?	N	N	N	N
Separate calculations for different loan products?	N	N	N	N
Analysis of which borrowers are more likely to prepay?	N	N	N	N
Analysis of sensitivity to interest rate changes?	N	N	N	N
Logit (statistical) models of likelihood of prepayment?	N	N	N	N
Characterisation of Pricing Basis for Mortgage Loans - one that more accurately defines bank's practice				
Adds estimated price of each risk component, administrative costs, servicing costs and profit to cost of funds ^f	N	N	N	N
Adds an all-in margin to the cost of funds, without estimating prices for the various components ^f	Y	Y	Y	Y
Bank has Asset-Liability Management Committee?	N	Y	Y	Y

^a Information in table is based on interviews with bank staff with responsibility for risk management

^b Key: Y = yes, N = no; S = in certain cases

^c Some banks using term gap analysis perform simulations of changes in net interest income under various possible interest rate scenarios and test the effects of offering new products

^d Computed for selected loan products

^e Standard feature of fixed rate mortgage contracts is discretion for the bank to change interest rates if needed; upward changes have never been imple-

mented. Downward adjustments are made on a case-by-case basis, typically when a borrower wants to prepay the loan get a better rate elsewhere

^f Subject to meeting market conditions

Despite the above, the ability of the facility to attract banks to refinance its loans is not evident. Bankers following the practices reviewed do not understand well the risks they face; risk margins are not explicitly included in mortgage interest rates. If this continues to be the case, they will not be impressed with the argument that they should use the facility's higher priced funds to finance their mortgages. Hence, the Ministry of Finance and the central bank have the challenge to educate their bankers in risk measurement and management *before* the facility becomes operational.

Annex 1

ABBREVIATIONS

ALCO..... Asset-Liability Management Committee

BCR..... Banque Commerciale du Rwanda (Commercial Bank of Rwanda)

BHR..... Banque de l'Habitat du Rwanda (Rwanda Housing Bank)

BK..... Banque de Kigali (Bank of Kigali)

BNR..... Banque Nationale du Rwanda (National Bank of Rwanda)

BPR..... Banque Populaire du Rwanda (People's Bank of Rwanda)

CMAC..... Capital Market Advisory Council

Cogebanque..... Compagnie Generale de Banque

CSR..... Caisse Sociale du Rwanda (Social Security Fund of Rwanda)

MINECOFIN..... Ministry of Finance and Economic Planning

OTC..... Over Counter Market (for securities)

RWF..... Rwandan Franc

SFB..... School of Finance and Banking

Annex 2

Table A.1: Mortgage Loan Terms at Selected Rwandan Banks, Autumn 2008

Bank/Product	Mortgage terms				
	LTV Av/Max	Term Av/Max (yrs)	Av Loan Amount (RWF million)	Interest rate (annual %)	Fixed rate? (Y/N)
BPR - acquisition, construction	80/80	2.5-3 / 5	5-50	14	Y
Small improvement ¹²			0.5		
BCR - acquisition, construction, improvement	80/80	20/20	30-40	14	Y
BHR - acquisition, construction	60/70	15/20	25 ¹³	14	Y
BK - acquisition , construction	75/90	8 ¹⁴ /10	50	15 ¹⁵	Y
ECOBANK ¹⁶	50-60/80	5-7	35	15	Y

¹² Loan terms were the same as for purchase and construction loans; small loans were offered in both urban and rural areas.

¹³ Maximum is RWF 30 million.

¹⁴ Only businessmen were taking loans under 10 years. Bank very recently extended maximum period to 10 years.

¹⁵ Some adjustments in the rate for the degree of risk.

¹⁶ Situation was very confusing because the bank is in an ownership transition. The former bank's loan product was still being offered on a limited basis but was to be replaced by a new product under development that is likely to have a 15-year term.

Mortgage market in Ghana: the Past and the Future

↳ By Nicholas A. Boamah¹

1. Introduction

The mortgage market has become a major means for financing housing around the globe. The mortgage market has outstanding benefits to the borrower and the wider economy. For instance, housing finance markets enable homebuyers to spread the cost of housing over a reasonably long period, thereby enabling them to meet huge housing cost obligations with their existing incomes. It ensures that most households are housed adequately without constraining their abilities to meet other basic necessities of life, such as food and clothing. It also stimulates housing demand and, thus, engenders economic growth through job creation. A well functioning mortgage market improves housing affordability, enables more people to be adequately housed and, hence, helps improve public health, labour productivity and social stability.

Despite the outstanding benefits of a well functioning mortgage market, the mortgage market in Ghana is underdeveloped. The market here has had a chequered history since 1957. Several efforts, such as the establishment of the defunct Bank for Housing & Construction (BHC) and the First Ghana Building Society (FGBS), have failed to achieve the desired results. Housing in Ghana has therefore been financed by individual households via sweat equity and support from family members and friends. Governments have also been involved in housing finance through state institutions like the Tema Development Corporation (TDC) and the State Housing Corporation (SHC, currently the State Housing Company Ltd). Nevertheless, these sources of housing funds have proved largely inadequate and unsustainable culminating in a huge housing deficit (measured by the difference between housing stock and total number of households) in the country. For instance, in 1984 the total number of households in the country was 2,480,360, the housing stock stood at 1,204,395

(Ghana Statistical Service (GSS), 2005), leading to an estimated housing deficit of 1,275,965 units.

The paper examines the development of the mortgage market in Ghana over the years and the outlook of the Ghanaian mortgage market. This is done via a survey of existing housing finance literature and a number of official documents. It relies on secondary data from the Home Finance Company Ltd (HFC, currently the HFC Bank Ltd) and Ghana Statistical Service (GSS). Data was also obtained through mail shots, telephone contact and documentary surveys. The total period studied is 1957 to 2008, wherein two main periods are analysed: 1957-1987 (the pre-liberalisation era); and 1987-2008 (the post-liberalisation era).

2. Mortgage Market in Ghana, 1957-1987

Between 1957 and 1987, the deposit taking system dominated the mortgage market in Ghana. Institutions such as the First Ghana Building Society (FGBS), the defunct Bank for Housing & Construction and the Ghana Commercial Bank (GCB) mobilised savings from depositors and granted mortgages to homebuyers. The mortgages, therefore, had short-term variable rate funding. The institutions performed originating, servicing, funding and portfolio risk management functions.

The FGBS was the major mortgage provider in the country over this period. It was established in 1956 and modelled on the building societies in the United Kingdom, where it was expected to lend to its members out of a pool of members' savings. The FGBS was active in housing finance, especially under the 1959-1964 housing policy. Approximately 80% of the cost of a house was advanced by the society to its members. The Government made arrangements that enabled civil

servants to secure advances up to 95% of building costs. Individuals were also capable of securing larger advances through special arrangements such as depositing insurance policies.

The system relied heavily on members' savings and on grants and soft loans from the government as a source of its investment funds. For example, in 1959 the Government invested £G216,000 in the society. It further guaranteed FGBS investments up to £G500,000. It again invested £G1.3 million in the society over the period 1960-1966. All these investments were in the form of soft loans advanced to the FGBS. This facility was closed and this, plus the fact that there was a general economic decline in the 1970's, with its attendant high inflation levels and an over-valued currency, and the poor savings culture of its members meant that the FGBS's ability to mobilise savings became highly constrained. The FGBS was, therefore, capital constrained and, as a result, was unable to provide mortgage financing on a sustained basis. Hence, the FGBS has not been a force to reckon with in mortgage finance for over 30 years and has not granted any mortgage loans since 2003 (Akuffo, 2006).

Under the 1970-1971 housing policy, the Government of Ghana assumed a role of a facilitator rather than of a direct provider of housing. The Government then sought to create the enabling environment necessary for the development of the country's mortgage market. In line with this policy, the state established the defunct Bank for Housing and Construction (BHC) to provide concessionary construction finance to housing developers and also offer housing credit to homebuyers. The Bank, however, focused its attention on commercial banking and was liquidated in 2000 when its entire capital was wiped out by fraud. Between

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necessarily reflect the views of the International Bank for Reconstruction and Development/The World Bank and its affiliated organisations, or those of the Executive Directors of The World Bank or the institutions the author works for or is affiliated with. The author is not an employee of the World Bank Group.

1974 and 1988, the defunct BHC granted housing loans of c¢223,895,588 (US\$994,075) to only 363 mortgagors (Konadu-Agyemang, 2001). Thus, Boamah (2009) noted that the housing investment by the BHC over this fourteen year period was insignificant to bring about any relevant housing development. The Bank, therefore, made a very minimal contribution to housing finance in Ghana.

Other institutions, such as the Social Security Bank (SSB, currently the SGSSB), the Barclays Bank Ltd. and the Standard Chartered Bank granted very little or no mortgages in the country. For instance, the SSB granted a total of c¢766,200,000 (US\$3,401,856) to 225 mortgagors from 1974 to 1988 (Konadu-Agyemang, 2001). On average the SSB granted around 16 mortgages per annum; this indeed was insignificant. At the same time, the Barclays and Standard banks offered mortgage loans but to the executives of certain multi-national corporations. Also, in the early seventies, the Ghana Commercial Bank (GCB) established a department for mortgages but discontinued operations very quickly. The interest of the financial institutions in the mortgage business was short lived as a result of the unfavourable economic conditions that prevailed in the country in the seventies and eighties.

The banking sector of Ghana, did not escape the destructive effect of the political instability and economic decline of the 1970s and 1980s, which significantly affected their performance and participation in the mortgage market. The Ghanaian banking sector was confronted with problems such as lack of public confidence, high default rates, inability to mobilise long-term capital, widespread fraudulent practices and inadequate expertise to properly appraise projects. Most banks in Ghana were under-capitalised and had large amounts of non-performing assets. Also, the financial institutions were unable to mobilise long-term funds due to the low level of savings in the country. The interest rate control policy of the state in the 1970s and 1980s, coupled with a weak legal and regulatory framework, made the mortgage market unattractive to lenders. Most banks were, therefore, unable to invest in the long- and medium-term, which had a negative impact on the development of the housing finance market in the country.

The banking institutions provided a very small amount of mortgage loans, particularly to the low- and middle-income households. Where it has done so, it favoured owner-occupied and new dwellings, therefore providing very limited support to the rental and home improvement sectors (Boamah, 2003). Hence, the formal finance institutions made an extremely limited contribution to the development of the Ghanaian mortgage market between 1957 and 1990. Despite the potentially large market size,

there were inadequate mortgage products in the country and only few banks provided funds for housing investment, especially to their few wealthier customers.

3. Mortgage Market in Ghana, 1987-2008

The discussion in the preceding section shows that there is a limited housing finance market in Ghana. Due to this, the financing of housing in the country has long been dominated by the state and individual households. Despite the contribution by government and households, the housing deficit in the country continues to rise. For instance, Ghana had a total of 3,701,241 households as against a housing stock of 2,181,979 in 2000 (GSS, 2005). If the assumption that each household requires a housing unit holds, then the data suggests that the housing deficit in the country was 1,519,262 housing units in 2000. Between 1984 and 2000 the housing deficit in the country increased by 19%. The rising housing deficit may be due to limited housing investment, high unemployment rate, low-income levels and an inefficient and unsustainable housing finance regime in the country. Whatever the reason may be, the fact is that the housing finance system in Ghana is inadequate and highly underdeveloped leading to a substantial housing deficit in the country (Boamah, 2009).

It became apparent by 1987 that the Government was unable to provide adequate shelter for the bulk of its citizens and that the system of housing finance in the country was unsustainable. There was, therefore, the need to create a more efficient and sustainable regime of housing finance in the country. In response to this, in 1987 the Government divested itself from direct housing development and financing, and assumed the role of a facilitator and regulator; an enabling environment was thus created for the private sector to grow.

The Government liberalised the housing finance market and improved the regulatory environment to allow for increased private sector participation. The liberalisation, in principle, was expected to create an efficient housing finance system and, then, lead to an increased housing investment and consumption in Ghana. "After deregulation, the availability of funds is improved and consumers benefit from an expanded range of contracts and features. Increased competition reduces the cost of credit to consumers and market prices govern the allocation of funds" (Lea 1994).

Wolswijk (2005) noted that increased competition and improved regulation would lower interest mark-up and cause a catch-up in mortgage lending. Additionally, it would also pave the way for

financial innovations (like interest-only loans), thereby making mortgage financing feasible for a larger part of the population. Nevertheless, increased competition may make mortgage financing more risky as the United States' (US) experience has shown. Increased competition may lead to high risk taking by lenders and, hence, a high possibility of institutional failure that may ensure that only efficient institutions will survive in the mortgage market.

Improved regulation coupled with increased competition between intermediaries was expected to lead to a declining down payment requirement in Ghana (Boamah, 2003). Increased competition and specialisation could in turn increase efficiency in the housing finance system (Chiquier et al, 2004). The implementation of the liberalisation policy led to the emergence of private housing finance institutions such as the Home Finance Company Ltd (HFC, now HFC Bank Ltd) in 1991. However, the liberalisation in Ghana did not generate the requisite competition in the housing finance market as the existing financial institutions failed to participate in the country's emerging mortgage market.

3.1 Home Finance Company Ltd (HFC)

The HFC is the major state intervention for developing Ghana's mortgage market in the post-liberalisation era. It was established in 1991 with the assistance of the World Bank and the Social Security and National Insurance Trust (SSNIT). The SSNIT and the World Bank respectively provided \$16.2 and \$8.2 million as start-up capital for the establishment of the HFC. At its inception, the HFC was expected to operate as a secondary mortgage institution providing sustained housing funds in a two-tier housing finance system. The banking institutions, which were then going through a process of restructuring and recapitalisation, were expected to operate a primary mortgage market, to complete the two-tier mortgage financing system in Ghana. The restructured financial institutions were insulated from significant risk; the primary institutions were to bear only 10% default risk, with the Government of Ghana bearing the remaining 90%. HFC was thus to bear no default risk.

The financial institutions abandoned their expected role of developing and operating the primary mortgage market, leading to the unsuccessful story of the two-tier housing financing system in the country. Nevertheless, the HFC had to survive, therefore, it assumed the responsibility of operating a primary mortgage market instead of refinancing mortgages. The HFC then originated, grouped, serviced, funded and managed mortgages. The objective of establishing a refinancing institution was, therefore, attained although that of operating a two-tier housing finance system failed (Asare and Whitehead, 2006).

Table 1: Mortgage Originations by HFC, 1992-2008²

Year	Mortgagors	Annual Change (%)	Mortgages (US\$)	Annual Change (%)
1992	163		1,900,000	
1993	272	66.87	3,800,000	100
1994	824	202.94	4,200,000	10.53
1995	417	(49.39)	2,500,000	(40.48)
1996	411	(1.45)	4,300,000	72
1997	401	(2.43)	3,000,000	(30.23)
1998	351	(12.47)	7,000,000	133.33
1999	270	(23.08)	6,900,000	(1.43)
2000	230	(14.81)	5,700,000	(17.39)
2001	300	30.44	4,900,000	(14.04)
2002	106	(64.67)	2,653,507.61	(45.85)
2003	85	(19.81)	2,244,057.48	(15.43)
2004	82	(3.53)	1,845,740.39	(17.75)
2005	83	0.01	2,019,671.88	9.42
2006	223	168.68	5,907,458.34	192.50
2007	235	5.38	4,571,859.03	(22.6)
Total	4,453		63,442,294.73	

HFC Bank (2007)

The HFC fully utilised its initial funding of US\$23.5 million within a five-year period, granting over 3,000 mortgage loans with approximately 90% of them being for new housing development (Akuffo, 2006). The HFC, by 2007 had originated approximately US\$63,442,294.73 (GH¢61,564,406.69) to roughly 4,453 mortgagors in the country (see Table 1). On average, the HFC Bank offered mortgages to 278.31 mortgagors per annum. The HFC originated its highest amount of mortgages in 1994, when it offered mortgages to 824 mortgagors. The lowest number of mortgages originated by the HFC occurred in 2004 when it originated only 82 mortgages. The continuous reduction in the number of mortgages originated by the HFC from 1995 to 2004 (see Table 1) may be due to the unstable macro-economic environment that prevailed in the country over this period.

The Bank of Ghana (BoG, 2007) noted that high inflation rates and volatile exchange rate movements priced out prospective mortgagors in Ghana. Also, the HFC was concerned about the risk of loss due to the volatile macro-economic environment and, therefore, mortgages denominated in US dollars. Denominating mortgages in dollars enabled the HFC to take the domestic inflation element out of interest rates and transferred the currency depreciation risk to borrowers. Borrowers therefore faced high incremental borrowing costs due to the continuous depreciation of the cedi to the dollar. Most potential borrowers feared becoming perpetually indebted due to the

high incremental borrowing costs and, therefore, avoided taking out mortgages.

The substantial reduction in mortgage originations by the HFC from 1995 indicated the need for the HFC to review its role as a specialised mortgage lender. There was also the need for the HFC to position itself for competition in the mortgage market as deposit taking banks in the country were capable of issuing their own mortgage bonds to finance their mortgages. The HFC, for instance, issued mortgage bonds (the house bonds) to raise US\$2.55 million in 1996, US\$2.70 million in 1999 and US\$4.23 million in 2001 (Ghana Stock Exchange (GSE), 2003). Nevertheless, mortgage bond issuance was not the preserve of the HFC as other banks in the country were also well positioned to issue mortgage bonds. Furthermore, the Government sold its entire equity interest in HFC in 1998, denying the HFC of the necessary "good faith" of government. In the pursuit of this, the HFC became a universal banking institution in November 2003 and it changed its name to HFC Bank Ltd as part of the restructuring process. It now provides

Table 2: Household Formation in Ghana

Year	Households	Percentage Increase
1960	1,525,060	-
1970	1,793,580	17.61%
1984	2,480,360	38.29%
2000	3,701,241	49.22%

Source: GSS (2005)

commercial, mortgage and investment banking services to its clientele. The form of the HFC's intervention has, therefore, changed.

4. The Outlook of the Ghanaian Mortgage Market

The demand for housing finance is derived from the demand for housing which, in turn, depends on the rate of household formation and income levels (Warnock and Warnock, 2008). Household formation in the country has been on the ascendancy since 1960. Households in the country increased from 1,525,060 in 1960 to 2,480,360 in 1984 as shown in Table 2. The percentage increases in household formation from 1960 to 1970, 1970 to 1984, 1984 to 2000 and 1960 to 2000 are 17.61%, 38.29%, 49.22% and 142.70% respectively. Also, the annual rate of increase of households respectively was 1.6%, 2.3%, and 2.5% between 1960 and 1970, 1970 and 1984, and 1984 and 2000 (GSS, 2005). These high increases in household formation and annual household growth have provided a natural increase in housing demand and, thus, for housing finance. The growth in household formation has improved the outlook of the mortgage market in the country. The potential market for mortgages is, therefore, large in Ghana, thereby providing lenders in the country with a great investment opportunity.

The emergence of institutional investors, who have demand for high quality fixed-income securities, favours the development of market-based housing finance systems (Renaud, 2004). Therefore, the fast growing insurance industry of Ghana offers a huge potential demand for long-term mortgage backed securities. There is a natural demand for long-dated assets by domestic institutions with long-dated liabilities (Warnock and Warnock, 2008). Insurance firms have long-term liabilities and would, therefore, want long-dated assets to match their liabilities. Increased supply of and demand for long-term assets will enable lenders with short-term sources of funding to offload risks to those who are better placed to hold them, thereby further increasing the supply

² Negative figures are in bracket.

Table 3: National Minimum Wage, 1997-2003

Year	Minimum Wage			
	Cedis		US Dollars	
	Nominal	Real (1997=100)	Nominal	Real (1997=100)
1997	2,000	2,000	0.98	0.98
1998	2,460	2,141.71	1.06	0.94
1999	2,900	2,201.76	1.10	0.85
2000	3,500	1,890.78	0.66	0.25
2001	5,500	2,449.62	0.77	0.22
2002	7,150	2,765.06	0.91	0.24
2003	9,200	2,879.19	1.07	0.25

Source: GSS (2005)

of housing capital to homebuyers in Ghana. This has brightened the outlook for the development of the mortgage securities market and, hence, the development of the overall mortgage market in the country. The insurance firms constitute a potential source of long-term funds required to meet the housing finance problems of the country. Also, the fast growing capital market of Ghana offers a great opportunity for the development of a mortgage securities market in the country.

Prior to December 2008, the legal environment did not allow lenders to foreclose on defaulting loans (section 15 and 18(9) of NRC 96) in Ghana. Before the promulgation of the Home Mortgage Finance Act, 2008 (Act 770), the only right available to lenders was the judicial sale of the mortgaged property in the event of borrower default. The outlawing of foreclosure before 2008 constrained the development of housing finance market in the country, but the Act 770 has restored the foreclosure rights of lenders and has, therefore, improved the mortgage lending environment. The Act 770 has made liens enforceable and improved the collateral value of mortgaged properties in the country. This will eventually expand the depth of the country's housing finance market. This has the potential of expanding housing finance down market.

Wolswijk (2005) noted that a higher real disposable income per person increases the affordability of houses, and thus, can have a positive effect on mortgage-financing. With higher real disposable income, households will take advantage of the increased affordability and demand more mortgages. Higher income levels imply that households can gain access to the housing credit market and thus boost the demand for housing and housing finance. Unfortunately, income levels in the country are generally low. As table 3 shows, the nominal wage in 1997, 2000 and 2003 were respectively ₵2,000, ₵3,500 and ₵9,200. Though the nominal minimum wage increased over the period 1997 to 2003, in real terms the wage was highly insignificant. For instance, in 2000

the nominal minimum wage was ₵9,200 and the real wage was ₵2,879.19, and in 2001 the nominal minimum wage was ₵5,500 and the real was ₵2,449.62. Between 2000 and 2001, the real minimum wage decreased from ₵2,201.76 to ₵1,890.78 (a decrease of 14.12%) though the nominal wage rose from ₵3,500 to ₵5,500 (an increase of 57.14%).

The low-income levels in Ghana cannot engender any significant demand for housing finance and housing consumption in the country. This has rendered most of the demand for housing finance emanating from the rapidly growing number of households in the country ineffective. Most potential mortgagors have, therefore, been priced out of the housing finance market. The low-income levels in the country have therefore marred the outlook of the Ghanaian mortgage market. A significant number of the potential mortgagors lack the ability to meet mortgage debt payment from their existing incomes. The low-income levels in the country imply that most potential mortgagors in Ghana cannot meet the capacity requirement of mortgage lenders. Affordability rates are low in the country; the house price to annual income ratio is 12 times as compared to 4 times in developed economies (Akuffo, 2006).

Lenders must have access to adequate information on the prospective borrower and dependable collateral; be able to properly appraise the subject property; operate in a strong and stable macro-economic environment; and have access to long-term funding sources if they are to be able to provide sustainable mortgage finance to homebuyers. Gallardo (1998) noted that the legal framework, improved loan information and the quality of the underlying asset are crucial to improving risk management and transaction costs in the housing finance market. Countries with stronger legal rights for both lenders and borrowers (through collateral and bankruptcy laws), deeper credit information systems and a more stable macro-economic environment have

deeper housing finance system (Warnock and Warnock, 2008).

Unfortunately, in Ghana, there is huge information asymmetry between lenders and borrowers; there is high volatility in the macro-economic environment; the foreclosure right of lenders was only guaranteed in 2008; and long-term sources of housing funds are unavailable in the country. The absence of credit bureaus or regularly updated data base on borrowers' credit history in the country, has constrained the ability of lenders to properly appraise credit applications; they therefore prefer lending to reasonably known deposit account holders. There is an absence of the basic infrastructures required for the development of a well functioning housing finance system. This represents a constraint on the expansion of the housing finance system in the country. Lenders in Ghana are more reluctant to lend for housing development due to a weak enabling environment.

5. The Way Forward for the Mortgage Market in Ghana

The preceding section has pointed out a number of constraints on the development of the Ghanaian mortgage market. It is important for policy makers to focus on addressing these limitations if a sustainable and efficient mortgage market is to be established. It is necessary that a better and reliable credit information system is established; this will enable lenders to appropriately assess the credit risk of prospective borrowers, adequately price mortgages, improve the attractiveness of the mortgage market to lenders and improve the depth of the housing finance market. Also, it is essential for the Ghanaian capital market to be further developed, to foster the provision of housing finance by facilitating the flow of funds from long-term investors to homebuyers in the country. This will also assist with matching long-term funding sources to long-term housing investment. It is equally important, for policy makers to focus on stabilising the macro-economic environment in order to create the necessary conditions for long-term lending (such as housing credit). The success of a housing finance market largely hinges on the performance of the macro-economy. Prudent management of the economy will create greater opportunities for developing effective housing finance system in the country.

6. Conclusion

The Ghanaian mortgage market is underdeveloped as a result of a combination of factors such as low-income levels; weak foreclosure laws (prior to 2008); inadequate bankruptcy rules; absence of reliable credit reporting system; absence of long-term sources of housing funds;

and an unstable macro-economic environment. It is important for Ghana to put the appropriate policies in place in order to improve the attractiveness of its mortgage market. There is a high potential for the development of mortgage market in Ghana, although its constraints must be resolved first. Government efforts are, therefore, necessary to stimulate the development of a vibrant mortgage market in Ghana and, thus, provide sustainable housing funds to homebuyers in the country.

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Pro-Poor Housing: An idea whose time has come

↳ By Zaigham Mahmood Rizvi¹

Food, clothing and shelter are, and always have been considered and acknowledged to be basic social needs. A critical aspect of economically weaker sections (EWS) of the society is that they cannot satisfactorily meet these basic needs. Despite their meagre income levels, the poor somehow manage to obtain food and clothing. However, housing remains “unaffordable” for them. Therefore, they look towards the State for support in provision of housing. The poor and low-income population forms a very sizeable portion of the society in most countries of the developing and under-developed world; South Asia is no exception. The very fact that the economically weaker sections of the population form an important and deciding vote bank for the politicians has made Pro-Poor Housing a political slogan. We see different programmes like “Slums Free Cities,” “Mang Raha hai Har Insaan, Roti Kapra Aur Makan”, “Housing For All,” and so on. In a few of such programmes, the delivery is SOME while in many it is NONE. The supply of low-cost, low-income housing is

very meagre relative to the mammoth size of the shortage in this category and in most of the countries in the region nearly the entire urban housing shortage is in this segment of the population. Pro-Poor housing is the common issue of the South Asia region. Each country has its own challenges in terms of geo-socio-economic parameters and has taken different initiatives to address the issue of “shelter less poor,” and thus has its own experiences and learning curve. Therefore, there is a need to share experience, knowledge, technology and expertise. There is also a need to share the regional success stories and successful models that may be adapted to country specific conditions.

1. The South Asia Region

This paper covers the seven countries of the region, namely Afghanistan, Pakistan, India, Bangladesh, Sri-Lanka, Thailand and Indonesia. Housing has a direct relationship with the

population and it is an essential social need regardless of affordability. It is important to note that the region represents nearly one-fourth of the world’s population - i.e. one out of four people on the planet live in the South Asian region. Table 1 presents the regional scenario in terms of population, urbanisation and growth. India alone has an urban population of 329 million people and an urban housing backlog of 25 million units, while Pakistan, with an urban population of 58 million people, has an urban housing backlog of about 3 million units. Afghanistan presents a unique situation, where due to almost three decades of war and destruction, a sizeable portion of the existing housing stock has been either partially damaged or totally destroyed. A World Bank study estimates that an estimated US\$2.5 billion would be needed to reconstruct and rehabilitate the Afghan capital, Kabul, alone.²

Whereas the issue of the massive housing shortage and very limited supply is extremely challenging, particularly in the low-cost/

Table 1 South Asia: Population Trends³

Country	Total Population (mn) 2007	Population Growth % 2007-2015	Urban Population (mn) 2007	Urban Population % of Total	Urbanization Growth %	GDP Growth Rate % 2000-07
India	1,125	1.3	329	29	2.5	7.8
Pakistan	162	2.1	58	36	3.3	5.6
Sri Lanka	20	0.3	3	15	0.2	5.3
Thailand	64	0.5	21	33	1.6	5.3
Mongolia	26	1.0	1.5	57	1.3	7.5
Indonesia	225	1.0	113	50	4.3	5.1
Bangladesh	158	1.6	42	27	3.7	5.7

Source: World Development Indicators 2009

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² Housing Finance in Afghanistan: Challenges and Opportunities, World Bank Group Report, July 2008.

³ World Development Indicators 2009.

low-income category, housing finance is also limited, when viewed in the context of Mortgage Debt (MD) to GDP Ratio. The region is among the lowest in terms of outstanding mortgage finance, with average MD to GDP Ratios as seen in Figure 1. The ratio is 7% in India, 1% in Pakistan, 17% in Thailand and 42% in the European Union.

To date, mostly the specialised housing finance institutions in the public sector have dealt with housing finance in the region. India and Pakistan experienced an emergence of housing finance companies (HFCs) in the seventies and eighties. As opposed to public sector specialised housing finance institutions, where long-term funding was being provided by government, the HFCs were to raise their own long-term funding from market sources. In the absence of long-term funding facility institutions (mortgage refinance institutions), this became the major challenge for HFCs to sustain their operations, and in some countries like Pakistan, this became the primary reason for closing a number of these institutions. In India, the National Housing Bank (NHB), the regulator of HFCs, played the role of long-term funding provider to HFCs. While the major portion of the housing shortage is in the low-cost/low-income category, there are very few housing micro-finance institutions operating in the region, especially in relation to demand. Furthermore, these housing micro-finance institutions have no access to long-term funds, and most of their mortgage lending is of short tenor, and for home improvement. Very little of their financing is for incremental housing finance.

2. Where the Urban Poor Live

Nearly all countries of the South Asia region face a sizeable housing shortage and most of that shortage is in economically weaker sections (EWS) of the society. The question therefore arises as to where these urban poor live. The urban poor find refuge/shelter in the following forms:

- Higher Persons/Room Density: The occupancy per room is very high in the region. For example, the average Persons/Room density in India and Pakistan is around 3.5, as compared to 1.1 in the EU and 0.5 in the USA.
- A tour of major metropolitan centres would show homeless/shelter-less people living on footpaths and even taking shelter in abandoned sewerage pipes. In India, many movies like "Slum Dog Millionaire" depict such situations in metropolitan centres like Mumbai.
- Urban poor live in Slums, Shanty Towns, Jhopar Patti, Basti, Katchi Abadi, Squatter Settlements, and illegal habitats; and wherever they can find any form of shelter. Nearly half of the inhabitants in metropolitan cities like Karachi, Mumbai, Dhaka, Manila, etc., are considered "slum dwellers."

A slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water; access to improved sanitation facilities; sufficient living area (not more than three people sharing the same room); structural

quality and durability of dwellings; and security of tenure. This is one simple definition. In reality, most of the slum dwellers in this part of the world face conditions even worse than those indicated above.

3. Slums Prevalence in some South Asian Countries

The prevalence of slums is a global issue, from Latin American countries, to Africa, to Asia and the Pacific. The South Asia region alone is home to nearly one-fourth of the world's population, and nearly half of the world's poor. Consequently, the challenge of Pro-Poor and Housing Micro-finance is beyond imagination in South Asia.

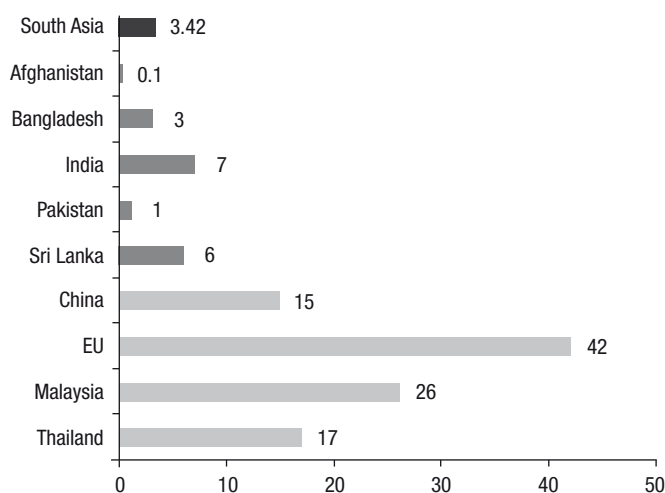
A quick overview of the key issues in some countries of the region is given below.

Afghanistan has a total population of more than 25 million people, with the population of Kabul being in excess of 3 million people. Although the country has endured more than three decades of a war like situation, Kabul has remained the main victim of the consequent devastation; most of the housing stock in Kabul is partially damaged or totally destroyed. It is very difficult to have any realistic estimate of the habitable housing stock in Kabul. Nearly 80% of Kabul's population (3 million people plus) lives in slums, damaged or destroyed housing. A World Bank study estimates that around US\$ 2.5 billion⁵ are needed for the repair, renovation and reconstruction of housing in Kabul.

Pakistan has an urban housing shortage of around 3 million units, most of which is in the low-income category, a candidate for small and housing microfinance. This has resulted in the mushrooming growth of slums and squatter settlements in major metropolitan areas of Pakistan. Karachi alone, with a population of around 16 million, has 800-1000 slums, sheltering about 7.6 million people (or 1 million households). With a Karachi population estimate of above 16 million people, this implies one-out-of every two people in Karachi living in slums.

India has an urban housing shortage in excess of 25 million units, nearly all of which is in economically weaker sections of the society. The issue of shelter-less poor, coupled with massive urbanisation in major metropolitan cities like Mumbai, Kolkata Delhi, etc., is breeding the already existing major challenge of slums, "Jhopar Patti", and squatter settlements in India. An estimated 52,000 slums are officially recognised that represent about 14% of the

Figure 1 Housing Debt to GDP (percent)⁴



Source: Financing Homes 2008

⁴ Financing Homes 2008.

⁵ Housing Finance in Afghanistan: Challenges and Opportunities, World Bank Group Report, July 2008.

total urban population. India has taken quite a few initiatives in this direction, as discussed in Section 5-B. Such experiments offer some tangible solutions, which need to be evaluated and documented. Many initiatives have been experimented in Mumbai for slum improvement and slum up-grading. Although it is worth providing more details of these initiatives, it is beyond the scope of this article. An ideal platform for more intensive research in this topic would be the South Asia and Pacific Housing Forum (SAAPHF), recently established with its Secretariat in Delhi.

Bangladesh has a unique issue of having the highest population density of over 1,000 people/Sq Km, while in Dhaka City, it is more than 10,000 people/Sq Km. Dhaka alone has more than 2,100 slums and a slum habitat for more than 2 million people.

Sri Lanka: A considerable share of the population of Sri Lanka lives in plantations, slums and shanties. Like other metropolitan centres in the region, the capital city of Colombo has an expanding slum population and offers a major challenge to the urban planners.

Indonesia has a population of more than 225 million people and nearly 17.2 million families live in about 10,000 slums. Though the Government has started many programs to address the issue of slums and squatter settlements, no solution has been identified.

Since the problem is so gigantic, having multifaceted challenges and no short-term solutions, how should the planners approach the issue? One quick and obvious answer would be a two-pronged approach:

- Slum improvement and up-grading programmes; and
- Slum rehabilitation programmes.

4. Urbanisation and Population Explosion in Major Metropolitan Areas

The world population is expected to reach between 7.9-10.9 billion by the year 2050. By 2030, nearly 60% of the world's population will be urban, and more than half of that will be urban poor living in poor habitats and slums. The urban population growth rates are the highest in the developing world, which absorbs an average of 5 million new urban residents every month. In 1950, about 232 million people lived in urban areas, which represented about 17% of Asia's total population. In 2005, Asia's urban

population has gone up to 1.6 billion people, or about 40% of the region's total population. It is further estimated that by 2025, nearly half of Asia's total population will be urban, thus posing a major challenge to the urban planners and housing policy makers.

There are many factors contributing to massive urbanisation and urban housing shortage, some of which are:

■ **Urbanisation and population growth:** Major metropolitan centres around the globe are experiencing a very high urbanisation rate, in addition to the generic growth of the population. This aggravates the already existing massive urban housing shortage. For example, the city of Karachi, having a population of more than 16 million people (10% of the country's total population) is growing at 2.5% due to generic population growth, whereas the population growth attributed to urbanisation is around 5-6%, thus the overall city population growth is more than 8%. The city of Kabul, with a population of 3 million plus, is estimated to have an urbanisation rate of about 15%, primarily due to returning refugees.

■ **Depletion of existing housing stock:** The urban planners, chasing an already existing housing shortage, rarely consider the depletion of existing stock as a further addition to the existing housing shortage. Considering a very nominal depletion rate of 1%, (a house becoming depleted in 100 years), it amounts to a depletion of about 2.4 million housing units per year in India and about 0.2 million units per year in Pakistan. In Pakistan, with an annual addition of new stock estimated at 0.3 million units per year, this means a net addition of only 0.1 million units per year. In Kabul, where nearly two-thirds of the housing stock is already damaged or destroyed, and more than 80% of the city population lives in slums, the high urbanisation rate further compounds the housing issue.

■ **Changing cultural norms (persons per household):** In most of the countries the cultural norms are changing in terms of family size and persons per household. The family size is decreasing, children are living independently and moving away from larger families living under one roof, requiring more housing and thus adding to the already existing shortages.

■ **Economic reasons:** Due to economic growth and prosperity, more employment opportunities appear in the cities, whereas due to mechanisation of agriculture, more people become unemployed in rural areas, relocating

to cities to looking for job opportunities. Again, the poor people migrate to the cities primarily for economic reasons, preferring to live close to their place of work. Since urban planners fail to quantify the level of urban migration at this rate, and consequently do not adequately respond to the urbanisation challenge. The land mafia supporting squatter settlers' move on a fast-track. As a result, the squatter settlements and slums are growing at a fast rate, which over a period of time, take the shape of more permanent dwellings.

Due to the above reasons for the explosion in urban population and the failure of urban planning, cities are expanding in circles around circles, rather than growing in a planned manner with the development of satellite towns. Rising land prices in the cities force the poor to the suburbs and areas beyond city limits, with no civic amenities, transport, utilities, or municipal services. The illegal habitat and slums developed within cities generally have access to some of these civic amenities, becoming an incentive to develop illegal habitat and slums within the city limits.

4.1. Pro-Poor Housing and Housing Finance:

The issue of low-income and low-cost housing is to be addressed with a two-pronged approach, the Finance Side and Supply Side:

A. HOUSING MICRO-FINANCE

Even if the cost of housing is managed by the developers at lower levels, the economically weaker sections of the society need financial empowerment to enhance housing affordability due to their very low-income levels and other issues like income sustainability, income verification, etc. Such housing micro-finance institutions, also called Social Housing (Finance) Institutions, would operate under micro-finance business models. In India, the National Housing Bank (NHB) has launched the Housing Micro-finance Programme, under which NHB provides financial support and long-term funding to micro-finance institutions. In Sri Lanka, the Women's Bank is providing similar support to the female population. In Bangladesh, the Grameen Bank and Islamic Bank of Bangladesh run housing micro-finance programmes. In Pakistan, the housing micro-finance programme is run by Tameer Bank and Kashaf Foundation, whereas The First Micro-Finance Bank of Afghanistan has recently entered the housing micro-finance area. However, in most of cases, housing micro-finance is restricted to short- and medium-term loans for renovation and home improvement, primarily due to the lack of long-term funds.

B. HOUSING MICRO-SUPPLY

The governments need to make collective efforts, under a shared wisdom of all the stake-holders, in order to promote low-cost/low-income housing supply on a large scale. The public sector alone cannot address this issue and combined efforts and initiatives, under public-private partnerships, are needed to find wholesale answers to this major issue. There is a need to establish housing micro-finance institutions, also called Social Housing (supply) Institutions, to promote large scale low-cost/low-income housing projects either as public sector projects or under public-private partnerships. Such programs certainly need "Smart Subsidies" from the State, intelligently built into the schemes. In order to manage affordability, these programmes could also promote "incremental housing" projects as well.

Different policy initiatives have been taken in countries of South Asia to promote housing micro-supply and housing micro-finance. A brief review of these initiatives follows.

1. India

The Indian Government has taken various policy initiatives to promote housing and housing finance. Some of these policy initiatives are:

- First National Housing Policy, 1988 (revised in 1994 and 1998)
- National Urban Housing and Habitat Policy, 2007 with a focus on urban poor
- Policies and Programmes through successive 5-year Plans
 - NHB as regulator for HFCs (1988), along with the Reserve Bank of India (RBI), the regulator of commercial banks, manage such schemes.
 - Housing being a State subject, so centre/province coordination through the provincial Housing Development Boards is being facilitated.
 - Governments realised in the 1980s that the public sector alone cannot deliver on housing and housing finance, especially in the social housing segment. Therefore the active involvement of private sector was considered essential and was promoted.

Monitor India, a research group, has played a major role in the quantitative and qualitative assessment of the low-income housing issue in India. Its findings are now the primary document being used by various stakeholders in the planning and execution of pro-poor housing projects.

The Indian Government had taken some specific missions to promote pro-poor housing, for example the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) across 63 cities. The programme is moving ahead with great success. Under another programme of Basic Services to the Urban Poor (BSUP), the Government provides a garland of seven entitlements/services to poor urban localities. The Indian Government has also introduced some special subsidy schemes like the Indira Awas Yojana (IAY) to help poor and vulnerable groups. The objectives of Indira Awas Yojana is to help with the construction of housing units by members of scheduled castes and tribes, freed bonded labourers and also non-scheduled castes. To assist the poor by making mortgages and home finance affordable, interest rate subsidy schemes have also been introduced. Loans are provided at below market rate for housing and at normal rate for housing infrastructure through the National Housing Bank and the Housing and Urban Development Corporation. Another such scheme is ISHUP (Interest Subsidy Scheme for Housing the Urban Poor).

2. Indonesia

The Constitution of Indonesia stipulates that every citizen has a right to live in a decent and healthy house and environment. The Government has launched various programmes to meet this constitutional obligation, like:

- National Movement for One Million Houses (2003), to provide affordable housing and to improve quality of living environment
- Subsidised Home Mortgage (KPR) for low-income communities (1976)
- Ministry of Housing launched Sharia compatible KPR Sharia called (KPRS) schemes in 2005

3. Afghanistan

Afghanistan's current population is around 25 million plus, which is likely to reach 37 million by 2015. More than 80% of the people belong to Economically Weaker Sections, and thus are candidates for micro- and low-income housing and housing finance. Informal settlements shelter 80% of the population and cover 69% of the residential land in Kabul. One-third has no titles, and an equal number have non-bankable titles. The population of Kabul is estimated at 4.1 million, whereas most of the existing housing is either damaged or destroyed. The potential demand for housing micro-finance is huge. Currently, two institutions are attempting to address this issue: the Micro-Finance Investment Support Facility for Afghanistan (MISFA), a donor supported initiative to promote

micro-finance in Afghanistan, and First Micro-Finance Bank (FMFB), an MFI in the private sector. These initiatives are too meagre for the size of the problem. By 2009 MISFA had a client base of 422,000, being served through 16 NGOs. Very few (2%) of these are home improvement loans. Its outreach covers 26 provinces and nearly 60% of the clientele are women. The MISFA MF Programme has an urban outreach of 72% and rural outreach of 28%. The First Micro-Finance Bank (FMFB) started its operations in 2004 and its loan sizes ranges from US\$200 to US\$ 50,000. The average tenor of a home improvement loan is 20 months.

In Afghanistan, the major challenges in Pro-Poor housing are: absence of institutionalised Mortgage Finance, weak or no titles, income verification, foreclosure difficulties, etc. All this calls for new and innovative low-income housing solutions. The country, with a unique housing shortage due to the destruction of war, and a very large portion of the population being candidates for housing micro-finance, needs technical and material support to address its low-cost and low-income housing issues.

4. Pakistan

The Government of Pakistan in 2001 announced the country's National Housing Policy (NHB-2001), which addresses issues related to housing supply and housing finance. The Central Bank (SBP) is also playing an active role in the promotion of housing finance and has formed a Housing Advisory Group (HAG), with a focus on low-income housing and housing finance. The HAG had chalked out a 12 Point Programme, which is now being actively pursued by SBP. The central bank has a specialised department, called the Infrastructure and Housing Department, to address various regulatory issues related to housing finance and to ensure implementation of HAG recommendations. The Government has also announced a programme to promote the construction of one million housing units per year. The state owned specialised housing finance institution (HBFC) has a business focus on low- and middle-income housing finance. It has plans to promote a pro-poor micro-finance institution, the "Social Housing Bank," and a "Social Housing Company" to launch low-cost housing schemes under public-private partnership.

5. Thailand

The Government of Thailand offers two major programmes with different approaches:

- **Baan Eua-Arthorn (BEA) Programme of National Housing Authority:** The BEA is a community housing program enabling

lower-income households to have home-ownership in new communities with social and personal security. The BEA programme targets low-income households.

■ **Baan Mankong (BMK) Programme of Community Organisations Development Institute (CODI):** The concept of BMK is not to tackle each slum's problem individually but to look at collective problems on a city-wide scale. At initial stages, low-income groups work closely with their local representatives/agencies. Once these city-wide plans are finalised and upgrading projects are selected, the Community Organisations Development Institute (CODI) channels infrastructure subsidies and housing loans directly to the communities.

6. Bangladesh

The Grameen Bank of Bangladesh is the leading micro-finance institution which is very active in providing micro-finance, including housing micro-finance. The Grameen Bank was established as a formal bank in 1983. 95% of its ownership is with its borrowers, and 100% of its loans are financed from the Bank's deposits. The Bank has a very impressive outreach of a 2,554 branches, covering 84,237 villages. The Grameen Bank has provided housing loans since 1984, with an average loan size of US\$190, tenor of five years and an average interest rate of 8%. It has so far financed 671,412 houses with a total loan amount of THB 8.8 bn. The loan recovery rate is 98%, strong evidence that the poor can be considered "good" borrowers. The housing micro-finance programme has a unique feature, since in Bangladesh a large number of housing are Huts (Chappar) or people living on Boats. The Bank's micro-finance programme has received international recognition and, as a mark of acknowledgement, received The Nobel Prize for Peace (split with Professor Muhammad Yunus) in 2006.⁶

5. Empowerment of Women through Housing Micro-Finance

In Sri Lanka, the Women's Bank is a cooperative and society built institution, owned and operated by and for poor women. The Women's Bank, in reviewing the housing conditions of its membership, has found that most of them did not have a decent shelter to live in. They construct their houses using an incremental or progressive housing concept. The Women's Bank also provides loans for home improvement. Recovery is 99%. In India, an HFC

provides concessional housing loans if the house is owned or co-owned by the housewife. Pakistan's HBFC experience suggests that where the housewife is a co-borrower, the default rate is much lower. In Bangladesh, the Grameen Bank has played a major role in the empowerment of women by including them as the main clientele for micro-finance, and 97% of its borrowers are women.

Lessons learned through various housing micro-finance initiatives in the region:

- Low-Cost Housing Schemes (LCHS) under Private-Public Partnership (PPP) were better managed and more sustainable
- Pure Public Sector Schemes were both used and abused
- Large Scale Builders and their Associations have an important role to play
- LCHC should be equipped with essential services and infrastructure at the planning stage
- Transparent identification and screening of beneficiaries
- Built-in barriers to prevent speculators. In some cases the allottees are restricted from sale for a certain period, and in others the State Subsidy/Financial Support remains a part of the equity as "co-owner", to be released after the expiry of the mortgage tenor or binding period
- Transport, utilities, schooling and health are key elements of success
- NGOs play a key role in housing micro-finance schemes
- Alternate security (e.g., group assurance)
- Ownership transfer to be tied to the owner living in that house for a certain period
- Cross-subsidy models are of further help
- Built-in smart subsidies, for example an interest rate subsidy, is linked to the timely payment of the mortgage instalment
- One-fourth of world's population lives without electricity. There is a need to link Pro-Poor Housing solutions with Alternate Energy Programs like "Solar for Social Housing." An example in this case is the programme of HBFC Pakistan. Under the programme, the clients are offered long-term loans for Solar/Alternate Energy installations along with long-term home loans.

⁶ See: <http://www.grameen-info.org/>.

Mortgage Banking Development in the Slovak Republic

↳ By Viktória Múčková and Ľubica Hrnčiarová¹

1. Introduction

A mortgage loan ranks among one of the oldest bank products. There are two aspects to this type of loan that cannot be separated from one another, one legal and one financial. From the legal point of view, a mortgage is defined as a pledge over real estate property; from the economic point of view, it is a type of loan (financing of property, typically long-term) the repayment of which is secured through the establishment of a pledge on a specific real estate property in favour of a creditor mortgagee. Involved may be a property that itself is subject to financing, or (other) properties. The mortgaged property may be owned by the mortgage loan (ML) applicant or another person, e.g. a family member. In the past century mortgage loans concerned primarily capital project financing. Such investments related to business activities and catering for housing needs.

Over the course of history, several different methods of mortgage financing have evolved in developed economies. European countries, including some economies in transition, are typified by two basic methods. Firstly, the so-called traditional deposit (classic) one, where the essential feature is that mortgage loans are (re-) financed from different types of deposits. Secondly, there is the so-called mortgage bond (MB) model. This system is exclusively or prevalently based on raising the funds needed to make mortgage loans (ML) from the issue and sale of special types of bonds - mortgage bonds (MB) - in capital markets. Such bonds are typically purchased by institutions with long-term funds - institutional investors, such as insurance companies, pension funds and investment funds. Credit institutions (universal or specialised banks) and natural persons are not excluded from this activity (of purchasing)

either. It is evident and has been proven by many years' experience, that the prerequisites of an effective application of the MB system are the existence of an adequately functioning financial market, its institutional set-up, the creation of rules for secure investment and the level of incentives.

A mortgage bond is deemed to be a European financial product par excellence. Its basis derives from the Greek hypothec and the German and Danish bond models. An MB is typically a fixed-yield security backed by pools of first-rate assets, such as mortgage loans. Over the whole maturity period, the assets in question remain on the balance sheet of issuers - universal or specialised banks responsible for their due servicing.

As estimated by the European Mortgage Federation (EMF), 62% of housing mortgage loans are re-financed by deposits, followed by their re-financing through mortgage bonds (about 17 -19%), the rest by building societies' saving schemes, mortgage backed securities or other instruments.

The secondary mortgage market has come to be developed and structured in the U S. This market involves the issue and sale of mortgage securities backed by special groups (so-called pools) of mortgage loans. This process is known as the securitisation of assets, e.g. mortgage loans. The primary goal is to transfer risks and "ownership" of mortgage loans to a third party. By selling mortgage loans, deposit institutions (commercial banks, savings banks) and mortgage lenders raise funds that serve them for making new loans.

At the time of writing, there are two important events we have to take into account. Firstly,

we are still in the beginning of one of the most significant global crises of modern times. This crisis has impacted on re-financing operations in the banking sector and obscures visibility going forward. Secondly, Slovakia has joined the euro area as of the 1st of January 2009.

This paper aims to give important information on selected issues related to mortgages (mortgage loans) and covered bonds' (mortgage bonds) development in the Slovak Republic. We have focused our attention, in our opinion, on all important aspects of the mortgage bond system and problem areas that our banking entities with a mortgage business licence have also encountered during the short time of conducting this business. The mortgage bonds' system was enacted in Slovakia in 1996.

At European level, mortgage products (a mortgage loan and a mortgage bond) are referred to in several directives, the core principles of which have more or less been transposed into national legal frameworks while, of course, retaining links to the historically formed model of mortgage financing of the particular country. The most important provisions of the respective directives give room for comparing the degree of harmonisation of Slovak mortgage products and mortgage business legislation with that of the wider EU.

Separate sections are devoted to the practical experiences of Slovakia. The data on the total volumes of mortgage loans and of mortgage bonds in circulation confirms that the Slovak market still ranks among the smallest mortgage markets in Europe. As far as funding mortgage loans via special types of security - i.e. mortgage bonds (Slovak equivalent "hypotekárny záložný list") is concerned, the first problems arose in the second half of 2008. At the end of

¹ Viktória Múčková is a Mortgage trustee at CSOB in Bratislava (Slovakia) and Ľubica Hrnčiarová works at the Department of Statistics at the University of Economics in Bratislava. The Findings, interpretations, statements and conclusions expressed herein are those of the authors alone and do not necessarily reflect the views of the International

Bank for Reconstruction and Development/The World Bank and its affiliated organisations, or those of the Executive Directors of The World Bank or the institutions the authors work for or are affiliated with. The authors are not employees of the World Bank Group.

2008, the financial authorities changed acts because of weak funding conditions in the Slovak mortgage bond system.

The data presented in the Annexes is not supposed to give a detailed analysis of the transformation process of the Slovak Republic, or of the market for real estate. Rather, we have aimed to bring some facts to readers' attention, especially trends in the development of the basic macro-economic indicators and the trends in prices of residential property in the Slovak Republic. For example, since March 2007 the National Bank of Slovakia, has monitored house prices through an index.

2. Macro-Economic Environment – Current Situation

On the 8th of July 2008, the ECOFIN Council adopted a decision allowing Slovakia to join the euro area as of the 1st of January 2009. Before this decision, Slovakia had to fulfil the so-called convergence criteria, which are illustrated in Table 1.

The Slovak economy has grown at very robust rates in recent years; real GDP growth peaked at 10.4% in 2007 and in 2008 stood at 6.4%. In 2009, GDP growth is expected to slow considerably.

The year-on-year inflation rate measured by the index of consumer prices (ICP) decreased in Slovakia to the level of 0.4% in January 2010 in comparison to 0.5% in December 2009. The negative dynamics of production prices slowed-down in December 2009 as a result of a further decline of the prices of industrial producers. A significant slow-down of theyear-on-year fall was recorded by the prices of agricultural products at the end of 2009.

Prices of dwellings also recorded a decline within monitored price indexes when the average price for 1 square metre in the fourth quarter of 2009 decreased by 9.1% on a year-on-year basis. (See Annex 2 and Figure 1).

Residential real estate prices began to fall in the second half of 2008. The drop in these prices fuelled expectations that they would continue to decline, which in turn dampened demand for loans.

3. Banking Sector in Slovakia

3.1 Short Summary

The banking sector represents the most important and developed segment of the financial market in the Slovak Republic (SR). At present, available financial sources are mostly placed

Table 1 Convergence Criteria

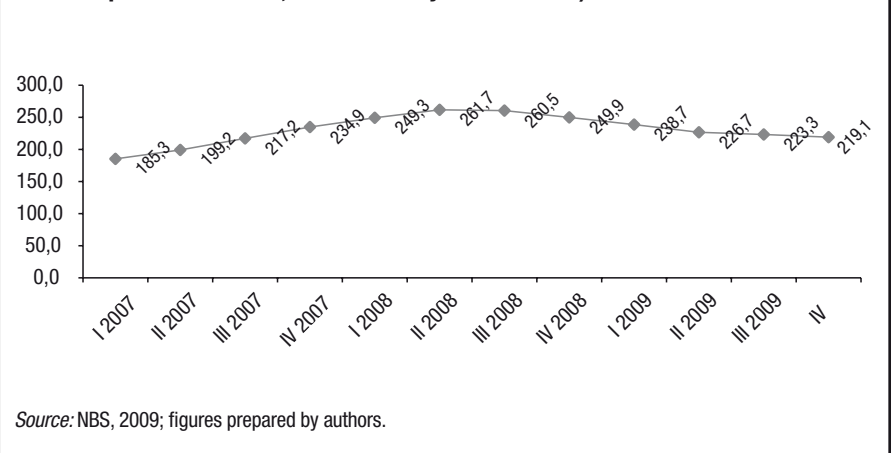
Criteria	Ref. value- 2008	Fulfilment – March 2008
General government deficit (% of GDP)	-3.0	-2.2*
General government gross debt	60.0	29.4*
HICP inflation rate	3.2	2.2
Long-term interest rates	6.4	4.5
Exchange rate stability	In ERM II from 28 November 2005	ERM II band +, -15 % from central parity (30,1260 – 40,7588)

* Forecast 2007; general government deficit including pension reform

Sources: Ministry of Finance of the Slovak Republic, the National Bank of Slovakia, 2008

Remarks: on the 8th of July 2009, the conversion rate between the Slovak koruna and the euro was set at 30.126. The Slovak koruna central parity was re-valued twice against the euro by 8.5 % in March 2007 and by 17.6472 % in May 2008.

Figure 1 Changes of Residential Property Prices in Slovakia prices in EUR/m²; basic index - year 2002=100



in the banking system (mainly savings of the population) and enter the economy via this system. Banking loans are still the key form of the financial relationship between the enterprise and the banks. The banking sector's macro-economic position is illustrated in Figure 2a and Figure 2b. (See page 22)

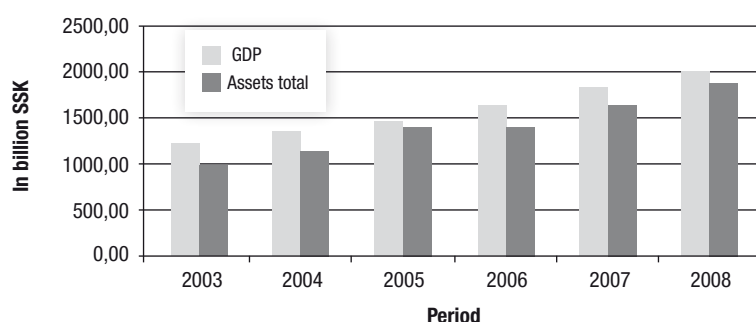
At present, 26 commercial banking entities currently operate on the banking market (15 banks and 11 branches of foreign banks) and 274 providers of banking services on the cross-border basis. As of the 31st of December 2009, the value of the subscribed equity capital of the sector was EUR 2,074.3 million of which domestic equity capital EUR 189.7 million and foreign equity capital EUR 1,884.6 million. Foreign investors' share of the subscribed equity capital including branch offices of foreign banks is relatively stable and high in compari-

son with the domestic one. The number of banks is presented in Table 2 (See page 22).

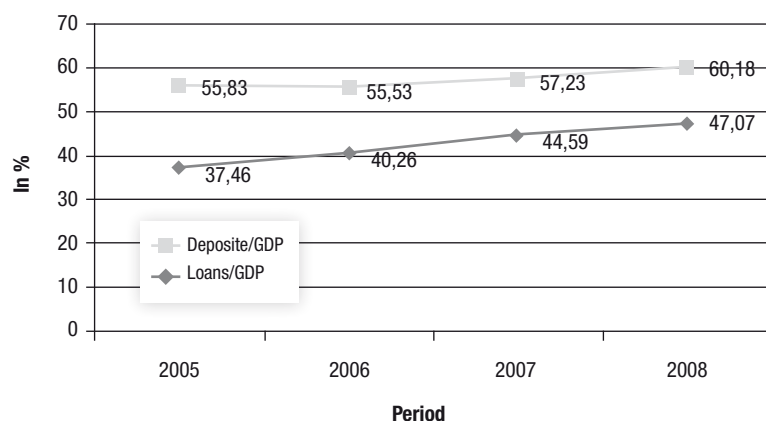
The decrease of the key interest rates of the ECB stopped in June 2009. Lending rates for households did not fall as sharply as those for enterprises. The volume of loans to non-financial institutions continued to decrease, while the volume of loans to the households continued to increase at the end of the year 2009. The development of client interest rates was different for deposits and loans. For loans, the interest rates from the loans to non-financial companies and from the loans to households decreased slightly.

In the next part of this section we focus our attention on mortgage banking developments in Slovakia, especially on the covered (mortgage) bonds system.

**Figure 2a Macro-Economic Position of the Banking Sector in 2003 – 2008
GDP and Assets Total in billion SKK**



**Figure 2b Macro-Economic Position of the Banking Sector in 2005 - 2008
Loans (Deposits)/GDP Ratios**



Source: NBS, Slovak Statistical Office; author's calculation.

Table 2: Development of the Banking Sector in the Slovak Republic in 2009 – 2007, 1997

Type of bank		2009(1)	2008	2007(2)	1997
Central Bank	a	1	1	1	1
	b	1	1	1	1
Banks without foreign capital participation	a	2	2	1	11
	b	2	2	1	11
Banks with foreign capital participation	a	13	15	15	14
	b	13	15	15	14
Branch offices of foreign banks	a	11	9	10	4
	b	11	9	10	4
Banking Sector Total	a	27	27	27	30
	b	27	27	27	30
Providers of banking services on the cross-border basis		274	252	190	0

Sources: National Bank of Slovakia, 2009

a) Number of commercial banks and branch offices of foreign banks licensed in the Slovak Republic.

b) Number of commercial banks and branch offices of foreign banks operating in the Slovak Republic.

(1) Citibank Europe plc. change from bank to Foreign Branch Office came into operation on the 1st of January 2009.

(2) Fio, credit union, branch of foreign entities came into operation on the 15th of March 2007; UniCredit Bank Slovakia, a. s., bank came into operation on the 1st of April 2007; ABN AMRO Bank N.V., Branch Office of foreign bank came into operation on the 15th of May 2007;

Number of banks - on 31 December

3.2 Mortgage Banking Developments

For the purpose of this paper we distinguish two basic definitions of the mortgage loans. Firstly, mortgage loans in a wider sense – i.e. all types of housing loans, in particular mortgage loans, other housing loans and building loans (loans are provided by universal banks, savings societies or government subsidised entities, e.g. State Housing Development Fund).² A mortgage is the pledging of property to a creditor as security for the payment. The lender holds the title to borrower's real estate until the debt is completely paid up. The banks finance these loans via deposits. Secondly, mortgage loans in a narrow sense – under the Act on Banks' definition and other relevant acts (namely the Act on Bonds). Here, basic principles and limits are contained in the Act on Banks and are linked somewhat to the covered (mortgage) bond system. The mortgage loans are financed via a special type of mortgage security - i.e. covered mortgage bonds. Table 4 shows typical features of mortgage loans in Slovakia.

3.2.1 Mortgage Bond System in Slovakia – Main Features

This model was enacted in Slovakia in 1996. A couple of amendments have been made since this time. The most important are shown below:

1. To clarify internal relations among mortgage loan and mortgage bond;
2. To react to the practical needs;
3. To support the mortgage bond system's development in connection with financial sector developments in Slovakia and developed EU countries; and
4. To harmonise mortgage products with EC Directives, notably with the UCITS Directive.³

Table 5 provides an overview on the main feature of the covered mortgage bond system in Slovakia. (See page 24)

² We will not include the State Housing Development Fund's loans in our analysis.

³ One of the most important Directives of the European law for mortgage bonds is the European Commission Directive No 85/611/EEC, as amended, relating to collective investment in securities, also referred to as the Investment Directive (UCITS). The provisions of this directive contain rules, limitations on and opportunities for investing into securities. Besides generally applicable principles, the elements of the so-called "preferential treatment" are incorporated therein. This basically concerns application of certain exemptions and modifications of investments limitations. The issue is raised here of setting criteria to decide on the inclusion of a certain security in the group to be treated on a preferential basis, with the possibility of applying exemptions for determining the limitations on the investment into securities of one issuer or a group of issuers.

Table 3: Long-Term Interest Rates, Monthly Average, 2008 – 2009⁴

M/2008	May	June	July	August	Sept	Oct	Nov	Dec
SR	4.52	4.94	5.06	4.95	4.98	4.95	4.92	4.72
Euro area	4.43	4.78	4.76	4.47	4.43	4.3	4.09	3.72
EU	4.67	5.01	4.97	4.70	4.64	4.58	4.38	3.96
M/2009	May	June	July	August	Sept	Oct	Nov	Dec
SR	5.03	5.08	5.04	4.90	4.65	4.33	4.23	4.12
Euro area	3.93	4.06	3.87	3.74	3.72	3.68	3.68	3.65
EU	4.23	4.41	4.25	4.11	4.07	3.98	3.96	3.95

Source: Eurostat, 10th of March 2010; European Central Bank

Table 4: Characteristics of Mortgage Loans in Slovakia

Mortgage loan (ML) features in Slovakia

- Mortgage loans (ML) for the defined purposes – acquisition of domestic real estate or any part thereof, construction or modification of existing structures, maintenance of domestic real estate, or repayment of a loan granted for the above specified purposes which is not a mortgage loan, or repayment of an outstanding loan drawn for purposes mentioned above (with exemption last one).
 - Its maturity is at least four years and not more than 30 years.
 - It is secured by the right of lien established upon a domestic real estate, including an uncompleted construction.
 - It is at least to the amount of 90% financed by the issue and sale of mortgage bonds, unless this Act requests otherwise, by a mortgage bank pursuant to a separate regulation.
 - The National Bank of Slovakia may, by its decision issued on the basis of an application of mortgage bank for reasons worthy of special attention maximum for a period of two years stipulate special conditions for financing of mortgage and municipal loans, at least 70%, even repeatedly. A reason worthy of special attention is in particular an attempt to maintain the stability of the financial sector.
 - LTV - (loan-to-value of a real estate or the security coefficient) is up to a maximum of 70% (0.7). Over this limit a bank may grant mortgage loans exclusively if their total value does not exceed 10% of the total amount of mortgage loans granted by the bank. These parts of the mortgage loans do not serve for mortgage bonds' coverage and, therefore, no entries are made in the register of mortgages.
 - A real estate valuation may be considered a key activity for securing mortgage operations. For the purpose of mortgage operations, the value of a real estate is determined by a mortgage bank on the basis of an overall assessment of the real estate. In determining the value, a mortgage bank may take into account only the permanent features of the real estate and the long-term benefit to the owner provided the real estate has been managed in a proper manner. A mortgage bank is bound exclusively by its own valuation of a real estate.
 - A mortgage loan may not be secured by a lien on the real estate, on which a real estate lien has already been established and continues in favour of a third party, or limitations on the transfer of the real estate apply, according to a separate regulation, with the exception of:
 - Article 15 paragraph 1, 16 – 18 b) of the Act No. 182/1993 Coll. on Ownership of Residential and Non-residential Premises, as amended;
 - Article 17 of the Decree No. 36/1985 Coll. on financial, lending and other types of assistance in the individual cooperative flat construction, and the modernisation of family houses in private ownership, as amended;
 - A right of lien assigned to a building society or the State Housing Development Fund.
- If the above circumstances arise, a mortgage bank shall always lower the value of the real estate by the value of the claim which is secured by such a lien, or on which a limited transfer of the real estate applies.
- A mortgage bank, when exercising its right of lien, may sell the real estate pledged as collateral through distraint according to the provisions of Distraint Code, based on an agreement in the form of notary deed between a mortgage bank and its debtor, as well as a mortgagor if not identical with the debtor, if the parties agree on the distraint in the agreement. The agreement must contain a legal obligation, the specification of a beneficiary and a person subject to the obligation, a legal cause, objects and time of the execution, for reasons on part of a mortgage bank or its legal successors, no early repayment of claims from mortgage loans may be enforced; this shall also apply if a mortgage bank is wound up and liquidated.

⁴ In January 2010, long-term interest rates in comparison to December 2009 increased to 3.75% (Euro area), to 4.09% (EU). In the SR these rates decrease to 4.11%.

Table 5: Slovak Mortgage Bond System

The Covered Mortgage Bond System in Slovakia

- A special type of bond, the name of which is protected by law, and which may only be issued by banks with a licence to conduct mortgage transactions.
- The funds obtained by its sale may only be used for re-financing of mortgage loans.
- Mortgage bonds' (MBs) face value, including interest, is covered by claims of a bank or a branch office of a foreign bank from mortgage loans pledged by a real estate (the so-called ordinary coverage) or by legally set assets of a mortgage bank (the so-called substitute coverage) – i.e. a coverage principle aimed at the supporting of the safety of MBs. Claims from mortgage loans not exceeding a limit set by the Banking Act of **70%** of the pledged real estate value may be used as a coverage. A limit set for the substitute coverage is up to 10 % of the total amount of issued MBs. Legally set assets owned by a mortgage bank for the substitute coverage include: deposits with the NBS, NBS bills, deposits with banks registered in Slovakia, deposits with branch offices of foreign banks in Slovakia, cash, government bonds, T-bills, MBs issued by another bank, and municipal bonds issued by another bank.
- The total face value of issued mortgage bonds must be covered in the amount and with the yield which are at least the same as is the value of mortgage bank claims from mortgage loans (the so-called matching principle).
- The bank claims from mortgage loans that serve to cover mortgage bonds, or other assets serving as substitute cover, are recorded by the bank in special registers (the register of mortgages).
- Up to 18 months after the licence to conduct mortgage operations becomes valid, a bank may issue, upon a decision of the General Assembly, "temporary mortgage bonds" as bearer securities, the total amount of which does not exceed 50% of the equity capital of the bank, and which the bank is obliged to replace with mortgage bonds in two years of their issuance (pursuant to Article 16 of the Act on Bonds). A temporary mortgage bond expires after the replacement with a mortgage bond, which is covered according to respective provisions of the Act on Bonds, or by its repayment (if it is not replaced with a mortgage bond).

Table 6: Banks with a Mortgage Licence

Banks	Date of license	Commenced operation
Všeobecná úverová banka	June 1997	October 1997
HVB Slovakia*	December 1997	November 2000
Slovenská sporiteľňa	December 1997	July 1999
Istrobanka*	November 1998	Q3 1999
Tatrabanka	January 2000	October 2000
ČSOB*	November 2001	April 2002
UniBanka*	May 2002	July 2002
VolksBank	July 2002	Autumn 2002
OTP	August 2002	Autumn 2002
Dexia	August 2003	Autumn 2003

* From the 1st of April 2007 HVB Slovakia and Unibanka merged to UniCredit Bank.

* Up to the 1st of April 2007 – branch office of foreign bank; from the 1st of July 2009 ČSOB and Istrobanka operate as one bank.

Today, Slovak mortgage bonds are fully in compliance with the EC UCITS Directive. The Priority claim of the bondholder in case of bankruptcy of the issuer is specified explicitly in the relevant Slovakian acts:

“The mortgage bond’s owners shall have pre-emptive security right to assets used to secure issued mortgage bonds, including the right of lien to real estate pursuant to Act on Banks (Article 74); this security right in procedure according to Act on bBanks, No. 483/2001 Coll., or separate regulations - for instance, Article 8, Article 28 par. 2, Articles 69 and 176 to 196 of Act No. 7/2005 Coll. on bankruptcy as amended – shall secure secured receivables of mortgage (municipal) bonds’ owners against the mortgage bank for the payment of the nominal value and yields upon mortgage (municipal) bonds”.

Further Important Mortgage Bond System Rules

1. The mortgage bond's issuers are universal credit institutions. In accordance to the Act on Banks, No. 483/2001, amendments, and to the relevant degree the minimum requirements to obtain and keep the special licence are as follows:

- The minimum amount of cash contribution to the bank equity capital, is EUR 33,193,919⁵; or an equivalent amount in fully convertible foreign currency;
- The methods of keeping a mortgage register;
- The proposal for appointment of the mortgage supervisor (trustee) and his/her deputy;
- The real estate assessment methods (valuation); and
- The method of keeping a separate analytical record of mortgage activities within the bank's accounting system.

2. The issuer (banks with special licence) holds the cover assets on its balance sheet.

3. A list of mortgage and municipal loans, and their amounts, liens and claims of a mortgage bank under mortgage and municipal loans that serve to cover mortgage and municipal bonds, or other assets serving as substitute coverage, must be kept separately by a mortgage bank in its register of mortgages. The register of mortgages and the documents on the basis of which the entries have been made in the register of mortgages loans must be kept by a mortgage bank separately from other

Table 7: Mortgage Debts to GDP in 2002 – 2007, %

	2002	2003	2004	2005	2006	2007
Czech Republic	4,5	5,9	7,8	9,7	11,9	15,3
Hungary	4,5	8,0	9,2	10,4	11,4	12,4
Poland	3,4	4,5	4,7	6,0	8,3	11,7
Slovakia	3,9	4,8	6,5	8,1	9,6	11,9

Source: European Mortgage Federation, 2008

documents and protected against misuse, destruction, damage or loss. Information on mortgage transactions is reported to the NBS monthly. By the end of January and July of each calendar year, a mortgage bank shall be obligated to notify the National Bank of Slovakia and the Ministry of all entries made in the register of mortgages in the last six months. The due form and method for keeping the register of mortgage loans and the due form of information disclosed pursuant to the Banking Act are determined in detail by the National Bank of Slovakia and the Ministry of Finance by means of a generally applicable regulation (Decree No. 661/2004 Coll. on mortgages register and details over position and activities of a mortgage trustee).

4. A cover pool monitor (mortgage trustee, mortgage controller) supervises the cover pool. He/she is appointed by the National Bank of Slovakia (central bank) and must possess the expertise and experience necessary to fulfil all duties. A mortgage controller or his deputy may only be a natural person who has the necessary professional competence and

integrity to carry out this activity. A natural person with completed university education, who has at least five years' experience in economics or law in the banking sector, shall be deemed professionally competent. A person shall be deemed to have the necessary integrity, i.e. he/she has not been lawfully sentenced for a criminal offence committed in the discharge of a management office or any intentional criminal offence.

3.2.2 Development of Mortgage Transactions in Slovakia – Current Situation

We have mentioned in the above part of this paper that a special licence for mortgage transactions must be granted by the NBS. The number of banks with a mortgage bond licence is shown in table 6.

The first data on mortgage loan transactions was officially published in 2004. Table 7 provides a comparison of mortgage markets activities among Slovakia, Poland, Hungary and the Czech Republic. As a measurement, the ratio of mortgage loans to GDP is selected. All countries still have lower ratios than the European Union average ratio (50%).

Table 8: Housing Loans' Volume (SKK bill.)

	I.08	II.08	III.08	IV.08	V.08	VI.08	VII.08	VIII.08	IX.08	X.08	XI.08	XII.08
HL	202.0	205.4	209.2	214.4	219.1	224.5	229.7	234.1	238.5	243.4	246.5	250.2
M/M (% ch.)		1.7	1.9	2.5	2.2	2.5	2.3	1.9	1.9	2.1	1.3	1.5
	I.09	II.09	III.09	IV.09	V.09	VI.09	VII.09	VIII.09	IX.09	X.09	XI.09	XII.09
HL	250.9	253.6	256.0	258.4	261.0	264.2	294.5	269.9	271.4	273.6	275.6	277.9
M/M (% ch.)	0.3	1.1	0.9	1.0	1.0	1.01	1.1	0.9	1.0	1.0	1.0	1.0

Source: NBS February 2010, author's calculation

HL = housing loans (mortgage loans, other housing loans, building loans in bill. SKK)

Month on month % change; data on January - July of 2009 we calculated in SKK (EUR = 30,126 SKK)

⁵ The equivalent of SKK 1,000,000,000; 1 EUR = 30,1260 SKK

Figure 3a Housing Loans' Month-on-Month % Changes, 2008

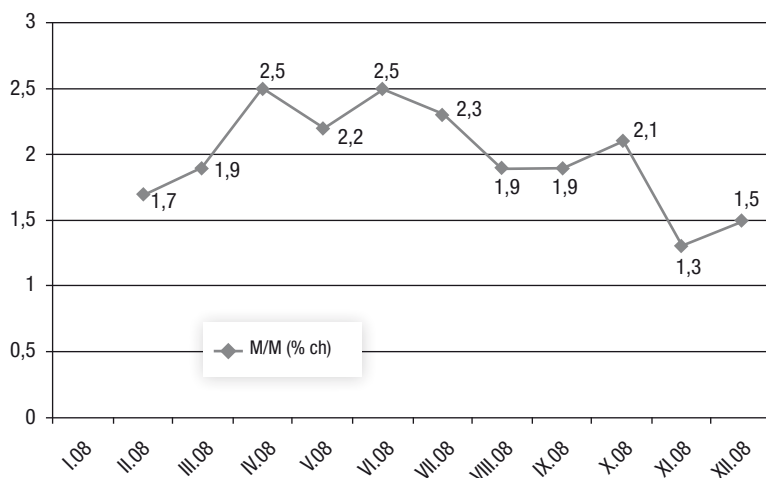
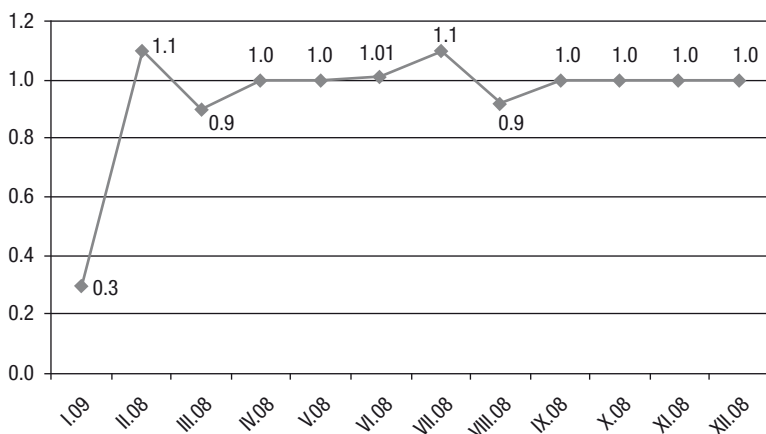


Figure 3b Housing Loans Month-on-Month % Changes, 2009



The growth of housing loan volume of the current months is shown in Table 8 and in Figure 3a and 3b. The slower rise in house purchase loans reflects the deteriorating economic development. Probably this effect has up to now been less significant than the developments in the property market. With the financial position of households expected to worsen, the importance of this factor in debt decisions will increase substantially.

Although the pace of housing loans' growth to households fell year-on-year in 2009, it saw relatively high increases in some months (e.g. 19.1 % May 2009/May 2008).

Table 9 (see page 27) shows the break-down of market shares in mortgage lending in Slovakia.

Housing (mortgage) Interest Rates

At the beginning of the mortgage bond system's implementation, mortgage residential interest rates were extremely high. Rates oscillated between 13.25% and 13.50% p.a. Interest rates have decreased since September 2000 from 13.50% to 9.9% (2000).

The average interest rates on house purchase loans declined by 0.67 percentage points from the turn of the year 2009. However, interest rates on new investment loans fell almost twice as much. The decline in lending rates was reflected in a sharp rise in interest rates' spreads, which increased on both house purchase loans and consumer loans. At the level of banks, this showed up in a higher overall interest rate spread for the household sector. The rising

VÚB – the first bank with mortgage licence

Všeobecná úverová banka started offering of mortgage loans in October 1997. The total gross outstanding mortgage loan volume was slightly above 200 Mio SKK (as of the 14th of May 1999), of which SKK 70.8 Mio was lent to private individuals. The average housing loan value was approximately SKK 580,000. The interest rate on mortgage loans was 13.50% p.a.

In January 1999, the first mortgage bond emission (issue) was made. The features of the bond issue were:

- Volume - SKK 100 Mio
- Number of mortgage bonds - 100 (pieces) in nominal value of SKK 1 Mio
- Interest rate – fixed at 10% p.a.
- Maturity – 5-years, maturity date – 15th of January 2004
- Interest rate payments were paid out to the investors half-yearly (15th of July and January)

interest rate spreads are largely attributable to the increasing credit risk of households. Banks are also seeking to mitigate the adverse effect that decreased lending is having on their interest income. Differences in spreads also exist between banks. The largest banks have long been reporting higher spreads. Medium-sized banks are more or less following the same interest rate policy as large banks.

Development of average annual interest rates on house purchase loans in 2004, 2007 – 2009 is demonstrated in Table 10 (see page 28). All rates tend to drop.

As far as mortgage bond issues are concerned, the situation on the market has started to break in the second half of 2008. The placement of mortgage bonds is in a far from positive state now. This thesis may be confirmed by the development of the funding ratio. As of the 31st of December 2008 it reached 90.89% and in 2009 decreased under the legal limit (90%).

The regulators reacted to the global crisis at the end of 2008 through amendments to the Act on Banks when the origin funding ratio decreased from 90% to 70%. The share of issued mortgage bonds of the balance sheet total in Q III 2009 is 6%. Although this share is relatively low, mortgage bonds still have a leading place among issued bonds and other securities by banks. As of the 30th of September 2009, 98% of issued securities by banks were mortgage bonds. Mortgage bonds issued by

Table 9: Shares of Individual Banks of Housing Loans in December 2009

	Housing loans (1)	Mortgage loans (2)	Other housing loans	Building loans (3)
Banks with mortgage license				
Československá obchodná banka	7.94%	8.72%	11.18 %	0%
Dexia banka	1.71%	3.36%	0.84%	0%
OTP	2.59%	6.25%	0.05%	0%
Slovenská sporiteľňa	24.81%	10.28%	52.90%	0%
Tatra banka	14.36%	27.22%	8.10%	0%
UniCredit Bank	3.10%	2.85%	4.95%	0%
Volksbank	1.85%	3.87%	0.67%	0%
Všeobecná úverová banka	22.23%	37.46%	17.46%	0%
Building societies				
ČSOB stavebná sporiteľňa	0.91%	0.00%	0.00%	4.59%
Prvá stavebná sporiteľňa	1.86%	0.00%	0.10%	86.08%
Wüstenrot stavebná sporiteľňa	1.98%	0.00%	0.00%	9.33%
Other banks and branches of foreign banks				
BRE Bank	0.64%	0.00%	1.66%	0%
Citibank	0.04%	0.00%	0.10%	0%
HSBC	0.014%	0.00%	0.04%	0%
ING Bank	0.001%	0.00%	0.002%	0%
Komerční banka	0.0001%	0.00%	0.001%	0%
Banco Mais	0.002%	0.00%	0.01%	0%
Poštová banka	0.75%	0.00%	1.94%	0%
Privatbanka	0.02%	0.00%	0.05%	0%

Source: NBS, October 2009.

- (1) Amount of housing loans is the sum of mortgage loans, building loans provided by building societies and other housing loans.
- (2) Market shares of banks in mortgage loans may differ from market shares of outstanding principals of mortgage loans (mentioned in the tables for mortgage loans provided by mortgage trustee-custodians. Data provided by mortgage trustees covers mortgage loans where the change of ownership was confirmed by cadastral office only).
- (3) Data includes buildings loans and intermediary loans provided by building societies.

banks amounted to EUR 3.427 billion at the end of December 2009. The lower amount of a new issued mortgage bonds in 2009 is very closely connected with the mortgage loans growth in 2009. From January 2009, the amount of new loans rose only moderately.

Market participants' responses to the financial crisis is reflected in an increase of widening spreads. See Figures 4a and 4b (on page 29) for more details. The spread of mortgage bonds yields (HZL) against interest rate swaps (IRS) in the Slovak Republic (difference between the yield of traded HZL and IRS quoted on the market with the same maturity) was affected mainly by the demand of local financial institutions, which are the major investors.

The spread of 5Y HZL against 5Y IRS in the Slovak Republic had been approximately 0.10% before the crisis arrived. In that time there was a surplus of liquidity on the market and, due to the low number of bond issues in SKK, financial institutions had strong appetite for this investment.

During the spring of 2008, the spread widened and began to follow the credit spreads of the bullet bonds issues of mother companies of issuers of HZL (difference between yield of traded bonds of mother companies of issuers of HZL and IRS). There were three main reasons for the decline of the demand of financial institutions which led to the spread widening. The first was that the banks lost confidence and the internal limits were cut. The second was that the outflows from mutual funds took place and mutual funds had to sell part of their portfolios. The third reason was a change in pension funds' regulations, which forced them to sell longer bonds. The impact on the spreads against IRS was softened by mortgage coverage, which lowers a level of risk of the mortgage bonds. It means that the yields of HZL were a little bit lower than yields of the bullet bonds of mother companies. In spite of this, the spread against IRS was approximately 1.60% at the end of 2008. It grew after EUR adoption in the beginning of 2009. The spread peaked in June 2009.

The situation became more peaceful during the summer of 2009 and the credit spread has been going down slowly until present. The market is now waiting for the beginning of the world economic recovery. It can be expected that the HZL yields will decrease to approximately 0.20 - 0.30% over the yields of Slovak Government bonds after restoration of the bond market.⁶

⁶ Prepared by Jaroslav Sobolic, CSOB, March 2010

4. Concluding remarks

A significant aspect to be taken into account during the evaluation of the mortgage bond system is the formation of a market for mortgage products with respect to the specific conditions under which banks offer these products. Indeed, mortgages have extended banking activities on the one hand and, on the other, they have contributed to the revival of investment activities. A generally valid and empirically confirmed fact is that the effective development of the market for mortgage loans and mortgage bonds is conditional upon the existence of an adequately functioning capital market, the removal of legislative barriers, as well as stable or stabilising macro-economic conditions.

Although many problems have been overcome (relevant acts' amendment; mortgage interest rate decreases), one of the crucial aspects at present is the impact of the economic downturn on the retail lending market and on the mortgage bonds market as well. The slower rise in house purchase loans reflected the deteriorating economic development and residential real estate prices decrease since the second half of 2008. Both factors more or less affect the mortgage loans and mortgage bonds market. The lower decline in lending rates was reflected in a sharp rise in interest rate spreads, which increased on

Table 10: Average Annual Interest Rates on House Purchase Loans (outstanding amounts) - EUR in [% p.a.]⁷

	By initial rates fixation		
	Up to 1 year	Over 1 and up to 5 years	Over 5 years
2004	6.83	7.89	6.92
2007	6.11	6.82	6.57
2008	6.12	6.53	6.38
2009	5.62	6.35	6.06

Source: Interest rates statistic, NBS, 2009, 2010; author's calculation

both house purchase loans and Slovak mortgage bond spreads. The decline in demand for house purchase loans continued to be driven mainly by adverse developments in the residential property market. It is expected that the retail lending market will, to a greater extent, be affected by deteriorating economic indicators.

Although the banking sector will, in the coming period, see weak growth in mortgage lending, the maturing of several existing mortgage bond issues will necessitate new MB issues. This will be required even though the minimum funding

ratio for mortgage loans has fallen from 90% to 70%. According to the National Bank of Slovakia (NBS), it will be necessary to issue mortgage bonds with a total nominal value of around EUR 920 million by the end of 2010. Given the increased risk premium, i. e. the tougher market conditions, banks may face higher prices and this, in turn, may feed through into higher interest rates on these loans.⁸

Table 11: Mortgage Bonds (in thousands EUR)

	I.09	II.09	III.09	IV .09	V.09	VI.09
Total face value of issued MBs	3 370 983	3 379 632	3 259 314	3 280 958	3 344 159	3 273 073
Number of issues of MBs	130	132	126	127	127	124
Total face value of sold MBs	3 283 501	3 283 699	3 165 491	3 177 213	3 219 365	3 147 819
Total face value of sold MBs to total amount of MLs ratio	89.46	89.09	85.5	85.68	86.4	84.09

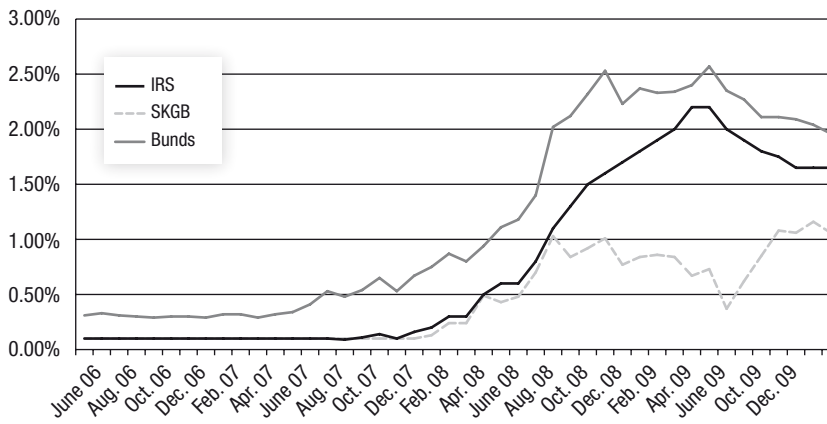
	VII.09	VIII.09	IX.09	X .09	XI.09	XII.09
Total face value of issued MBs	3 412 005	3 495 605	3 507 993	3 500 767	3 476 685	3 427 515
Number of issues of MBs	126	130	131	130	126	125
Total face value of sold MBs	3 231 949	3 346 120	3 346 120	3 342 335	3 309 650	3 304 631
Total face value of sold MBs to total amount of MLs ratio	86.01	88.59	88.75	88.45	87.49	87.26

Source: NBS, February 2010

⁷ Development of interest rates on new house purchase loans is contained in Annex 3.

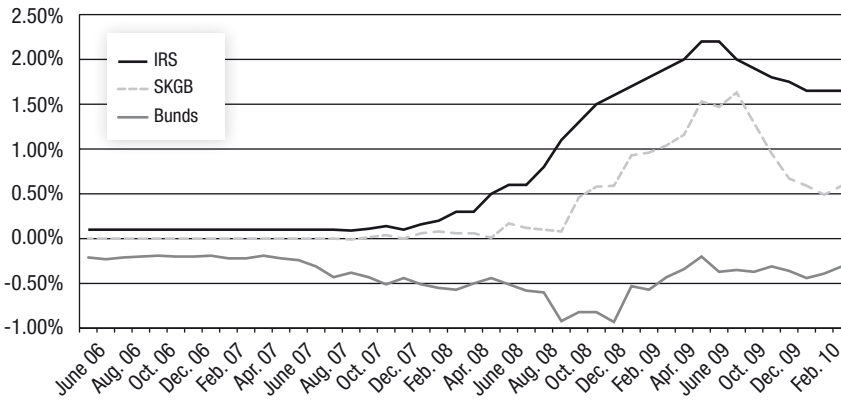
⁸ Analysis of the Slovak Financial Sector, NBS 2009

Figure 4a Development of the Spreads Against HZL



Source: Sources: prepared by Jaroslav Sobolič, ČSOB Bratislava, February 2010
 SKGB – Slovak Government bonds; IRS – Interest rates swaps; HZL - hypotekárny záložný list

Figure 4b Development of the Spreads Against IRS 5 Y



Source: : prepared by Jaroslav Sobolič, ČSOB Bratislava, February 2010
 HZL – hypotekárny záložný list (Slovak mortgage bond)

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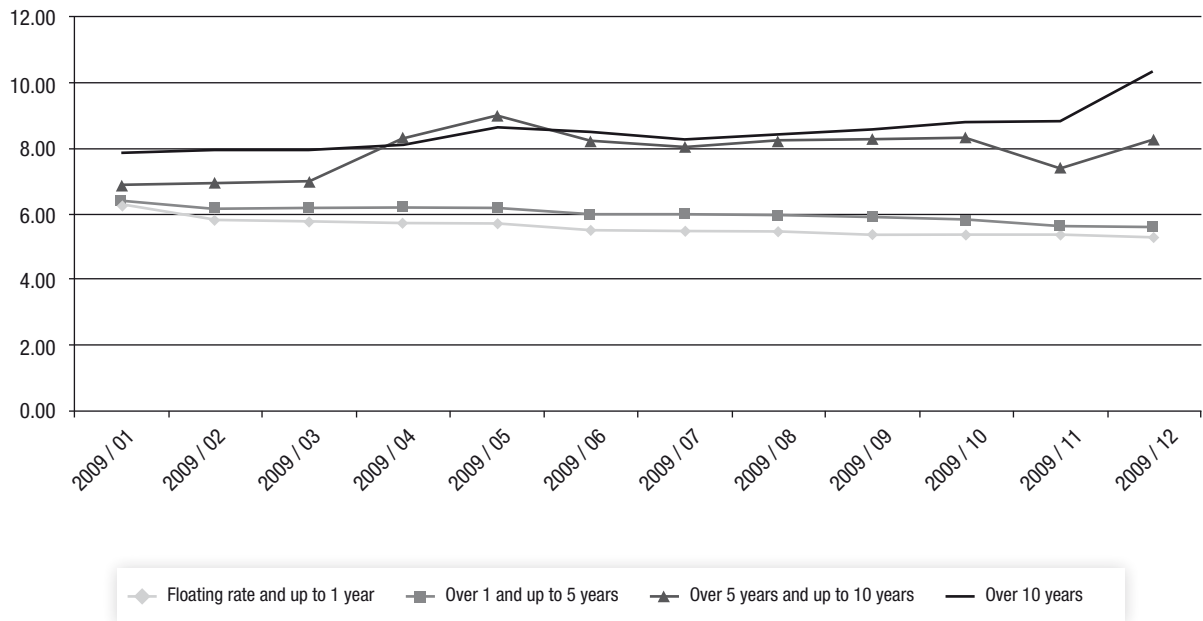
Annex 1: Residential Property Prices (basic and Y on Y index)

Year, quarter	Price in €/m ²	Changes of prices in %	
		year 2002=100	Y on Y
2009	1,344	227.0	88.9
4.Q 09	1,297	219.1	87.7
3.Q 09	1,322	223.3	85.7
2.Q 09	1,342	226.7	86.6
1.Q 09	1,413	238.7	95.7
2008	1,511	255.3	122.1
4.Q 08	1,479	249.9	106.4
3.Q 08	1,542	260.5	119.9
2.Q 08	1,549	261.7	131.2
1.Q 08	1,476	249.3	134.5
2007	1,238	209.2	123.8
4.Q 07	1,391	234.9	132.5
3.Q 07	1,286	217.2	125.4
2.Q 07	1,180	199.2	120.5
1.Q 07	1,097	185.3	116.3
2006	1,000	168.9	116.8
4.Q 06	1,050	177.4	117.5
3.Q 06	1,025	173.2	118.0
2.Q 06	980	165.5	118.1
1.Q 06	944	159.4	113.7
2005	856	144.6	89.7
4.Q 05	894	151.0	
3.Q 05	869	146.9	
2.Q 05	830	140.3	
1.Q 05	830	140.2	
2004	954	161.2	115.4
2003	827	139.6	139.6
2002	592	100.0	-

Since 1 the quarter 2005 revised data.
Source: NBS, February 2010

Annex 2: Interest rates on lending for house purchase, new business, in %

By initial rates fixation				
	Floating rate and up to 1 year	Over 1 and up to 5 years	Over 5 years and up to 10 years	Over 10 years
2009 / 01	6.30	6.37	6.87	7.86
2009 / 02	5.85	6.15	6.94	7.96
2009 / 03	5.77	6.13	6.96	7.94
2009 / 04	5.71	6.21	8.30	8.10
2009 / 05	5.70	6.17	8.97	8.63
2009 / 06	5.48	5.96	8.23	8.51
2009 / 07	5.52	5.96	8.04	8.31
2009 / 08	5.46	5.95	8.25	8.41
2009 / 09	5.37	5.89	8.28	8.60
2009 / 10	5.37	5.78	8.36	8.83
2009 / 11	5.36	5.61	7.41	8.81
2009 / 12	5.26	5.57	8.26	10.33
Average	5.60	5.98	7.90	8.53



Financial Crisis and Asset Disposition: History Lessons for Affordable Housing Preservation?

↳ By Dr Heather MacDonald¹

As the US financial crisis has expanded and deepened over the past year, several commentators have called for a revival of some version of one of the asset disposition agencies - i.e. The Home Owners Loan Corporation and the Resolution Trust Corporation - that played a key role in resolving previous crises. They have been invoked by commentators ranging from ex-Treasury Secretaries to academics and media columnists as appropriate models for a new bailout (Brady, Ludwig and Volcker 2008; Lipton and Kirkpatrick 2008; Seidman and Jakobovics 2009).

Asset disposition may be argued to be a key (if discontinuous) component of the federal financial oversight role, rather than a unique and temporary response to calamity. Financial crises leading to widespread mortgage defaults pose a difficult conundrum. On the one hand, large quantities of foreclosed assets combined with tight credit depress prices, in turn reducing the amount recovered from bad debts. On the other, holding assets until the crisis is past and prices revive entails significant short term holding costs, and risk. Asset disposition strategies have potentially dramatic impacts on local housing markets, communities, and the households who are most vulnerable to the changing fortunes of the communities they live in. Rapid disposition can destabilise local property markets, pushing other homeowners into default.

Asset disposition can offer new opportunities to protect and enhance the affordable housing supply, but its impacts are not necessarily positive. Poorly designed or managed asset disposition strategies may reduce rather than increase the affordable housing supply. Outcomes differ depending on whether low-priced assets are sold to households who would not otherwise be in the market (creating new sources of demand),

or to large speculative property holding companies who are able to bid down prices in bulk purchases and capture subsequent gains when prices revive. Clearly, each financial crisis is unique, but we can bring valuable lessons from previous crises to debates about resolving the current one.

This paper critically evaluates asset disposition efforts in response to two earlier financial crises: the Great Depression and the Savings and Loan bankruptcies. I examine the impacts of two asset disposition agencies (the Home Owners Loan Corporation and the Resolution Trust Corporation) on vulnerable communities, and briefly evaluate the extent to which each agency was able to preserve or increase the supply of housing affordable to lower income households. In conclusion, I discuss three important challenges both agencies faced and identify lessons for future asset disposition strategies.

The Home Owners Loan Corporation (HOLC) was set up in 1933, over the objections of industry groups such as the New York State League of Savings and Loan Associations (Harriss 1951, 10). HOLC's initial purpose was to restructure and refinance troubled mortgages, and to provide a way for home owners with balloon mortgages that had come due to refinance their loans, despite the fact that many had negative equity and private sources of credit had dried up. The refinancing strategy soon had to be extended to deal with the mounting volume of home owners who could no longer make payments even on restructured mortgages, as jobs were lost and wealth disappeared. As property markets collapsed, approximately half of all home owners with mortgages were in foreclosure or delinquent on their loans by early 1934 (Wheelock 2008, 2). HOLC became the owner and manager of large amounts of

housing, in addition to the mortgages it had originated. HOLC was "a financing device for the effective rehabilitation of a dangerously undermined mortgage structure" (Fahey Testimony, US Congress, House 1944, 5).

The Resolution Trust Corporation (RTC) was established in the wake of the Savings and Loan crisis in 1989 to close down and dispose of bankrupt thrifts and their assets, by selling the institution or merging it with other entities who would take over its assets and liabilities, and by selling or otherwise disposing of the assets that new acquirers did not want to take. The RTC dealt with a much wider range of assets than the HOLC had dealt with, including commercial real estate, vacant land, and both performing and non-performing financial instruments such as loans and mortgage backed securities. One of the RTC's priorities was to stabilise property markets to prevent the feared freefall of property values in locations with concentrations of bad assets that would further reduce the net revenues of any sales (Vandell and Ridiough 1992; Ely 1990).

1. HOLC's Asset Disposition Process

The HOLC was funded partly by US\$ 200m capital from the Treasury (using funds from the Reconstruction Financing Corporation) and partly by issuing bonds (Harriss 1951, 11). It had substantial administrative authority and was able to cover most of its administrative costs from the interest rate spread on the loans it refinanced (Harriss 1951, 12). HOLC incurred substantial holding costs once it began to acquire property through foreclosure, but was able to cover some of these losses by renting out vacant homes. The keys to HOLC's rela-

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tive success lay in its institutionalisation of a standardised, three part appraisal method, and its hands on loan servicing approach (Harriss 1951, 41; 65). While this did not stem all losses, it is likely it helped to minimise the cost of the asset disposition strategy.

HOLC's programme was fairly straightforward. Until the end of June 1936, it refinanced approximately one million loans, accounting for 20% of eligible properties (single family homes valued at \$20,000 or less). In contrast to the earlier attempt to manage the bailout through the Federal Home Loan Bank system in 1932, HOLC was extremely successful (US Congress, House 1944, 3). It evaluated applications carefully, rejecting about half of those it received. About 70% of its loans were made in the year between March 1934 and March 1935, and they averaged 69% of appraised value (Harriss 1951, p. 2). After its authorisation to originate new loans expired in 1936, HOLC had to begin to deal with a growing new problem: many of the loans it had refinanced went into default.

The agency acquired about 200,000 homes through foreclosure or voluntary transfer, despite its efforts to keep borrowers in their homes (Harriss 1951, 72). By mid-1937, foreclosures on HOLC loans had reached a peak of about 4,500 a month, a rate sustained over the following year (Harriss 1951, 72). Local real estate brokers managed and re-sold properties; in soft markets, many homes were rented until buyers could be found. By June 1939, HOLC-owned rental property peaked at 77,000 units (Harriss 1951, 105). Holding costs were substantial and many properties were sold at a loss. The organisation's total net losses were \$310 million, an average of \$1,568 per home. As the average loan size was \$3,039, this was a substantial loss (Harriss 1951, 108;119).

HOLC was authorised to provide financing only for borrowers who could not obtain private sector financing. Given the generosity of HOLC lending terms and the continued fragility in local housing markets, few private sector lenders were able (or willing) to compete with the agency (Harriss 1951, 115; U.S. Congress, House 1944, 44). This led to considerable dissatisfaction among lenders, who accused the HOLC of "making a farce" of the requirement that a borrower be refused private sector financing, and "refuse[ing] information and delay[ing] the completion of such transactions in many ways" (US Congress, House 1944, 43-4).

The agency had modest positive social impacts. Renting out vacant property rather than leaving it to decline and blight neighbourhoods further, using funds to keep property taxes current (addressing the major revenue problem facing many municipalities), and rehabilitating property before sale, all clearly helped to stabilise communities. Some have argued that the agency's classification of neighbourhoods as "stable," "declining," or "hazardous," systematised and likely reinforced the discriminatory practices of the real estate and lending industries of the time (Massey and Denton 1993; Dreier, Mollenkopf and Swanstrom 2001). However, careful recent analyses of HOLC lending and foreclosure activities suggest a far more complex (and less negative) picture. Amy Hillier's study of a sample of HOLC loans in Philadelphia concludes that the agency made a slightly higher proportion of its loans to African-American home owners than might be expected given their representation in the population. A higher proportion of agency loans in several cities were made in areas coded "hazardous" or "declining" than in neighbourhoods with more positive ratings (Hillier 2003, p. 14-15). Property value limits ensured that HOLC focused on lower-income borrowers. The majority of the loans (56.5%) in the sample Harriss examines were made to those earning less than \$150 a month (the approximate equivalent of an annual income of \$27,300 in 2009 dollars) (1951, 51).

HOLC closed its doors after fifteen years, in 1951. While the agency reported having made a slight profit over this period (excluding the cost of funds to the Treasury), Harriss points out there may have been a small net loss once all accounts were reconciled (Harriss 1951, 161). However, the HOLC is rightly remembered as one of the more successful New Deal agencies, for several reasons. It provided crucial liquidity allowing home owners to refinance balloon loans and stemming mortgage lender losses. It was able to forestall a worse collapse of housing markets than might have occurred if the one million loans it refinanced had all failed. It was able to exercise more forbearance than a private lender would have been able to, limiting the distress to families (on average, two years elapsed between the first late payment and HOLC's foreclosure, when it did occur) (Harriss 1951, 73). HOLC also played a significant "market making" role, demonstrating not just the feasibility but also the profitability of fixed rate fully amortising

loans. It achieved these outcomes with no or minimal costs to US taxpayers and with almost none of the scandal that many associate with government housing programmes.

2. RTC's Asset Disposition Process

The question of how the RTC should be funded was highly politicised (Davisson 2006). The first Bush Administration was intent on funding the RTC off-budget using bonds, to avoid triggering Gramm-Rudman budget thresholds² that would force an increase in taxes to fund the bailout. But Democrats (and some Republicans) in Congress were determined the cost of the bailout should be placed on budget (Davisson 2006). A compromise was agreed to: \$18.8 billion would be funded on budget through the Treasury and an additional \$30 billion would be provided by the sale of REFCORP bonds³, which would be off-budget. This initial authorisation was soon exhausted and Congress used its control over further authorisations as a lever to reshape the RTC. Congressional authorisations funded the RTC's reimbursements to insured depositors, but they did not provide the working capital that was essential to fund carrying costs for assets until they could be sold. It was not until early 1990 that a mechanism was crafted to provide the RTC with working capital: borrowing from the Federal Financing Bank⁴ (Davisson 2006, 50).

The RTC operated in a harsh political and financial environment. It was a separate entity within the FDIC (Federal Deposit Insurance Corporation), with minimal staff of its own, conceived as an "administrator of contracts," (Robert Glauber, Undersecretary of Treasury for Finance, quoted in Davisson 2006, 20). The actual acquisition and disposition of assets was contracted out to private firms through regional offices. There was an ongoing conflict between the FDIC staff and executives who made up the RTC and managed its operations, and the Oversight Board, in charge of policy (Davisson 2006; Kettl 1991, 100). Until this management structure was streamlined, the RTC's progress was very slow.

Of the 402 thrifts that had either already failed or that did fail between RTC's establishment in August 1989 and the end of that year, the RTC was able to resolve only 37 (Davisson 2006, 40). In March 1990, once the question of work-

² The Gramm-Rudman-Hollings Balanced Budget and Emergency Deficit Control Act of 1985 (Pub. L. 99-177) set budget deficit reduction goals, aimed at balancing the federal budget by 1991. If Congress did not meet the goals established in the Act, federal expenditure would be reduced or taxes raised. Funding the RTC on-budget would have triggered these thresholds.

³ The Resolution Financing Corporation (REFCORP) was created by Congress in 1989 to issue debt (backed by zero-coupon Treasury bonds) to fund the savings and loan bailout.

⁴ The Federal Financing Bank is a government corporation (under Treasury supervision), created by Congress in 1973 to reduce the cost of federal borrowing by centralising all obligations issued by federal agencies.

ing capital was settled, the pace of resolutions began to improve. One consequence of the increase in resolutions, however, was the rapidly growing volume of assets the RTC acquired from failed thrifts and asset disposition soon became a priority concern (Vandell and Ridiough 1992, 50; Davisson 2006, 41-42). Fears about the RTC dumping bad assets in unstable property markets were replaced with concerns about the entity's slow progress in disposing of assets and the destabilising effect this was likely to have on some property markets (Vandell and Ridiough 1992).

By June 1990, the RTC began to use bulk sales to shift assets more quickly. Critics argued that because only larger firms could participate in bulk sales, the strategy might reduce competition among bidders and thus result in lower prices than might have been achieved if assets were sold individually (US Congress, House 1991, 219). However, the RTC's priority was to sell assets as fast as possible to respond to Congressional accusations of failure (Vandell and Ridiough 1992, 51; Davisson 2006, 42).

One of several strategies to placate angry taxpayers imposed a social mandate on the RTC. The Affordable Housing Disposition Programme (AHDP) required the agency to reserve moderately priced homes for sale to income-qualified buyers, or to organisations that would rent homes out to very low-income tenants (Johnson 1990). The AHDP became a minor battle site between the Administration and Congress, which imposed increasingly specific directives in the periodic bills providing additional funds for the bailout (US Congress, Senate 1992; US Congress, House 1993).

The RTC used seller financing and other concessions authorised for the AHDP only reluctantly, generally once successive rounds of funding legislation required it to (MacDonald 1995). Battles focused on a variety of issues. A significant early loophole allowed the RTC to sell off eligible properties belonging to thrifts in conservatorship (i.e. before the RTC took ownership) without AHDP restrictions. Many properties were sold off to unqualified investors during this period (US Congress, House 1993). Discounts were only offered after five months (when properties were no longer available exclusively to qualified buyers), despite the fact that many appraisals used to establish «fair market price» were outdated in depressed real estate markets (US Congress, Senate 1992). The private contractors, on which the RTC relied, had no incentive to ensure that eligible properties were sold under AHDP restrictions, and the agency did not have adequate oversight to manage contractor behaviour (FDIC 2003, 386).

The RTC relied heavily on existing subsidies from State Housing Finance Agencies (such as tax exempt bonds and LIHTCs), rather than offering seller financing. Additionally, there were significant weaknesses in the enforcement of AHDP contracts (GAO 1994).

The AHDP finally resulted in sales of about 28,000 single family homes and 81,000 multifamily units (FDIC 2003, 373). Compliance with income verification and occupancy requirements for buyers of single family homes improved over time, as did marketing, and the pace of sales in the program picked up substantially after 1991 (GAO 1994, 8-9). On average, single family homes within the AHDP were sold for 75% of appraised value, compared to 80% for eligible homes outside the programme. Multifamily properties sold for 70% of appraised value, compared to 74% of value for eligible properties sold outside the AHDP (FDIC 2003, 389). Based on these differences, the FDIC calculates the foregone revenue to be about \$92.8 million. The total cost of the AHDP then, including repairs and administrative expenses, is estimated at about \$135 million (FDIC 2003, 390). This amounts to about \$1,236 per unit on average, a very modest public price for affordable housing preservation.

The RTC had another positive impact on the affordable housing system: it pioneered the development of multifamily mortgage backed securities, which helped expand investment in at least some sorts of multifamily housing by the late 1990s (Bradley, Nothaft and Freund 1998, 8). But overall, the social mandate Congress imposed was diluted by deep structural problems that may be traced back to the perception that reserving assets for affordable housing conflicted with the RTC's mandate to get rid of assets as fast as possible and to minimise the net cost to taxpayers (MacDonald 1995).

The RTC was liquidated on December 31, 1995, after closing 747 institutions with a total asset value of \$402 billion. A residual of \$8 billion in assets was transferred to the FSLIC Resolution Fund at that time. The total estimated net costs for resolving the failed institutions was \$87.9 billion; of this, \$10.2 billion was spent on interest charges incurred by borrowing funds for working capital for the RTC (GAO 1996, 9-10). The RTC was far more costly to taxpayers than the HOLC; the direct costs borne by taxpayers amounted to \$81.9 billion. The ongoing financing costs of the Treasury appropriations for loss funds added to this burden. The GAO (General Accounting Office, now known as the Government Accountability Office) estimated that this would amount to an additional \$91.4 billion over the life of the bonds issued

by REFCORP and FICO, some of which would extend over thirty years (GAO 1996, 19).

3. Challenges (and Lessons) for Asset Disposition Programmes

The RTC and the HOLC operated in quite different political and economic environments, which were different in turn to that of the current financial crisis. The current crisis is unique because of the complexity of the assets involved and the contradictory interests of investors in highly leveraged financial instruments that are backed by real estate assets. The challenges these issues pose are beyond the scope of the current paper. Nevertheless, there are similarities in the challenges HOLC and the RTC faced, and they do suggest lessons of value to the imminent asset disposition task of the next few years.

3.1. Conflicting Pressures to Protect Taxpayers versus the Financial Industry

The most serious challenge to HOLC's existence came in the mid 1940s, as its most difficult work was concluded. Private industry groups and their supporters in Congress argued for the sale of the agency's higher quality assets to private firms. This would have reduced the potential for cross-subsidies to offset losses in less attractive locales. If this had occurred, HOLC would have ended its life as «proof» that government is inevitably wasteful and costly, and taxpayers would have paid the penalty. The RTC's accelerated sales of assets to a small market of large investors very likely reduced prices (by reducing competition), and thus the returns that could have offset its losses (GAO 1992, 11).

One lesson may be that governments cannot manage fiscally responsible financial bailouts if private participants, rather than the asset disposition programme, are able to capture the available profits. Asset disposition inevitably entails high losses in the early stages of a programme, while property markets are in disarray. With sufficient time to recoup these costs as markets cycle back up, even very costly disposition programmes may balance their books. However, this can only happen if the rights of the «public» side of any partnership are articulated and defended. This was not a politically feasible strategy in 1989 and it is unclear that 2010 will be different (although 2011 may be...).

3.2. Agency Lifespan should be Appropriate to the Scale of the Task

HOLC took a long time to succeed. Three years after it stopped making new mortgages, in 1939, after five years in existence, property markets were still unstable and HOLC was addressing a new set of problems: what to do with the 200,000 homes it had acquired (a “failure” rate of 20%). Expanding or even stabilising home ownership while the economy is in crisis is probably an unreasonable expectation. Refinancing mortgages was not enough, regardless of how carefully they were restructured. It would have been easy to criticise HOLC for being ineffective, getting itself (and the federal government) deeper into the mire, and not knowing where it was going. All those criticisms were made of the RTC.

Patience, flexibility and relative autonomy were all needed for HOLC to become a success story. Its fifteen year lifespan enabled it to resolve the flood of assets much more effectively than was possible during the RTC’s six year lifespan. However, the political pressure to minimise federal ownership of real estate and other assets made a long agency life impossible in the 1990s. One lesson may be that any new asset disposition agency should include both realistic timeframes and private sector participants, to minimise political pressure to end the temporary “socialisation” of assets as soon as possible. The potential role the non-profit community development sector could play as a private partner with relatively few conflicts of interest needs serious consideration.

3.3. Conflicts Between Social Mandates and Minimising Taxpayer Costs

The RTC’s primary mandate was framed as minimising taxpayer bailout costs and this was widely seen (by the FDIC and the Treasury, among others) as conflicting with “peripheral” social policy mandates such as the Affordable Housing Disposition Programme. Democrats succeeded in imposing an increasingly proactive affordable housing strategy on the RTC through the very tight funding rein that Congress kept on the agency (enabled in turn by the bipartisan unpopularity of the bailout). However, given a recalcitrant agency, Congress had limited ability to ensure the legislation had the intended outcomes and affordable housing gains were smaller than they might have been. But long-term reviews of the AHDP suggest it was a cost-effective strategy, despite complaints it complicated the bailout and increased its cost (FDIC 2003). The HOLC had much less conflict

among its mandates: its mission was to stabilise home ownership first and the lending industry second. Although it had no explicit affordability goals, it was restricted to dealing with lower priced homes and thus, in effect, more fragile neighbourhoods.

The current politics of blame (aimed at over-extended delinquent home owners and lending equity advocates as well as the financial industry) may make it even more difficult to address claims that cost recovery will be diluted by social goals such as preserving an affordable housing supply. As long as debates are framed in ideological terms, we are unlikely to make the best decisions. The history of previous asset-disposition efforts suggest that well-managed affordable housing preservation programmes can limit overall costs as well as advance social goals. Diverting a significant proportion of surplus real property out of the market and into the affordable housing system (where demand is stronger than ever) may stabilise property markets sooner, and increase ultimate cost recovery. This claim needs to be evaluated rigorously and public debates about asset disposition need to be informed by such evaluations rather than rigid political positions.

4. Conclusion

Because large scale asset disposition is occasional, rather than routine, and because it is usually designed in an atmosphere of catastrophe, we tend to forget the lesson of history. Asset disposition strategies can offer valuable opportunities to capture small social benefits from very costly bailouts. The two asset disposition agencies examined here suggest that carefully designed programmes can do so at relatively low cost and may even improve the performance of the overall bailout effort. A careful analysis of what went right (and wrong) with previous efforts should inform debates about the design of a new asset disposition agency.

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The Ecological Way of Building

↳ By Holger Horn¹

In recent years, the technology which allows the employment of renewable energy in residential, industrial and office buildings has come onto the market and the rate of development of new technology has accelerated. Advances in solar technology have permitted solar power to be used economically in heating, cooling, water treatment and water purification.

Despite the introduction of new and improved technologies, it is evident that architects, designers and builders are still sceptical about the costs and effectiveness of ecologically sound architecture and, in fact, the level of awareness of the available technologies is negligible.

Companies within the industry offer mainly single components and solutions designed to address specific issues. A more appropriate course of action would be to design overall solutions that will introduce a package of ecologically sound techniques into construction projects.

The application of ecological design presents many advantages for all construction projects. In this article, these advantages are discussed and some of the available techniques for making building design more environmentally friendly are canvassed.

1. Why the World Needs an Ecological Approach to Construction

While it may appear to some that constructing buildings in an ecological way is following the latest fashion and a way to enhance the image of a particular building, this view would undervalue the main economic, health and environmental benefits.

Over the last decade, there has been an overall upward pressure on the price of fossil fuels. This has been occasioned by dwindling supplies of high grade oil, which are being replaced by inferior quality products with higher production costs and increased demand from rapidly industrialising nations such as India and China. There is no evidence that prices will abate and countries which rely on imported fossil fuels will face increasing import costs and possible external balance problems.

Many countries have sought to substitute nuclear power for energy derived from fossil fuels. Issues surrounding the storage, treatment and disposal of nuclear waste have tarnished the reputation of nuclear energy as an alternative energy source, to the extent that the number of facilities in commission fell during 2009.

The state of the current technology means that the use of energy derived from fossil fuels is unavoidable in some contexts. A rational approach is to limit the use of fossil fuel energy to those situations where it is essential and to curb its use where alternatives exist. In the construction environment, it is logical to ration the use of fossil fuel energy used to heat and cool buildings where alternatives exist in favour of processes like steel milling where no alternatives presently do.

Buildings are erected in the expectation that they will remain for many years. From a purely economic perspective, it is a better outcome to build-in as much alternative energy technology as is possible during the construction phase than to adopt these technologies later in the lifecycle of the building when compelled to do so by rising prices for fossil fuel energy.

In a sense, adopting ecological design is not new. For many generations and in many cultures, traditional and established construction methods

have used renewable resources and employed ecological methods. In these cultures, ecological design is a matter of blending new technologies such as insulation with traditional construction materials and techniques. In those cultures that have moved away from traditional construction, the challenge is to move back towards more sustainable techniques and materials.

Controlling one's environment through the use of artificial cooling and heating comes with a considerable price. In countries with hot climates, the energy needs to run air conditioning can account for up to forty percent of the country's total energy consumption. Air conditioning units are loud and add to the overall noise pollution in communities. Many studies have shown that air conditioning, even if generated by plants that are well maintained, can pose serious health risks and, in fact, shorten life expectancy. They circulate fungal and bacterial diseases and dry out respiratory systems, making people more prone to getting infections, especially the elderly and those with compromised immune systems. The well known "sick building syndrome" is as much about air conditioning as it is about solvent based adhesives and paints.

For many people, the concept of living without artificial heating and cooling is not acceptable. Current sustainable technology, wall climate panels that make direct use of solar energy, provides a solution to the problems with conventional air conditioning systems. The sandwich technique used in the manufacture of the panels and the fact that they are operated at relatively low temperature differences prevents them from becoming incubation units for fungi and bacteria, thereby eliminating most of the health issues. They are noiseless and use 60% less energy than conventional air conditioning systems. There is anecdotal evidence that most users prefer this form of climate control as it does not have the extreme effects of ceiling or under floor systems.

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2. The Green Smart House

A Green House is more than merely installing a photovoltaic system on the roof; it is a holistic approach that blends ecological, climatic and health criteria.

The “Symbio Energy House”, which has been a feature of German design is an example of the synthesis of these criteria. It generates its heating and cooling requirements through a concrete core heating system that uses solar energy. This is supplemented by a back-up heating system and a controlled ventilation system. A ground-water reservoir supplies 97% of the domestic water needs. The average heat requirement is 80KWh/m²/ year which compares favourably with the average of old German buildings which require 260KWh/m²/ year.

Another prominent example of the synthesis is “Green House Bahrain”. This project, which is being undertaken with the assistance and cooperation of the Government of Bahrain, was launched at the World Economic Summit in 2009 and is under development at the moment.

Bahrain presents the challenge of extreme summer heat where temperatures can reach 52°C or 125° F. This challenge has driven the concept of houses that make use of solar energy for heating but also are being built in a form that has been adapted to the climate. The design of the construction is shown in the following sketch:

A combination of reflective windows with high insulating qualities², solid insulation³, cooling systems driven by solar energy and controlled ventilation allow occupants to live in a healthy and comfortable environment with dramatically reduced energy costs.

As well as integrating the technologies together, our designs make extensive use of plants to improve the living environment, which is unusual in the living areas of houses in hot climates. We recognise the benefits of plants in absorbing carbon dioxide and releasing oxygen, and in achieving optimal humidity levels.

We have chosen the term “Green Smart House” for our project to reflect the fact that it is innovative and energy efficient and our constructions automatically adjust to temperature and climate changes.

The basic elements of the construction have been planned in such a way as to keep costs at an acceptable level, which will allow the design



to be employed in other regions of the world, including less rich nations. This supports our contention that energy saving technology must become the global standard in building.

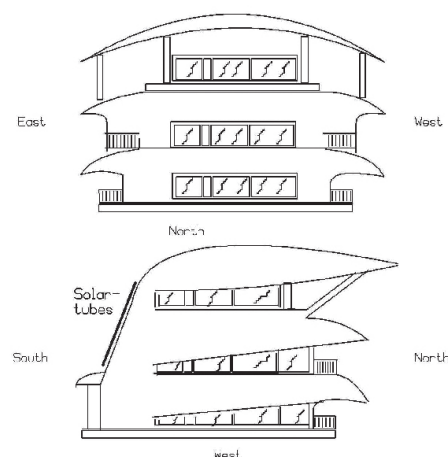
We are of the view that there are no disadvantages in using more ecological sound building technologies. The lifetime of the buildings is no less than buildings erected using standard technologies. The initial building cost is approximately 15% higher than using standard technologies. However, the additional cost is soon recovered through savings in energy expenses.

3. Construction concepts

All of our construction concepts have some common characteristics:

- Alternative, highly insulated material that can be produced easily and quickly within the country, and processed locally for the building envelope;
- Power supply through solar thermal and photovoltaic technologies;
- Innovative technology to harness power from the wind but which avoids large windmills; and
- Cooling and heating through the use of wall-mounted climate panels that are easily adapted to the format of the walls.

Symbio-Green-House 2 Concept



Some of the technologies used are discussed in more detail in the following section.

4. Technologies

4.1 Solar Energy

The author has developed the gas-filled solar tube (ETA Sun 2001 R), in conjunction with the German company Messer Griesheim. This is reliable and effective technology that is significantly more efficient than flat plate collectors and has lower production costs compared with equivalent vacuum panels.

² The insulating quality of windows is expressed as U-Values which is the Thermal Transmittance Value. A standard window has a U-value of 2.6, an average double-glazed window 1.0 and the windows used in this construction 0.7.

³ Insulation used has a thickness of 26 cm.

The technology has been developed further to be used as a combined collector to generate both electricity and heating and cooling in one solar tube. This development is considerably more effective to the extent that sufficient heat and electricity can be generated without covering the roof and the entire outside of the building.

4.2 Indoor Air-Conditioning

The climate wall panel ETA Sun W, which complements the solar tube ETA Sun 2001 R, is the appropriate technology for heating and cooling systems. The latest version can be operated effectively with conventional heating and cooling systems.

The climate wall panels are easy and quick to install and can be operated at inlet temperature of between 6°C and 38°C (43°F and 100°F) because of their large radiation surfaces. Use of these panels can reduce energy costs by up to 60%. As noted previously, users of these systems find them more pleasant than floor or ceiling heating and conventional air conditioning systems.

4.3 Controlled ventilation

The method of controlled ventilation that we employ complements the climate wall panels. Differences in the outdoors and indoors temperatures give rise to humidity which needs to be sterilised and evaporated.

In hot climates, the aspirated fresh air can range from warm to very hot and needs to be cooled. Fresh air is cooled in the ground and fed into a heat exchanger. The heat exchanger uses the temperature of the exhaust air to cool down the fresh air. Using this method does not waste energy and reaches a high level of efficiency (up to 90%). The additional 10% is added to the ventilation process through the use of alternative energy sources which are discussed below.

4.4 Small Windmills

Energy from wind power is generated using wind generators that are of a different shape and size than the conventional large and intrusive windmills. The generators used in our designs resemble closed square boxes that can be mounted close to the house or integrated into the building. The initial wind speed needed to operate our systems is much lower than for large windmills (1.4 meters per second compared with 2.6 meters per second).

The output of our wind generators is between 1 and 15 kilowatts. The energy demand for a family



house is 3 kilowatts. Under the right wind conditions, the wind generators can supply the entire requirements of the house; where conditions are not favourable, any shortfall in energy supply is obtained from solar sources or existing storage.

Our wind power generators operate as a complement to the solar system.

4.5 Heat and Cold Storage

Energy from solar and wind sources is not always available. This is especially so when the right conditions for power generation do not coincide with peak energy demands. Storage is therefore an essential element of an effective renewable energy system.

We have developed technologies for long-term storage that are simple, robust and inexpensive. There is room for further development in this area that calls for more research.

4.6 Electricity Storage and Transport

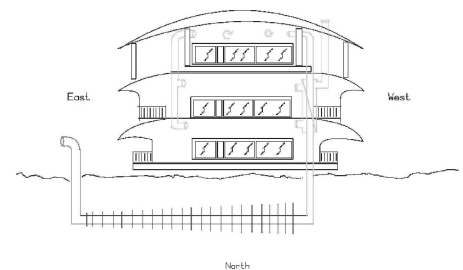
Architects and construction engineers are well aware of the use of advanced batteries for the storage of excess electricity generated by photovoltaic methods, and the technologies to feed it into existing networks.

4.7 Saving Water and Water Treatment

Water is a valuable resource which needs to be used with care, especially in arid countries.

Collecting and using rainwater must be undertaken in a hygienic and biologically safe way that will enable beneficial bacteria to keep the water clean even in longer-term storage.

Symbio-Green-House 2 Concept



Several solutions exist here. Water can be purified in a base tank using a system of roots and plants in an underground purification process. The yield is of sufficient quality to be used for bathing, toilet flushing and watering vegetable gardens.

Solar technology can be used for reaching higher levels of water purification. Contaminated water and other liquids can be evaporated with solar energy. Sterilisation can be achieved at temperatures of 150°; ultraviolet lamps powered with solar photovoltaic energy can be used for water purification in sewage works and other treatment plants.

Solar energy is used to sterilise condensates in ventilation systems. Condensates are evaporated and removed outside thereby eliminating any potential toxic bacteria or fungi and the associated health concerns.

5. Conclusion

Ecological construction is not only feasible and affordable, it is also necessary in a world of dwindling supplies of fossil fuels. Additional short-term costs are quickly recoverable with significant savings in energy costs, which themselves can only increase in the longer-term. The useful life of ecological buildings is long so that these increased savings can be enjoyed over a long time span.



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