

HOUSING AND MORTGAGE MARKETS *in the SEACEN Countries*

Bambang Kusmiarso



The South East Asian Central Banks (SEACEN)
Research and Training Centre
Kuala Lumpur, Malaysia



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by
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**The South East Asian Central Banks (SEACEN)
Research and Training Centre**
Kuala Lumpur, Malaysia

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Published by The South East Asian Central Banks (SEACEN)
Research and Training Centre
Lorong Universiti A
59100 Kuala Lumpur
Malaysia

Tel. No.: (603) 7958-5600
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**HOUSING AND MORTGAGE MARKETS IN
THE SEACEN COUNTRIES**
Integrative Report and Country Papers
Bambang Kusmiarso

ISBN: 983-9478-53-2

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Printed in Malaysia by Graphic Stationers Sdn. Bhd.

FOREWORD

Central banks have always had a keen interest in the housing market and housing finance as they are issues relevant to a central bank's core tasks. The maintenance of the integrity and value of the currency requires that the Bank monitor inflationary pressures in the economy where housing prices play crucial role. Housing prices can provide a good indication of inflationary pressures in asset markets and therefore may become a part of the price indices that a central bank monitors. Housing prices can also influence general consumption through the wealth effect. Meanwhile, the maintenance of the integrity of the financial system requires that central banks keep an eye on the volume and nature of lending secured on housing. The promotion of the efficiency and effectiveness of the financial system requires that central banks study the development of this industry and promote competition and innovation as well.

The paper is divided into two parts: the first part consists of the integrative report of country experiences and regional analysis authored by Mr. Bambang Kusmiarso, Project Leader and Senior Economist at the SEACEN Centre. The second part consists of country chapters authored by country researchers from participating member central banks which provide in greater detail, the development of housing and mortgage markets in the individual countries. 13 country researchers from 9 member central banks participated in this research study, namely, Mr. Darmansjah Muhammad Prijanto (Bank Indonesia), Dr. Kyeong-Won Yoo (The Bank Of Korea), Mr. Allen Ng (Bank Negara Malaysia), Mrs. Ravjin Sarantsetseg (The Bank of Mongolia), Mrs. Ana Marie T. Hardillo and Mr. Neil Angelo C. Halcon (Banko Sentral ng Pilipinas), Mr. Liew Yin Sze and Ms. Cyrene Chew (Monetary Authority of Singapore), Mr. K.D. Ranashinge (Central Bank of Sri Lanka), Dr. Peter Ping-Yao Chang and Miss. Yeow-ru Tsai (The Central Bank of China, Taipei), and Dr. Yunyong Thaicharoen, Miss. Jaruphan Wanitthanankun and Mrs. Rawisprapa Ruckphaopunt (Bank of Thailand). The Centre would like to take this opportunity to thank all the country researchers for the timely completion of the country chapters despite their busy work schedules.

The project report was completed with the kind assistance of several institutions and individuals. The SEACEN Centre wishes to gratefully acknowledge the valuable contribution of all member banks and monetary authorities for making available their officials to participate in the research project as well as for their useful comments and suggestion for the paper. Special thanks are due to Mr. Ismail Dalla, East Asia and Pacific Region, World Bank for his assistance and valuable comments on the final draft paper. In addition, the author would also like to express his deep gratitude to the management and staff of the SEACEN

Centre, in particular, Dr. Bambang S. Wahyudi, Director of Research; Mrs. Kanaengnid T. Quah, Head of Seminars and Publications; Ms. Seow Yun Yee, Mrs. Jami'ah Jaafar, and Mrs. Nurulhuda Mohd Hussain, Economists, for their assistance throughout the project. The views and conclusions stated in the paper, however, are those of authors' and do not necessarily reflect those of the member banks/monetary authorities or the SEACEN Centre.

Dr. Subarjo Joyosumarto
Executive Director

May 2006

TABLE OF CONTENTS

Pages

Foreword	iii
Table of Contents	v
List of Tables	xviii
List of Graphs/Figures	xxiii
Executive Summary	xxvii

PART 1: INTEGRATIVE REPORT

Chapter 1: Housing and Mortgage Markets in the SEACEN Countries By Bambang Kusmiarso

1.	Introduction	1
	1.1 Background	1
	1.2 Objectives	2
	1.3 Research Design and Organisation of the Study	3
2.	Macroeconomic Importance of Housing and Mortgage Market	3
	2.1 Relevance of Housing Market Development	3
	2.2 SEACEN Countries Experiences	5
3.	Recent Development in SEACEN Countries	6
	3.1 General	6
	3.2 Housing Policy	11
	3.3 Market Size and Structure	14
	3.4 The Determinants of Housing Prices	15
4.	Housing Finance	17
	4.1 General	17
	4.2 Primary Market Lenders	19
	4.3 Mortgage Backed Securities Market	21

5. Interrelation with Other Macroeconomic Variables	24
5.1 Housing and Financial Stability	24
5.2 Housing Price and Real Economy	25
5.3 Housing Price and the Transmission Mechanism of Monetary Policy	28
5.4 Housing Price and Inflation	30
5.5 Housing Finance and Capital Market	31

6. Conclusion	33

References	39

PART 2: COUNTRY CHAPTERS

Chapter 2: Housing and Mortgage Markets in Indonesia **By Darmansjah Muhammad Prijanto**

1. Overview	43
1.1 Macroeconomic Characteristics	43
1.2 Relevance of Housing Market Development	44
2. Housing Sector	46
2.1 Market Size and Structure	46
2.2 Housing Market and the Supply Side	48
3. Housing Policy	48
3.1 Housing Development Policy	48
3.2 House Ownership and Land Tenure	49
3.3 Taxes and Levies	51
3.4 Government Subsidy Scheme	53
4. Housing Finance	54
4.1 Primary Market Lenders	54
4.2 Types of Mortgage Loans	56
4.3 Mortgage Backed Securities and Other New Mortgage Finance	58

5. Interrelation with Other Macroeconomic Variables	59
5.1 Housing Market and the Economy	59
5.2 Housing Market and the Transmission Mechanism of Monetary Policy	59
5.3 Housing Prices and Inflation	61
5.4 Housing Finance and Capital Market	62
6. Conclusion	63
References	64
 Chapter 3: Housing and Mortgage Markets in Korea By Dr. Kyeong-Won Yoo	
1. Overview	65
1.1 Macroeconomic Characteristics	65
1.2 Relevance of Housing Market Development	66
2. Housing Sector Overview	67
2.1 Market Size and Structure	67
2.2 Determinants of Housing Prices and Rents	68
2.3 Housing Market and the Supply Side	69
2.3.1. Housing Supply and the Housing Industry	70
2.3.2 Housing Land Supply Policy	70
3. Housing Policy	71
3.1 Housing Development Policy	71
3.2 Housing Shortage	82
3.3 Taxes and Levies	84
3.4 Housing Provision for Low-Income Households	90
4. Housing Finance	90
4.1. Primary Market Lenders	91
4.2 Types of Mortgage Loans	94
4.3 Mortgage-Backed Securities and Other New Mortgage Finances	95

	<i>Pages</i>
5. Interrelation with Other Macroeconomic Variables	96
5.1 Housing Market and the Economy	96
5.2 Housing Market and the Transmission Mechanism of Monetary Policy	100
5.3 Housing Prices and Inflation	101
5.3.1 Housing Price Trend	101
5.3.2 House Price and Inflation	103
5.4 Housing Finance and Capital Market	105
6. Conclusion	106
References	110
Appendix	111
 Chapter 4: Housing and Mortgage Markets in Malaysia By Allen Ng	
Introduction	123
1. Overview	123
1.1 Macroeconomic Characteristics	123
1.1.1 Background	123
1.1.2 Demography	127
1.2 Relevance of Housing Market Development	128
1.2.1 From the Households' Perspective	129
1.2.2 From the Supply Perspective: The Construction Sector and the Property Market	130
1.2.3 From the Banking System Perspective	131
1.2.4 From the Government Perspective: Expenditure and Housing Development .	132
2. Housing Sector Overview	132
2.1 Market Size and Structure	132
2.1.1 Housing Stock	132
2.2 Determinants of Housing Prices and Rents	137

	<i>Pages</i>
3. Housing Policy	148
3.1 Housing Development Policy	148
3.1.1 National Housing Policy	149
3.1.2 Selected Housing Development Policy Issues	152
3.2 House Ownership, Land Tenure, Taxes and Levies	156
3.2.1 House Ownership	156
3.2.2 Land Tenure	157
3.2.3 Taxes and Levies	158
4. Housing Finance	160
4.1 Primary Market Lenders	160
4.2 Types of Mortgage Loans	163
4.3 Mortgage-Backed Securities and Other New Mortgage Finances	164
5. Interrelation with Other Macroeconomic Variables	166
5.1 Housing Market and the Economy	166
5.1.1 House Prices and Macroeconomic Variables	166
5.1.2 Housing Market and Business Cycle	168
5.1.3 Housing Market and the Economy: A Further Discussion	170
5.2 Housing Market and the Transmission Mechanism of Monetary Policy	170
5.2.1 Monetary Transmission Mechanism and House Prices: A Simple Illustration	171
5.3 Housing Prices and Inflation	175
5.4 Housing Finance and the Capital Market	176
5.4.1 The Evolution of Cagamas	177
6. Conclusion	181
References	185
Appendix	188

Chapter 5: Housing and Mortgage Markets in Mongolia
By Ravjin Sarantsetseg

I. Overview	191
1.1 Macroeconomic Characteristics	191
1.2 Relevance of Housing Market Development	193
2. Housing Sector Overview	194
2.1 Market size and Structure	194
2.2 Determinants of Housing Prices and Rents	196
2.3 Housing Market and the Supply Side	196
2.4 The Secondary Mortgage Market	197
3. Housing Policy	197
3.1 Housing Development Policy	197
3.2 House Ownership and Land Tenure	199
3.2.1 House Ownership	199
3.2.2 Land Ownership	199
3.2.3 Possession	200
3.3 Taxes and Levies	200
3.4 Government Subsidy Scheme	200
4. Housing Finance	201
4.1 Primary Market Lenders	201
4.2 Types of Mortgage Loans	202
4.3. Average Loan Size	204
4.4 Mortgage-Backed Securities and Other New Mortgage Finances	204
5. Conclusion	204
Appendix	206

Chapter 6: Housing and Mortgage Markets in Philippines
By Ana Marie T. Hardillo and Neil Angelo C. Halcon

1. Overview	207
1.1 Introduction	207
1.2 Macroeconomic Characteristic	207
1.2.1 Population	207
1.2.2 Real Sector Indicators	208
1.2.3 Household Demand for Land	209
1.3 Relevance of Housing Market Development	210
2. Housing Sector Overview	211
2.1 Market Size and Structure	211
2.1.1 Dwelling Units and Household	211
2.2 Determinants of Housing Prices and Rents	212
2.3 Housing Market and Supply Side	212
2.3.1 House Price	212
3. Housing Policy	213
3.1 Housing Development Policy	213
3.2 Government Subsidy Scheme	215
4. Housing Finance	216
4.1 Primary Market Lenders	216
4.2 Characteristics of Mortgage Loans	219
4.2.1 Interest Rates	219
4.2.2 Non-Performing Mortgage Loans	221
4.2.3 Real Estate Lending by the Banking System	222
4.3 Mortgage Backed Securities and Other New Finances	223
4.3.1 Legislative Initiatives	223
4.3.2 Impact of Legislative Initiatives on the Housing Sector	225
4.3.3 BSP Regulations on Securisation	225
5. Interrelation with Other Macroeconomic Variables	227
5.1 Housing Market and the Economy	227
5.2 Asset Prices and the Transmission Mechanism of Monetary Policy	228
5.2.1 Philippines Experience	228

	<i>Pages</i>
5.3 House Prices and Inflation	230
5.4 Housing Finance and Capital Market	232
6. Conclusion	233
References	235
Annex	237
 Chapter 7: Housing and Mortgage Markets in Singapore By Jason Lee, Liew Yin Sze and Cyrene Chew	
1. Developments in Singapore's Private Residential Market	244
1.1 Three Distinct Phases of Property Price Developments	244
1.2 Supporting Macroeconomic and Demographic Factors	247
1.3 Increased Macroeconomic Volatility	250
1.4 Imposition of Anti-speculation Measures	251
1.5 Reduced Excess Stock of Unsold Units	253
1.6 Some Anti-speculation Measures Lifted	253
1.7 HDB Policy Changes	254
1.8 Central Provident Fund Policy Changes	255
1.9 The Mortgage Loan Market	256
1.10 Potential for Drawdown of Housing Equity	257
2. Inferences from Property Price Model	259
2.1 IMF House Price Model 2004	259
3. Assessment of Support Factors Going Forward	264
3.1 Macroeconomic Conditions	265
3.2 Demographic Factors	265
3.3 Support from Foreign Buyers	267
4. Conclusion	268
References	270
Annex	271

Chapter 8: Housing and Mortgage Markets in Sri Lanka
By K.D. Ranasinghe

1. Overview	277
1.1 Macroeconomic Characteristics	277
1.2 Relevance of Housing Market Development	277
2. Housing Sector Overview	278
2.1 Market Size and Structure	278
2.2 Impact of Tsunami on the Housing Stock	281
2.3 Determinants of Housing Prices and Rents	281
2.4 Housing Market and the Supply Side	281
2.4.1 Cost of Construction	283
2.5 The Secondary Mortgage Market	283
3. Housing Policy	284
3.1 Housing Development Policy	284
3.2 House Ownership and Tenure	286
3.2.1 House Ownership	286
3.2.2 Land Tenure	287
3.3 Taxes, Levies and Charges	287
3.4 Government Subsidy Schemes	288
4. Housing Finance	289
4.1 Primary Market Lender	289
4.1.1 Licensed Commercial Banks (LCB)	289
4.1.2 Licensed Specialised Banks (LSB)	290
4.2 Types of Mortgage Loans	290
4.3 Mortgage Backed Securities and Other New Mortgage Finances	291
5. Interrelation with Other Macroeconomic Variables	292
5.1 Housing Market and the Economy	292
5.2 Housing Market and the Transmission Mechanism of Monetary Policy	293
5.3 Housing Prices and Inflation	294

	<i>Pages</i>
6. Conclusion and Recommendation	294
References	296
Annex	297
 Chapter 9: Housing and Mortgage Markets in Taiwan Peter Ping-Yao Chang and Yeo-Ru Tsai	
1. Introduction	299
2. Macroeconomic Overview	300
2.1 Macroeconomic Characteristics	300
2.1.1 Economic Development	300
2.1.2 Demographics Transitions	302
2.1.3 High Degrees of Urbanisation	303
2.2 Relevance of Housing Market Development	304
2.2.1 Housing Related Expenses as Important Household Expenditure	304
2.2.2 Housing Investment and its Contribution to the Economy	306
2.2.3 Real Estate Loans as Major Business of Domestic Banks	307
3. Housing Sector Overview	308
3.1 Market Size and Structure	308
3.1.1 Declining Number of Household Members	308
3.1.2 Mismatch between Housing Supply and Demand	309
3.1.3 Vacant Houses on the Rise	309
3.1.4 Types of Housing	310
3.1.5 Fluctuating Market Transactions	311
3.1.6 Surging Supply of New Houses	311
3.2 Determinants of House Prices and Rents	311
3.2.1 House Price Trends	312
3.2.2 Trend of Housing Rent Index in Trends	313
3.2.3 Taiwan Evidence	314
3.3 The Supply Side of the Housing Market	314

4. Housing Policy	315
4.1 Housing Development Policy	316
4.1.1 Land Use Policy	316
4.1.2 Construction Management Policy	316
4.1.3 Enhance Housing Market Services	317
4.1.4 Preferential Tax Schemes	317
4.2 House Ownership and Land Tenure	318
4.2.1 High Ratios of House Ownership	318
4.2.2 Higher Ratios of Rented Houses in Urban Areas	318
4.3 Taxes and Levies	319
4.3.1 Higher Transaction Costs Than Ownership Costs	319
4.3.2 Property Related Tax Revenue	320
4.4 Government Subsidy Schemes	322
4.4.1 Government Subsidy Schemes Varied with Times	322
4.4.2 Increasing Variety of Preferential Loans	322
5. Housing Finance	322
5.1 Primary Market Lenders	323
5.1.1 Domestic Banks as the Main Housing Mortgage Lenders	323
5.1.2 Government Housing Loans Limited in Scope	324
5.2 Types of Mortgage Loans	325
5.2.1 Alternative Pricing Methods	325
5.2.2 Volume and Features of Mortgage Loans	326
5.2.3 Risks and Regulations on Mortgages	326
5.2.3.1 Overdue Real Estate Loans	326
5.2.3.2 Regulations on Real Estate Loans	327
5.3 Financial Innovations in the Housing Market	328
5.3.1 New Secondary Mortgage Market	328
5.3.2 Diversified Developers' Funding	328
5.3.3 The Benefits of Asset Securitization	329
5.3.4 The Effect of Asset Securitization on Monetary Policy	329
5.4 Housing Finance and Capital Market	329
5.4.1 Current Status for Housing Developers in Capital Market	329
5.4.2 Promising Future to Raise Funds from Capital Market	330

	<i>Pages</i>
6. Housing Market Interrelated with Macroeconomic Variables	331
6.1 Relationship of House Price and Other Variables	331
6.2 Empirical Evidence	333
6.2.1 Augmented Dickey-Fuller Unit Root Test	333
6.2.2 Granger Causality Test	335
6.3 Housing Market and the Transmission Mechanism of Monetary Policy	336
6.3.1 Monetary Policy and Asset Price Changes	336
6.3.2 Monetary Policy Reaction to Asset Price Changes	337
6.3.3 CBC's Measures	338
7. Conclusion	339
References	341
Appendix	344
 Chapter 10: Housing and Mortgage Markets in Thailand	
By Dr. Yunyong Thaicharoen, Jaruphan Wanitthanankun and Awisprapa Ruckphaopunt	
1. Overview	345
1.1 Macroeconomic Characteristics	345
1.2 Relevance of Housing Market Development	347
2. Housing Sector Overview	349
2.1 Market Size and Structure	349
2.1.1 Population and Housing Syarts	349
2.1.2 Housing and Real Estate Transactions	350
2.2 Determinants of Housing Prices and Rents	353
2.2.1 Housing Price Development	354
2.2.2 Determinants of House Price Dynamics	357
2.3 Housing Market and the Supply Side Developments	359
3. Housing Policy	361
3.1 Housing Development Policy	361
3.2 House Ownership	365

	<i>Pages</i>
3.3 House Taxes and Levies	366
3.3.1 Property Tax	367
3.3.2 Taxes Related to Housing Transactions	368
3.3.3 Taxes Related to Income from the Sale of Properties	369
3.4 Government Subsidy	374
3.4.1 Introduction	374
3.4.2 Key Policy Measures and Government Subsidies	375
3.4.3 Evidence on Government Subsidy	378
4. Housing Finance	380
4.1 Primary Market Lenders	381
4.2 Types of Mortgage Loans	384
4.3 Mortgage-Backed Securities and other New Mortgage Finances	387
4.3.1 Development of a Secondary Mortgage Market	387
4.3.2 Potential Benefits of the Secondary Mortgage Market of Housing Finance in Thailand	388
4.3.3 Possible Impact on the Housing Property Market	389
4.3.4 Other Innovations in Housing Finance	390
5. Interrelation with Other Macroeconomic Variables	391
5.1 Housing Market and the Economy	391
5.2 Housing Market and the Transmission Mechanism of Monetary Policy	395
5.2.1 Understanding the BOT's Preventive Measures	395
5.2.2 Impact of Monetary Policy on Property Prices	396
5.2.3 Impact of Interest Rate Increase on Housing Demand and Mortgage Loans	397
5.3 Housing Prices Inflation	399
5.3.1 Relationship between Housing Rent and Interest Rates	400
5.4 Housing Finance and Capital Market	402
6. Conclusion	404
References	406
Appendix	408

LIST OF TABLES

Chapter 1: Housing and Mortgage Markets in the SEACEN Countries By Bambang Kusmiarso

Table 1:	Total Population	7
Table 2:	Population Growth	8
Table 3:	Life Expectancy, Infant Mortality and Working Group Age (2004)	9
Table 4:	Urban Population	10
Table 5:	GDP per Capita	11
Table 6:	Economic Growth	12

Chapter 2: Housing and Mortgage Markets in Indonesia By Darmansjah Muhammad Prijanto

Table 1:	Population by Age Structure	43
Table 2:	Total GDP and GDP per Capita	44
Table 3:	Household Expenditure at Current Market Prices	44
Table 4:	Inflation (%)	44
Table 5:	Average per Capita Expenditure by Commodity Group, 2004 (Rp)	45
Table 6:	Demand of Housing (unit)	46
Table 7:	Housing Sales and Value on Sales	47
Table 8:	Distribution of Urban and Rural Households by Type of Dwelling, 1992-2004 (%)	48
Table 9:	Distribution of Urban and Rural Households by Housing Tenure, 1992-2004 (%)	50
Table 10:	Distribution of Urban and Rural Households by Land Right Status, 1992-2004 (%)	50
Table 11:	Typical Property Development Tax Structure	53
Table 12:	Target Group by Housing Subsidy	54
Table 13:	Housing Subsidy Scheme	54
Table 14:	Percentage of Household Who Bought Their Own House by Way of Payment, 2004 (%)	54
Table 15:	Mortgage Credit	55
Table 16:	Percentage of Households Occupying Own Home by Way of Acquisition, 2004 (%)	56
Table 17:	Mortgage Credit as a Proportion of Bank Loans, Asset and GDP (%)	59

Table 18:	Ratio of House Price to Per Capita Personal Income (Housing Affordability Index)	59
Table 19:	Category of Asset which can be included in Asset Price Index	61

Chapter 3: Housing and Mortgage Markets in Korea

By Dr. Kyeong-Won Yoo

Table 1:	Tax Rates on Capital Gains (%)	85
Table 2:	Tax Exemption and Reduction in Capital Gains Tax	85
Table 3:	Types of Housing Loans (by loan period)	94
Table 4:	Granger Causality between Credit Expansion and Housing Price 1996-2002	97
Table 5:	Housing Investments	97
Table 6:	Comparison of Household Portfolio	99
Table 7:	Average Annual Growth Ratio in Housing Price by Period and Region	103
Table 8:	Granger Causality between Housing Price and Inflation 1986-2003	104

Chapter 4: Housing and Mortgage Markets in Malaysia

By Allen Ng

Table 1:	Selected Macroeconomic Statistics on Malaysia	128
Table 2:	Selected Malaysian Household Statistics	130
Table 3:	Selected Banking System Statistics	131
Table 4:	Selected Statistics on the Construction Sector and the Property Market	133
Table 5:	Selected Housing Statistics in Malaysia	134
Table 6:	Selected Residential Property Market Statistics	137
Table 7:	House Price, Inflation and Rent	138
Table 8:	Summary Result: Estimated ECM of Malaysian House Price	144
Table 9:	Public and Private Sector Housing Programmes Target and Performances 1981-2005 (units)	150
Table 10:	Real Property Gains Tax Rates (as in force from 27 October 1995)	159
Table 11:	Sources of Housing Credit (%)	161
Table 12:	Cagamas Debt Securities	165
Table 13:	Correlation and Relative Volatility of Housing Market Variables to GDP	169

Table 14:	Monetary Transmission: Relevant Correlations between Variables	173
Table 15:	Cagamas and the Capital Market	180

Chapter 5: Housing and Mortgage Markets in Mongolia

By Ravjin Sarantsetseg

Table 1:	Annual Indicators	191
Table 2:	Economic Structure of Mongolia in 2003	192
Table 3:	General Lending Conditions of the ADB Housing Sector Finance Project	203
Table 4:	Comparison of Two Types of Mortgage Products	204

Chapter 6: Housing and Mortgage Markets in Philippines

By Ana Marie T. Hardillo and Neil Angelo C. Halcon

Table 1:	Population (in thousands) and Urbanisation Rate	208
Table 2:	Macroeconomic Indicators	209
Table 3:	Household Demand for Land (in hectares)	209
Table 4:	Household Expenditures (percent distribution)	210
Table 5:	Housing Stock (in thousands)	211
Table 6:	Housing Need (2005-2010)	212
Table 7:	Interest Rates Under the UHLP	220
Table 8:	Interest Rates Under the EHLP	220

Chapter 7: Housing and Mortgage Markets in Singapore

By Jason Lee, Liew Yin Sze and Cyrene Chew

Table 1:	Corresponding Data Set for Singapore	260
Table 2:	IMF's Summary of Empirical Results (1982-2004)	260

Chapter 8: Housing and Mortgage Markets in Sri Lanka

By K.D. Ranasinghe

Table 1:	Estimated Housing Requirement	279
Table 2:	Type of Houses (All Sectors)	280
Table 3:	Cost of Housing Construction	283
Table 4:	Type of Ownership of Houses by Sector (2003/04)	286
Table 5:	Land Ownership of Households by Sector	287
Table 6:	Commercial Banks Exposure to the Housing Sector (1995-2005 June)	289

Table 7:	LSBs Exposure to the Housing Sector (2003-2005)	290
Table 8:	Commercial Banks' Housing Loans According to the Maturity (2001-2005 June)	291
Table 9:	Government Capital Transfers to the Housing Sector	292
Table 10:	Mortgage Credit by Commercial Banks	293

Chapter 9: Housing and Mortgage Markets in Taiwan

Peter Ping-Yao Chang and Yeo-Ru Tsai

Table 1:	National Income and Inflation Rate	301
Table 2:	Main Population Indicators	302
Table 3:	Population in Urban Districts as a Percentage of Total Population	303
Table 4:	Household Expenditure	305
Table 5:	Housing Investment and Construction	306
Table 6:	Domestic Banks' Real Estate Loans	307
Table 7:	Main Housing Sector Indicators	309
Table 8:	Types of Housing	310
Table 9:	Housing Supply and Transaction in Taiwan	312
Table 10:	2004 Housing Tenure of Household	319
Table 11:	List of Property Related Taxes in Taiwan	321
Table 12:	Real Estate Loans and Government Housing Loans in Taiwan	324
Table 13:	Main Types of Mortgage Loans in Taiwan	325
Table 14:	Real Estate Securitisation and Capital Market in Taiwan	331
Table 15:	Augmented Dickey-Fuller (ADF) Unit Root Test	334
Table 16:	Granger Causality Test	335

Chapter 9: Housing and Mortgage Markets in Thailand

By Dr. Yunyong Thaicharoen, Jaruphan Wanitthanankun and Awisprapa Ruckphaopunt

Table 1:	Selected Macroeconomic and Demographic Indicators	347
Table 2:	Population and Housing Stock in Thailand	350
Table 3:	Cost Structure of Property Business (percentage)	360
Table 4:	Baan Mankong: Prograa update as of March 2006	364
Table 5:	Structure of Registration Fee	369
Table 6:	Comparison of Tax Burden of Firms of Equal Gross Receipt	370
Table 7:	Structure of PIT	372

Table 8:	Structure of Expense Deduction	372
Table 9:	Comparison of Withholding Tax Burden of Equal Assessed Property Value	374
Table 10:	The Summary of the Major Lender in Real Estate Sector	384
Table 11:	The Characteristic of Housing Loan	386
Table 12:	Selected Indicators of Thailand Housing Sector	392

LIST OF FIGURES

Chapter 1: Housing and Mortgage Markets in the SEACEN Countries By Bambang Kusmiarso

Figure 1: Mortgage Credit to GDP (%) in 2002	18

Chapter 2: Housing and Mortgage Markets in Indonesia By Darmansjah Muhammad Prijanto

Graph 1: Average per Capita Expenditure by Commodity Group (Rp)	46
Graph 2: Percentage of Household Occupying Own House on Length of Mortgage Maturity, 2004 (%)	57
Graph 3: Ratio Housing Loans to Bank Loans (%)	57
Graph 4: Average House and Land Price in Jabotabek, at Type House	60
Graph 5: House Price Inflation and Consumer Price Index (%)	62
Graph 6: Ratio Mortgage Credit to Bank Loans and Ratio Mortgage Credit to Equity	62
Graph 7: Capital Stock Price Index and Property Index	63

Chapter 4: Housing and Mortgage Markets in Malaysia By Allen Ng

Figure1: Malaysian GDP (1970-2004)	126
Figure 2: Malaysian Population (1970-2004)	127
Figure 3: Malaysian Federal Government Housing Development Expenditure	132
Figure 4: Outstanding Loans in the Banking System	132
Figure 5: House Price Indices by Housing Type	135
Figure 6: Residential Property Transaction in Malaysia	136
Figure 7: Residential Property Incoming and Existing Supply	136
Figure 8: House Price and Income Movements	139
Figure 9: Real House Prices and the Business Cycle	139
Figure 10: Real House Prices in Malaysia	140
Figure 11: House Prices in Singapore and Johore	141
Figure12: Misalignment in House Prices?	145
Figure 13: House Price and Rent	146
Figure 14: Actual and Trend Movements of House Prices According to States	147

Figure 15:	Malaysian House Ownership (1991, 2000)	156
Figure 16:	Housing Loans by Banking Institutions	161
Figure 17:	Co-movement Between Macroeconomic Aggregates and House Price	167
Figure 18:	Housing and Market and the Business Cycle	169
Figure 19:	Nominal Interest Rates Movements	172
Figure 20:	Monetary Transmission and House Prices: A Simple Representation	173
Figure 21:	Real House Price Deviation and Inflation	176
Figure 22:	Real House Price and Inflation	177
Figure 23:	The Cagamas Model	178
Figure 24:	New Issues of Private Debt Securities	179

Chapter 6: Housing and Mortgage Markets in Philippines

By Ana Marie T. Hardillo and Neil Angelo C. Halcon

Chart 1:	Public Sector Mortgage Loans Under the UHLP Classified by Institution (as of August 2005)	218
Chart 2:	Outstanding Real Estate Loans by the Banking System, 2000-June 2005	218
Chart 3:	Non-Performing Mortgage Loans, 2000-June 2005	222
Chart 4:	Real Estate Lending by Purpose	222
Chart 5:	Housing, Banking and the Economy 2000-June 2005	227
Chart 6:	Annual Growth in Commercial and Residential Prices and the CPI (2000=100)	231
Chart 7:	Housing Finance and the Capital Market, 2000-June 2005	233

Chapter 7: Housing and Mortgage Markets in Singapore

By Jason Lee, Liew Yin Sze and Cyrene Chew

Chart 1:	Chronological Overview of the Singapore Residential Property Market (1975-2004)	245
Chart 2:	Private Residential Sub-sale	248
Chart 3:	HDB Resale Prices and Resale Applications	249
Chart 4:	Uncompleted Private Residential Units-Launched and Sold	252
Chart 5:	Stock of Unsold Residential Units	253
Chart 6:	a) Mortgage Loans b) New Home Sales and Banks' Housing Loans	257
Chart 7:	Real Property Prices in Log Levels	261
Chart 8:	Key Driving Factors of Private Property Prices	262

Chart 9:	Resident Population, 1995	266
Chart 10:	General Marriage Rate	266
Chart 11:	Foreign Purchases of Private Residential Property	268

Chapter 9: Housing and Mortgage Markets in Taiwan

Peter Ping-Yao Chang and Yeo-Ru Tsai

Figure 1:	GDP Growth Rate and CPI Inflation Rate	301
Figure 2:	Trend of House Price in Taiwan	313
Figure 3:	Trend of Housing Rent Index in Taiwan	314
Figure 4:	Trends of Land rice, House Price and Construction Price	315
Figure 5:	Ration of Housing Ownership in Taiwan	319
Figure 6:	Property Related Taxes Revenue in Taiwan	320
Figure 7:	Outstanding Real Estate Loans by Domestic Banks in Taiwan	326
Figure 8:	Non-Performing Ratio of Real Estate Loans by Domestic Bank	327
Figure 9:	Outstanding Balance of Real Estate Securitisation in Taiwan	330
Figure 10:	Discount Rate and New Loan Rate for Housing	339

Chapter 10: Housing and Mortgage Markets in Thailand

**By Dr. Yunyong Thaicharoen, Jaruphan Wanitthanankun
and Awisprapa Ruckphaopunt**

Figure 1:	GDP Per Capita and Annual Housing Completion in the Bangkok Metro Area	345
Figure 2:	Value and Number of Housing and Real Estate Transactions Nationwide	351
Figure 3:	Housing Completions in Bangkok Metropolitan Areas and Vicinity, by Construction Types	351
Figure 4:	Housing Completions in Bangkok Metro Areas and Vicinity, By Housing Types	352
Figure 5:	Housing Price Index and Construction Material Price Index	354
Figure 6:	Land Price Index	355
Figure 7:	House Price Index and SET Index	356
Figure 8:	Ration of House rice to Per Capita Income	357
Figure 9:	Nominal and Real Minimum Loan Rate	358
Figure 10:	Construction Material Prices and Property Price Index	360

Figure 11:	Housing Stock, By Tenure (Left: by region, right: by Municipality Zone)	365
Figure 12:	Housing Stock, By Tenure (Left: by percentile of Household Income, right: by age of household head)	366
Figure 13:	Milestones of Key Policy Measures and Indirect Subsidies	376
Figure 14:	The Case of Fully Subsidized Mortgage Interest Payments	379
Figure 15:	The Case of Partially Subsidized Mortgage Interest Payments	380
Figure 16:	Pre-Financing of Housing Projects (Left: by Financial Institutions, right: by BIBFs)	381
Figure 17:	Property's Market Capitalisation	382
Figure 18:	Post-Financing of Residential Homebuyers by Financial Institution (Left: by Share of Mortgage Loan, right: by Value of Mortgage Loan)	383
Figure 19:	Ratio of Residential Construction of GDP	393
Figure 20:	Response to an RP14 Shock Within the Short Run	397
Figure 21:	Impact of Interest Rate Increase on Mortgage Loans and Housing Demand	399
Figure 22:	Contribution of Rent to Core Inflation	400
Figure 23:	Cycles of the Stock Market Index, Housing Rent, and MLR	401
Figure 24:	VAR Test of Impulse Responses	402
Figure 25:	Relationship between Total Stock Index and Property Index	403

EXECUTIVE SUMMARY

Studies by many researchers suggest that housing bubbles and excessive lending have been contributing causes for the Asian financial crisis in 1997. The high exposure of commercial banks and finance companies to housing related loans appears to be connected to the financial and currency market crises in these countries. When the price bubble burst in mid-1997, non-performing loans of financial institutions reached a critical level. The inability of the borrowing institutions to liquidate their long-term loan assets to meet bank calls of loan repayment seriously disrupted financial stability. Therefore, in the aftermath of the Asian financial crisis, mortgage securitisation is increasing seen as a tool for mobilising long term savings, while at the same time stimulating the domestic housing market.

From the experiences of developed economies, these new financial innovations would have a great impact on financial markets and profound implications for monetary policy. Housing and mortgage markets deserve more detailed analysis for its role in deepening the fledgling capital markets in the SEACEN economies, and ultimately the effective conduct of monetary policy.

Moreover, the housing market plays an important role in the economy and in the welfare of the people. Housing is considered the most important form of saving for many households and mortgage servicing is the most important form of household debt. Changes in housing prices and rents influence consumer prices and affect other parts of economy. Therefore, the unprecedented escalation of housing prices currently observed in both developed and some emerging economies have raised concern over house price bubbles and ballooning household debts. This has led to extensive international debate as to whether and how monetary policy should respond to this development, keeping in mind its core objectives of monetary and financial stability.

This report reviews the current development of housing and mortgage market in the SEACEN region; identifies factors influencing housing prices and rents as well as the mortgage markets; and attempts to better understand the interactions among housing and mortgage markets with other economic variables and with respect to financial stability. The study also intends to recommend measures to develop the housing and mortgage markets that will be sustainable and beneficial to the conduct of monetary policy.

It was found that a rapid growth of population and urbanisation, benign economic environment, increase of capita per income, and the rapid economic

growth in the region have transformed the urban landscape in many cities, and led to rapid growth in housing and mortgage markets. As a result, SEACEN housing markets have increased as well.

To better understand housing growth within the SEACEN region, we can look at country performances. The total housing stock in Philippines grew 30% during 1980 to 1990, or an average annual growth of 3%. Meanwhile, the total of housing stock in Malaysia increased impressively from only 4.1 million in 1991 to 5.5 million in 2000, or an average annual growth rate of 4.1%. In Taiwan, due to some government stimulus measures, new housing grew from 5.1 million in 1990 to become 7.2 million in 2004, or an annual growth rate of 3%.

Measured as the average of house price as multiples of the multiples of income, the housing affordability index in Taiwan has risen from only 4.8 in 1980 to nearly double in 1990 to become 9.8. Fortunately, with increasing household income and stabilising house prices, this index dropped to 7.6 in 2004. The affordability index in Malaysia has improved impressively from 12.6 in 1988 to 9.4 in 2003. Depending on the type of house, this index was around 0.6-4.4 in Indonesia, meanwhile in Korea this index was 9.15 in 1990, declined to 6.25 in 1997, and rose again to become 8.9 in 2003.

A primary indicator, by which the importance of mortgage credit in economy can be judged, is the proportion of mortgage debt (credit) to gross domestic product (GDP). From a regional perspective, the size of mortgage market in the region is relatively small compared to the national GDP. With the exception in Singapore which is 59%, the ratio of mortgage loans with respect to GDP in countries under study are between 3-26%, still low compared to those of the USA (50% of GDP), the Netherlands (88% of GDP) and the UK (62% of GDP). Therefore, from a policy perspective, there is a strong growth potential for these economies to continue developing.

Different countries have different policies to support housing. In general, however, the main premise of government policy has been that the state has a responsibility to play a direct role in supporting housing solutions, especially for the poor. While governments have focused on low-cost housing, the middle- and high-cost segments of the market have been largely left to the private sector. The trend has been toward a more market-friendly approach.

Housing plays an important role in a country's economy. In addition, housing is often an individual's biggest asset. The availability of housing finance is, therefore, crucial for overall economic development as well as for a household's

welfare and its quality of life. In general, commercial banks and state-run firms still dominate primary mortgage lending in many of the countries studied, underscoring the importance attached by governments to housing as a central human and economic need. However, the transition toward deregulated housing finance markets has made it profitable for other types of lending institutions including, provident funds, insurance companies, and mortgage securities, to participate as well. The entry of provident funds, insurance companies and mortgage securities in some countries has led to a more proper matching of assets and liabilities for housing finance institutions. Informal sources, where these are customary, also play a considerable role in housing finance in Korea. In this country, chonsei deposits finance a large portion of housing.

Given the complex dynamics and the importance of expectations explaining house price movements econometrically proved to be a difficult task. However, literature has found that the principal factors affecting house price dynamics include household incomes, interest rates, household formation or other demographic variables, supply side variables, financial market institutions and credit availability, taxes, subsidies and other public policies directly related to housing.

Looking at the experiences of the countries under study, using a macroeconomic model, the Malaysian country paper pointed out that housing price are determined by real income per capita, people's expectations on future income and economic outlook, demographic characteristic factor, real lending rates, and total loans outstanding in the banking system. Using the Granger Causality Test, the Taiwan country paper showed that real GDP, M2 and stock prices cause house price with several quarter lags. Citing the study by Chen and Patel in 2002, Taiwan also pointed out that the strongest factor determining housing price is the household income. A 1 % increase in household income will lead to increase in housing price by 1.88 %. Meanwhile, on the supply side, 1% increase in the construction cost will increase the housing price by 0.70 %.

Central banks have always had a keen interest in the housing market and housing finance as housing issues are relevant to the central bank's core tasks. Housing prices can give an indication on the inflationary pressures in asset markets. The maintenance of the integrity of the financial system requires that the central bank keep an eye on the volume and nature of lending secured on housing. The promotion of efficiency and effectiveness of the financial system requires that the central bank study the development of this industry and promote competition and innovation. Thailand's country paper found evidence of a strong causal link from monetary policy to property prices. An increase in the policy

rate raises short term interest rates which in turn increase the cost of loans and reduce the demand for credit by both developers and consumers. This consequently decreases housing buying and investment which in turn contributes to a fall in property prices.

Meanwhile, from a macroeconomic and financial stability point of view, development of the housing market is very important. The importance of the housing sector to the economy extends beyond its share to GDP and provides millions of people with jobs. The sector's performance has implications on economic stability, through linkages with financial stability and household wealth. Thailand's country paper pointed out that over-investment in the housing sector prior to the crisis had brought about considerable non performing loans (NPLs) in commercial banks that threatened the soundness of banking systems and its ability to provide credits.

The link between housing markets and other parts of economy operates mainly through the impact of housing price fluctuations, as they represent the main source of housing wealth. The collapse of house prices following the Asian economic crisis in late 1997 is a good example. Private consumption and investment, and hence output growth, were affected through wealth and balance-sheet effects. Sharp falls in housing prices led to a large-scale deterioration in asset quality and in the profitability of the banking industry, particularly for those banks that are deeply involved in housing or housing-related lending businesses. They undermined the value of bank capital, reducing the banks' lending capacity, and in the extreme case can jeopardise the stability of the financial system as a whole.

One research done by Meng in 2002 examined the influence of housing price on Singapore's macro economy. Using an econometric model, he found that the fluctuations in private residential housing prices do not play a very significant role in Singapore's economy. There are several reasons for these phenomena: (i) housing market in Singapore is dominated by public housing, (ii) public housing prices are controlled by the government, (iii) anti-speculative measures introduced in 1996 have reduced homeowners' ability to cash their capital gains when prices rise and also reduced the risk of negative equity when prices fall, (iv) less dependence on the domestic financial system as a source of financing due to the significant presence of multi national corporations in Singapore, (v) and Singapore's highly open global trade. These factors have provided some stability in the housing market in Singapore and prevented shocks in the housing market from spreading to other areas of the economy.

Malaysia's country paper pointed out that house price move closely to the real output of the economy. The strength of this correlation had increased since the Asian financial crisis, from positive 0.6 in 1997 to positive 0.8 in 2004. Using the Granger Causality Test, Taiwan pointed out that house price causes CPI inflation, M2 and bank loans rates.

Many studies have confirmed that capital markets provide an attractive and potentially large source of long term funding for housing, for both developers and investors. Besides financial institutions, developers can take advantage of the capital market as an alternative source of funding. Investors can also diversify their investment in property funds besides bond and debt instruments.

In this regard, the recent rebound in global economies has facilitated further growth in domestic bond markets as well as asset-backed securities in many countries. Securitisation provides a vehicle for mobilising long term savings and is thus very helpful in stimulating domestic housing markets. In addition, securitisation can help broaden the institutional investor base, increase transparency and deepen domestic bond markets.

CHAPTER 1

HOUSING AND MORTGAGE MARKETS IN THE SEACEN COUNTRIES

by
Bambang Kusmiarso

1. Introduction

1.1 Background

Housing plays an important role of the economy in most countries as it is the most important form of savings for many households. It is the largest component of household net wealth, representing 30% of world wealth, larger than the 27% on bonds or 19% on equities¹. It is also the most expensive consumer durable good since housing prices generally are equivalent to a multiple of annual household incomes. It is important for the banking sector as well since a large portion of their credit comprises mortgage loans for the purchase of private residential properties and loans for building and construction. Housing also serves as collateral for loans, thus rising housing prices increases the scope for households to take additional loans and this affects demand on a national basis. The housing sector also contributes significantly to overall production activities. Housing provides millions of people with jobs and generates millions of dollars of economic output each year. Housing investments accounts for 2-8% of national output and 10-30% of total fixed capital formation². Land sales and stamp duties on housing transactions have also been a significant source of government revenue.

Housing is also closely linked to financial and macroeconomic stability. Since housing loans comprise a large portion of consumer credit, fluctuations in house price can affect the value of collateral and hence the financial soundness of lending institutions. Moreover, housing prices tend to have strong implications on household behaviour and, consequently, macroeconomic stability. Fluctuations in housing prices have a direct impact on the level of macroeconomic activity by influencing private consumption and investment. The unprecedented escalation of housing prices currently observed in both developed and some emerging economies have also raised concern over house price bubbles and ballooning household debts. This has led to extensive international debate on whether and

1. See Kim, 2003.

2. See World Bank, 1993, cited from Kim, 2003.

how monetary policy should respond to this development, keeping in mind its core objectives of monetary and financial stability.

Notwithstanding the house price cycles and its potential adverse systemic impact on the economy, housing and mortgage markets deserve more detailed analysis for its role in deepening the fledging capital markets in the SEACEN economies, and ultimately the effective conduct of monetary policy. Observed from experiences of developed economies, new financial innovations in the housing and mortgage markets would have great impact on financial market, and profound implications for monetary policy. In this regard, an area of potential interest is the development an asset-backed securities market. In many parts of the world, asset backed securitisation, such as Mortgage-backed securities (MBSs) are increasingly seen as a tool for mobilising long-term savings while at the same time stimulating domestic housing markets. Moreover, the recent rebound in many countries has facilitated further growth in domestic bond markets and asset-backed securities markets are growing and are becoming an important feature of financial markets.

1.2 Objectives

The objectives of this research are to review the current development of the housing and mortgage market in the SEACEN region, identify factors influencing housing prices and rents as well as the mortgage markets, to gain better understanding of the interactions among housing and mortgage markets with other economic variables and with respect to financial stability. The study also intends to recommend measures to develop housing and mortgage markets that will be sustainable and beneficial to the conduct of monetary policy.

For this purpose, the project will cover following issues:

1. Current development of housing and mortgage market in the SEACEN region;
2. Determinants of house prices and rents, including taxes, financial environment, and demography;
3. Interrelation between housing market and the economy; between housing price and macro-economic and financial stability; and
4. Benefits and risks of new financial innovations, such as securitisation.

1.3 Research Design and Organisation of the Study

The study is a collaborative project of the SEACEN Centre and the member central banks/monetary authorities. Under this collaborative arrangement, the researcher/s of the member banks or monetary authorities are responsible for preparing the country chapters based on the agreed guidelines. Meanwhile, the project leader from the SEACEN Centre prepares an overview and regional analysis, based on his own literature research and the findings in the country papers.

The report of the research project comprises 2 parts. Part One covers the overview and regional analysis (integration report). Part Two contains all the country chapters which are contributed by the researchers nominated by the member banks or monetary authorities. The first section of the first Part presents the background and objectives of the research project while the second section provides the macroeconomic importance of housing and mortgage markets. The third section deals with the recent development of housing and mortgage markets in the SEACEN countries. The fourth section focuses on housing finance while the fifth section touches on the interrelation with other macroeconomic variables, and the sixth concludes the research.

2. Macroeconomic Importance of Housing and Mortgage Market

2.1 Relevance of Housing Market Development

The housing market is very important for the economy as a whole. On average, between 15-40% of households' monthly expenditure is spent on housing services³. Housing also represents an important form of household real savings, especially for those countries where their financial markets are underdeveloped. The world invests anywhere between 3 to 9 % of GDP annually on housing construction, providing jobs for the construction and real estate services workers of between 5 to 10% of the workforce⁴. For households, owning a home is also the best form of real savings in the long run since it can protect the owner from inflation. In many countries, especially in emerging countries, inflation-adjusted yields of housing are higher than those of financial savings, such as pensions, provident funds and bank deposits.

3. See Sheng, 1997.

4. See Sheng, 1997.

From the macroeconomic and financial stability point of view, development of the housing market is very important. Housing prices and macroeconomic variables are closely linked to each other. The collapse of house prices following the Asian economic crisis in late 1997 and the latest housing price run-up fueled by low interest rates and the expansion of consumer credit are good examples.

Changes in housing prices and rents influence consumer price inflation, and affect competitiveness. Developments in the housing market are important because the banks, which play a central role in the payment system, are exposed to the housing sector both through lending with housing as collateral and through lending direct to housing management companies. The housing market is important from a monetary policy perspective, because housing prices and the value of households' housing ownership affect household consumption and savings. A well-functioning residential housing market is also important for mobility on both the residential housing and labour markets, which in turn is vital for encouraging economic growth.

Of particular importance from a policy perspective is the relationship between housing prices and the structure of mortgage finance markets. Because a house purchase generally requires external financing, the cost of mortgage credit and the conditions under which it becomes available play a major role in shaping the pattern of house price dynamics. Conversely, the servicing of outstanding mortgages, determined in part by the dynamics of house prices, has an impact on the health of lenders and their ability and willingness to extend credit. In addition, these developments are not only of interest to policy makers and academician, but are also important for all people and the economy as a whole. When housing prices rise, people generally feel more financially secure and increase their consumption, which leads to a rise in employment and growth.

For an appreciation of the housing market, consider the following figures/facts of the USA housing market⁵. Using data for 2001, the housing sector, as a whole, contributed \$1.4 trillion to the Gross Domestic Product, or 14% of the USA economy. The stock of fixed residential assets is worth nearly \$10 trillion, equivalent to one-year's worth of USA's national total production. About 1.5 million newly housing units are built each year. In 2000, housing construction generated 3.5 million full-time jobs, \$113.8 billion in wages and salaries, and \$60.9

5. See National Association of Realtors, 2003.

billion in federal, state and local tax revenues and fees in the USA. About 40 percent of monthly consumer expenditures are housing related.

Moreover, home ownership creates jobs and national wealth not only at the moment a house is built, but also through the time the house is placed on the market, to the time the new owner furnishes and remodels it following the purchase. Based on data for 2000, owners of newly built single-family homes spent an additional \$5.9 billion on furnishing, decorating and improving their houses in the USA. More than \$1 trillion exchanged hands from the sale of existing and new homes. There are 288 thousand establishments categorised as real estate and rental and leasing with over 1.7 million paid employees.

In addition, all economic activity produces a multiplier effect. A home purchase usually results in further spending in other sectors of the economy such as landscaping, appliances, and so on. One study done by the National Association of Realtor in 2003 found that the multiplier is between 1.34 and 1.62 in the first year or two after an autonomous increase in spending⁶. This means that for each dollar increase in direct housing activity, overall economic activity will increase by \$1.34 to \$1.62.

2.2 SEACEN Countries' Experiences

Looking more closely at the countries under study, it was reported in Philippines's case that around one-fifth of people's income is devoted to housing related expenses such as rental payments, maintenance and construction costs. Moreover, the housing market has a very high multiplier effect of 17 times on other activities which means for every peso increase in housing activity, the overall economy will increase by 17 peso. Housing is also considered labour intensive in the Philippines providing jobs for 1 million construction workers every year or about 1.3% of the total population⁷.

Meanwhile in Malaysia, housing related expenditure including rent, purchase of furniture and household equipments, account for about 30% of total household final consumption expenditure. Household debt, measured as total loans outstanding to individuals has been on an increasing trend, totaling 55% of GDP in 2004. About half of this total household debt is in the form of loans for the purchase

6. See National Association of Realtor, 2003.

7. See Hardillo et.al, 2006

of residential housing, which was only 38% of GDP in 1997, suggesting that housing related debt has been contributing to the increasing trend of total household debt⁸.

In Indonesia, especially for low income households, monthly household expenditure is still being dominated by food consumption. Only about 18% of their monthly expenditure income is housing related⁹. Meanwhile, in Sri Lanka, household expenditure for housing purposes constituted 11% of total expenditure¹⁰.

In Korea, housing investment has made up 3-9% of GDP and 14-31 % of total investment during the last three decades¹¹. Housing is also a labor-intensive sector. An analysis of the 1988 input-output table reveals that housing investment in that year was responsible for 482,000 jobs.

In Taiwan, around 18% of household expenses are housing related. This number is increasing, compared to 14% during the 1980s, due to increasing rental expenses caused by the rise in house prices. Meanwhile, as a percentage to fixed investment, new residential constructions in Taiwan accounted for around 7.3 percent in 2003¹².

3. Recent Developments in SEACEN Countries

3.1 General

The past two decades have seen strong and escalating housing demand in the SEACEN region. Among others, population dynamics is key determinant for this development. The total population for all of the countries under study was 478 million in 2003, accounting for almost one-tenth of the world's population (See Table 1). Indonesia, as one of the world's most populous countries, accounts for more than 200 million or almost half of the region's population. The population size in each country ranges very widely, from around 2 million in Mongolia to 213 million in Indonesia.

8. See Ng, 2006

9. See Prijanto, 2006.

10. See Ranashinge, 2006.

11. See Yoo, 2006.

12. See Yao et.al, 2005.

Table 1: Total Population

	1980		2003	
	million	%	million	%
Indonesia	148	44.6	213	44.6
Korea	38	11.5	48	10.1
Malaysia	14	4.2	25	5.2
Mongolia	2	0.6	2	0.4
Philippines	48	14.5	82	17.2
Singapore	2	0.6	4	0.8
Sri Lanka	15	4.5	19	4.0
Taiwan	18	5.4	23	4.7
Thailand	47	14.2	62	13.0
Total	332	100.0	478	100.0
<i>Memorandum</i>				
World	4,429		6,273	

Source: World Development Indicator, World Bank

Housing challenges are particularly great because of the speed at which the populations are growing. During 1990-95, total population of SEACEN countries under study grew at the rate of between 0.9%-2.4% per annum, slightly lower from around 1.2%-2.6% per annum for the period of 1980-90 (See Table 2). Except for a few countries, these rates are higher than those at Japan and USA. Malaysia registered the fastest growth at 2.4%, followed by the Philippines and Singapore at 2.2% and 2.0% respectively. Meanwhile, South Korea and Thailand experienced slower growth. Coupled with this growth in the population is the increasing density in the region.

Table 2: Population Growth

	Avg. annual growth rate of population (%)	
	1980-90	1990-95
Indonesia	1.8	1.6
Korea	1.2	0.9
Malaysia	2.6	2.4
Mongolia *)	2.6	1.8
Philippines	2.4	2.2
Singapore	1.7	2.0
Sri Lanka *)	1.4	1.1
Taiwan	1.4	0.9
Thailand	1.7	0.9
<i>Memorandum</i>		
Japan	0.6	0.3
USA	0.9	1.0

*) 1980-95; 1995-2010

Source: Andrew Sheng, 1997; WDI 97 World Bank; country papers

In addition, the average life expectancy at birth in the region is considered high. The simple regional average is 73 years, much higher than that of South Africa but lower than those of Japan and USA (See Table 3). The infant mortality rate in countries under study is 20% per 1000 live births, higher than those of Japan and USA but lower than that of South Africa. As a result of the declining birth deaths and the increase in life expectancy, the age structure of the population in the region is dominated by the group aged between 15 to 64 year old, which was estimated to be 68% of the entire population in 2004.

**Table 3.: Life Expectancy, Infant Mortality and
Working Group Age (2004)**

	life expectancy (year)	infant mortality rate (deaths/1000 live births)	working group (15-64 years)
Indonesia	69.6	35.6	65.7
Korea	76.9	7.1	72.0
Malaysia	72.2	17.7	62.4
Mongolia	64.5	53.8	67.7
Philippines	69.9	23.5	60.6
Singapore	81.6	2.3	75.9
Sri Lanka	73.2	14.4	68.4
Taiwan	77.3	6.4	70.7
Thailand	72.0	20.5	68.6
<i>Average</i>	<i>73.0</i>	<i>20.1</i>	<i>68.0</i>
<i>Memorandum</i>			
Japan	81.2	3.3	66.2
USA	77.7	6.5	67.0
South Africa	43.3	61.8	64.5

Source: CIA Fact Book

Meanwhile, as many young people leave the rural areas, urban population is growing rapidly. Structural changes in the economy as well as industrialisation in many countries have caused some rural people to migrate to the urban. The pace of urbanisation in some countries under study were up to four times the pace of that in advanced countries such as USA and Japan (See Table 4). As a result, the entire population in Singapore is now living in the city while more than three-fourth of the Korean population is living in the cities. In Thailand, where only one-third of the population is living in the cities, the change has nonetheless, been dramatic given that the share of urban population was only 17% in 1980. In Mongolia, nearly 60% of the population now lives in the urban areas. In other countries, rural population constitutes more than 60% of the population, reaching as high as 76% in Sri Lanka.

Table 4: Urban Population

	As % of total population		Average annual % growth	
	1980	1995	1980-90	1990-95
Indonesia	22	34	5.3	3.9
Korea	57	81	3.8	2.9
Malaysia	42	54	4.4	4.0
Mongolia	55	60 *)		
Philippines	38	53	5.2	4.4
Singapore	100	100	1.7	2.0
Sri Lanka	21	24 *)		
Taiwan	70	67		
Thailand	17	36	2.8	2.3
<i>Memorandum</i>				
Japan	76	78	0.7	0.4
USA	74	76	1.2	1.3

*) 2005

Source: Andrew Sheng, 1997; country paper; Social Indicators of Development, 1995, World Bank

In fact, the trend of the urbanisation has globalised around the world. One study done by the United Nations in 1994 shows that the world's urban population is growing at a rate of 2.5 % per annum, three times that of the rural population, which is only at 0.8 % per annum. If half of the world's population lived in urban areas by 2005, it is expected that two decades later in 2025, more than three-fifths of the world population will be urban¹³.

Adding to this is the increase of per capita income which will increase the purchasing power of people. As shown in Table 5, even though the GDP per capita for countries under study are varied, they generally show an increasing trend. Mongolia's per capita stood at USD 671 in 2005, increasing from USD 399 in 2000. Meanwhile, GDP per capita in Singapore has increased from USD23,042 in 2000 to USD26,253 in 2005.

13. See United Nation, 1994.

Table 5: GDP per Capita

	2000	2001	2002	2003	2004	2005
Indonesia	804	789	948	1,116	1,191	1,233
Korea	10,891	10,178	11,506	12,714	14,151	16,493
Malaysia	3,844	3,665	3,884	4,159	4,646	5,110
Mongolia	399	422	457	513	602	671
Philippines	977	896	944	951	1,010	1,111
Singapore	23,042	20,774	21,163	21,765	24,740	26,253
Sri Lanka	847	796	828	905	1,018	1,111
Taiwan	13,823	12,480	12,504	12,646	13,451	14,447
Thailand	1,967	1,836	1,994	2,227	2,521	2,563

Source: The World Economic Outlook

In addition, the SEACEN region where it is home for nearly half a billion people, is enjoying high overall growth and continues to be one of the fastest growing region in the world. The countries under study, encompassing Indonesia, Korea, Malaysia, Mongolia, Philippines, Singapore, Sri Lanka, Taiwan and Thailand have recorded growth rate of between 4.0%-6.4% in 2005 (See Table 6) with Singapore leading the way at 6.4%, followed by Mongolia at 6.2%. This accounts for the massive demand for infrastructure investment and rapid construction in commercial and residential properties.

3.2 Housing Policy

In the past, many countries in the world viewed housing as a social rather than an economic sector. Therefore, there was a tendency to view the housing market as being not a developmental activity with tremendous spin-offs for the economy. However, this has changed as it is recognised that there is a strong linkage between the housing market and the rest of the economy. As a result, many countries are giving housing market development their full attention. The significant step taken by many countries has been the development of a self-sustaining housing finance market. Many governments appear to have recognised that monopolistic state owned providers of housing finance are not be the most efficient or cost effective mechanism to develop and deepen the mortgage market. The merits of private sector-dedicated housing finance institutions have been recognised and encouraged.

Table 6: Economic Growth

	2001	2002	2003	2004	2005
Indonesia	3.8	4.3	5.0	4.9	5.6
Korea	3.8	7.0	3.1	4.6	4.0
Malaysia	0.3	4.4	5.4	7.1	5.3
Mongolia	1.0	4.0	5.6	10.7	6.2
Philippines	1.8	4.4	4.5	6.0	5.1
Singapore	-2.3	4.0	2.9	8.7	6.4
Sri Lanka	-1.5	4.0	5.9	5.5	5.7
Taiwan	-2.2	4.2	3.4	6.1	4.1
Thailand	2.2	5.3	7.0	6.2	4.5

Source: Asian Development Bank

In 2003, the Hong Kong Housing Authority applied three major guiding principles on housing policy¹⁴. Firstly, the focus of the government's subsidised housing policy would be on the provision of assistance for low-income families who cannot afford private rental accommodation. Secondly, the government would minimise its intervention in the private property market. Thirdly, the government would maintain a fair and stable operating environment for the private property market by ensuring adequate land supply and provision of efficient supporting infrastructure.

The desire for safe and secure homes is timeless and universal. Different countries have different policies to support housing. But in general, the main premise of government policy has been that the state has a responsibility to play a direct role in supporting housing solutions, especially for the poorest families. While the government has focused on low-cost housing, the middle- and high-cost segments of the market have been largely left to the private sector. The trend has been toward a more market-friendly approach.

14. See Hong Kong Housing Authority, 2003.

To deepen its housing market, Philippine's government has developed the National Shelter Program (NSP), the aims of which are to provide homes for the lower- to middle-income groups, to deregulate the housing market, and to use non- budget subsidy schemes to make housing finance affordable. The present government subsidy system in the Philippines consists of various types including interest rate subsidy, land cost subsidy, tax exemption, and cash transfer. Among these, the main one is interest subsidies provided through end-users and development financing programmes. Meanwhile, the aim of housing policy in Malaysia has been to provide the people, particularly the low income groups, accessibility to adequate, affordable and quality shelter. The details of the implementation of these housing plans, including the housing development targets and programmes, are clearly outlined in the Malaysia Plans since 1971.

Mongolia's recent transition to a market economy has reformed its economy and created a market-based shelter programme by privatisation of its housing. The government subsidy in this country is mainly in the form of tax exemption. In Sri Lanka, an increased participation of the private sector in the provision of housing has seen since 1990s. Government intervention continued in the provision of housing facilities for the low income groups especially urban renewable housing programmes and urban settlements improvement programmes, while private sector was active in providing housing facilities for middle and high income segments.

In the last three decades in Taiwan, the government has taken undertaken proactive policy measures to assist in industrial developments and dampen speculative activities. Major policies include land use policy, construction management policy as well as transaction safety, giving subsidies and implementing various tax cuts. In helping households, especially for the low-income group, the government implemented various mortgage subsidy programmes, including assistance extended to five groups of people for building and purchasing homes, which are the general public, labourer, soldiers, public servants and teachers, and aborigines.

Since the 1970s, housing policy in Indonesia has focused on providing low-cost housing for low-income earners; revitalising slum areas by developing high-rise, low-cost dwelling units with adequate water supply, drainage, and waste treatment facilities; promoting private-sector participation; and optimising the use of limited land and financing resources¹⁵.

15. See Harjanto, 1999.

3.3 Market Size and Structure

Housing stock evolves from cumulated investment in housing over time. With increased investment in housing, housing stocks in the countries under study have increased as well. In some countries, these have grown at around 3-4% annually.

The total housing stock in the Philippines grew 30% during 1980 to 1990, or an average annual growth of 3%. Meanwhile, the total housing stock in Malaysia increased impressively from only 4.1 million in 1991 to 5.5 million in 2000, or an average annual growth rate of 4.1%. In Taiwan, due to the government's stimulus measures, new housing grew from 5.1 million in 1990 to 7.2 million in 2004, or an annual growth rate of 3%.

Meanwhile, the ratios of housing to household in some of countries under study are already one or more than one, meaning that one household owns at least one unit of house. The ratio in Malaysia in 2000 was 1.3, while in Taiwan it was 1.02. Meanwhile in Korea, housing supply increased to 0.96 in 2000 compared to 0.70 in 1985¹⁶. It is expected that this ratio will reach as high as 1 in 2005¹⁷.

Of houses built in Malaysia, over 40 per cent were detached types. However, terrace/row or link/townhouse-type and flat/apartment/condominium type is becoming more common. In Mongolia, nearly half of the people prefer to live in apartments, while others in detached house and traditional portable housing (ger areas). Most Indonesian houses are single storey units, while most Taiwanese people prefer to stay in two or three storey houses. About 60% of households in Korea live in detached houses followed by apartments at 27%¹⁸. Meanwhile, about 91% of Sri Lankan people live in single unit houses.

In terms of housing affordability, measured as the average of house price as multiples of the multiples of income, the housing affordability index in Taiwan has risen from only 4.8 in 1980 to nearly double in 1990 to become 9.8. Fortunately, with increasing household income and stabilisation in house price, this index dropped to 7.6 in 2004. In Indonesia, this index is around 0.6-4.4 in 2004 depending

16. See Yoo, 2006.

17. See Shin, 1997.

18. See Shin, 1997.

on the type of house. The affordability index in Malaysia has improved impressively from 12.6 in 1988 to 9.4 in 2003. Meanwhile, this index in Korea was 9.15 in 1990, declined to 6.25 in 1997, and rose again to 8.9 in 2003.

A study done by Bestani et. al in 2004, pointed out that the housing markets in Asia and the Pacific, where SEACEN countries are located, are under more pressure than anywhere else in the world¹⁹. Land price-to-income and house price-to-income ratios for Asia and the Pacific are among the world's highest. In addition, this region is plagued with limited availability of infrastructure services and the time spent commuting between home and work is the greatest in the world.

3.4 The Determinants of Housing Prices

As with other asset prices, explaining house price movements econometrically is a difficult task, given the complex dynamics and the importance of expectations, in particular in periods of booms and busts²⁰. However, literature has found that the principal factors affecting house price dynamics include household incomes, interest rates, household formation or other demographic variables, supply side variables, financial market institutions and credit availability, and taxes, subsidies and other public policies directly related to housing.

Household income is the single most significant explanatory variable of house prices. Empirical studies find that, in the long run, the elasticity of house prices with respect to income is close to or below unity²¹. The main reason why house prices are expected to rise with income in the long run is that income growth generates more demand for living and recreation space and drives up the price of construction land. One other important factor that explains house prices is real and nominal interest rates. High nominal interest rates increase the initial debt servicing cost, creating a threshold for less affluent households. Empirical research, mainly on the United Kingdom, suggests that a permanent rise of one percentage point in real mortgage rates results in a drop of between around 2% and 4% in real house prices²². Cross country empirical studies have given contradictory results on the strength of the interest rate effect, but a negative

19. See Bestani et.al, 2004.

20. See European Central Bank, 2003

21. See European Central Bank, 2003

22. See European Central Bank, 2003

effect has been found in general²³. In the long run, apart from disposable income, demand for dwellings depends mainly on the rate of household formation as well²⁴.

Empirical literature in the United Kingdom and the United States has also stressed the importance of microeconomic factors that may affect the price elasticity of the supply of new housing in explaining the differences in house price volatility and trends in the two countries²⁵. According to these literature, the supply of new housing in the United Kingdom responds less to house prices, and this is thought to be one of the reasons why house prices in the United Kingdom both grow more over time and fluctuate more strongly than in the United States. The responsiveness of the supply of new housing depends largely on the time it takes to design and construct a building. However, it also depends on economic and policy factors, such as competition in the construction industry, the availability and cost of specialised labour, building regulations, the land planning system, and taxes and subsidies, particularly for new housing. Further, given the high irreversibility of housing investment, the responsiveness of the supply to demand shocks will depend, in the short run, on how volatile housing demand has been in the past.

Another microeconomic factor that has received much attention is the structure and institutions of credit markets²⁶. The advent of financial liberalisation, and the liberalisation of mortgage markets in particular, have increased the sensitivity of house prices to interest rates, as credit constraints are reduced. Finally, taxes, subsidies and other public interventions have important effects on house prices, especially in periods of major reforms²⁷.

In another study, Tsatsaronis and Zhu in 2004, provided a slightly different approach²⁸. They pointed out that a useful distinction in the demand and supply factors that drive real housing prices is between those that have a longer-term influence and those that affect shorter-term dynamics. Factors that influence the demand for housing over longer horizons include growth in household disposable

23. See European Central Bank, 2003

24. See European Central Bank, 2003

25. See European Central Bank, 2003

26. See European Central Bank, 2003

27. See European Central Bank, 2003

28. See Tsatsaronis and Zhu, 2004

income, gradual shifts in demographics (such as the relative size of older and younger generations), permanent features of the tax system that might encourage home ownership as opposed to other forms of wealth accumulation, and the average level of interest rates (possibly related to the long-run behaviour of inflation). The availability and cost of land, the cost of construction and investments in the improvement of the quality of the existing housing stock are longer-term determinants of housing supply. Meanwhile, a number of factors that influence the growth of housing stock in the short run include the length of the planning and construction phases and the inertia of existing land planning schemes.

Looking more closely at the SEACEN region, using a macroeconomic model, the Malaysia country paper pointed out that housing prices are determined by real income per capita, people's expectations on future income and economic outlook, a demographic characteristic factor, real lending rates, and total loans outstanding in the banking system. It stated that a 10 % increase in GDP will increase house price by 3.6%, while a 10% increase in people's expectation on future income and economic outlook, and total outstanding loans will increase house price by 1.9% and 2.7 % respectively. In addition a 10% increase in demographic factor and real interest rates will decrease house prices by 33.1% and 0.8% respectively.

Korean country paper pointed out that housing prices are determined by interest rate, GDP, land price and expected growth rate of housing prices, as well as housing and chonseil prices.

Using the Granger causality test, Taiwan pointed out that real GDP, M2 and stock prices causes house prices with several quarter lags. Citing the study by Chen and Patel (2002), Taiwan also pointed out that the strongest factor determining housing price is household income. A 1 % increase in household income will lead to an increase in housing price of 1.88 %. Meanwhile, on the supply side, a 1% increase in the construction cost will increase housing price by 0.70 %.

4. Housing Finance

4.1 General

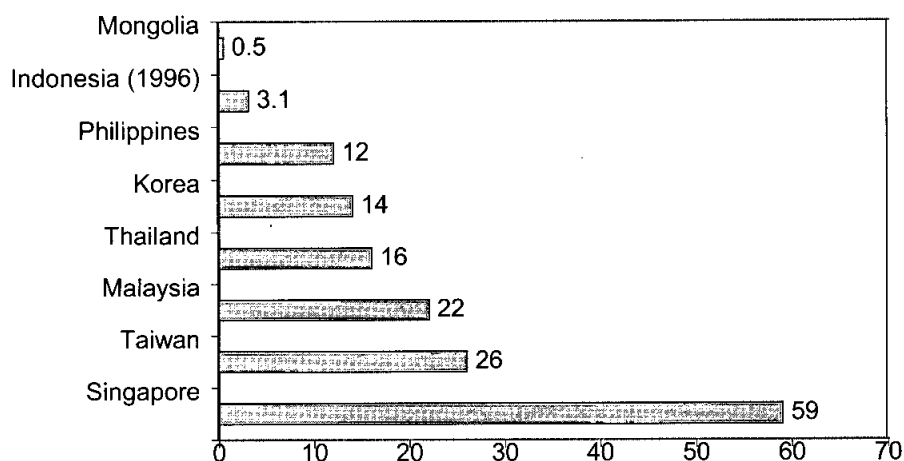
For many decades, housing finances have been taken for granted, and only recently have economists and policy makers realised the central place of housing markets in the efficiency and stability of the whole economy and financial markets.

The strong demand for housing has put greater pressure on the traditional housing finance structure. Government programmes are no longer sufficient in providing housing finance and even banks can no longer continue to take up this challenging task. Given its linkages to many sectors in the economy, including land markets, construction, and labour markets, housing finance is the key to economic growth. It has been estimated that there are roughly 600 other industries that have links to the housing market²⁹. Therefore, a stimulus to the demand for housing will have a direct or indirect stimulating impact on all of these industries.

The availability of mortgage financing stimulates the construction of new housing units. House construction and related industries are labour-intensive and thus provide significant employment opportunities. Thus, a greater demand for housing provides a very large economic stimulus to the broader economy. There are also numerous other societal and developmental benefits to providing decent living space to the poorer segments of society. Productivity and employment are very often enhanced by providing a decent living space.

A primary indicator, by which the importance of mortgage credit in any economy can be judged, is the proportion of mortgage debt (credit) to gross domestic product (GDP) (See Figure 1). However, even though the domestic market for mortgages in the countries under survey shows the tremendous potential of mortgage finance in the region, mortgage credits as a proportion of GDP in this region is still low.

Figure 1: Mortgage Credit to GDP (%) in 2002



29. See Bestani Klein, 2004

In Singapore, where the mortgage market is advanced in the region, the mortgage market to GDP ratio is estimated at 59%, followed by Taiwan, Sri Lanka and Malaysia at 26%, 26% and 22% respectively. In other countries, the figures range between 0.5-17%. Except for Singapore, the ratio of mortgage loans with respect to GDP is still low compared to advanced countries. The aggregate volume of mortgage financing each year in most advanced countries are staggeringly large, totaling more than 50% of GDP in the USA, 88% of GDP in the Netherlands, and 62% in the UK, in 2002³⁰. For a few countries under study, the mortgage market is even less developed than that of the African region which is at 8.4%³¹. From a policy perspective, therefore, mortgage credit as a proportion of GDP has much potential for future growth.

As debt markets are not very deep in many countries in the region, access to long-term funding for housing finance institutions is still difficult. Many countries are still reliant on commercial banks to finance housing. Most banks use their short-term funds from savings and current accounts and deploy these funds in long-term housing loans, thereby creating an asset liability mismatch.

4.2 Primary Market Lenders

As the debt market is not very deep, state-run firms and commercial banks still dominate primary mortgage lending in many of the SEACEN countries. The dominant primary mortgage lenders include housing banks, and housing finance companies. However, the transition towards deregulated housing finance markets has made it profitable for other types of lending institutions, including provident funds, and insurance companies, to participate as well. In some countries, there has been a long-standing demand to allow pension and provident funds to invest in housing finance as they are suppliers of long-term capital. The mutual interest is strong between homeowners and long-term institutional investors since the entry of provident funds and insurance companies will lead to a more proper matching of assets and liabilities for housing finance institutions.

The primary mortgage market in Malaysia is dominated by banking institutions, comprising commercial banks, finance companies, Islamic banks and merchant banks. It is also the case for Mongolia, where starting in 2000, some commercial

30. See Bestani et.al, 2004

31. Africa's figure is taken from Bestani et.al, 2004.

banks are already providing loans for housing purposes. In the Philippines, the national home mortgage finance corporation (NHMFC) is the major government home mortgage institution. Meanwhile, some commercial banks have been very active in the primary residential mortgage financing market in Indonesia.

The housing finance market in Korea has traditionally consisted of both public and private sectors. The housing finance institutions in public sector are the National Housing Fund (NHF) and Housing Finance Credit Guarantee Fund, while those in the private sectors are commercial banks and insurance companies.

Informal sources, where these are customary, also play a considerable role in housing finance. This is the case in Korea, where chonseil deposits finance a large portion of housing. It emerged naturally from an environment of high inflation, financial repression, and housing shortages³². Under this arrangement, the tenant gives the landlord a lump sum deposit in lieu of monthly rental payments. The deposit is fully refunded at the end of the lease, although complications can arise in weak rental markets where the landlord cannot find a new tenant in time for the departure of the existing tenant. In some cases, the chonseil deposit serves as a financing source for the purchase of a house for rental by the would-be landlord.

Total chonseil deposits in 1997 were estimated to be 107.8 trillion won, just about twice as large as the total mortgage loans outstanding of 64 trillion won³³. A more recent estimate suggests that total chonseil claims on apartments alone are 63.4 trillion won in mid-2001 compared with outstanding housing loans of 54 trillion won³⁴. Chonseil has become less important as a financing mechanism in recent years as monthly rental contracts and mortgage financing have become more popular than in the past³⁵.

The primary market lenders in Taiwan are mainly provided by the banking industry. In 2004, total loans provided by domestic banks accounted for 87% of loans extended by all financial institutions. In contrast, total loans provided by community financial institutions and life insurance companies were 4.8% and 5.3% respectively.

32. See Shin, 1994.

33. See Kim and Suh, 2002 in Kim, 2003.

34. See Lee et al., 2001 in Kim, 2003.

35. See Kim, 2003.

4.3 Mortgage Backed Securities Market

In the aftermath of the Asian financial crisis, many countries intensified their efforts in develop domestic debt markets. These efforts have begun to bear fruit and the Asian bond market has become a reality with a total size of over US\$1.4 trillion³⁶. An area of interest in this regard is the development of an asset-backed securities market. Securitisation is increasing seen as a tool for mobilising long term savings, while as the same time stimulating the domestic housing market. In addition to addressing the need for issuers and investors, securitisation can help broaden the institutional investor base, increase transparency and deepen domestic bond markets.

The assets-backed securities (ABS) market in Asian region are growing and becoming an important feature of the financial markets. In 2004, the size of cross border asset ABS market was around US\$4 billion based on transaction rated by Moody's³⁷. The size of cross border market, however, is still small when compared to the domestic ABS.

The International Finance Corporation (IFC) in 1998 offers several reasons on why mortgage backed securities important in the development of housing finance institutions³⁸. They include:

- i. Reducing institutional segmentation in the provision of housing finance. In countries without secondary markets, housing finance is frequently provided by one type of institution, typically depository funded primarily with deposits as the funding source.. The creation of a secondary market can attract new investors, usually institutional investors, into the market, thus expanding the supply of funds for housing.
- ii. Reducing geographic segmentation in the provision of housing finance. If lenders do not operate on a nationwide basis, the existence of a secondary market allows them to tap into funds from other geographic regions.
- iii. Increasing the liquidity of mortgages. The ability to sell or borrow against mortgage loan assets increases the liquidity of such assets and decreases the risk of providing long-term finance.

36. See Dalla, 2006.

37. See Dalla, 2006.

38. See International Finance Corporation, 1998.

- iv. Increasing competition in the mortgage market. The ability to sell mortgage loans allows lenders without a local funding base to enter the market.
- v. Increasing efficiency in the housing finance system. Increased competition and improved ability to manage risk increases the efficiency of the housing finance system.

In practice, conventional Mortgage Backed Securities issues can be classified into three types³⁹:

- i. Collateralised debt. This is very similar to traditional borrowing where real assets are pledged as collateral for debt. In the case of collateralised debt, the market value of the financial asset when sold, or the market value of the future stream of cash flow generated by the asset, is pledged. This type of structure is found in the United States and other Western financial markets, but not in the countries surveyed.
- ii. Pass-through obligations. These structures involve the sale of direct equity interest in the underlying asset pool. Since the claim is in the form of an equity stake, the timing and size of the amortisation on the principal cannot be reconfigured. The interest payment stream, however, can be divided between the issuers and the investors. Thus, in a pass-through MBS, the underlying assets have the same payment characteristics as the security. Assets are conveyed to a special-purpose trust (SPT), which issues certificates to investors buying direct equity claims on the underlying assets.
- iii. Pay-through obligations. Unlike pass-through ABSs, these structures allow the payment stream of the underlying assets to be reconfigured to appeal to a broader range of investors. Assets are conveyed to a special-purpose corporation (SPC), which issues debt securities collateralised with the assets.

Korea is the largest ABS market in Asia excluding Japan. In the early stage, the asset-backed securities were used largely to address non-performing assets of the entire financial system. With the creation of the Korea Housing Finance Corporation, residential mortgage-backed securitisation has emerged as a major segment of the market in Korea⁴⁰.

39. See Reside, 1999.

40. See Dalla, 2006.

Active MBS market activities have also been observed in Malaysia where the government sponsored agency of National Mortgage Corporation (Cagamas) has been established to spearhead the development of MBS markets in Malaysia. Cagamas which was set up in 1987, is the main issuer of mortgage-backed securities. Besides promoting home ownership, this institution also aims to contribute towards the development of the domestic bond market. More recently, to further develop the securities market, banking institutions have been allowed to participate in securitisation activities. In 1998, the volume of outstanding housing loans securitised by Cagamas grew more than 15 times compared with that in 1997, representing 31% of mortgage loans. However, after the Asian financial crisis this has decreased to 13% since many financial institutions were generally less inclined to sell their housing loans.

In Singapore, the Monetary Authority of Singapore (MAS) has introduced a major tax incentive to promote Singapore as the securitisation hub of Asia⁴¹. Securitisation of property owned by REITs has emerged as a major asset class in Singapore. In Thailand, in November 2005, the government launched the first future flow transactions in the domestic market⁴². The Bath 40 billion transaction was very well received and should pave the way for future transactions.

There are yet to be mortgage backed securities in Mongolia while in the Philippines, the central bank supports the development of securitisation by issuing regulations aimed at promoting a conducive environment for securitisation.

In Taiwan, since 2002, the government has promoted the secondary market for mortgage-backed loans. At the end of September 2005, 19 financial asset-backed securities, including 4 residential mortgage-backed securities have been issued. In Indonesia, the development of MBS has, however, been slow.

Many countries share similar factors inhibiting the development of ABSs⁴³. Among these are the lack of legal and regulatory framework, accounting, taxation, role of credit rating agencies, foreign currency swap, credit guarantee facility, and centralised credit information.

(C)

4(8).

41. See Dalla, 2006.

42. See Dalla. 2006.

43. See Dalla, 2006.

5. Interrelation with Other Macroeconomic Variables

5.1 Housing and Financial Stability

Changes in asset prices, for the most part housing prices, can have consequences for financial stability⁴⁴. A large fall in commercial housing prices can force some large firms into serious financial difficulties, with major consequences for financiers and banks. Falling housing prices tend to impose downward pressure on the banking sector, not only because of increases in bad debt expenses for real estate loans, but also because of a deterioration in the balance sheets of corporate borrowers that rely on real estate as collateral.

As the debt market is not very developed in many countries, bank lending is still the primary source of housing funding in many countries. Zhu in 2003 revealed that housing loans in most developed countries account for one third, sometimes even more than half, of total bank loans⁴⁵. As already mentioned above, declines in housing prices imply a lower return in the housing industry and hence real estate loans are more likely to default. This reduces the profitability of bank lending and increases the banks' bad debt expenses as well and in the extreme case, it could jeopardise the stability of the financial system as a whole.

The linkage between housing prices and bank credit that could lead to instability in the financial system is confirmed by empirical evidence provided by several researchers. It is shown that increases in housing prices often lead to expansion of bank credit and this impact is notably high in some countries. Studies by several researchers suggest that bank credit and housing prices are positively related in the long run and that the impact of housing prices on bank credit is significantly positive while the impact in the reverse direction is less clear⁴⁶.

In another study, Heath in 2004 studied the average levels of banking profitability and loan loss provisions during the upward phase and downward phase of housing markets in a number of industrial countries⁴⁷. On average, the profits of banks almost halved and loan loss provisions nearly doubled during "bad" years. It is widely believed that the large exposure of the banking industry to the real estate sector and the collapse of land prices have been at the heart

44. Among others, See Zhu, 2003 and Heath, 2004.

45. See Zhu, 2003.

46. See Zhu, 2003.

47. See Heath, 2004.

of Japanese banking problems, contributing to the increase in non-performing loans in the banking sector and distorting the performance of the real economy⁴⁸.

Therefore, we can say that given the large effect of housing prices on bank profitability, booms and busts in real estate prices have important implications for financial stability. Even if large swings in housing prices do not necessarily cause the banking sector to go into distress, they do feature in a number of banking crises in industrial and emerging market countries alike⁴⁹. Typical examples in recent decades are Spain in the late 1970s and early 1980s, the Nordic countries in the late 1980s, Mexico in the early 1980s and mid-1990s, Japan in the last decade, Thailand in 1994-97 and a number of other episodes⁵⁰. In Thailand, the pre-crisis over-investment in the housing sector brought about considerable non-performing loans (NPLs) that threatened the soundness of the commercial banking system and its ability to extend credits⁵¹.

An important observation is that the financial system is more vulnerable to housing market movements in financially liberalised economies where effective prudential regulation is not fully developed⁵². After financial liberalisation, lending rates tend to be driven down as a result of the entry of new financial institutions, intensified competition among lenders, and removal of interest rate control and administrative control on credit growth. As net interest margins shrink, banks come under pressure to search for new opportunities and may tend to underestimate the risk of new loans. This is especially if an effective prudential regulation system is lacking, excessive competition can easily lead to a build-up of financial imbalances. The unwinding of financial imbalances at a later stage triggers the onset of a banking crisis.

5.2 Housing Price and the Real Economy

The economy can be affected by fluctuations in housing prices through a variety of channels⁵³. Changes in housing prices can influence private consumption and investment, affect consumer price inflation, and also have a significant effect on competitiveness. The banking sector is susceptible to

48. See Heath, 2004.

49. See Herring et.al, 1999 in Zhu, 2003.

50. See Hilbers et al, 2001 in Zhu, 2003.

51. See Thaicharoen et.al., 2006.

52. See Zhu, 2003.

53. Among others, see Hong Kong Monetary Authority, 2001.

fluctuations in the housing price while the fiscal position of the government may be also affected.

One mechanism through which changes in the housing price influence consumption is the wealth effect. Since housing wealth is an important part of household financial resources, changes in housing prices can be expected to influence consumption. For example, when housing price drops, so do lifetime resources, and consumption falls. On the other hand, a rise in the housing price for homeowners means an increase in wealth, increasing their consumption and weakening their saving incentives. An alternative view on the effect of housing price changes on private spending emphasises the so-called balance sheet or credit channel⁵⁴. To the extent that the market value of the assets held by households affects their borrowing capacity to finance current spending, housing price fluctuations would have an influence on household consumption.

The influence of housing prices on private consumption has been well-examined by researchers in many parts of the world, especially in the USA, UK and Japan where booms and slumps in their economies have often been attributed to housing price changes. One study done by HKMA in 1999 attempted to examine the impact of the housing market on the rest of economy in the subsequent correction in the wake of the Asian financial crisis. It was found that developments in the housing market had significant effects on private consumption expenditure in Hong Kong during housing price decline. Specifically, a 10% drop in housing prices relative to prices of other goods and services would reduce private consumption growth by about 1 %. In addition, there are indications for the existence of a non-linear effect of housing price declines on household spending. Putting these estimates together, the decline in housing price in 1998 reduced private consumption growth in that year by about 3½ %. This compares with an actual drop in private consumption expenditure by close to 7½ % in the same year.

Changes in housing price can also influence investment⁵⁵, first, by stimulating investment in the housing sector since an increase in the housing price lowers the cost of new construction relative to acquisition of existing buildings and secondly, through the credit channel that can influence investment in both the housing sector and other sectors of the economy. Rising asset prices, for instance,

54. See Bermanke and Gertler, 1995 in Hong Kong Monetary Authority, 2001.

55. See Hong Kong Monetary Authority, 2001.

will improve firms' and banks' balance sheets, which may in turn encourage banks to increase credit to the business sector. Using results from the same study, it was found that the decline in housing prices reduced private investment by 3½ % in 1998, compared with the actual drop of about 7%. Combining the effects on private consumption and investment, and after adjusting for some import leakage, the study found that the drop in housing price had reduced real GDP by 1¼ % in 1998 or about one quarter of the overall contraction.

Financial institutions' balance sheets can be also affected by fluctuations in housing price because of their exposure to the housing market⁵⁶. To the extent that falling housing prices affect the solvency of household and corporate borrowers, they tend to raise the share of non-performing loans in banks' portfolios, thereby undermining their capital position and lending capacity. How vulnerable are banks to fluctuations in housing prices would in part depend on the extent of their exposure to the housing market. Again, using the same study for lessons to be drawn, it was found that banks' balance sheets and profitability were affected by the downturns in economic activity and the housing market⁵⁷. These include rises in classified loans as a ratio of total loans, and declines in banks' profits.

Because land and other housing-related income represent an important source of revenue for the government, fluctuations in housing price may have a significant effect on the fiscal position. Using the same study conducted by HKMA, the decline in land premia and stamp duties of housing due to housing price decline reduced the fiscal balance in Hong Kong by about 2¾ % and 1½ % of GDP in FY1998 and FY1999 respectively, compared with the average level in 1991-97⁵⁸.

One research made by Meng, 2002 examined the influence of housing price on Singapore's macroeconomy⁵⁹. Using an econometric model, he found that the fluctuations in private residential housing prices do not play a very significant role in Singapore's economy. However in the short run, increase in private housing prices have a positive influence on consumption expenditure in Singapore. For a 1% increase in housing price, the rate of consumption will increase by 0.11%.

56. See Hong Kong Monetary Authority, 2001.

57. See Hong Kong Monetary Authority, 2001.

58. See Hong Kong Monetary Authority, 2001.

59. See Meng, 2002.

Several reasons have been cited for this phenomenon – since the residential housing market in Singapore is dominated by public housing where prices are controlled by the government, anti-speculative measures introduced in 1996 have reduced homeowners' ability to cash their capital gains when prices rise and also reduced the risk of negative equity when prices fall. There is also less dependency on the domestic financial system as a source of financing due to the significant presence of MNCs and Singapore's highly open global trade. These five factors have provided some stability in the housing market in Singapore and prevented shocks from spreading to other sectors of the economy.

Malaysia's country paper pointed out that house prices move closely to the real output of the economy⁶⁰. As the intensity of the correlation has increased since the Asian financial crisis, from positive 0.6 in 1997 to positive 0.8 in 2004, it is being realized that house prices are very important to the working of monetary policy. In light of this, the central bank is taking into account housing development in its policy with the emphasis on the speculative movement of asset price as well as the limitations and efficacy of conventional monetary policy. Under the interest rate framework, the ways in which interest rates might affect real house price is the direct channel, where interest rate changes affect the cost of borrowing thus the demand of housing, and indirect channel, where the movement in interest rates affect other determinants of house prices, namely real income level as well as the future income expectation.

Using the Granger causality test, the Taiwan paper argues that real GDP, M2, and stock prices cause house price with several quarter lags. Meanwhile it was also found that house price causes inflation, M2 and bank loans rates.

5.3 Housing Price and the Transmission Mechanism of Monetary Policy

The role of real estate prices in the conduct of monetary policy has attracted much attention among researchers and policymakers in recent years. There has been extensive evidence that housing price movements have a large impact on private consumption and the real economy. For example, Helbling et.al in 2003 examined the downside effect of housing price movements and found that house price busts are associated with output losses twice as large as equity bubbles⁶¹. Using a structural VAR analysis, Zhu in 2003 showed that increases in housing

60. See Ng, 2006.

61. See Zhu, 2003.

prices tend to have a positive impact on real GDP in many countries. More importantly, the magnitude of this impact is different across countries and sectors. The commercial housing sector seems to have a larger impact on the real economy, reflecting the fact that it is more important in affecting the investment decisions and financial conditions of corporate firms. Besides, the national difference suggests that the role of housing prices in monetary policy transmission may be influenced by local factors.

The link between housing prices and aggregate demand suggests that monetary authorities can benefit from monitoring developments in housing markets. The view that policymakers should respond to excessive increases in housing values which are manifestations of excess demand in the economy as a whole has received much sympathy within central bank circles. In particular, monetary policymakers need to identify the sources and nature of housing price fluctuations in order to understand their implications for price stability and the general economy, and then to formulate the appropriate policy response.

However, in practice, the implementation is not an easy task⁶². First, it is often not straightforward to identify 'excessive' property price inflation at an early stage. Lack of reliable data, diversity in valuation methods and unpredictability of market movements make it difficult for policymakers to design an early warning signal of asset price imbalances in the property market with a comfortable degree of confidence.

Second, it is technically difficult to predict the exact effects of monetary policy on the property market and on the macro economy. In many cases, the monetary authorities find themselves in a dilemma, as price stability in the goods market and in the asset market (including the real estate market) may call for different policy responses. For example, in recent years many industrial countries have witnessed booms in housing markets, at the same time when macroeconomic performance is sluggish and inflation rates are very low. The coexistence of strong house price inflation and low inflation in the goods market has posed a serious dilemma for policymakers. The tightening consistent with stability in the housing market may risk excessive deflation in the goods market and a subsequent negative impact on an already weakened macro economy. On the other hand,

62. See Zhu, 2003.

the build-up of household debt, which has mainly been a result of low interest rates, has increased household indebtedness and may finally impair the ability of households to continue servicing their debts without adjustments in their expenditure.

Thailand's country paper argues that asset prices are too volatile to be an additional target but should be used as indicators to aid forecasting technique⁶³. The property cycles should be viewed as a fixture of the economy since not every boom and burst has to lead to a financial crisis. On the other side, it is found that there is a strong causal link from monetary policy to property prices. An increase in the policy rate raises short term interest rates which in turn increase the cost of loans and reduce the demand for credit by both developers and consumers. This consequently decreases housing buying and investment which in turn contributes to a fall in property prices.

5.4 Housing Price and Inflation

There are a number of channels through which housing market development can influence consumer price inflation⁶⁴. One is through the direct impact on the housing cost component of the consumer price index. Secondly, to the extent that fluctuations in housing prices affect private consumption and investment, the resulting changes in the aggregate demand may have an impact on prices of other goods and services. Finally, variations in housing prices may affect expectations concerning future movements in the price of other goods and services.

Central banks pay attention to asset prices, including housing price, because they contain information that is very useful when setting monetary policy. Normally asset prices reflect perceptions of future income streams that the assets will earn. Therefore, asset prices tell us something about how people think the economy will perform in the months and years ahead.

Accordingly, in the ordinary day-to-day operation of monetary policy, asset prices matter. In addition, the day-to-day operations of the central bank in raising or lowering interest rates to keep CPI inflation where it should be, would also

63. See Thaicharoen et.al, 2006.

64. See Hong Kong Monetary Authority, 2001.

partly constrain rising or falling asset prices in a desirable way. For most of the time, asset and consumer prices roughly track each other and asset prices present no particular problem for monetary policy or the economy.

In Hong Kong, the rental component accounts for about 26% of the CPI basket⁶⁵. As a result, rental changes tend to have a significant effect on CPI movements, albeit with considerable lags due to 1-2 year rental contracts⁶⁶. Of the total decrease of 9% in the CPI from its peak in July 1998 to December 2000, the fall in the rental component accounted for 4 ½ %.

In Malaysia, even though there seems to be relation between the deviation of real house prices from trend and the growth of real house prices to inflation, these relations are statistically weak⁶⁷.

In Thailand, the correlation between construction price growth and single detached house price is 0.53 while the correlation between construction price and townhouse price growth is 0.50⁶⁸. Meanwhile, the relation between housing prices and inflation is indirect via rent since housing rent constitutes approximately 24 percent of the basket used to calculate core consumer price index which is the target of monetary policy.

5.5 Housing Finance and Capital Market

Capital market funding of housing can enhance the flow of funds to the sector, assist lenders in improving their risk management, provide assets for developing national capital markets and institutional investors, and promote competition in housing finance. The issues emerged at a time when the Asian currency crisis was dramatically unfolding. Over lending to the housing sector was a major factor in the crisis. Although most of the excess occurred in the commercial housing sector, there was overbuilding in the residential market in many countries as well.

Later on, it was found that a key element was missing in many countries' financial structures in Asia which was a long-term bond market, and the lack of long-term funding options for lenders has worsened the impact of the crisis

65. See Hong Kong Monetary Authority, 2001.

66. See Hong Kong Monetary Authority, 2001.

67. See Ng, 2006.

68. See Thaicharoen et.al, 2006.

on housing. One of the major initiatives which came out of the crisis in many countries was an increased emphasis on the development of long-term capital markets and the instruments and institutional mechanisms needed for tapping these markets for housing.

The capital markets in many economies provide an attractive and potentially large source of long term funding for housing. Pension and insurance reform has created large and rapidly growing pools of funds. The advent of institutional investors has given rise to skills necessary to manage the complex risks associated with housing finance. The creation of mortgage-related securities (bonds, pass-through and more complex structured finance instruments) provide the multiple instruments which housing finance providers can use as important sources of funds and to better manage and allocate part of their risks.

The use of mortgage-related securities to fund housing has a long and rich history in the developed world. Mortgage bonds were first introduced in Europe in the late 18th century and are a major component of housing finance today⁶⁹. Mortgage pass-through securities were introduced in the US in the early 1970s and along with more complex structured finance instruments now fund more than 50% of outstanding debt in that country⁷⁰. Today, mortgage-related securities have been issued in many countries in the world.

There have been numerous attempts to develop mortgage securities to secure longer-term funding for housing in emerging economies. The view has been that such instruments can help lenders more efficiently mobilise domestic savings for housing, much like they do in the developed world. In addition, mortgage securities can also help develop and diversify fixed-income markets as a supplement to government bonds for institutional investors⁷¹.

Despite the strong appeal of financing housing through the capital markets, there are significant barriers to the development of mortgage securities in emerging markets⁷². Their success is dependent on many factors, starting with the existence of a strong legal and regulatory framework and liberalised financial sector, including a developed primary mortgage market.

69. See Chiquier et.al, 2004.

70. See Lea, 1999 in Chiquier et.al, 2004.

71. See Asian Development Bank, 2005.

72. See Chiquier et.al, 2004.

Any form of capital market finance of housing requires some degree of bond market development. Pricing of long-term mortgage-backed securities, whether they are mortgage bonds or mortgage-backed securities, is aided by the existence of government (credit-risk-free) bonds of comparable maturity as pricing benchmarks.

In Thailand, property stock transactions in the stock exchange have a significant role in the total market, especially in the period before 1997⁷³. The movement of property stock tracks those of the total stock index.

6. Conclusion

Countries in the SEACEN region have undergone a rapid population growth during the last 20 years. The total population increased from 332 million in 1980 to 478 million in 2003. The percentage of urban population experienced corresponding changes, increasing from between 17-100 percent to 34-100 percent of the total population. This rapid growth in the population and urbanisation are driving household growth and generating increased demand for housing. Coupled with this are a benign economic environment and increasing per capita income which will increase households' ability to purchase new houses as a result of strong economic growth in the region. Moreover, the rapid economic growth in the region and industrialisation have transformed the urban landscape in many cities, and created huge growth in housing and mortgage markets.

As a result, the housing market in the SEACEN region has increased as well. In Malaysia, over 40 % of housing built are of the detached type. The terrace/row or link/townhouse-type and flat/apartment/condominium type, however, are becoming more common.. In Mongolia, nearly half of its people prefer to live in apartments, while others live in detached house and traditional portable housing (ger areas). Most Indonesian houses are single storey units, while most Taiwanese people prefer to stay in two or three storied houses. About 60% of household in Korea live in detached house followed by apartments at 27%.

Around one-fifth of people's income in Philippines is devoted to housing related expenses such as rental payment, maintenance cost and construction cost. Meanwhile, housing related expenditure in Malaysia, including rent, purchase

73. See Thaicharoen et al, 2006.

of furniture and household equipments, account for about 30% of total household final consumption expenditure. In Indonesia, monthly household expenditure is still dominated by food consumption. Only around 18% of their monthly expenditure income is housing related. In Taiwan, around 18% of household expenses are housing related. This number is increasing compared to 14% during the 1980s due to increasing rental expenses caused by the rise in house prices.

In terms of housing affordability, measured as the average of house price as multiplies of income, the housing affordability index in Taiwan has risen from only 4.8 in 1980 to nearly double in 1990 to become 9.8. Fortunately, with increasing household income and stabilising house prices, this index dropped to 7.6 in 2004. In Indonesia, this index was around 0.6-4.4 in 2004 depending on the type of house while the affordability index in Malaysia has improved impressively from 12.6 in 1988 to 9.4 in 2003. Meanwhile, in Korea this index was 9.15 in 1990, declined to 6.25 in 1997, and rose again to become 8.9 in 2003.

A primary indicator, by which the importance of mortgage credit in the economy can be judged, is the proportion of mortgage debt (credit) to gross domestic product (GDP). From a regional perspective, the size of mortgage market in the region is relatively small compared to the national GDP. The ratio of mortgage loans with respect to GDP in countries under survey is 0.5-59%, which is still low compared to 50% of GDP in the USA, 88% of GDP in the Netherlands, and 62% in the UK. In particular, Indonesia, the most populous country in the region, has a mortgage-to-GDP ratio of less than 5 percent, implying ample room for growth. From a policy perspective, therefore, there is a strong growth potential as these economies continue to develop.

The desire for a safe and secure home is timeless and universal. Different countries have various policies and systems to support housing. However, the main premise of government policy has been that the state has a responsibility to play a direct role in supporting and finding housing solutions, especially for the poorest families. Government programmes focus on directly subsidising housing demand by the poor and providing or facilitating long term financing for the lowest priced housing and for families not considered creditworthy by the financial sector. While the government has focused on low-cost housing, the middle- and high-cost segments of the market have been largely left to the private sector. The trend has been toward a more market-friendly approach to government intervention.

The Philippine government has developed the National Shelter Program (NSP) to deepen their housing market while Malaysia has included the details of the implementation of housing plans, housing development targets and programme, in the Malaysia Plans since 1971. Mongolia has created a market-based shelter programme by privatisation of its housing. The government subsidy in this country is mainly in the form of tax exemption. In Taiwan, the government has taken undertaken proactive policy measures to assist in industrial developments and dampen speculative activities for more than last three decades. Indonesia's government has focused on providing low-cost housing for low-income earners; revitalised slum areas by developing high-rise, low-cost dwelling units with adequate water utility, drainage, and waste treatment facilities; promoted private-sector participation; and optimised the use of limited land and financing resources.

Housing plays an important role in a country's economy and in the welfare of the people. In addition, housing is often an individual's biggest asset. The availability of housing finance is, therefore, crucial for overall economic development as well as for a household's welfare and quality of life. Commercial banks and state-run firms still dominate primary mortgage lending in many of the countries under study, underscoring the importance attached by governments to housing as a central human and economic need. However, the transition toward deregulated housing finance markets has made it profitable for other types of lending institutions including, provident funds, and insurance companies to participate as well. The entry of provident funds and insurance companies has led to a more proper matching of assets and liabilities for housing finance institutions. Informal sources, where these are customary, also play a considerable role in housing finance. This is the case in Korea, where chonseil deposits finance a large portion of housing.

As with other asset prices, explaining house price movements econometrically has proven to be a difficult task, given the complex dynamics and the importance of expectations, in particular in period of boom and bust. However, literature has revealed that the principal factors affecting house price dynamics include household incomes, interest rates, household formation or other demographic variables, supply side variables, financial market institutions and credit availability, taxes, subsidies and other public policies directly related to housing.

Looking at the experiences of the countries under study, using a macroeconomic model, the Malaysian country paper pointed out that housing price are determined by real income per capita, people's expectations on future

income and economic outlook, demographic characteristic factor, real lending rates, and total loans outstanding in the banking system. Using the Granger Causality Test, the Taiwan country paper showed that real GDP, M2 and stock prices cause house price with several quarter lags. Citing the study by Chen and Patel in 2002, Taiwan also pointed out that the strongest factor determining housing price is the household income. A 1 % increase in household income will lead to increase in housing price by 1.88 %. Meanwhile, on the supply side, 1% increase in the construction cost will increase the housing price by 0.70 %.

Central banks have always had a keen interest in the housing market and housing finance as housing issues are relevant to the central bank's core tasks. Housing prices can give an indication on the inflationary pressures in asset markets. The maintenance of the integrity of the financial system requires that the central bank keep an eye on the volume and nature of lending secured on housing. The promotion of efficiency and effectiveness of the financial system requires that the central bank study the development of this industry and promote competition and innovation.

From a macroeconomic and financial stability point of view, development of the housing market is very important. Housing prices and macroeconomic variables are closely linked to each other. The importance of the housing sector to the economy extends beyond its share to GDP and providing millions with jobs. The sector's performance has implications on economic stability, through linkages with financial stability and household wealth. Thailand's country paper pointed out that over-investment in the housing sector prior to the crisis had brought about considerable non performing loans (NPLs) in commercial banks that threatened the soundness of banking systems and its ability to provide credit.

The link between housing markets and other parts of economy operates mainly through the impacts of housing price fluctuations, as they represent the main source of housing wealth. The collapse of house price following the Asian economic crisis in late 1997 is good example. Private consumption and investment, and hence output growth, was affected through wealth and balance-sheet effects. Sharp falls in housing prices led to a large-scale deterioration in asset quality and in the profitability of the banking industry, particularly for those banks that were deeply involved in housing or housing-related lending businesses. They undermined the value of bank capital, reducing the banks' lending capacity, and in the extreme case, can jeopardise the stability of the financial system as a whole.

Studies done by HKMA suggests that the decline in the housing price contributed to about a quarter of the decline in real GDP in Hong Kong in 1998. The drop in rentals accounted for about half of the decrease in the consumer price index. The banking sector was also adversely affected by the weak housing market, although the overall financial position remained healthy. The drop in the housing price has had also negative effects on the fiscal balance, as land and other housing-related income fell significantly amid the weak housing market.

One research done by Meng, 2002 examined the influence of housing price to Singapore's macroeconomy⁷⁴. Using an econometric model, he found that the fluctuations in private residential housing prices do not play a very significant role in Singapore's economy. Malaysia pointed out that house prices move closely to the real output of the economy and the strength of the correlation had increased since the Asian financial crisis. Using the Granger Causality Test, Taiwan pointed out that house price causes CPI inflation, M2 and bank loans rates.

Mortgage and housing markets are strongly interlinked. Developments in mortgage rates and credit conditions affect house prices and thereby housing wealth. At the same time, fluctuations in house prices affect the collateral value of housing assets and therefore the credit condition of households. Examining the institutional arrangements in the mortgage market is the key to understanding this two-way relationship. For monetary policy, this relationship is important because it affects the transmission mechanism of monetary policy. Moreover, it may in some circumstances impact on the stability of the financial sector.

Macroeconomic stability encourages long-term investment and thus provides the basis for building long-term capital markets, including markets. Therefore, for the potential of mortgage backed securities markets in the region to be fully exploited, economies should make every effort to stabilise their macro economies and to reestablish conditions favourable for investment.

Academics and policy makers are keenly interested in the nature of housing price dynamics and their relationship with financial stability and monetary policy as they pose important challenges for risk management, financial regulation and policy design. These issues may still pose a challenge for several countries as a consequence of inadequate data. Key data that reflects the performance of

74. See Meng, 2002.

housing markets such as housing starts, sales volumes, movement of house prices, size of the mortgage market and defaults on mortgage loans are some times insufficient, incomplete and not updated regularly. The collection of reliable and comparable data on housing markets has proved very difficult, restricting the scope of meaningful analysis. Looking forward, there is a need for action aimed at improving the quality of housing data and enhancing the comparability of national statistics across countries. Since the coverage of secondary markets in this study is still limited, it should be an area for future studies.

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CHAPTER 2

HOUSING AND MORTGAGE MARKETS IN INDONESIA

by
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1. Overview

1.1 Macroeconomic Characteristics

Indonesia is a big archipelago country which has population 217 million (2004) and is the fourth most populated country in the world. Population growth average was 1.5% per annum. Population density increased significantly, from 77 people/km² in 1980 to 114 people/km² in 2004. By age structure, the population is a pyramid where the number of young people out number old people.

Table 1: Population by Age Structure

Age	1980	1990	2000	2001	2002	2003	2004
0 - 14	-	-	63,205.6	63,062.7	62,879.0	62,664.8	62,427.3
15 - 29	-	-	60,088.0	60,578.9	61,061.2	61,511.2	61,902.6
30 - 44	-	-	44,593.0	45,906.0	47,063.8	48,119.6	49,118.5
45 - 59	-	-	23,303.3	24,314.2	25,402.0	26,559.0	27,762.2
60 - 74	-	-	11,556.3	11,640.3	11,841.9	12,147.7	12,553.0
75+	-	-	3,097.4	3,141.0	3,191.0	3,249.0	3,313.0
TOTAL	147,490.0	179,380.0	205,843.6	208,643.1	211,438.9	214,251.3	217,076.6
Density (people per km ²)	77	94	108	110	111	113	114

Source : Statistics Indonesia

In 2004, Gross Domestic Product (GDP) of Indonesia was Rp 2,303,031 billion or equal to US\$ 257,487 million, increasing 64.75% as compared to that in 1993. The biggest contribution of GDP comes from manufacturing sector, followed by trade sector and agriculture sector. Meanwhile the contribution of construction sector was eight in the nine sectors of GDP.

Table 2: Total GDP and GDP per Capita

	1993	2000	2001	2002	2003	2004
1. GDP total (current market prices)						
a. Rp billion	329,776	1,320,309	1,602,430	1,863,275	2,045,853	2,303,031
b. USD million	156,292	165,573	164,517	198,927	238,442	257,487
2. GDP per capita (USD)	843	804	789	942	1,116	1,182

Source : Statistics Indonesia

According to the 2004 GDP, household expenditures reached US\$ 171, 326 million or equal to 66.54% of total GDP. In addition, household expenditure shares or contributions to GDP tended to increase from year to year.

Table 3: Household Expenditure at Current Market Prices

	1993	2000	2001	2002	2003	2004
Household expenditure (USD million)	92,530.46	102,076.48	101,551.52	131,526.83	159,914.27	171,326.28
Household expenditure of Total GDP (%)	58.51	61.65	61.73	66.12	67.07	66.54

Source : Statistics Indonesia

Meanwhile, inflation in Indonesia from year 1980 to 2004 ranged from 5% to 12%. During this period the highest inflation was 77.64% (1998) when Indonesia hit by economic crisis.

Table 4: Inflation (%)

	1980	1990	1998	2000	2001	2002	2003	2004
Inflation (%)	8.88	9.53	77.64	9.35	12.55	10.03	5.16	6.40

Source : Statistics Indonesia

1.2 Relevance of Housing Market Development

Housing is a one of key components for economic growth. The housing sector indeed creates millions of jobs and hundreds of billions in local and central government tax revenues that are injected annually into the economy. Home equity represents the largest capital asset most families ever accumulate.

Building new homes creates jobs for construction workers, electricians, architect and countless others. However, the impact of homeownership does not end with the sale of a home. New homeowners continue to fuel the economy

as they furnish, decorate, landscape, purchase new appliances and remodel. All of these contribute to the economic growth of the nation.

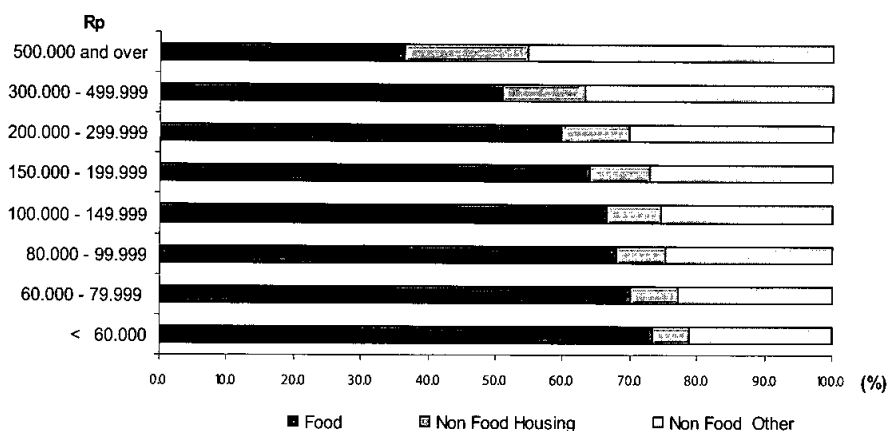
For the last several years, specifically since 2002, property sector in Indonesia showed a fascinating growth that led some experts had note that the Indonesia property sector have awakened after economic crisis. The main factor of the growth property sector lies on the prospect and condition of national macro economy and the growth of consumption. The growth of consumption was reflected by its progressive rising of household consumption contribution, especially for non-food category consumption during the last five years. On average, low income household expenditures was being dominated by consumption for food (Table 5). The higher income class, the higher is the portion of consumption for non-food. One of the non-food consumption is expenditure on housing. The higher the income class, the higher the portion for consumption for housing. For example, for the monthly class expenditure of < Rp60,000, 5.25% of this total expenditure is for housing per month. Meanwhile, where the monthly expenditure is Rp500,000 or more, 18.36% of this total expenditure is used for housing.

Table 5: Average per Capita Expenditure by Commodity Group, 2004 (Rp)

Monthly Expenditure Class	Food	Non Food		Total	Food	Non Food		Total
		Housing	Other			Housing	Other	
< 60.000	38,594	2,758	11,204	52,556	73.43	5.25	21.32	100.00
60.000 - 79.999	50,419	5,210	16,463	72,092	69.94	7.23	22.84	100.00
80.000 - 99.999	61,699	6,469	22,569	90,737	68.00	7.13	24.87	100.00
100.000 - 149.999	83,713	9,953	32,009	125,675	66.61	7.92	25.47	100.00
150.000 - 199.999	111,073	15,454	47,107	173,634	63.97	8.90	27.13	100.00
200.000 - 299.999	144,870	24,802	73,102	242,774	59.67	10.22	30.11	100.00
300.000 - 499.999	191,298	45,297	138,335	374,930	51.02	12.08	36.90	100.00
500.000 and over	282,058	142,750	352,684	777,492	36.28	18.36	45.36	100.00

Source : Statistics Indonesia

Graph 1: Average per Capita Expenditure by Commodity Group (Rp)



2. Housing Sector Overview

2.1 Market Size and Structure

With a population of about 217 million, Indonesia requires about 6 million unit of new houses every year coupled with about 800,000 houses additionally arising from population growth. The main housing problem is that there are around 13.1 million houses occupying about 47,393 hectares categorised as slum area where 17.2 million people stay, with very little land left for development. According to the Census of Statistics Bureau 2000, about 70% of households have income less than Rp 1.5 million per month. This group has the weakest purchasing power.

Table 6: Demand of Housing (unit)

Population 2004	Demand of housing (backlog)	Growth of demand housing per year	Total Demand 2004	
			Rural (48%)	Urban (52%)
217,076,600	5,936,531	801,425	3,234,219	3,503,737

Source : PSPI

In 2003 the Government introduced an ambitious programme called the Million Houses National Movement. The Government provided mortgage subsidy to low income groups for building their own houses known as the "Healthy Simple House" (Rumah Sederhana Sehat/RSH). The Government plans to subsidise 150,000 house units for the low income groups with a budget of Rp 450 billion. In 2004, the Government has targeted building 120,000 houses, but only less than 80,000 were realised. In 2004, 31 banks signed a MOU (Memorandum of Understanding) with the Ministry of People Housing which would provide the loan principal fund mortgage of Rp. 2.7 trillion, whereas the Government would provide the required subsidy funds. However, only 6 banks fulfilled their commitments, as the MOU was bound by law. In 2005, the Government targeted the provision of 225,000 houses for the low income group. In the Middle Term Development Plan, the Government plans to build 1,320,000 new houses for low income group.

Table 7: Housing Sales and Value of Sales

	Sales (unit)				Value of Sales (Rp. billion)			
	2002	2003	2004	2005	2002	2003	2004	2005
Small	109.00	121.71	143.49	174.89	4,993.00	6,129.00	7,940.00	10,231.00
Subsidi	25.92	32.54	55.20	82.54	630	921.00	1,753.00	2,943.00
Non Subsidi	83.08	89.17	88.29	92.35	4,363.00	5,208.00	6,187.00	7,288.00
BTN	48.08	47.02	41.50	43.90	2,002	2,040.00	2,141.00	2,513.00
Swasta	35.00	42.15	46.79	48.45	2,361	3,168.00	4,046.00	4,775.00
Medium	9.40	10.20	12.45	14.80	1,233	1,673.00	2,344.00	3,218.00
Large	2.90	2.60	3.20	3.50	902	907.00	1,288.00	1,630.00
Total	121.30	134.51	159.14	193.19	7,128.00	8,709.00	11,572.00	15,079.00

Source : PSPI

**Table 8: Distribution of Urban and Rural Households
by Type of Dwelling, 1992 - 2004 (%)**

Type of Housing	1992			2004		
	Urban	Rural	Average	Urban	Rural	Average
Single						
Single-not storied	78.64	95.67	90.44	79.73	93.64	87.72
Single-storied	4.36	1.10	2.10	7.02	2.46	4.40
Duplex						
Duplex-not storied	6.22	2.15	3.40	5.27	3.00	3.97
Duplex-storied	0.47	0.07	0.19	0.76	0.13	0.40
Multiplex						
Multiplex-not storied	9.15	0.92	3.45	6.50	0.71	3.17
Multiplex-storied	1.17	0.08	0.42	0.72	0.06	0.34
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source : Statistics Indonesia

Based on type, housing in Indonesia was dominated by Single-not storied type (70% - 90%), both in urban and rural areas while the number of Duplex and Multiplex types tended to vary in urban or rural areas (Table 8).

2.2 Housing Market and the Supply Side

In case of dwelling development by private sector in Indonesia, the developers must bear costs of infrastructure development. The cost is about 10% of total cost and it can influence the selling price of between 5% to 10%. Developers have also to provide electricity network (e.g., electricity pillar, station, and cables) and bear the expenses of the tacking on. Stamp duties for title transfer (BPHTB) equal to 5%, is charged twice, first at the time of purchasing of land owner to developer and second, at the sales transaction from developer to consumer.

3. Housing Policy

3.1 Housing Development Policy

In 1992, the Ministry of Internal Affairs, Ministry of Public Utility and Ministry of Housing introduced the Joint Decree concerning proportional housing pattern development with a ratio 1:3 :6. The aim of this ratio is to provide a harmonious housing area that consists of various society groups to avoid social

conflict. For a housing development area of 200 Ha, the developer was to build 1 big category house, 3 middle category houses and 6 simple category houses. The weakness of this joint decree was that it was not law bound and fizzled out after the financial crisis. In light of this, the Ministry of Housing will re-evaluate this pattern especially in the terms of providing a guide and the application will be according to regional rules. In order to achieve the goal, the necessary condition is that all institutions support and be given incentives to develop the "Healthy Simple House". For example, provision of free sample duties for title transfer, providing electricity of 450 VA, infrastructure of water supply and road, free license to build and no land certificate cost.

The creation of the Deputy of Self Supporting Housing Division in Ministry of Housing was to overcome difficulties of developers' access to the banking sector and processing the land certificate since almost 80% of housing development is conducted by self finance, especially in rural area.

According to Regulation of Government No.15 year 2004, Perum PERUMNAS, one of the State Ownership Enterprises for national housing, became a non-profit oriented institution. PERUMNAS has to provide low cost houses of quality for low income groups. The vision and mission of PERUMNAS are providing cheap and good quality houses in a transparent, efficient, fair and realistic manner. Ideally, the development of houses by PERUMNAS has to start with the development of infrastructure.

3.2 House Ownership and Land Tenure

The status of house ownership in Indonesia is dominated by self ownership which is around 80%, in rural and urban areas (Table 9). This has not changed from 1992 to 2004. For other housing tenures, there were some changes from 1992 to 2002, differing between rural and urban areas.

**Table 9: Distribution of Urban and Rural Households
by Housing Tenure, 1992 - 2004 (%)**

Housing Tenure	1992			2004		
	Urban	Rural	Average	Urban	Rural	Average
Own	67.81	91.73	84.38	69.94	89.05	80.93
Lease	10.38	0.6	3.61	8.76	0.66	4.1
Rent	8.47	1.01	3.31	7.00	0.46	3.24
Rent-free	5.16	2.66	3.43	1.95	1.52	1.70
Official house	3.76	1.45	2.16	1.94	1.08	1.44
Parent/relative property	-	-	-	9.94	6.93	8.21
Installment	1.08	0.2	0.47	-	-	-
Others	3.34	2.35	2.65	0.47	0.31	0.38
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source : Statistics Indonesia

Land ownership in Indonesia is dominated by property ownership rights at 78.17% on average in 1992 and increased to 93.13% on average in 2004 (Table 10). The next are "right to build" and "right to use" which were 3.12% and 6.50% respectively.

**Table 10: Distribution of Urban and Rural Households
by Land Right Status, 1992 - 2004 (%)**

Land Right Status	1992			2004		
	Urban	Rural	Average	Urban	Rural	Average
Property ownership rights	62.76	85.01	78.17	90.86	95.94	93.13
Right to build	7.34	1.24	3.12	8.39	2.85	5.92
Right to use	7.17	6.2	6.5	0.75	1.21	0.95
Others	8.81	5.59	6.58	-	-	-
Unknown	13.92	1.96	5.64	-	-	-
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source : Statistics Indonesia

3.3 Taxes and Levies

A property development project entails several taxes and levies, from land clearing to the delivery of the completed houses to buyers (Farid Harianto, "The Mortgage Backed Securities Market in Indonesia", ADB, 1998). At the developer level, the taxes start when the land is acquired. Sellers are supposed to pay a final income tax or capital gains tax of 5% of the land value, but they generally ask for a "clean price" that is, the buyers/developers absorb the PPh. Developers also pay stamp duties of 5% of the land value for the transfer of land title; an administration fee of 0.5-1.0% when registering the transaction at the BPN; and a notary fee of 1%. The taxes associated with land acquisition value, or about 3% of the selling price of the house being developed, if land acquisition cost is assumed to compose about 25% of the price of the house. In other words, these taxes and levies associated with land acquisition are costs for developers which are eventually passed on to end-buyers. When selling the developed property to end-buyers, the developer also has to shoulder a capital gains tax of 5% of the property value.

Besides these taxes, there are other costs associated with various property development permits. These permits include: a land use permit from BPN, zoning and master plan permits from BPN and the local government, and permits to build (IMB) the individual houses. The total cost of obtaining these permits is quite high, about 10% of sales value. Therefore, about 8% of every rupiah of revenue that a developer earns goes to property-related tax and another 10% goes to permits cost.

Before selling the property to the final buyers, developers have to pay an annual property or land tax (Pajak Bumi dan Bangunan/PBB) of about 0.5% of the land value. The PBB is paid annually and administered by local governments, but 40% of its transferred to the central government. The estimated land value is based on what the local governments consider to be fair market value based on the location of the property: it is usually much lower, by about 40-60%, than the market value. Developers who have acquired land but have not yet neither developed nor sold the land to end buyers may therefore have to carry huge amount of property tax liability (PBB).

The final buyers of the developed property have also to bear the assessed value added tax (Pajak Pertambahan Nilai/PPN), stamp duties for title transfer (BPHT), and land and building tax (PBB). The VAT rate is 8% for the purchase of land from a developer and 10% for the purchase of a house. Like the taxes

levied on developers, the stamp duties (BPHT) for the transfer of property title amount to 5% of the sale price, while the property tax (PBB) is paid annually at about 0,5% of the estimated fair market value of the property.

In addition, the final buyers must also pay an administration fee of 0.5 – 1.0% when they have the transaction registered at the BPN and a notary fee of about 1% of the sale price. If buyers finance their home buying with credit banks, they incur borrowing costs as well. These include notary fee, BPN registration fee, insurance premium, and interest, among others.

The Government, in recent years, has introduced new regulations and intensified tax collection to boost its tax revenue. Two particular tax changes affect the property industry. In 1995, the 5% final capital gains tax (PPH) replaced the corporate income tax for property companies. Since the PPH is collected monthly from all sales made by property companies, the government collects corporate income tax whether or not property developers show any profit at the end of the year. Property companies pass on this tax burden to their customers in the form of higher prices.

The second development pertains to stamp duties for the title transfer (BPHT). On 1 January 1998, these were increased from 0.25% to 5% of the property sales value. Following strong protest from the industry, particularly in view of the financial crisis, the effectivity of this new regulation was postponed until 1 July 1998.

Clearly, the tax and permit structure in the property sector, representing about 37% of property sales, has been burdensome and will certainly hinder the development of an efficient property market. Around 20% is accounted for by developer and 17% is accounted for by final buyer. More worrisome with respect to mortgage-backed securitisation is the complicated and very costly process of the title transfer. The ability of BPN to administer efficiently the registration of hundreds (if not thousands) of mortgages is particularly suspect; unless something is done, transaction costs will only increase in the end.

The "Healthy Simple House" (RSH) development programme has the inclusion of a tax holiday. The Tax Holiday for Value Added Tax (PPN) is 10% of the house price with a value of more than Rp.40 million. However, there is still an additional burden for the developer of RSH in the form of the cost of land certificate, for RSH that is up to a maximum Rp.100,000 per plot of land. In fact, the developer has to bear the cost of Rp.750,000 per plot of land. The

Table 11: Typical Property Development Tax Structure

	Tax Rate	Tax Rate as % of Property Value
Developer		
Capital gains tax (PPH) for land acquisition	5% of land value	1.25%
Stamp duties (BPHTB) for land plot	5% of land value	1.25%
Registration fee (BPN)	0.5% - 1.0%	0.50%
Notary Fee	1.00%	1.00%
Capital gains tax (PPH) for developed property		5.00%
Various permits		10.00%
Final buyer		
Value Added Tax (VAT)		8% - 10%
Stamp duties (BPHTB) for land plot		5%
Property Tax		0.5% per year
Registration fee (BPN)		0.5%
Notary Fee		1.0%
Total		37.00%

Source : Statistics Indonesia

License to Build (IMB) RSH charge Rp.20,000/m² and as a result, the expenses for IMB is Rp.420.000 for type house 21 and Rp.720,000 for type house 36, while stamp duties (BPHTB) are 5% of the house price.

3.4 Government Subsidy Scheme

Through the Regulation of the Ministry of Housing No. 01/PERMEN/M/2005, the Government released the regulation concerning levying of settlement and housing. The purpose of this facility is to support housing subsidies through mortgage subsidies. The Government gives housing subsidies for the development and purchase or repair of "Healthy Simple Houses" for low income groups. Commercial banks and other financial institutions that participate in the credit programme subsidy have full responsibility to provide the required basic loan while the Government is responsible for providing the required subsidy fund, both for interest difference and down payment. The subsidy is passed to low income household which include the target group of both low fixed income households and low fluctuating income households. The target groups of the programme are shown in Table 12.

Table 12: Target Group for Housing Subsidy

Group of Target	Income (Rp/month)
I	900.000 Income 1.500.000
II	500.000 Income 900.000
III	350.000 Income 500.000

Source : Ministry of Housing

Subsidized credit was given by commercial banks or other financial institutions for the purchase and develop repair of a healthy simple house (RSH) of the target group. There are two subsidy schemes, i.e, interest difference subsidy and house renovation subsidy (Table 13).

Table 13: Housing Subsidy Scheme

Group of Target	Maximum Subsidy/Household (Rp)		Maximum Value of House (Rp)
	Interest Difference Subsidy	House Renovation Subsidy	
I	3.000.000	3.000.000	42.000.000
II	4.000.000	4.000.000	30.000.000
III	5.000.000	5.000.000	17.000.000

Source : Ministry of Housing

4. Housing Finance

4.1 Primary Market Lenders

Table 14: Percentage of Household Who Bought Their Own House by Way of Payment, 2004 (%)

Region	Cash	Mortgage	Credit with non mortgage	Others	Total
Urban	64.92	27.51	4.72	2.85	100.00
Rural	77.75	8.74	8.06	5.45	100.00
Average	69.34	20.95	5.88	3.77	100.00

Source : Statistics Indonesia

Based on the results of the National Social Economic Survey (SUSENAS 2004), it was shown that 69.34% of people purchased their houses with cash, both in rural and urban areas. The other forms of housing purchasing include mortgages (20.95%), credit with non- mortgage (5.88%) and others (3.77%). House purchasing with mortgage is higher in the urban areas than the rural.

Table 15: Mortgage Credit

	1993	2000	2001	2002	2003	2004	2005 ^{*)}
(Billion Rp)							
Bank loans	150,271	269,000	307,594	365,410	437,944	553,548	609,330
Property credits	21,708	27,711	32,050	35,001	46,986	67,287	76,343
Construction	10,038	5,865	6,898	7,501	9,483	15,864	18,476
Real Estate	5,513	5,871	5,239	5,729	7,395	9,324	10,135
Mortgage	6,157	15,975	19,913	21,771	30,108	42,099	47,732
(%)							
Ratio mortgage credit to bank loans	4.10	5.94	6.47	5.96	6.87	7.61	7.83

^{*)} Data on August 05

Source : Bank Indonesia

Recently, mortgage channeling through the banking sector has increased. Total mortgage for housing sector from the banking sector increased from Rp 6,157 billion (4.10% to credit total) in 1993 and become Rp 47,732 trillion (7.83% to credit total) in 2005. Based on the Residential Property Price Survey (SHPR) Quarter II-2005, the following picture was obtained:

- About 78.9% of developers stated that their projects were self financed, ranging from 30% - 100% of total project value.
- About 21.1% of developers stated that the source financing for their projects is from buyers, ranging from about 20% - 100% of total project value
- About 23.7% of developer stated that the source financing for their projects is from bank loans. This is for 10% - 70% of total project value.

**Table 16: Percentage of Households Occupying Own Home
by Way of Acquisition , 2004 (%)**

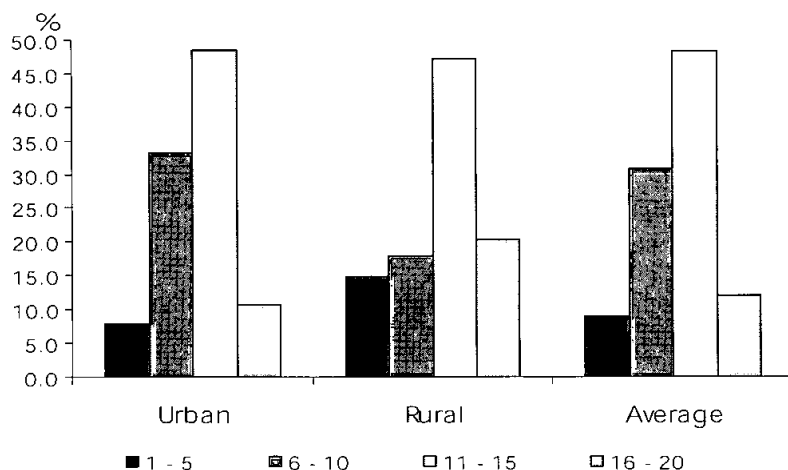
	2004		
	Urban	Rural	Average
Purchased from developer	7.75	0.87	3.4
Purchased through institution	0.41	0.14	0.24
Purchased first hand from individual	3.5	1.4	2.17
Purchased second hand from individual	10.89	4.62	6.93
Build on own account	57.87	74.51	68.39
Administrative allocation	0.31	0.41	0.38
Others	19.27	18.05	18.49
TOTAL	100.00	100.00	100.00

Source : Statistics Indonesia

4.2 Types of Mortgage Loans

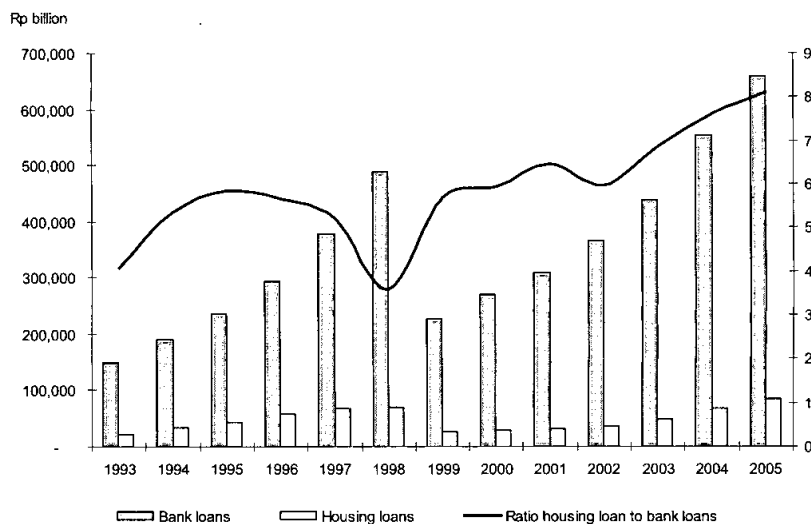
Based on the results of the National Social Economic Survey (SUSENAS 2004), the average mortgage maturity is around 11 - 15 years, in both urban and rural areas. The next maturities range from 6 - 10 year, 16 - 10 year and 1 - 5 year (Graph 2) respectively.

Graph 2: Percentage of Household Occupying Own Home on Length of Mortgage Maturity, 2004 (%)



Source : Statistics Indonesia

Graph 3: Ratio Housing Loans to Bank Loans (%)



Source : Bank Indonesia

4.3 Mortgage-Backed Securities and Other New Mortgage Finances

Mortgage transactions in the secondary market can be directly transacted (over the counter) among creditor banks (originator) and the investors or through the capital market. The instrument used in the capital market are the mortgage backed securities through the medium of the Secondary Mortgage Facility (SMF). The SMF is a financial institution giving long term financing facility and wholesale financing facility. In Indonesia, a SMF was established at the beginning of 2005, the PT. Sarana Multigriya Finansial with an initial capital of Rp. 1 billion. As of 2005, PT. Sarana Multigriya Finansial has yet to package mortgages but it still focusing on internal consolidation and developing operations. This State Owned Enterprise is established to package quality housing financing and is expected to attract the banking sector to place their mortgage credit facility in the SMF's instrument. However, there are problems to resolve, for example, the execution of responsibility rights and the taxation. The ranking (international ranking or national ranking) is also another crucial problem.

In 2006, the SMF will initiate securitization of mortgages by channeling housing loans and issuing bonds. In the first phase, the SMF will provide housing loans of up to Rp.200 billion. The SMF will also conduct securitisation of up to Rp.500 billion, with accumulated funds reaching Rp.700 billion. With assumption of house prices equal to Rp.100 million perunit, the bank can provide mortgage funding for almost 7,000 houses.

In 2007, the SMF plans to have assets securitisation of up to Rp.500 billion and to channel housing loans amounting to Rp.400 billion. Assuming house prices of Rp. 100 million per unit, mortgage funds 9,000 houses can be provided.

As a monetary perspective, the existence of the SMF has some beneficial impacts. Banks will be able to obtain long term funding at low interest and the mortgages are widely acceptable. If SMF securitisation is purchased by foreign investors, there will be capital inflows as long term portfolio investment. In the long term, the securitisation will narrow the fund gap in the banking sector. In addition, it will increase foreign exchange reserves and strengthen the balance of payment.

5. Interrelation with Other Macroeconomic Variables

5.1 Housing Market and the Economy

Table 17: Mortgage Credit as a Proportion of Bank Loans, Asset and GDP (%)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Ratio mortgage credit to bank loans	4.10	5.35	5.84	5.67	5.24	3.58	5.70	5.94	6.47	5.96	6.87	7.61	8.11
to asset	2.11	3.03	3.31	3.27	2.77	1.95	1.28	1.52	1.81	1.96	2.47	3.31	-
to GDP	1.87	2.65	3.01	3.12	3.16	1.83	1.17	1.21	1.24	1.17	1.47	1.83	-

*) Data on August 05

Source : Bank Indonesia

Table 18: Ratio of House Price to Per Capita Personal Income (Housing Affordability Index)

	2002				2003				2004				2005	
	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2	Q.3	Q.4	Q.1	Q.2
Ratio types of house to per capita personal income														
Small	4.12	4.30	4.29	4.34	4.30	4.15	4.38	3.76	4.27	4.16	4.42	4.38	4.11	4.12
Medium	1.67	1.76	1.74	1.75	1.71	1.70	1.74	1.70	1.82	1.87	1.98	2.07	1.82	1.71
Large	0.44	0.49	0.47	0.49	0.52	0.51	0.54	0.54	0.55	0.60	0.61	0.64	0.59	0.58

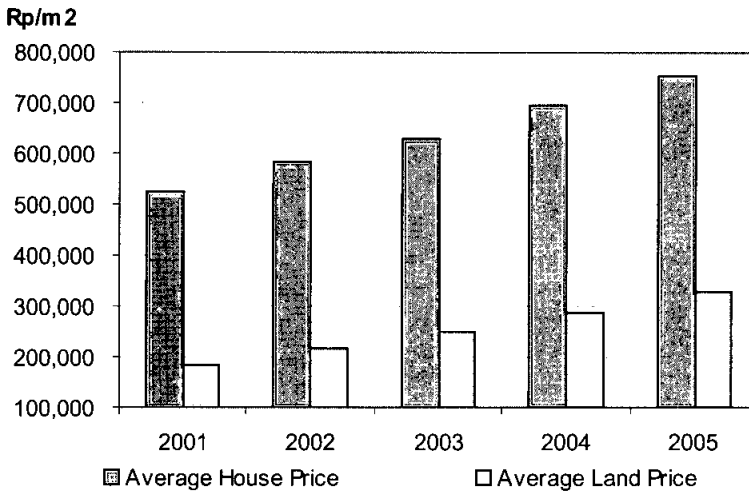
Sources : Statistics and Bank Indonesia

The re-awakening of the housing industry especially in the area of Jabotabek (Jakarta Bogor Tangerang Bekasi) followed the increase of land prices ranging from 10 - 20% annually while building price increased from 10 - 18%. Table 18 shows the ratio of house price to per capita personal income.

5.2 Housing Market and the Transmission Mechanism of Monetary Policy

Bank Indonesia has conducted several empirical researches of the interdependency between asset prices and the final target of monetary policy. One of the related research was conducted in 2003 (*Asset Price Index: Construction and Its Role in Monetary Policy Transmission; Directorate of Monetary Research and Policy; 2003*). The aim of this research is mainly to re-construct the composite asset price index based on weight that reflects real

**Graph 4: Average House and Land Price in Jabotabek,
At Type House 36**



Source : PSPI

condition of asset holding in Indonesia and to reassess the monetary policy transmission through asset price. This research was supported by survey to get empirical evidence on proportion of asset holding. Using the new composite asset price index and VAR analysis, this research also aims to examine monetary transmission mechanism through asset price channel. Based on the result of survey, the category of assets which can be included in asset price index are residential asset, commercial asset, equity and gold. Therefore, this study constructed two categories of asset included in the index, which is the conventional approach without gold) and including gold. By combining the proportion of asset holding from the survey and information from Social Accounting Matrix, the weight of each asset in the composite index is constructed as follows:

**Table 19: Category of Asset which can be included in
Asset Price Index**

Without Gold	
Category of asset	Weight
Residential	60%
Commercial	35%
Equity	5%
TOTAL	100%

Source : Bank Indonesia

With Gold	
Category of asset	Weight
Residential	54%
Commercial	34%
Equity	4%
Gold	8%
TOTAL	100%

Based on the above weight, the composite asset price index is constructed. The results generally indicate that the asset prices inflation lead to CPI inflation. Asset price is thought to contain information on expectation about future course of inflation and therefore may be used as one of the variable in the leading indicator of CPI inflation.

When the composite asset price index is applied to analyse whether monetary policy transmission through asset price exist, the result indicates the existence of the asset price channel of monetary transmission through both consumption and investment. The information content of inflation (final target of monetary policy) that can be explained by change of monetary policy through asset price channel using investment path (without gold) is slightly higher than that of consumption channel and this may be related to the long lag substitution effect. However, the information content of asset price (with gold) to predict inflation through consumption and investment path is exactly the same. The researchers recommended the use of the traditional one (category of asset without gold) which consist of residential and commercial property and stock price index.

5.3 Housing Prices and Inflation

In inflation calculation, the weight of housing expenditure is equal to 14% - 15% from total household expenditure. It means that household consumption for the purchasing of service and goods related to housing are around 14% - 15% of the total consumption per month. The housing inflation indicates a similar tendency with CPI.

The graph displays two data series over time. The 'House price inflation' series, marked with 'x', shows high volatility with major peaks in early 2001 and late 2004. The 'CPI' series, represented by a solid line, shows much lower volatility, generally staying between 0.00 and 1.00 throughout the period.

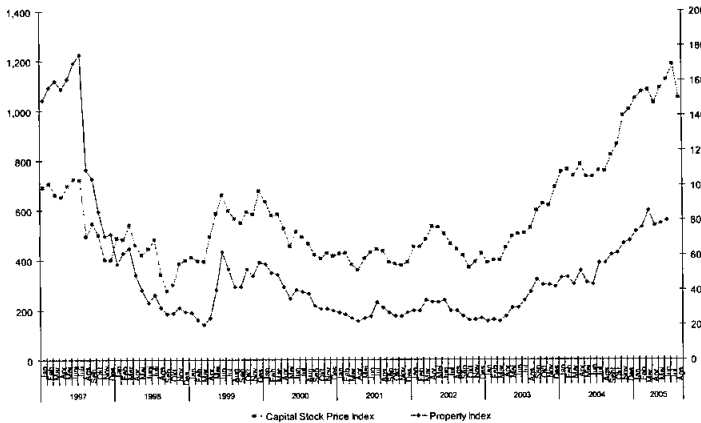
5.4 Housing Finance and Capital Market

Graph 6: Ratio Mortgage Credit to Bank Loans and Ratio Mortgage Credit to Equity



The fluctuation of index of sector property index is in the same direction as the Capital Stock Price Index (CSPI).

Graph 7: Capital Stock Price Index and Property Index



Source : Capital Market Supervisory Board

6. Conclusion

In Indonesia, the demand for housing is very high because of the huge population. Unfortunately, the ability of the Government to provide sufficient quality housing at reasonable costs is still rather limited.

In increase the capacity to provide housing, the Ministry of Housing should be supported by all related parties such as the Ministry of Finance (c.g. Tax General Directorate), National Land Registry Agency, local government, and the banking sector.

Even though banking sector data shows that total housing credit from banking sector has increased, housing credit is still limited. Therefore, the role of the capital market to finance housing sector development becomes more important. In Indonesia's case, most of the housing developments are self financed by the buyer or by non-banking sector institutions.

In the future, in order to narrow the gap between demand and supply for housing, the role of non- banking institution financing such as by institutions like the Secondary Mortgage Financial, in this case PT. Sarana Multigriya Finansial (SMF) is crucial.

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CHAPTER 3

HOUSING AND MORTGAGE MARKETS IN KOREA

by
Dr. Kyeong-Won Yoo

1. Overview

1.1 Macroeconomic Characteristics

Korea was a typical underdeveloped, largely agrarian country up until the turn of the 1960s. However, thanks to the success of export-oriented industrialisation within a short period of three and a half decades, it was transformed into a modern industrialised country. Helped by the rapid growth, which averaged over 8 per cent per annum for more than thirty years, its GDP volume soared from only 2.1 billion U.S. dollars in 1961 to 557.4 billion U.S. dollars by 1996, while its per capita GNP also leapt from 82 dollars to 12,197 dollars over the same period.

Based on this remarkable development, Korea emerged on the world stage as one of the front-runners among the newly industrialising economies so that it was able to become a member of the OECD in 1996. This outstanding economic achievement was truly remarkable considering the poor endowment of natural resources and the limited domestic market. For these reasons, the economic development strategy of Korea was widely held up as a suitable model for other countries on the road to development.

However, structural weaknesses accumulated in the process of concentrated growth. These underlying fractures were abruptly revealed toward the end of 1997 with the transformation of the internal and external economic environment. Consequently, the Korean economy experienced a currency crisis and faced severe difficulties. At present, to cure the weaknesses that led to the currency crisis, Korea is pressing ahead with the thoroughgoing structural reform of its overall economy.

After having overcome the currency and financial crises and pulled out of the post-crisis recession, the Korean economy experienced a slowing of growth in 2001 due to the sluggishness of facilities investment and the decrease in exports following a slowdown of the world economy, notably in the U.S. The Korean GDP growth fell from the previous year's 8.5% to 3.8% in 2001. In the first

half of 2002, however, domestic demand, including consumption, turned brisk and exports recovered rapidly. In consequence, its annual growth rate rebounded to 7.0%. GNI per capita registered more than 10,000 dollars (10,841 dollars) during 2000 for the first time since the 1997 currency crisis, but it fell slightly to 10,162 dollars during 2001, rising again to 11,493 dollars during 2002.

The growth rate of GDP decelerated significantly in the first half of 2003, as private consumption and facilities investment were both sluggish. In the latter half, the GDP growth rate regained momentum owing to expanded exports, but for the year as a whole it fell sharply from 7.0 per cent in 2002 to 3.1 percent in 2003. Accordingly, the unemployment rate rose, reflecting the worsened employment situation. However, there were signs of a certain improvement in the labour market during the fourth quarter.

The Korean economy saw GDP growing at a rate of 4.6% in 2004, up from 3.1% a year earlier mainly thank to export growth. However, the individual agent's perception of the economy was not good as the expansion of domestic economic activity was delayed amid lackluster consumer spending and construction investment. The labour market situation also deteriorated.

Signs of recovery are, however, apparent including the shift to a gentle upturn of long depressed consumer spending in the course of the fourth quarter of 2004 and a pronounced improvement in consumer confidence in early 2005. Nevertheless uncertainties remain given the sharp run-up in oil price and the volatility of exchange rates.

1.2 Relevance of Housing Market Development

The housing market and related issues have strong implications for the Korean economy. As of the end of 2003, the market value of houses and residential land in Korea exceeded 781 trillion won, which was larger than Korea's nominal GDP for the same year. Also, it is believed in Korea that the real estate market is closely linked to the national economy, in particular, business cycles. At the same time, the right to reside in a 'humanistic' environment is regarded as one of the most basic rights.

For information, the housing market in Korea has heated up dramatically at least three times during the past 30 years: the late 1970s, early 1990s and early 2000s. It is argued that the rapid increase in house prices magnifies the sense

of alienation among people who feel relatively deprived, and brings along with it the risk of inflation.

The housing sector is becoming more closely integrated with the financial and capital markets. Housing loans comprise a large proportion of consumer credit, and fluctuations in house price can affect the financial soundness of lending institutions. Mortgage rate comprises a major component of user cost of housing, and hence affects housing tenure decision and housing demand. The record low interest rate and aggressive lending by commercial banks faced sluggish demand for funds by corporations have been the major cause of the most recent run-up housing price in Seoul.

In addition, a sudden bursting of a bubble in the real estate market, if there is any, can cause serious problems such as deflation and instability in the financial market. The real estate market, in particular the housing market, is of tremendous importance for countries like Korea, which has a very limited amount of area for residential dwelling combined with a high population density.

Housing is very expensive in Korean cities, especially in Seoul. The ratio between the average apartment price and average household income (price-income ratio: PIR) in Seoul was 9.15 its peak in 1990, declined to 6.25 in 1997 but rose to 8.9 in 2003. Fluctuations in house prices have a direct impact on the level of macroeconomic activity by affecting private consumption. On the other hand, house price is affected by macroeconomic variables such as real interest rate and the supply of credit as well as real income. The collapse of house price following the Asian economic crisis that started in late 1997 is a good example.

2. Housing Sector Overview

2.1 Market Size and Structure

As it is the case of any economy, housing is an important sector of the Korean economy. Housing is a key factor in terms of its size both in stock and in flow measures. Housing stock was estimated to be 36% of the nation's total capital stock in 1996. According to the 1997 survey of national wealth, the value of structure of residential housing was 55% of real wealth of consumers excluding land. About 54.2% the nation's housing stock was owner occupied in 2000; and for the seven largest cities it was 47.5%, although these figures may understate the true homeownership rate because some homeowners reside in house owned by others.

Housing investment has made up 3-9% of GDP and 14-31 % of total investment during the last three decades. Housing is a labour-intensive sector. An analysis of the 1988 input-output table reveals that housing investment in that year was responsible for 482,000 jobs. Government attempts to boost residential construction to generate employment in the aftermath of the Asian economic crisis can be understood in this context.

2.2 Determinants of Housing Prices and Rents

The housing price and related issues have been one of the most popular research topics in the field of urban economics in Korea. Thus it will be better to provide a brief review of previous studies on this issue rather than do own empirical works in this paper.

Hur (1991) argues that the increase in housing prices in the late 1980s was brought about by strong demand in the housing market. The paper concludes that variations in housing prices are caused by Government policies, the level of urbanisation, investment in housing, inflation, land prices and construction business cycle. On the contrary, the quantity of money was not found to be a critical element. A subsequent study by Kim (1996) analyse determinants of housing prices using structural equations that take into account demand and supply in the housing market, and report that the surge in housing prices in Korea was mainly due to a shortage in land supply.

Lee (1992), Yoon (2001) and Kim (2004) was some of those who use a VAR model to investigate determinants of housing (purchase) and chonseil prices. Lee (1992) generates somewhat different results from Hur (1991). Using a VAR model, and employing such variables as housing price, M2, CPI, GDP, housing investment, Lee (1992) finds that the quantity of money is crucial in the short run, whereas CPI is important in the medium to long-run. He also demonstrates that the effects of demand side variables, such as household income and inflation, on housing prices are larger than that of supply side variables such as housing investment.

A recent study by Kim (2004) investigates a sudden jump in apartment prices in selected areas in Seoul including Gangnam and some parts of Gangbuk, as well as, areas in the South Chungchong province. The author concludes that the rise in apartment prices was not caused by a shortage of houses but rather by an increase in floating funds, as well as, a sharp drop in interest rates.

A more recent work by Tcha (2005) indicates that the long run equilibrium relationship among crucial variables is confirmed for housing prices and chonseil prices. The variables considered in this relationship include interest rate, GDP, land price and expected growth rate of housing prices, as well as housing and chonseil prices themselves. This study also shows that policy variable do not seem to be very effective in encouraging or discouraging the market, at least for the period under investigation.

2.3 Housing Market and the Supply Side

Since the economic crisis started in November 1997, both residential and non-residential real estate sectors have been struck hard. The demand for housing fell abruptly due to a sudden rise in the unemployment rate, the reduction of household income, and the growing uncertainty about job security, as well as diminished expectation about capital gains from housing and the high interest. The supply of new housing dropped in response to reduced demand and the credit crunch caused by the crisis. On the other hand, the supply of existing houses placed on the market for sale increased as some households tried to unload their houses to mobilise cash. As a result, unsold new houses increased in numbers while housing prices fell substantially.

Data shows the recent trends of urban housing price index. The purchase price dropped 12.6% in 1998, while chonseil deposit dropped much more acutely by 18.4%. Since the consumer price index rose 7.5% during the same year, the purchase price of housing declined by 20 % and the price of rental housing fell 26% in real terms. These represent an exceptionally large dip in Korea.

The abrupt fall of chonseil deposit caused a serious problem in the rental housing market. Under a chonseil arrangement, the tenant who signs a rental contract deposits about a half of the purchase price of a house to the landlord in lieu of monthly rents, and the deposit is fully returned to the tenant at the termination of the lease. The landlord is supposed to generate an income from the deposit during the contract period equivalent to rental income. In a normal market chonseil deposit level rises over time, and the landlord can find a new tenant who is willing to pay a larger amount in deposit than the outgoing tenant. As the deposit level fell unexpectedly after the crisis broke out, some landlords could not find a new tenant or mobilise the difference between the initial deposit payable to the old tenant and the smaller deposit offered by the new tenant. Since many houses purchased for investment purposes are financed through

chonsei deposit, declining deposit was equivalent to reduced mortgage financing, thereby depressing demand for home purchases.

2.3.1 Housing Supply and the Housing Industry

The housing industry was severely hurt by the economic crisis. Construction of new houses decreased 48.7% in 1998 and unsold apartments accumulated in 1998 due to the meager demand for new housing.

During the same year, 416 out of about 3,600 house builders went bankrupt. The main reason for such large casualties was the industry's shaky financial structure that is heavily dependent on debt financing. The average debt-equity ratio of the construction industry was 563 percent, much higher than that of the manufacturing industry, which was 317 percent in 1996, quite high in its own right. Another reason was the pre sale scheme. Most new apartments are pre-sold with a twenty percent down payment and the rest is paid in installments over a roughly two year period during which time the apartments get built. As many households who had agreed to purchase apartments this way failed to make the scheduled payments due to unanticipated economic hardship, homebuilders ran into a serious cash-flow problem.

2.3.2 Housing Land Supply Policy

Rapid urbanisation was precipitated by a massive rural to urban migration and rapid industrialisation. Naturally, demand for urban land increased. But urban land could not be supplied timely. The chronic shortage of urban land impacted on the housing market simultaneously.

Between 1960 and 1990, the number of households expanded by 5.9 million, or 242 percent, but there was only a net addition of 3.7 million housing units to the inventory, or an increase of 207 percent. As a result, housing shortage rate increased from 17.5 percent in 1960 to 29.6% in 1990 until the Government launched the two million unit housing construction plan (1988-1992). However the geographic variation is quite large. In 1990, for example, the housing shortage in urban areas was 38.9%, whereas in rural areas it was only 1.9%. With a substantial increase in housing stock as a result of the 2 million units housing construction plan, housing shortage rate in urban areas fell down to 3.9 % in 2000.

The basic source of housing problems was a mismatch between the demand and supply of housing. If housing production was increased adequately and timely, then the problems might be mitigated. But because of several reasons, housing was not sufficiently provided. One of those reasons is the ownership of land.

Most of Korean land is privately owned. The state or public land is less than 20 % which is quite a low percentage when compared with other countries. In addition, public land is used mostly for roads, waterways, and public facilities, and thus is not marketable. This leaves the public sector with not enough marketable land to influence the land market except by legal measures such as zoning or taxation.

3. Housing Policy

3.1 Housing Development Policy

Since the promulgation of the General Real Estate Measures on October 29, 2003, the Government has actively intervened in the market to stabilise residential real estate prices. The housing policy of 2004 was increasingly geared regulating home prices in accordance with policy in 2003. The General Real Estate Measures engendered four major pieces of legislation, including the Home Real Estate Transaction Reporting System, which was put into effect as of April of 2004. The Housing Price Public Announcement System, the Redemption of Profits from Reconstruction, and the Reporting of de Facto Sales Price take effect in 2005.

Indirect regulations are also applied in the forms of increased taxes on real estate holdings and the composite real estate tax. A short-term region specific solution was applied to address the volatility in regional home prices: specific areas have been designated as Region/Area of Excessive Speculation for close scrutiny of transactions by the authorities. However, the weakness of the housing market in the second half of 2004 compelled the Government to be more flexible in its designation of areas of speculation, repeal some regional requirements for reporting residential real estate transactions, and cut the sales of transaction tax.

Here, we summarise the brief history of housing policy in Korea.

1. Housing policies before 1988

In the early 1970s: Period of policy experimentation

The country went through rapid industrialisation and urbanisation throughout the 1970s, and consequently, household income rose quite rapidly, which pushed housing demand up to the extent that demand increased by almost 10 percent a year. Housing shortage became critical, particularly in large metropolitan areas like Seoul and Busan. The housing supply ratio dramatically fell even to below 60 percent in large cities down from 80 percent in the 1960s.

The Government enacted the Housing Construction Promotion Law in 1972 in order to meet the increasing demand for housing. It mandated the Government to develop massive housing construction plan and to draw upon a set of regulation for effectively implementing the plan and promoting the housing industry. The plan was intended to produce up to 2.5 million housing units over a ten year period of 1972-1981.

However, the plan did not move forward; for one thing, the Government did not make any investment into housing while most of its investment funds were put into the heavy industries. The other reason was housing speculation. As home price rose sky-rocketing, the Government's immediate concern at that time was to stabilise the speculative market. Housing speculation was particularly rampant in 1978-79 periods; the situation was so serious that Government declared a "war against speculation." This was referred to as August 8 Measure which authorised the Government to impose heavy taxes on capital gains, particularly when the properties being sold were not registered 'duly and lawfully.' When transactions were made, people did not register in order to avoid capital gains taxes. And if they did, they provided false information. Various anti-speculation measures were devised to discourage them from gaining unearned, speculative profits, including land transaction permit system and standard land value announcement system. Criminal charges were imposed against the illegal transfer of properties to avoid taxes.

Private developers were not allowed to engage in residential land development and instead, the Korea Land Development Corporation was established in 1979 to carry out land purchase and development functions on Government's behalf. Price ceiling system was another device that discouraged homebuilders from excess profits, being applied only to newly constructed condominium apartments. The Government set the sale price by which private developers should abide.

Such a price was normally 40 to 70% lower than the market price because it was set on the basis of construction costs and publicly supplied residential land price.

With these measures strongly enforced, housing demand suddenly subsided and housing price declined overnight. The housing market became almost frozen; a large number of newly developed dwelling units remained unsold for reasonably long period of time and many home builders went out of business.

In the 1980s; Fight against housing speculation

The housing business cycle had a ten-year peak in the late 1970s, but it suddenly receded as a result of strong anti-speculation measures. The industry suffered from severe recession. Thus, housing policy of the early 1980s started with various incentive measures to promote housing construction industry. Government also relaxed the anti-speculation measures, e.g. lowering the real estate transfer income tax rate. These measures, combined with the recovery of overall economy, ignited another round of home building business cycle. The market became heated up a few months later, but Government had to cool it down again by reinstating the strong anti-speculation measures. This Catch-22 situation repeated almost every three years.

In order to solve the absolute housing shortage problem, the Government initiated the 5 million housing unit construction plan of 1982-1991, but the military Government did not put it through because the Government's economic official advocated that the plan was too costly to implement and might be inflationary. Instead, it took legislative actions to help consumers and tenants secure housing rights.

Also the Apartment Management Law was enacted to facilitate more effective management of multi-family housing complexes. As important was an enactment of the Rental Housing Construction Promotion Law. The law was intended to promote private rental business. Various incentives were provided to potential investors so that they could supply a wide variety of rental housing units.

Tax measures were frequently used to discourage speculative demand. Real estate transfer income tax was extensively deployed to control the speculative demand for both housing and land, and it had both remedial and preventive purposes. This tax measure was modified many times; the tax rates were upwardly

adjusted when it was overheated, and downwardly adjusted when the market was in recess.

Additionally, the Government introduced the "bond-bidding" system in 1983 as a device to discourage speculative motives in housing purchase on the one hand, and to "tax away" a large portion of the windfall gains from both real and potential speculators on the other.

A home purchaser had to participate in the competitive bidding process when purchasing a newly built condominium unit. The highest bidder won the unit and was obliged to purchase the Government bonds in an amount as pledged in the bid before the sale was officially executed.

Some measures were administrative in nature. For example, the Government modified regulations on apartment sale to disqualify some people from apartment purchase. Previously one was allowed to bid for the second newly build apartment unit three years after purchasing the first one. But the new regulation extended the period to five years, and thus, it helped reduce the number of market participants substantially. At the same time, the Office of National Tax Administration occasionally investigated "professional speculators" for tax evasions and the source of funds when purchasing real estates, and announced their names and "wrong doing" in public.

The other important measure was the sale price system. It was basically designed to control the price of the newly build condominium unit and thus, to stabilise the housing price. Homebuilders could not set the sale price on themselves. They had to abide by the price as "uniformly" set forth by the Government. This scheme was initiated in 1983 as a temporary device to put a lid on "escalating" sale price of the newly constructed apartment units. No attempt was made, however, on the part of the Government, to do away with the measure until very recently (1988), although it was recognised that such a device had severe adverse effects on the housing market. It controlled only the sale price and thus, indirectly, the costs of housing production, and thus, it had nothing to do with the market price. Besides such a price control was most likely to contributed to formation of black market.

2. Housing policies of 1988-1992: Mass production

Such a piecemeal approach to housing problems would not work after all as long as there existed a significantly large amount of excess housing demand

to be met. A permanent, and in fact, the most feasible, solution would be to expand housing production in a massive scale, and such an effort was materialised by the Two million unit housing construction plan of 1988-1992. The key strategies were; supply of a large amount of residential land, expansion of housing credit, and removal of various regulations restricting residential developments.

First, the Government designated 68 million pyung (1 pyung=3.3 square meters) of land for residential development purpose throughout the country in accordance with the National Land Use and Management Law. They were mostly located in large urban areas, some within the developed areas, but mostly in peripheral areas, currently zoned as "greenery space". The quasi-Government bodies such as the Korea Land Development Corporation (KLDC) and the municipalities were authorised to purchase a large amount of cheap land, mostly agricultural and greenery lands, and to convert them into residential uses with some improvements thereupon. The serviced lands were then sold either to such public entities as the Korea Nation Housing Corporation (KNHC) at cost or to private builders at the market equivalent prices, or at the below market prices when the homes were small in size and targeted for low- and moderate income consumers.

In order to expand housing construction in the capital region the Government announced five new town constructions in 1989. In the 1970s and early 1980s, the Government launched several large-scale housing projects in Seoul in the form of "new town in town". In the 1970s and early 1980s, the new town in town strategy pursued by Government, however, revealed its limitation due to lack of developable land in Seoul. This forced the Government to move outside of the Green Belt Zone.

Simultaneously with this measure, the Government relaxed land use regulations. In particular, density control was substantially eased to allow for more intensive housing development. Deregulation of land use control was followed by relaxation of design standards in certain districts of large cities. Land use conversion was also made easier for housing developments. The primary intent of these measures was obviously to build more housing units, given the limited amount of residential land in urban areas, but they also brought about high density and disorderly developments in downtown areas where land was very costly.

Another main feature of the Plan was that housing supply schemes were matched with the comparable income group of each. For example, the bottom ten percent of households in income scale were provided with 190 thousand

units of very cheap publicly assisted permanent rental housing. The Government set aside 3.5 trillion won of Government budget for this project, which represented over 85 percent of the total construction cost. The next 20-30 percentile groups of households were given an option, either to purchase a small publicly funded owner occupied unit or to rent publicly assisted rental unit. Public developers were provided with all kinds of production subsidies, including cheap residential land and low interest funds. As many subsidies were also transmitted to the private developers as well who built low cost and low-income apartments. But very little subsidy was given to the developers who targeted their products to the upper middle-income groups.

3. Housing policies of 1993-1997: A "carry-over" period

The new administration started with a strong "civilian" image in 1993. It developed the new and "ambitious" five-year socio economic plan, advocating minimum intervention of Government into the competitive and free market. The housing sector plan was considered as an integral part of the plan and emphasized deregulation and elimination of Government controls over the housing market, including price control.

Nonetheless, the basic policy direction did not change much, being geared to achieving price stabilisation, and improvement of housing welfare among the less privileged segments of the population. And neither did the policy instruments. It turned out that the civilian Government's housing policies were a mere extension of the previous administration. Literally the mass production policy of the past administration was almost automatically "carried over".

Housing policy focused on deregulation with respect to development permits, density and land use control, and redevelopment and reconstruction procedures. It also emphasised mass production of private and public rental housing units as much as modernisation of the housing finance system. The plan advocated adoption of an advanced home mortgage finance system and set its numerical construction target at 2.85 million units for 1993-1997 periods.

The housing construction boom, which lasted until the second quarter of 1995, helped the plan to easily achieve the numerical target. A total of 3.12 million units of homes were produced during the five year period of 1993-1997, and 44 percent of them were constructed in Seoul metropolitan area.

However, most of the Government subsidised housing programmes for the low income families were either eliminated or under-budgeted to the gradual extinction. The permanent rental housing programme discontinued because it was too costly, and instead, publicly subsidised rental housing programme was established, but again the programme did not succeed because of budget cut; initially the Government planned to build 100 thousand units, but only 30 thousand units were actually built. Subsidies on rental housing were drastically reduced from 70 percent to less than 40 percent level.

The new administration relied heavily on the private sector for the expansion of the housing stock. In the meantime public sector's role became obscure. Nevertheless it held on to various regulations and institutions that were developed in the previous administration in order to continuously carry on mass production programmes. Accordingly actual housing policy did not seem to follow the plan. Actions on deregulation and decontrol which had once been strongly espoused by the plan rarely took place. Improvement of housing welfare among the low-income families turned out to be another promise that was never fulfilled. The plan also strongly advocated elimination of various rules and regulations that prevented the housing industry from open and fair competition, but again no major actions were taken in this respect. And little effort was made to modernise the housing finance system either.

Mass production could be sustained because most of the ground works were readily laid down by the previous administration. In particular, the overall economic situation strongly favored the mass production policy. The economy grew at a rate of over 10 percent for four consecutive years. The housing construction business peaked in 1995, and from then on it rapidly declined for two consecutive years. No sooner the market had begun to pick up in the later half of 1977 than it had to face the financial crisis and a year later, the 'bust'.

Change in housing market: Bubble to bust

The market situation drastically changed since November 1997 when the foreign exchange crisis led the nation to overall financial and economic crisis. The International Monetary Fund (IMF) began to lead and oversee the country's economic policies. Housing demand fell dramatically, resulting from the high rate of interest, financial crunch, reduction in the household income and rise in jobless rate. The consequent effect was that the housing price declined substantially as much as 30 percent for apartment units and as 45 percent for single family detached units in the Seoul area.

Housing supply steadily increased, particularly the existing stock supply, but not the supply through new construction as a result of limited amount of credit available and high interest rate. There remained a large number of housing units unsold. New construction start fell by 50 to 60 percent of that of the last year. The housing industry was in jeopardy and the sign of recovery was not yet in sight.

Almost 70 to 80 percent of the homebuilders went out of business between 1997 and 1998; many discontinued the home building business and others, particularly the active ones, went bankrupt, and only about 200 out of a total registered home builders of 2,300 were reported to stay in the business, but almost a half of the survivors were likely to go out of the market within a few months unless the market situation improved drastically. New units were hard to sell, and the policy makers were warned that the possible collapse of the housing industry could result in heavy losses in jobs, approximately 350 thousand. Now housing bubbles rapidly vanished and an era of disillusionment just emerged.

4. Housing policies of 1998-2001: From recession to recovery

The Government policy toward housing dramatically changed after the financial crisis. Most of the Government controls over the market were either loosened, or readjusted, or completely eliminated. Over 140 measures were announced between May 1998 and July 2001, and almost 100 of them were intended to revitalise the housing market by activating housing investment demand. From the Government's point of view what was urgent was to create jobs as the unemployment rate went up as high as 16%. The rate was particularly high among the blue-collar workers and manual labourers. And an easy way to do so was to help the home building industry recover quickly from the recession because the industry was highly labour intensive. Accordingly the Government policies were primarily focused on attracting investment monies into the market and making home purchase more secure and profitable.

The rich were allowed to own a large number of homes as long as they registered as home rental businessmen. In old days those who owned two or more homes were penalised and forced to pay higher taxes. And right before the crisis apartment purchasers were not allowed to sell the units within 3 years after signing the purchase contract, but this clause was taken away from the tax code.

The most important of all the changes was abandonment of the housing price control system and related market intervention measures as of February of 1998; homebuilders became free to set their own prices of the multi family homes that they were building. The elimination resulted in a sharp rise in purchase price, but improvement of housing quality. Those who advocated elimination of the price control system hoped that it might lead to some severe competition among the builders, thus lowering the price or maintaining competitive price at best while upgrading the housing quality. But this has not occurred thus far probably because the housing market is still dominated by a few "housing giants." The market is not clearly fair and competitive. In the long run such a control system must be abandoned, but in retrospect gradual elimination might have been more desirable in containing the housing speculation and price hike.

The Government also channeled huge amount of public funds into the housing market, expanded the housing finance credit and subsidised new home buyers with very attractive home loans of interest rates 2 to 5 percent lower than the market rate. The basic intent was to create demand and thus, to help the housing market to recover from the recession.

Besides, the Government extended the credit up to 200 billion won for landlords who were unable to reimburse the chonseil deposit to the tenants because the chonseil price had declined as much as 15 to 20 percent. The Korea Housing and Commercial Bank was authorised to issue additional housing credit up to 600 billion won with terms slightly lower than the market rate to help the middle income home buyers meet the installment payments.

Improvement of home finance institution was another policy effort that had been actively pursued. The Government adopted the home mortgage finance system whereby financial institutions could securitise the mortgage and/or could liquidify the asset in order to secure cash to finance home purchase, transaction, and production; a special law was passed through the national assembly to institutionalise the system like the government sponsored home mortgage market in the U.S.

At the same time it was recognised that low income housing policy and programme needed to be streamlined and overhauled, because they were considered too inefficient and too costly to provide adequate level of the housing service for the needy. They appeared to be also inequitable because only the ones who were within the system got all the benefits, leaving the rest of the needy inaccessible to the programme. Thus the Government seriously considered

more effective and flexible housing delivery system which could minimise the Government's financial burden on the one hand and reduce the inter and intra group differential in housing service consumption on the other. One alternative was to adopt the housing allowance or rent supplement system, but both of them were judged to be very costly to implement. Therefore, they had to be put off until the country became financially and fiscally ready to support such welfare programmes.

5. Some lessons from the Korean housing policy

A few lessons can be drawn from the Korean housing policy efforts to experiment with the massive housing production plan and the way the Government handled the financial crisis. One recognises that tight market control policy would not work when the demand for housing rapidly increase. Equally undesirable is any drastic measure to expand the housing stock through new construction within a short period of time without due consideration of the input market constraints.

Two types of regulations were of particular concern; one, land use control and the other, the control over the sale price. The latter was rather pervasive as it controlled the firm's cost of housing production, thus, adversely affecting its financial position. With the price control there was no incentive for the homebuilders to improve the quality of housing because they did not need to compete with each other.

Price control was also responsible for "uniformity" in housing developments, lacking diversity and variety. Home builders would have two options to stay in business; one was to lower the housing quality standards while maintaining an appropriate level of profit, and the other option was to secure the cheap lands in urban fringe areas. The latter option resulted in distortion of spatial configuration and traffic congestion.

Upon implementing the massive housing construction plan the Government modified the price ceiling system in such a way that firms could reflect into price decision cost increases in land, labour and building materials, but this was only a short term solution, and all the problems and negative effects on housing market associated with the price control remained. It was fortunate that only recently the Government decided to discontinue the sale price control system after the financial crisis.

Other regulations that negatively affected the housing market were those of controlling land uses, including zoning, subdivision controls, building codes, and design standards.

It should be realised that the housing market ought to be minimally controlled, and if there arises any need for Government intervention, e.g., discouraging over consumption of housing and promoting housing industry, it must be done indirectly by means of taxation and housing credit. Also important is that the housing policy at the national level cannot be formulated and executed, independent from macro economic policies, because the interactions between the two are too great to ignore. In fact housing and land policy must be viewed as an integral element of the national economic policy if it is to work at all.

Land prices tend to rise in relation to the monetary situation. For example, the sharp increase in liquidity in 1989 initially disturbed the land market and then, triggered the land price spiral. At that time the nation's capital market was so inadequately developed that expanded money supply could not be absorbed properly, leading either to inflation or to land speculation.

It should be pointed out that the Government actions taken 1998-2002 periods were primarily responsible for the current crisis of housing price spiral and consequently, the unequal distribution of income and asset. Too many incentives were given to promote "housing businesses" quickly and easily, but almost none have been withdrawn despite the market's fast recovery since the year of 2000. In a way the housing market was 'manipulated' through Government interventions. In this process 'intervention-resulted monetary benefits have been enjoyed by only a small number of people who know how to take advantage of the incentive system. Actions should have long been taken to take them away in order to cool down the housing market, but clearly policy makers seemed to lose the timing of immediate policy adjustments.

As pointed out, the Korean society has undergone some drastic changes, and so has the housing sector. Housing demand has changed in both quantity and quality, and market oriented solutions are most likely to end up with positive sums for all the market participants. Housing investments is made as long as investment return on housing exceeds those of other investments. What is required at this point in time is a set of policies and programmes designed to reduce excess demand for housing, particularly the investment demand. Housing is now viewed more as an investment asset than as consumption good. But deliberate reduction in housing investment through administrative measures would lead to

market failure. Instead policy emphasis should be placed on creating relatively competitive investment alternatives elsewhere, the yield of which is comparable with that of housing investment. The stock market has not been active, nor the bond market. And the interest rate on savings account is as low as 4 to 5 percent a year. Most people feel that housing is the most profitable and secured investment, and that is why there exists high level of demand.

3.2 Housing Shortage

One of the most significant characteristics of the Korean housing was housing shortage, defined as the number of dwelling units that must be constructed if every household were to have exclusive use of a dwelling. The shortage had its roots in the wartime destruction of a major portion of the existing stock and the north to the south migration of over a million people during and after the Korean War. The large initial gap between housing units and households was further aggravated by the high population growth in the 1960s, rural to urban migration and changes in the family structure in the 1970s and 1980s.

Between 1960 and 1990, the number of households expanded by 5.9 million, or 242 percent, but there was only a net addition of 3.7 million housing units to the inventory, or an increase of 207 percent. As a result, the housing shortage rate increased from 17.5 percent in 1960 to 29.6 percent in 1990 until the Government launched the two million housing construction plan. The geographic variation was large, however, in 1990; for example, the housing shortage in urban areas was 38.9 percent; whereas in rural areas it was only 1.9 percent. With a substantial increase in housing stock as a result of the housing construction plan housing shortage rate in urban areas fell down to 11.3 % in 2000.

Housing shortage affected the housing tenure pattern. Korea had long been a nation predominantly of homeowners. In 1970, 74.1 percent of the housing units were owner occupied whereas 25.9% were of rental status. In the last 20 years the ratio of home ownership decreased substantially to 49.9%. The ratio increased slightly to 53.3 percent in 1995.

While the pattern of change was pervasive, there were substantial geographic variations in home ownership. Less than half of urban households owned houses, a sharp decrease from 85.8 percent in 1970, whereas still more than 77 percent of the rural households were owner occupied in 1995.

Overcrowding

Overcrowding another important indicator of substandard housing is not a property of housing quality per se but rather of the "fit" between the size of the unit and the number of occupants. Many studies suggest that the effect of overcrowding on mental health and family integration may be more severe than the effects of physically substandard conditions.

The degree of overcrowding is measured in (1) the ratio of persons per room and (2) per capita floor space. The former is a better indicator of function and privacy as it determines over and under occupied dwellings

The fast economic growth and the increase in people's income have brought about aggregate improvement in housing conditions. Housing supply ratio (the ratio of the number of dwellings to that of households) has been an indicator of housing situation in Korea since the Government housing policy has tacitly targeted one hundred percent ratio as a desirable housing supply ratio. The ratio of housing supply was 84.2 % in 1960 and had been falling to as low as 70% in 1985 and this had been regarded as indicating deteriorating housing situation. However, the ratio rose to 96.2% in 2000.

However, in terms of tenure security, housing affordability and housing quality, the situation of the lowest income families has not been much improved. As of the end of 2002, public rental units were 660,000 units, 5.9% of total housing stock. Permanent rental units and 50- year rental apartments were only 255,000 units, 2.3% of total housing stock. The rest is mostly five-year rentals. Thus public rental housing in the true sense of the word was provided in only a small quantity.

Living conditions were significantly improved in the last three decades. Average persons per room decreased from 2.3 in 1970 to 0.9 in 2000 and per capita floor space increased from 6.6 m² in 1970 to 20.2 m² in 2000. For international comparison, the UN recommended room occupancy density is 1.5 persons per room and per capita floor space is 13.2 m². It should be noted, however, that the improvement in room occupancy density and floor space was attributed primarily to the decrease in household size rather than the improvement in housing size per se.

The availability of public water and electric power systems constitutes other important indicators of the quality of housing. Clean water is a basic requirement

for public health; and the availability of electricity provides not only the source of power for domestic lighting but also access to some amenities of modern living, such as the use of appliances.

There was a substantial increase in the availability of public water and electricity, especially of the latter. About 76.6 percent of all households had public water service in 1990, compared with 26.6 percent in 1970. The rural-urban differential was large. This was partly due to the fact that the rural households spread over a large area and therefore the provision of services was difficult and costly unless operated through several local water pipeline network. In year 2000 there remained only a small number of household who had no access to water and power supply lines. They are mostly those who live in isolated areas such as small islands and high mountain areas.

Electrification was fairly widespread in Korea. About 100 percent of all households had access to electricity in 1990; almost 100 percent in urban areas and 99 percent in rural areas. This resulted from the Government's nation wide electrification campaign since the early 1960s.

3.3 Taxes and Levies

Real estate speculation has been a difficult problem in Korea for long time. The Government has placed a high priority on containing real estate inflation. Furthermore the Government was seriously concerned about the concentration of the distribution of real assets and the severe shortage of urban land for housing and business.

Since inflation in the real estate market has been far exceeding that in the commodity and labour markets the skewed distribution of land and buildings has been the single most important source of the ever-widening gap between the have and the have-not. In addition the rapidly rising price of houses has been one of major causes for serious social instability. Therefore, the centerpiece of the tax reform in the last 1980s was how to control land speculation through tax measures as we described.

In Korea, taxes relating to the transfer and ownership of properties have hardly been an important source of the tax revenue and as a result they have made little or no contribution to lessening prevailing inequalities in the distribution of assets in Korea. Taxation of wealth or properties in Korea should form an important element of the overall tax structure, not for revenue, but to complement income taxation, to ameliorate the significant unequal distribution of wealth, and to ensure efficient resource allocation.

As a means of curbing speculation on real properties, the Korean Government has always relied on capital gains tax on the properties rather than the property tax on real properties. The capital gains tax on real properties replaced the land speculation control tax in 1975. Table 1 shows summary of a historical development tax rates on capital gains. At the beginning the tax rates on capital gains were flat at 50% on land and 30% on building. The present tax rates on capital gains from real properties vary widely, depending on the type of assets, the length of ownership of assets, and whether assets are publicly registered or not.

If capital gain is realised on selling a real estate, the capital gains tax is imposed separately by progressive tax rate (20-50%), which is higher than income tax rates (10-40%). For a corporation, the realised capital gain (the sale price minus the book value) is added up to the corporate income and levied by the corporation tax rate(16%, 28%), and then 20% of the capital gain(sale price-acquisition price) is also levied by the special added tax. If the value of fixed assets increases, the asset revaluation tax (3%) is also imposed.

Though statutory tax rates on capital gains were high, taxation of capital gains has been plagued by various loopholes involving tax preference. As shown in Table 2, tax expenditures in capital gains are around 20 percent for individuals and as high as more than 50 percent for corporations.

Table 1: Tax Rates on Capital Gains(%)

		Before 1979	1979	1980-1982		1983-1988	1989-1995	1996
				Statutory rate	Flexible rate			
Land	50	Holding more than 2 years	50	40	25	40	40-60	30-50
	50	Holding less than 2 years	70	50	35	50	60	50
Building		Selling without the title filed	80	75		75	75	75
Other assets			50	40	25	40	40-60	30-50

Table 2: Tax Exemption and Reduction in Capital Gains Tax

	1991	1992	1993	1994	1995	1996
Individual capital gains	16.2	17.2	20.1	19	18.7	20.3
Corporate capital gains	54.3	51.6	43.6	44.7	41.7	42.3

Source: Ministry of Finance and Economy

The use of capital gains tax on real properties as a weapon against short-run speculative purchase of real estate was, in design and purpose, inappropriate. The roots of high inflation during the rapid industrialisation period should have been dealt with at their source. Speculation on real estate was just a symptom. If tax instruments had to be relied upon to curb speculative buying of real properties, the best policy would be to use property tax, which is imposed directly on the ownership of real estate, rather than the capital gains tax on real properties, which is imposed on the transfer of ownership. Both administrative difficulties on the tax collector's side and widespread tax evading efforts by the taxpayers nullified the Government's efforts to cool speculation on real estates via heavy taxation on capital gains from real properties.

In order to curb the increase in prices of real properties due to the perennial supply shortage and to lessen prevailing inequalities in the ownership of real estates, the Korean Government needed to introduce an annual, comprehensive, personal tax on the combined property holdings of the individual. However, the final outcome was disappointing because the actual decision by the Government in 1986 was to adopt the excessive land holding tax instead, effective from January 1988. The Government's interim proposal was an annual personal land tax as a supplement to the local property tax. The rate structure of the excessive land holding tax is progressive, ranging from 0.5% to 5.0%. However, its tax base is not comprehensive as only a limited portion of land is integrated into the tax base to be subject to tax.

In September 1988 a special committee to study on the public concept of the ownership of land was established to draft a proposal on various measures to deal with pending land problems. The proposal by the special committee included tax and non-tax measures. Important among these were introduction of a new system of assessing land, upward adjustment of the assessment ratio, establishment of the aggregate land tax (the global landholding tax) and the excessive land value tax, introduction of a ceiling on the holding of residential land, and adoption of the system to retake development profits. The "public concept of the ownership of land" has never been clearly defined by the Government, and is still used vaguely. Neither can be enactment was to reduce land price inflation by penalising land speculation and to recapture unearned, public conferred increase in value.

Three real estate-related laws to promote the "public concept of ownership of land" became effective in 1990 that were designed to promote economic justice by taxing "unearned income" from holding real estate and to achieve efficient use of land in fixed supply. These laws impose a ceiling on ownership

of residential land, a tax on profits from regional development projects, and a tax on profit from excessive and holdings.

Ceiling on ownership of residential land sets a maximum on ownership of residential land for each household and levies a tax on the amount of land held in excess of the legal limit. The limit is 200 pyong (600 m²) in Seoul and its five direct jurisdictional cities, and 300 pyong (990 m²) in the next six largest cities. Business corporations are not allowed to own residential land unless they are in the rental housing business.

Tax on profits from regional development projects is levied on the increase in land value associated with such projects as residential land development, land readjustment, zoning changes, and industrial site development. The tax base is the difference between "posted" land value at the completion and the initiation of such projects, less costs of development projects, less the "normal" increase in land value determined based on the interest rate on one-year-saving deposit and the national average rate of increase in land value. The tax rate is 50%.

Tax on excessive profits from landholding is a tax on capital gains realised from land for any reason and regardless of the type of land being sold. But its tax base is not comprehensive as only a limited portion of land is integrated into the tax base to be subject to tax. The tax applies to vacant lots, vacation home sites, factory sites or land attached to employee training and education facilities held by business corporation exceeding the legal limit, corporation-owned land not in proper business use, arable land owned by absentee landlords, and golf courses.

The tax is levied wherever the increase of land value during a one year period exceeds 150% of the "normal" rate or the rate of increase during a three-year period exceeds 100 of the "normal" rate. The tax is 50% of the base, which is defined as the increase in the value of land less capital expenditure and normal capital gains. This tax is controversial because it is levied on accrued gains rather than the realised gains. There is also a technical issue of determining whether a plot of land is used for proper business purposes or not.

The introduction of the excess land capital gains tax highlights are urgency of controlling real estate inflation and the accompanying real estate speculation and distortions in wealth distribution. Given that the excess land capital gains tax is extremely cumbersome to administer and fraught with shortcomings in compliance and administration, its introduction also demonstrates the lack of

effective and politically acceptable tax instruments for achieving the policy objectives. The intensity of the Government anti-speculation effort is also evident in the current state of the taxation of capital gains on real property, where the lowest marginal tax rate is as high as 40%.

One may argue that all the tax measure related to real estate distorted the tax system without creating any significant positive results in controlling real estate speculation and in improving the distribution of wealth. The fact that there is no solid evidence showing the effectiveness of the Korean tax policy in containing real estate speculation of wealth distribution may be what one would expect even if a well designed tax policy were in force.

There are many factors behind the real estate speculation and the concentration of real estate ownership. One important reason is an excessive increase in liquidity supply, due to excess supply of credits balance of payment surpluses. Another factor is political one.

Politicians announced blueprints for numerous development projects to be carried out when elected. In addition industrial investment became extremely unattractive mainly because of exhaustion of investment opportunities and increase in labour cost, capital owners began to seek a safe and easy way of making money or at least of safely hoarding their wealth. The public, losing confidence in the stability of the value of money, began to escape from financial assets. The real demand for housing was also increasing because of the rapidly rising income level of middle class workers. Unless all the above factors are considered in coherent policies and well designed tax measures are implemented in harmony, it may be impossible to contain real estate speculation and to improve wealth distribution.

The Comprehensive Real Estate Policy Package

The Korea Government unveiled a Comprehensive Real Estate Policy Package on August 31, 2005 to curb the instability of the real estate market and bring about its long term stability. The policy package aims to impose taxes more stringently, limit housing finance loans and supply more housing.

More specifically, the housing related tax system will be streamlined. The average effective tax rate for people who are required to pay the comprehensive real estate holding tax will be adjusted to 1% by 2009 from the current 0.15%. But households owning houses worth less than 600 million won in total at the

official valuation (750 million won at market price) will be exempted from the tax. In addition, transfer income tax based on actual prices will be imposed on households with two or more houses will be raised to 50% in 2007 from the current 9 to 36%. But the rates of acquisition tax and registration tax for housing will be lowered by 50 basis points from 2006. Besides this, people from the same household in a designated speculation prone area will be unable to take out loans backed by housing collateral in house areas. In a further move, an additional 3 million pyong of public land a year (15 million pyong over five years) will be provided for public housing and re-developing exiting towns. The price of all apartments built on such public land will be linked to their cost.

Regarding the land market, applicants for land purchases are required to submit a funding plan and the required holding period is extended from 6 months-1 year to 2-5 years. At the same time, a charge for development will be imposed on land development. For redevelopment and reconstruction, infrastructure charges will be imposed. The average effective tax rate on land owned for the non-business purposes will be raised to 1% by 2009 and a transfer income tax based on the market price will be imposed from 2006 on sellers of land, and fields for growing agricultural products who are not residents of the area concerned. From 2007, sales of all land and fields will be subject to taxation based on actual prices received.

As a result of the new reform policy, housing prices especially those of apartments to be rebuilt in Southern Seoul are expected to fall for a while. Next year, prices will fall even further as households with more than one house try to sell excess housing units. Land prices are also anticipated to fall except for land in areas slated for development. Falling real estate prices will negatively affect consumption and construction investment in the short term, which will lead to lower growth rates. But in the medium and long term, stable inflation will drive up consumption, which will result in a higher GDP growth rate. In particular, more stringent taxation and stable property prices will encourage resources to seek out more productive sectors and induce many positive effects such as improving housing and the investment environment, narrowing the gap between the rich and poor and laying the groundwork for social cohesion. Therefore, they are expected to contribute to heightening the growth potential of the domestic economy. On the financial side, funds concentrated in the property market will flow into more productive areas through the stock market and bring about positive effects such as lifting stock prices and slowing increases in interest rates.

3.4 Housing Provision for Low-Income Households

After the economic crisis in 1997, the Government expanded housing loan programme in order to first of all help housing developers by keeping housing demand at certain level. There are housing loan programmes although the details of the programmes have been changing.

Loans for the Housing Purchase Scheme accommodates households who do not own homes and want to buy houses with a loan of up to 70% of the house price of 100 million won at an annual interest rate of 6.5%. Loans for First time Home Buyers Scheme provide housing loan to households who purchase new houses for the first time. Up to 100 million won for 85 m2 or less or 70% of the house price. Loans for Chonseil Deposit Scheme provides housing loan to wage earners and low income households who do not own homes. A loan of up to 70% of the chonseil deposit or 60 million won is provided at low interest rate.

Landlords who purchase houses for rental business can get a loan of up to 60 million won for a dwelling unit at low interest rate. For housing redevelopment and improvement projects, housing loans of up to 20 million for a unit are provided at an annual rate of 9.5%.

Housing loans are also provided for the improvement of low income settlements; a loan of up to 15-20 million won for a unit of detached house or multi family tenements at an annual rate of 5.5%. In addition, Government owned land equipped with necessary infrastructure is also provided at reduced prices.

However, it is criticised that these schemes are not accessible to the urban poor in the lowest income bracket. Actual beneficiaries of the loan programmes are those who purchase houses and those who rent houses on chonseil basis. They are mostly middle or lower middle-income families. Most of the urban poor have no property they can offer as a security.

4. Housing Finance

Market based housing finance is a recent phenomenon in Korea. The primary mortgage market used to be dominated by the National Housing Fund (NHF) providing below market loans to low- to moderate-income households, and the Korea Housing Bank (KHB) serving a somewhat higher income clientele with amortising mortgages of 10-15 years in maturity. However, there was a substantial

amount of credit rationing in their operation. A ceiling on loan amount per household was enforced so that the loan-to-value ratio was typically below 30%. Only new houses were eligible for loans, and households with particular income or jobs profile were given priority. However, the market has changed significantly with financial deregulation in the early 1990s and privatization of KHB in 1997. The size of the primary market has increased substantially while more diverse products have been marketed and loan-to-value ratio has increased as competition among financial institutions intensified.

The secondary mortgage market was created as the MBS Company Act was legislated in 1999 and the Korea Mortgage Corporation (KoMoCo) was established in December 1999. KoMoCo was merged with the Housing Loans Guaranty Fund to form Korea Housing Finance Corporation (KHFC) as a state-owned financial institution in March 2004. KNFC purchases long-term fixed rate mortgages from commercial banks following underwriting guidelines and packages mortgage-backed securities (MBS).

In addition to the formal housing finance system, Korea has the chonseil housing finance mechanism. It emerged naturally from the environment of high inflation, financial repression, and housing shortages. Under this arrangement, the tenant gives the landlord a lump sum deposit in lieu of monthly rental payments. The deposit is fully refunded at the end of the lease, although complication can arise weak rental markets in which the landlord cannot find the new tenant in time for the departure of the exiting tenant. In some cases, the chonseil deposit serves as a financing source for the purchase of a house to let by the would-be landlord.

Total chonseil deposits in 1997 were estimated to be 107.8 trillion won, just about twice as large as the total mortgage loans outstanding of 64 trillion won. A more recent estimate suggest that total chonseil claims on apartments alone are 63.4 trillion won in mid 2001 compared with housing loans outstanding of 54 trillion won. Chonseil has become less important as a financing mechanism in recent years as monthly rental contracts and mortgage financing have become more popular than in the past.

4.1 Primary Market Lenders

The housing finance market in Korea has traditionally consisted of both public and private sectors, that is to say, public housing organisations such as the National Housing Fund and Housing Finance Credit Guarantee Fund, and the

private housing finance institutions such as commercial banks and insurance companies. In particular, before the financial crisis in 1998 when the Korean Housing Bank was privatized, public housing finance accounted for more than 80 percent of the Korean housing finance market. Accordingly, the development of the housing finance market, in particular the private housing finance market, was much slower than house of advanced countries.

Since the financial crisis in 1998, banks and other financial institutions realised that the credit risk management is needed in facilitating mortgage loans in order to lower default risks. And they started to supply more mortgage loans. Due to low interest rate, demand for mortgage loans has increased, which raises the ratio of housing loan balance quickly. In particular, housing related loans rapidly increased with short term loans having 3 year or less maturities, instead of long term loans found in traditional housing finances.

In March 2004, the Korean Government established a new institution under the long term housing finance market promotion policy, transferring the task of issuing Mortgage Backed Securities (MBS) from privately run Korea Mortgage Corporation (KoMoCo) to the publicly run Korea Housing Finance Corporation. The Korea Housing Finance Corporation established a new public housing financial institution to introduce housing mortgage loans and develop the housing finance remarkably.

The Government re organized KoMoco to establish the Korea Housing Finance Corporation, a Government funded organisation. This was due to the rapid growth of the housing finance market since 2000, which was driven by short term loans with low floating rates rather than traditional long term housing finance loans. The amount of short term mortgage loans rapidly increased, which lead to instability in housing finance market in addition to not effectively supporting renters.

In other words, short term housing loans led to speculative housing demand relying on the rise of housing price, creating instability in the housing market as well as finance market. As a result, the Government carefully considered long term housing finance measures to address the inadequacies. In March 2004, the Government established the Korea Housing Finance Corporation by merging KoMoCo, and introduced long term financing method of mortgage loans in order to develop a long-term housing finance market and stabilise the housing market.

The role of the KHFC was to change the housing finance market greatly by introducing a fixed rate mortgage loan system. The following objectives were sought:

At first, the development of a long term housing finance market was expected to help stabilise not only the housing finance market but also the housing market. Most of the consumer loans that were lent in the past three years will mature this year. This could increase instability in the financial market, therefore in order to remove unstable factors half of the housing loan needs to be converted into long term loans. In other words, the KHFC by introducing MBS to develop a long-term finance market, it will help to alleviate constraints caused by short-term financings in the commercial market.

In addition, the development of a long-term housing finance market is believed to be able to increase the opportunity for middle-income households, so that they could buy their own homes. These house purchasers would be able to make monthly repayments of the same principal and interest found in short term financing for 20 years while reducing the burden of having to pay the principals in a short period (3 years). In addition, repaying the principal and interest over 20 years generally increase nominal income, which spreading the burden of principals and interests over a longer period.

On the other hand, interest rates of long term mortgage loans are likely to fall to 1-2% because of the income deduction scheme of the Korea Housing Finance Corporation, which aims to shorten the period for purchasing a home. Based on data from the Korea National Statistical Office, Koreans took 10.8 years on average to purchase a home after getting married. KHFC's long-term mortgage loan programme applied a LTV 70% to allow most of households using chonseil to buy a home at any time. The younger first time home buyers are likely to purchase a home without their parent's help within five years of getting married, which would increase the home ownership rate up to 64%, a level equivalent to advanced countries within the next five years.

When Koreans buy their home easily with long term housing finance, they regard housing as an object for dwelling and enhances transparency of housing prices as well as transaction, which help to stabilise housing prices and curb real estate speculation. In addition, long term housing finance is likely to help introduce a sales on consumption system easily with which the Government is planning to protect consumers and to curb speculation. To do so, the Government needs to develop the finance market so that sales on consumption system can be established

and development project investors can operate stably by expanding long-term housing fund.

4.2 Types of Mortgage Loans

Recently, the housing finance market has rapidly developed in terms of not only quality but also quantity to a point where the various demands of customers are satisfied and loan products with different interest calculations, repayment and maturity, can be developed and provided. The housing finance loans are not based on fixed interest but follow variable rates linked with market interest rates (90 days CD yields). The degree of interest adjustment varies from 3 months to 1 year. Also, various methods of loan repayment such as fully amortised payment, deferred payment, gradual payment and balloon payment, have been established to satisfy customers' demand.

The housing finance market was reformed based on buyer-oriented market to change features of the mortgage loan. The average loan period for households that secured housing finance from banks was 12.1 years as shown in Table 3. Long-term loans exceeding 10-years totaled 44.4%, while short-term loans less than 5-years totaled 28.5%. The average loan period for households with loans since 2000 was 10.5 years, 2.4 years less than before. In particular, the proportion of short-term loans less than 3-years was 24.7%, double than previous. This is due to the efforts of financial institutions to supply short-term mortgage loans combined with the consumers' preference for short-term loans having low interest rates with a variable interest rate. On the other hand, since 2000, long-term loans with loan periods of more than 10-years decreased greatly, accounting 33.8%.

Table 3: Types of Housing Loans (by loan period)

Year	Average	3-years or less	3 years-5years	5 years-10 years	More than 10 years
Before 2000	12.9	13.3	25.5	25.5	49.1
After 2000	10.5	24.7	31.6	31.6	33.8
Total	12.1	17.1	27.5	27.5	44.0

4.3 Mortgage-Backed Securities and Other New Mortgage Finances

Short term home equity loans and floating rate loans make up most of Korean mortgage lending, exposing banks to significant refinancing risk. According to FSS, out of 301 trillion won of retail loans in the Korean banking system, 84.1 % are floating rate loans; a 1% increase in the lending rate would trigger a 2.5 trillion additional interest payment. The market estimates that only 3% of loans are Western style long term fixed rate loans, compared with 60% in the U.S. According to the FSS, 42 % of Korean banks' housing loans at the end of 2004 matured within 1year, posing a concern over refinancing risk.

To remedy this, the Government set up the Korea Housing Finance Corporation (KHFC) in March 2004, introducing a longer-term mortgage product. Most commercial banks started to sell KHFC mortgage product in March-December 2004 KHFC's total mortgage lending amounted to 3.3 trillion won. KHFC funded most of this through issuing 3.16 trillion won of MBS into the local capital market.

KHFC has sales contracts with 21 financial institutions - eight nationwide commercial banks, six regional banks, three policy banks and four insurance companies. In selling KHFC products, the commercial banks transfer credit risk to the KHFC and only take 60 bp annual commissions for sales and administration services.

Since the Government requires commercial banks to apply conservative LTV ratios, a secondary market for mortgage lenders has emerged. This mostly consists of Korea's 109 savings banks, with total assets of 34 trillion won at end 2004.

The FSS estimates the aggregate size of the secondary mortgage market as 4.1 trillion won, or 2.4% of banks' mortgage lending at end 2004. Savings banks apply a higher LTV ratio than banks, though it was reduced to 70% from 80% in July 2003 and to 60% in June 2005 for speculative areas. Some borrowers have therefore taken loans from savings banks rather than commercial banks despite higher interest rates. The FSS estimates that only 25% of these loans were secondary mortgages taken on top of mortgage loans from commercial banks. Given the smaller size of mortgages extended by savings banks in the secondary mortgage market and the reduction of the 80% LTV ratios, it is not considered that the risk for health of the sector overall would be significant.

5. Interrelation with Other Macroeconomic Variables

5.1 Housing Market and the Economy

Record low interest rates and the rapid expansion of consumer credit since 2000 are thought to have been a major contributing factor to soaring apartment prices in Seoul over the last few years. The average interest rate on consumer loans was 10.9% in 1999 but it fell to 8.2% in 2001 and further to 6.3% in 2003. The outstanding balance of consumer loans, including housing loans but excluding credit card debt was 192 trillion won at the end of 1999. The balance doubled within the next 3 years to 391 trillion won by the 2002 year-end, and stood at 421 trillion at the end of 2003. Such a drastic increase in consumer credit represents a clear shift in banks' lending policy. As of 1999, consumer credit accounted for 31.6% of the loan portfolio of banks while the remaining 68.4% were loans to corporations. The share of consumer credit increased to 44.1% by 2001 and to 47.6% in 2002. Important reasons for the shift are the corporate demand for funds that shrank due to the sluggish economy and banks became more cautious about risks associated with corporate lending.

The rapid expansion of consumer credit is likely to have had a strong impact on the housing market. A survey by The Bank of Korea indicates that 68% of consumer loans were collateralised by houses and about 56% of the loans were used to finance home purchases in 2002. On the other hand, a strong housing market implies an increase in the value of potential collateral for consumer credit.

A set of Granger causality tests designed to establish the causality between consumer credit and the price of housing is reported in Table 4. The test results reveal a pattern of two-way causality between changes in housing loans and housing price, whereas the causation between more broadly defined consumer loans and housing price is less clear.

Housing investment represents a sizable component of a typical national economy. On average, it accounts for 2-8% of national output and 10-30% of total fixed capital formation. Table 5 represents data on the level of housing investment relative to the size of the economy and the nation's total investment since 1970. During the 32-year period, residential investment accounted for 5.6% of the GDP and 21.3% of total investment. These numbers are comparable to the world averages of 5.5% and 23.4% reported by the World Bank. The figures ranged from 3.1 % to 8.9% and from 13.9% to 31.0% respectively. The Table

Table 4: Granger Causality between Credit Expansion and Housing Price:1996-2002

Related pair of variables	Null hypothesis	p vaule
% change of consumer loans(DCL) vs % change of market cap of APT in Seoul(DMCA)	DCL-DMCA	0.1265
	DMCA-DCL	0.0031
% change of consumer loans(DCL) vs % change of housing price index(DHP)	DCL-DHP	0.156
	DHP-DCL	0.0618
% change of housing loans(DHL) vs % change of market cap of ATP in Seoul(DMCA)	DHL-DMCA	0.0008
	DMCA-DHL	0.0007
% change of housing loans(DHL) vs % change of housing price index(DHP)	DHL-DHP	0.0045
	DHP-DHL	0.0214

reports data on housing development grouped into three sub periods to capture a major change in Government housing policy in 1988 and the outbreak of economic crisis in 1997. One can see that housing investment took a big jump in 1988 and came down after the economic crisis.

Table 5: Housing Investments

Period	Percentage share	Max	Min	Average	SD	CV	Skewess
1970-1987	GDP	6.8	3.1	4.9	0.89	0.18	0.045
	Total investment	31	17.5	22.2	3.94	0.18	0.713
1988-1996	GDP	8.9	5.3	7.4	1.12	0.16	-0.657
	Total investment	24.7	18.8	21.5	2.27	0.11	0.238
1997-2002	GDP	6.3	3.9	5	1.05	0.21	0.661
	Total investment	21.4	13.9	17.4	2.51	0.14	0.484
1970-2002	GDP	8.9	3.1	5.6	1.51	0.27	0.675
	Total investment	31	13.9	21.1	3.73	0.18	0.608

Housing investment fluctuate according to macroeconomic conditions as well as housing market conditions. It is one of the most volatile components of national output. The Table summarises growth rates and the variations in the growth rates of a few components of GDP. Over the last three decades, investment in residential housing registered an average annual growth rate of 9.1% exceeding the average growth rate of GDP, which was 7.3%. But the growth rate exhibited the largest fluctuation around the average as can be seen from its standard deviation. The coefficient of variation was about 4.5 times that of GDP.

A related issue concerns the role of residential and non-residential investment as contributors to change in GDP. A series of Granger causality tests were conducted to see whether residential and non-residential investment Granger cause GDP, and whether GDP Granger causes each of the two types of investment. The result suggests that causality runs from both residential and non-residential investments to GDP as well as from GDP to each type of investment. It appears that housing is both a driver of GDP and a follower of fluctuations of the wider economy.

As a result of the large increase in new construction that started in 1989, the average price per apartment stabilised since 1992 and the market capitalisation increased at a moderate pace until 1997 while the stock of apartments increased substantially. Then, the total market valuation of apartments dropped by 20 trillion won in 1998 following the outbreak of the economic crisis in November 1997, but its pre-crisis level was regained within the next year or so. Apartment prices then started rising in 2000 and the pace of appreciation accelerated in 2002, during which year the total valuation of apartments in Seoul gained a whopping 84 trillion won. The market capitalisation as of December 2003 is 369 trillion won which is more than ten times as large as that of 1988. The increase in housing wealth can be attributed to increase in price and quantity. During the last 15 year period, the price per pyong (3.3 square meter or 27 square feet) rose by 4.1 times, and the stock of apartments increased by a factor of 2.7. Finally the value of apartment wealth in Seoul is larger than total market valuation of stocks listed on the Korea Stock Exchange, a complete turnaround in relative size from 1988.

Housing stock evolves from cumulated investment in housing over the years. Thanks to massive investments since the late 1980s, the nation's housing stock increased remarkably. The total number of dwellings was 6.1 million in 1985 but this figure jumped to 9.2 million by 1995 and to almost 11 million by 2000. As

a result, the number of dwellings per 1000 persons rose from 155 to 238 during the 15-year period.

The market value of the housing stock constitutes a large chunk of household wealth. According to a recent analysis of household panel data reveals that the value of primary residence (in the case of owner-occupants) and the key money deposit (in the case of renters) has been 4.9 times as large as financial assets and represented 83% of total household wealth in 2001 (Yoo, 2004).

Table 6: Comparison of Household Portfolio

	Korea	Germany	USA	Netherlands
	(2001)	(1997)	(1998)	(1998)
Financial asset	17.0	28.0	40.0	27.6
Non-financial asset	83.0	72.0	60.0	72.4

Source: Yoo(2004)

The wealth effect of housing assets on consumption constitutes an alleged important nexus between housing and aggregate demand, but the exact mechanism and the magnitude of this effect are controversial. Miles (1994) argues that higher real house prices benefit those who want to “trade down” but hurt the first time homebuyers and those who want to “trade up”. Therefore, the aggregate wealth impact on consumption is likely to be small unless domestic residents sell their houses to foreigners to cash out the capital gains. As for the differential impact of the housing wealth effect on consumption, some or all of the increased consumption by current homeowners could be offset by increased savings of renters. But a recent analysis of a panel data of US and Western countries suggests that higher housing price reduce the savings of renters. The study finds strong evidence of the housing wealth effect; but the impact of stock market wealth is negligible.

A similar relationship has been investigated using Korean data. A linear and log linear consumption functions has been estimated using 1988.4/4-2003.2/4 quarterly data. In both specifications real consumption was regressed on real gross national income, total market value of apartments in Seoul deflated by the

consumer price index, and the stock market valuation in constant prices. In the linear model, consumption is found to be co-integrated with the three explanatory variables, with both housing wealth and stock market wealth having a positive impact on consumption. The elasticity of consumption with respect to housing wealth is about three times as large as that of stock market wealth, which is consistent with Case et al. (2003).

5.2 Housing Market and the Transmission Mechanism of Monetary Policy

Cho (2004) discusses the relationship between interest rates and inflation rates on one part and the house prices (typical real asset price) relative to chonseil price (typical nominal asset price) on the other. The key point of the paper is that the relative price of sales to chonseil depends on the ratio of inflation to real interest rates. Therefore, even when the monetary authority maintains a pre-announced target level of inflation rate, the relative price of sales to chonseil rises if the real interest rate declines. This finding seems to help understand the recent hikes of the house prices despite the stabilising chonseil prices.

It is not clear whether the monetary authority should be concerned about the changes in this ratio. The answer should be sought in the context of the debate about whether the monetary authority should be concerned with the fluctuation of asset prices in the first place.

The recent volatility in asset prices under the stable and low inflation environment has triggered a challenge on the standard inflation-targeting framework. While a majority of economists still support the standard monetary policy framework represented by Taylor rules, a group of economists argue that the monetary authority need to react to asset price bubbles in order to stabilise the economy.

In addition to its implication on short-run economic fluctuations, however, the changes in the relative housing price between sales and chonseil generate significant implication about wealth distribution in the future. Unless the capital market is perfect, therefore, a rise in the sales price relative to chonseil price is very likely to worsen the wealth distribution.

If the fluctuation in interest rates and the induced fluctuation in the relative house prices are cyclical, the implication about wealth distribution is temporary. If the real interest rate secularly declines, however, it may permanently deteriorate

the wealth distribution. In fact the secular decline in capital productivity and real interest rates is a likely scenario in developing economies like Korea, although it may not be common in developed economies. In this case, the monetary authority may at least in theory consider preventing such an "undesirable" deterioration of wealth distribution by lowering the target inflation rate in proportion in the decline in real interest rate.

So far housing prices had shown a stable trend after the initiation of the countermeasures on October 29, 2003, but late in January 2005, they shifted back to an upward trend as anticipation of renewed rises became widespread, fuelled by a sharp rise in apartment prices in Seoul and surrounding areas. Land prices also rose on a large scale, particularly in districts in which development plans were being pursued.

Accordingly, arguments were put forward for the necessity of adjusting the call rate target upwards. With the business outlook still obscure, however, The Bank of Korea considered that it was not desirable to adjust the policy rate, which influences all aspect of the economy, for the sake of the stability of real estate prices. In addition, there was need to observe the effects of the additional controls on housing finance loans put in place at the beginning of July by the financial supervisory authorities and the planned unveiling of the Government's comprehensive package of real estate stabilisation measures at the end of August.

5.3 Housing Prices and Inflation

5.3.1 Housing Price Trends

Housing price fluctuates due to factors pertaining to housing demand and supply such as construction cost and land price. But house price fluctuations are also driven by macroeconomic variables such as income and interest rate. Figure 5 (Housing price, Land price and Nominal GDP: 1986-2002) illustrates the rates of changes in house price, land price, and nominal GDP since 1986. Several points can be made from the graphs. First, house price and land price moved together for most of the time. This is not surprising because land is the most important ingredient in the production of housing and because its supply is tightly controlled by Government. Second, fluctuations in house price have become very closely correlated with that in nominal GDP since the outbreak of the Asian economic crisis. Housing price dropped sharply in 1998 and bounced back in 1999 in tandem with the overall economic recovery. Thirdly, the latest house

price run-up exceeded the pace of GDP growth by a wide margin. This raises the question of whether there is a bubble in the housing market.

It is worthwhile to point out that, contrary to the general perception in Korea that housing prices increased consistently and rapidly until mid 2004, in actuality the increase in housing prices was rather mild. This may be an indication that the rapid increase in prices occurs in select areas or periods only. This argument is confirmed in Table 7.

As show in the Figure, housing and apartment prices soared from 1988, peaking in early 1991, and then, falling in mid 1991, after which a stable movement was maintained for the next five years. Just before the outbreak of the economic crisis in late 1997, prices seemed to be on the verge of rising. However, prices slipped sharply amid the economic turmoil, before taking about four years to recover to pre-crisis levels. Prices kept increasing rapidly since 2001, until strict Government regulations to curb property speculation were announced in October 2003.

Table 7 indicates the possible presence of 'speculative frenzy' on real estate in particular regions, such as areas south of the Han river (Gangnam), the premier residential area in Seoul. Over the period of 2001-2003, apartment prices in the Gangnam area registered an average growth of 24.3% per annum. This implies that housing prices increased by two-fold in about three years. If we consider apartment prices in the two most popular areas in Gangnam, the increase rate of prices should be even higher.

While some economic factors must have been behind the movement in house prices, it is controversial whether Government policies somehow have been a major factor in determining housing prices in Korea. The Government has used a variety of instruments to intervene in the housing market. For example, since housing prices began increasing rapidly from 1989, the Government suppressed speculative demand for land through punitive taxation and restriction to transactions to keep demand within the supply limit. This policy is based on the philosophy that the holding and trading of land can be restricted and benefits from real estate transaction can be collected by Government in the interest of the public.

While not apparent in the tables in the appendix, chonseil prices kept increasing with some fluctuation until the economic crisis. Chonseil prices in 1991 jumped by 20 percent compared to 1989. Chonseil prices also experienced structural

Table 7: Average Annual Growth Rate in Housing Price by Period and Region

		Nation		Seoul	
				Gangnam	Gangbuk
1986-1991	Total	10.8	9.5	12	6.7
	APT	15.4	14.1	14.4	12.4
	Detached House	8.7	6.9	8.8	5.8
	Row House	11.2	10.8	13.4	7.4
2001-2003	Total	0	0	0.5	-0.4
	APT	1.4	1.5	2	0.7
	Detached House	-1.1	-1.1	-1.6	-0.9
	Row House	-0.3	0	0.5	-0.6
1998-2000	Total	1.9	4.3	6.7	1.7
	APT	4.9	8.3	10	5.4
	Detached House	-1.4	1.1	2.5	0.3
	Row House	-0.6	0.9	3.1	-1.5
2001-2003	Total	11	14.4	18.7	94
	APT	16	20	24.3	12.6
	Detached House	4.2	10	11.7	8.9
	Row House	6.4	6.8	9	4.4

changes around 1997 and 1998, which reflects exogenous shocks from the economic crisis.

After a sharp drop, chonseil prices went through a period of adjustment for one year, before beginning to increase rapidly in 1999. Several studies confirmed that housing prices together with the interest rate and business cycle index went through structural changes around the period of the economic crisis in late 1997. In particular, structural changes were obvious in chonseil prices both in the metro-area and medium-small towns during the boom period after 1988 Seoul Olympic games and around the economic crisis.

5.3.2. Housing Price and Inflation

Supply of housing is fixed in the short run because it takes time to build new houses. Therefore, an increase in housing demand driven by macroeconomic variables leads to an increase in housing price. House price can be a leading indicator of inflation because supply is more responsive to demand in other goods

markets. Increases in house prices also affect workers' demand for wages. For these reasons, housing price increases are claimed to provide useful information in predicting inflation.

The table in appendix illustrates the trend in inflation of the consumer price index and those of housing purchase price index and chonseil deposit index, where inflation was measured in month-over-month rate of change. As a general rule, CPI inflation appears to trace closely the inflation of the purchase price of housing. However, it is not obvious whether there is any causality and in which direction the causality runs, if it does not exist.

Table 8 summarises the results of Granger causality tests between housing price and inflation. Several lag structures were considered and the figures reported are based on a one-month lag. Two price indexes were analysed, the purchase price index and the chonseil deposit index. The data are the average over all cities covered by the KB house price index published every month since 1986. The test statistics suggest that the causality runs in both directions between the changes in house price indexes and that of the consumer price index. In other words, not only does house price index provide useful information in the next month, inflation tends to lead to higher housing price with the same lag. As for the causality between the asset price index and chonseil deposit index, chonseil price index causes house purchase price index but not vice versa, when a one-month lag is assumed. This can be interpreted as the rent increases being capitalised into the asset price.

Table 8: Granger Causality between Housing Price and Inflation 1986-2003

Related pair of variables	Null hypothesis	p value
% change of purchase price index(DHPI) vs % change of consumer price index(CPI)	DHPI ¹ >DCPI DCPI ¹ >DHPI	0.0093 1.1*10 ⁵
% change of chonseil deposit index(DCDI) vs % change of consumer price index(CPI)	DCDI ¹ >DCPI DCPI ¹ >DCDI	0.0026 3.6*10 ⁵

10000
50

5.4 Housing Finance and Capital Market

In the past, the housing finance market was considered to be a supplier's market. However, after the reform, it has become a consumer's market. This enables the development of new financial sources such as the issuance of Mortgage Backed Securities (MBS). In Korea, immediately after the financial crisis in 1998, the Government introduced MBSs which were managed by KoMoCo in the initial stages. In March 2004, KoMoCo was reorganised, becoming KHFC, a Government funded organisation, which took over the operation of MBSs.

The MBS market is expected to provide very beneficial economic effects to all market participations, and KHFC is expected to play a role for the time being. The KHFC will provide home buyers with long term loans which are free from lump sum payments found in short term loans that are rolled over. This can allow financial institutions supplying housing loans to address the problem of BIS capital ratio in order to overcome difficulties in the financial management of long-term loan.

MBS can give investors new financial products that provide risks different from stocks, securities and other financial assets, which further expand the range of investment opportunities and help in the management of risk. In terms of the overall national economy, the MBS market is likely to help stabilise the long-term bond market by replacing the under-developed long-term Government bond market.

The development of a long-term housing finance market can stabilise not only the financial market but also the housing market. To overcome the financial crisis in 1998, the Government enacted the MBS Law and promoted the long-term housing finance market. However, the policy fell short of meeting its objectives for the following reasons:

Firstly, most homebuyers regarded housing not as a dwelling but as a means of amassing wealth. Many homebuyers preferred short-term loans with low floating rates to housing loans with higher interest rates. This led to homebuyers to sell their housing after their value increased to realise a shift. As a result, the demand on long-term housing finance was low.

Secondly, the source of financial institutions for supplying loans was mainly by temporary deposits, which make it very difficult to manage assets in the long-

term. Also, loan supplies preferred short-term loans to long-term loans due to poor competitiveness of long-term finance supply.

Thirdly, the issuance and the market for MBSs had not been developed yet. In Korea, the long-term bond market was still underdeveloped with no benchmark interest rate, which in turn made it difficult to promote MBSs. Furthermore, KoMoCo was operated in the form of a private sector company, and hence, it had a low credit rating, and could not manage the underdeveloped finance market.

The Korea Housing Finance Corporation (KHFC) was founded to address these problems, and made efforts to develop a MBS market by actively buying new mortgage loans immediately rather than securitising mortgage loans. In 2004, six months after KHFC was founded, 2 trillion and 205.6 billion won of long-term mortgage loan was supplied. KHFC was able to develop long term mortgage loans due to several factors including higher income deduction of interests on long term housing loans, alleviated LTV limitations, MBS swaps and other incentives, etc.

KHFCs long-term mortgage loans were found to have different features from existing housing loans. First, the introduction of mortgage loans has extended loan period of housing loan. Despite existing long term loans, mortgage loan had lower interest rates than existing long-term loans to reduce the interest rate spread between housing loan products. The LTV rose more than 50% to help homebuyers reduce their financial burden and reform the housing finance market, while a 30% limit on PTI helped minimised default risks.

The MBS market can promote MBS investment that would help lower mortgage loan rates, consequently expanding the housing finance market steadily. The MBS market however, has not developed fully because of small scaled issuance of MBSs in terms of maturity, call options, and insufficient on early repayment.

6. Conclusion

The housing market and housing finance market are expected to be integrated as the housing finance market and mortgage market are activated. The study investigated current conditions of Korean housing finance market after introduction of mortgage loans.

The following suggestions are made for the future housing policy directions for the enhancement of transparency and effectiveness in the housing market. They are basically of the four types; deregulation consistent with market oriented economic and financial policy, promotion of housing industry, improvement of policy instruments; housing finance and housing related taxation in particular, and equitable distribution of housing welfare.

As emphasized, various Government controls have been partially, if not totally, responsible for market distortion as partly evidenced by extremely low estimates of demand, supply, and production parameters. They are detrimental to the expansion of housing production as much as to the provision of a variety of housing. Housing industry has been slow to adjust to changes in input markets as well as in demand. The industry is still overly regulated by way of special laws. Even the Housing Construction Promotion Law seems to serve the industry very poorly, because it emphasizes on "regulating" rather than promoting the industry.

These laws and regulation must be completely overhauled; relevant ones must be streamlined and strengthened whereas irrelevant ones must be eliminated and if applicable, their statutory power must be terminated.

At the same time the housing industry must be actively promoted. Most important is to strengthen the housing finance system in order to help the small and medium sized builders actively participate in housing development. The key strategy is to have as many capable firms compete in quality housing production. Infrastructure financing is another subject that must be strongly addressed to when promoting residential development. Some of the financing techniques being widely utilized in advanced countries should be thoroughly examined for their possible application to Korean situation. It is evident that the urban infrastructure development can't be successful unless it is tied into capital market.

Tax incentives are more effective in promoting the industry. They can be used to discourage production of luxury units and to promote the low and moderate income housing construction. Both local and national taxes can be combined to maximise the effects of tax incentives and disincentives. Studies may be required to determine the degree to which different types of tax will affect the housing market, with particular emphasis on production, price and supply.

Both financial and taxation can be employed to indirectly manipulate housing demand also. For example, when excess demand occurs, one can adjust lending

terms to reduce it. Similarly, when one either over consumes or under consumes housing, tax measures can be used to "normalize" the housing consumption behavior. Up to now, however, these tools are not adequately developed. One must realise that improvement in housing finance, both in volume and in allocation efficiency, is the key to effective housing policy.

The other important agenda is the way in which these policies are reconciled with those dealing with the national economy. The macro-economic policy, as briefly reviewed, is very likely to discourage the housing investment deliberately. However, any arbitrary measures to substantially reduce the housing investment may pose serious problems when the society demands more and better housing. If such a demand is tightly controlled, housing situation will get worse as Korea previously experienced throughout the 1980's. Housing investment basically represents the average propensity to consume for housing, and thus, it should be considered as an anticipated aggregate consumption for housing.

Housing consumption accelerate with rise in income. One must realise that the housing investment is, therefore, affected by the underlying pattern of household demand for housing. What the Government must do is to moderate the housing investment in a manner that is consistent with the national economic policy direction.

The Government is also responsible for equitable distribution of housing welfare. In so doing it must put an end to housing speculation once and for all. Eventually the income tax system needs to be drastically revised to deal with speculation problem. People should recognise that "when there is income, there is tax". Nobody should not be exempted from tax payment. Fair taxation requires the real estate transactions to be transparent and honest. Global standards must be applicable in real estate industry as well. All these actions, if taken properly and timely, will help make the housing industry more competitive.

Finally it should be re-emphasised that the role of the Government is basically twofold; one, institutionally modernising and advancing the housing and related industries at the initial stage of development, and two, indirectly modernising and facilitating the market once the country becomes economically matured. Housing is viewed both as an asset and as consumption good. Both aspects may have to be equally considered from the policy standpoint, but the latter aspect is much more important than the former when a country moves toward a welfare society. The Government may have to intervene in the market if the latter cannot allocate housing resources in favour of the poor and the disadvantaged. The problem

with the Korean Government was that it did for a wrong cause, i.e., simply to stimulate the market without due considerations of the policy's impact such on income and asset distribution.

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Appendix: Data

I. Overview

A. Macroeconomic Characteristics

(1) Total Population (by age)

	1980	1990	2000	2001	2002	2003	2004
Total	38,123,775	42,869,283	47,008,111	47,353,519	47,615,132	47,849,227	48,082,163
0 – 4	4,033,727	3,203,203	3,259,783	3,158,386	2,998,000	2,834,115	2,686,757
5 – 9	4,458,426	3,843,481	3,521,464	3,532,609	3,494,533	3,415,126	3,319,682
10 – 14	4,458,622	3,926,908	3,129,982	3,157,876	3,232,999	3,324,194	3,410,958
15 – 19	4,519,689	4,442,014	3,842,432	3,618,362	3,397,769	3,227,802	3,116,530
20 – 24	4,093,407	4,342,407	3,854,382	3,931,939	4,008,210	4,044,414	3,988,212
25 – 29	3,072,797	4,326,749	4,352,913	4,219,692	4,054,718	3,929,643	3,860,243
30 – 34	2,525,214	4,134,702	4,247,992	4,319,626	4,398,578	4,438,291	4,428,884
35 – 39	2,279,565	3,042,329	4,273,079	4,228,145	4,181,594	4,148,758	4,173,661
40 – 44	2,178,570	2,477,748	4,020,438	4,147,459	4,258,989	4,315,335	4,287,669
45 – 49	1,756,088	2,166,709	2,921,443	3,161,905	3,350,914	3,577,143	3,814,653
50 – 54	1,324,926	2,021,714	2,365,862	2,427,903	2,507,121	2,570,558	2,674,137
55 – 59	1,130,835	1,589,504	2,006,389	2,007,443	2,041,511	2,116,552	2,215,949
60 – 64	835,876	1,156,731	1,817,056	1,860,902	1,911,264	1,931,958	1,923,056
65 – 69	623,957	900,851	1,381,212	1,465,825	1,536,170	1,603,328	1,660,982
70 – 74	425,995	598,852	922,213	967,139	1,031,130	1,095,793	1,163,330
75 – 79	227,859	393,129	608,084	632,384	660,691	690,603	727,601
80 –	178,222	302,252	483,387	515,924	550,941	585,614	629,859

(2) Some other Indicators

Name	Unit	1980	1990	2000	2001	2002	2003	2004
Population growth	%	1.57	0.99	0.84	0.73	0.55	0.49	0.49
Population density	Person/	385.1	431.8	482.4	485.1	487.2	490.2	492.4
GDP(1)	billion USD	63.8	263.7	511.8	482.0	546.9	608.0	680.1
GDP(2)	billion USD	57.8	112.9	128.0	116.3	128.4	139.0	151.4
GDP per capita(1)	USD	1673.5	6151.3	10887.5	10178.8	11485.8	12706.6	14144.5
GDP per capita(2)	USD	1517.3	2633.7	2722.1	2456.7	2696.1	2904.0	3149.3
Household income exp.(1)	billion USD	9.84	32.97	67.61	65.11	74.55	79.88	85.63
Household income exp.(2)	billion USD	34.89	64.12	67.63	62.15	69.21	71.72	74.33
Inflation	%	28.7	8.6	2.3	4.1	2.7	3.6	3.6

Note: (1) is nominal and (2) is real term

B. Relevance of Housing Market Development

(2) Ratio of housing loans to bank loans.

(unit: Billion won)

Month		Bank loans (a)	Housing loans (b)	% (b/a)
2004	01	543,894	1,604	0.29
	02	548,387	1,600	0.29
	03	553,624	1,590	0.29
	04	557,483	1,588	0.28
	05	561,227	1,594	0.28
	06	560,961	1,548	0.28
	07	563,483	1,554	0.28
	08	565,923	1,592	0.28
	09	567,135	1,565	0.28
	10	570,395	1,580	0.28
	11	572,392	1,577	0.28
	12	565,655	1,547	0.27
2005	01	568,934	1,542	0.27
	02	570,980	1,540	0.27
	03	571,698	1,517	0.27
	04	577,621	1,514	0.26
	05	583,456	1,512	0.26
	06	586,739	1,493	0.25
	07	593,173	1,482	0.25
	08	597,123	1,520	0.25

II. Housing Sector Overview

A. Market Size and Structure

Name	Unit	1980	1990	2000	2001	2002	2003	2004
Number of households	households	7,969	11,355	14,312	14,834	15,064	15,298	15,539
Number of households	households	7,470	10,167	11,928	12,099	12,432	12,821	NA
Housing stock	1000 Household	5,450	7,357	11,472	11,892	12,358	12,669	NA
Housing sales	1000 Household	212	750	433	530	667	585	NA
Housing shortage	1000 Household	2,020	2,810	456	207	74	152	NA
Housing supply ratio	%	71.2	72.4	96.2	98.3	100.6	101.2	NA
Housing investment	Billion won	2,113	16,354	24,983	28,210	31,431	32,714	NA
HIC/GDP	%	5.45	8.76	4.32	4.69	4.89	4.94	NA

III. Housing Policy

Households by Type of Occupancy

(Unit : 1000 households)

Nationwide	Total	Own House	Yearly Rent	Monthly Rent	Free
	14,311.8	7,753.1	4,039.5	2,113.4	405.8
	Total	Own House	Yearly Rent	Monthly Rent	Free
Seoul	3,085.9	1,263.4	1,271.3	502.6	48.6
Busan	1,120.1	582.7	331.2	187.6	18.6
Daegu	759.4	377.8	227.0	138.3	16.3
Incheon	747.3	441.5	202.1	89.9	13.8
Gwangju	408.6	209.2	131.7	60.1	7.6
Daejeon	413.8	211.9	119.7	70.1	12.1
Ulsan	306.7	166.6	75.6	51.3	13.2
Gyeonggi	2,668.8	1,390.9	862.9	346.8	68.2
Gangwon	487.4	288.6	85.1	84.8	28.9
Chungbuk	461.4	284.0	86.7	73.4	17.3
Chungnam	589.1	389.6	92.1	77.8	29.6
Jeonbuk	602.1	395.2	103.2	85.5	18.2
Jeonnam	664.3	469.5	107.8	57.9	29.1
Gyeongbuk	887.9	596.2	139.1	111.9	40.7
Gyeongnam	951.4	598.7	188.8	134.5	29.4
Jeju	157.6	87.3	15.2	40.9	14.2

Housing Space

		Floor space (m ²)					Rooms Ratio Household Occupied (%)				
	Year	Per House hold	Per House	Per Capita hold	Per House	Per Capita	House-hold	House-holds	House-holds	House-holds	House-holds & over
Whole Country	1975	58.2	41.4	8.2	3.1	2.2	2.3	75.6	15.1	5.5	3.8
	1980	68.4	45.8	10.1	3.3	2.2	2.1	71.8	16.9	6.6	4.8
	1985	72.6	46.4	11.3	3.5	2.2	1.8	69.7	16.8	7.5	6.0
	1990	80.8	51.0	13.8	4.0	2.5	1.5	72.2	13.7	6.9	7.3
	1995	24.4	59.0	17.2	4.6	3.1	1.1	81.7	8.4	4.4	5.4
	2000	24.7	pyung 63.1	20.2	4.8	3.4	0.9	87.1	5.8	3.0	4.1
Urban Area	1975	65.6	35.8	7.4	3.5	1.9	2.5	51.6	28.6	11.6	8.3
	1980	77.3	41.1	9.3	3.8	2.0	2.2	51.1	28.3	11.7	8.9
	1985	83.9	44.5	11.0	4.0	2.1	1.9	53.8	24.6	11.8	9.8
	1990	88.0	48.3	13.0	4.4	2.5	1.5	62.0	17.9	9.6	10.5
	1995	25.7	56.9	16.3	4.9	3.1	1.1	77.0	10.1	5.7	7.3
	2000	25.6	pyung 61.3	19.2	5.0	3.4	0.9	84.3	6.7	3.8	5.1
Rural Area	1975	53.5	47.2	9.0	2.9	2.5	2.1	90.5	6.8	1.7	1.0
	1980	60.7	52.5	11.1	2.9	2.5	1.9	89.8	7.0	2.0	1.2
	1985	58.9	50.1	12.0	3.0	2.5	1.7	89.1	7.2	2.2	1.5
	1990	67.5	58.7	15.9	3.1	2.5	1.3	90.9	5.9	1.8	1.3
	1995	21.0	pyung 66.0	20.2	3.7	3.0	1.1	93.5	4.3	1.3	0.9
	2000	22.1	pyung 69.8	23.1	4.3	3.4	0.9	95.2	3.3	0.9	0.6

Housing Construction

(unit: house)

Year	Total	Public Sector	Private Sector
1995	619,057	228,232	390,825
1996	592,132	232,285	359,847
1997	596,435	219,025	377,410
1998	306,031	131,049	174,982
1999	404,715	151,327	253,388
2000	433,488	140,261	293,227
2001	529,854	127,927	401,927
2002	666,541	123,730	542,811
2003	585,382	120,522	464,860

Trend of Housing Investment by Year (2005. 4.1)

(unit: billion won)

Year	GDP (a)	Gross Construction Investment	Housing Investment (b)	Rate of Increase	(b/a)
1995	467,099.2	105,065.9	34,665.2	-	7.4
1996	499,789.8	112,918.2	35,623.0	2.8	7.1
1997	523,034.7	115,477.0	33,891.8	-4.9	6.5
1998	487,183.5	101,196.9	29,347.0	-13.4	6.0
1999	533,399.3	97,403.8	27,556.1	-6.1	5.2
2000	578,664.5	96,676.2	24,983.0	-9.3	4.3
2001	600,865.9	102,437.6	28,209.9	12.9	4.7
2002	642,748.1	107,882.8	31,431.1	11.4	4.9
2003	662,474.4	116,057.5	32,713.9	4.1	4.9

IV. Housing Finance
A. Primary Market Lenders

	Total loans by banks (o)	Housing loans by bank (k)	Total housing loan (l)	Ratio (k/o)	Ratio (l/o)
1995	152,478	17,675	3,074	11.6	2.0
1996	177,184	18,869	3,548	10.6	2.0
1997	200,401	21,084	4,992	10.5	2.5
1998	200,289	21,242	7,735	10.6	3.9
1999	250,240	22,748	8,254	9.1	3.3
2000	310,804	27,744	10,628	8.9	3.4
2001	357,384	31,563	9,765	8.8	2.7
2002	471,684	45,679	11,518	9.7	2.4
2003	538,261	54,425	8,272	10.1	1.5
2004	565,655	60,296	3,852	10.7	0.7

V. Interrelation with Other Macroeconomic Variables

A. Housing Market and the Economy

(i) mortgage credit as a proportion of bank loans, asset and GDP

Name	1980	1990	2000	2001	2002	2003	2004
Mortgage credit proportion (bank loan)	NA	NA	4.0	2.9	2.6	1.8	0.8
Mortgage credit proportion(asset)	NA	17.0	31.9	32.0	21.9	23.8	12.8
Mortgage credit proportion(GDP)	NA	NA	1.84	1.57	1.68	1.14	0.49

(ii) Ratio of house price to per capita personal income (Price Income Ratio)

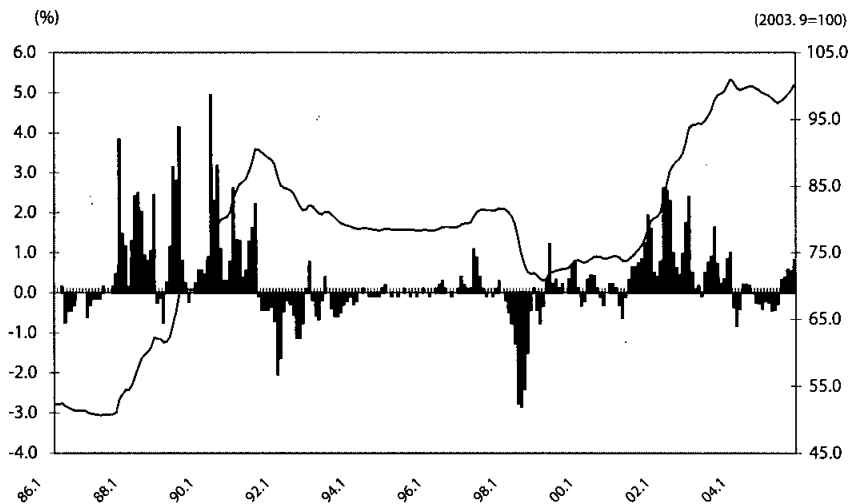
	1980	1990	2000	2001	2002	2003	2004
PIR	NA	11.4	5.7	6.0	6.3	6.6	6.1

C. Housing Prices and Inflation

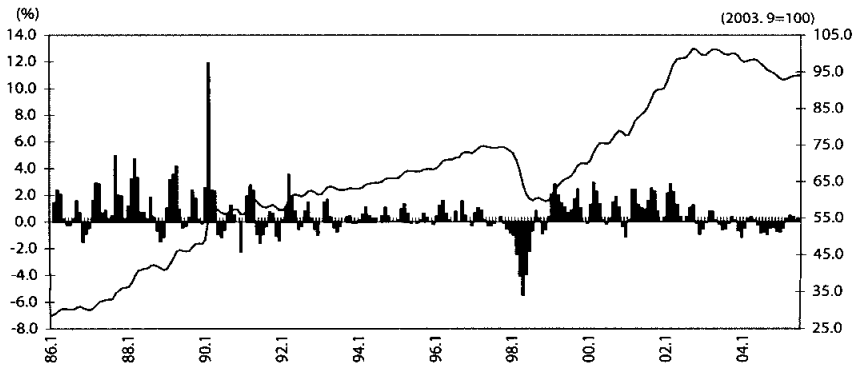
(i) House price inflation and the consumer price index (CPI), Time period: 2000-2004 (quarterly)

	Real house price index
	(2000=100)
2000. I	1.01
II	1.01
III	1.00
IV	0.99
2001. I	0.97
II	0.98
III	1.01
IV	1.04
2002. I	1.09
II	1.12
III	1.15
IV	1.18
2003. I	1.17
II	1.19
III	1.21
IV	1.22
2004. I	1.19
II	1.18
III	1.16
IV	1.15
2005. I	1.13
II	1.14

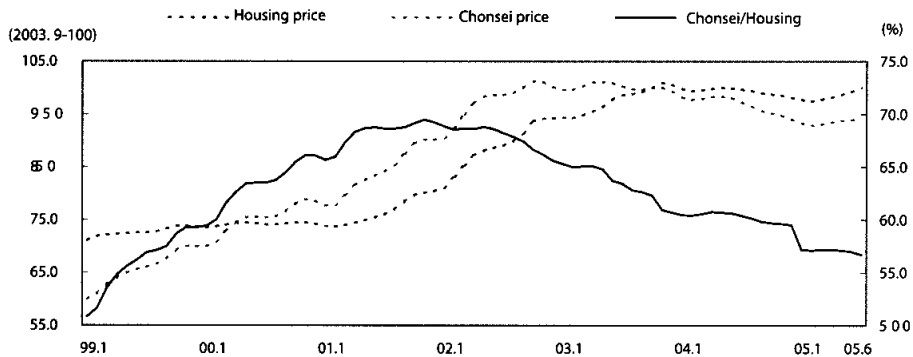
Housing Price Index



Chonsej Price Index



Chonsei/Housing Price

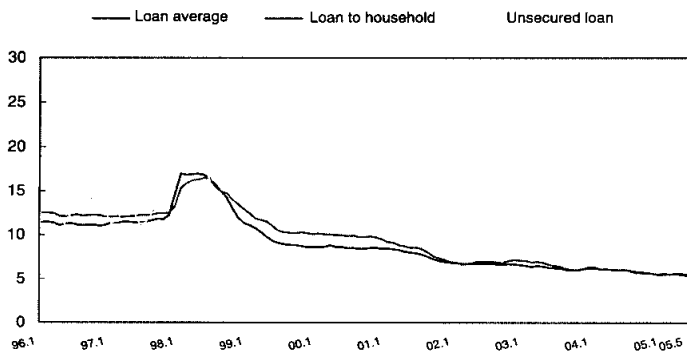


D. Housing Finance and Capital Market-> Suggested data:Time period: 1980, 1990, 2000-2004

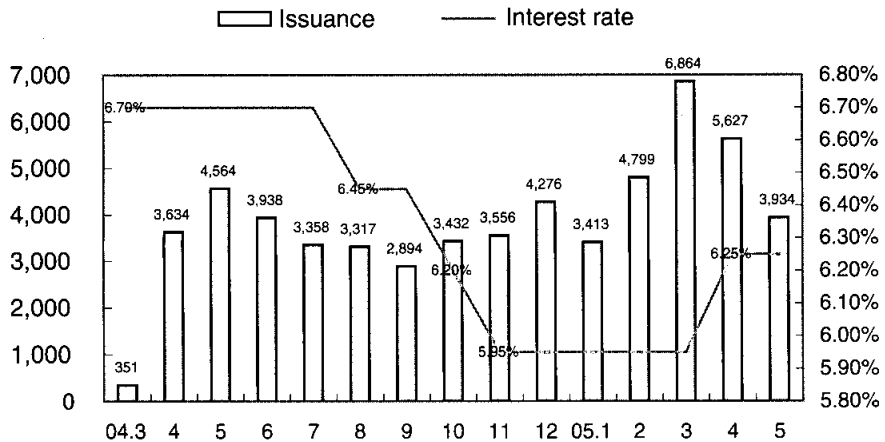
(i) Ratio of mortgage credit to equity, bond and bank loans.

Name(%)	1980	1990	2000	2001	2002	2003	2004
ratio of mortgage credit to equity	37.15	9.88	14.75	12.34	17.66	15.32	14.61
ratio of mortgage credit to bond	36.88	15.27	6.53	6.25	8.10	8.96	9.12
ratio of mortgage credit to bank loan	7.69	10.54	8.93	8.83	9.68	10.11	10.66

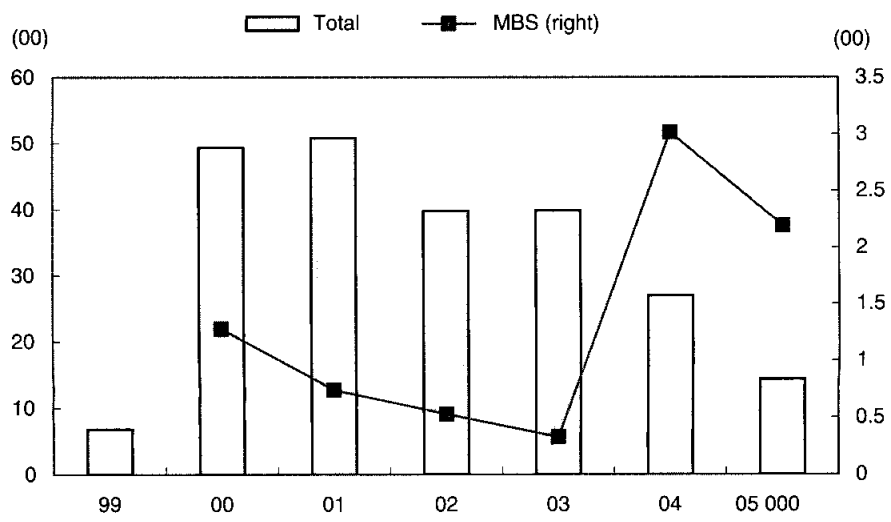
Loan Interest Rate



Sales of KHFC mortgage



Issuance of MBS and ABS



CHAPTER 4

HOUSING AND MORTGAGE MARKETS IN MALAYSIA

by
Allen Ng*

Introduction

Amidst a backdrop of a growing population and an increasingly affluent society, housing and mortgage markets in Malaysia have played an instrumental role in shaping the progress of the nation.

This paper attempts to provide a broad survey of the development of the Malaysian housing and mortgage markets from various perspectives, as well as its relevance to the economy and society. The paper is divided into five main sections. Section 1 provides an overview of Malaysia's macroeconomic and demographic characteristics, as well as the relevance of housing market development to overall economic development. Section 2 provides an overview of the housing sector. In particular, house price movements are statistically modelled and the issue of house price misalignment is explored within the framework of the estimated econometric model. The issues of housing policy and housing finance are assessed in Sections 3 and 4 respectively. Finally, in Section 5, the relationships between housing and mortgage markets and the economy is analysed from various angles, including relationships with other macroeconomic variables, the effects on the monetary transmission mechanism, inflation and the capital market.

1. Overview

1.1 Macroeconomic Characteristics

1.1.1 Background

One of the more prosperous emerging markets, Malaysia is a small, open economy with a multi-ethnic population. When Malaysia attained its Independence

*. The views expressed in this paper are solely those of the author and do not necessarily reflect the views of Bank Negara Malaysia. The author is grateful to the Economics, Bank Regulation and Monetary Assessment and Strategy Departments of Bank Negara Malaysia, as well as Cagamas Berhad, for their useful comments and suggestions on this paper

in 1957, the economy was essentially private sector-driven and fundamentally primary commodity-based, with heavy dependence on rubber and tin. The economy was also highly open to foreign trade, the gain from which helped to finance its development. To address the structural over-concentration of the economy, the government of the newly independent nation sought to diversify and modernise agricultural production. To achieve this, import substitution was the strategy employed to promote resource-based industrial development relevant to rubber and tin. Concurrently, timber, palm oil and crude petroleum became increasingly significant as export commodities.

While economic growth performance had been strong in the 1960s, it was recognised that the inequitable distribution of wealth and identification of economic activity by race could adversely affect political stability. This led the government to adopt in the early 1970s, a dual-pronged strategy aimed at eradicating poverty and restructuring society by eliminating racial identification with economic function. Programmes for this purpose included the modernisation of rural life and the rapid and balanced development of urban activities. Poverty-eradication programmes implemented included the provision of social services and amenities such as housing, water and electricity.

In the early 1980s, however, the economy began to slow down, largely due to global recession from the second oil shock. Anti-cyclical programme adopted to cushion the impact on the economy led to the problem of twin deficits in the current account of the balance of payment and budget of the Federal Government when the recession persisted. The collapse in prices of primary commodities in the mid-1980s also necessitated major structural adjustments in the economy. This resulted in the re-emphasis of private sector-led growth and intensified efforts to promote rapid industrialisation of the economy. The change in economic strategy was wide-ranging, from liberalisation of foreign equity ownership in 1985 in manufacturing, amendments to the Industrial Coordination Act, 1975, to the enactment of the Promotion of Investment Act, 1986. In the absence of large-scale government spending in the economy, these steps were crucial to attract investments to promote sustainable growth. Government policy was re-oriented towards providing the necessary infrastructure and support services to ensure a conducive environment for private industry to flourish.

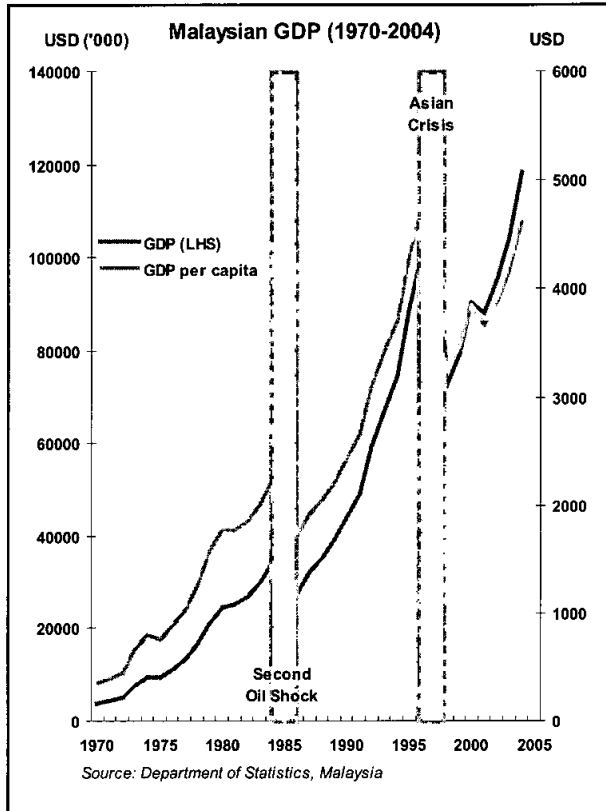
Following this, the economy recovered in 1987 and by 1989, the contribution of the private sector to economic growth surpassed that of the public sector. The late 1980s witnessed a major structural transformation of the economy that saw the manufacturing sector becoming the fastest growing sector and surpassing

the agricultural sector as the main contributor to growth. Economic growth for Malaysia was achieved mainly through export-oriented industrialisation under a backdrop of favourable foreign direct investment (FDI), structural reforms and conducive labour market environment. From the middle of the 1980s until the onset of the Asian financial crisis in 1997, Malaysia recorded one of the highest real average gross national product (GNP) per capita growth rates in the world at 8 per cent a year; becoming one of the richest countries in East Asia in terms of GNP per capita after Japan, Brunei and the four 'Asian Dragons'. In 1996, the inflation rate of the country stood at 2.7 per cent while the unemployment rate was at 2.8 per cent. The standard of living rose rapidly with relatively equitable distribution of income and, consequently, reduced poverty incidence across all racial groups.

However, the Asian Financial crisis interrupted the momentum. The crisis began in mid-1997 arising from a speculative attack on the East Asian currencies, including the ringgit. However, with strong underlying macroeconomic fundamentals and pragmatic policy measures, the Malaysian economy recovered strongly, from a contraction of 7.4 per cent in 1998 to a positive growth rate of 6.1 per cent in 1999 and 8.9 per cent in 2000. Per capita income in current terms, which declined in 1998, rebounded to RM13,400 in 2000, surpassing the pre-crisis level.

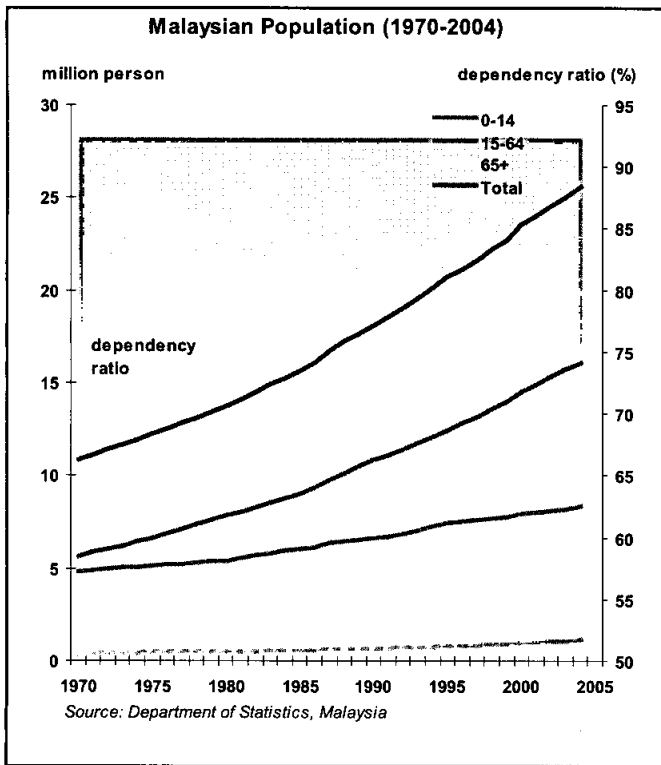
During this period, the government adopted a stimulative fiscal policy stance while monetary policy was accommodative. On 1 September 1998, selective capital control measures were adopted and the ringgit was pegged at RM3.80 to a US dollar in order to stabilise the exchange rate. The Government also undertook measures to strengthen the resilience of the financial sector in order to avoid systemic risks and ensure the continued efficient functioning of the intermediation role of the banking system, which was vital for economic recovery. Measures were introduced to restructure and consolidate the financial sector, strengthen and recapitalise banking institutions, improving the efficiency of the intermediation process and facilitating corporate debt restructuring. Malaysia's banking and corporate restructuring is now widely believed to be the one of the more successful in the five crisis-hit countries (The Economist, 2003).

Figure 1



While the electronic down-cycle and the subsequent adverse external shocks resulted in sluggish economic growth in 2001, the economy, measured in Gross Domestic Product (GDP), recorded an average annual growth of 5.6 per cent during the period 2002-2004 while per capita GNP increased by 7.8 per cent per annum from RM13,400 in 2000 to RM16,600 in 2004.

Figure 2



1.1.2 Demography

Malaysia has a sizable and multi-ethnic population, with the greatest expansion in the working age cohort. The population has grown from 11 million in 1970 to 26 million in 2004 and, over the same period, the working age group (15-64 year-old) almost tripled, from 6 million to 16 million, representing 63 per cent of the entire population in 2004. Of the total, Bumiputeras (Malays and other indigenous groups) formed the majority, accounting for 61 per cent of the total population. This was followed by Chinese at 24 per cent, and Indians at 7 per cent.

Population density[†] has increased from 33 persons per square kilometre in 1970 to 78 persons per square kilometre in 2004. This, however, does not reflect the rapid increase in population in certain fast developing urban areas of the country. The Federal Territory of Kuala Lumpur with a population of 1.5 million

[†]. Author's estimates, based on statistics from the Department of Statistics, Malaysia

has the highest population density in the country, registering at almost 6300 persons per square kilometre in 2004. The expansion of population in the more developed cities of the country reflects the rapid rate of urbanisation. Structural changes in the economy since the 1970s due to government's policies as well as the emergence of manufacturing, construction and services as the major growth sectors, resulted in a large number of the rural population migrating to the urban centres (Chan, 1997). The urbanisation level of 33.5 per cent in 1970 has almost doubled in 30 years to reach 62.0 per cent in 2000. Such rapid rates of population growth and urbanisation have important implications in the development of the housing and mortgage markets in Malaysia.

Table 1: Selected Macroeconomic Statistics on Malaysia

	1975	1980	1985	1990	1995	2000	2004
Gross Domestic Product							
real growth (y/y %)	0.8	7.4	-1.0	9.7	9.4	8.8	7.1
per capita (USD)	759	1779	1992	2432	4287	3844	4625
Private Consumption (% of GDP)	55.5	50.5	52.0	51.8	47.9	42.4	42.9
Inflation (CPI y/y %)	4.5	6.7	0.3	3.0	3.5	1.5	1.4
Population (% annual growth)							
total (million)	2.4	2.4	2.6	2.9	2.7	2.6	2.4
	12.2	13.8	15.7	18.1	20.7	23.5	25.6
0-14 (%)	42.1	39.9	38.7	36.5	36.0	34.0	32.6
15-64 (%)	54.2	57.0	57.6	59.8	60.2	61.9	62.9
65+ (%)	3.7	3.7	3.7	3.7	3.9	4.1	4.5
density (people/km square)	37	42	48	55	63	71	77
Urbanisation (%)	37.7	42.0	45.9	49.8	53.7	62.0	-

1.2 Relevance of Housing Market Development

Development in housing market is very important for a rapidly growing economy such as Malaysia. With rapid rate of urbanisation, population growth and overall economic progress, housing has become increasingly relevant not only as one of the most important basic necessities, but also as a crucial element for the healthy development of the economy; contributing to household wealth, sectoral progress and banking system sophistication.

1.2.1 From the Households' Perspective

Housing is very important to Malaysians for two important reasons. First, it fulfils a basic human need: access to safe and adequate shelter, which is essential to a person's physical, psychological, social and economic well-being (EPU, 2005a). In this respect, the housing market development of Malaysia has been able to provide for the growing population. In the latest Population and Housing Census of Malaysia (DOSM, 2003), there were 5.5 million housing units, housing an average of 1.03 households or 4.7 persons per occupied unit.

Second, given that house prices form significant multiples of an individual annual income, it represents a significant portion of household wealth. As such, mortgage debts also represent the biggest portion of household debts in Malaysia.

Furthermore, housing-related expenditures form a significant part of household expenditure pattern.

Given the rapid income growth of the past decades, the typical Malaysian households have become significantly more affluent, and, despite rising house prices, the affordability of houses has improved. Measured as the average house price as multiples of per capita income (GNP per capita), the affordability ratio improved from 12.6 years in 1988 to 9.4 years in 2004. Measured as income per worker (GNP per worker), this ratio improved from 4.5 years to 3.8 years. Measured on a broad basis, housing-related expenditures; including rent, purchase of furniture and household equipments; account for about 30 per cent of total household final consumption expenditure. However, given that housing-related expenditures are generally rather inelastic as income grows, the proportion has been slowly decreasing since the statistics is made available in 2000.

Household debt, measured as total loans outstanding to individuals has been on an increasing trend, totalling at 55.4 per cent of GDP in 2004, while 53.4 per cent of this total household debt is in the form of loans for the purchase of residential property. In contrast, the proportion was only at 38.0 per cent in 1997, suggesting that housing-related debt has been contributing to the increasing trend of total household debt.

Table 2: Selected Malaysian Household Statistics

	2000	2001	2002	2003	2004
Total Consumption (RM bn)	145	151	159	172	193
Housing-related Expenditures (RM bn)	46	48	50	51	54
% of GNP	14.7	15.7	14.7	13.7	12.6
% of Total Consumption	31.7	32.2	31.1	29.6	27.9
Housing Affordability Ratio					
Average house price/Income per capita	10.4	11.0	10.6	10.2	9.4
Average house price/Income per worker	4.1	4.3	4.1	4.0	3.8
Household Housing Debt					
Outstanding loans for purchase of residential property (RM bn)	73	86	100	117	133
(% GDP)	17.6	19.9	22.2	24.6	25.9
(% Total outstanding loans)	42.6	50.5	53.7	55.5	55.4
Loan repayments for purchase of residential property (RM bn)	17	18	21	21	24
(% GDP)	4.9	5.3	5.8	5.4	5.4
(%total loan repayment)	4.8	4.8	5.2	5.0	5.2

Source: Deptment of Statistics, Malaysia; National Property Information Centre, Malaysia; Bank Negara Malaysia

1.2.2 From the Supply Perspective: The Construction Sector and the Property Market

The housing market is relevant to both the construction sector and the property market as the residential property sector is a significant contributor to both. The residential construction sub-sector traditionally forms about 20 per cent of the construction sector. This is especially so recently due to the contraction of the civil-engineering sub-sector as the result of the decrease in Government development expenditure in construction as part of the effort of fiscal readjustment. The latest Survey of Construction Industries 2003 (DOSM, 2004) showed that value-added from the residential construction sub-sector contributed to almost a quarter of the value-added of the entire sector in 2002.

In the property market, residential property is even more significant, being the main driver of growth. Since the 1990s, residential property transactions, in terms of units, constitute 60 to 70 per cent of total transactions, and is around 40 to 50 per cent of the total value transacted. The growth in the residential property sector is robust, with average annual increase in transaction value of

11.3% for the period of 1993 to 2004. For 2004, largely due to strong income growth, Government incentives and favourable financing conditions, a total of 195,243 transactions worth RM 29.30 billion were recorded, an increase of 27.3 per cent increase from 2003 in value terms.

1.2.3 From the Banking System Perspective

The development in the housing and mortgage market has been gaining greater importance in the banking system of Malaysia since the financial crisis in 1997.

Table 3: Selected Banking System Statistics

	end-1998	end-2000	end-2002	end-2004
Outstanding Housing Loan (RM bn)	56	73	100	133
(% of Broad Property Sector Loans)	38.6	50.2	57.7	63.8
(% of Household Loans)	44.6	50.2	51.6	53.4
(% of Total Loans)	13.6	17.6	22.2	25.9
NPL ratios (%)				
Housing loans	7.1	7.2	8.7	8.9
Nonroad Property Sector	14.3	14.2	15.8	12.8
total	14.3	12.9	14.1	10.6

From RM 50.8 billion as at end-1997, total loans outstanding for the purchase of residential property has increased more than 2.6 times by end-2004, standing at RM 132.9 billion. In contrast, loans outstanding to the broad property sector (excluding mortgages) declined by 0.8 times whilst total loans expanded by only 1.2 times over the same period. As at end-2004, total loans extended for the purchase of residential property accounted more than a quarter of the total loans outstanding, clearly reflecting the growing importance of the housing and mortgage markets in the banking system.

Figure 3

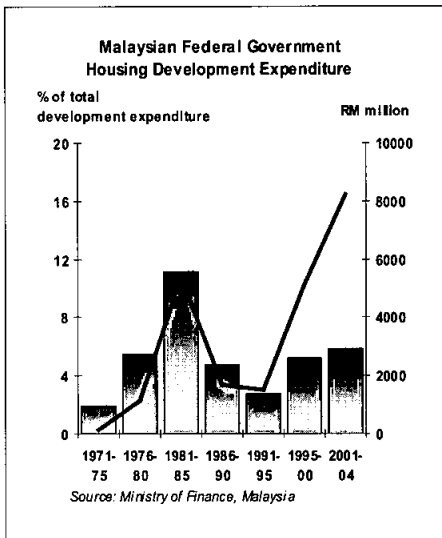
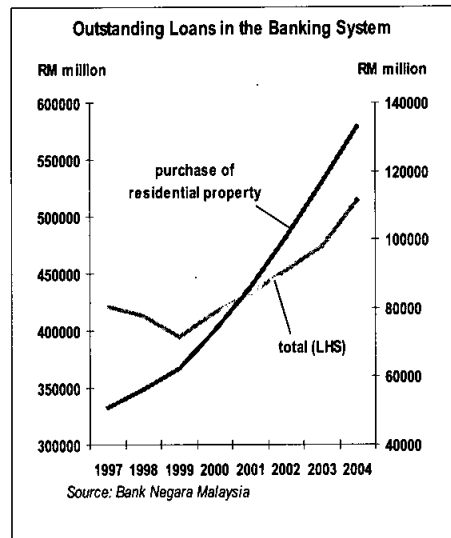


Figure 4



1.2.4 From the Government Perspective: Expenditure and Housing Development

Recognising the importance of the provision of adequate housing for the healthy development of the nation, the Malaysian Government has actively promoted access to comfortable living quarters as well as affordable housing, especially for the lower-income groups (EPU, 2005a). As such, the government has allocated a significant portion of development spending on housing development in successive five-year Malaysia Plans since 1971. Further discussion on this is highlighted in later section of the paper.

2. Housing Sector Overview

2.1 Market Size and Structure

2.1.1 Housing Stock

The growth of the housing stock in Malaysia has been rapid. From the figures obtained from successive housing censuses (DOSM, 1993; 2003), total housing stock of the country increased from 4.1 million units in 1991 to 5.5 million units in 2000, which represents average annual growth rate of 4.1 per cent. Using statistics from the National Property Information Centre (NAPIC, 2005), the subsequent increase in the stock of residential property since mid-

2000 has exceeded 1 million units by the end of 2004. This implies that the total housing stock in 2004 stood at 6.6 million units for a population of 25.6 million. The increase in housing stock has kept up with the population growth, with the ratio of house per occupied housing unit remaining close to one. The quality of housing has also improved from 1991 to 2000, as suggested by the percentage of housing unit with basic amenities

Table 4: Selected Statistics on the Construction Sector and the Property Market

	1992	1994	1996	1998	2000	2002	2004
Construction Sector							
Residential construction value-added (% of total construction sector)	21.3	21.5	16.8	20.0	21.3	24.0	-
(% of GDP)	1.1	1.3	1.1	1.1	0.9	1.0	-
Property Market							
Residential property transaction (Unit (% of total transaction))	-	64.6	62.8	66.0	71.2	70.1	66.6
Value (% of total transaction)	-	42.5	38.3	50.0	56.0	54.7	48.9

Source: Department of Statistics, Malaysia; National Property Information Centre, Malaysia

The distribution of housing units was uneven throughout the country. From the total housing stock, 23.1% were housing units in Selangor and the Federal Territory of Kuala Lumpur in 2000. Other states with large proportion of housing units were Johore and Perak, which was not surprising because of their relatively larger land areas and bigger population size.

Housing Types

For simplicity, it is adequate to categorise housing units in Malaysia into six types: detached, semi-detached, terrace/row or link/townhouse, flat/apartment/condominium and shophouse. Detached houses are by far the most common housing type in Malaysia, accounting for over 40 per cent of the total in 2000. However, the terrace/row or link/townhouse-type is becoming more common, with 32.6 per cent compared to 26.4 per cent 1990. Similarly, the flat/apartment/condominium type has become more popular, growing from 7.0 per cent on the total in 1991 to 12.6 per cent in 2000. This preference for this type of housing was clearer in densely populated areas of the country, notably the Federal Territory

Table 5: Selected Housing Statistics in Malaysia

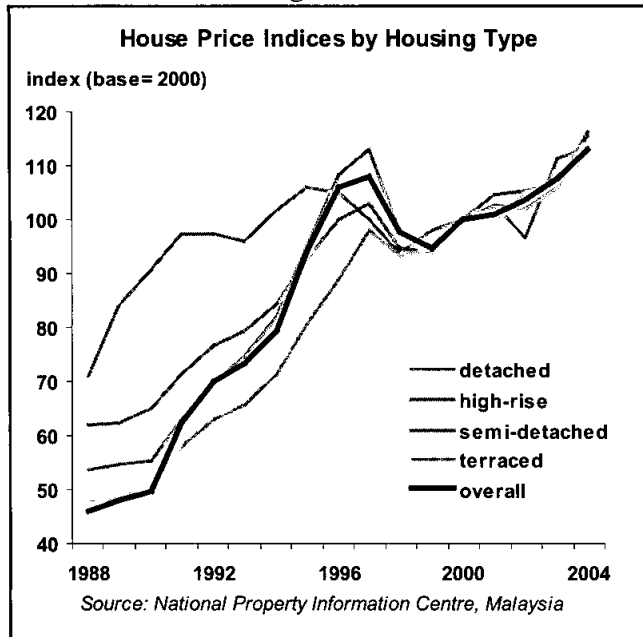
	1991	2000	2004
Population (million persons)	18.5	23.5	25.6
Household (million units)	3.5	4.3	-
Household per occupies housing unit	1.0	1.0	-
Housing Stock (million units)	4.1	5.5	6.6
Detached	49.2%	40.1%	-
Semi-detached	10.4%	9.1%	-
Terrace, row or link, townhouse	26.4%	32.6%	-
Longhouse	1.9%	1.6%	-
Flat, apartment, condominium	7.0%	12.6%	-
Shophouse	3.3%	3.0%	-
Housing Units with Basic Amenities (%)			
Treated piped water supply	85.7%	883.9%	-
Electric supply	90.5%	95.1%	-
Flush toilet facility	46.3%	61.2%	-
Garbage collection facility	-	64.6%	-

Source: Department of Statistics, Malaysia; author's estimates

of Kuala Lumpur and the state of Penang, with more than 50 per cent and 37 per cent of housing being high-rise type respectively in 2000.

In terms of prices, as reflected by the house price index, prices of detached and semi-detached has been showing the fastest growth but the overall prices of different housing types have been moving relatively closely since the Asian financial crisis.

Figure 5



Housing Market

As suggested by the rapid growth in housing stock, the housing industry in Malaysia has been relatively robust, with transaction value growing at an average annual rate of 11.3 per cent from 1994 to 2004. Prior to the crisis, the growth in value of residential property transaction was at above 20 per cent while post-crisis growth was around 10 per cent. In terms of the volume of transactions, a total 195,241 units were sold in 2004 compared to 130,946 units a decade earlier. The average annual growth was at 4.8 per cent over the period.

Using figures from 2004, the near-term prospects of the housing industry remains relatively stable given the prevailing conducive financing conditions in the country as well as the continued income growth. The perceived sustained strong demand has kept construction activity high. The incoming-supply-to-existing-supply ratio has increased from 0.28 at the end of 2000 to a relatively constant ratio of slightly above 0.38 since the beginning of 2002.

However, data from newly-launched housing projects showed that the volume of new houses launched has been on a decreasing trend while the percentage of unsold new units has been relatively constant at around 50 per cent, suggesting a softening of demand for new houses in the market.

Figure 6

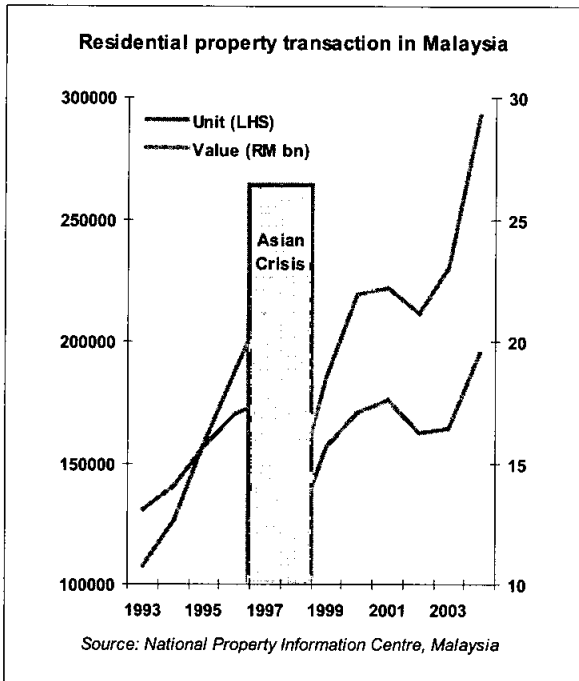


Figure 7

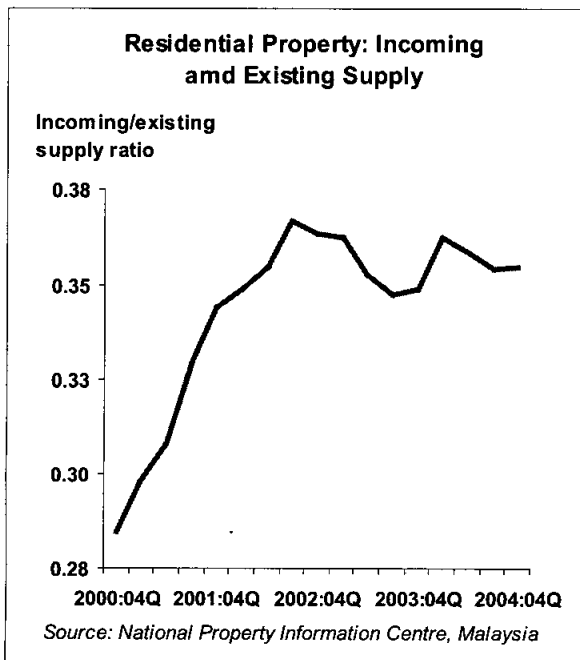


Table 6: Selected Residential Property Market Statistics

	Transaction																	
Date	Unit	Value (RM bn)																
1993	130946	10.80	<table><tr><th colspan="2">New Housing Units</th></tr><tr><th>Launched (Unit)</th><th>Unsold (%)</th></tr><tr><td>113914</td><td>53.0%</td></tr><tr><td>106704</td><td>49.5%</td></tr><tr><td>150406</td><td>54.7%</td></tr><tr><td>83214</td><td>52.3%</td></tr><tr><td>95339</td><td>48.0%</td></tr></table>		New Housing Units		Launched (Unit)	Unsold (%)	113914	53.0%	106704	49.5%	150406	54.7%	83214	52.3%	95339	48.0%
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1994	140530	12.65																
1995	156913	15.81																
1996	170007	18.75																
1997	175644	21.61																
1998	122881	13.95																
1999	157082	18.54																
2000	170932	21.94																
2001	176208	22.20																
2002	162269	21.14																
2003	164723	23.01																
2004	195241	29.30																

2.2 Determinants of Housing Prices and Rents

The Malaysian house price index (MHPI) is prepared and published by the National Property Information Centre (NAPIC), under the Valuation and Property Services Department of the Ministry of Finance. Using a hedonic methodology, this house price index is based on the transaction of residential properties. NAPIC has published an annual series from 1988 and since 1999 the data has been made available on a quarterly basis. The computation of the index has gone through few changes since it was first introduced, including changes in the weighting procedures and revision and addition of house characteristics. There are specific shortcomings in using the index for analysis purposes and Ting (2003) provides a good review on some of the limitations. Particularly, to have sufficient number of observations for the construction of the indices, pooling and aggregation of data is necessary so that statistical inferences can be made with confidence. However such aggregations may cause the loss of explanatory power for price changes by property types or by locations within a region/state (ibid). Also, due to the lack of transactions, a price index created may not have enough data points to test for time trend differences across locations within a region. Similarly, separate regressions for each location are not possible without sufficient data (Guttery and Sirmans 1998). These limitations are however more towards very

specific analysis of house prices and not particularly crucial for analysis on a national level such as this.

The MHPI shows that the growth in house prices, adjusted for inflation, has generally been showing an upward trend, outpacing that of both inflation as calculated by the percentage change in Consumer Price Index (CPI), and rent, taken as a component of CPI. This reflects the general increase in the real value of houses in Malaysia.

Table 7: House Price, Inflation and Rent

	1990	1995	2000	2004
House Price Index (% change)	4.1	18.3	5.5	4.9
Real House Price (% change)	1.0	14.9	4.0	3.5
Consumer Price Index (% change)	3.1	3.5	1.5	1.4
Rent (% change, from CPI)	-	3.5	1.7	1.0

Source: Department of Statistics, Malaysia; National Property Information Centre, Malaysia

Some Stylised Facts on Malaysian House Prices

Before a thorough investigation and modelling of Malaysian house prices, it is informative to discuss some of the stylised characteristics based on the MHPI. Three particularly evident patterns are the co-movement of house prices with income and the business cycle, as well as the synchronisation of regional prices.

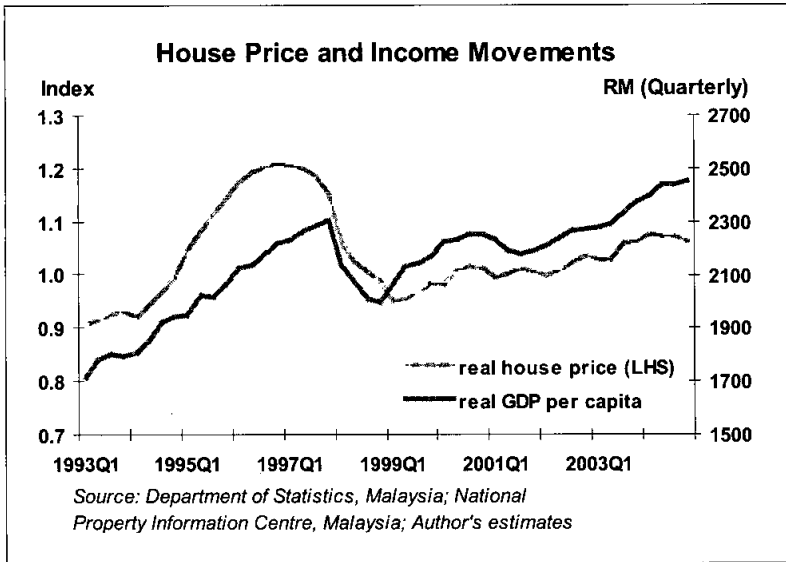
i. Real house prices move closely with real income

Real house prices are closely related to real income movement, as evident in the graph below. Further discussion on this will be elaborated in rest of this section.

ii. Real house prices are pro-cyclical

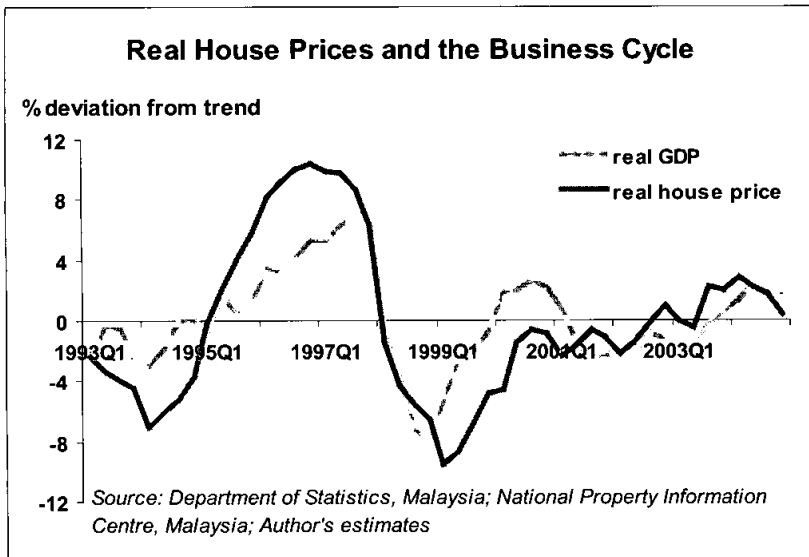
As a direct corollary to the first stylised fact, real house prices in Malaysia display a clear pro-cyclical pattern, rising during the upturns in the economic-

Figure 8



cycle and falling during downturns. As such, deviation of real house prices from trend follows the movement of the output gap closely.

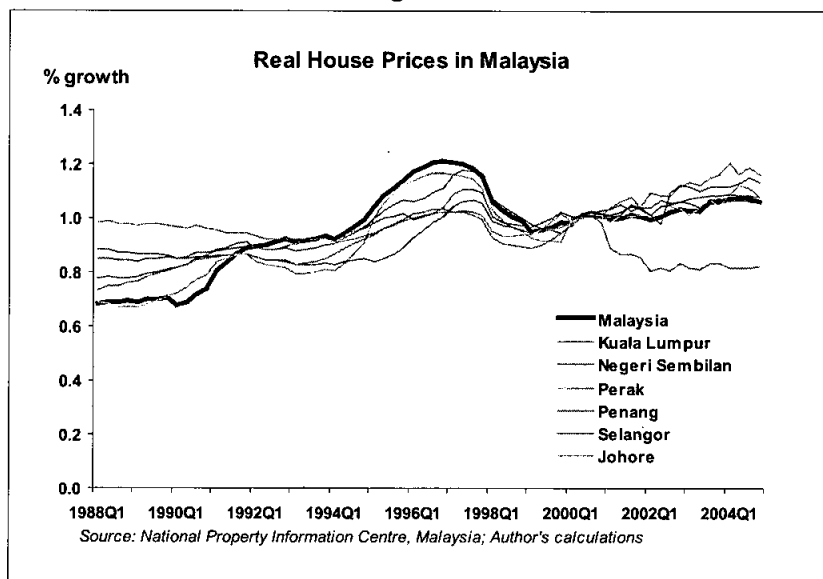
Figure 9



iii. House prices movement generally display a close degree of synchronisation across different regions in the country

While there is a clear regional divergence in the levels of house, the movement and growth of house prices across regions appear to be closely synchronised. With the exception of the state of Johore, house prices of different states, as reflected by the regional house price indices compiled by NAPIC, move closely together. This is especially evident after the Asian crisis in 1997. This particular stylized fact is statistically investigated and verified later in this section of the paper (pp 23 – 25).

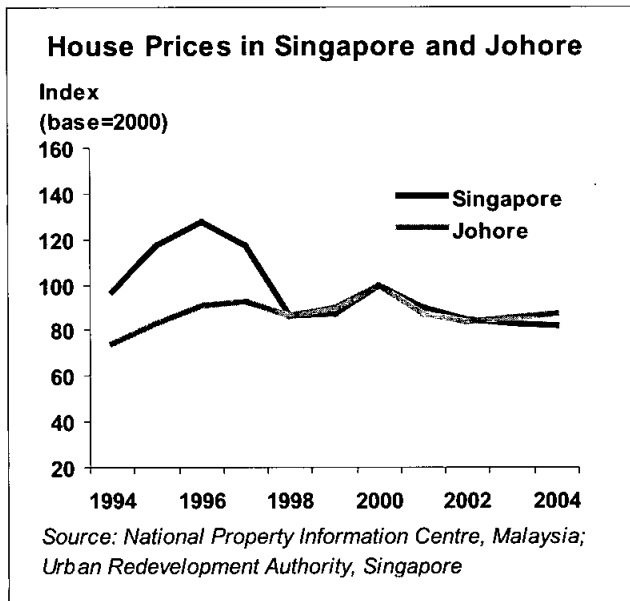
Figure 10



House Prices in Johore: Why are they Different?

House price movement in the state was rather divorced from others. While a detailed analysis of why this was so would be beyond the scope of this paper, two possible reasons can be identified: supply conditions and the high participation of foreign buyers, mainly from Singapore. Johore has an issue of residential property oversupply. In 2004, residential unit overhang accounted for almost a quarter of the national total. Property market conditions in Singapore, especially after 1998, might have also depressed house prices given the substantial take-up by Singapore-based buyers.

Figure 11



Modelling Malaysian House Prices: Methodology

There is an extensive literature on the determinants of housing prices and on how prices can be modelled econometrically. Hendry (1984), Muellbauer and Murphy (1997) and de Greef and de Haas (2000) are but a small sample of the vast literature on house prices. The mentioned references also provide good theoretical overviews on housing prices.

Determinants of house prices in the long run can be theoretically pinned down to variables that would determine the demand for houses. It is hoped that by accounting for factors that drive demand, the movement in house prices may be fundamentally explained. For the purpose of the investigation in the Malaysian case, a number of important variables were identified. These are: real income per capita (Y), which would positively affect the population's purchasing power and capacity to borrow; consumer sentiment index (F), as a proxy of the population's expectations regarding future income and economic outlook; age-dependency ratio (D), which would reflect the demographic characteristics of the country and hence the demand for housing; real average lending rates (R), which should be negatively related to household's capacity to borrow, and total loans outstanding in the banking system (C), which act as a proxy to measure

the extent of credit rationing in the economy. As such, long run house prices, in logarithmic form, can be written as an inverted demand function[‡]:

$$rhp_t = c_t + \delta_1 y_t + \delta_2 f_t + \delta_3 d_t + \delta_4 r_t + \delta_5 c_t + \varepsilon_t \dots \text{(I)}$$

where rhp is the log of real house price, and y, f, d, r and c are the logs of the determinants as annotated above.

However, in the short run, deviation from the fundamental long-run house price can occur due to gradual adjustment in expectation as well as an inelastic housing supply. As such, an adequate model of house price would have to capture the short-term dynamics as well as the adjustment process towards the long-term fundamental relationship (de Greef and de Haas, 2000). In this investigation of the Malaysian case, a simple error correction model (ECM) of the form represented in equation (II) is used:

$$\Delta rhp_t = c_s + \sum \alpha_i \Delta rhp_{t-i} + \sum \beta_j \Delta y_{t-j} + \sum \delta_k \Delta f_{t-k} \dots \text{(II)} \\ + \sum \gamma_l \Delta d_{t-l} + \sum \nu_m \Delta r_{t-m} + \sum \sigma_n \Delta c_{t-n} + \lambda \varepsilon_{t-1} + v_t$$

where ε is the error term from the long run equation (equation (I)). In this equation, the short-term dynamics of the long run equation are modelled by relating the change in log real house price to the first differences of the right-hand variables of the long run equation.

Modelling Malaysian House Prices: Results[§]

Using the Engle-Granger two-step procedure, the long-run relationship given in equation (I) is taken as the co-integrating regression. Using Augmented Dickey-Fuller tests, all mentioned variables for the long run equation are found to be integrated to the first order, but the lagged residuals of the equation are found to be stationary, corroborating that there is a long-run relationship between the determinants and house prices. All coefficients of equation (I) are statistically

‡. In the actual equations estimated, dummy variables for certain periods are added to account for structural breaks during the Asian financial crisis and the adoption of capital controls since 1998. For ease of exposition, these dummy variables are left out in the main text.

§. Full results are reported in the Appendix.

significantly, even when adjusted for serial correlation and heteroscedasticity**; and display the expected signs.

The error correction term is significantly negative and less than unity, indicating that in the long run, house prices move in line with its fundamental determinants. The coefficient of the error correcting term is at negative 0.33, reflecting that 33 per cent of misalignment from the long-run value is corrected in each quarter. Also, it should be noted that the short-term coefficients of the lagged difference in real house prices are statistically significant, suggesting that house prices in Malaysia are 'sticky'.

Since the model is estimated in a logarithmic form, the coefficients of the long-run variables can be interpreted as long-run elasticities. From the results, a 10 per cent increase of real GDP per capita (Y) will increase house prices by 3.6 per cent in the long run. Similarly, a 10 per cent increase of the consumer sentiment index (F) and total outstanding loans (C) will increase house price by 1.9 per cent and 2.7 per cent respectively, while a 10 per cent increase of age-dependency ratio (D) and real average lending rates (R) will decrease house prices by 33.1 per cent and 0.8 per cent respectively.

Modelling Malaysian House Prices: Evidence of Pricing Misalignment?

The model specified and estimated allows us to assess if the movements in house prices can be explained by the changes of the fundamentals, such as income and ease of borrowing, or if there have been misalignments in the past.

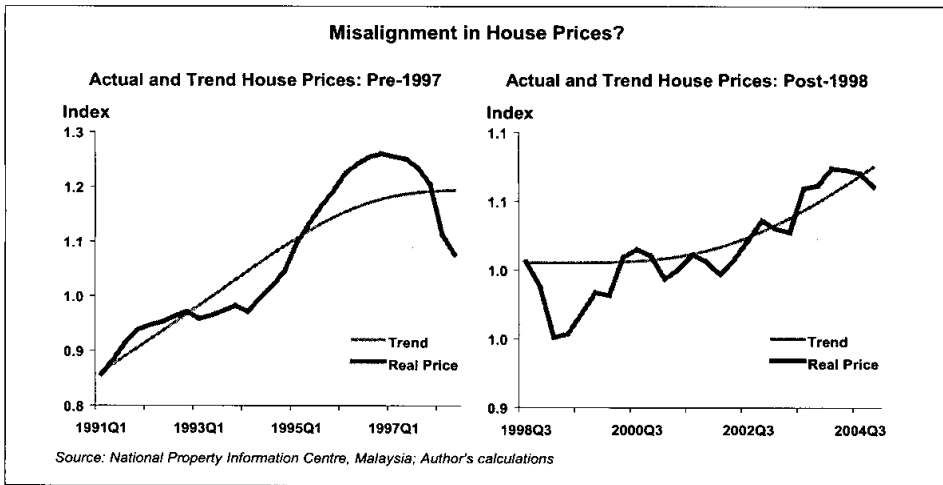
** . By using Newey-West (1987) heteroscedastic-autocorrelation consistent standard deviations and covariances.

Table 8

Summary Results: Estimated ECM of Malaysian House Price		
Period: 1988Q1 to 2004Q4		
Explanatory Variables	Coefficient	
Error correcting term	-0.33	***
Short-term variables		
lagged rhp (t-1)	4.92	***
lagged rhp (t-4)	1.97	**
Long-term variables		
<i>y</i>	0.36	*
<i>f</i>	0.19	***
<i>d</i>	-3.31	**
<i>r</i>	-0.08	**
<i>c</i>	0.27	***
Adjusted R-square		
Full ECM equation	0.66	
Long run Co-integrating equation	0.97	
Note: 1. Only selected short-term variables are reported. 2. Dummy variable are not reported 3. * - 10% significance level, ** - 5% significance level, *** - 1% significance level; significance levels are based on robust standard errors		

By using trended series of the long-run variables from equation (I) and generating a series using the coefficients estimated, the fundamental or trend value of house prices can be obtained for the period estimated (1998Q1 – 2004Q4). The results of this exercise show that actual house prices are not significantly misaligned since 1998, as movements are generally explained by economic fundamentals. On the other hand, deviations from the fundamental values were significantly more substantial before the Asian Financial Crisis in 1997. This is especially true in the period leading to the onset of the crisis. The model shows that price reached a peak of 7.5 per cent above the fundamental values in the third quarter of 1996. In contrast, the average deviation from trend for the period 2000 to 2004 is at negative 0.2 per cent. This suggests that Malaysian house prices in the recent years have not been systematically misaligned.

Figure 12



Regional House Price: Selected Areas of Pricing Misalignment?

While the average house price of Malaysia does not show significant misalignment in recent years, there is a possibility that selected regions of the country might be experiencing deviation from trend, especially in densely populated areas such as the Kuala Lumpur and Selangor.

Unfortunately, investigations using the modelling method are not feasible for the regional house prices due to difficulty in obtaining state- and region-specific statistics for the relevant variables. However, by just using the available house price indices, informative analyses can be performed to provide some suggestive results pertaining to this issue.

House Price Misalignment: An Alternative Perspective

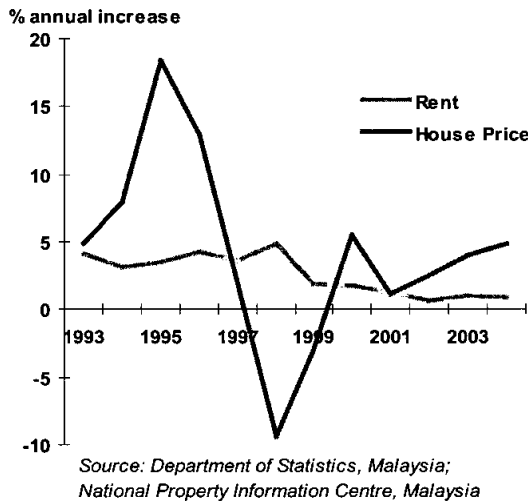
In finance literature, an asset is given to have a fundamental value that is equal the sum of the future pay-offs. For the share market, this means there should exist some form of consistent relationship between the movement in the price level and expected future dividends. Misalignment of an asset's price from its fundamental value should be reflected in a deviation between trend movements of prices and dividends.

If the same concept is extended to the residential property, it can be assumed that rental income act as dividends. Thus in a well- functioning market, there should exist a relationship between movements in house prices and rents, which

is taken to reflect the fundamental value of houses. Any deviation from this relationship can be considered to be a misalignment in house prices.

For Malaysia, a simple investigation of the growth of house prices and rents yielded similar results when compared to the ECM method. Again, house prices showed significant deviation prior to 1997.

Figure 13
House Price and Rent



Firstly, it can be verified statistically if the movement of regional house prices are significantly different from the national average house prices. This can be investigated by estimating a simple regression equation:

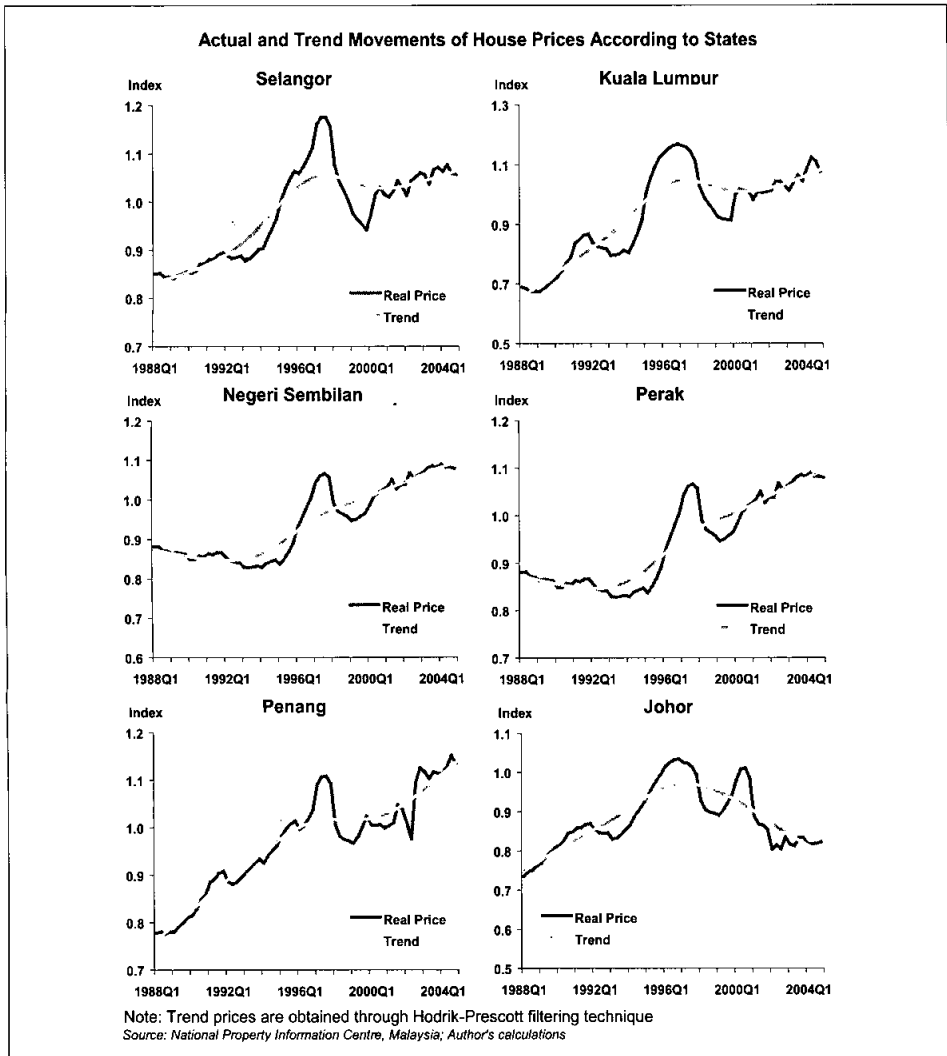
$$rhp_{Malaysia} growth = \beta * rhp_{region} growth + \varepsilon \dots (III)$$

where rhp_n growth is the growth of real house price for n , n being Malaysia or the regions. If there is synchronisation between regional and national house price growth, then should not be statistically different from unity. Using Wald coefficient restriction test, this hypothesis can be verified statistically. Using housing indices for six regions: Kuala Lumpur, Selangor, Perak, Penang, Negeri Sembilan and Johore, results of separate Wald tests showed that with the exception of Johore, it cannot be rejected that the 's are unity even at the 1 per cent significance level. This confirms that movements of regional house prices are not statistically different from movements in the average national house price. An inference

from this is that no particular regions are facing atypical growth in house prices. This means that house prices in Kuala Lumpur and Selangor are not growing exceptionally faster.

Secondly, by using a univariate filtering technique, the statistical trend level of regional house prices can be obtained. This can be used to provide a basis to observe if certain regional house price movement has been atypical, suggesting fundamental pricing misalignment.

Figure 14



As shown, the movement in house prices in different regions display a rather similar pattern with that of the national average. There is a significant run-up in actual real house prices in all regions prior to 1997 relative to trends while in the period after, deviations from actual and trend prices were small.

Evidence of House Pricing Misalignment: Revisited

It is clear from the results from the described investigations that recent movements of house prices in Malaysia were not significantly divorced from economic fundamentals, in contrast to the pattern that emerged prior to the onset of the Asian Financial Crisis in 1997.

The recent increase in house prices, however, has at its roots improvements in economic fundamentals as we have demonstrated above. The growing income level, favourable interest rates and the growth of credit^{††} have driven the upward movement of house prices since the economic recovery towards the end of 1998.

3. Housing Policy

3.1 Housing Development Policy

The basic thrust of the housing policy of Malaysia is to provide Malaysians, particularly the low-income groups, accessibility to adequate, affordable and quality shelter. In this regard, both the public and private sectors have a role to play in providing low-cost houses under the various programmes. Financial support as well as incentives have been provided under various programmes (EPU, 2005b). The housing development policy in Malaysia has an extensive history and an in-depth review is beyond the scope of this paper. However, this section provides a brief summary of housing development policy in Malaysia, with emphasis on some recent housing programmes and policy issues.

††. The rate of growth in credit extended for purchase of residential property was exceptional in the post-1998 Malaysian economy.

3.1.1 National Housing Policy

Recognising the importance of adequate housing in national development, the Malaysian Government put great emphasis in formulating and implementing appropriate housing policies in all national economic plans. The objectives of housing development policy of the country, as well as the details of the implementation plans are clearly outlined in the numerous Malaysia Plans since 1971, including the housing development targets and the programmes that would be implemented to facilitate the success of national objectives.

For example, in the Eighth Malaysia Plan (2001-2005), the government continued to emphasise on its role to ensure that all Malaysians, particularly the low-income group, have access to adequate and affordable housing and related facilities. The housing development strategies that were adopted and implemented during the period were primarily a re-orientation of past strategies and the incorporation of new measures. This was done in order to increase the availability of housing for the growing population and at the same time, to further develop the domestic housing industry (EPU, 2005a). To achieve the targets projected in plan, a number of new measures were introduced such as the implementation of the modular coordination concept to improve the quality of housing and reduce costs in production of mass housing. Another method was by introducing factory-made building components such as the prefabricated system to speed up the production of low-cost units and the introduction of the open industrialised building system in the housing industry to make housing construction system more flexible and replacement of parts less troublesome (National Housing Department, 2005).

The Table below summarises the targets and performances of housing programmes outlined in various Malaysia Plans since 1986.

Table 9
Public and Private Sector Housing Programmes
Target and Performance 1981-2005 (units)

	Fifth M'sia (1986-1990)		Sixth M'sia Plan (1991-1995)		Seventh M'sia Plan (1996-2000)		Eighth M'sia Plan (2001-2005)	
	Targeted	Completed	Targeted	Completed	Targeted	Completed	Targeted	Completed
PUBLIC SECTOR:								
1. Public low-cost housing	45,800	26,172	40,000	15,376	64,000	62,812	175,000	92,867
2. Housing in land schemes	57,500	32,056	56,100	8,075	9,300	7,188	3,000	2,655
3. Institutional Quarters and other staff Accommodation	27,000	11,284	32,600	18,776	102,100	12,015	62,000	56,493
4. SEDC'S Projects and other state projects / medium and high-cost housing	18,700	27,614	45,300	42,315	54,00	39,609	72,000	92,376
Sub-total	149,000	97,126	174,000	94,542	230,000	121,624	312,000	234,391
PRIVATE SECTOR:								
1. Private Developer	-	-	-	-	-	-	-	-
Low-cost housing	370,400	88,877	215,700	212,003	137,000	127,514	129,000	112,494
Medium and high-cost housing	169,600	107,442	170,700	339,610	418,000	596,639	160,000	387,725
2. Co-operative Societies	12,500	7,483	12,600	11,305	15,000	13,703	14,000	14,835
3. Individuals and Groups	-	-	-	-	-	-	-	-
Sub-total	552,500	203,802	399,000	562,918	570,000	737,856	303,000	515,054
TOTAL	701,500	300,928	573,00	647,460	800,000	859,480	615,000	749,445

*expected completion

Source: Various Malaysia Plans

Public Sector Housing Development Programmes (1990 – 2002)

The Public Low-cost Housing Programme (PLCHP)

PLCHP aims to provide shelter for the low-income groups through several schemes. This programme is targeted for buyers with monthly household income of RM1,500 and below while the selling price of housing units does not exceed RM35,000 per unit. House types are 5-storey flats or terrace house according to location and terrain. The minimum design for low-cost houses is that they should have a standard built-up area of at least 60 square meters (900 square feet), three bedrooms, a living room, a kitchen, a bathroom and a toilet.

Sites and Services Scheme

The Sites and Services scheme is also designed for the lower income groups who are not eligible for the PLCHP. The eligible buyers are those with monthly

household incomes of RM300-500 in Peninsular Malaysia and RM400-650 in Sabah and Sarawak and with no land or house of their own. Eligible buyers can either buy a plot of 2,600 square feet (241.7 square meters) with a house, costing RM10,000 in Peninsular Malaysia, RM13,000 in Sabah and Sarawak or just the land alone with basic amenities (dirt road and drain) for RM5,000 in Peninsular Malaysia, RM7,500 in Sabah and Sarawak.

Housing Programme by Regional Development and Land Schemes

Regional and Land Development Authorities such as the Development Authority of Pahang Tenggara, Federal Land Development Authority, the Kedah Development Authority, the Johore Tenggara Regional Development Authority, and the Terengganu Tengah Regional Development Authority also undertook the development of houses for settlers. Housing in land development schemes utilised an integrated approach to combine the management of large-scale land development and at the same time provide settlers with the opportunity to improve their livelihood with better housing conditions.

Institutional Quarters and Staff Accommodation

Housing is also provided for some categories of government employees posted to remote areas or whose duties require them to be close to their place of work. These are especially meant for teachers and uniformed staff such as the police, fireman, military, customs, and immigration.

Integrated People's Housing Programme

This program was launched by the Government in December 1998, with the objective of resettling squatters in urban areas, particularly in Wilayah Persekutuan Kuala Lumpur and other major towns. These three-bedroom housing units with built-up area of 60 square metres (900 square feet) are to be rented out at low monthly rates.

Housing Development by State Economic Development Agencies and the Urban Development Authority

The State Economic Development Agencies (SEDC) and Urban Development Authority (UDA) are also involved in housing activities besides carrying out commercial, industrial, building and infrastructure development projects. The houses delivered are targeted to meet the housing needs of all sectors of the population.

Housing Development in Rural Areas

Housing programmes for the rural areas include the Sites and Services Scheme, the Traditional Village Regrouping programme, the Rehabilitation of Dilapidated Houses and the *Skim Pembangunan Kesejahteraan Rakyat* especially for the hardcore poor.

Adapted from Malaysian Quality of Life 2004, Economic Planning Unit (2005), pp 88-90

Constitutionally, housing development in Malaysia is a matter handled concurrently by both federal and state governments. The state government and local authorities play a primary role in the physical planning and the housing investment in conjunction with industrial, urban and infrastructure developments. Under local authority requirements, all housing developments need to have planning approvals as well as approvals for the supply of utilities. The federal entities formulate housing policies and strategies, set housing targets and goals, and define licensing and enforcement requirements. The Ministry of Housing and Local Government plays vital role in the provision of housing. Through the Town and Country Planning Act 1976, the Ministry incorporates policies and frameworks primarily pertaining to urban planning by considering land allocation, population density, layout plans and overall physical development (Yahya, 1997).

3.1.2 Selected Housing Development Policy Issues

1. Federal and State Government: Check and Balance

The overhang in the property market, involving especially condominiums and commercial properties, aggravated the economic recession in 1997 and 1998. The build-up in supply was, in large part, due to speculative demand, and reflected a weakness in planning whereby developments were being permitted without taking into due consideration the underlying demands. The power to give planning permission lies with the local authority, as provided for by the Town and Country Planning Act, 1976 (Act 172). During the period prior to the Asian crisis, many of the decisions made by local authorities were divorced from the federal policies. There have also been instances when some of those who already have their own local plan, chose not to comply with the plan when dealing with certain planning proposals. At the same time, current laws and regulations provide little room for intervention by the federal government. This was further compounded by the fact that most local authorities, given their limitations in terms of size and expertise of personnel as well as access to data do not have the capacity to deal

effectively with development plans. Even if they refer and comply with the local plan, their considerations are always based on their own area. It was recognised that what was really needed was an overall plan, which provided a total picture of the requirement and distribution of the different types of housing in the country. As a way of balancing the power of federal and state governments, actions were taken to amend the Town and Country Planning Act, 1976 (Act 172) and new provisions were recommended to enhance the role of the Federal Government in town and country planning to ensure that there would be check and balance. Among the more important amendments include the formation of the National Physical Planning Council, which will provide the forum for consultation between federal and state governments (National Housing Department, 2005).

2. Private Sector Participation in Housing Development: Social Obligations

Private sector developers have been active participants in implementing the housing development policy, especially in ensuring the provision of affordable housing. They have not only been playing a complementary role to the government's housing development programmes but have also been the key industry partner in providing adequate, affordable housing to Malaysians. In fact, provision of affordable housing for the lower income group in Malaysia is largely the responsibility of the private sector due to the cross-subsidies from sales of other properties. In addition, developers have contributed to promoting racial harmony through the equitable distribution of houses and have provided social facilities, thereby building and fulfilling the housing needs of most segments of the population and also acting as a key implementer of the Government's social engineering programmes (Chan, 2003).

Among the obligations that private sector developers have in contributing to the nation housing development includes (ibid):

- i. Allocating a minimum 30% quota of their developments for low-cost houses. This is made possible only through cross-subsidy from other types of housing;
- ii. Allocating a minimum of 30% quota of their housing units to Bumiputera purchasers;
- iii. Providing special discounts to Bumiputera purchasers of between 5% to 10% of house prices;
- iv. Providing a high-quality living environment to house buyers, including the provision of schools, public amenities, playgrounds, parks, and multi-purpose halls. In any one development, these typically occupy away about 50% to

60% of the land area, leaving the net saleable land for physical construction of houses to only about 40% of total project land area.

- v. Ensuring enhanced quality of living by building according to the higher standards set by the authorities for low-cost and low-medium cost houses.

However, due to these mandatory obligations, there is risk that economic efficiency in the housing industry could be compromised. While there is no doubt that there should be a reasonable balance between social equity and economic efficiency for a successful development programmes, they could be a danger that the imposed regulations could be too distortionary in nature, threatening the very efficacy of the national housing policy implementation. For example, during the 1997 and 1998 downturn in economy, many developers found it taxing to cross-subsidise the cost of building low-cost units since they were not able to sell the higher cost houses, leading many to build these low-cost units much later. Consequently the target for building of low-cost houses was not met while there was an over supply of more costly properties. Therefore, in the Eighth Malaysia Plan, the government took on a more direct role in building low-cost houses for sale and rent via specific housing programmes so that the private sector could concentrate on building more low-medium, medium- and high-cost houses (National Housing Department, 2005). Subsequently, the regulations on low-cost housing provision were made more flexible and brought up-to-date. For instance, the definition of low-cost houses and the quota mechanism were reviewed, resulting in more reflective locale-specific requirements. However, issues of supply and demand mismatch, such as over-provision of low-cost houses in the certain areas and unsold bumiputera quota units, remain a concern for most Malaysian housing developers.

3. Build-then-Sell Concept

As a response to house buyers' complaints and dissatisfaction with regard to timely delivery and quality of houses by private housing developers, the build-then-sell concept has been proposed to replace the current sell-then-build practice in housing development. Recognising that full adaptation of the build-then-sell concept may not yet be feasible in Malaysia in 2005, the Ministry of Housing and Local Government proposed the 10:90 build-then-sell hybrid model, which is based on an Australian model regulated by the Sale of Land Act 1962 of the State of Victoria.

As noted earlier, the system in Malaysia is that of sell-then-build, in which a potential house buyer makes a booking and pays 10 per cent of the sales price

upon signing of the sale and purchase agreement. The buyer then makes progress payments, normally through a loan arrangement with a bank, in accordance with the stage of completion of the house. The progress payments are released directly to the Housing Development Account of the housing project by the bank upon certification by the architect of the stage of completion. This present system essentially harnesses the financial resources of both the developer (via bridging loans from banks) and the purchaser (via end-financing from banks) to make it possible to finance the construction of the large numbers of housing units required for the nation (REHDA, 2005).

Under the 10:90 build-then-sell concept, a house buyer makes a 10 per cent payment upon signing the sale and purchase agreement, which is held in trust by a lawyer in an escrow interest-bearing account. When the house is completed with a Certificate of Fitness for Occupation (CFO), the developer then collects the 10 per cent together with whatever interest has been accrued. The buyer then pays the remaining 90 per cent and the sale is completed. If, for whatever reason the developer fails to deliver the houses within the stipulated time plus whatever stipulated extended grace period, then the buyer is entitled to demand back the 10 per cent payment plus interests accrued back and thereby terminating the agreement. Clearly, under this new concept, the purchaser's rights are enhanced and better protected. Furthermore, house buyers are also insulated from business risks of developers and financial institutions.

However, most housing developers are concerned about the potential problems that might arise from the adoption of this new concept, with negative consequences greatly outweighing the benefit in the strengthening of house buyers' rights. Among the concerns are (REHDA, 2005):

- i. Very few developers will have the financial capital or capacity to carry out project development on their own without other sources of financing from either banks or purchasers. This problem could be especially relevant to smaller developers. Similarly, project loans under build-the-sell will carry great credit risk compared to bridging loans because lending criteria is based more on financial/market feasibility assessment rather than pre-sales achieved before the funds can be drawn down;
- ii. As a corollary to this, there is potential for consolidation in the housing industry. REHDA estimates that there may be up to a 60 per cent reduction in housing production; and
- iii. An increase in bridging finance costs and potential lower supply could mean an increase in prices ranging from 30 to 50 per cent. While the purchasers'

rights may be strengthened, buyers could be significantly economically disadvantaged.

Furthermore, since the amendments to the Housing Developer Act, 1966 in 2002, which included the inception of the Tribunal for House Buyer Claims, it is claimed that protection given to house-buyers have been significantly enhanced. Additional amendments to the Act to provide greater protection for house-buyers is expected to be incorporated in 2006.

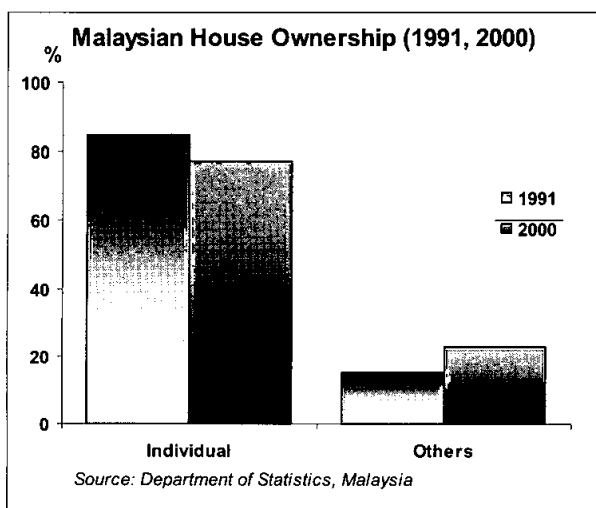
At the time of writing, it remains to be seen if the build-then-sell concept will be implemented in the Malaysian housing industry, and if it is, in what form and extent.

3.2 House Ownership, Land Tenure, Taxes and Levies

3.2.1 House Ownership

Malaysia has a respectable proportion of individual owned housing units. In 1991, individuals owned 85 per cent of all housing units in the country and 67 per cent of them are owner-occupied. In 2000, however, individual ownership of housing units dropped to 77.2 per cent. States that experienced major decrease in individual ownership between 1991 and 2000 were namely Selangor, Pahang, Sabah and the Federal Territory of Kuala Lumpur. The remaining 22.8 per cent

Figure 15



were owned by the Government and statutory bodies (5.5 per cent), the private sector (6.4 per cent) and others (11 per cent). This was an increase from 15 per cent in 1991.

Home Ownership Campaign

A Home Ownership Campaign (HOC) was introduced in December 1998 as a measure aimed at reviving the property market and providing more opportunities for the public to own homes. Incentives were provided to house buyers, which included a purchase discount of up to 15 per cent; easy credit facilities by financial institutions as well as by the Government for its eligible employees; higher financing margin of up to 95 per cent for properties costing RM250,000 and below; exemption from stamp duties and processing fees; discounted legal fees and insurance premiums; and fast approval by the Foreign Investment Committee for foreign purchase. This one-month campaign attracted 492 developers and achieved sales of RM2,900 million for residential properties and RM600 million for non-residential properties.

The second HOC was held from 29 October to 7 December 1999. Incentives offered included exemption of stamp duties as well as a minimum price discount of 5.0 per cent for properties costing RM100,000 or less and 10 per cent for properties costing more than RM100,000. Financial institutions also offered incentives such as higher margin of finance up to 95 per cent; waiver of processing fees; and increased loan tenure up to 30 years. Legal fees were also lowered for sales and purchase as well as loan agreements. This helped to reduce the number of unsold residential properties to an estimated 45,500 units, including 9,700 units of condominiums and apartments.

Adapted from Malaysian Quality of Life 2004, Economic Planning Unit (2005), pg 92

3.2.2 Land Tenure

In Malaysia, the National Land Code, 1965 is a complete and comprehensive code of law governing the tenure of land and its incidents. Under the National Land Code, all land in Peninsular Malaysia is vested in the state. The state may alienate land to an individual who becomes the owner thereof. In East Malaysia, the Sabah Land Ordinance and Sarawak Land Code apply in the two states respectively. Under the National Land Code, all land within the boundaries of the state is considered state land until the land title is registered; even if its alienation

has been approved. All lands alienated by the state under the provisions of the Code, and which have been surveyed will be held either under a Registry Title or Land Office Title, both of which are documents of final title. Qualified title is issued in respect of land that has not been surveyed by a first-class survey (Nik Mohd Zain, 1997).

Purchasers of a housing unit are mainly concerned with the type of title; freehold or leasehold, granted to the property. Under the former, the land title is issued for perpetuity while the latter is for a 99-year lease period. Freehold titles are preferred to leasehold titles but are becoming a rarity these days and so command a premium. For leasehold land, questions revolve around the remaining tenure of the lease, the possibility of extending that tenure, and at what cost. Some titles prohibit the transfer of the property without the approval of the ruler in council or the state authority. Certain laws, such as the Malay Reserve Enactment and the Customary Land Enactment, forbid the transfer of land title for designated properties to those not specifically permitted to hold such properties (Huang, 1998).

3.2.3 Taxes and Levies

There are two main taxes that affect the purchasing of houses in Malaysia. They are the real property gains tax and stamp duty.

1. Real Property Gains Tax

Between 1973 and 1974, Malaysia experienced a property boom with rapidly rising prices. To curb speculation in real property, the Land Speculation Act 1974 was enacted, which was subsequently replaced by the Real Property Gains Tax Act 1976. The Act provides that a Real Property Gains tax be charged on a gain derived from the disposal of any chargeable asset by a person (resident, non-resident or corporation). A chargeable gain occurs when the disposal price exceeds the acquisition price. When the reverse occurs, it will be considered as an allowable loss. The allowable tax loss, however, cannot be used as a relief against other current income but may be carried forward and offset against future gains from disposal of real property. For house owners, two specific exemptions apply, namely: any gain up to RM 5,000 or 10 per cent of the capital gain, whichever is higher, is exempted; and a citizen or permanent resident may elect for a once-only exemption for disposal of a residential property.

Table 10
Real Property Gains Tax Rates
(as in force from 27 October 1995)

Disposal after asquisition	Resident	Non-residents	Companies
Within 2 years	30%	30%	30%
Third year	20%	30%	20%
Fourth year	15%	30%	15%
Fifth year	5%	30%	5%
Thereafter	Nil	5%	5%

2. Stamp Duty

In Malaysia, an ad valorem stamp duty is imposed on the sale and transfer of assets. For house-buyers, the duty would apply to the sale and purchase agreement, loan and transfer documents. For the sale and purchase agreement, the stamp duty rates are 1 per cent for the first RM100,000 of the value of the property, 2 per cent for the subsequent RM 100,001 to RM 500,000, 3 per cent for RM 500,001 to RM 2 million and 4 per cent for amounts exceeding RM 2million.

On several occasions, the Government introduced changes and exemptions pertinent to taxes to achieve certain objectives. For example, to encourage home ownership, the Government on 21 May 2003 announced, amongst others, the following incentives for one year, beginning 1 June 2003:

- i. Stamp duty waiver on the Sales and Purchase Agreements, loan and transfer documents for houses costing RM180,000 and below;
- ii. Income tax relief on interest payments for new buyers of completed houses, and first time owners of houses costing between RM100,000 to RM180,000; and
- iii. Exemption on real property gains tax.

4. Housing Finance

4.1 Primary Market Lenders

Banking institutions (comprising commercial banks, finance companies, Islamic banks and merchant banks) are by far the biggest primary market lenders in providing financing for the purchase of residential properties. Apart from banking institutions, development finance institutions such as the National Savings Bank, Cooperative Bank, Malaysian Building Society Berhad and Borneo Housing Finance Berhad; and a number of insurance companies also provide financing for the purchase of residential properties. The Treasury Housing Loan Division (THLD) of the Ministry of Finance is also involved in the housing loan market by providing end-financing to public-sector employees

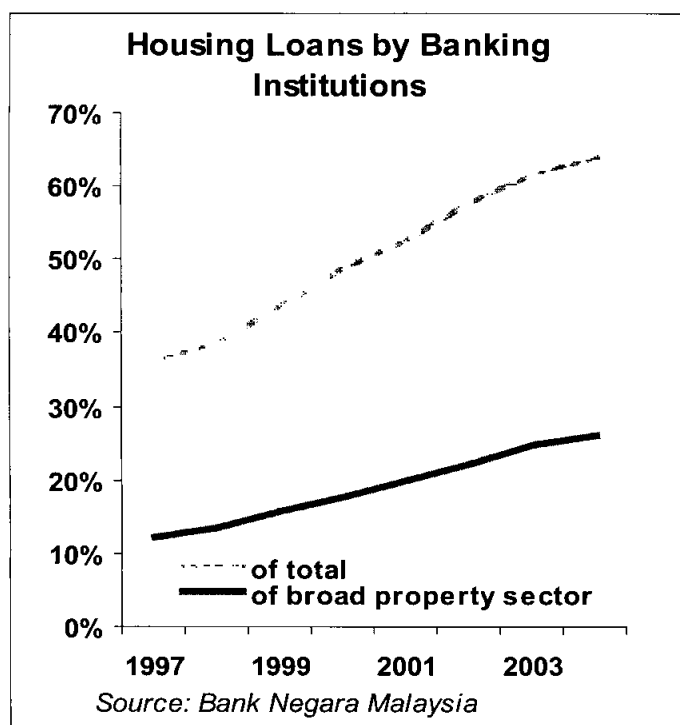
In the 1950s, the Malaysia Building Society Berhad was the dominant source of housing loans in Malaysia, offering housing loans on a term-loans basis with a fixed schedule of repayment. In 1960, it provided 97 per cent of end finance. Commercial banks offered almost no housing credit up till mid-1960s. The mismatch in the maturity profile of a housing loan and the deposit liability of commercial banks coupled with the lack of expertise could have discouraged commercial banks from venturing in mortgage market activities in earnest. Furthermore, financial institutions were normally viewed as specialist rather than generalist institutions; and commercial banks tended to specialise in the provision of trade and working capital finance (Thillainathan, 1997). However, by the mid-1970s, commercial banks emerged as the major originators of housing credit, with a market share of almost 40 and 45 per cent in 1970 and 1980 respectively. However, this position was taken over by THLD by the mid-1980s. Providing subsidised end-financing to public-sector employees, it emerged as the biggest originator of housing loans. In the 1990s however, the market share of THLD began to decline, due to the decline in the size of the public sector, and also because public-sector employees who were eligible had already taken loans. From the 1990s onwards, against a backdrop of a growing secondary mortgage market, banking institutions, particularly commercial banks, emerged again as the dominant primary market lenders in the Malaysian mortgage market, reflecting their competitive advantage over other specialised institutions as one-stop providers of various financial services (ibid).

Table 11: Sources of Housing Credit (%)

	1960	1970	1980	1990	2000	2001	2002	2003	2004
Commercial banks	...	23	45	39	64	66	68	70	77
Treasury Housing Loans Division	...	...	22	41	19	18	17	17	16
Finance companies	...	8	12	13	13	12	11	10	4
Malaysia Building Society Bhd	97	58	15	4	1	1	1	1	...
Borneo Housing Mortgage Finance Bhd	...	...	4	1	1	1	1	...	...
Others	3	8	1	2	2	2	2	2	2
Total	100	100	100	100	100	100	100	100	100

Banking institutions' loans for the purchase of residential properties amounted to RM140.8 billion (USD37.1 billion) to account for 26.4% of total outstanding loans as at end-June 2005. At the institutions' level, the share of housing loans

Figure 16



to total loans ranges between 0.4% and 55.9%. Although the exposure of the banking system to this sector has been rising in periods following the Asian crisis, this development has been accompanied with enhanced risk management infrastructure, practices and capabilities of individual banking institutions. In addition, the ready access to comprehensive credit information of borrowers, provided by the Central Credit Reference Information System, complements risk assessments by banking institutions. Non-Performing Loans (NPLs) for the purchase of residential properties remained manageable, accounting for 9.1% of loans for this purpose.

Housing Finance: Other Primary Market Lenders

Malaysia Building Society Berhad

The Malaysia Building Society Berhad (MBSB), which was set up as a building society in the early 1950s, is a financial intermediary that specialises in taking deposits and providing loan for house purchasers by offering a spectrum of innovative products and services. Most of its funds are in the form of loans from its major shareholder, the Employees Provident Fund (EPF), and *Permodalan Nasional Berhad* (PNB), as well as shareholders' funds and savings and fixed deposits placed with it by private-sector institutions.

Borneo Housing Mortgage Finance Berhad

Borneo Housing Mortgage Finance Berhad (BHMF) is another housing credit company that extends mortgage finance only for the purchase of houses in Sabah and Sarawak. The major sources of its funds are shareholders' funds, long-term loans from the state governments of Sabah and Sarawak, and statutory provident funds, as well as deposits placed with it by state governments and various institutions.

Strong competition from commercial banks and finance companies, which entered the end-financing market in the late 1960s, has pulled down the market share of MBSB and BHMF. Commercial banks, as one-stop providers of a wide range of financial services, have a distinct competitive advantage over specialized financial institutions, which are limited to property and construction finance. Building societies ceased to be the biggest originators of housing loans in the early 1970s, and now account for only a small portion of total housing credit in the country.

Employees Provident Fund

The Employees Provident Fund (EPF) provides supplementary housing finance under its Housing Withdrawal Package, which allows contributors to withdraw

up to 30 per cent of their savings as a lump sum for the purchase or construction of a house or to reduce the mortgage for the purchase. However, no withdrawal is possible for the purchase of a second house unless the first house funded via the EPF savings is sold.

Treasury Housing Loans Division and Public Utility Companies

The Treasury Housing Loans Division of the Ministry of Finance started to be involved in the housing loans market in the mid-1970s by providing end-financing to public-sector employees at a subsidized rate. Large public utility companies, particularly the privatized national telecommunications company (Telekom Malaysia Berhad) and the national electric energy company (Tenaga Nasional Berhad), also provide a large amount of end-financing to their employees at subsidized interest rates.

4.2 Types of Mortgage Loans

Typically, a banking institution in Malaysia would offer two types of mortgage loans: conventional housing loans and Islamic house financing. In addition, it would also offer loans to refinance existing housing loan with other institutions or convert an Islamic house financing scheme to a conventional housing loan and vice versa. Under the conventional housing loan, a banking institution would commonly offer basic term loan or term loan combined with overdraft facility. A term loan is a facility with regular predetermined monthly instalments for a fixed period of time. The normal housing loan tenure in Malaysia goes up to 30 years or until the borrower is 65 years old. In terms of product pricing, banking institutions offer fixed, variable rate or a combination of both. Banking institutions now offer mostly variable rate mortgages based on an adjustable rate pegged to the base lending rate (BLR) of the individual banking institution. The BLR is based on individual institution's cost structure and lending strategy as well as the level of competition in the industry. Due to the recent intensification of competition in the industry, institutions now offer a variety of mortgage packages, in terms of product pricing and flexibility in repayment, such as graduated payment scheme that allows lower instalment payments at the beginning of the loan but gradually increase over time, as well as longer loan tenures.

Islamic house financing in Malaysia is a Shariah-based financing facility. It can also be used to refinance existing facilities taken either from conventional housing loans or other Islamic house financing. Islamic house financing products generally share the same characteristics as normal housing loan products but are based on the concept of Bai Bithaman Ajil (BBA). BBA or Deferred Payment

Sale refers to the sale of goods on a deferred payment basis at a price that includes a profit margin agreed upon by both the buyer and the seller. Islamic house financing is mostly fixed rate financing, but as of 2003, banking institutions have begun to offer variable-rate Islamic house financing products following the introduction of the Islamic Variable Rate Mechanism, an innovation structured by a working group comprising of representatives from Bank Negara Malaysia (BNM) and the industry (BNM, 2004).

In the 1970s, the average duration of housing loans provided by the private sector was 10 to 15 years. By the mid-1980s, the average duration increased to 15 to 20 years, and in the 1990s, it increased further to 20 to 25 years. Now, most housing finance facilities offered have tenures up to 30 years.

In terms of loan size, although BNM does not impose any regulations pertaining to the ratio of loan-to-value, banking institutions generally do not provide financing up to 100 per cent of the value of the property. The margin of financing offered by banking institutions ranges from 80 to 95 per cent, inclusive of mortgage reducing term assurance.

4.3 Mortgage-Backed Securities and Other New Mortgage Finances

Activities in mortgage securities have been the domain of the National Mortgage Corporation (Cagamas), set up in 1988 with objectives to promote home ownership in Malaysia and contribute towards the development of the domestic bond market. Due to its role, Cagamas is the main issuer of mortgage-backed securities. To further develop the securitisation market, banking institutions have recently been allowed to participate in securitisation activities, including issuing mortgage-backed securities following the introduction of guidelines on asset-backed securitisation by BNM and the Securities Commission in March 2003 and 11 April 2001 respectively.

Until recently, the acquisition of mortgages by Cagamas has been on a recourse basis. Apart from housing loans, Cagamas also acquires hire purchase loans, industrial property loans and leasing debts. Data on total Cagamas outstanding debt securities backed by these loans including mortgages is as follows:

Table 12: Cagamas Debt Securities

	1990	1995	2000	2001	2002	2003	2004	end-Jun 2005
Outstanding Cagamas debt securities (RM bn)	209	11.3	21.5	21.5	25.0	26.5	26.8	25.8

Source: Cagamas Berhad

In terms of housing finance, Cagamas was set up mainly to provide liquidity to financial institutions and make home financing more accessible and affordable through efficient mobilisation of capital market funds. Cagamas would purchase housing loans from banking institutions thus enabling banking institutions to lock in their funding at low cost and hence extend financing for the purchase of houses at reasonable cost, particularly to the lower- and middle-income group.

Until recently, Cagamas has functioned primarily as a mortgage liquidity facility. The importance of an intermediate financial institution to provide liquidity to the primary lenders was crucially recognised in the mid-1980s due to the banking liquidity crisis caused by the economic recession then. By selling their mortgage loans to an intermediate body, primary lenders could obtain additional funds at a low cost. Primary lenders could then reduce their interest rate risks and access more diversified sources of funds—especially to finance the mandatory housing loans, which were subject to fixed-rate caps. Cagamas has largely been successful in encouraging the granting of housing loans, especially in the 1990s. Before the establishment of the secondary mortgage market, these institutions were less than eager to extend housing loans, particularly for houses costing up to RM100,000, because of the ceiling imposed on the interest rates they could charge. But by securitising the loans, they could obtain competitively-priced funds, cover their administrative costs, and also lock in a profit.

The liquidity provided by Cagamas' securitisation facilities has also made it possible for financial institutions to extend the term of housing loans from 15 years to 25 or even 30 years. As longer-term loans are easier to service, the capacity of households to take on greater debt has also risen, thereby increasing demand for houses. Before the establishment of the secondary mortgage market in Malaysia, financial institutions were reluctant to extend the repayment period because it would have aggravated their then-existing problem of funding mismatch (the bulk of their funds had a maturity of less than one year). In addition, Cagamas was instrumental in encouraging financial institutions to provide a new housing loan product besides their traditional housing loans, which were based on an adjustable rate pegged to their BLR, such as fixed rate housing finance package (Huang, 1998). Thus, Cagamas not only catalysed the expansion of the Malaysian

mortgage market, but also encouraged the increased participation of banking institutions in the market.

From 1988, the first full year of operations of the secondary mortgage market, the volume of outstanding housing loans securitised by Cagamas grown more than 15 times from RM 1,081 million to RM 21,402 million at the end of 1997, representing 30 per cent of total mortgage loans. Thus, in a decade, it managed to capture almost a third of the Malaysian mortgage market (Chiquier, 1999). However, in the period after the Asian Crisis, amidst continued excess liquidity in the banking system and a stable interest rate environment, financial institutions were generally less inclined to sell their housing loans. As at end-December 2004, Cagamas securitised 12.6 per cent of financial institutions' outstanding housing loans.

The first tranche of residential mortgage-backed securities (RMBS) by Cagamas was issued in 2004, amounting to RM1.6 billion (USD 0.4 billion), involving the acquisition of Government's staff housing loans on a non-recourse basis. The securitisation of the Government housing loans is part of Government initiatives to broaden the domestic bond market with a new asset class and enhance secondary trading of asset-backed securities. The second tranche, which was announced in July 2005, involves an issue size of RM2.1 billion (USD 0.5 billion). A detailed discussion on Cagamas and its contribution to the development of the capital market in Malaysia is articulated in a later section.

5. Interrelation with Other Macroeconomic Variables

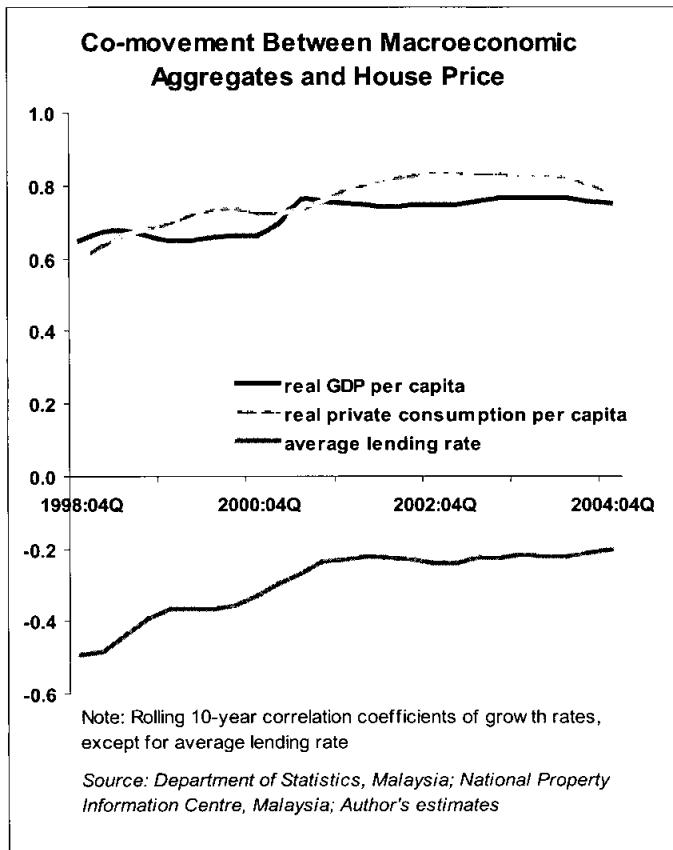
5.1 Housing Market and the Economy

As suggested earlier in discussions of the relevance of its development to different segments of the economy as well as the determinants of house prices, the housing market has strong linkages with the economy in Malaysia. This segment provides a brief extension of the discussion of the housing market and its macroeconomic relevance.

5.1.1 House Prices and Macroeconomic Variables

In the earlier discussion on house prices, it is found that house prices move closely with some of the important macroeconomic variables in Malaysia. A significantly relevant one of which is the level of real output of the economy.

Figure 17



An analysis of the growth rates of real GDP and real private consumption with real house prices again verify the close positive relationships. Movement of house prices closely followed both the patterns in income and consumption pattern of the economy. Using 10-year rolling correlation coefficient of growth rates between the variables, it is found that the strength of the correlations actually increased marginally over the years since the Asian crisis in 1997; from positive 0.6 before 1997 to positive 0.8 now. This is a pattern somewhat divorced from the trend observed in most industrial countries, where the strength of the co-movement between income or consumption and house prices have shown a sharp decline since the middle of the 1990s, which seems to imply that the current price boom in house prices in industrial countries is atypical (IMF, 2004). This international comparison again corroborate the earlier findings that Malaysian house prices are not experiencing significant misalignment.

A similar analysis shows that house prices are negatively correlated with real average lending rates. However, the correlation has been shown to be weakening in the period analysed, from around negative 0.5 to almost negative 0.2. This weaker correlation over time may be attributable to a couple of important contemporaneous development in the housing and mortgage market. Firstly, in the period of 2000-2004, interest rates were on a declining trend due to low inflation as well as competitions for loans amongst banking institutions, which resulted in reduction in the proportion of interest costs of total costs of purchasing a house. Meanwhile, real income continued to increase. These factors combined to make interest rates and interest costs a less important consideration in housing buying decisions. Secondly, the securitization facilities provided by Cagamas were able to reduce the funding mismatch amongst banking institution. Hence, this allowed the banking institution to extend more credit with longer repayment period. With a longer tenure, households were able to reduce monthly repayment commitment and therefore making interest rates a less important consideration compared to the 1990s.

5.1.2 Housing Market and the Business Cycle

It was found that real house prices and the output gap move closely together, and hence house prices were clearly pro-cyclical. Extension of the analysis into this matter, by including residential property transaction value, showed that the movement of the housing market was also principally synchronised with the economic cycle of the country.

Two particular patterns are noteworthy. Firstly, the timing of the co-movement between real output and real house prices and total transaction value are coincident; that is, the strongest correlation occurs when comparison is made within the same time period. This finding is slightly different from that of the United States and United Kingdom, where residential property transaction generally leads the movement in real output and real house prices (Ortalo-Magne and Rady, 1998). In fact, since the comparison is made with quarterly figures, it can be said that the housing market showed no notable lead or lag compared to the economic cycle. Therefore, claims such as that the residential property market is the usually the first to 'kick-start the economy out of an recession' (REHDA, 2005) should be treated with some caution.

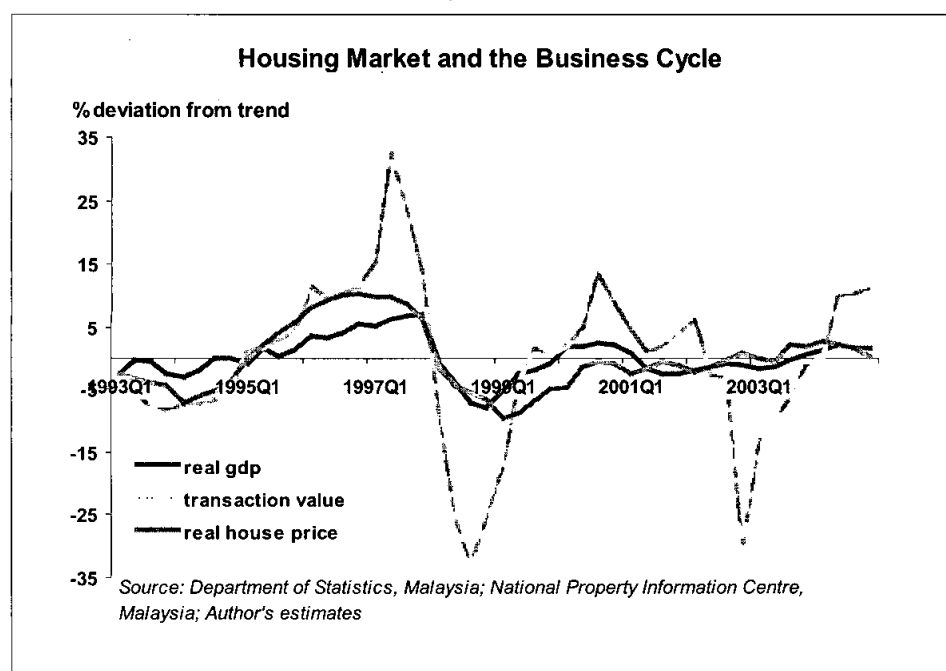
Table 13: Correlation and Relative Volatility of Housing Market Variables to GDP

	Relative Volatility	Correlation to GDP									
Variable		t-4	t-3	t-2	t-1	t	t+1	t+2	t+3	t+4	
Transaction Value	3.96	0.77	0.83	0.89	0.92	0.92	0.90	0.86	0.82	0.77	
House Price	1.63	0.10	0.16	0.21	0.25	0.26	0.20	0.13	0.03	-0.08	

Note: Relative volatility here is defined as the ratio of standard deviations of percentage deviation of the variable from trend and percentage deviation of GDP from potential output (output gap)

Source: Department of Statistics, Malaysia; National Property Information Centre, Malaysia; Author's estimates

Figure 18



Secondly, the volatility in house prices and housing transactions were greater than that of real output. This is particularly evident in the total transaction value of residential property where the volatility, measured as deviation from trend, is almost four times greater than that of the GDP. This reflects the rather significant volatility of the housing market.

5.1.3 Housing Market and the Economy: A Further Discussion

From the results of the close relationship between the housing market and the economy is general, it is tempting to believe that the performances of the housing market in Malaysia have a direct effect on the economy via the much-discussed theoretical channels.

For example, if real house prices rise, house-owners will experience an increase in their wealth and hence feel less compelled to save. This phenomenon, known as the 'wealth-effect', will have a positive impact on the level of consumption of the economy. Secondly, given the increase in real house price, the value of collateral of households and companies will increase, and hence making the access to credit easier. This is known as the 'balance sheet effect'.

Other inter-relations could be in the form of consumption of durables, that is, goods that are complements to the purchase of houses. An increase in the purchase of houses will result in an increase in the purchase of consumption durables. Also, an expansion in construction and property market activities could also have positive multiplier effects to the overall economy.

These channels exist in the Malaysian economy. However, given that movements in housing-market variables and the economy are coincident, it seems more reasonable to assume that the co-movements were results of some common and fundamental factors affecting both housing-market variables as well as more general macroeconomic variables. In the earlier exercise of determining the fundamental variables that affect real house prices, it is found that both current and expected future income, demographic characteristics as well as the credit environment determine the long-run movement of house prices. Given that these variables are clear economic fundamentals that are not only relevant to the housing market, it is unsurprising that movements in real house prices are closely related to other macroeconomic variables such as real private consumption.

5.2 Housing Market and the Transmission Mechanism of Monetary Policy

It is well known that the housing market, particularly housing prices, has relevant influences on the transmission mechanism of monetary policy (Clews, 2002; Catte et al, 2004). As discussed earlier, determinants of house prices are mainly economic fundamentals, including expectation of future income and real interest rate. Also, it is also discussed that house price movements could affect

macroeconomic variables via certain channels. Given these, development in housing market should thus overlap with concerns of monetary policy.

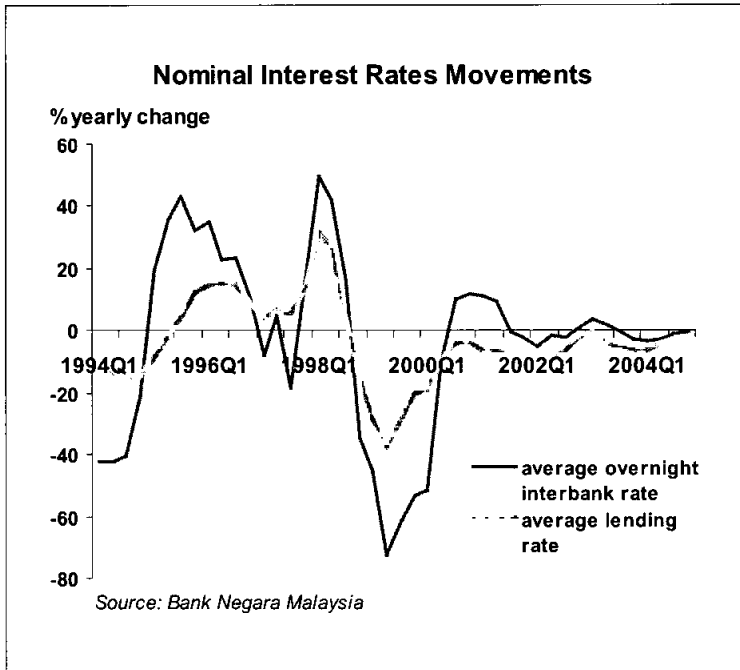
In Malaysia, realisation of the importance of asset prices to the workings of monetary policy is well articulated in BNM (1999; particularly pp. 166 – 169), with emphasis on the danger of speculative movement of asset prices as well as the limitations and efficacy of conventional monetary policy tools to address the issue. Unfortunately, specific academic discussion on monetary transmission mechanism and the housing market in Malaysia is not widely documented[‡]. However, by using the error correction model for house prices in Malaysia presented earlier, a simple, illustrative and partial transmission mechanism can be explained, but only within the framework of the econometric model.

5.2.1 Monetary Transmission Mechanism and House Prices: A Simple Illustration

Beginning 26 April 2004, Bank Negara Malaysia implemented a new interest rates framework that was designed to enhance the effectiveness of monetary policy by facilitating the transmission of movements in the policy rate to other market rates and ultimately to key macroeconomic variables (BNM, 2005; pp.63 – 65). Under this framework, the Overnight Policy Rate (OPR) was introduced as the new monetary policy stance indicator, replacing the 3-month intervention rate. The OPR is effectively the target for the average overnight interbank rate (AOIR) that is argued to have minimal expectations content and high degree of controllability. As at the writing of this paper, the OPR has not been changed from its implementation rate of 2.70 per cent, which was the prevailing AOIR when the framework was introduced.

[‡]. For a general discussion on monetary policy in Malaysia, BNM (1999) provides a good reference point.

Figure 19



From the error correction model for house prices discussed, the long-term determinants for real house prices were real per capita income, expectation of future economic activities, dependency ratio, real average lending rate as well as a proxy for the degree of credit rationing. Under this econometric framework, the ways in which interest rate might affect real house prices can be separated into two distinct channels. The first one is the direct channel, in which interest rate changes have a direct effect on the cost of borrowing for the purpose of house buying, and thus the demand for housing. The second channel is an indirect channel in which movement in interest rates affects the other determinants of house prices, namely real income level as well as the expectation of future income. This in turn affects the demand for housing and ultimate the price level. The duration of these channels can be loosely determined by a simple correlation analysis.

Figure 20
Monetary Transmission and House Prices:
A Simple Representation

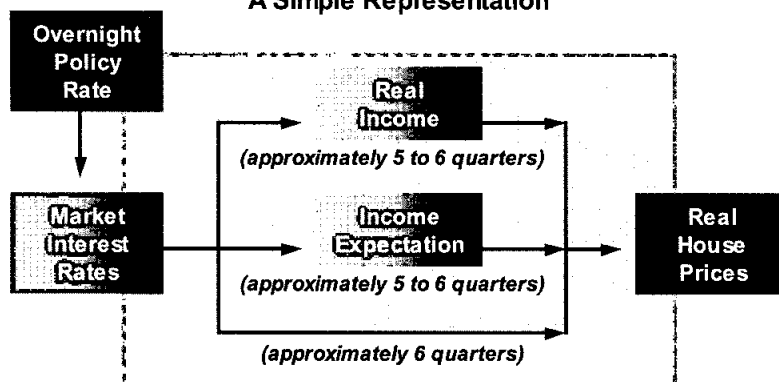


Table 14
Monetary Transmission: Relevant Correlations between Variables

	Correlation with real average lending rates (t-i)								
	t-8	t-7	t-6	t-5	t-4	t-3	t-2	t-1	t
real income	-0.32	-0.41	-0.51	-0.55	-0.48	-0.38	-0.13	0.22	0.47
consumer sentiment	0.06	-0.14	-0.37	-0.58	-0.68	-0.63	-0.44	-0.13	0.17
real house price	-0.59	-0.66	-0.66	-0.59	-0.46	-0.28	-0.06	0.17	0.38

	Correlation with real house price (t+i)								
	t-8	t-7	t-6	t-5	t-4	t-3	t-2	t-1	t
real income	-0.34	-0.25	-0.12	0.07	0.28	0.47	0.64	0.76	0.79
consumer sentiment	-0.13	-0.06	0.04	0.17	0.30	0.42	0.49	0.49	0.38

Note: Variables are the same use in equation 1, for period 1993:Q1 to 2004:Q8 and in growth rates

From the correlation coefficients summarised, it can be said that the strongest correlation between real average lending rate and real house prices occurs when the former is lagged six quarters, that is, it takes roughly one and half years before movement in interest rate affects real house prices. Similarly, for real income and consumer sentiment, the strongest correlations are when the real average lending rate is lagged five and four quarters respectively. It is almost contemporaneous for movement from real income to real house price, but it takes another two quarters from consumer sentiment to real house price. Overall, the partial transmission mechanism from OPR to real house prices can be summarised in the Figure above.

From this, it can be found that the strongest effect on real house prices after a movement from real interest rate is after six quarters. This is somewhat consistent with the earlier exercise of modelling house prices in which the error correction term is found to be 0.33, that is, 99.9 per cent of deviation from the long run equilibrium is corrected in the sixth quarter after the deviation occurs. Also, it was estimated that a 10 per cent decrease in real average lending rate would bring about 0.8 per cent increase in real house prices.

Conceptually, movement in real house prices, being a reflection of the demand, could also affect the variation of interest rates and consequently the working of the monetary policy transmission mechanism. This effect could be channelled via the primary mortgage market through the demand for housing loans, as well as the secondary mortgage market through the issuance of bonds, both of which could affect interest rates. However, such relationship from house prices to interest rates is not corroborated by the correlation analysis, in which movement in interest rates clearly lead the movement in real house prices.

However, it should be mentioned that this simple illustration is based solely on the earlier econometric framework and is far from comprehensive and should not be viewed as a complete picture of the relationship between monetary transmission and real house prices in Malaysia. Also, discussions on connections between nominal and real interest rates, as well as policy and market rates were deliberately vague, due to numerous reasons. Particularly, it should be noted that under the previous interest rates framework, due to its direct imputation into the calculation of base lending rate (BLR), any changes in the 3-month intervention rate would directly change the average lending rate. However, under the new interest rate framework, financial institutions are free to set their own BLR based on their respective cost-structure. Therefore, the transmission from OPR to the market rates might no longer be as straight forward as in the past. Given that

the OPR has never been changed since its introduction, it is difficult to draw any conclusions on the magnitude of the impact of changes in OPR on the market rate and hence house prices.

5.3 Housing Prices and Inflation

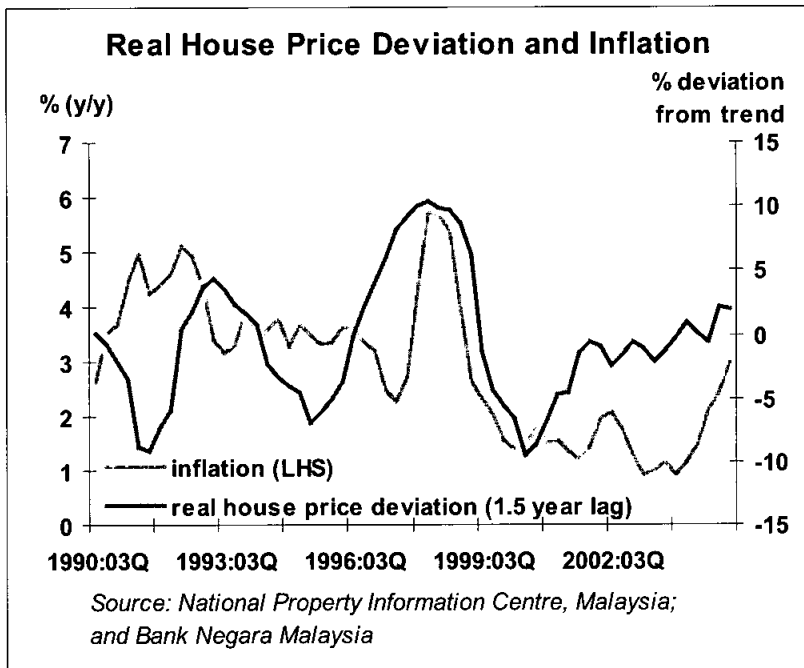
Following from earlier discussion, if real house prices are given to influence the propensity and capacity of households to consume via the 'wealth effect' and the 'balance sheet effect', then house price would affect the level of aggregate demand of the economy and hence, inflation level. Also, given the close relationship of house prices and other macroeconomic variables, movement in the former could reflect the level of economic activities and hence the inflation level, even if the real house prices do not have significant direct impact on aggregate demand.

In the Malaysian scenario, there seem to be relationships between both the deviation of real house prices from trend and the growth of real house prices to inflation, measured as the percentage change in CPI. However, these relationships are statistically weak^{§§}.

It is found earlier that deviation of real house price from trend follows the output gap closely, suggesting that the former should reflect the general degree of inflationary pressure in the economy. Empirically, this correlation is relatively the strongest when the deviation of house prices from trend is lagged by six quarters. For the direct connection between real house price inflation and consumer price inflation, the correlation is strongest when the former is lagged by 12 quarters.

^{§§}. The relationships were tested using both correlation tests and simple bi-variate regressions, but the results yielded were neither statistically robust nor intuitively compelling.

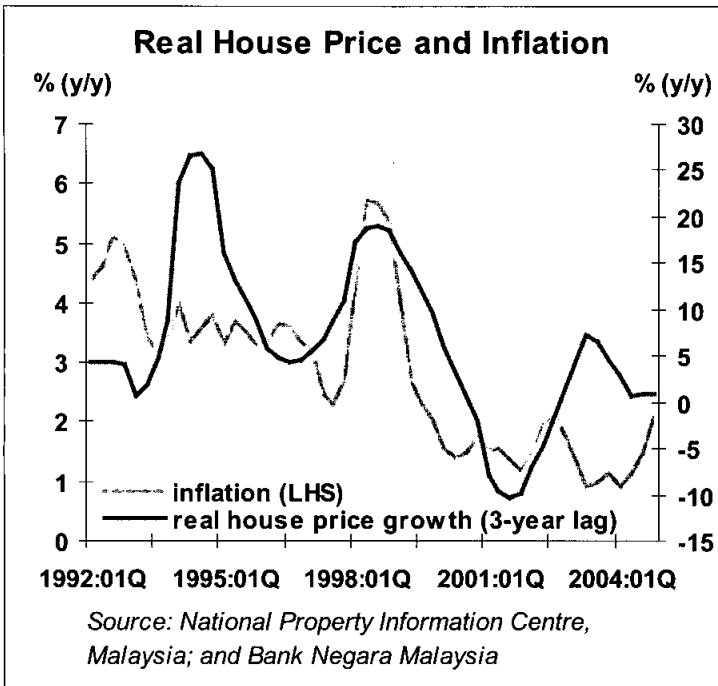
Figure 21



5.4 Housing Finance and the Capital Market

Housing finance and its role in the development of the capital market in Malaysia dates back to the establishment of the secondary mortgage market through the National Mortgage Corporation (Cagamas) in the 1980s. Malaysia was the first country in the region and one of the earliest amongst the developing economies, to establish a secondary mortgage market. At the time of the establishment of the market, the business and financial community in Malaysia was not familiar with the concept of a secondary mortgage market and the bond market was still under-developed. The private debt securities (PDS) market was virtually absent until the creation of Cagamas. Up to the 1980s, Malaysian Government Securities dominated the debt securities market. In addition to mobilising low-cost funds to support the national home ownership policy, Cagamas was envisaged to be a special vehicle to spearhead the development of the PDS market in Malaysia, hence enabling the private sector to tap alternative sources of financing other than conventional bank borrowings. As at end-2004, total outstanding PDS, excluding Cagamas debt, accounted for 24 per cent share of total financing in the economy, clearly reflecting the growing importance of the capital market to the growth of the economy since the establishment of Cagamas.

Figure 22



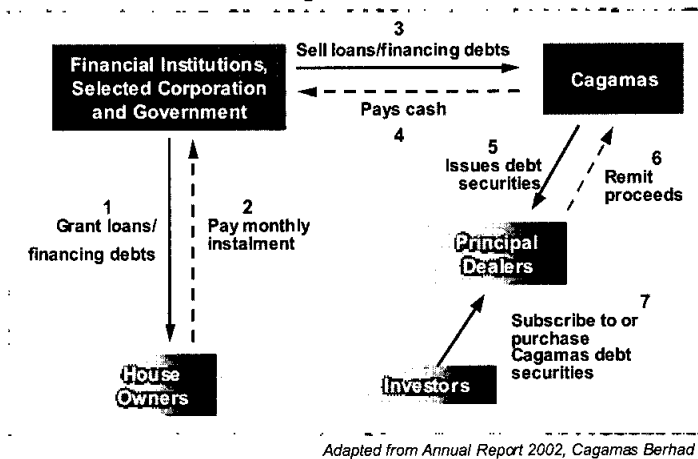
5.4.1 The Evolution of Cagamas

Cagamas was registered as a normal company in December 1986, and as such it is not classified and regulated as a banking institution, nor is it listed on the stock exchange. It functions as a non-bank secondary mortgage facility and enjoys regulatory advantages over banking institutions. The single biggest shareholder is Bank Negara Malaysia (BNM) and its board of directors include senior BNM representatives, including the Governor or Deputy Governor as the chairman of the board.

Until 2004, the secondary mortgage market in Malaysia operated in such that Cagamas purchased housing loans from the institutions that originate the loans at the primary level. The purchases would be financed by issuance of debt securities in the form of Cagamas bonds and short-term Cagamas notes. In effect, Cagamas turns the housing loans into debt securities at the secondary level through a process, which is tailored to suit the Malaysian market environment.

Figure 23

The Cagamas Model



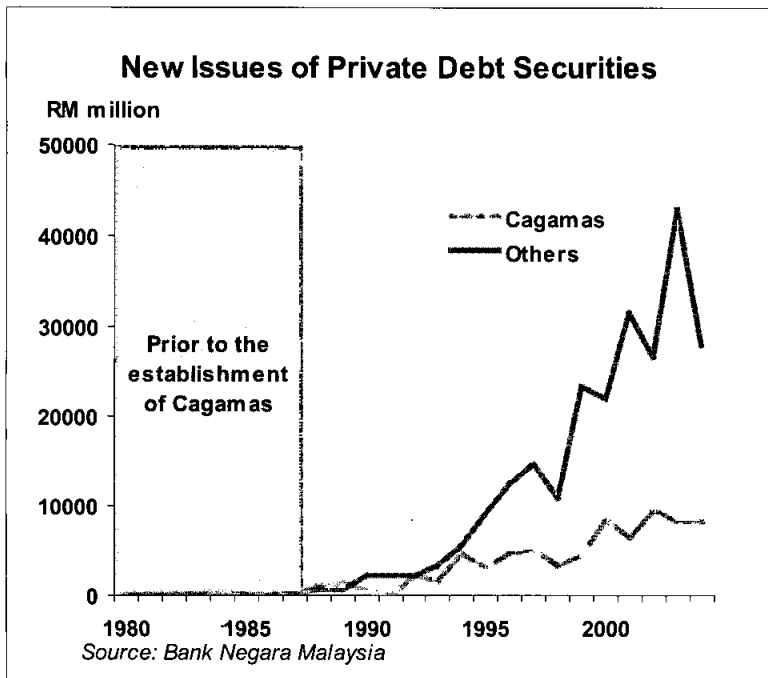
The Cagamas process included characteristics that were instrumental to the successful development of Cagamas and the secondary mortgage market. Notably, the process involved purchases of housing loans with recourse to the primary lender, that is, the latter is responsible for any loss arising from the default of the borrower. As such, the debt securities were not strictly backed by the cash-flows from the loans. This was deemed essential due to the prevailing domestic market environment at that time, as both the financial institutions and the capital market were not ready for pass-through securitisation.

Another characteristic of the process is that Cagamas was given special regulatory treatment. For example, BNM recognised Cagamas bonds as liquid assets for the purpose of meeting the liquidity requirements imposed on financial institutions, and BNM permitted funds obtained from selling loans to Cagamas to be free from the statutory reserve and liquidity requirements. Furthermore, the transactions of loans and dealings of debt securities with Cagamas are exempt from stamp duties. These privileges made loans sales and Cagamas debts more attractive to the primary lenders and investors respectively.

The growth of Cagamas has been tremendous. From the maiden issue of RM 100 million debt issued in 1987, total outstanding Cagamas debt securities as at end-2004 stood at RM 26.8 billion. This represented 14.9 per cent of the PDS market and 7.5 per cent of the total bond market. The holders of Cagamas securities as at end-2004 were principally banking institutions (57 per cent), followed by pension and provident funds, insurance companies and other investors (27, 5, and 12 per cent respectively).

Crucially, Cagamas has played a decisive, catalytic role in the development of the PDS market in Malaysia. The large volume of long- and short-term debt papers issued by Cagamas has given investors new instruments for investing their surplus funds. Although secondary market trading in Cagamas securities was not sufficiently large and consistent in volume to create benchmarks, it nonetheless presented an opportunity for bond dealers, for the first time in Malaysian financial history, to transact on a large scale in private debt securities in the secondary mortgage market. Cagamas was also responsible for introducing many innovative debt securities products to the growing PDS market, including

Figure 24



Islamic debt securities, which contributed to the development of the Malaysian Islamic capital market. Additionally, the success of Cagamas in issuing bonds has inspired other corporations to raise funds in the domestic market by issuing private debt securities instead of borrowing from financial institutions (Huang, 1998). Issues of PDS increased from negligible levels in 1987 to RM 9.5 billion in 2004. At the peak of 2000, net issues of PDS registered a nominal value of RM 19.9 billion. During the Asian Crisis, Cagamas emerged as the only large, regular private issuer in a lethargic bond market.

Table 15: Cagamas and the Capital Market

	2000	2001	2002	2003	2004
Outstanding Cagamas Debt Securities (RM bn)	21.5	21.5	25.0	26.5	26.8
<i>% of Capital Market Debt Securities</i>	<i>7%</i>	<i>7%</i>	<i>8%</i>	<i>8%</i>	<i>8%</i>
<i>% of Private Debt Securities</i>	<i>14%</i>	<i>13%</i>	<i>17%</i>	<i>19%</i>	<i>19%</i>
Secondary Market Trading Volume (RM bn)	70.2	35.2	42.9	41.7	43.0
<i>% of total turnover</i>	<i>24%</i>	<i>9%</i>	<i>10%</i>	<i>10%</i>	<i>11%</i>

Source: Bank Negara Malaysia, Cagamas Berhad

Cagamas RMBS and the further Deepening and Broadening of the Capital Market

By 2004, Cagamas has successfully established itself as a primary player in the capital market. In addition, the PDS market has displayed exemplary growth and has been underscored by a series of notable highlights, namely, regulatory consolidation, the unveiling of the Capital Market Masterplan and the advent of asset securitisation. Recognising the maturity of Cagamas and the need of the further efficient functioning of the bond market, BNM had on 3 September 2004 revised the special regulatory treatment for Cagamas debt securities, and thus allowing the development of the capital market on a more competitive basis, in line with the ongoing liberalisation of the financial and capital markets (Cagamas, 2005).

Also, the issuances of Asset-Backed Securities (ABS) Guidelines in April 2001 by the Securities Commission and the Prudential Standards on Asset-Backed Securitisation Transactions by BNM in March 2003 indicated that the maturing financial institutions and the capital market were ready to undertake securitisation. Since August 2001, several ABS deals have been transacted in Malaysia.

For Cagamas, the breakthrough in true pass-through securitisation came in April 2004 when the Malaysian Government mandated Cagamas as the vehicle to undertake the securitisation of the Government's staff housing loans on a scheduled basis and over a period of time. On 20 October 2004, Cagamas MBS Berhad (CMBS), a single-purpose and wholly-owned subsidiary of Cagamas, made its inaugural issuance of Residential Mortgage-Backed Securities (RMBS) of RM1.6 billion in nominal value. This RMBS issuance, the first of its kind and the largest securitisation deal then, involved the acquisition of Government staff

housing loans on a non-recourse basis. It attracted RM 11 billion in book size with strong bids from both foreign and domestic investors, comprising financial institutions, asset managers, insurance companies and corporates, giving an over-subscription of 5.6 times.

On 28 July 2005, CMBS successfully priced its second issuance of RMBS of RM2.05 billion in nominal value. The second issuance, known as Islamic Residential Mortgage Backed Sukuk Musyarakah, represented the world first rated RMBS to be issued under Islamic principles. Similar to the first RMBS, the second issue attracted responses from both foreign and domestic investors, with an oversubscription of 5.4 times.

In line with the Government's effort in developing a vibrant and liquid bond market, the securitisation of the Government staff housing loans by Cagamas represented a new strategic initiative to broaden the domestic bond market with new asset classes, as well as increasing the depth and efficiency of the capital market in whole, while simultaneously creating benchmark yield curves for long-term ABS and Islamic ABS. The RMBS issues were expected to enhance secondary trading of ABS too. Specifically, it was claimed that the second issuance of RMBS would contribute to the promotion and growth of the Islamic capital markets and further establish Malaysia's position as the leading global Islamic financial hub (Cagamas, 2005).

6. Conclusion

Since Independence in 1957, Malaysian has grown rapidly from an agriculture-based economy to one of the more successful developing countries in the world. Along with a rapid pace of economic growth, the population has also grown considerably. In 2004, Malaysia had a per capita GDP, adjusted for the standard of living, of USD 9,600 and a multi-ethnic population totalling 26 million. In accommodating the rapidly growing affluence and population, the housing and mortgage markets in Malaysia have developed considerably and have inevitably grown in relevance to the economy. For a typical household, housing not only fulfils the basic need of shelter, but also relates closely to economic well-being. An average worker in 2004 would have to spend four years of his annual income to buy a house, while mortgage debt represented more than half of total household debt. On top of this, another one-third of income was used on housing-related expenditures. The housing market is also highly relevant to other segments of the economy. Residential property is a significant contributor to both the property market and construction sector, being a major driver for both. For banking

institutions, housing loans made up to more than a quarter of all loans outstanding at end-2004. These clearly reflect the significance of housing and mortgage markets to the economy as a whole.

The housing stock in Malaysia stood at around 6.6 million units in 2004, and has been growing in line the expanding population, providing accessible housing for every household. This growing supply of houses was accompanied by a continued rise in real house price, but given the greater pace of income growth, the affordability of houses did not deteriorate. It is shown that average house prices in Malaysia were closely determined by real economic, financial and demographic conditions. Specifically, real income growth and expectations of future growth, cost and availability of credit, and the dependency ratio are shown to determine equilibrium long-run house prices. Also, movements of house prices after the Asian Crisis have not displayed significant misalignment from economic fundamentals. Furthermore, there was no statistically compelling evidence to indicate that any particular region has been showing atypical house price movements as prices in different regions appeared to be synchronised. It is also found that the housing market was highly pro-cyclical in nature, displaying contemporaneous movement with real income and consumption. Both real house prices and house transaction values moved together with the output gap of the economy, but with greater volatilities. This was especially true for transaction of residential property. From the perspective of monetary policy transmission, it takes roughly six quarters for movements in interest rates to affect real house prices, but the effect was generally weak. There was no statistically robust evidence to suggest that real house prices significantly affect either inflation or interest rates.

The Malaysian Government recognises the importance of adequate housing in national development and has put significant emphasis in formulating and implementing housing policy in all national economic plans. The basic thrust of housing policy in Malaysia is to provide Malaysian of all income levels, particularly the low-income groups, access to adequate, affordable and quality. In achieving this objective, collaboration between the private and public sector have been crucial as the private sector is a key industry partner to the Government in providing adequate housing through mandatory social obligations. In addition, the Government has implemented a multitude of housing-related programmes, including the building of public low-cost housing, resettlement of squatters and rural housing development programmes.

The financing of houses in Malaysia is primarily the domain of banking institutions. Banking institutions, particularly commercial banks, are by far the biggest originators of housing credit, amounting to more than 80 per cent of total housing credit in 2004. Other primary market lenders include the Malaysian Government, through the Treasury Housing Loan Division, which provides loans to public sector employees at a subsidised rate, and development finance institutions. After the Asian Crisis, the mortgage market in Malaysia was characterised by very rapid growth amidst a backdrop of increasing financial and capital market sophistication, as well as ample liquidity among banking institutions and a stable interest rate environment. The growing mortgage market is particularly relevant for banking institutions as lending for the purchase of residential property currently accounts for a very significant portion of total lending. Such development would continue to be supported by a comprehensive risk management infrastructure and appropriate risk management framework to ensure the resilience of the financial system.

The secondary mortgage market in Malaysia played an important role in catalysing the expansion of primary mortgage market and also encouraged the increased participation of banking institutions in the market. Through Cagamas, the secondary market provided liquidity to financial institutions and make home financing more accessible and affordable through mobilisation of capital market funds. Given its function, the secondary mortgage market has also played a crucial role in spearheading the development the Malaysian capital market, in particular the private debt securities (PDS) market. The PDS market was virtually absent until the creation of Cagamas, but as at end-2004, total PDS outstanding, excluding Cagamas debt, accounted for 24 per cent share of total financing to the economy, effectively enabling the private sector to tap alternative sources of financing to contribute to the growth of the economy. The secondary mortgage market also contributed to the bond market through introduction of new asset classes such as residential mortgage-backed securities, as part of the effort by the Government to develop the Malaysian capital market. Landmark issuances of both conventional and Islamic residential mortgage-backed securities signified a new stage of development for the Malaysian capital market. It would be interesting to assess the complete contribution of these new developments, and further development in the secondary mortgage market to the progress of the capital market in Malaysia in the future.

The housing and mortgage markets in Malaysia now stand at an interesting juncture of development. Housing demand, as reflected by movement in real house prices, despite moving on an uptrend, is now closely explained by underlying

fundamentals as compared to before the Asian Crisis. This trend is divorced from the current pattern seen in other countries in which the concern over real property mispricing is growing. As real income continues to grow, and house financing is becoming more accessible with growing financial sophistication, the demand for housing will continue to become increasingly relevant to many sectors of the economy.

The housing and mortgage markets have been important elements in the progress of Malaysia, and given the current developments, it is certain that they will remain so.

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Appendix

Estimation results for Real House Price equations explained in the main text

Summary result for Equation (I), the cointegrating equation (p. 19)

Dependent Variable: rhp Method: Least Squares (with Newey-West HAC error structure) Sample: 1988Q1 - 2004Q4 (68 observations)				
Variable	Coefficient	Std. Error	t-Statistic	p-Statistic
<i>Intercept</i>	6.71	5.02	1.34	0.19
<i>y</i>	0.36	0.20	1.82	0.07
<i>f</i>	0.19	0.07	2.75	0.01
<i>d</i>	-3.31	1.34	-2.47	0.02
<i>r</i>	-0.08	0.03	-2.39	0.02
<i>c</i>	0.27	0.06	4.37	0.00
<i>dumCC</i>	-0.13	0.04	-3.21	0.00
Adjusted R-squared		0.97		

Summary result for Equation (II), the ECM equation (p. 20)

Dependent Variable: Δrhp Method: <i>Least Squares (with Newey-West HAC error structure)</i> Sample: 1989Q2 - 2004Q4 (63 observations)				
Variable	Coefficient	Std. Error	t-Statistic	p-Statistic
<i>Intercept</i>	0.01	0.00	3.16	0.00
$\Delta rhp(t-1)$	0.41	0.08	4.92	0.00
$\Delta rhp(t-4)$	0.24	0.12	1.97	0.05
$\Delta y(t-1)$	-0.35	0.14	-2.44	0.02
$\Delta y(t-2)$	-0.34	0.14	-2.45	0.02
$\Delta y(t-3)$	-0.29	0.14	-2.01	0.05
Δd	-25.23	9.76	-2.59	0.01
$\Delta d(t-1)$	16.58	7.29	2.27	0.03
Δf	0.13	0.03	4.23	0.00
Δr	0.04	0.02	2.29	0.03
$\Delta r(t-2)$	0.04	0.02	1.95	0.06
Δc	0.39	0.11	3.56	0.00
$\lambda(t-1)$	-0.33	0.09	-3.78	0.00
<i>dum98</i>	-0.03	0.01	-3.20	0.00
Adjusted R-squared		0.66		

Note:

1. Quarterly data for *rhp* from 1988A1 to 1999A4 are derived from yearly index using cubic-spline method
2. *DummCC* is dummy variable for period 1998 to 2004
3. *Dum98* is dummy variable for period 1997 to 1998

Wald test results for regional and national house price difference (p.23)

Null Hypothesis: $(b - 1) = 0$ Sample: 1989Q1 - 2004Q4 (64 observations)			
Region	F-statistic	df*	p-statistic
<i>Kuala Lumpur</i>	0.00	(1,63)	0.95
<i>Negeri Sembilan</i>	1.17	(1,63)	0.28
<i>Penang</i>	0.18	(1,63)	0.67
<i>Perak</i>	0.65	(1,63)	0.42
<i>Selangor</i>	0.09	(1,63)	0.77
<i>Johore</i>	4.99	(1,63)	0.03

* degree of freedom

CHAPTER 5

HOUSING AND MORTGAGE MARKETS IN MONGOLIA

by
Ravjin Sarantsetseg

1. Overview

1.1 Macroeconomic Characteristics

The development of the main annual indicators are displayed as follows:

Table 1: Annual Indicators

	2000	2001	2002	2003	2004
Real GDP growth (%)	1.1	1.0	4.0	5.5	10.6
Consumer price inflation (av; %)	11.8	8.2	1.5	4.6	11.0
Exchange rate (av; MNT:USD)	1,076.7	1,097.7	1,110.3	1,146.5	1,191.0
Population (m)	2.50	2.53	2.56	2.59	2.62
Budget deficit % of GDP	7.7%	4.5%	5.9%	4.2%	0.9%

Source: Bank of Mongolia estimates

GDP Growth: During the past years, the Mongolian Government has been implementing a stable policy aimed at creation of an environment that enables the socio-economic development of the country. As a result, the real economic grew by 10.6 percent in 2004. This growth was the highest since Mongolia embarked on the transition to a market economy and started building a democratic society. The private sector played an essential role in this achievement that proved the robustness of market mechanism. In addition, this was the immediate outcome of increased foreign and domestic investments in mining, manufacturing, services and banking and financial sector during the last few years. The agricultural sector was also played a key role in the growth of the economy.

Inflation: Since Mongolia is heavily dependent on imports of energy sources, the oil price rise in the world market had negative impacts on the social and economic life of Mongolia. In 2004, inflation reached 11 percent, the highest since 2001. Prices of consumer products increased due to supply shock factors.

Inflation hike was linked with oil price (base price) rise in the world market, and the increase in taxes on oil product exports and taxes on mineral resources in Russia. Mongolia is regarded as a fuel intensive country with its huge consumption of energy for heating purposes during the cold winters and oil also needs to be transported over long distances. This rise in prices was followed by increase of consumer products' prices. In light of this, the annual inflation rose above the predicted rate to become two-digits in 2004. Supply driven economic shock through rise in the price of petroleum products since the second half of 2004 necessitated prompt response and principal modifications in the monetary policy.

Fiscal Position: The budget deficit made up 0.9 percent of GDP in 2004. The budget deficit decrease provided more opportunities for the private sector, which turned into a precondition for the economic growth. Mongolia carried out its settlement with the rest of the world based on to remittances of Mongolian workers employed in foreign countries and foreign investments. In such circumstances, the budget deficit appears the worst structural deficiency in the Mongolian economy. During the transition from a centrally planned economy, the budget expenditures side remained unchanged in structural terms. The core component of the budget revenues side is tax collections.

Sectoral Structure: Whilst most of the economic sectors remained stable relative to their percentage of GDP in the past decade, agriculture experienced a decline reflecting the accelerated migration from rural to urban areas (1999: 40.3% of GDP) and the services-based industries expanded considerably (1999: 17.2% of GDP). The structure of the Mongolian economy (as of 2003) is displayed below:

Table 2: Economic Structure of Mongolia in 2003

Main origins of nominal GDP	% of total	Components of nominal GDP	% of total
Agriculture, hunting & forestry	20.0	Private consumption	78.7
Trade & services	28.8	Government consumption	19.1
Mining & quarrying	9.5	Gross fixed capital formation	27.5
Transport, storage & communications	15.1	Change in stocks	3.5
Manufacturing	6.0	Net exports of goods & services	-21.4
Electricity, gas & water	3.6	Statistical discrepancy	-7.5

Source: Economist Intelligence Unit

External Sector: Mongolia's export economy is largely dependant on commodity products (copper, coal, gold, cashmere) and its growth cycles are volatile reflecting vulnerability to terms of trade shocks. Mongolia's external relations are mainly geared towards Russia and China. In 2004, the price of Mongolia's main export commodities such as gold and copper went up in the world market that led to increase of total exports. In comparison with the year 2003, total exports rose by 38.5 percent in 2004, and total imports grew by 26.3 percent with the foreign trade deficit declining by 14.5 percent in 2004.

Exchange Rate: Mongolia has a free floating exchange rate regime. The nominal exchange rate of Togrog against major foreign currencies depreciates slightly year by year.

Current Account: With the recent improvement in its external sector, Mongolia's current account deficit will fall from 5.6% in 2003 to 2.8% of GDP in 2005 (IMF estimate). The deficit will be balanced by overseas workers' remittances, donor contributions and foreign direct investments notably in the mining sector.

Financial Sector: As of the end of 2004, the financial sector consisted of 17 banks, 114 non-bank financial institutions (NBFIs) and about 570 savings and credit unions. The banking sector with the total assets of 72% of GDP, continues to dominate the financial system. Other financial institutions such as insurance and leasing companies are rather insignificant, which is attributable to deficiencies in the regulatory environment as well as lacking awareness on the usefulness of such new financial products.

Tourism: Though tourism is restricted to mainly the period from May to September, it nonetheless plays a growing role in the Mongolian economy. To date, it contributes about 3% to GDP and 5% of the country's exports, employing about 5,000 people. The Government prioritises tourism development in view of vast growth potential and encourages foreign direct investments in the sector.

1.2 Relevance of Housing Market Development

Mongolia has urbanised rapidly in the last three decades. The recent estimates show that nearly 60% of the population resides in the urban areas and about one third of this is in Ulaanbaatar city. The share of populations in Ulaanbaatar is projected to increase to 40% by 2020. The actual share of Ulaanbaatar (35.7%) In 2003, the share of population in Ulaanbaatar was 35.7%,

which already exceeds the projected figure of 2005 of 34.9%, meaning that Ulaanbaatar is going to expand more rapidly than expected.

Mongolia's recent transition into a market economy is focusing attention on the country's housing delivery system in urban areas. Until the early 1990s, the norm for new housing provision was public sector construction of prefabricated apartment buildings. With the collapse of the construction industry and the virtual end of public sector housing supply, the incremental improvement of housing in ger (traditional portable tent house) areas, beginning with the traditional ger and ending with a substantial all-weather house, will need to become the predominant path to affordable housing for low-income households. Also, while over 90 percent of the housing has been privatised, housing conditions are deteriorating because of inadequate financing for maintenance.

While there are no official estimates of housing demand in the country, the total cessation of public housing construction coupled with high migration has led to a rapid growth in ger housing areas over the past several years, especially in Ulaanbaatar. Ger areas in Ulaanbaatar function like cushion or absorber of increasing housing needs generated by both migration from rural areas and new young families. Much of the ground floor housing has been converted into cafes, bars, restaurants, shops, and offices. Such conversions have reduced apartment housing by 15% in Ulaanbaatar. Housing demand is also manifested in the number of new ger housing area plots being issued by the district offices of Ulaanbaatar municipality. Based on the population growth and existing land use patterns, ger housing areas in Ulaanbaatar increased by more than 2000 hectares during 1999. The development of the housing sector plays a crucial role in the transition to a market-based housing and land system, and in development of urban areas. Accordingly, the Government has taken steps to establish the policy and legal framework for the creation of a market-based shelter and urban services sector.

2. Housing Sector Overview

2.1 Market Size and Structure

Housing markets are developing with three different categories as follows:

- Selling newly constructed housing by construction companies and housing developers;
- House rental markets; and
- Secondhand housing market.

As the Government sector no longer constructs houses, a number of local private construction companies and several foreign housing developers from China, Japan, Korea and Russia, undertook housing developments in Ulaanbaatar. There are approximately 50 companies engaged in housing construction, 30 of which retail houses to the public whereas the remaining primarily works under a contract with a specific project owner. As they seem to put much emphasis on construction rather than on sales, they are considered as housing construction companies rather than developers.

Over the past several years, housing construction companies have experienced no difficulties in selling apartments. Their profit margins typically range from around 40% to 60%, with which they have been able to finance the next construction project. It is not common for these companies, even those which sell retail, to borrow construction loans from banks. Even when they need to do so, they can rarely collateralise the land and houses to be developed. Instead they are required to collateralise existing immovable assets such as buildings, hotels and restaurants, which they already own. Ulaanbaatar city is currently experiencing a sort of a housing boom. The above practices imply that if the housing "boom" ends and some housing construction companies default, the impact on the banking system may be limited in comparison other Asian countries.

In Ulaanbaatar, nearly half (47.3%) of the population live in apartments, whereas other 30% and 21.8% reside in detached houses and ger areas respectively. The census categorises housing by ownership only. There is no formal house rental market, except for high-end accommodations for rich and foreign residents.

Housing related businesses such as realtor, real estate brokerage and appraiser are still emerging or underdeveloped. The most common way for people to buy, sell, or rent a house is through private and informal network or through advertisements in newspapers. There are a very few realtors who act as sales agent under a sales contract with housing construction companies. There are several real estate brokerages that intermediate transactions between sellers and buyers or lenders and renters, but these are mostly for foreign residents.

As newly developed apartments are priced high for the vast majority of young or low income households, the secondhand market has an important share of housing traded. This is evidenced by the ADB housing finance project, under which 44.2% of borrowers, the single largest proportion, purchase secondhand

houses, or existing apartments. Despite of its significance, there is neither statistics nor data on the secondhand market.

Progress in the development of land markets is slow and will remain so until land is fully privatised. However, once private ownership is completely implemented, ger residents will benefit from the land registration and title to their lands, as well as their asset values. A major step forward has been the enactment of the Cadastral Survey and Land Registration Law in 1999 and the approval of the Cadastral Survey and Land Registration Project.

2.2 Determinants of Housing Prices and Rents

Housing prices vary across urban, rural and remote regions and are expectedly highest in Ulaanbaatar. Here again prices vary according to location within the capital city. The strongest factors determining prices of houses are location and quality of the houses. For quality, the reputation and credibility of the construction company and the quality of the materials and technology used in the construction work are considered. In addition differences in floors, surrounding environment of the houses, neighbourhood and social ranking of the people who buy the houses. Likewise, prices of secondhand houses also depend on the location, the conditions and age of the units.

Thus the factors determining housing prices and rents can be listed as follows:

- Location
- Quality
- Differences in floors if it is apartment
- Surrounding environment
- Buyers social rank
- Maintenance condition if it is old
- Time used for the secondhand ones.

2.3 Housing Market and the Supply Side

Housing market data is still underdeveloped in Mongolia, where housing has been counted only by space, but not by units. Upon the completion of houses, construction companies and their homebuyers register with the Office of Immovable Property Registry (OIPR) to secure ownerships. Data obtained from the OIPR shows that apartments and detached houses built by companies in Ulaanbaatar totals around 1,000 units per annum since 2002, which was the beginning of a sort of housing boom.

However, the registration is still voluntary, and hence not all formal development is included. A briefing brochure of the City of Ulaanbaatar states that the construction of 2041 residential apartments has been completed in 2003, but it does not quote the data source. Anod Bank has a similar estimate through their own observation that the formal development of apartments and detached housing averages 2000 per annum in recent years. In ger areas, houses with immovable structures, called winter houses, and the subdivided and fenced land are also voluntarily registered, but neither tents nor other movable housing is.

2.4 The Secondary Mortgage Market

The secondary mortgage market does not exist in Mongolia. In May 2003, the Prime Minister issued the Resolution 116 on the development of mortgage-backed securities. In September 2003, following this governmental resolution, the Working Group on Housing Finance was set up in order to discuss the necessary amendments on the legal and regulatory framework for the development of a secondary mortgage market. The Working Group on Housing Finance has attached much importance on the legal development for the establishment of a secondary mortgage facility.

Although depository banks with high liquidity continue to originate, finance and service retail mortgage loans, they still lack long term funds to finance long term mortgage loans. Therefore, a secondary mortgage market is important and necessary for the system.

3. Housing Policy

3.1 Housing Development Policy

Since houses in urban areas had been provided by the Government sector or state owned enterprises until recently, the concept of housing development is quite new, and does not differ from that of a construction company.

In mid-1997, the Asian Development Bank (ADB) and the Government embarked on developing a sound legal and policy framework for the housing sector in Mongolia. ADB provided small-scale technical assistance (TA) to help prepare the Housing Policy Law (HPL) and the National Housing Strategy (NHS) and to recommend market-oriented amendments to the Housing Privatization Law (HPVTL) and the Condominium Law. The HPL sets out housing sector objectives that will be pursued by the Government including (i) creating conditions

whereby citizens can provide themselves with adequate housing that meets health and safety requirements; (ii) implementing housing and associated infrastructure development policy based on basic market requirements; (iii) encouraging the involvement and increasing the responsibilities of the private sector in the planning, construction, maintenance, and repair of housing and residential infrastructure; and (iv)? developing the *ger* housing areas¹ into comfortable housing areas. In April 1999, the Mongolian Parliament approved the HPL, NHS, Condominium Law, and HPVTL. ADB's follow-on TA was approved in 1998 to (i) help develop the institutional and methodological capacity to implement the NHS within the context of a new and amended legislation; and (ii) establish the framework for an improved financing system for housing. Substantial progress has been made under this, including (i) establishing condominium associations; (ii) restructuring the housing companies in Ulaanbaatar, Darkhan, Erdenet, and Zuunmod including a review of their legal, financial, and operational framework; (iii) initiating four pilot housing area action plans (HAAPs) for new housing and existing *ger* housing areas, which promotes the bottom-up process of planning; and (iv) assessing the viability of a housing development fund (HDF) that has been provided for in the HPL.

In addition to the NHS, HPL, Condominium Law, and HPVTL, in the past three years, the Government has passed the Registration of Immovable Property Law, the Geodesy and Cartography Law, the Land Fee Payment Law, and the Cadastral Survey and Land Registration Law. Together, these laws form the basis for developing new approaches for housing needs and housing finance.

Under the NHS, housing policies are now to be demand driven, with standards and regulations geared to adequate and affordable housing provided by individuals and enterprises. The NHS is designed to: (i) transfer the financial burden of housing to the private sector; (ii) improve the quality of existing stock; (iii) establish a land registration and valuation system; and (iv) assist vulnerable groups. The NHS marks a new relationship between the Government and the private sector with the Government playing an enabling role, guiding and regulating the development of the housing market and supporting the private sector provision of housing.

1. A *ger* is a traditional circular tent of the Mongolian nomads. Informal urban settlements, characterised by a variety of shelter, predominantly *ger* tents are referred to as *ger* housing areas.

HAAPs now form a key component of Government housing policy. HAAPs are ger area upgrading and urban expansion projects (i) based on the initiatives of local communities and governments (ii) reflect local environmental and socio-economic conditions, and (iii) focus on sites where housing and infrastructure improvements are clearly required. The goal is to provide sufficient plots to serve all levels of housing affordability and to derive as much revenue as possible in exchange for individual rights to develop the plots. Aided by Government's policy initiatives, housing markets are now beginning to develop in urban areas. This is evidenced by the construction and sale of private apartments, trade in *ger* plots, and the rapid growth of condominium associations. Housing privatisation represents a future strength underlying the housing market, since apartment owners have a major asset when they wish to buy another property.

The current Government Policy and Action Plan foresees the completion of 40,000 houses within the coming years, which will cover three pillars:

- Improve the efficiency of existing infrastructure of 10,000 apartments within the area of Ulaanbaatar.
- Construct 15,000 new housing units in the Ulaanbaatar area consisting of apartments and detached houses.
- Improve the infrastructure in ger regions wherever possible; particularly connect 15,000 existing gers to modern primary infrastructure (fresh water, sewage, electricity).

3.2 House Ownership and Land Tenure

3.2.1 House Ownership

Today almost all types of the housings including gers are privately owned by their residents in Mongolia according to the Condominium and Housing Privatization Laws. The few others are either given temporary accommodation by their employers or their housing is still state-owned.

3.2.2 Land Ownership

Only Mongolian citizens are allowed to own land. Mongolian juridical persons as well as foreign or juridical persons are prohibited from land ownership. Mongolian citizens may use their land for private or business purposes. With

respect to private purposes, the ownership of land is restricted to 0.07 ha in Ulaanbaatar, 0.35 ha in the sub-province centres and up to 0.5 ha in villages.

3.2.3 Possession

Mongolian natural and juridical persons may take possession of land by license free of charge and a tenor of 15-60 years, whereby the license may not be extended for longer than 40 years at a time. The land to be privatised may be chosen freely within the general conditions given by the law. The privatisation at no cost had been restricted to a period of three years until May 1, 2006.

3.3 Taxes and Levies

An individual or entity who owns immovable property must pay 0.6 percent of tax on the property's value registered with the Office of Immoveable Property Registry. If there is no registration, the value is determined by the valuation of insurance on the property. If there is no registration or insurance valuation, the value will be established as the value that is written down in accounting books.

According to the "Economic Entity and Organization Income Tax Law of Mongolia", a 2% tax is imposed on the total income from sale of any immovable property and the same rate is imposed on the total income from any inheritance or any immovable property transfer as a gift.

With regard to the banking institutions, the law states that a 15 percent tax rate is imposed on the total income received from loan interest collections including mortgage loan interest income.

3.4 Government Subsidy Scheme

Dwelling houses and immovable properties which are financed by central and local budget and building and construction for public use are exempted from the aforementioned mentioned taxes. The Ministry for Construction and Urban Development is preparing the regulations to facilitate a private sector led implementation of the 40,000 Housing Unit Plan.

The incentives comprise of VAT exemptions for new housing units and for construction material and equipment required for this purpose. The infrastructure investments in the ger regions are envisioned to be implemented by private companies on a BOO (build-operate-own) basis. Construction companies wish-

ing to benefit from the intended incentives will be committed to allocate at least 30% of the built space to low-income households. Benchmarks such as apartment prices or housing unit areas will be used for the purpose of verifying constructor's adherence to the social objective.

4. Housing Finance

4.1 Primary Market Lenders

Long-term mortgage loans are being issued to eligible households and institutions through financial institutions, mostly commercial banks in Mongolia. However, these only availed themselves to retail mortgage loans in the last few years. AgBank and Golomt launched the first housing loan products early in year 2000 and in 2002, respectively, but these have been suspended for sometime. Since then, other commercial banks have also started to provide housing loans.

The ADB has been at the forefront in promoting the housing finance market both on policy and financial intermediary level. Its Housing Sector Finance Project capitalised with 15 million USD contains a refinance component of 10 million USD, which is currently channeled through 5 Mongolian banks. The credit line was introduced to the market in 2003 and has since been disbursed fully. Three of the project participating banks also offer their own retail mortgage loan products, which feature commercial lending conditions (higher rate and shorter maturity than the ADB project) but somewhat relaxed documentation requirements and faster loan release.

All the banks target financing the middle and upper income households but they set the maximum loan size and not the minimum which banks do in other Asian countries. This practice in Mongolia implies that the retail mortgage is still an emerging product and commercial banks in general try to manage risks of uncertainty with this comparatively new product. They do not offer any products with a floating rate arrangement. As housing construction companies usually do not have any borrowings or affiliation with banks for a particular project, it is only the homebuyers who seek mortgage loans, which are collateral based, from banks. The institution building of the banks and the skills of the human resources generally do not qualify for cash flow based lending.

4.2 Types of Mortgage Loans

There are currently 2 categories of mortgage loans: mortgages financed under the ADB's Housing Sector Finance Project and mortgages financed by banks' own funding sources. The difference is mainly in their interest rates and maturity.

The largest housing loan product in terms of both the number of borrowers and the amount of loan outstanding is provided by the ADB project. General lending conditions of the ADB project loans are summarised in Table 3, and the distinctive features are the following:

1. Co-financing with Participating Commercial Banks (PCB)
The ADB project finances 75% of each single loan amount, and hence the PCBs need to co-finance the remaining 25% with its own funding sources for the same maturity of up to 10 years.
2. Subsidised interest rate
The ADB Project Management Unit (PMU) lends out to the PCBs at an interest rate of 8.0% per annum at present, which is subject to change twice a year, and the PCBs on-lends to borrowers with a markup spread rate of 4% per annum at the maximum. Therefore, 75% of the loan amount bears an interest rate of 12.0% per annum as of October 2005. The interest rate of the PCBs co-financing portion, i.e. the remaining 25% of the loan amount, is capped at 16% per annum. When it is weight averaged, an end-user may borrow at an interest rate of 13.15% per annum, which is about half or less than the lending rates in the market and is actually lower than the time and savings deposit rates offered by some commercial banks.
3. Long term maturity
The ADB project has enabled individual borrowers to obtain long-term credit of up to 10 years whilst other housing loans in Mongolia have maturities of a maximum of 3 years.

Table 3: General Lending Conditions of the ADB Housing Sector Finance Project

Eligible household income	Middle income: up to 1000 USD per month Low income: up to 350 USD per month
Maturity	10 years in maximum with 2 year grace period
Interest rate	75% of the loan: 8% (variable) + 4%=12% 25% of the loan: 16% (co-financed by PCBs)
Maximum loan size	Approximately 25,000 USD: for apartment unit Approximately 18,500 USD: for detached house
Loan to Value	75%
Debt to income ratio	No specific criteria

Source: The ADB PMU (LOAN No. MON-1847)

When individual borrowers default or defer on their loans, the PCBs have to bear the full responsibility and would have to reimburse as originally scheduled. The borrowing from the ADB and lending to individual borrowers are booked on the balance sheet of the PCBs.

With respect to the housing loans financed by banks' own funds, their share in the total housing loan portfolio is relatively small. Banks generally offer these loans with higher interest rates and shorter maturities than those of the ADB project. The Table 4 summarises the main differences between these two types of the loans.

Housing loans in Mongolia can also be classified by type of borrowers as follows:

- Borrowers buying secondhand apartments (improving condition)
- Borrowers buying brand new apartments
- Borrowers building own detached house
- Borrowers repairing their apartments/houses

Depending on their credit risks, the above mentioned types of loans are differentiated by their interest rates and maturity.

4.3 Average Loan Size

Table 4: Comparison of Two Types of Mortgage Products

No.	Items	ADB Project	Loans financed by banks own funds
1	Average loan size	8,800 USD	9,100 USD
2	Interest rates (annual %)	13.15%	18%-30%
3	Maturity	10 years	3 years (one bank offers 5 years)
4	LTV ratio	75%	60%-75%

Source: ADB LOAN MON-1847, Banks Reports.

The average loan size is almost the same for the both types of the loans. The maximum loan amount of the project mortgages is 25,000 USD, whereas the maximum size of banks solely funded loan is 24,500 USD. The average loan size for the both types is described also in Table 4.

4.4 Mortgage-Backed Securities and Other New Mortgage Finances

As there is no secondary mortgage market in Mongolia, there are yet to be mortgage-backed securities issued in Mongolia. Presently, banks lack long-term deposits to create long-term housing loans. Therefore, packaging individual housing loans into mortgage-backed securities, which would be available both to banks and other investors as a new investment alternative, could be an optimal solution to providing affordable housing finance in Mongolia. Legal and regulatory support would be required to develop a MBS market and to ensure that the market acts efficiently and provides strong credit quality and liquidity to investors.

5. Conclusion

Mongolia has urbanised dramatically in the last years. While Ulaanbaatar has been growing fast, the populations of smaller urban centres have been decreasing as their economic bases have weakened and some ger households

have moved back to the countryside. According to 2001 statistics, up to 60% of Mongolia's 2.6 million population is classified as urban, out of which live in Ulaanbaatar. The demand for adequate housing is high, but is constrained by the low-income levels of the average household, comparatively high prices of apartments and a regulatory environment that is not sufficiently conducive to mortgage lending. Typically housing loans are required to be of a longer-term nature and at reduced interest rates, particularly in view of the limited income potential of the general public. Currently, available housing finance funds originate predominantly from housing programme facilities of the ADB.

Secondary mortgage companies (or banks) would be an alternative for securing long-term refinance. Here individual housing loans would be packaged into mortgage-backed securities (MBS), which would be available both to banks and other investors in and outside of Mongolia. A model fitting Mongolia's economic development and its financial system, would have to be developed. Necessary secondary mortgage market legal and regulatory support would be required to develop a MBS market and to ensure that the market acts efficiently and provides strong credit quality and liquidity to investors.

The continued demand for housing is evidenced by the ongoing rural-urban migration, the uncontrolled expansion of the ger regions surrounding Ulaanbaatar and the ambitious Government plan to execute the 40,000-housing unit programme. The affordability of housing for the general public will be an on-going issue. The ADB housing loan programme has meanwhile been successfully marketed but has primarily benefited medium to high-income groups owing to the heavy debt service burden of the ADB housing loans. Commercial banks consistently confirm their interest in providing housing loan facilities irrespective of the mortgage related regulatory constraints.

APPENDIX DATA

Table A1: Mortgage credit as a proportion of bank loans, asset and GDP
(in percent)

	Mortgage credit as a proportion of bank loans	Mortgage credit as a proportion of bank asset	Mortgage credit as a proportion of GDP
1999	N/A*	N/A	N/A
2000	N/A	N/A	N/A
2001	N/A	N/A	N/A
2002	N/A	N/A	N/A
2003	1.24	0.71	0.37
2004	1.51	0.95	0.51

* No mortgage credits issued during that period

Table A2: Ratio of house price to per capita personal income

(in millions of togrogs)

	Old house price	New house price	Per capita personal income	Old House price to per capita personal income	New House price to per capita personal income
1999	14.8	20.1	0.39	2.64%	1.94%
2000	15.4	21.8	0.42	2.73%	1.93%
2001	15.9	22.6	0.42	2.64%	1.86%
2002	16.6	23.4	0.5	3.01%	2.14%
2003	17.5	24.8	0.58	3.31%	2.34%
2004	18.5	26.4	0.71	3.84%	2.69%

Table A3: House price inflation and the CPI inflation

(in percent)

	House price inflation	Inflation (calculated by CPI)
1999	N/A	10.0%
2000	4.1%	8.1%
2001	3.2%	8.0%
2002	4.4%	1.6%
2003	5.4%	4.7%
2004	5.7%	11.0%

CHAPTER 6

HOUSING AND MORTGAGE MARKETS IN PHILIPPINES

by

Ana Marie T. Hardillo and Neil Angelo C. Halcon

1. Overview

1.1 Introduction

Housing is viewed as an important component in every nation's growth and progress. But for many Filipinos, realising the vision of owning a house still remains an elusive dream. Although the macroeconomic performance for the Philippines has been steady for the last 25 years, the problem of bridging the gap between housing supply with housing demand has not been reduced, let alone, eliminated. The factors that contributed to the housing finance problem in the Philippines stems from interrelated factors such as rapid population growth, low per capita income and savings, and the Government's fragmented approach towards housing development. The Bangko Sentral ng Pilipinas (BSP), as the monetary authority and supervisor of the banking system, contributes to the development of a healthy housing market through its primary mandate of promoting low and stable inflation as the foundation for macroeconomic stability. Aside from achieving price stability, low and stable interest rates and a relatively stable currency, the BSP is taking other actions to contribute more directly to support the housing sector, and the economy as a whole.

1.2 Macroeconomic Characteristics

1.2.1 Population

Population growth in the Philippines has been increasing in the last 20 years, particularly urban population. The share of urban population to total population has been accelerating steadily vis-à-vis the rural population. This can be attributed to labour migration from rural to urban areas. For instance, in 1980 and 1990, rural population comprised 61 percent and 52 percent of total population, respectively. But this trend reversed in 2000. It is estimated that by 2020, roughly $\frac{3}{4}$ of the population will be living in urban areas. Indeed, with urban population accelerating at such pace, and reaching 100 million in 2020, population density will reach 377 persons per sq. km. in the next 15 years.

Table 1: Population (in thousands) and Urbanisation Rate

Philippines	1980	1990	2000	2020
Total	51,092	65,036	80,961	112,963
Annual Growth Rate	2.7	2.7	2.5	2.0
Urban	20,028	31,159	45,953	82,203
Annual Growth Rate	5.0	5.6	4.8	3.9
Rural	31,064	33,877	35,008	30,760
Annual Growth Rate	1.5	0.9	0.3	-0.6
Urbanisation Tempo¹	3.5	4.7	4.4	4.6
Population Density (persons/sq.km.)	170	217	270	377

^{1/} Urbanisation tempo is obtained by subtracting the growth rate of urban areas to the growth rate of rural areas. Used by the Housing and Land Use Regulatory Board (HLURB), this term is used as substitute to explain the degree of urbanisation in the Philippines. Source: U.S. Census Bureau, International Programmes Center, National Statistical Coordination Board (NCSB) , National Statistics Office (NSO)

1.2.2 Real Sector Indicators

During the past 25 years, real GDP continued to increase, although viewing its components, the construction sector experienced contractions during the crisis years in the 1980s and 2000. This suggests that building and construction activities were somehow hampered by political events that had transpired during those periods. Meanwhile, the housing and finance component continued to experience relative increases and had already reached ₱110.5 billion in 2004.

At constant 1985 prices, real GDP per capita grew by 17.9 percent from 1980 to 2004. However, the national savings rate stayed below 30 percent, suggesting that the Filipinos' propensity to save continues to be small as GDP per capita remains low compared to other Asian countries. The national savings rate may have been affected by double-digit inflation in the 1980s and 1990s. With the decline in inflation in the recent years, the national savings rate slightly increased.

Table 2: Macroeconomic Indicators

Philippines	1980-1989	1990-1999	2000-2003	2004
Real GDP (average growth rate)	2.0	3.4	3.8	6.0
Construction (industry)	-0.7	5.0	-7.4	7.4
Housing and Finance (services)	2.8	4.7	2.2	6.9
Philippines	1980	1990	2000	2004
Real GDP per capita (in US dollars)	673.7	620.9	726.4	794.5
Savings Rate (as % of GNP at current prices)	27.4	19.8	22.7	25.4
Inflation (2000=100)	17.6	12.3	4.0	6.0

Sources: NSCB and NSO

1.2.3 Household Demand for Land

Aside from increasing population density, another useful indicator of housing demand is the household's demand for land. In 1980, only 200,000 hectares of land are required for settlements. By the year 2020, demand for land will increase by more than 100 percent to 440,000 hectares.

Table 3: Household Demand for Land (in hectares)

Philippines	1980	1990	2000	2020
Total Population (in thousands)	51,092	65,036	80,961	112,963
Residential Area (in hectares)	185,789	236,495	294,404	410,775
Parks and Playgrounds	13,005	16,555	20,608	28,754
Commercial and Industrial	0.3	0.4	0.54	0.76
Institutional Areas	1.0	1.3	1.6	2.3
Household Demand for Land¹	198,796	253,051	315,014	439,532
Demand to Total Land Area	0.7	0.8	1.1	1.5

^{1/} The HLURB computes the household demand for land for purposes of settlements and development as follows:

Residential areas = Population/(5 persons per household) x (55 households per hectare)

Parks and Playgrounds = Residential areas x 0.07

Commercial and Industrial Areas = Population x 0.0001 hectares per 15,000 population

Institutional areas = Population x 0.0003 hectares per 15,000 population

Source: Housing and Land Use Regulatory Board (HLURB)

1.3 Relevance of Housing Market Development

According to the 2003 Family Income and Expenditure Survey (FIES) report, around 20 percent of the Filipino family's annual income goes to housing-related expenditures. The Medium-Term Philippine Development Plan (MTPDP) for 2004-2010 stressed the need to jumpstart the housing construction sector because it can spur economic growth and alleviate poverty through the multiplier effect. Housing has a high multiplier effect of 16.6 times, that is, for every PhP10 billion worth of housing units, a total of PhP166 billion of economic activity is generated. An important component of the construction industry, housing could generate downstream economic activities and enhance productivity and competitiveness in construction, real estate, and mortgage markets. Housing construction alone can generate economic activity through the multiplier effect, as follows: increase in raw materials, 1.88 times; increase in labour, 0.35 times; increase in taxes, 2.64 times; and other values, 11.74 times.

Traditionally viewed as a social development service, the housing sector, as a labour-intensive activity, is now recognized as a potential provider of massive employment opportunities for about 1,063,067 urban and rural construction workers every year. Constructing a low-cost housing unit requires an average of eight persons working for three weeks or a total of 124 man-days.¹

**Table 4: Household Expenditures
(percent distribution)**

Philippines	2000	2003
Household Operations	2.3	2.2
Furniture and Equipment	2.5	2.7
Rental Value of Dwelling Unit	14.3	13.3
House Maintenance and Repairs	0.9	0.7
Total	20.0	18.9

Source: 2003 Family Income and Expenditure Survey

1. Derived from the Medium Term Philippine Development Plan 2004-2010 Report on Housing Construction.

2. Housing Sector Overview

2.1 Market Size and Structure

2.1.1 Dwelling Units and Housing Need

Results from the 2000 Census of Population and Housing show that total dwelling units tripled from 1960 to 2000. With population accelerating at such a fast pace, the need for more decent dwelling units compelled the National Government to undertake a more serious approach to addressing the housing shortage problem.

Table 5: Housing Stock (in thousands)

Philippines	1960	1970	1980	1990	2000
Housing Stock	4,791	6,100	8,758	11,395	15,279
Occupied	4,648	6,011	8,501	11,018	14,647
Vacant	143	89	257	377	631
Number of Households	5,418	7,328	10,218	13,007	16,192
Housing Shortage¹	0.88	0.83	0.86	0.87	0.94

^{1/} Ratio of housing stock to total number of households

Source: 2000 Census of Population and Housing

The MTPDP estimates that total housing need is projected to reach 3.8 million units from 2005-2010. This is in line with an annual population growth rate of 2.4 percent and the increasing degree of urbanisation in the Philippines. With limited Government resources and majority of public programmes that are largely unaffordable to the poor, institutions and private companies are helping the National Government in building houses for the poor and the marginalized sectors of society.

Table 6: Housing Need (2005-2010)

Philippines	Total
Housing Backlog (per unit)	984,466
Doubled-up Housing	387,315
Resettlement/Informal Settlers	588,853
Homeless	8,298
Substandard (Upgrading)	186,334
New Households	2,585,272
Total Housing Need	3,756,072

Source: Housing and Urban Development Coordinating Council (HUDCC)

2.2 Determinants of Housing Prices and Rents

A study made by Ballesteros (2001) on income and lifestyle effects of housing demand examines the observation from the government and private participation in housing, as well as the use of the classic utility maximisation framework. It pointed to the lack of housing alternatives specifically for the low-income households in the formal housing market. Along with this constraint, the study showed that an average Filipino will choose to spend on basic household needs than housing maintenance. Thus, a government wishing to eradicate the housing backlog problem must also uplift the standard of living so people can spend for housing maintenance.

A study done by Cacnio concluded that the housing demand in the Philippines is directed by housing affordability, which is not only determined by the households' income but equally by the price of housing in the market. Therefore, it posits a significant number of households unable to obtain decent housing.

Attempts by the authors to model housing requirement using models specified in the World Economic Outlook (WEO) September 2004 issue and recommended by SEACEN were not fruitful due to data limitation.

2.3 Housing Market and the Supply Side

2.3.1 House Price

The high appreciation of house prices has been attributed to high rate of increase in land prices.² Average annual house price appreciation in the Philippines

2. P. Strassman and A. Blunt (1993) Land, Income Mobility and Housing: The Case of Metro Manila. *Journal of Philippine Development* 20 (1).

(i.e. Manila) was computed at 32 percent per year, the highest among other major cities in Southeast Asia.³ Moreover, the cost of servicing raw land increases to five times this amount. Consider for instance, the following: on the outskirts of Metro Manila, the price of raw agricultural land is P60 per square meter. This price rises by 2.5-3.0 times when the same land is zoned for urban use. It rises further by 5.3-6.7 times the zoned land price when such area is developed.⁴ Comparatively, the Philippines has the highest land multiplier in Southeast Asia.

3. Housing Policy

3.1 Housing Development Policy

The National Shelter Programme (NSP) represents the Philippine action agenda for housing (See Annex A). The Programme has three key programme areas that contain various policy instruments. The key areas are the following: production, regulation and finance.

- Production involves the development of site or service homelots and the construction of residential buildings for low to middle-income households by ensuring a continuous supply of housing construction (this includes accreditation and franchising of private developers, constructors, fabricators and suppliers who shall directly participate in the actual construction of identified housing projects) and accreditation of housing technologies.
- The shelter finance system is operated under four major schemes—guarantees and tax incentives, development financing, homebuyers or end-user financing and community-based financing. Funds are mainly sourced from budgetary appropriations and from savings of pension fund members.
- The regulatory component involves a continuous rationalisation of building standards and regulations governing housing construction and subdivision development, including real estate trade.⁵ The other regulatory component

3. Annual rate of change of house prices was measured as an annual average of the percentage increase in house prices over the five-year period 1986-1990. These years correspond to a boom in the real estate industry in the ASEAN region. The rate of change in housing price in Bangkok, Hong Kong, Singapore and Kuala Lumpur in the same period was 26 percent, 18 percent, 6 percent and 14 percent, respectively. UNCHS (1993) Housing Indicators Table. United Nations Centre for Human Settlements and the World Bank.

4. Ibid.

5. Two basic laws are of importance: Presidential Decree 957 (1976) governing housing development in open or competitive markets and Batas Pambansa 220 (1982) governing economic and socialised housing developments. This Law provided the basis for defining the boundaries of socialised viz. open-market housing.

is the Rent Control Law, which was enacted to protect tenants from unreasonable increases in rental prices and eviction. However, no specific agency monitors compliance to the rental law.

From 1978 to the present, NSP remains the key housing agenda of the Government. The reforms undertaken in the past 25 years focus largely on the organisation rather than the content of the programme. Initially, the Government adopted a highly centralised system of operation for the programme. This was done through the creation of the Ministry of Human Settlements (MHS) in 1978, which managed the umbrella organisation of all shelter agencies that have evolved since the 1950s (See Annex B).

At present, the Housing and Urban Development Coordinating Council (HUDCC), created through Executive Order (E.O.) No. 90, is the highest policy making and coordinating office on shelter. It is an umbrella organisation, which consists of heads of four housing agencies:

- National Housing Authority (please refer to Annex B);
- Home Guaranty Corporation (HGC): a Government Owned-and-Controlled Corporation (GOCC) that is tasked to provide risk guarantees and fiscal incentives for housing credits extended by financing institutions, thereby stimulating the flow of funds from the Government and private sector for housing and urban development;
- National Home Mortgage Finance Corporation (please refer to Section Four); and
- Housing and Land Use Regulatory Board (HLURB): charged with encouraging greater private sector participation in low-cost housing through liberalisation of development standards, simplification of regulations and decentralisation of approvals for permits and licenses and extends comprehensive and productive planning assistance to provinces, cities and municipalities towards the formulation of Comprehensive Land Use Plans (CLUPs); and
- Heads of three funding agencies: Social Security System (SSS), Government Service Insurance System (GSIS) and Home Development Mutual Fund (HDMF); heads of seven government support agencies i.e. Presidential Management Staff (PMS), Department of Finance (DoF), Department of Budget and Management (DBM), National Economic and Development Authority (NEDA), Development Bank of the Philippines (DBP), Metropolitan Manila Development Authority (MMDA); and two private sector

representatives consisting of Non-Government Organisations (NGO) and private developers.

The sector is in the business of coordinating the formulation and application of a national urban policy framework and enabling the delivery mechanism/markets of affordable and accessible shelter with special concern for urban households qualified for social housing namely informal settlers, homeless and income poor i.e. bottom 30 percent.

The NSP's main objective is to increase the housing stock for households in the lowest 50 percent of the population. The mechanisms employed to achieve this objective include direct production of housing units by the Government and provision of public funds for development of end-user financing to entice the private sector to produce "socialised" housing. The theoretical argument for these strategies is anchored on the assumption that there are inherent imperfections in the organisation and structure of the housing and mortgage markets such that Government intervention is warranted.⁶ However, these approaches are mainly stopgap measures since the institutional constraints are not being addressed. Moreover, Government response to the housing problem tends to be unsustainable because it is not linked to private sector funds. The regulatory component of the programme is also narrow in scope. Regulations mainly focus on building standards without a clear policy on land use and environmental standards have been inadequate. A national land use plan does not exist and land use standards are based on city or town plans that are technically insufficient to guide land use allocation.⁷ Environmental standards are unclear and enforcement of environmental law is weak. However, in recent years, authorities have been giving more attention to land use and environmental concerns.

3.2 Government Subsidy Scheme

There are four general types housing subsidies in the Philippines: interest rate subsidy, land cost subsidy, tax exemption and cash transfer. Aside from these "programmed" subsidies, loan losses from the housing programmes also constitute another form of subsidy.

6. For theoretical arguments on government intervention in the housing sector, a summary is provided in E. Angeles (1985) *Public Policy and the Philippine Housing Market*. PIDIS Monograph Series No. 7. Manila: Philippine Institute for Development Studies.

7. W.P.T Silva (1993). *Land Use Conversion in the CALABARZON Areas*. FAO Report.

The study done by Ballesteros (2001) showed that the magnitude of subsidy due to loan losses has yet to be fully measured. Data show that the bulk (90 percent) of subsidies to the housing sector for the period 1993-1995 consisted of interest subsidy provided through end-user and development financing programmes. In particular, the United Home Lending Program (UHLP) obtained the largest subsidy. For development type loans, the Community Mortgage Program (CMP)⁸ received about 3.7 percent of the interest subsidy for the same period. Land cost subsidy accounted for 5.1 percent of total subsidy from 1993-1995 followed by tax-exempt subsidy obtained from HGC guarantees (4.5 percent), and cash subsidy (0.4 percent).

Those who benefited from these subsidies were the individuals/households who were beneficiaries of the housing programmes as well as economic agents who received tax exemptions and other receipts. Analysis of the income profile of the beneficiaries of housing programmes specifically the housing finance programmes shows that higher income households (or the non-poor) were the main beneficiaries of Government subsidies. This pattern is observed even in the case of community-based programmes such as the CMP. Compared to other programmes, CMP has the most number of low-income beneficiaries but middle-income families comprise the bulk of households that benefit from the subsidy. Experience shows that it is difficult to target poor households through an interest subsidy scheme.

4. Housing Finance

4.1 Primary Market Lenders

The National Home Mortgage Finance Corp. (NHMFC) is the major Government home mortgage institution. Its initial main function is to operate a viable secondary home mortgage market, utilising long-term funds principally provided by the Social Security System (SSS), the Government Service Insurance System (GSIS), and the Home Development Mutual Fund (HDMF/Pag-IBIG

8. Under Republic Act (R.A.) No. 7279, this programme, through the NHMFC, shall assist organised community associations to acquire tenure and ownership of the land they are presently occupying adverse against the interests of landowners. Financing at very low interest rate is granted to beneficiaries to purchase the land as a whole and to improve the sites.

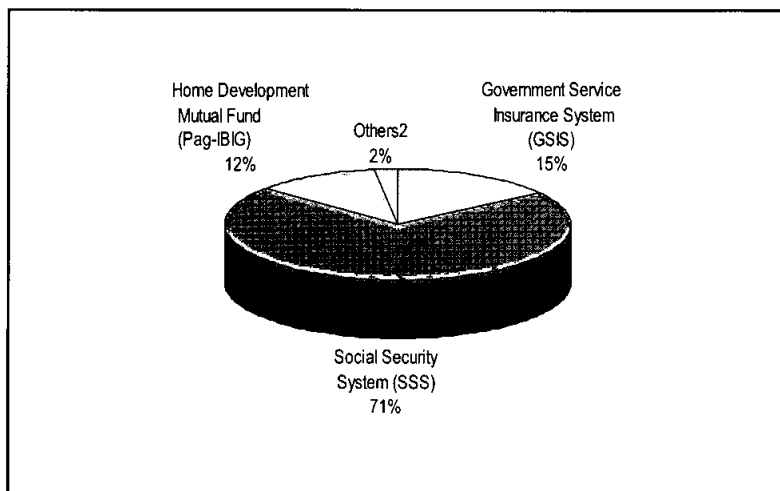
Fund)⁹ to purchase mortgages originated by both public and private institutions that are within Government-approved guidelines. It is also charged with the development of a system that will attract private institutional funds into long-term housing mortgages. However, the NHMFC has never played its intended role. Instead, its operations have contributed to weakening credit discipline in the primary market mortgages (World Bank, 1997).

The foundation for mortgage housing finance in the Philippines was established through the Unified Home Lending Program (UHLP) with the issuance of E.O. No. 90 on 17 December 1986. E.O. 90 mandated the GSIS, SSS and the Pag-IBIG Fund to channel funds to NHMFC for on-lending to their respective members for housing acquisition under the UHLP. These "funders" agreed to set aside a portion of their annual investible reserves to be lent to NHMFC.

In 1996, the Government suspended the loan purchase facility of the NHMFC due to the poor asset quality of its mortgage assets and relegated it to collecting its past-due loans. Pag-IBIG was asked to bail out NHMFC through the infusion of over P7 billion in the UHLP. Pag-IBIG was later designated to takeover the role of NHMFC as the primary conduit for UHLP accounts. With the new setup, the NHMFC retained its collection responsibility in handling transactions limited to the processing of leftover accounts. Accounts assigned to SSS comprise the bulk of these leftover accounts still being collected by NHMFC.

9. Under President Ferdinand Marcos, the Government recognised the difficulties in house financing and its effect on economic growth. Presidential Decree No. 1530 dated 4 June 1979 was issued creating the Home Development Mutual Funds (HDMF) which established a system of voluntary contributions from government employees (GSIS) and private employees (SSS) to address savings mobilisation and provision of shelter for the workers. To strengthen the stability and viability of the funds, the two funds were merged into what is now known as the Pag-IBIG Fund. P.D. No. 1530 mandated the administration of the Fund to NHMFC.

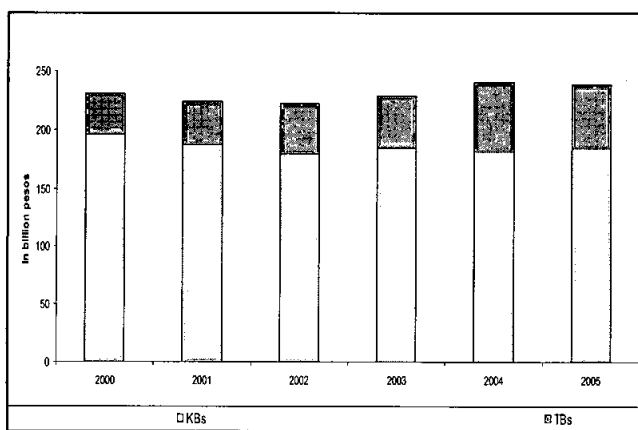
**Chart 1: Public Sector Mortgage Loans Under the UHLP
Classified by Institution (as of August 2005)**



Source: NHMFC

Meanwhile, universal and commercial banks (U/KBs) dominate real estate lending by the banking system. These banks comprise over 80 percent of real estate lending by Philippine banks from 2000 to June 2005 with the balance accounted for by thrift banks (TBs), which is consistent with the share of U/KBs to the total resources of the Philippine financial system (around three-fourths).

**Chart 2: Outstanding Real Estate Loans by the Banking System,
2000-June 2005**



Source: BSP

The Pag-IBIG Fund continues to provide retail and institutional financing to its members and developers/proponents of housing projects. Financing has steadily increased during the period 2000 to 2004 by an average of over 25 percent. The continuing profitability of the Fund has helped to strengthen its role of providing shelter finance to its members.¹⁰ More importantly, the share of new housing loans provided by the Fund is increasing in proportion to the total loan portfolio of the banking system, albeit at a very marginal share of less than 1 percent. Likewise, new loans granted by private banks to the real estate sector is increasing in proportion to the total loan portfolio of the banking system despite the contraction in the construction sector during the past couple of years and the BSP's imposition of a 20 percent cap on bank loans to the real estate sector since June 1997.¹¹ By comparison, new housing loans granted by Pag-IBIG comprise less than 5 percent of new loans granted by private banks to the industry.

4.2 Characteristics of Mortgage Loans

4.2.1 Interest Rates

Under the UHLP, a three-tiered system of mortgage financing at fixed and below market interest rates was applied to support the Government's objective of providing low-cost housing finance to the target beneficiaries, the low to middle-income group. Interest subsidy was implemented based on the following schedule:

10. On 29 August 2005, the Philippine Rating Services Corporation (PhilRatings) assigned a corporate credit rating of PRS Aaa minus for the Pag-IBIG Fund. PRS Aaa is the highest possible rating on PhilRatings' corporate credit rating scale. A PRS Aaa rating, however, can be qualified further by a minus to indicate an obligor's relative position for that particular rating grade. During the time of rating, the Pag-IBIG Fund is not required to obtain a credit rating for any specific purpose. It is to the Fund's credit that it has undergone the rating process for greater transparency, disclosure, and to promote good governance.
11. The BSP imposed a cap on banks' real estate lending as part of a crisis management strategy to mitigate bank problems arising from the Asian financial crisis. Circular Letter dated 5 June 1997 prescribed a mandatory limit on banks' loans to the real estate sector to not more than 20 percent of a bank's total loan portfolio, exclusive of loans to finance the acquisition or improvement of residential units amounting to not more than P3.5 million. However, aggregate real estate loans, inclusive of such loans, should not exceed 30 percent of the bank's total loan portfolio.

Table 7: Interest Rates Under the UHLP

Loan Tier	Category	Interest Rate
Up to ₱180,000	Socialised housing	9%
₱180,000 to ₱225,000	Low-cost housing	12%
₱225,000 to ₱375,000	Low-cost housing	16%

Source: Housing and Urban Development Coordinating Council (HUDCC)

This system of interest subsidies continue on to Pag-IBIG's retail financing housing loan programme, specifically the Expanded Housing Loan Program (EHLP), but incorporating incentives for prompt payment as follows:¹²

Table 8: Interest Rates Under the EHLP

Loan Amount	If payment is made on or before due date	If payment is made after due date
Up to ₱150,000	6%	6%
Over ₱150,000 to ₱225,000	9%	11%
Over ₱225,000 to ₱500,000	10%	12%
Over ₱500,000 to ₱2M	12%	14%

Source: Pag-IBIG

Due to the downtrend in interest rates in recent years, Pag-IBIG's fixed interest rate scheme now stands close to the market-based interest rate.

The interest rates charged by banks on their lending operations (and hence, on real estate lending) are based on a market-oriented interest rate policy. However, by Law (Republic Act No. 2655 or the Usury Law), the BSP can effectively set interest rates whenever warranted by prevailing economic conditions. After the Asian crisis, banks had a gentleman's agreement with the

12. The EHLP loan may be used to finance any one or a combination of the following: a) purchase of a fully developed lot within a residential area; b) purchase of a lot and construction of a residential unit; c) purchase of a residential house and lot, townhouse or condominium unit; d) construction or completion of a residential unit on a lot owned by the member; e) home improvement; and f) refinancing of an existing mortgage.

BSP (still in existence) to maintain a cap on the spread of bank lending rate of 5 percent over the 91-day Treasury bill (T-bill) rate. The cost of doing business varies from bank to bank and this is reflected in the different lending rates charged by the banks.

In 2000, banks' lending rate¹³ stood at 12.87 to 15.57 percent and gradually declined to a range of 8.69 to 10.43 percent in 2002 when the BSP adopted inflation targeting as a framework for conducting monetary policy to effect a more stable inflation rate and induce a reduction in interest rates. From double-digit levels in 2004, the lending range has softened to 8.76 to 10.77 percent as of June 2005.

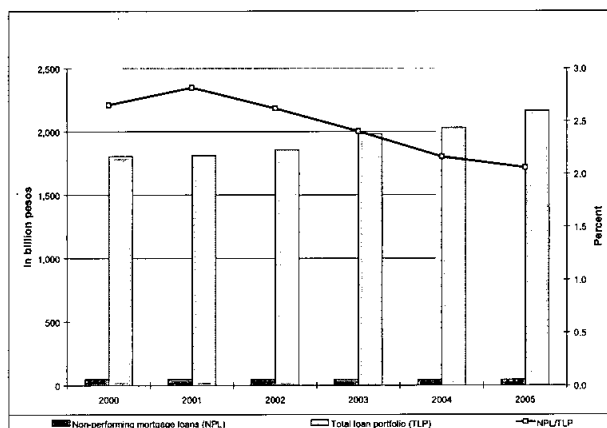
4.2.2 Non-Performing Mortgage Loans

The ratio of past due real estate loans¹⁴ (non-performing mortgage loans) to total loans of the banking system has been on a steady decline from 2000 to June 2005 as the growth of bank loans outpaced the growth of non-performing mortgage loans and as banks were encouraged to dispose bad assets to avail of the incentives provided by the Special Purpose Vehicle (SPV) Act of 2002 which took effect on March 2003. Nevertheless, progress towards full resolution of the overhang of non-performing assets from the last crisis was limited by the reluctance of many banks to recognize potentially large incremental losses associated with more rapid disposition of problem assets through bulk asset sales. Availment of privileges under the SPV Law remained very modest.

13. Lending rate refers to the range (high and low) of lending rates reported by commercial banks on a daily basis. The low end refers to the prime lending rate.

14. Non-performing loans refer to loan accounts whose principal and/or interest is unpaid for 30 days or more after due date or after they have become past due in accordance with existing rules and regulations.

Chart 3: Non-Performing Mortgage Loans, 2000-June 2005

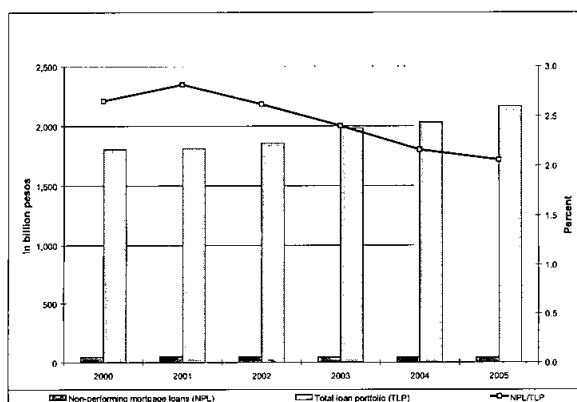


Source: BSP

4.2.3 Real Estate Lending by the Banking System

Real estate loans by the banking system are classified by purpose as follows: a) acquisition of residential property; b) acquisition of commercial property; c) development of subdivision for housing; d) development of industrial park; e) development of commercial property; f) development of recreational and amusement park; g) development of memorial park; h) construction of office condominium; i) construction of residential condominium; j) construction of infrastructure project; and k) for other purposes.

Chart 4: Real Estate Lending by Purpose



Source: BSP

Compared to end-1997 (when the cap on exposure to the real estate sector was imposed), real estate lending earmarked for acquisition of residential property climbed by more than a quarter of total real estate lending by the banking system as of end-June 2005. By contrast, the share of lending for development of subdivision for housing declined by almost half of its share from 1997 to June 2005, reflecting banks' bias towards retail lending to individual homeowners/borrowers. Data also show that banks prefer to channel real estate lending for residential purposes over lending for construction and development of commercial properties and infrastructure projects as businesses react more aggressively to market developments.

4.3 Mortgage-Backed Securities and Other New Mortgage Finances

4.3.1 Legislative Initiatives

The passage of the Special Purpose Vehicle Act (SPVA) of 2002 and its companion law, the Securitisation Act of 2004, were designed to spur foreign investment and enhance the development of Philippine financial markets.

The SPVA is intended to help banks dispose of their non-performing assets (NPAs) and replenish their loan portfolios with fresh capital. The Law provides tax incentives to encourage/facilitate private investment in the NPAs of Philippine banks by waiving some of the taxes and reducing fees collected in the sale or transfer of assets. The Law waived the documentary stamp tax, capital gains tax and expanded value added tax (EVAT) and reduced the applicable registration and transfer fees by 50 percent.

From pre-crisis level of only 2.4 percent in 1996, NPAs as a percentage of total bank assets, was 13.8 percent in June 2004. A year later in June 2005, it was brought down to less than 10 percent after 25 commercial banks, 15 thrift banks, 8 rural banks and 5 non-banks transferred a total of ₱98 billion book value of NPAs (as of 18 August 2005) and availed of incentives under this law.

A bill has been filed in Congress to extend the privileges under the SPVA by another two years to give the banking system more time to dispose of non-

performing and repossessed assets.¹⁵ The unloading of an additional ₪100 billion worth of NPAs is expected with the extension of the effectivity of the Law.

Meanwhile, the Securitisation Act of 2004 sets the legal and regulatory framework for the sale of assets like loans, mortgages, receivables and other debt instruments as new securities to raise capital, thus creating a favourable market environment toward the development of the secondary market for these securitised assets. The Law expands the menu of existing instruments available to investors and provides an avenue for portfolio diversification.

The implementation of the Law requires the creation of special purpose entities (SPEs), which shall be solely organised and operated for purposes of securitisation, and secondary market institutions (SMIs) which shall be responsible for providing the liquidity mechanism to primary mortgage lenders/holders. One important feature of the new law is the elimination of transaction taxes or friction costs in the securitisation process.

Under the Law, assets may be sold without recourse to an SPE, which then issues securities backed up by a pool of similar assets. Tax incentives are granted to encourage financial institutions to transfer housing mortgages to SPEs. While SPEs will still have to pay income taxes as any other corporation, transfers of assets will be exempt from value added and documentary stamp taxes. SPEs will also be exempt from the 5 percent gross receipts tax applicable to a bank/financial intermediary and will be given a 50 percent discount on all applicable registration and annotation fees. Property transfers, through *dacion en pago* (payment in kind) will similarly be exempt from the 6 percent tax on capital gains. The revenue foregone from these tax incentives are expected to be minimal since the Government is not presently collecting the taxes which the SPEs are exempted from.

In May 2005, Congress approved and released the Implementing Rules and Regulations (IRR) of the Securitisation Act. With the issuance of the IRR, it is hoped that the Government would be able to harness the bond market's

15. Senate Bill No. 1830 extends the application period for filing for sale of NPAs from 18 to 36 months and the applicable period of the tax exemptions and fee privileges provided to SPVs from not more than 2 years to not more than 5 years amending for the purpose Section 6 and Section 15(c) of R.A. No. 9182 or the SPV Act of 2002. The bill, which is certified as urgent in the legislative agenda, is pending in the Committees on Ways and Means and Banks, Financial Institutions and Currencies. Meantime, its counterpart bill in the House of Representatives, House Bill No. 4066 is already on its Second Reading.

tremendous potential in generating long-term funds, not only for housing but for other priority development programmes.

4.3.2 Impact of Legislative Initiatives on the Housing Sector

The implementation of the SPVA, designed to help banks clean up their NPAs so they can start lending again, creates additional opportunities for the housing sector. Developers should be interested in the idle properties being offered at bargain prices and make them productive again through re-development into housing projects. The Law is also flexible enough to allow creative structuring of financing arrangements to fit cash flows and to open up the transaction to outside financiers.

Meanwhile, the Securitisation Act will allow banks and other primary credit providers to sell the mortgages for repackaging into securities that can be sold to a much wider investor base. It will also provide incentives and institutional mechanisms for the secondary trading of such securities which will set the stage for increased volume of financing for the housing sector at better terms: lower amortisation due to longer repayment period, greater predictability of payment obligations, and lower contractual interest cost.

4.3.3 BSP Regulations on Securitisation

The BSP supports efforts aimed at developing the securitisation market in the Philippines. To this end, the BSP has issued regulations aimed at promoting an environment conducive to securitisation. These regulations embody the thrust of the BSP to encourage new financial instruments, with emphasis on the need to adequately measure the risks involved in new financial innovations:

- Circular No. 185 dated 8 December 1998 outlined the regulations that govern the origination, issuance, sale, servicing and administration of asset-backed securities (ABS) by any bank or non-bank with quasi-banking functions (NBQB), including its subsidiaries and affiliates engaged in allied activities, which are domiciled in the Philippines.
- Circular No. 466 dated 5 January 2005 allowed U/KBs without expanded derivatives authority to invest in foreign-currency denominated structured products issued by banks and SPVs without need of prior Monetary Board (MB) approval to encourage banks to diversify their investment portfolios

in order to stabilise their earnings, control maturity mismatches and minimise over-concentration of exposures.

- Circular No. 468 dated 12 January 2005 set the guidelines on capital treatment (e.g., credit and market risk) that shall govern banks' investments in securities overlying securitisation structures to foster the development of a market for new financial products but at the same time ensure that banks hold sufficient capital commensurate to the risks inherent in these products.
- Memorandum Series of 2005 dated 11 May 2005 listed the procedures to be observed in investing in credit-linked notes, structured products and securities overlying securitisation structures.

Impediments to Securitisation in the Philippines

The relatively narrow market for securitisation in the Philippines has been traced to several impediments:

- inadequate infrastructure (e.g., absence of a true secondary market institution that can reduce the risk of introducing this form of financial innovation);
- taxation and other friction costs (e.g., regulatory fees, etc.);
- limited understanding of ABS/MBS as a fund-raising tool;
- absence of trading conventions and a common origination documentation standard;
- inadequate external credit rating capacity;
- lack of quality underlying assets;
- legal and regulatory uncertainty due to issues on regulatory jurisdiction across different agencies;
- shallow and illiquid secondary market for fixed-income securities; and
- custodianship, clearing and settlement systems.

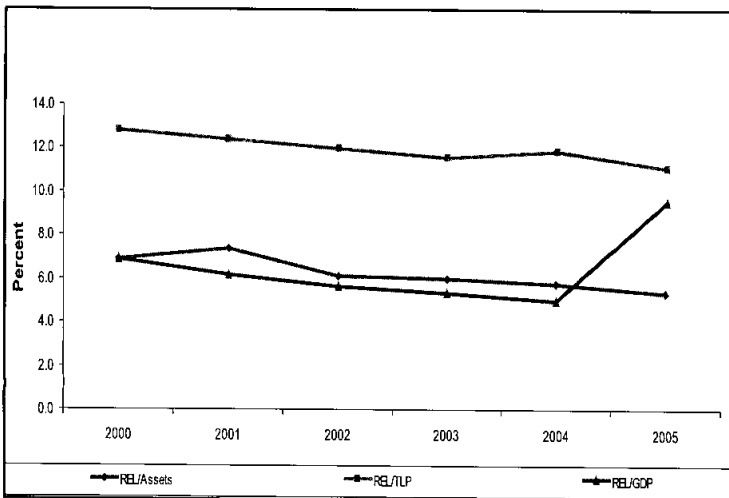
These issues underscore the need for a well-defined regulatory and legal framework for securitisation in the country. Among others, this would entail a harmonised set of rules and regulations, standardisation of documentation, borrower's/issuer's criteria, and monitoring, reporting and supervision requirements. Authorities hope that the initiatives set forth will provide the necessary impetus for the development of the securitisation market in the Philippines.

5. Interrelation with Other Macroeconomic Variables

5.1 Housing Market and the Economy

On 5 June 1997, the BSP imposed a 20 percent cap on banks' lending to the real estate sector to mitigate the impact of the Asian financial crisis on the banking system. This preemptive move was part of the BSP's response to the challenges that emerged from the overhang of the Asian financial crisis and the greater integration of the Philippines into the global financial system. Several years after the crisis, the Philippine banking system continued to exhibit steady growth as gross assets and loan portfolio continued to expand. Economic growth remained robust with the economy expanding an average of 4.2 percent from 2000-2004. For the first semester of 2005, real GDP grew 4.7 percent year-on-year. However, the construction sector has not performed well starting 2001, but has nevertheless shown signs of recovery beginning the first quarter of 2004. The overall decline in the construction sector, as well as sluggish growth in real estate lending by the banking system limit the potential of the housing sector to spur economic activity and promote the resilience of the financial system by providing long-term finance as an alternative cushion against external shocks.

**Chart 5: Housing, Banking and the Economy
2000-June 2005**



Source: BSP

In terms of affordability, housing has become relatively more affordable in recent years with house prices declining amidst rising per capita income. However, from the point of view of households, high interest rates restrict access to housing finance provided by the private sector. As a result, households choose to avail of the socialised housing programmes of the Government which offer below market interest rates. This is where the public sector crowds out the private sector since banks cannot compete with the subsidised housing finance system of the Government. Previous experience has shown that this scheme has created distortions and undermined the viability of the institutions that support them.

5.2 Asset Prices and the Transmission Mechanism of Monetary Policy

The BSP adopted inflation targeting as the framework in the conduct of monetary policy since 2002. Under an inflation targeting framework, monetary policy should focus on the movements in the prices of goods and services, not on asset prices, since the central bank's primary objective is the attainment of price stability. It is important for the monetary authorities, however, to be concerned with asset price bubbles (booms and busts in asset prices in the stock market, in the property market, and in the foreign exchange market) since they influence investment and consumption behavior which can lead to sharp reversals in real output and inflation.

The prevailing consensus with regard to the appropriate response of monetary policy to asset price bubbles is that "monetary policy should not target asset prices directly, but should respond to their effects on real economic activities and the general price level" (Shiratsuka, 2000). Monetary policy could react to a rapid rise in asset prices only insofar as they affect inflation and inflationary expectations through the wealth effect. For instance, sharp swings in asset prices could raise wealth and affect consumption/aggregate demand and feed on inflation.

5.2.1 Philippine Experience

Philippine experience indicates that a combination of surging capital inflows, rapid credit growth, and accommodative monetary policy can lead to a rise in asset prices. The liberalisation of nearly all capital account and foreign exchange transactions in 1992 resulted to an influx of foreign capital. Greater openness, as well as the peso's stability and low US interest rates, encouraged foreign borrowings by financial institutions. Capital inflows, as well as increasingly market-determined interest rates and credit policies, boosted lending, particularly to the real estate sector. Lending and credit conditions were also helped by a generally

accommodative monetary policy stance in the mid-1990s. Property and stock prices surged with massive capital inflows and rapid credit growth, and fell sharply as the Asian financial crisis broke out.

Effects of asset prices on the transmission mechanism of monetary policy

A. Impact of higher asset prices on the real sector

- Consumption, investments and inflation broadly followed asset price movements.
- In the post-Asian crisis period, however, private consumption has continued to grow strongly despite the decline in equity and real estate prices. This may be due to the observation that overseas workers remittances are also used in consumption smoothing.
- Growth of investment in real estate and construction slowed with the BSP's June 1997 ruling to cap bank lending to the real estate sector to no more than 20 percent of total loans.

B. Impact of higher asset prices on financial stability and the credit channel

- The collapse of asset prices during the Asian financial crisis contributed to the rise in NPLs and real and other properties owned and acquired (ROPOAs) of banks in subsequent years. The deterioration in asset quality of banks, among other factors, dampened credit activity.
- In the Philippines, the asset price channel is closely linked to the bank lending channel, since the financial system remains dominated by banks.
- At present, banks generally have limited direct exposure to real estate and stocks: KB loans to the real estate sector are below the cap of 20 percent of total loans (11.3 percent as of end-June 2005); trading account securities in shares of stock and equity investments in allied/non-allied undertakings are about 3.0 percent of total assets of commercial banks.

Implications for Monetary Policy

The Philippine experience in the 1990s, during which rapid growth in asset prices was accompanied by expansionary or accommodative monetary policy, suggests that asset price fluctuations can affect monetary transmission through the credit channel, to the extent that they affect bank asset quality and lending behaviour. This is particularly true in the case of property assets. Monetary

authorities should therefore pay attention to movements in asset prices, particularly during periods of accommodative monetary policy.

However, there remains no consensus on whether central banks should target specific values or levels of asset prices, given the problems associated with targeting asset values, such as the endogeneity of asset price movements and the difficulty of identifying asset bubbles. For example, although property and equity markets in the Philippines in the 1990s were characterised by bubble-like conditions, at the time there were no clear indications that the rise in asset prices would be unsustainable, or that a collapse would occur shortly. This underscores the difficulty of identifying bubble episodes. Indeed, the underlying reasons for buildups in asset prices may not be easily identified.

Nevertheless, asset prices are a useful indicator for monetary authorities, because they contain information on inflation and demand conditions, and also affect financial market stability. Monetary authorities should have a good understanding of how prevailing asset price movements are related to developments in current and expected fundamentals. Monetary policy may also respond to fluctuations in asset prices in cases where they affect the inflation objective.

Monetary authorities may be able to mitigate the risks posed by asset price bubbles by increasing vigilance in periods of upswing in asset prices. Monetary policy would have to be forward-looking by monitoring asset prices which could be indicators of expectations of inflation and output. This can be done by utilising early warning indicators which could help identify emerging or underlying asset bubbles (e.g., narrowing output gap, the expansion of money and credit, growth in investments, real exchange rate appreciation, and the health of the financial institutions). It is also necessary to enhance further bank regulation to minimize the risks and costs associated with asset price bubbles. Therefore, there is a critical need for well-balanced macroeconomic policies and strong bank regulation in order to minimize the risks and disruptive costs associated with the development and burst of bubbles (Collyns and Senhadji, 2002).

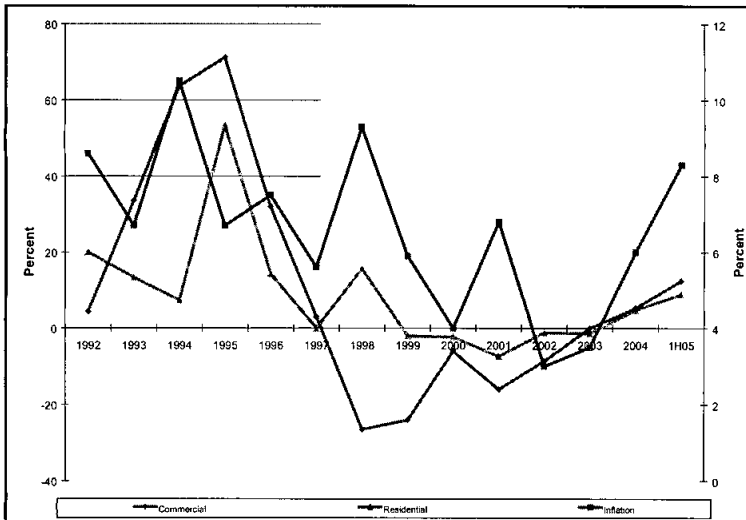
5.3 House Prices and Inflation

The growth in the real estate prices as indicated by the property index of the Philippine Composite Index (PHISIX) peaked in 1996 and has since declined up to June 2005. The jump in the property stock index in 1996 followed robust increases in commercial and residential prices during the previous year.

In the months leading to the outbreak of the crisis in July 1997, the property index showed a downtrend amid investor fears of a property glut occurring in the country similar to that observed in Thailand. The rise in commercial and residential property prices also posted a slowdown in 1996 and 1997, before declining in the succeeding years. They have since recovered starting 2004.

In general, property prices tend to lead inflation. In the case of the Philippines, inflation also trended downward with the reversal in asset prices. A simple correlation test between commercial land values and residential capital values (price of floor area of commercial/residential condominium space) with the consumer price index yielded a correlation coefficient of -0.6 with commercial land values and a high correlation coefficient of 0.6 with residential capital values. Residential property prices are more highly correlated than are commercial land prices as businesses react more aggressively to market developments. It may be noted that in the Consumer Price Index of the Philippines (a basis for the measure of headline inflation), the rentals component comprises a relatively significant weight of 13.7 percent.

Chart 6: Annual Growth in Commercial and Residential Prices and the CPI (2000=100)



Sources: National Statistics Office, Colliers Jardine Philippines, Inc.

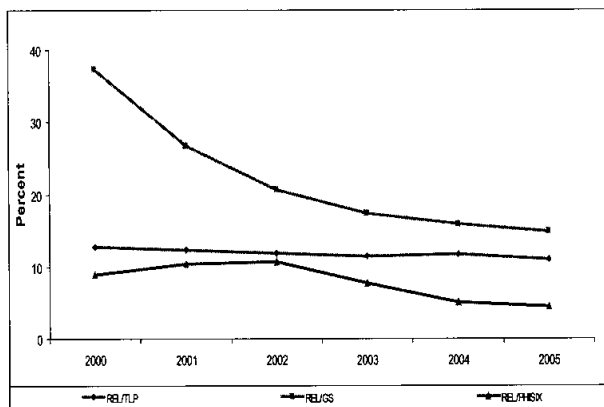
5.4 Housing Finance and Capital Market

The major factor stifling the growth of a more robust housing industry in the Philippines is the inadequate supply of long-term housing finance. Concern for liquidity, incomplete market infrastructure, and inadequate legal and regulatory framework effectively restrict demand for housing and housing-related products. Previous experiences with the Government's housing programmes likewise contribute to the bias against supply of funds to the housing sector.

By composition, a large chunk of capital market funds in the Philippines comes from the equity market (48.5 percent), a third from the banking system, and the balance accounted for by the bond market. Sources of funds have steadily grown from 2000-2004, particularly from the strong equities market and Government bond issuances to finance the public sector deficit. However, these funds are not properly channeled to the housing finance market. In 2004, funds that accrued to the housing sector comprise less than 15 percent of capital market funds.

The potential for a viable housing finance system in the Philippines through mortgage-backed securities is yet to be realised because of the underdeveloped capital market. The absence of a viable secondary mortgage market (a role previously assigned to NHMFC) which serves as the key link between the primary mortgage market and the capital market further inhibit the flow of funds available for mortgage lending. This situation can be remedied by a deep and strong capital market which can mobilise stable large scale financing to support a dynamic housing sector.

**Chart 7: Housing Finance and the Capital Market,
2000-June 2005**



Sources: BSP, Bureau of the Treasury, Philippine Stock Exchange

6. Conclusion

- Housing is indeed a very crucial component for Philippine development. Its relevance on economic activity, as evidenced by a high multiplier effect, and its contribution to the forward and backward linkages of economic activity and labour, cannot be overemphasised.
- There has been a continued trend of increasing gaps between housing demand and housing supply, due primarily to the income characteristics, a high degree of urbanisation, and increasing costs of house prices and construction materials. Thus, Government had embarked on a market-based housing scheme which targets the lower income groups and measures to lower the costs undertaken under the low-cost housing and socialised housing initiatives of both the Government, the private sector and special interest organisations.
- To the extent that asset prices are a useful indicator because they contain information on inflation and demand conditions and also affect financial market stability, monetary authorities should have a good understanding of how prevailing asset price movements are related to developments in current and expected fundamentals. Monetary policy may respond to fluctuations in asset prices in cases where they affect the inflation objective.

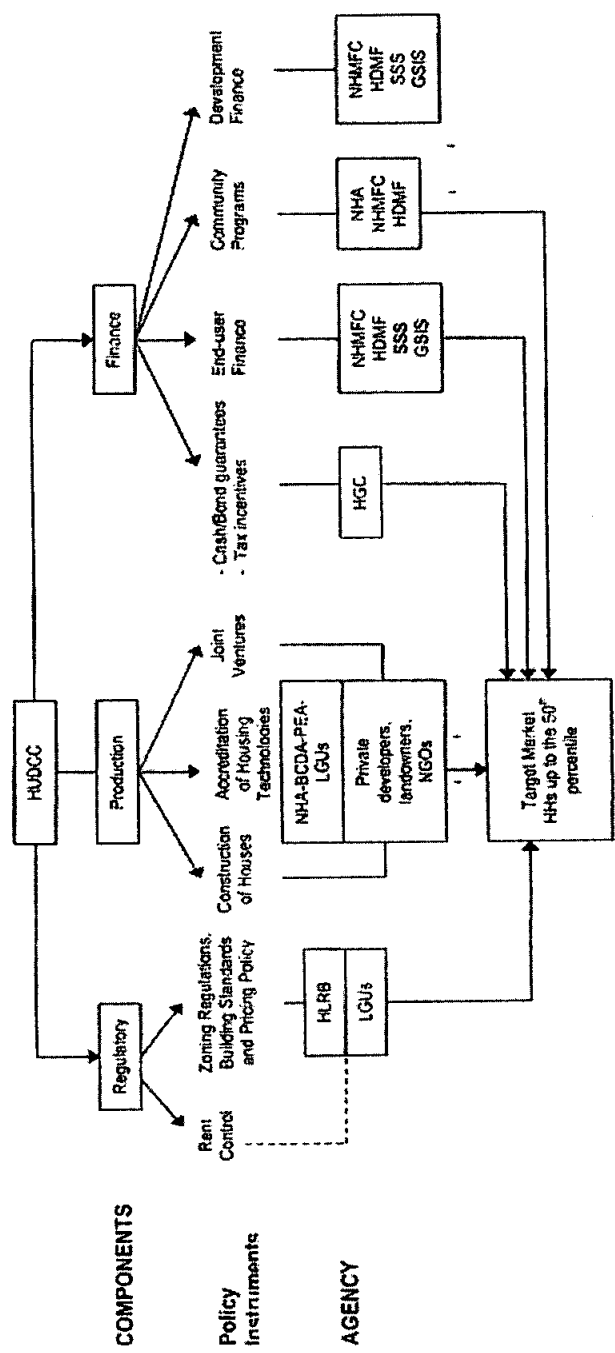
- In the Philippines, the underdeveloped capital market restricts the potential of the housing sector to generate downstream economic activities that contribute to economic growth.
- Reforms in the capital market are needed to achieve a housing finance system that offers a broader range of mortgage products to a wider array of borrowers, keep domestic savings onshore by attracting a broader pool of investors, and promote the resilience of the financial system by having an alternative pillar to cushion against external shock.

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Figure 1
National Shelter Program



Annex B

Angeles (1985) outlined the evolution of housing agencies in the Philippines. There were two major housing agencies from 1950s to 1960s: the People's Homesite and Housing Corporation (PHHC), and the Home Financing Corporation (HFC). The former was tasked with the development of sites for housing, slum clearance and resettlement while the latter was created to undertake a programme of mortgage insurance to encourage private banks and financial institutions to grant housing loans on easy terms of payment. In the 1970s, 11 housing offices were created, the Presidential Assistance on Housing and Resettlement Agency (1973), Tondo Foreshore Development Authority (1974), Inter-Agency Task Force on Nabacaan, Misamis Oriental Relocation (1973), Central Institute for the Training and Relocation of Urban Squatters (1974), Sapang Palay Development Committee (1973); Human Settlements Regulatory Commission (1976); National Home Mortgage Finance Corporation (1979); Home Development Mutual Fund or Pag-IBIG Fund (1978); BLISS Development Corporation (1977); Human Settlements Development Corporation (1978); and the Ministry of Human Settlements (1978). These agencies were rationalised into nine key agencies upon the adoption of the National Shelter Programme.

Under the MHS were the following agencies:

- 1) National Housing Authority (NHA), in charge of social housing production, specifically, upgrading of sites and services;
- 2) Human Settlements Development Corporation (HSDC), involved in shelter production and New Town and Estate developments;¹⁶
- 3) National Housing Commission (NHC), supported the HSDC and NHA in shelter production;
- 4) Human Settlements Regulatory Commission (HSRC), regulated subdivision development and socialised housing construction;
- 5) National Pollution Control Commission (NPCC);

16. The agency was also in charge of the following: (1) standardisation of building components and systems; (2) materials stockpiling; (3) establishment of regional fabrication centers. To undertake these activities, HSDC was given power of eminent domain and borrowing power (i.e. can issue bonds or contract domestic or foreign loans, credits or indebtedness).

- 6) National Environmental Planning Council (NEPC);
- 7) Housing Finance Corporation (HFC), provided mortgage insurance or guarantees to encourage private banks and financial institutions to grant housing loans on easy terms of payment;¹⁷
- 8) National Home Mortgage Finance Corporation (NHMFC); and
- 9) Home Development Mutual Fund (HDMF).

17. The HFC was patterned after the US Federal Housing Administration. It was created in 1950 but commenced operations only in 1956.

Annex C

Securitisation in the Philippines

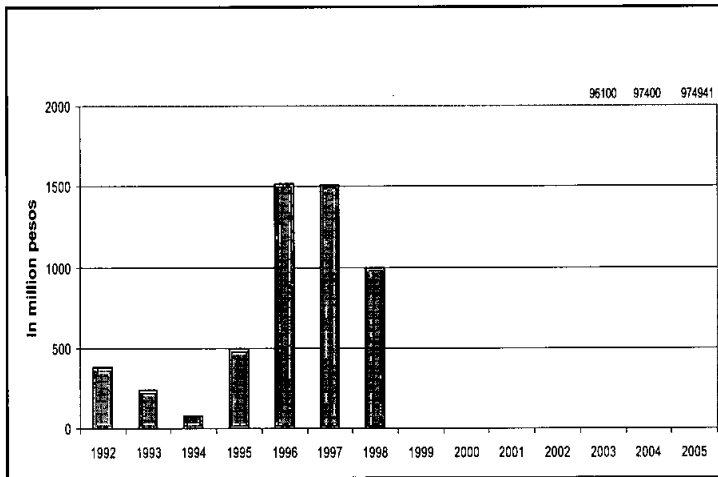
The ABS market in the Philippines remains underdeveloped except for a few deals by banks and private corporations involving receivables from leases, residential mortgages and credit card receivables:

- May 1992: Citibank N.A. (Manila Branch) acted as seller and servicer to an issue of mortgage-backed securities (MBS) in the form of ₱318 million Floating Rate Investor Certificates and ₱35 million Floating Rate Residual Certificates. This issuance of MBS by Citibank has been generally acknowledged as the first true asset securitisation in the Philippines (WB, 1997).
- 1993: HDMF/Pag-IBIG launched its public mortgage securitisation programme to further deepen the market for domestic MBS.
- June 1996: Bank of the Philippine Islands (BPI) Capital Corporation issued ABS without recourse, in an aggregate amount of ₱500 million which were secured by a pool of real estate mortgages originated by BPI Family Savings Bank.
- February 1997: HDMF/Pag-IBIG launched ₱1 billion worth of MBS with banks as advisors and placement agents. The securities were supported by a guarantee from the Home Guaranty Corp. (HGC, formerly Home Insurance and Guaranty Corp) and were exempted from the Securities and Exchange Commission (SEC) registration requirement.
- February 1997: Solid Bank issued without recourse, mortgage loans selected from its mortgage portfolio to Mortgage-Backed Security Trust, a special purpose trust to be administered by the Philippine National Bank which, in turn, will issue/sell securities to investors. The mortgage loans transferred constituted the asset pool backing up the Mortgage-Backed Certificates.
- 1997: Philippine Airlines (PAL) securitised its US ticket receivables. The deal was structured to allow creditors recourse not just to the receivables but also to the company itself should the receivables fall short of the required debt service. In June 1998, PAL filed a petition for rehabilitation under the Philippine Bankruptcy Law and suspended payments on all debts. This led to the seizure of PAL planes by US authorities following a court petition by secured creditors in September 1998. The suspension of flights lasted only a month as there was sufficient cash flow to the accrued SPV account to cover the debt service cost during the period. The PAL planes were eventually released.

- 2003: Metro Rail Transit Corporation (MRTC) completed the largest securitisation in the Philippines through the issuance of receivable-backed notes to local institutional investors. The created debentures are collateralised/backed by equity rental payment stream received by MRTC from the Department of Transportation and Communications (DOTC) under the MRT3 project.¹⁸ The equity rentals for 25 years will total US\$2.4 billion. The securities to be issued by a domestic special purpose company—the NewCo—were accorded a zero risk weighting by the BSP.
- April 2005: NHMFC sold approximately P13.45 billion of NPLs to Deutsche Bank Real Estate Global Opportunities (DBGO). NHMFC and DBGO will form an SPV that will manage the restructuring and collection of the loans. The NHMFC will have a 49 percent stake in the SPV and an equivalent share in the proceeds of future collections of its bad loans. The Asian Development Bank (ADB) and the International Finance Corporation (IFC) will jointly provide debt financing to the SPV. ADB will fund the project through a local currency bond issue. On 1 September 2005, the MB approved the proposed peso-denominated bond issue of the ADB intended to raise up to P3 billion to finance the acquisition of the bad loans of the NHMFC. The ADB will issue five-year, zero coupon bonds in the local market—the first of such bonds to be issued by a multilateral agency in the country. The proceeds of the issue will be used for on-lending to Balikatan Housing Inc., an SPV that would buy the NPLs from NHMFC.

18. The MRT3 Project is a light rail mass transit system extending 17 kilometers along the median of EDSA road in Manila, the capital city of the Philippines. The project was undertaken as a build-lease-transfer (BLT) concession by a private consortium, which commenced construction in 1996.

Outstanding Asset-Backed Securities, 1992-June 2005



Sources: Securities and Exchange Commission, PhilRatings

Proposed Securitisations

- Proposals have recently been made for the Philippine Amusement and Gaming Corporation (PAGCOR) to issue P18.5 billion in three- to six-year bonds backed by revenue flows from its gaming operations. The proceeds from this bond issue will be used to, among others, purchase a 60-hectare property for development of an amusement complex.
- The Government is discussing the possibility of issuing US\$500 million dollar denominated debt backed by the future royalty flows from the Malampaya gas project—a gas and oil exploration project of Shell Philippines Exploration.
- There are also proposals to securitise future flows of overseas contract workers. This has not yet taken off pending resolution of certain accounting issues.

CHAPTER 7

HOUSING AND MORTGAGE MARKETS IN SINGAPORE

by

Jason Lee, Liew Yin Sze and Cyrene Chew*

Abstract

This paper takes stock of recent developments in the Singapore private residential property market. The pronounced run-up in private residential property prices during the first half of the 1990s followed two decades of relatively modest appreciation during the 1970s and 1980s. Fuelled by a confluence of positive supporting macroeconomic and demographic factors, as well as some speculative pressures, private housing prices climbed at an average annual rate of 25% per annum between 1991 and 1995. However, housing values dipped sharply in Q3 1996, owing to the imposition of specific anti-speculation measures in May that year. The decline was subsequently compounded by the onset of the Asian financial crisis in 1997. Prices rebounded briefly thereafter, but this upturn was cut short by the global electronics downturn. Since then, prices have remained sluggish, reflecting in part the less supportive macroeconomic and demographic conditions. Our econometric model identifies a key role for income growth, credit and demographic factors in explaining price movements. In particular, our results suggest that population and income growth together accounted for some 80% of the movements in house prices since 1981. Going forward, the medium-term prospects for property prices will be more moderate compared to the early 1990s, on the back of slower economic growth and less favourable demographic factors.

*. The views in this paper are solely those of the authors and should not be attributed to the Monetary Authority of Singapore. Edward Robinson, Executive Director, Economic Policy Department, provided invaluable inputs and guidance. The authors are also grateful to Ang Eng Siong (Economist), Tan Min-Ching (Lead Economist), and Ng Lian Koon (Senior Economist) for their useful comments and suggestions on this paper.

1. Developments in Singapore's Private Residential Market

The current softness in the private housing market can be sharply contrasted against the sustained price appreciation which characterised the market in the first half of the 1990s. This can be traced to the different underlying conditions in each of these two episodes, particularly the markedly dissimilar macroeconomic circumstances, demographic factors and government policies. The earlier run-up in property prices took place against the backdrop of robust economic growth, a steady inflow of skilled foreign labour, a comprehensive liberalisation of housing-related government policies, and mounting speculative pressures. In comparison, residential market activity in recent years has been capped by slower GDP growth, more modest labour inflows as well as larger and more frequent external shocks, which have led to greater uncertainty for households. On the policy front, tighter rulings relating to CPF withdrawals for property purchases could have constrained the availability of funds for property purchases.

1.1 Three Distinct Phases of Property Price Developments

In this section, we provide an overview of developments in the domestic residential property market, which can broadly be divided into three distinct phases:

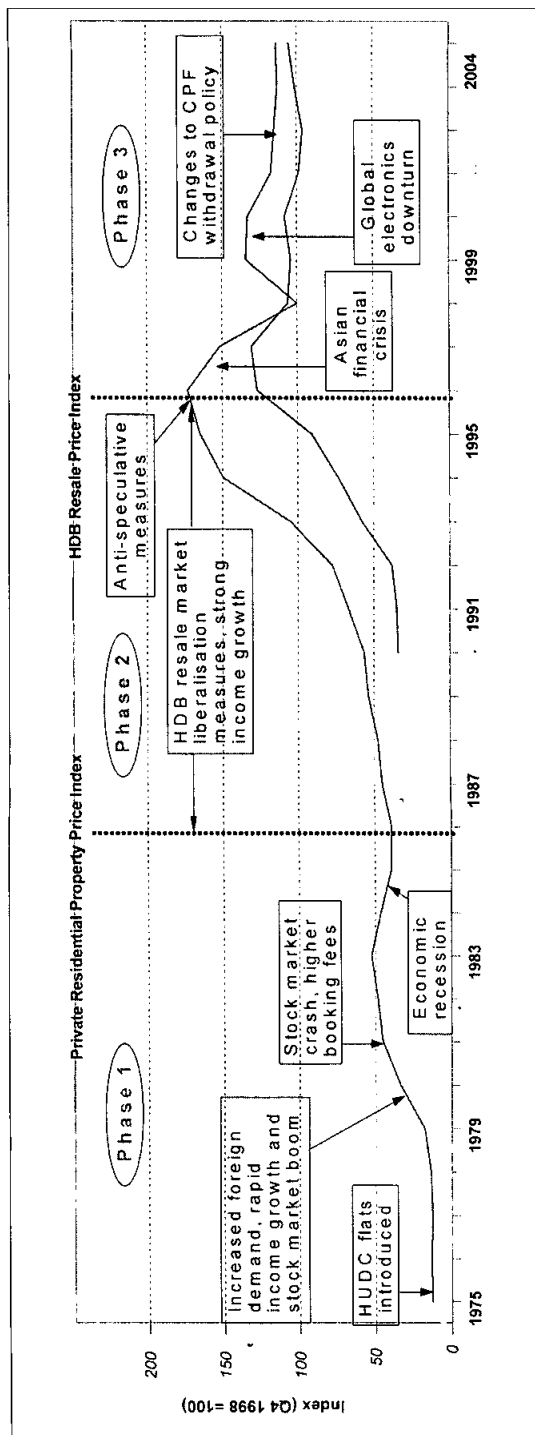
- 1975 to mid-1980s: Period of Modest Growth
- 1986 to mid-1990s: Period of Sustained Growth
- 1996 to present: Adjusting to Multiple Shocks

Chart 1 appended provides a chronological overview of residential property market developments according to these three phases. We briefly summarise developments in the two most recent phases, before turning to assess the extent of over/under-valuation in current property prices. We will identify the contributing elements in the various stages of the property cycle. These can be grouped under the three categories of (i) macroeconomic conditions, (ii) demographic factors and (iii) policy changes.

The years following Singapore's first economic recession (in 1985) saw the most sustained run-up in private house prices, supported in part by the low mortgage rate environment¹ and complementary policies in the public residential

1. In tandem with the easing of monetary conditions in the US, the domestic 3-month interbank rate trended downward from the peak of 8% in May 1990 to an average of 3% in 1992-94. This was also reflected in the lending rates of the banks, with the prime-lending rate falling from 7.9% in Oct 1990 to an average of 5.7% in 1992-94.

Chart 1
Chronological Overview of the Singapore Residential Property Market (1975 – 2004)



Phase 1:	Phase 2:	Phase 3:
• HUDC flats introduced; competition causes reduction in private housing supply; prices stay flat • Foreign interest, growing affluence and stock market boom fuels price rise of 18% per quarter • Stock market crash and higher booking fees; prices level off • Recession causes prices to plunge by 36% over next two and a half years; private housing construction activity slows	• Booming economy, low mortgage rates, and growing foreign demand • Supportive demographic conditions; increased immigration inflows, bulge in house-buying age group, reduced household size, quickening of household formation rate • Prices soar 5.4 times over ten years, private transactions in 1994 double from late 1980s levels • Resale public housing market liberalisation measures, resale prices and demand surge • Queue for new flats swells, HDB steps up building programme • Signs of speculative pressure	• More frequent economic shocks, more modest economic growth • Increased geopolitical uncertainties, dampen sentiment • Less favourable demographic factors • Anti-speculative measures imposed in May 1996 • Private housing demand weakens, leads to oversupply • Prices dive, compounded by Asian crisis in 1997 • HDB resale volumes surge due to housing grant and falling resale prices • Tighter HDB regulations for new flats, demand falls • Economic upturn; property market stages brief recovery • Global electronics downturn; price recovery reverses • Supply overhang; developers slash prices • Most of 1996 anti-speculation measures lifted in 2001 • HDB halts building programme to clear supply backlog • CPF withdrawal policies tightened in the 2003, and subsequently relaxed in 2005

segment. From the trough of the cycle in Q2 1986 to the peak in Q2 1996, private house prices rose at an average annual rate of 16%, which led to a more than fivefold increase during that run-up. This sustained period of price appreciation can be broadly divided into two sub-periods.

The first sub-period, from Q2 1986 to Q4 1990, saw overall residential property prices increasing at a relatively moderate pace, at an average rate of about 9% p.a. This initial stage of the run-up was triggered primarily by the liberalisation of rules governing the purchase and financing of resale public flats, which boosted the demand from upgraders.² However, it was during the second part of the run-up, spanning Q1 1991 to Q2 1996, that private housing prices saw their most rapid ascent. During this period, private residential property prices rose sharply at an average annual rate of 22%.

1.2 Supporting Macroeconomic and Demographic Factors

A key factor behind the boom was the prevailing strength of the Singapore economy. Indeed, real GDP growth averaged 9% per annum between 1990 and 1995, including double-digit expansions in 1993 and 1994. Reflecting the robust growth in the broader economy, private residential prices jumped by 36% and 42% in 1993 and 1994 respectively. This was underpinned by the strong volume of transactions, which doubled from an average of 4,000 to 5,000 new private housing units in the late 1980s, to just under 10,000 units in 1994. Apart from the continued strength in upgrader demand at around 2,500 units per annum, foreign buying interest was also an important contributor to housing demand, accounting for 13% of the transactions in 1993.

Conditions were also favourable in the domestic labour market. Employment levels rebounded strongly following the sharp declines during the recession years of 1985-86, which could have set the stage for the housing boom over the ensuing half-decade. With the Singapore economy remaining at full employment, the average unemployment rate was below 2% between 1991 and 1996. The buoyant conditions in the labour market were also crucial to the healthy buying sentiment in the residential market during the period, particularly as house-buyers typically relied heavily on their CPF savings to fund their purchases over relatively lengthy loan tenors.

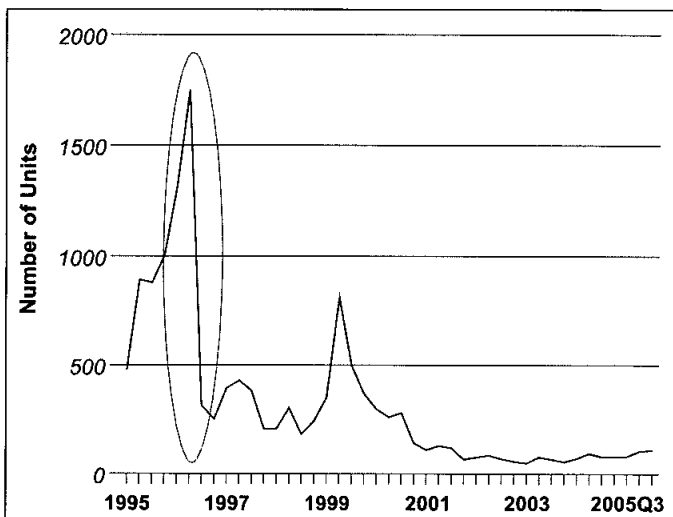
2. With approximately 80% of the population living in HDB flats, HDB upgraders have typically been an important source of demand for the private housing market, accounting for nearly half of all private property transactions (excluding Executive Condominiums and HUDC flats).

A number of demographic factors also contributed significantly to the surge in demand for homes in the 1990s, including:

- The coming of age of the baby boomers into the 25-34 “house-buying” age group – this group formed the bulge in the population profile in the 1990s.
- Overall resident household formation rate of 3.4% in the 1990s (unchanged from 3.4% in the 1980s) was significantly faster than the resident population growth rate of 2.0%. The difference was accounted for by a significant reduction in household size, from 4.2 persons per household in 1990, to 3.7 in 2000. The proportion of single-person households also increased, from 5.2% of all households in 1990 to 8.2% in 2000.
- The resident population grew 2.0% while total population growth was 3.0%. This implies that a third of the population increase in the past decade was contributed by non-residents.

The rapidly expanding pool of skilled foreign workers quickly drove up rentals, which in turn supported the appreciation of capital values in the private residential market. This could have been particularly so given that expatriate rental units were generally concentrated at the higher end of the market. Indeed, domestic rental rates were maintained at high levels during the first half of the 1990s, until the introduction of the anti-speculative measures in May 1996 and the onset of the Asian financial crisis in 1997.

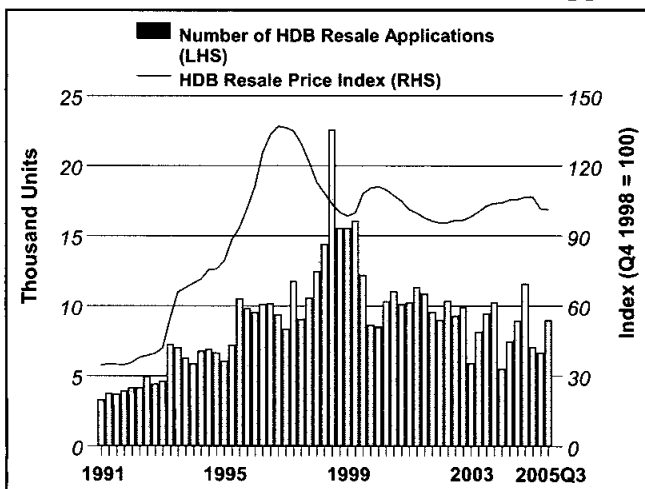
Chart 2: Private Residential Sub-sales



Other policy measures in the public housing segment over the same period had also played an important role. The demand for new and resale HDB flats also rose considerably, fuelled by a slew of policies initiated by the HDB from the mid-1980s to the mid-1990s. (Annex 1 summarises some of these policy measures, which could have contributed to the surge in public housing demand during the boom years of the 1990s) These effectively expanded the pool of eligible buyers and streamlined the selection and allocation procedures for new flats, thus effectively shifting upward the demand curve for new flats. A number of these measures had positive spillover effects on the HDB resale market, which in turn facilitated upgrader demand for private residential properties.

The combination of the robust economic environment and supportive government policies set the stage for a boom in the public (HDB) residential market, which saw sharply higher demand for both new and resale flats. Resale HDB flat prices soared in the first half of the 1990s, averaging growth of 23% per annum. On the back of the rise in resale prices, the number of resale applications ballooned from just under 15,000 in 1991 to more than 33,000 in 1995. (Chart 3) In the six years between Q2 1990 and Q2 1996, the HDB Resale Price Index rose in every single quarter but three (and in those three quarters, only mild declines – not exceeding 2% – were recorded). The HDB resale market became a “springboard” for more affluent HDB dwellers to move up to private housing by utilising some of the capital gains derived from the sale of their HDB flats. Indeed, demand from HDB upgraders has historically accounted for nearly half of all private residential property purchases.

Chart 3: HDB Resale Prices and Resale Applications



Prices of new HDB flats also increased throughout the early 1990s, though at a more moderate pace. Given HDB's mandate to maintain price stability and affordability of public housing, prices of new flats were raised by a relatively low 9-17% per annum between 1991 and end-1996. Between Q1 1991 and Q1 1996, the selling price of new 5-room flats, for example, rose from \$104,100 to \$214,200. Prices of executive flats saw a more pronounced jump over the same period, from \$141,000 to \$352,600.

Thus, a sharp run-up in prices took place over the first half of the 1990s in both the public resale and private residential markets. In the private residential property market, the period of the speculative bubble was dated as 1994-97, with the extent of overvaluation estimated to be 36-63%, based on a Ministry of Trade and Industry (MTI) study in the Q1 2001 Quarterly Economic Survey. There were also demand-side imbalances in the public residential segment, which the government would subsequently attempt to remedy via a series of anti-speculative measures in May 1996.

1.3 Increased Macroeconomic Volatility

The run-up in property prices during the earlier years had been supported by robust macroeconomic conditions. In comparison, the period since 1996 has been characterised by significantly slower economic growth and weaker labour market conditions, with the Singapore economy buffeted by a series of shocks. Following relatively robust expansions of above 8% in 1996-97, the Singapore economy recorded a mild contraction in 1998 on account of the Asian financial crisis. The ensuing recovery in 1999-2000 was then interrupted by the global IT slowdown, which saw the economy dipping again into negative growth territory. Subsequent years have witnessed the onset of shocks of a new variety. In particular, various geopolitical threats – beginning with the events of 11 Sep 2001 – as well as health scares such as the Sars and Avian flu outbreaks have considerably eroded home-buying sentiment in recent years.

On the labour market front, the Asian financial crisis saw the resident unemployment rate doubling to around 3.9% in H2 1998. In addition, Singapore's move towards a knowledge-based economy has necessitated ongoing resource reallocation which has also significantly increased the structural component of unemployment in the domestic labour market.

1.4 Imposition of Anti-Speculation Measures

The falloff in private housing prices beginning in Q3 1996 was precipitated by the introduction of a series of anti-speculation measures in May that year. The main thrust of these measures included enforcing the 80% financing limit on mortgage loans, restricting S\$ loans to foreigners for the purchase of residential properties in Singapore, taxing as income the gains from selling properties within three years of their purchase, and imposing an additional stamp duty, payable by the seller, on sales of residential properties within three years of purchase. The salutary impact of these changes in curbing residential property speculation is evident in the sharp dip in sub-sale activity almost immediately after the announcement of these policy measures (Chart 2 earlier on).

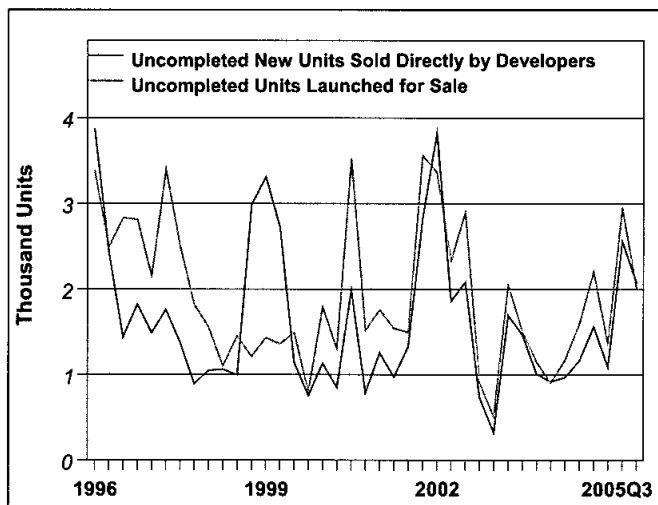
The impact of the anti-speculation measures was compounded by the onset of the Asian financial crisis in 1997, which further eroded sentiment and exacerbated the decline in house prices. Between Q3 1997 and Q4 1998, prices declined at an average rate of 8% per quarter, following a milder 2.3% quarterly fall registered over the Q3 1996 to Q2 1997 period. Prices rebounded swiftly however, by some 40% between Q4 1998 and Q2 2000, as market sentiment improved in line with the economic recovery. However, the respite was brief as the sharp correction in the global electronics sector pushed the domestic economy into recession. As GDP growth slowed and unemployment rose, private residential property prices retracted between Q3 2000 and Q1 2004, with the more pronounced declines occurring over the period Q3 2000 – Q1 2002, as prices fell at an average quarterly rate of 2.7%. Subsequently, prices have eased at a more moderate pace of less than 1% per quarter.

Interestingly, the recent sharp drop in interest rates and the concomitant price war in the home mortgage market – which dramatically lowered the effective mortgage rate for a number of years – failed to spur a significant recovery in the private residential market. Indeed, the pricing inertia during this period persisted despite a marked rebound in residential demand between Q4 2001 and Q3 2002, when average quarterly transaction volumes spiked to new highs (Chart 4), prompted in part by low pricing, various non-price incentives and recent revisions to rulings on the financing of residential property.³ Over the

3. With effect from 1 Sep 2002, homebuyers were allowed to use CPF funds to pay for half of the previous 20% down payment requirement, which effectively lowered the barrier for entry into the private residential market.

period Q1-Q3 2002, 7,773 uncompleted new units were sold – more than double the number sold in the same period a year ago (Chart 4). Nonetheless, the surge in buying momentum tapered off considerably in the latter part of the year, as the pent-up demand became increasingly satiated, and sentiments were quelled by the impending war in Iraq as well as the sluggishness in the broader economy.

**Chart 4: Uncompleted Private Residential Units –
Launched and Sold**



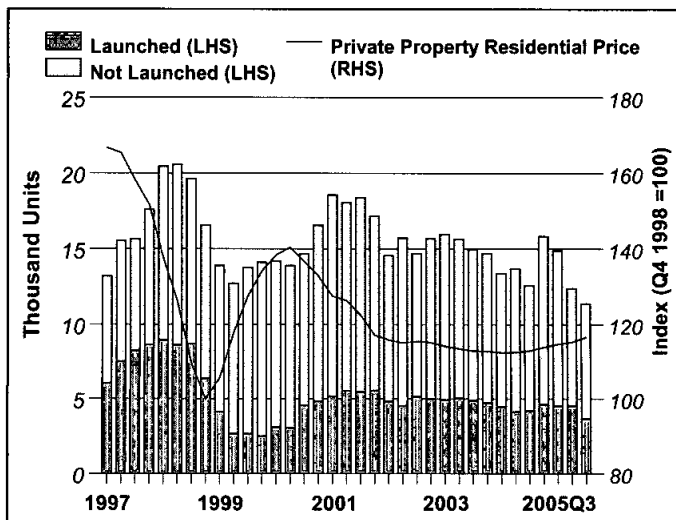
The slide in capital values abated in Q2 2004, although the ensuing recovery has been far from robust. Private housing prices have crept up at an average pace of 0.6% per quarter since then, and the 1.2% increase in Q3 this year, though largely expected, was the highest quarterly growth in five years and gave a firmer indication that the rise in private residential prices is gaining some momentum.

A brief survey of property markets in the region suggests that both activity and prices have recovered to a greater extent in a number of markets such as Thailand, Hong Kong, Malaysia and the Philippines. In Hong Kong, for instance, residential property prices have gone up about 50% from its trough in August 2003. Firmer GDP growth and the low interest rate environment appear to have stimulated the demand for new residential property in regional markets.

1.5 Reduced Excess Stock of Unsold Units

Supply-side conditions have improved of late, reflecting in part developers' increased caution with regard to new launches, as demand remained soft. After peaking in Q3 2001 at around 18,400 units, the stock of unsold private residential units was trimmed down to around 12,600 as at Q3 2004 – the lowest since Q1 1997. (Chart 5) Despite a brief respite in Q4 2004, the unsold stock has since declined steadily to around 11,400 units as of Q3 2005, the lowest in nearly nine years.

Chart 5: Stock of Unsold Residential Units



The more benign supply-side conditions reflected in part the Government's moves to curb the overhang by slashing the release of land for private homes and ECs under the Government Land Sales (GLS) programme. The reduced amount was placed in a Reserve List, which would be released only if developers indicate interest at or above the reserve price.

1.6 Some Anti-Speculation Measures Lifted

In addition, several new initiatives were introduced under the two off-budget measures in Oct 2001 to help shore up confidence in the property market. These measures included property tax rebates, reduction of stamp duty rates, and

enhanced financial assistance schemes. Two of the anti-speculative measures introduced in 1996 were also removed, namely the income tax on gains from sale of property within three years of purchase and the restriction on non-citizens borrowing in S\$ to finance property purchases.

1.7 HDB Policy Changes

As with the private segment, demand in the public housing market also began adjusting, under the impetus of several revisions to a range of HDB's policies in the early to mid-1990s, aimed at reining in buyers' expectations of reaping large capital gains from a strong appreciation in resale prices. In the resale market, prices started leveling off in Q1 1997 after a massive three-fold increase in 1991-96, as the weakness in prices of private residential property spilled over to the public segment. Among the revisions to HDB resale policies in Q2 1997 were (i) a tightening of the criteria for granting HDB concessionary loans, (ii) an extension of the minimum period (from five to 10 ten years) before an existing HDB flat owner could purchase a second flat from HDB at subsidised prices (although this has since been rescinded back to five years), and (iii) a non-refundable registration deposit of \$5,000 for applicants under the fiancé/fiancée scheme. At the same time, a higher resale levy, ranging from 15% to 25% depending upon the type of flat, was imposed on those who wanted to sell their existing flats to upgrade to a new HDB flat. This eliminated the loophole in the policy which arose from the option of paying no levy and buying a new HDB flat at 120% of the selling price.⁴

However, in response to the depressed macroeconomic conditions in 1997-98 and 2000-01, HDB introduced several measures to help ease owners' monthly repayment burdens. Prices of new 4-room and 5-room HDB flats as at end-Q3 2001 were also lowered by 7% and 16% respectively from Q4 1997. On the supply side, HDB has slowed down its building program since 2001, in attempt to reduce its stock of unsold flats, which had then hovered around the 18,000-unit range. The excess stock has since been pared down considerably,

4. Prior to this revision, the policy had been revised in 1994-95. The premium that households which sought to buy a second subsidised flat from HDB was increased from 10% to 20% of the posted price of the second flat. However, the potential loophole remained, as prices of resale flats during the period in 1991-97 were significantly higher than the price of new flats. Speculators could still expect to reap a substantial profit after five years, even if they bought the new flat at 120% of the normal selling price.

although some 10,000 units currently remain unsold due to new supply coming from the Selective En-bloc Redevelopment (Sers) and Build-To-Order (BTO) schemes.

The excess supply notwithstanding, capital values in the secondary public housing market have proven to be quicker on the uptake relative to private housing prices. The HDB resale price index has been on a steady – albeit modest – uptrend over the past three years, rising by some 6% since the trough in Q1 2002 before leveling off in Q1 2005. However, private residential prices began its uptrend some five quarters ago.

1.8 Central Provident Fund Policy Changes

An important factor contributing to the continued softness in the residential property market has been the various policy revisions which have effectively restrained the availability of Central Provident Fund (CPF) funds for housing investments. These included the tightening of CPF rules pertaining to the withdrawal of funds for property purchases. Recognising that many CPF account holders would not have sufficient liquid funds to meet growing retirement needs, the government instituted in 2001 a number of fundamental changes to the CPF's Approved Residential Properties Scheme (ARPS). Some of these policy revisions included a reduction of the total permissible withdrawals for housing payments, and a higher amount to be set aside under the Minimum Sum (which cannot be used for property purchases).

At a broader level, several other CPF policy changes announced in August 2003 which, while not directly targeted at housing, nonetheless could have had a dampening effect on residential property demand. These mainly related to reduced contributions to individuals' CPF accounts as well as increased sums to be set aside for retirement and medical purposes. On balance, these changes have led to a reduction in the ready availability of funds that could be used for mortgage repayments. A summary of the August 2003 changes to CPF rulings is provided in Annex 2.

On 19 July 2005, the government announced a package of thirteen policy changes that included lowering the cash down payment for both private and public residential properties and raising the maximum housing loans for residential property purchases (Annex 3). While the policies themselves were neither meant to improve nor dampen the property market, they were nonetheless perceived as boosters by market analysts. However, the timing of the announce-

ment (just prior to the Hungry Ghost month), coupled with the limited new launches in Q3 and the rise in mortgage rates from low levels, could have muted the stimulating impact of the policy guideline changes. The full repercussion of these changes is, therefore, expected to be revealed only in the coming quarters.

1.9 The Mortgage Loan Market

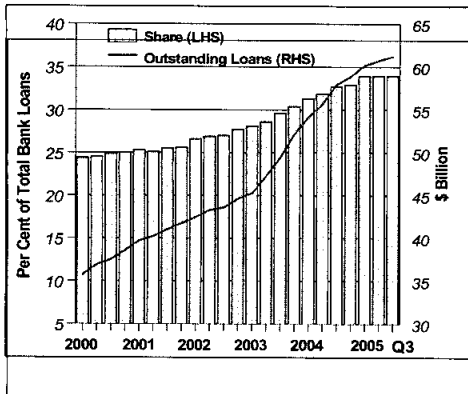
Demand conditions in the residential market in Singapore are influenced in part by mortgage financing rules, which are aimed at ensuring prudent lending and use of CPF savings for property purchases. A typical mortgage loan for residential property in Singapore has a tenor of 20-30 years, with the maximum maturity period at some 35 years. Government rules also restrict the amount of housing loan financing to 90% of the value of the property, up from 80% prior to the recent policy revision in July 2005. (See Annex 3) In addition, half of the remaining 10% must be paid for in cash, while CPF funds can be used for the remainder. In terms of mortgage rates, a variety of home loan packages are available. These may involve fixed rates over the first 2-3 years, after which mortgage rates are generally floating, tied to prevailing interest rate conditions.

Mortgage loans constitute a sizable share of commercial banks' total loan portfolios, accounting for slightly more than a third of banks' aggregate lending to non-bank customers. (Chart 6a) Despite sporadic bursts of increased demand in the residential market however, mortgage loan growth has generally been weak in recent periods.

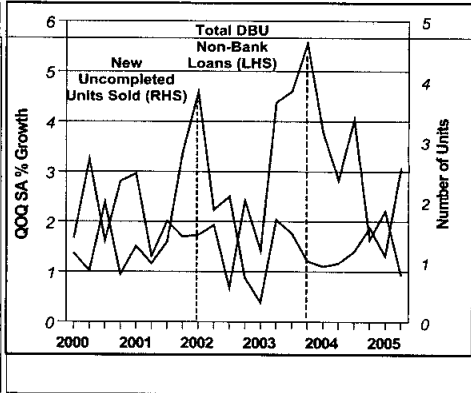
Indeed, the expansion in housing loans has slowed over each of the past six quarters, falling to 5.7% as at Q3 this year, a new historical low. This generally reflects the soft sentiment which prevailed in the property market during the same period, as residential prices and home buying interest continued to languish. More recently, the slew of policy revisions introduced in July (see Annex 3) sparked expectations of a rebound in the housing market. However, incoming monthly data suggests that the market has yet to benefit fully from the positive effects of these policy revisions, as housing demand in the immediate months following the changes did not rise sharply as initially expected. Nevertheless, there are reasons to believe that this was largely due to temporary factors, including the dearth of new launches due to the Hungry Ghost festival, which tends to deter home buyers.

Chart 6

(a) Mortgage Loans



(b) New Home Sales and Banks' housing Loans



In addition, given that the bulk of housing loans for new developments are disbursed only upon completion of the properties, there is normally a lag between new house purchases and the growth of mortgage loans outstanding in the banking system. Following the spike in new purchases in early 2002, for instance, a similar pickup in housing loans was only experienced nearly two years later. (Chart 6b)

Looking ahead, the housing market's recovery prospects appear intact, and demand is expected to pick up significantly over the next six months, on the back of favourable macroeconomic conditions, including steady GDP growth, healthy job creation and still-low interest rates. These should translate, albeit with some lag, to a corresponding improvement in mortgage demand.

1.10 Potential for Drawdown of Housing Equity

A related issue here pertains to the extraction of housing equity, which has received consideration attention in the US, in particular, given its positive impact on consumption spending and overall economic growth. This was especially so against the current backdrop of low interest rates, which has spurred housing demand and prices. In addition, conducive monetary conditions may also serve as a conduit for higher spending via increased mortgage and re-financing loans.

In the case of Singapore, there is reason to believe that, while the impact of a low interest rate environment on the economy and the housing market are broadly similar, such effects are likely to be more muted in the domestic context. Particularly at the current stage of the property and business cycle, the effect of the (still) low mortgage rates has been to support - rather than boost - housing demand and prices, by easing the recurrent cash outlay burden of households in servicing their mortgages. This effect would be enhanced to the extent that homeowners are taking advantage of the attractive packages on mortgage re-financing on offer by the banks. However, results from our Residential Property Model (see Section 2 below) suggest that interest rates have historically had a limited impact on housing demand in Singapore, much of which stems from the institutional set-up here.

The first relates to the high percentage of HDB (public) households in Singapore. Presently, nearly 90% of Singaporeans live in HDB homes. While re-financing of HDB mortgage loans is permitted (for instance, altering the tenor of the loan), both HDB and private banks are not permitted to facilitate HDB homeowners drawing down on their existing housing equity (i.e. 'cashing out' on their property). Nonetheless, this might have some positive cash flow effects, by freeing up some additional disposable income insofar as their monthly mortgage payments are reduced. Any wealth effects from housing on consumption spending would therefore be largely confined to the private residential segment. Furthermore, the relatively low concessionary rate offered by HDB also reduces the incentive for HDB owners to seek re-financing with commercial banks.

Second, while it is possible for private homeowners to draw down on their housing equity by obtaining a term loan/overdraft (above and beyond the mortgage loan), this is likely to be limited for a number of reasons:

- The leasehold nature of the majority of private residential property in Singapore means that the intrinsic value of such property may generally be expected to decline over the tenor of the loan, thereby reducing its value as collateral.
- With housing prices having remained flattish in recent years, the amount of additional credit that can be obtained is likely to be limited, although this channel could yield significantly more credit during a run-up phase of the property cycle.

Such institutional factors suggest that, on balance, housing wealth effects are relatively muted in the domestic residential market, particularly given the

current weakness in property prices. There are no avenues for homeowners to draw down upon existing housing equity, except in the case of private property, which is subject to the constraints outlined above, and which accounts for a relatively small proportion of the Singapore residential market.

2. Inferences from Property Price Model

In this section, an econometric analysis using a broad framework of the IMF house price model (2004) is estimated for Singapore's property price market. Our results suggest that the model fits private residential property prices and that demography and disposable income greatly influence property price movements in Singapore.

The section also provides an econometric analysis of private property prices, by identifying the economic factors that drive price movements over the long-term.

2.1 IMF House Price Model 2004

Recently, the IMF has put together a house price model⁵ to assess the extent to which fundamentals help explain the recent run-up in house prices in some of the industrial countries around the world. Their model confirms that the growth rate of real house prices, in any given country and period, is explained by the following factors;

- i. Past growth rates of real house prices. This indicates persistence in growth rate of house prices.
- ii. Past housing affordability ratio. The housing affordability ratio is measured as the ratio of real house prices to per capita real income. This ratio implies that the growth rate of house prices shows long-run reversion to fundamentals. In other words, prices would tend to fall when they are out of line relative to income levels.
- iii. Income growth. The IMF model shows that real income per capita is very significant in explaining house price movements.
- iv. Other economic fundamentals. These include growth rate of real credit, mortgage debt, past growth rate of real stock prices, and population growth.

5. World Economic Outlook, September, 2004.

The advantage of the IMF model is that it offers an opportunity to extract a robust underlying relationship which has been validated over a broader and richer data set of country experiences. The model has also been subjected to comprehensive diagnostic testing. We use the parameter coefficients estimated by the IMF model to assess where Singapore's real property price index is relative to that "predicted" by the set of macroeconomic variables mentioned above. The variables used in the IMF model and the corresponding proxies for Singapore are shown in Table 1.

Table 1: Corresponding Data Set for Singapore

<i>Variables in IMF Model</i>	<i>Variables for Singapore</i>
<i>House Prices</i>	<i>Private residential property price index</i>
<i>Real Income (per capita)</i>	<i>Real GDP divided by total population</i>
<i>Real Credit</i>	<i>Total housing loan</i>
<i>Mortgage Debt</i>	<i>3-month interbank rates</i>
<i>Population Growth</i>	<i>Y-O-Y % change in total population</i>

The estimated coefficients of the IMF model for a sample of 18 industrial countries over the period 1981 to 2004 are shown in Table 2.

Table 2: IMF's Summary of Empirical Results (1981-2004)

Explanatory Variables	Coefficients*
Lagged real house price (growth)	0.521
Lagged housing affordability ratio	-0.144
Real disposable income per capita (growth)	0.530
Short-term interest rate (%)	-0.507
Real credit (growth)	0.109
Lagged real stock price (growth)	0.033
Population growth	1.754

*IMF found all coefficients to be significant at the 1% level.

The computed private property price index for Singapore using the IMF estimated coefficients is shown in Chart 7. Remarkably, the model estimated by the IMF for 18 industrial countries (excluding Singapore) was able to explain movements in Singapore's property price index rather well.

Chart 7: Real Property Prices in Log Levels

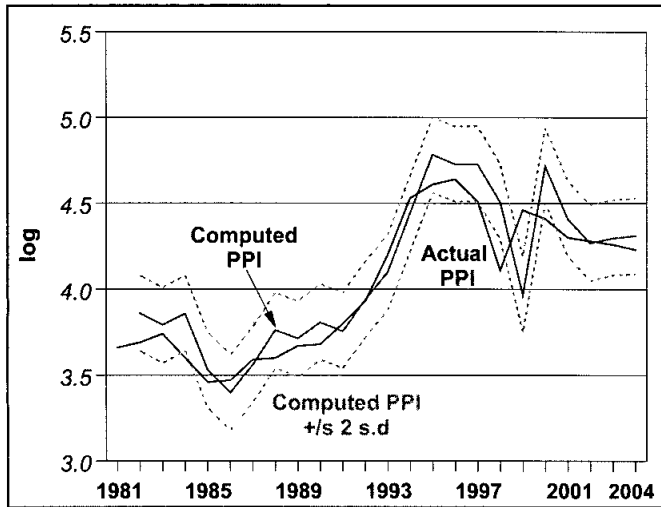


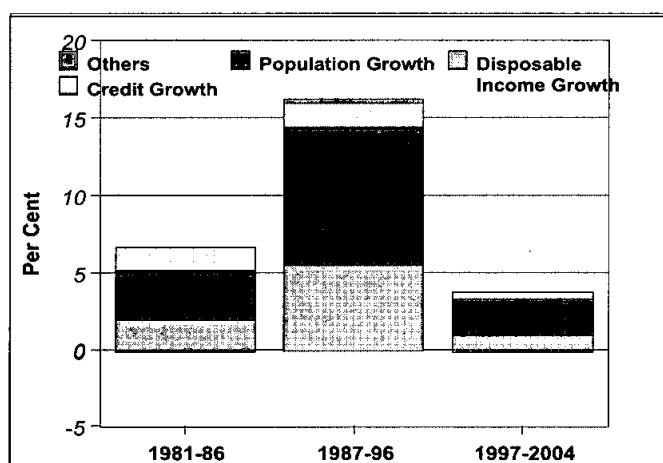
Chart 8 below decomposes average residential price movements over the three phases identified in Chart 1, into percentage point contributions of the key explanatory factors identified by the models; namely income, demographic factors and credit. A number of observations can be made.

- The average growth rate of private residential prices in the second phase exceeded those of the first and current phases by some 2.5 and four times respectively.
- The relative contributions of disposable income vary considerably in each of the three phases, reflecting in part the prevailing strength of the broader economy. For instance, disposable income contributed just 2% to the price appreciation in the first phase, in line with the economic recession during the mid-1980s, compared to 5.5% during the rapid economic expansion which characterised the second phase.
- Similarly, the supportive demographic conditions prevailing in the second phase are manifested in the relatively large contribution (8.9%) of population growth

to the price run-up during the period. This corresponds with the much smaller contributions of 3.1% and 2.4% in the first and most recent phases respectively.

- Support from the credit channel appears to have tapered off over the years, possibly reflecting in part the enforcement of the 80% financing limit since 1996.
- Notably, demography and disposable income factors account for more than 80% of price movements in all three periods.

Chart 8: Key Driving Factors of Private Property Prices



Before turning to an outlook of supporting factors in the property market in Section 3 below, we provide a brief overview of monetary policy and property prices in Box Item A.

Box Item A

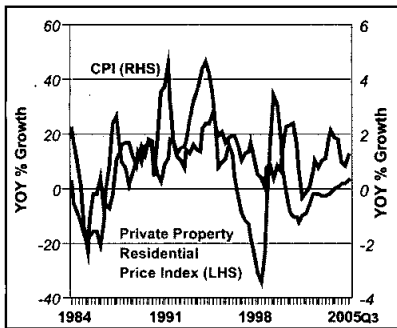
Property Prices and Monetary Policy

Asset price inflation in industrial economies had been a good leading indicator of conventional CPI inflation in the 1970s and early 1980s. The relationship, however, appeared to have changed during the mid- to late-1980s, probably as a result of the confluence of financial innovations and deregulation, changes in the tax system, demographic shifts, and other structural changes.

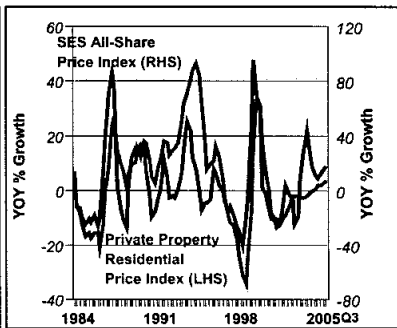
Empirical evidence suggests that, in Singapore, there is a weak contemporaneous correlation between CPI inflation and property price inflation (correlation coefficient of 0.39), and a stronger contemporaneous correlation between stock and property price inflation (0.57). (See Charts A1a and A1b)

Chart A1

(a) CPI and Property Price Inflation



(b) Property and Stock Price Inflation



The relationship between consumer and asset price inflation is a tenuous one as there are uncertainties concerning the direction of causality between monetary policy and asset prices. Moreover, movements in monetary variables such as money supply could be attributed to fluctuations in asset prices and other economic variables, and vice versa.

The different speeds of adjustment of asset prices and goods prices to monetary policy may pose a serious policy dilemma for monetary authorities, especially if both asset and goods prices were chosen as targets of monetary policy. A tightening consistent with stability in the asset markets may risk excessive deflation in the goods market and hence in the real economy.

Even if asset prices were indeed anticipatory of future inflation, they may incorporate reaction functions to expectations of future monetary policy stance rather than current policy stance. Price stabilisation then becomes a difficult credibility game, probably much more complicated than stabilising the current value of a composite index of asset and goods prices.

Changes in asset prices could also be due to exogenous changes in time preferences, expected productivity or risk premia. As such, they should not guide monetary policy to the point of risking a damaging resistance to these rational and non-transitory changes.

For these reasons, financial stability is thought by a number of commentators to be more appropriately the province of supervisory/prudential policy rather than monetary policy. This would not only reduce the number of end-objectives on which monetary policy might be brought to bear, and thus improve its effectiveness on these fewer areas, but it would have the added advantage of leaving asset markets more resilient to any tightening in monetary policy.

At the least, asset prices could be a useful supplement to the array of economic indicators monitored by central banks in the conduct of monetary policy.

In Singapore, the government has acted to moderate the price appreciation of private residential properties and curb speculation in the property market by introducing various sets of prudential and fiscal measures for example in May 1996 as described in the main text (see Section 1.5).

3. Assessment of Support Factors Going Forward

In this section, we turn to assess the support factors underpinning the market going forward. In keeping with the framework adopted in the earlier analysis, we consider the macroeconomic, demographic and policy-specific factors, upon which the residential market outlook hinges. The assessment suggests a somewhat less favourable environment over the near to medium term, in sharp contrast to the supportive confluence of positive factors which set the stage for the housing boom in the early 1990s.

In contrast to the positive confluence of factors in the 1980s and 1990s, including macroeconomic conditions, demographic factors and policy changes, the fundamental support for private property prices going forward is likely to be less favourable. Income growth, household formation, immigration, unemployment and interest rates are likely to be congruent with a more modest pace of property price appreciation in the medium term. Furthermore, with the home ownership

rate at 93%, the potential pool of new demand (from existing tenants transiting to private housing ownership) is likely to be substantially smaller over the medium term.

We now briefly discuss the underlying factors that will support the evolution of equilibrium private property prices going forward.

3.1 Macroeconomic Conditions

First, macroeconomic conditions have generally become less conducive to run-ups in residential capital values. Whereas the sustained appreciation of housing prices during the first half of the 1990s took place against the backdrop of an average annual economic growth of 9% p.a., real GDP growth has slowed in recent years to an average of less than 3% p.a. since 2001, and is projected to average around 3-5% over the medium term horizon. As evidenced by the IMF model described in Section 2.1, real income is a substantial determinant of housing prices, and as such, the more modest economic growth going forward should have a dampening effect on residential activity, compared to levels in the early 1990s.

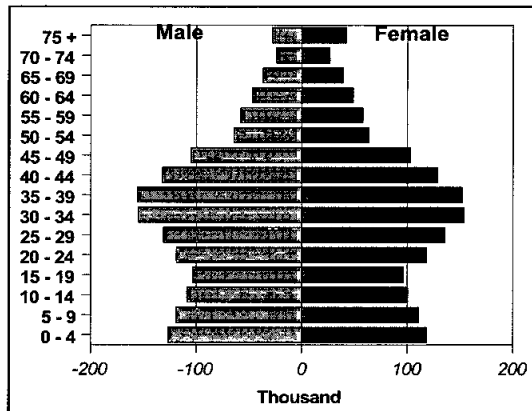
In addition, house-buying sentiment is likely to be capped by the greater uncertainties prevailing in the domestic labour market. In contrast to the relatively benign unemployment situation that characterised the housing boom years of the 1990s, there has been evidence that a greater degree of unemployment has emerged in the system, and which is likely to remain entrenched for some time to come. In particular, as Singapore transits to a more knowledge-intensive economy, these ongoing structural adjustments have resulted in an increasing trend towards higher structural unemployment in the domestic labour market. Indeed, internal estimates of Singapore's natural rate of unemployment indicate that it has risen considerably from about 2% during the high-growth phases of the 1990s, to about 3-3.5% at present. Increasing uncertainty over job prospects and a more competitive regional landscape could also reduce the incentive for young couples to make long-term property commitments.

3.2 Demographic Factors

Second, there are reasons to believe that many of the demographic factors which supported the housing boom in the 1990s would not be as favourable going forward.

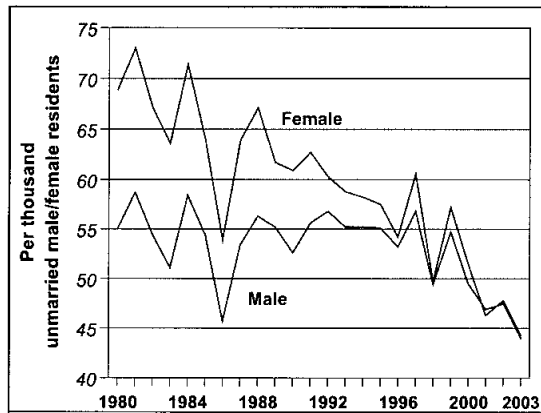
In particular, the bulge in the proportion of the resident population falling within the typical “house-buying” age experienced during the 1990s would no longer be present, as the baby boomers move on into the 45-60 age group over the next 5-10 years. (Chart 9) Most projections suggest that the segment of the population falling within the 25-39 age cohort – which shows the largest propensity to purchase new properties – will grow at a considerably slower rate over the medium term.

Chart 9: Resident Population, 1995



Furthermore, marriage rates have been on a downward trend, contributing further to weakening demand for private property (Chart 10).

Chart 10: General Marriage Rate



3.3 Support from Foreign Buyers

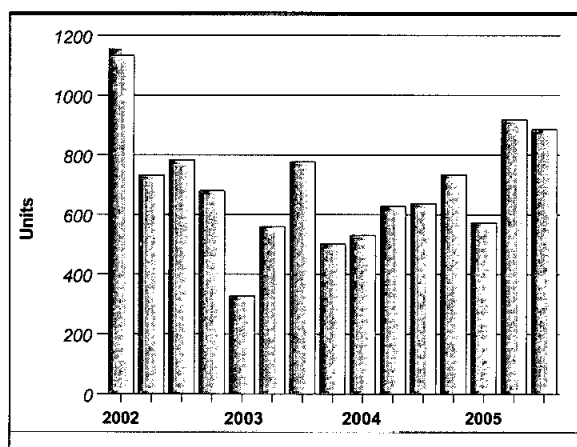
Following the latest round of property market changes (Annex 3) where home ownership for foreigners was relaxed, attention has turned to the participation of foreign buyers in the private residential market. Indeed, as Chart 11 shows, foreign purchases of private homes have been on a steady rise since end 2003 and have reached a three year peak in Q2 2005.

There is also anecdotal evidence that the recent increase in demand from foreign investors (who consider luxury homes in Singapore to be undervalued, in contrast to the sharp gains seen in Hong Kong, Shanghai and Bangkok) has provided support to the high-end private residential property market - the number of foreign buyers buying high-end homes rising at a faster pace than local buyers⁶. Foreign buyers, as a whole, made up around 25 per cent of 8,604 caveats lodged for non-landed homes, excluding executive condominiums, for the first nine months of this year, up from 21 per cent of 9,234 caveats for the whole of last year. Caveat data from the URA also showed that from January to September this year, more than 19 per cent of foreign buyers sealed deals for homes costing more than \$1.5 million per unit, when just 5 per cent of Singapore's buyers did so. The strong foreign uptake in recent high-end projects such as Tower Two of The Sail @ Marina Bay, with as much as 30% of the buyers reportedly coming from countries such as China (and Hong Kong), Indonesia and India drives home the point that foreign buyers are playing an increasingly bigger role in propping up the private home market.

Going forward, the under-valued private home prices, the positive impact of the development of the two integrated resorts, and the relaxation of foreign home ownership in July are expected to add to the attractiveness of Singapore homes and this augurs well for foreign demand of private residential property.

6. Joyce Teo. (2005), "Indian nationals snapping up more condos in S'pore", *Business Times*, 1 Nov 2005.

Chart 11: Foreign Purchases of Private Residential Property



4. Conclusion

The prevailing softness in the Singapore residential property market can be sharply contrasted against the sustained run-up which characterised the market during the first half of the 1990s. Just as the run-up in prices was supported by favourable macroeconomic and demographic factors, as well as speculative pressures, the weakness in property prices since 1996 reflected greater macroeconomic volatility arising from the series of shocks buffeting the Singapore economy, as well as the introduction of anti-speculative measures and other policy changes, weighing down home buying sentiment and property prices. The importance of these factors was corroborated by results of our econometric analysis, based on a model by the IMF, which find that demographic and disposable income factors account for some 80% of housing price movements in the domestic residential market.

More recently, there have been some signs that the prolonged weakness in the property market may have abated. Excess housing inventory has been trimmed to a historical low, while residential property prices have seen steady – albeit modest – increases since the middle of 2004. The improvement in foreign buying activity, which has recovered significantly in recent months after tapering off dramatically following the Asian financial crisis in 1997, has provided some support to the recovery. The relaxation of home financing rules, as part of the policy changes announced in July this year, could also lend further boost to home buying activity going forward, although this has yet to manifest itself in recent months.

In the medium term, slower economic growth and less favourable demographic profile will moderate the extent of property price increases. In particular, economic growth is projected to average around 3-5% over the medium term, compared with the robust economic growth of around 9% p.a. in the first half of the 1990s. The generally less buoyant labour market has also contributed to weaker housing demand. On the demographic front, the expansion of the skilled foreign labour pool has slowed, while the proportion of the residential population falling within the typical "home buying" age group is also expected to grow at a more modest pace.

References

1. IMF, (2004), World Economic Outlook.
2. MTI, (2001), Economic Survey of Singapore.

**SELECTED POLICIES WHICH MAY HAVE CONTRIBUTED TO
INCREASED HDB DEMAND IN THE 1990S**

Year	Policies implemented	Impact on new HDB demand
1985	Lessees would be able to sell their existing flats on the open market after five years of physical occupation, subject to a resale levy amounting to 10% of the resale price for 3-rm, 15% for 4-rm and 20% for 5-rm or pay no levy but purchase the second flat from HDB at a price 10% higher than the normal HDB selling prices.	The policy objective was to reduce the market subsidy for the second flat bought from HDB at subsidised prices. Nonetheless, the option of purchasing a second new flat from HDB at even 10% higher than the normal price was a potential loophole, as the price appreciation of resale flats during the period in 1991-97 was significantly larger than the price of new flats. Speculators could still expect to reap a substantial profit after five years, even if they bought the new flat at 110% of the normal selling price. Furthermore, the period of compulsory physical occupation, before the owner could upgrade to a new HDB flat appeared to be too short.
1985	All lessees of HDB/HUDC flats were previously required to physically occupy their flats for at least five years before they can sell their flats in the open market. Under the revised policy, lessees who purchase their flats from the open market are allowed to resell the same flat in the open market without having to pay any levy after 30 months of physical occupation.	The potential impact stemmed from the ease of locking in a return in the resale market as the buyer was only required to stay in the flat for 30 months before selling it again in the open market. This could generate more transaction activities, driving up prices of resale flats.
1986	Under the previous selection of flats system, there was no restriction on the number of times an applicant was called to select flats. Under the revised procedures, an applicant for the purchase of an HDB flat will be allowed a maximum of three opportunities to select a flat.	The revised policy was meant to cut down the queue. However, speculators still would have three opportunities to select a flat, which could have lengthened the queue substantially.

1987	To encourage families to have a third child, families would be given a waiver of the five-year occupation period if they intend to sell their present flat in the open market to upgrade to a private residential property or a bigger HDB flat.	This generated an additional source of demand for new flats, while facilitating the transaction for some existing resale flats.
1989	The income ceiling was removed for those who wish to purchase HUDC flats and HDB resale flats. Lessees of HDB and HUDC resale flats are also allowed to own private property for investment purposes.	This created an additional potential source of demand for resale flats, as private homebuyers could have "treated" the resale flats as an investment. With the removal of income-ceiling for resale flats, this unleashed the potential demand from those previously not eligible.
1991	Homeowners who bought directly from HDB could also invest in private properties after the minimum period of five-year occupation, provided they continued to live in their flats.	This allowed another avenue for speculation in the private property market, in view of the sharp run-up in private residential prices in the mid 1990s.
1992	Rules on the eligibility of Permanent Residents to purchase resale HDB flats were further relaxed.	Given a population of 100,000 permanent residents as at 1990, the revised policy would have unleashed an additional source of demand for HDB resale flats.
1992	HDB provided a mortgage facility of up to 80% of the lower of either value or declared price of the resale flat. At the same time, sellers who were concurrently buying another resale flat were allowed to contra the cash proceeds from the sale of their existing flat to help pay for their second one.	Such credit arrangements further encouraged transactions in the resale market.
1994	The income ceiling for the application of new HDB flats was revised upward to \$8,000 per month in 1994.	This enabled more consumers to be eligible to apply for new HDB flats. Coupled with the rapid resale price appreciation during this period, more consumers within the upper income bracket would be eager to apply for a new flat to earn the attractive returns.

1994	The CPF Housing Grant Scheme was introduced to encourage parents and their married children to live near each other. Under this scheme, a grant of \$30,000 would be provided to first-timer flat buyers on purchase of a resale flat within the same town or within two kilometers of their parents'/married child flat. The grant would also be given to parents and their married children buying a resale flat together.	This enhanced the attractiveness of resale HDB flats. The policy objective of the housing grant scheme was to divert some of the high demand for new HDB flats to the resale market, but may have led to some over-heating in the resale market.

EARLIER ROUNDS OF CPF POLICY CHANGES

i. Announced in Aug 2003

Policy	Impact on housing demand
The employers' contribution to individuals' CPF accounts was reduced from 16% to 13%. The total contribution rate would be cut by 6% points from 33% to 27% (by 1 Jan 2006) for workers in the age group of 50-55, with the changes to be phased in gradually.	The reduction would likely have a minimal impact on residential purchases. For new flat buyers, HDB estimated the time required to accumulate the 20% downpayment using CPF savings would increase by 6-8 months as a result. Over the longer term, however, the more substantial overall reduction could lead to more modest investment in housing, in line with the diminished capacity to service hefty mortgage repayments using CPF funds.
The amount set aside under the Minimum Sum (which cannot be used for property purchases) will progressively be raised from S\$80,000 to S\$120,000 by 2013.	These measures effectively lower the amount of CPF funds available for use to fund property purchases, and would likely exert a larger impact on lower income buyers/owners who may have to top up their accounts to the required Minimum Sum. This could have some negative implications for demand at the lower end of the housing market.
The minimum amount to be set aside in the Medisave account will be progressive increased from 0\$ at the time of the policy announcement, to \$25,000 by 2013.	
The monthly income ceiling for CPF contributions would be gradually lowered from the prevailing \$6,000 to \$4,500 by 1 Jan 2006. Any income above the prescribed ceiling would not incur contributions either by the CPF member or by the employer.	As with the previous two changes, the lower income ceiling considerably reduces the availability of CPF funds which can be drawn upon to service mortgage payments. Members earning monthly incomes above the reduced ceiling would no longer have to contribute part of the "excess" amount to CPF balances. Buyers/owners whose monthly mortgage obligations exceed the monthly contribution to CPF may therefore have to meet part of their loans obligations in cash. This could lower property buying appetites, as there is generally an aversion to service mortgage payments using cash.

The maximum withdrawal from the combined CPF Ordinary Account (OA) and Special Account (SA) by members aged 55 would be reduced over time, from the prevailing 50% to 0% by 2013, when individuals would only be permitted to withdraw what is available over and above the CPF minimum sum of \$120,000 and the \$25,000 Medisave balance.	Given the relatively long tenor of housing loans in general, the reduced maximum withdrawal at age 55 could still impact homeowners who have outstanding mortgage obligations. As with the move to set aside a greater Minimum Sum, this will likely have a greater impact on those who do not have substantial savings to fall back on when the policy comes into full effect in 2013.

ii. Announced in July 2002

Policy	Impact on housing demand
Under the revised rules pertaining to the Available Housing Withdrawal Limit, the total amount withdrawn from the CPF towards payment for the principal and interest charges will be reduced from the prevailing 150% of the valuation limit (VL)⁷ down to 120% by 1st Jan 2008. CPF balances could be used since 2002 to pay for half of the 20% cash downpayment. Previously, the entire 20% downpayment must be paid for in cash.	This policy change was intended to ensure that the amount of CPF funds committed to property purchases was not excessively above the value of the property. It aimed at instilling financial prudence among CPF members, so that they would not become over-extended in terms of property exposure at the expense of their retirement savings. This policy revision considerably reduces the availability of CPF monies for repayment of mortgage loans, and can become a serious financial hurdle for some households especially towards the end of the tenor of the mortgage when the CPF limit has been reached and mortgages have to be paid for in cash. It is unclear at this stage to what extent this 120% valuation limit has been factored into house buying decisions. This was introduced along with the move to give banks first claim to mortgaged properties, in the event of a borrower default. It was widely expected to be positive for housing demand – particularly young first-time homebuyers – by substantially easing the entry barrier. In the event however, transaction volumes declined in the months following the announcement, as sentiment was dragged down by the US-led war in Iraq and the onset of the Sars virus.

7. The valuation limit refers to the purchase price or valuation of the property at the time of purchase, whichever is lower.

SELECTED RECENT PROPERTY MARKET POLICY CHANGES

i. Announced on 19 July 2005

Policy	Impact on housing demand
With immediate effect, the Loan-to-Value (LTV) limit for housing loans will be raised from 80% to 90%. This is applicable for both bank originated and Housing and Development Board (HDB) housing loans. With immediate effect, the minimum cash payment for private residential properties will be reduced from 10% to 5%. The remaining 5% can be paid with CPF savings. For HDB buyers, the cash downpayment – now at 4% and slated to be increased to 10% in 2008 – will be capped at 5% from 1 January 2006.	Of the entire package, these twin changes would be the most significant in improving affordability and liquidity for potential buyers. The majority of buyers who are enticed to commit to property after the policy change are likely to be first time home buyers who were previously unable to fork out the 10% cash downpayment. Another effect of raising the LTV limit and lowering the minimum cash quantum is that buyers who already have sufficient cash to meet the 10% cash payment would now be able to buy upwards. On the downside, these two changes may, to some extent, undermine the leasing market. This is because with low cash downpayment, low to mid-budget tenants may find it financially more attractive to buy rather than rent.
With immediate effect, CPF board will allow its members to use their CPF savings to purchase private residential properties with remaining leases of 30 – 59 years. CPF withdrawal limits for the purchase of such properties will be pegged to the age of the purchaser and the remaining lease of the property.	This could rekindle interest in older properties under 60 years of lease, although demand is more likely to be limited to buyers around retirement age who want to reduce their expenditure on their homes to set aside more money for retirement. Other effects of this policy change are that the rate of depreciation for leasehold properties would be reduced, and valuation of properties with remaining leases of less than 65 years will rise given the pool of potential buyers is expected to rise, with the availability of funding possibilities from CPF savings.
With immediate effect, foreigners will be able to purchase apartments in non-condominium developments of less than six storeys without the need to obtain prior approval. However, they still need approval to buy landed property.	With a wider range of residential properties available, the likelihood of successful sales will be enhanced. This is likely to provide a boost to foreign purchases, especially in the upmarket segment, though as developments of less than six storeys form only a small percentage of Singapore's total residential stock, the impact on demand is not expected to be too significant.

CHAPTER 8

HOUSING AND MORTGAGE MARKETS IN SRI LANKA

by
K.D. Ranasinghe

1. Overview

1.1 Macroeconomic Characteristics

Sri Lanka is a small open economy with a land area of 65,610 sq. km. and a population of 19.5 million in 2004. The population is growing at about 1.1 per cent per annum. Population density was 310 persons per sq. km in 2004 and the urban population was 24 per cent. The per capita income was US dollars 1,031 in 2004. Despite a series of domestic and international shocks including the civil war in the North and the East of Sri Lanka since 1983, Sri Lanka has made considerable economic progress maintaining an average growth rate of 5 per cent during the last three decades. Sri Lanka's social indicators such as life expectancy, literacy and mortality rates are also well above those in comparable developing countries and are on par with many developed countries. In terms of the Human Development Index (HDI) Sri Lanka ranked 96th with an index of 0.740 among 177 countries, in 2002.

The structure of the economy is transforming from an agricultural economy to a more service based economy. The agriculture sector share in the GDP has fallen from over 40 per cent at Independence in 1948 to 18 per cent in 2004. Industrial sector share in the GDP has increased gradually to around 27 per cent, while the services sector share has increased to 56 per cent by 2004. Liberalisation, private sector participation, modernisation and increased competition have contributed to the expansion of the services sector.

Current macroeconomic policies are geared to achieving sustainable high economic growth with macroeconomic stability as well as greater regional and income equality. Policies are market oriented and outward looking with both public and private sectors playing essential roles in the economy.

1.2 Relevance of Housing Market Development

Housing is a basic need and has wide-ranging economic and social benefits. Expansion of housing stock fuels economic activities and generates employment.

Housing conditions are regarded as a measure of economic development and prosperity. Homeowners accumulate wealth as the investment in their homes grow, enjoy better living conditions, are often more involved in their communities and have children who do better in school and are less likely to become involved with crime (Joseph Harkness, 2002). The Millennium Development Agenda of the UN has recognised the importance of expanding housing services. The Target 11 under the Millennium Development Goals (MDG) is 'Achieving significant improvements in the lives of at least 100 million slum dwellers by 2020'.

The housing market has seen fast improvement in Sri Lanka since 1980s with the active participation of both the government and the private sector. However, housing aspiration of about 5 per cent of the population is yet to be fulfilled and there is a large number of houses, which need improvements. This emphasises the need of accelerating the provision of housing facilities in order to meeting the back-log as well as the new demand. While ownership of dwellings contributes nearly 2 per cent to the GDP, its contribution to the national economy through the construction, manufacturing and services sectors as well as its role in the labour market is much greater.

Expenditure on housing is the highest single non-food expenditure item in the household expenditure basket. According to the Consumer Finance and Socio-economic Survey (CF&SES) 2003/04, household expenditure for housing purposes constituted 10.7 per cent of the total expenditure. Financial sector exposure to the housing sector has seen an increase. Commercial bank advances to the housing sector, as a per cent of total advances, has increased from 11 per cent in 1990 to 16 per cent in 2005. Meanwhile, some of the Licensed Specialised Banks (LSB), which are dedicated for mortgage lending for housing purposes grants Rs. 7 – 8 billion per annum at present for such purpose. In addition, other LSBs as well as community credit unions, such as Co-operative Rural Banks and Thrift and Credit Societies, also grants loans for housing purposes. Therefore, housing market developments could have significant implications on the monetary and financial sectors of the economy.

2. Housing Sector Overview

2.1 Market Size and Structure

As per the Population and Housing Census of 2001, total population in Sri Lanka was 18,732,000 and the average number of persons per household was 4.1. Accordingly the demand for housing was estimated to be 4,568,780 housing

units. The existing housing stock was 4,350,548 units indicating an estimated national housing shortage of 218,232. Accordingly, the housing supply ratio was 95 per cent in 2001. Further, it has also been revealed that about 30 per cent (about 1.3 million) of the existing housing stock was semi-permanent, improvised or unclassified needing substantial improvements.

The population is growing by an average rate of 1.1 per cent per year at present. However, given the high population growth rates in 1970s and 1980s, the new demand for housing is estimated to be growing by 100,000 – 120,000 units per year. New demand for 2005 – 2010 has been estimated to be around 750,000 housing units (Table 1).

Table 1
Estimated Housing Requirement

Year	Mid-year Population (‘000)	Growth Rate (%)	Estimated New Housing Requirement /s
1992	16,631	1.1	160,500
2000	18,467	1.4	100,500
2001	18,732	1.4	100,000
2002	19,007	1.5	96,500
2003	19,252	1.3	106,000
2004	19,462	1.1	110,500
2005 F	19,657	1.1	112,500
2006 F	19,853	1.1	124,000
2007 F	20,052	1.1	141,000
2008 F	20,252	1.1	137,500

a/ Estimated based on past growth of population

Of the total population, about 24 per cent live in urban areas, where the shortage of housing is very high mainly due to lack of buildable land. Urbanisation is taking place at a rapid pace. By the year 2010, it is anticipated that half of the estimated population of 21 million will be living in urban areas. There is an acute shortage of houses in the city of Colombo, particularly for those who live in under served settlements. There are some 1,500 sites of urban slums and shanties within the city of Colombo in which, 66,000 households dwell. The Sustainable Township Programme (STP) has been introduced in Colombo, under which slum dwellers have been given an opportunity to voluntarily exchange their dwellings and land space for re-housing in high-rise apartment blocks.

About 6 per cent of the total population or nearly 300,000 households live in estates where housing facilities are mainly provided in line rooms. Steps have been taken to upgrade housing facilities in the estate sector, through the Plantation Human Development Trust (PHDT).

The housing stock of the country consists of various types of housing such as single houses, condominiums and flats, attached homes and annexes, line rooms and row houses and shanties. The main type of housing in the country, as revealed by the CF & SES 2003/04 is the single type housing accounting for around 91 per cent of the total houses. Line rooms/row houses in the total housing stock was 3.9 per cent, and mainly consists of line rooms in the estate sector. However, the share of single houses in the estate sector has increased from 10 per cent in 1996/97 to 28 per cent in 2003/04. There is a gradual increase in condominium/flats type of housing especially in the urban sector (Table 2).

Table 2
Type of Houses (All Sectors)

Type of Housing Unit	1986/87	1996/97	2003/04
Single Units	85.2	88.5	91.2
Condominium/Flats	0.9	1.0	1.3
Attached houses/annexes	12.4	9.7	2.8
Line rooms/row houses			3.9
Shanties	0.5	0.3	0.3
Others	1.0	0.5	0.1

Source: Consumer Finance & Socio-Economic Survey 1996/97 and 2003/04

2.2 Impact of Tsunami on the Housing Stock

Sri Lanka was severely affected by the Indian Ocean tsunami of 26 December 2004. It caused extensive damage to more than two thirds of the coastline. About 31,000 human lives were lost, over 4,000 persons reported missing and nearly 550,000 were left homeless. Coastal infrastructure in the affected areas was severely damaged. A total number of 88,500 houses were damaged, of which about 50,000 were destroyed completely or beyond repair. Construction of these houses and renovation of partly damaged houses has commenced with the assistance of NGOs and funds received from donors as well as government funds.

2.3 Determinants of Housing Prices and Rents

Housing markets are unique, because of the very heterogeneous nature of the commodity. Both houses and apartments differ greatly in floor space, design, amount of land surrounding them, age, level of up keep and facilities available and therefore price. Hence, it has been proposed that housing services could be used as the measure to determine price instead of the housing unit itself. Accordingly, firms and other agents supply housing services and not housing units per se. For example, one apartment that has twice the rent of another provides twice as many units of housing service. A slum dwelling is one that yields only few units of housing services.

Housing prices and rent has been rising at a rapid pace in Sri Lanka, particularly during the past 2 – 3 decades. Rapid urbanisation, high inflation and inflationary expectations, rising cost of construction, scarcity of buildable lands and rapid increases of land prices, lack of efficient mortgage markets are the main causes for the current high prices of housing services. However, lack of time series data on the price of housing services hinders proper analysis of housing prices and rent.

2.4 Housing Market and the Supply Side

There are many institutions and agencies, both public and private, involved in the supply of housing. In the public sector, the National Housing Development Authority (NHDA), Urban Development Authority (UDA), Ministry of Fisheries (MOF), the Plantation Human Development Trust (PHDT) and Local Government Authorities (LCA) are the major institutions involved in the direct provision of housing facilities in rural, urban, coastal and plantation sectors. They assist the

construction of houses through provision of plots of lands, financial assistance, building materials and technical assistance. The NHDA is engaged in the provision of housing facilities, especially for the low income segment of the households in the rural areas. The UDA is involved on a limited scale in the provision of housing facilities for the urban poor while PHDT focuses on the provision of housing facilities in the estate sector. The MOF provides housing facilities to the fishing community. These institutions together provide about 25 per cent of the annual supply of housing facilities.

Housing finance facilities are provided by Licensed Commercial Banks (LCB), Licensed Specialised Banks (LSB) and other community level credit unions. State Mortgage and Investment Bank (SMIB), Housing Development Finance Corporation Bank (HDFC) and NDB Housing Bank (NDBH), the dedicated housing mortgage financial institutions and the National Savings Bank (NSB) together contribute to about 25 per cent of the annual supply of new houses. Licensed Commercial Banks (LCBs) also operate housing mortgage lending schemes. LCBs contribute in terms of credit to about 40 – 50 per cent of annual supply of housing. The LCBs and LSBs also participate in some refinance loan schemes introduced by the government with foreign financial assistance. The Urban Development and Low Income Housing Project financed by ADB and Housing Guarantee Low Income Shelter Programme financed by USAID were two such refinance schemes. Under the ADB funded project, a total of 26,750 housing loans had been granted at a concessionary rate of interest during 1999 – 2003.

The Government has introduced a housing loan scheme, called Affordable Housing Finance (AHF) loan scheme for low and middle income households at a concessionary rate of interest. The Government has also introduced a housing loan scheme for Employees Provident Fund (EPF) account holders. Under this scheme, EPF account holders can obtain housing loans up to 75 per cent of the EPF balance as certified by the Fund, subject to repayment capacity. If the applicant is currently not contributing to the Fund, the amount of the loan obtainable is restricted to 50 per cent of the current EPF balance.

There is a rapid increase of private investments in the housing sector, especially in the construction of condominiums and housing schemes mainly for the high and middle income households in the urban sector during the past decade. There are large investments taking place under Board of Investment (BOI). The BOI has approved several major housing projects in recent years. Among these,

there are two major housing complexes, one at Athurugiriya to build 1,575 low-cost to semi luxury housing units and the other at Ekala to build 2,540 units.

2.4.1 Cost of Construction

The cost of construction of housing (for construction materials and labour) has increased about 3 folds since 1990, inhibiting growth of construction of houses (Table 3). Building materials that registered substantial price increases since 1990 are sand (1,070%), timber (568%) and bricks (678%). New environmental regulations are the main reasons for cost escalation of these items. Labour cost has increased by nearly 250 per cent during this period.

Table 3: Cost Indices of Housing Construction

Year	Cost Index (1990=100)
1990	100.0
2000	184.2
2001	204.8
2002	213.9
2003	229.8
2004	254.6
2005 Sept.	303.6

Source: ICTAD

2.5 The Secondary Mortgage Market

A secondary mortgage market is almost non-existent in Sri Lanka. As a result, housing finance institutions are facing serious liquidity problems due to lack of long term sources of funds at a reasonable cost. At present, these institutions are operating with the funds raised through floating debentures and certain refinance schemes funded by donor agencies or through the central government budget. However, even without a proper legal and institutional framework for secondary mortgages, there have been a few such transactions in the recent past. Therefore, it is essential that a secondary mortgage system is established for primary mortgage lenders with the necessary legal and regulatory

framework. It is expected that primary mortgage lending could increase by as much as 75 per cent if an efficient secondary mortgage market is available.

3. Housing Policy

3.1 Housing Development Policy

Government intervention in the housing sector was at minimum level prior to 1970s. The National Housing Act No. 37 of 1954 provided the basic legal framework for housing development. The National Housing Department provided assistance to low income groups for construction of houses by providing lands and some financial assistance. Private sector participation remained very low, and individual housing starts were largely based on private savings. The Ceylon State Mortgage Bank (CSMB) established in 1931 provided mortgage loans, including housing construction especially for middle and high income groups.

During the 1970 – 1977 period, the Government recognised the need for improving housing facilities, particularly in the urban sector and introduced measures to ensure housing and tenure rights. The Government also initiated direct construction of houses in the urban sector, particularly to address housing needs of government officers and low and middle income households.

A more focused approach was adopted for housing development after 1977. In addition to direct provision, creation of an enabling environment for community participation, self-help programmes, recognition of the role of local authorities and establishment of nation-wide housing programmes were measures introduced to enhance homeownership. Major housing programmes implemented during this period were the one hundred thousand housing programme, the one million housing programme and the 1.5 million housing programme. These programmes included sub- programmes such as the village model housing programme, rural housing programme, direct construction and public servant quarters as well as private construction of houses.

Creation of an enabling environment by introducing necessary legal, institutional, financial and technical support helped people to improve their own houses under the above programmes. The establishment of the National Housing Development Authority (NHDA) and Urban Development Authority (UDA) with regional offices and linking them with Local Government Authorities created an effective institutional framework for successful implementation of housing programmes.

A large number of families were settled under various irrigation and settlement schemes implemented by the Government since independence. The Galoya and Mahaweli irrigation and settlement schemes were two major ones. The government helped construction of settlers' houses in these settlement projects. Nearly 100,000 families have been settled under the Mahaweli Project alone.

An increased participation of the private sector in the provision of housing is seen since 1990s. Government intervention continued in the provision of housing facilities for the low income groups especially urban renewable housing programmes and urban settlements improvement programmes, while private sector was active in providing housing facilities for middle and high income segments.

The Government's role in the provision of housing at present has shifted away from direct intervention to supporting the private sector and individual house builders. Accordingly, the following strategies have been identified for implementation.

- Addressing the issue of buildable land
- Mobilising housing finance
- Provision of infrastructure and services
- Promotion of cost effective technology
- Fast tracking the approval procedure

The following institutions are involved in the implementation process. The Ministry of Housing and Construction plays a guiding, facilitation and regulatory role.

a) National Housing Development Authority (NHDA)

The NHDA pays great attention to the realisation of housing needs of the rural masses which have no source of regular income. It mainly implements the Model village housing programme, the estate housing programme and the direct construction programme.

b) Centre for Housing Planning and Building (CHPB)

CHPB provides advisory services in the planning, design and building of houses and promotes cost effective housing options.

c) Housing Finance Banks

The State Mortgage and Investment Bank (SMIB), Housing Development Finance Corporation Bank (HDFC), and NDB Housing Bank are mainly

engaged in lending for housing purposes. The SMIB was established in 1975 by amalgamating the Ceylon State Mortgage Bank (CSMB) and Agricultural Industrial Credit Corporation for mortgage lending, the Housing Development Finance Corporation Bank (HDFC) was originally established as a building society in 1984 under the National Housing Act of 1956 and subsequently converted to a public corporation in 1987. It operates as a licensed specialized bank since 2003. The NDB Housing Bank is a private LSB.

d) The National Building Research Organization (NBRO)

The NBRO undertakes research on alternative construction materials, establishing standards for construction materials, quality assurance and is also involved in human settlement planning.

3.2 House Ownership and Land Tenure

3.2.1 House Ownership

As per the CF&SES 2003/04, around 90 per cent of the houses in the country were self-owned. This proportion is very high at around 95 per cent in the urban and rural sectors while it is very low at around 21 per cent in the estate sector. The category of government or employer owned houses is high around 74 per cent in the estate sector. However, the self owned houses in the estate sector have increased from 10.2 per cent in 1996/97 to 21.5 per cent in 2003/04 (Table 4).

Table 4: Type of Ownership of Houses by Sector (2003/04)

Type of Ownership	Urban	Rural	Estate	All Sectors
Own house	82.9	94.3	21.5	89.2
Owned by Govt./Employer	3.2	1.0	74.1	5.0
Leased in/rental	8.5	1.7	0.2	2.5
Free of rent	5.0	2.9	4.2	3.2
Other	0.5	0.1	0.0	0.1

Source: Consumer Finance & Socio-economic Survey 2003/04

3.2.2 Land Tenure

According to the CF&SES 2003/04, around 91 per cent of households have some type of land ownership and the balance 9 per cent does not own any type of land. The share of land ownership is significantly higher at 96 per cent in rural areas, while this is very low at 20 per cent in the estate sector (Table 5).

Table 5: Land Ownership of Households by Sector

Sector	Households with any type of land (%)
Urban	89
Rural	96
Estate	20
All sectors	91

3.3 Taxes, Levies and Charges

There are various taxes, levies and charges for housing transactions. Major taxes, charges and levies are as follows.

- **Housing finance institutions**
 - Corporate profit tax at a concessionary rate of 20 per cent
 - Value added tax of 15 per cent on the profit
- **House builders**
 - Stamp duty on gift and transfer of land
 - Gift : first Rs. 50,000 at 4 per cent and at 3 per cent on the balance
 - Transfers : first Rs. 100,000 at 5 per cent and at 4 per cent on the Balance
 - Lawyer's fee: 1 – 3 per cent of the value of the gift / transfer
 - Title report: Lawyer's fee between Rs. 1,500 – 2,500
 - Local government authority charges :
 - Street line report charge
 - Plan approval charge

- UDA charges
- Letter of Conformity charges

3.4 Government Subsidy Schemes

Government has introduced a wide range of subsidy schemes with a view to promote homeownership in the country. These subsidy schemes are operated directly as well as through financial institutions.

- **Housing finance institutions**
 - Profit tax at reduced rate of 20 per cent. Standard rate is 30 per cent.
 - Capital gain tax has been abolished in 2002
- **Investors**

Housing projects with not less than 25 units are eligible to receive following incentives under the Board of Investment (BOI).

 - Tax holiday period of 5 years
 - Thereafter a concessionary rate of profit tax of 10 per cent for two years
 - Profit taxed at a concessionary rate of 20 per cent thereafter
 - Import of capital goods are exempted from the customs duty
- **House builders**
 - Interest payment on housing mortgage loans is tax deductible
 - Capital repayment is considered as a qualifying payment up to a certain limit
 - Interest subsidy for some low and middle income housing programmes
 - Affordable Housing Finance (AHF) loan scheme – subsidy component is 3 per cent
 - Housing loan scheme refinanced by the EPF – loans provided at 4 per cent per annum
 - Housing loans to government employees: 5 year salary advance, subject to maximum of Rs. 20 million at an interest rate of 4 per cent per annum.
 - Housing loans to employees of government owned institutions: Various housing loan schemes are operated by these institutions at highly concessionary rates of interest for the benefit of their employees.

4. Housing Finance

4.1 Primary Market Lenders

In the formal financial sector, housing loans are granted by Licensed Commercial Banks (LCB) and Licensed Specialised Banks (LSB).

4.1.1 Licensed Commercial Banks (LCB)

There are 22 LCBs operating in the country. This includes 2 state banks, 9 private domestic banks and 11 branches of foreign banks. Almost all domestic banks and a few foreign banks are active in the housing finance market. The exposure of LCBs to the housing mortgage lending has seen a consistent rise in recent years. Commercial Bank's loans and advances to the housing sector as a per cent of total loans and advances has increased to 15.5 per cent by end June 2005 from 11 per cent in 1990 (Table 6).

**Table 6: Commercial Banks Exposure to the Housing Sector
(1995 – 2005 June)**

Year	Outstanding Housing Loans Rs. Mn.	As a % of total Outstanding Loans	increase of loan amount %
1995	22,180	12.1	13.5
2000	41,881	13.0	17.3
2001	45,767	14.0	9.3
2002	52,804	14.1	15.4
2003	59,984	14.0	13.6
2004	74,409	14.3	24.0
2005 June	85,149	15.5	14.4

Source: Central Bank of Sri Lanka

LCBs have granted 63,000 new housing mortgage loans in 2005 and the total value of these loans was Rs. 14 billion. The average loan amount was Rs. 220,000 (Annex 4).

4.1.2 Licensed Specialised Banks (LSB)

There are a wide range of LSBs including savings banks, housing banks, development finance institutions, and regional development banks. At end 2004, there were 14 LSBs possessing 17 per cent of the total banking sector assets compared to 60 per cent of LCBs. However, among LSBs, the 3 housing banks namely SMIB, HDFC and NDB Housing Bank and the National Savings Bank (NSB) are the active participants in housing mortgage lending. Housing banks and NSB has granted 24,000 housing loans to the total value of Rs. 7.7 billion in 2005 and the average loan size was Rs. 250,000 (Annex 4).

**Table 7: LSBs Exposure to the Housing Sector
(2003 - 2005)**

Year	Amount Rs. Mn.	As a % of Total Loans
2003	7,845	20.4
2004	10,524	22.6

Source: Central Bank of Sri Lanka

4.2 Types of Mortgage Loans

All housing mortgage loans granted by LCBs and LSBs are fixed interest loans. The recovery rate of housing mortgage loans was between 90 – 97 per cent with respect to housing banks and 88 – 95 per cent with respect to LCBs in 2004 (Annex 4). Maturity-wise, nearly 50 per cent of housing loans granted by LCBs are long-term, that is over 5 years (Table 8). In general, the repayment period of housing loans is 15 years, subject to the age of the applicant.

**Table 8: Commercial Banks' Housing Loans
According to the Maturity (2001 – 2005 June)**

Year	Short-term (%)	Medium-term (%)	Long-term (%)
2001	18.4	32.8	48.8
2002	23.8	30.3	45.9
2003	23.9	30.8	45.3
2004	25.8	30.4	43.8
2005 June	23.4	30.1	46.5

Source: Central Bank of Sri Lanka

4.3 Mortgage Backed Securities and Other New Mortgage Finances

Mortgage Backed Securities are almost non-existent in Sri Lanka. In the absence of secondary mortgage markets, housing finance institutions face severe difficulties in securing long-term funds for mortgage lending. This hinders not only housing financing, but also other sectors of the economy such as construction, manufacturing and other services sectors including the capital market. Therefore, it is imperative that the necessary legal, institutional and regulatory framework is established to support the emergence of a mortgage-backed security market. With a mortgage-backed security market in place, the housing finance institutions could reduce their risks of mortgage lending including credit risk, operational risk and liquidity risk.

Development of a secondary mortgage market enables mortgage originators to sell the mortgage loans that they hold as assets to a third party in return of cash. The third party could be a Special Purpose Vehicle (SPV). The SPV could raise funds to purchase the mortgages through the issuance of mortgage-backed securities, which is normally purchased by institutional long-term investors (UN-Human Settlement Programme 2003). The financial system in Sri Lanka appears to have reached the required level of sophistication to introduce mortgage-backed securities to the market.

5. Interrelation with Other Macroeconomic Variables

5.1 Housing Market and the Economy

Housing market development has a profound impact on other sectors of the economy, including the real, external, fiscal and monetary sectors as well as on prices and employment generation. It contributes to the national economy through enhancing the ownership of dwellings, promoting construction and manufacturing industries and expanding the services sector, while behaviour of housing prices can impact on consumption patterns of households. High demand for building materials raises imports, widening the trade gap, but foreign investment in the housing sector would mitigate the overall impact on the balance of payments. As the Government has provided a wide range of tax concessions and subsidies, expansion of housing developments will not generate matching revenue for the Government and tax expenditure could rise. Past experience shows that Government expenditure on direct intervention in the housing sector has been rising. Government's capital transfers to the housing sector were 0.3 per cent of the GDP in 2004.

Table 9
Government Capital Transfers to the Housing Sector

Year	Rs. Mn.	% o GDP	Budget Deficit % of GDP
1990	513	0.16	-9.9
2000	2,061	0.16	-9.9
2001	3,270	0.23	-10.8
2002	3,505	0.22	-8.9
2003	3,249	0.18	-8.0
2004	6,796	0.33	-8.2

Source: Central Bank of Sri Lanka

A gradual increase in the commercial banks' mortgage portfolio is seen since 2001. Mortgage credit as a proportion of total assets of the banking sector has increased from 44.0 per cent in 2000 to 50.7 per cent in 2004. Increased demand for housing mortgages mainly due to lower interest rates and rapid increase in housing and real estate prices were the main reasons for these increases. Lending institutions were also keen to promote housing mortgage loans, as the recovery rate is high in this sector. Further, housing mortgages have a lower risk of default and this helps banks to maintain risk-weighted capital adequacy ratio.

Table 10
Mortgage Credit by Commercial Banks

Year	Total Mortgage Credit (Rs. Bn)	Mortgage Credit as a % of Total Assets	Mortgage Credit as a % of GDP	End year Repo Rates %
1995	175	52.2	26.2	16.5
2000	317	46.8	25.2	17.0
2001	326	44.0	23.2	12.0
2002	375	47.6	23.7	9.8
2003	427	48.2	24.2	7.0
2004	521	50.7	25.7	7.5

Source: Sentral Bank of Sri Lanka

5.2 Housing Market and the Transmission Mechanism of Monetary Policy

The Central Bank of Sri Lanka widely uses market based instruments mainly Open Market Operations (OMO) and Statutory Reserve Requirements (SRR) in the conduct of monetary policy. Under the OMO, the Central Bank influences money supply and market interest rates by changing the policy interest rates. Monetary policy decisions can influence the housing market through the interest rate channel and credit channel. Changes in policy rates, rate increases in particular, will almost immediately raises mortgage rates and this could lead to lower the demand for mortgage loans. The increase in mortgage portfolio of commercial banks since 2002 is partly attributable to decline in policy rates as shown in Table 10.

A large part of annual housing mortgage lending in Sri Lanka is backed by various subsidy schemes, mainly interest subsidies, operated by the Government and public and private sector employers. These interest rates are not frequently revised. Therefore, changes in policy rates will have no impact on these mortgages.

5.3 Housing Prices and Inflation

Increases in housing prices have direct and indirect impact on inflation. Rent is a sub-component in the commodity basket of the Colombo Consumers Price Index (CCPI). Any adjustment to the rent value should lead to change in the consumer price index. However, the rent component in the CCPI has not been updated for a long period of time to measure the price impact. Increases in housing prices will lead to a demand for high valued mortgage loans leading to increase in private credit. The resulting increase in money supply would lead to a demand pulled inflation.

The relatively high inflation in 2005 (the average inflation being 12.1 per cent at end November 2005) is partly due to high demand pressure. The broad money supply (M_{2b}) is growing at around 20 per cent, largely due to the 23 per cent growth in private credit. The rapid increase in housing mortgage lending in 2004 and 2005 is cited as one of the contributory factors for high growth in private credit. As shown in Table 6, outstanding housing mortgage lending has increased by 24 per cent in 2004 and 14 per cent during the first 6 months of 2005 compared to around 15 per cent in the previous years.

6. Conclusion and Recommendation

There are three main players engaged in the construction of houses in the country. They are the individuals, who undertake the construction of their own houses, private investors, who build houses to sell in the market and the State, which assists mainly low and middle income families to own houses, while at the same time playing a facilitator role to encourage private initiatives for construction. In addition, the Government and other public and private institutions provide housing mortgage loans to their employees at a concessionary rate of interest. However, there is a significant shortage of houses of over 200,000 units and there is a new demand for 100,000 – 120,000 units per year. The current supply is around 80,000 – 100,000. In addition, about 30 per cent of existing houses are semi-permanent. This illustrates the huge challenge facing the country in providing acceptable housing facilities to all households.

The individuals who purchase or build their own houses seek mortgage loans. Almost all domestic LCBs, some foreign banks and LSBs, particularly 3 housing banks and the NSB are active in the provision of mortgage loans. However, these institutions face severe difficulties in securing long-term funds needed for mortgage lending, due to the lack of a secondary mortgage market in the country.

Mortgage Backed Securities are almost non-existent in Sri Lanka. This not only hinders housing finance, but also other sectors of the economy such as construction, manufacturing and other services sectors including the capital market. Therefore, it is imperative that the necessary legal, institutional and regulatory framework is set up to support the emergence of a mortgage-backed security market. It appears that the housing mortgage market in its present condition, would not create significant macroeconomic imbalances. Specific recommendations are given below.

- Required legal, institutional and regulatory framework needs to be established to create a secondary mortgage market, which will facilitate all types of securitisation of mortgage backed obligations.
- New lending instruments, which are attractive for mortgage borrowers needs to be devised. For example, flexible payment schemes with low initial payments and progressively increasing payments could be introduced, so that payments are in line with increasing incomes of borrowers.
- Housing and real-estate prices need to be collected and compiled on regular basis by a responsible agency.
- Housing sites clearance certificates and plan approval procedures need to be simplified and expedited.
- Cost saving technologies to build houses found by research institutions should be popularised through effective awareness programmes.
- Steps need to be taken to solve problems relating to land tenure and land titles.

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Annex 1 : Macroeconomic Characteristics

	1980	1990	2000	2001	2002	2003	2004
Total Population ('000)	14,747	16,267	18,467	18,732	19,007	19,252	19,462
0 - 14 years			6,815	4,631	5,062	5,125	5,185
0 - 55 years			10,714	11,493	11,410	11,556	11,678
55 years and over			1,830	2,608	2,535	2,571	2,599
Population growth (%)	1.9	1.1	1.4	1.4	1.5	1.3	1.1
Population density (persons per sq. km.)	235	259	295	299	304	307	310
Gross Domestic Product (US \$ Bn)	4.0	8.0	16.6	15.7	16.5	18.2	20.1
GDP (RS bn)	67	322	1,258	1,407	1,582	1,761	2,029
GDP per capita (US \$)	273	469	881	826	858	937	1,025
Inflation rate (%)	26.1	21.5	6.2	14.2	9.6	6.3	7.6
Exchange rates	16.53	40.06	75.78	89.36	95.66	96.52	101.19

Source: Central Bank of Sri Lanka

Annex 2: Household Mean Income, Total Expenditure and Housing Expenditure per Month (Rs)

	1963	1973	1978/79	1981/82	1986/87	1996/97	2003/04
Mean Income (Rs)	208	327	1,013	1,751	2,946	9,444	17,094
Total expenditure (Rs.)	206	326	965	1,664	2,349	9,279	16,959
Expenditure on housing (Rs)	15	22	56	98	183	1,002	1,815
Expenditure share (%)	7.3	6.8	5.8	5.9	7.8	10.8	10.7

Source: Consumer Finance and Socio Economic Survey Report 2003/04

Annex 3 : Household Monthly Expenditure on Housing and Utilities and Growth Rates (2003/04)

	Expenditure (Rs)				Annual Real Growth Rates (%)			
	Urban	Rural	Estate	All Sectors	Urban	Rural	Estate	All
Housing								
Actual rentals	487.29	50.08	8.66	104.60	7.3	3.5	14.3	5.7
Imputed rentals	3,941.02	1,302.14	351.95	1,593.54	-0.4	2.8	6.9	1.8
Maintenance and repairs	182.18	105.08	37.20	111.41	24	14.1	28	15.9
Total for housing	4,610.49	1,457.30	397.81	1,809.55				
Utilities	1,399.28	643.31	411.00	728.95	7.2	4.2	-0.2	4.7
Total	6,009.78	2,100.61	808.81	2,538.50	1.9	3.7	3.3	3.1

Source: Consumer Finance and Socio Economic Survey Report 2003/04

Annex 4 : New Housing Loans granted by Major Financial Institutions

Financial Institution	2000	2001	2002	2003	2004
Licence Commercial Banks					
No. of Loans granted	54,023	22,735	54,452	90,294	63,624
Value of Loans (Rs. mn.)	5,765	4,127	29,455	19,306	14,053
Average Loan size (Rs.)	106,708	181,542	540,927	213,816	220,874
Interest Rate - range (%)	15.67 - 21.00	16.00-19.00	14.0-17.5	10.1-19.0	11.1-18.5
Recovery Rate - range (%)	75 - 96	80 - 96	88 - 95	87 - 95	88 - 95
Housing banks and NSB					
No. of Loans granted	16,563	19,083	25,413	28,596	31,028
Value of Loans (Rs. mn.)	3,338	3,629	4,585	5,687	7,681
Average Loan size (Rs.)	201,517	190,176	180,422	198,863	247,547
Interest Rate - range (%)	14.46 - 20.50	16.00-18.15	14.8-16.5	9.5-16	9.5-17.5
Recovery Rate - range (%)	95 - 97	93 -100	92 - 99	88 - 96	90 - 97

Source: Central Bank of Sri Lanka

CHAPTER 9

HOUSING AND MORTGAGE MARKETS IN TAIWAN

by

Peter Ping-Yao Chang and Yeo-Ru Tsai¹

1. Introduction

During the period from 1998 to 2003, Taiwan experienced relatively slowing economic growth, rising unemployment rates and weakening domestic demand, all of which placed strains on the stock and housing markets. Under the influence, some real estate developers suffered financial difficulties, which in turn led to an increase in banks' non-performing loans. To prevent falling house prices from hampering economic and financial stability, the government actively adopted measures to restrain supply and stimulate demand in the housing market. As these measures gradually take effect, the housing market has been on an upturn since the second half of 2003.

In Taiwan, both households purchasing houses and developers building houses rely heavily on external financing. The soundness of real estate financing and capital markets influences housing market developments and financial institution health. In addition, demographic trends such as an aging population and migration from countryside to cities, also affect housing markets. Furthermore, government policy plays an important role in housing and mortgage markets.

This paper reviews the developments of housing and mortgage markets in Taiwan, summarises relevant government policies, explores the main factors contributing to house price fluctuations, and delves into the interactions between house prices and economic and financial conditions. We hope this paper will provide a better understanding of these issues in Taiwan and refer Taiwan's experience to other SEACEN countries.

1. Peter Ping-Yao Chang and Yeo-Ru Tsai are respectively Assistant Director General and Deputy Section Chief of the Department of Economic Research at the Central Bank of China. The authors would like to thank Dr. Tzung-Ta Yen and Dr. Ching-Yi Chung, among others, for their helpful comments and suggestions. Any remaining errors are of the authors. The views expressed here are those of the authors and do not necessarily reflect those of The Central Bank of China, Taipei.

2. Macroeconomic Overview

In Taiwan's earlier development, export growth, particularly of labour-intensive products, provided the impetus for industrialisation. This also meant that people moved from farms to cities. All of this development contributed to changes in Taiwan's economic and demographic structures and consequently urbanisation and the rapid development of the housing and mortgage markets. The following sections will address these issues separately, with focus on the post 1980s.

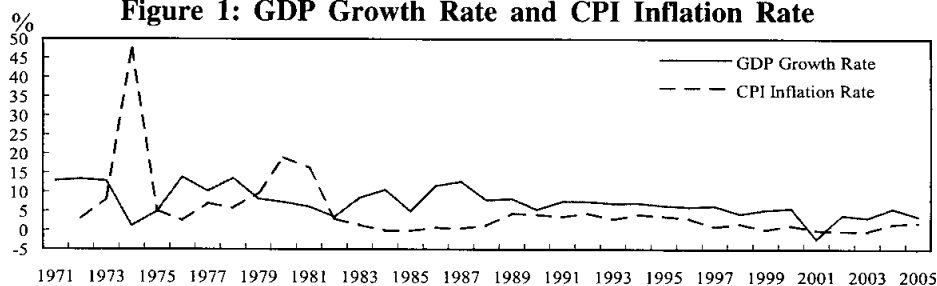
2.1 Macroeconomic Characteristics

2.1.1 Economic Development

Export was the engine of growth in Taiwan for a sustained period of time. In 1980, real growth in GDP reached 7.3 percent. GDP per capita was US\$2,318. Household expenditure accounted for 44.3 percent of GDP. In 1990, real growth tailed off to 5.4 percent, perhaps indicating that the economy was mature enough to swim against the tide of slowing growth. GDP per capita rose to US\$7,918. The household expenditure was 42.9 percent of GDP. Inflation, another important economic indicator, had been low throughout these two decades except for 1980 due to the second oil crisis. In 1990, the inflation rate was 4.1 percent and remained relatively low throughout the 1990s.

The late 1990s were a turning point for many economies in Asia. In 1998, amid the Asian financial crisis, Taiwan suffered little compared with many of its neighbours thanks to the soundness of its financial institutions and entrepreneurial strengths. Real growth in GDP was 4.3 percent. In 2001, despite Taiwan's sustained economic growth, full employment, and low inflation for many years, the combination of the slowing global economy and weaknesses in parts of the financial sector led the real growth rate to an historic low of -2.2 percent. Inflation was also negative. In 2002, the economy began to recover, but the outbreak of severe acute respiratory syndrome (SARS) slowed the growth to 3.3 percent in 2003. The world economic upturn drove Taiwan's growth to 5.7 percent in 2004. GDP per capita reached US\$13,529, increasing from US\$12,543 in 2001. CPI inflation rate was kept at a low 1.6 percent. However, due to higher house prices, household expenditure climbed up to US\$153.7 billion, making up 50.3 percent of GDP (see Table 1).

Figure 1: GDP Growth Rate and CPI Inflation Rate



Source: *The National Income Yearbook*, DGBAS, Executive Yuan, R.O.C.

Table 1: National Income and Inflation Rate

Year	Nominal GDP (US\$ billion)	Real GDP Growth Rate %	GDP Per Capita (US\$)	Household Expenditure US\$ billion	Household Expenditure as % GDP	Inflation Rate CPI (%)
1980	41.4	7.3	2.318	18.3	44.3	19.0
1990	160.2	5.4	7.918	68.7	42.9	4.1
1991	179.4	7.6	8.769	82.5	46.0	3.6
1992	212.2	7.5	10.274	92.7	43.7	4.5
1993	224.3	7.0	10.757	102.6	45.7	2.9
1994	244.3	7.1	11.613	115.8	47.4	4.1
1995	264.9	6.4	12.488	124.2	46.9	3.7
1996	279.6	6.1	13.073	132.1	47.2	3.1
1997	289.4	6.4	13.411	118.7	41.0	0.9
1998	266.0	4.3	12.213	125.8	47.3	1.7
1999	286.5	5.3	13.050	134.2	46.8	0.2
2000	307.8	5.8	13.912	132.4	43.0	1.3
2001	279.4	-2.2	12.543	126.5	45.3	0.0
2002	281.5	3.9	12.570	132.4	47.0	-0.2
2003	286.0	3.3	12.715	136.5	47.7	-0.3
2004	305.4	5.7	13.529	153.7	50.3	1.6

Source: 1. The Quarterly National Economic Trends, Taiwan Area, R.O.C., Directorate General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, R.O.C.
2. The National Income Yearbook, DGBAS, Executive Yuan, R.O.C.
3. The Survey of Family Income and Expenditure, DGBAS, Executive Yuan, R.O.C.

2.1.2 Demographic Transitions

Like most developed countries, as shown in Table 2, Taiwan's population growth has declined and the population is getting older over the years due to reductions in fertility and mortality, byproducts of industrialisation. To date, the population is estimated to be 22.7 million. In 1980, the population was 17.9 million and the growth rate was 1.8 percent. As shown in Table 2, people under the age of 20, 40 to 65, and above 65 accounted for 43.4 percent, 20.2 percent, and 4.3 percent of the entire population, respectively. By 2004, the population reached 22.7 million and the growth rate dropped to 0.4 percent. People under the age of 20 accounted for 26.4 percent of the population, a sharp slash of 17 percentage points from the same figure in 1980. However, people of ages 40 to 65 and above 65 accounted for 30.8 percent and 9.5 percent, increasing by more than 10 and 5 percentage points over the years, respectively.

Table 2: Main Population Indicators

Year	Total Population (year-end, million)	Population Density (person/100m ²)	Population Growth Rate (%) (‰)	Population Distribution by Age				
				Total (%)	Less than 20 (%)	20~39 (%)	40~65 (%)	Over 65 (%)
1980	17.87	493.82	1.84	100.00	43.36	32.12	20.23	4.29
1990	20.40	563.85	1.21	100.00	35.89	36.43	21.46	6.22
1991	20.61	569.51	1.00	100.00	35.27	36.14	22.06	6.53
1992	20.80	574.95	0.96	100.00	34.74	35.90	22.56	6.81
1993	21.00	580.27	0.93	100.00	34.23	35.61	23.06	7.10
1994	21.18	585.32	0.87	100.00	33.71	35.35	20.15	7.38
1995	21.36	590.28	0.85	100.00	33.17	35.01	24.18	7.64
1996	21.53	594.92	0.79	100.00	32.44	34.88	24.83	7.86
1997	21.74	600.83	1.01	100.00	31.86	34.64	25.44	8.06
1998	21.93	605.96	0.85	100.00	31.03	34.52	26.20	8.26
1999	22.09	610.49	0.75	100.00	30.21	34.38	26.96	8.44
2000	22.28	615.58	0.83	100.00	29.53	34.16	27.68	8.62
2001	22.41	619.14	0.58	100.00	28.70	34.02	28.47	8.81
2002	22.52	622.33	0.51	100.00	27.89	33.84	29.25	9.02
2003	22.60	624.64	0.37	100.00	27.11	33.58	30.07	9.24
2004	22.69	627.00	0.37	100.00	26.36	33.33	30.84	9.48

Source: 1980-2004 Taiwan-Fukien Demographic Fact Book, Ministry of the Interior, R.O.C.

2.1.3 High Degrees of Urbanisation

Similar to demographic transitions, the process of urbanisation in Taiwan has been the consequence of industrialisation, particularly during the earlier periods. Before 1992, there was a high concentration of population in the urban metropolitan areas. During the last decade, government planning such as the development of the rapid transit system, shifts in the location of employment opportunities, and movements in house prices has influenced the rate and pattern of Taiwan's urbanisation. Large masses began to leave core cities in urban areas and embraced shuttle cities nearby. In 1990, as shown in Table 3, people living in the core cities of metropolitan areas accounted for 47 percent of the total population and by 2004, the same statistics had dropped to 32 percent. Meanwhile, inhabitants of shuttle cities of metropolitan areas increased from 13 percent to 33 percent of the total population. Such a change in the urbanisation pattern is not without benefits. Flights of population boosted development of housing markets in less urbanised areas.

Table 3. Population in Urban Districts as a Percentage of Total Population

Year	Total Population (%)	Large Metropolitan Area Central Cities (%)	Sub-metropolitan Area Central Cities (%)	Large Metropolitan Area Satellite towns (%)	Sub-metropolitan Area Satellite towns (%)	Non-metropolitan Area (%)
1980	100	43.00	7.17	12.18	7.27	30.38
1990	100	47.09	7.45	12.63	7.34	25.49
1991	100	47.47	7.47	12.71	7.40	25.25
1992	100	47.15	7.48	12.81	7.46	25.10
1993	100	32.16	2.84	30.42	1.62	32.95
1994	100	31.98	2.83	30.74	1.64	32.80
1995	100	31.90	2.83	31.00	1.66	32.62
1996	100	31.79	2.83	31.29	1.67	32.42
1997	100	31.70	2.83	31.60	1.68	32.18
1998	100	31.76	2.83	31.82	1.69	31.90
1999	100	31.89	2.84	31.98	1.70	31.59
2000	100	31.96	2.85	32.18	1.70	31.31
2001	100	31.99	2.86	32.34	1.71	31.11
2002	100	32.02	2.88	32.44	1.72	30.95
2003	100	32.05	2.89	32.56	1.73	30.78
2004	100	32.05	2.90	32.70	1.75	30.60

Source: 1980-2004 Taiwan-Fukien Demographic Fact Book, Ministry of the Interior, R.O.C.

2.2. Relevance of Housing Market Development

The housing market is an important part of the economy and is influenced by the supply and demand for houses as well as the development of the financial sector. Housing purchases usually involve huge amounts of credit, both for developers and homebuyers in Taiwan. Banks that underwrite mortgages and construction loans usually carry the risk of credit default, which has been one of major causes for banks' non-performing loans over the years. Many observers in Taiwan argue that in order to prevent dire consequences arising from financial sector instability caused by adverse housing sector development, the government has to get involved. The following sections address the supply and demand sides of real estates, and the financial sector side, separately.

2.2.1 Housing Related Expenses as Important Household Expenditure

During the 1980s, housing related expenses persistently exceeded 14 percent of household expenditure. As shown in Table 4, in the early 1990s, the ratio rose to around 20 percent due to increasing rental expenses caused by rising house prices. As rents gradually declined from 2000 onwards, the ratio decreased to 18.3 percent in 2004, but housing expenses still constituted an important part of household expenditure².

In terms of housing affordability, in the early 1990s, soaring house prices shot up to a degree that was way beyond ordinary people's reach. The housing affordability index was 4.8 in 1980 and nearly doubled to 9.8 in 1990. Fortunately, this trend did not persist in 1990s. With economic growth, increasing household income and house prices returning to reasonable levels, households' housing burden was lifted moderately. The housing affordability index dropped to 7.1 in 2002 and stood at 7.6 in 2004.

2. According to the National Wealth Statistics published by Directorate General of Budget, Accounting and Statistics, real estate has remained the largest portion of net household assets (exceeding 37 percent since 1998).

Table 4: Household Expenditure

Year	Average Disposable Income Perhousehold (NT\$ thousand)	Average Price of New Houses (NT\$ thousand/pin)	Average Value of New Houses Per Household (NT\$ thousand)	Average Value of New Houses/ Disposable Income (= Affordability Index)	Housing Expenditure as% of Household Expenditure (%)
1980	233	43	1.128	4.48	14.10
1990	520	150	5.068	9.75	16.93
1991	587	157	5.411	9.22	17.93
1992	640	166	5.879	9.19	18.69
1993	728	182	6.534	8.98	19.21
1994	770	187	6.882	8.93	19.61
1995	811	180	6.703	8.27	20.20
1996	826	167	6.355	7.69	20.35
1997	863	167	6.542	7.58	19.79
1998	873	169	6.726	7.70	19.44
1999	889	168	6.637	7.47	19.30
2000	891	164	6.613	7.42	18.79
2001	869	159	6.507	7.49	19.01
2002	876	749	6.230	7.11	18.79
2003	882	151	6.327	7.17	18.81
2004	891	160	6.797	7.63	18.33

Notes: 1. one pin=3.3058m2

2. Housing expenditure includes rent, water charges and household operation.

Source: The Survey of Family Income and Expenditure, DGBAS, Executive Yuan, R.O.C.

2.2.2 Housing Investment and its Contribution to the Economy

For real estate developers, the growth of urban residents' disposable income should serve as a reference for making investment decisions because housing is not only a consumer good but also an investment to most residents in Taiwan. In the 1970s, fears of loss of wealth due to two oil crises and hyperinflation propelled the demand for home purchases. New residential constructions burgeoned to meet the rising demand. In the 1980s, as shown in Table 5, new residential constructions accounted for 14 percent of fixed investment. In the 1990s, this trend slowed. In 2000, new residential construction reduced to 5.9 percent of fixed investment. In 2003, with the market recovering slightly, this figure returned to a higher level of 7.3 percent.

Table 5: Housing Investment and Construction

Year	Nominal GDP (US\$billion)	Private Consumption as % of GDP (%)	Housing Investment as % of Fixed Investment (%)	Construction Sector Outputs as % of GDP (%)
1980	41.4	51.5	14.0	6.3
1990	160.2	54.8	11.8	4.7
1991	179.4	54.8	10.8	4.7
1992	212.2	56.0	13.3	5.0
1993	224.3	56.6	16.8	5.2
1994	244.3	58.4	15.0	5.6
1995	264.9	58.8	13.0	5.4
1996	279.6	59.1	10.7	4.9
1997	289.4	59.3	8.8	4.7
1998	266.0	59.7	7.4	4.4
1999	286.5	60.8	7.3	3.9
2000	307.8	62.0	5.9	3.5
2001	279.4	63.7	6.4	3.0
2002	281.5	62.9	6.9	2.6
2003	286.0	62.5	7.3	2.2
2004	305.4	63.0	-	1.7

Source: 1. The Quarterly National Economic Trends, Taiwan Area, R.O.C., Directorate General of Budget, Accounting, and Statistics (DGBAS), Executive Yuan, R.O.C.
2. The National Income Yearbook, DGBAS, Executive Yuan, R.O.C.
3. The Survey of Family Income and Expenditure, DGBAS, Executive Yuan, R.O.C.

2.2.3 Real Estate Loans as Major Business of Domestic Banks

In Taiwan, banks are vital to the development of the housing market. As several new banks were set up in 1990, banks were quick to grab the white-hot housing market. For instance, real estate loans³ were 28 percent of domestic banks' total loans in 1988 and later peaked at 35 percent in 1996, as shown in Table 6. In 2001, due to a recession in the housing market, the ratio of real estate loans to total domestic bank loans decreased to 30.1 percent. In 2004, this number climbed moderately up to 31.8 percent, a proportion that still could overly expose banks to concentrated credit risks.

Table 6: Domestic Banks' Real Estate Loans

Year	Nominal GDP (NT\$ Billion)	Real Estate Loans of Domestic Banks (NT\$ Billion)	Total Loans of Domestic Banks (NT\$ Billion)	Total Loans of Domestic Banks as % of GDP	Real Estate Loans of Domestic Banks as % of its total loans	Real Estate Loans of Domestic Banks as % of GDP
1988	706.1	2,525.3	3,525.2	71.6	28.0	20.0
1990	948	3,614	4,307	83.9	26.2	22.0
1991	1,184	4,502	4,811	93.6	26.3	24.6
1992	1,618	5,701	5,399	105.6	28.4	30.0
1993	2,193	6,546	5,918	110.6	33.5	37.1
1994	2,680	7,782	6,464	120.4	34.4	41.5
1995	2,959	8,537	7,018	121.6	34.7	42.2
1996	3,157	9,027	7,678	117.6	35.0	41.1
1997	3,546	10,595	8,305	127.6	33.5	42.7
1998	3,773	11,406	8,899	128.2	33.1	42.4
1999	3,842	12,148	9,244	131.4	31.6	41.6
2000	3,969	12,896	9,612	134.2	30.8	41.3
2001	3,826	12,715	9,448	134.6	30.1	40.5
2002	3,785	12,505	9,735	128.4	30.3	38.9
2003	4,051	13,131	9,844	133.4	30.8	41.2
2004	4,595	14,440	10,206	141.5	31.8	45.0

Note: Real estate loans include house-purchasing loans, house-repairing loans and loans for construction.

Source: 1. The Quarterly National Economic Trends, Taiwan Area, R.O.C., DGBAS, Executive Yuan, R.O.C.
2. The Financial Statistics Monthly, Republic of China, Department of Economic Research, the Central Bank of China.

3. Real estate loans include house-purchasing loans, house repairing loans, and loans for constructions.

Real estate loans in Taiwan are mostly medium- to long-term, often exceeding 20 years, while the secondary market for mortgage-backed securities is at its beginning stage. As a result, banks' asset liquidity is limited and channels to diversify credit risks are also lacking. Therefore, banks are usually exposed to cycles and volatility in the housing market, potentially causing impacts on financial stability. On the one hand, against the backdrop of high proportions of real estate loans, banks also face small chances of loan default when the housing market progresses in a healthy and stable fashion. On the other hand, banks will, however, be in hot waters when a frothy housing market develops or when housing demand declines substantially. It is, therefore, necessary for the government to monitor the development of the housing market and take timely and appropriately measures in response to potential adverse impacts of houses prices on the financial system to maintain stable growth of the economy.

3. Housing Sector Overview

The housing sector in Taiwan has undergone many changes pertinent to the economic development. Over the past two decades, the number of household members for each household has seen a sharp decline, housing was in short supply during some periods of time, the vacancy rate was once on the rise until the government stepped in, and the quality of housing has yet to be improved.

3.1 Market Size and Structure

3.1.1 Declining Number of Household Members

The number of households in Taiwan has exhibited amazing growth over the past 20 some years largely due to the reduction in the number of household members and the sizeable increase in single member households and couples without children. As shown in Table 7 in 1980, the number of households in Taiwan was 3.7 million, with 4.8 persons per household on average. In 1990, the number of households grew to 4.9 million. In 2004, the number of households rose to 7.2 million, with 3.5 persons per household.

Table 7: Main Housing Sector Indicators

Year	Total Number of Household (thousand household) (year-end)	Person per Household (person) (year-end)	Housing Stock (thousand units) (year-end)	Housing Shortage (thousand units) (year-end)	Rate of Housing Shortage (%) (year-end)	Vacant Houses (thousand units) (year-end)	Vacancy Rate (%) (year-end)
1980	3.734	4.84	3.665	-68.4	-1.83	480	13.10
1990	4.943	4.19	5.074	130.9	2.65	849	16.73
1991	5.217	4.16	5.142	-74.4	-1.43	868	16.88
1992	5.345	4.11	5.524	-90.8	-1.70	9.3	17.19
1993	5.485	4.10	5.398	-86.2	-1.57	947	17.54
1994	5.636	4.02	5.588	-47.9	-0.85	1.133	20.28
1995	5.805	3.94	5.778	-27.3	-0.47	1.267	21.93
1996	6.008	3.92	5.920	-87.3	-1.45	1.275	21.54
1997	6.185	3.84	6.022	-163.0	-2.64	1.296	21.52
1998	6.351	3.77	6.102	-248.7	-3.92	1.272	20.85
1999	6.513	3.63	6.205	-307.9	-4.73	1.302	20.98
2000	6.662	3.62	6.275	-387.5	-5.82	1.253	19.97
2001	6.782	3.58	7.025	242.8	3.58	1.247	17.75
2002	6.905	3.65	7.087	182.2	2.64	1.196	16.88
2003	7.026	3.53	7.145	119.1	1.70	1.179	16.50
2004	7.152	3.50	7.213	61.2	0.86	1.200	16.64

Source: 1. The Summary of Housing Statistical Data, Construction and Planning Agency, Ministry of the Interior, R.O.C.

2. The Survey of Family Income and Expenditure, Directorate General of Budget, Accounting and Statistics, Executive Yuan.

3.1.2 Mismatch between Housing Supply and Demand

Between 1980 and 2000, there was a general shortage in residential housing supply except for 1990 in Taiwan as shown in Table 7. In 1980, housing stock was 3.67 million house units, short of 0.07 million houses. In 1990, housing stock was 5.07 million house units, a surplus of 0.13 million houses. Beginning from 2001 housing supply has been in a surplus status. In 2004, housing stock increased to 7.21 million house units, a surplus of 0.06 million houses.

3.1.3 Vacant Houses on the Rise

The vacancy rate was high from 1980 to 1999 until the government instigated policies to encourage house purchases. In 1980 as shown in Table 7, the number

of vacancies was 0.5 million. In 1990, with large increases in housing supply, the number of vacancies rose to 0.9 million. In 1994, the number of vacant houses exceeded 1 million and peaked in 1999 at 1.3 million. This was quite alarming. The government, therefore, tapped the breaks to restrain this growing trend. Unfortunately, the effect was short-lived. In 2004, the number of vacancy was 1.2 million, rising from 1.2 million in the previous year.

3.1.4 Types of Housing

Due to the limitation of statistics collection, the types of housing for residents in Taiwan are broken down into flats, 2-3 stories, 4-5 stories, and 6-stories and above⁴. With increasing urbanisation, the number of flats has declined and the number of 6-stories and above housing has risen. In 1980 as shown in Table 8, the total number of flats as a portion of all houses amounted to 48.68 percent.

Table 8: Types of Housing

Year	Total %	One Story %	Two or Three Stories %	Four or Five Stories %	Six Stories and Above %
1980	100	48.68	33.41	16.40	1.51
1990	100	26.23	42.21	26.65	4.91
1991	100	24.95	41.20	27.65	6.20
1992	100	25.74	40.58	26.93	6.75
1993	100	22.67	42.34	28.03	6.96
1994	100	20.51	43.37	28.27	7.84
1995	100	20.09	43.03	27.21	9.67
1996	100	18.50	42.10	26.79	12.62
1997	100	17.56	42.05	26.65	13.74
1998	100	16.72	41.60	27.39	14.28
1999	100	15.75	41.82	26.19	16.20
2000	100	15.40	40.38	27.02	17.18
2001	100	15.10	40.68	26.23	17.95
2002	100	13.55	41.93	27.03	17.46
2003	100	13.72	42.72	26.75	16.81
2004	100	12.52	43.24	25.93	18.31

Source: The Survey of Family Income and Expenditure, Directorate General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.

4. Generally speaking, 2-3 stories, 4-5 stories, and 6-stories and above are, respectively, detached houses, apartments and mansions.

In 2004, it was only 12.52 percent. In contrast, the proportions of 2-3 stories and 4-5 stories housing to all houses have remained stable since 1990. In 2004, they were 43.24 percent and 25.93 percent, respectively. The growth of 6-stories and above housing corresponded to the major decline in flat housing. It grew from 4.91 percent in 1990 to 18.31 percent in 2004.

3.1.5 Fluctuating Market Transactions

Housing market transactions in Taiwan have exhibited considerable fluctuations. The total transaction volume as shown in Table 9, measured by registered floor areas in ownership transfers reached a peak of 123.2 million square metres in 1991, declined in the following years with the housing market stagnating to hit a bottom of 41.1 million square metres in 2001, and then rose to 50.4 million square metres in 2004 as the housing market regained strength.

3.1.6 Surging Supply of New Houses

In the early 1990s, as developers hurried to build houses ahead of the government's imposition of building bulk controls, supply of new houses surged around 1993 and 1994. Measured by floor areas of housing occupancy permits as shown in Table 9, supply of new houses was merely 12.1 million square metres in 1990 and later peaked at 28.6 million metres in 1994. The accumulated oversupply of houses prompted developers to slow their building pace in the subsequent years. The government also adopted measures to constrain housing supply in 2000. The combined effect was a gradual decline in new house supply to a low point of 7.9 million square metres in 2002. Starting from 2003, supply of new houses has been rising again, reflecting a warming housing market, and reached 11.8 million square metres in 2004.

3.2 Determinants of House Prices and Rents

Determinants of house prices and rents vary across countries. In Taiwan, houses are not only a consumer good but also an investment good to most residents. This feature makes the price-setting mechanism of houses markedly different from other durable goods. In particular, the prices of houses are usually decided by their expected returns, which are extremely difficult to model.

Table 9: Housing Supply and Transaction in Taiwan

Year	Housing Construction Permit		Housing Occupancy Permit		First Registration of Building Possessions		Transaction Registration of Building Possessions	
	(unit)	million m2	(unit)	million m2	(unit)	million m2	(unit)	million m2
1980	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1990	89.478	19.21	67.600	12.06	172.483	42.00	236.396	48.91
1991	136.233	24.77	72.017	12.29	177.374	49.14	289.503	123.19
1992	254.916	41.26	101.399	15.66	221.849	43.84	317.434	81.08
1993	223.708	41.31	143.238	21.77	308.445	60.10	371.720	71.44
1994	215.002	35.32	197.678	28.58	400.407	83.68	464.480	72.46
1995	145.687	25.24	194.762	26.46	427.672	70.57	491.884	67.63
1996	102.992	19.41	152.205	20.63	324.219	51.40	508.748	63.87
1997	129.604	23.81	113.142	14.59	247.930	45.03	466.568	65.81
1998	85.127	16.21	97.849	13.92	228.301	43.95	385.969	60.17
1999	56.608	10.29	85.233	13.56	265.410	50.82	385.074	56.23
2000	44.880	8.43	62.273	10.37	197.249	50.12	321.165	49.35
2001	24.389	4.86	49.177	8.19	140.902	42.91	259.494	41.11
2002	38.635	7.07	45.133	7.92	121.827	38.76	320.285	50.34
2003	64.341	11.96	57.570	10.01	114.011	30.17	349.706	53.90
2004	110.981	18.89	69.408	11.76	131.025	35.54	418.187	50.35

Source: The Statistical Yearbook of Construction and Planning of Taiwan and Fuchien Area, Construction and Planning Agency, Ministry of the Interior, R.O.C.

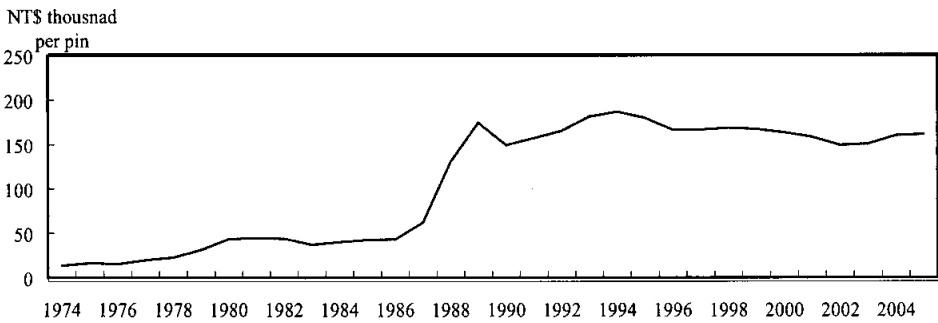
3.2.1 House Price Trends

With a wide spectrum of residential housing conditions and characteristics and the presence of asymmetric information in the market, the making of real estate indicators has become ever more difficult. In this paper, we use the price index adopting in the Real Estate Cycle Indicators issued by the Ministry of the Interior to track the price changes in Taiwan's housing market.

Since 1970, the property market in Taiwan has gone through three cycles of booms and busts. As shown in Figure 2, the first and second booms were caused by rising demand for houses during a period of hyperinflation in the early and late 1970s, respectively. The first two busts were the results of oil shocks in 1973 and 1978. The third boom, unlike the first two, was speculative in nature. Despite the markup in construction and land costs in the 1980s, housing supply

was abundant and house prices soared until the momentum of contemporaneous rising costs and slowing demand picked up in the mid-1990s, which marked a long period of decline from the mid-1990s to the first half of 2003. From the second half of 2003 onwards, at the start of the fourth cycle, the general economy has been on its path to recovery, interest rates remained relatively low, and the government expanded the credit line of preferential loans and cut the land value increment tax by half, all of which have greatly reduced homebuyers' financial stress. Housing transactions were enlivened and house prices have ascended.

Figure 2: Trend of House Price in Taiwan

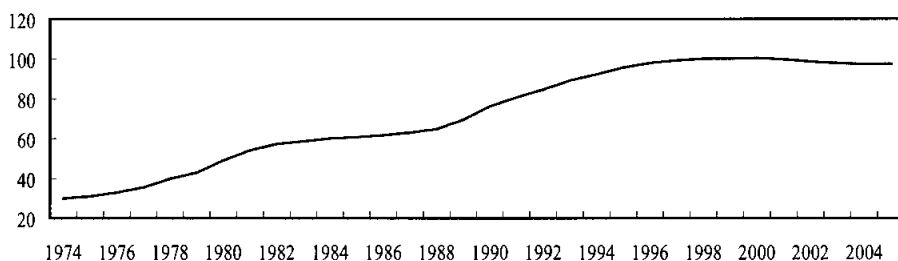


Source: The Real Estate Cycle Index, Architecture and Building Research Institute, Ministry of the Interior, R.O.C.

3.2.2 Trend of Housing Rent Index in Trends

Housing rent indices in Taiwan are closely associated with house prices, but because they also depend on the landlords' attitudes, the fluctuations of rent prices are typically smaller than that of house prices. According to house price indicators and rent price indicators for Taipei for the two boom time periods from 1980 to 1981 and from 1988 to 1990, as shown in Figure 3, fluctuations in rent prices were not only markedly smaller than in house prices but also lagged house prices by one to two years. Since 1990, the resale of existing residential housing has ebbed and flowed slightly while rent prices remained relatively stable.

Figure 3: Trend of Housing Rent Index in Taiwan



The Price Statistics, Directorate General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.

3.2.3 Taiwan Evidence

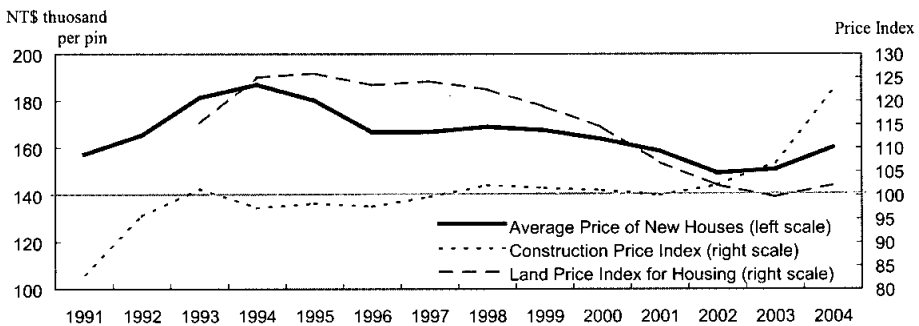
Academic scholars in Taiwan have tried to model house prices. The empirical literatures on Taiwan's house price determinants fell into the group of traditional demand and supply framework. For instance, according to Chen (1990), Taipei city experienced three periods of steep increases in house prices between 1972 and 1988. In his study, the house price increases for the first two periods (1972-74) and (1978-80) were due to the oil crises causing high inflation, thereby leading to a rise in the costs of housing and an increase in housing demand. In the third period (1987-88), because of low interest rates and excess money supply, investors and speculators played a prominent role in the housing market. Recently, Chen and Patel (2002), who modeled house prices in the Taipei area, specified logarithmic housing demand as a function of the price of houses, household permanent income, household number, housing stock, broad money supply, relative prices of stock, and the real user cost of housing capital. They also specified logarithmic housing supply as a function of construction cost and land cost. Running seasonally unadjusted data from the second quarter of 1973 to the fourth quarter of 1999, they found that household income impacted house price the most. A one-percent increase in household income will lead to a 1.88-percent increase in house prices. On the supply side, one percent increase in construction cost will lead to a 0.70-percent increase in house prices.

3.3 The Supply Side of the Housing Market

In general, construction cost, land cost, the cost of financing, the evolution of housing markets and the government's residential development and redevelopment policies determine the supply of new homes in Taiwan. Under speculative conditions, the expected return on investment in new homes would overpower those other supply-determining factors mentioned earlier. For instance,

in the late 1980s, excess liquidity in the market invigorated land speculation, pushing land prices to their zenith. House prices swelled as a result. Enticed by potential high returns, developers raced to build new houses. This momentum was intensified in the early 1990s as shown in Figure 4, after large masses of new banks entered into the market and before the implementation of tougher building bulk controls and stricter land tax laws. House prices have remained stable since 2000, after the government tapped the breaks on growing housing supply, but will likely experience a slight downturn due to rising steel prices and a shortage in basic raw materials used for construction such as sand, gravel and stones.

Figure 4: Trends of Land Price, House Price and Construction Price



Sources: 1. The Real Estate Cycle Index, Architecture and Building Research Institute, Ministry of the Interior, R.O.C.
2. The Price Statistics, Directorate General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.
3. The Land Price index, Ministry of the Interior, R.O.C.

4. Housing Policy

Over the last three decades, the Taiwan government has undertaken proactive policy measures in response to cycles of the domestic property market to assist in industrial developments and dampen speculative activities. The ultimate purpose of these measures is two-fold: to maintain price and financial stability on the one hand, and to promote economic growth on the other. Major policy includes a housing policy related to land use, construction management and transaction safety, a housing subsidy policy to help people with their housing needs, and an accompanying tax policy. During the same period, The Central Bank of China (CBC) has also adopted measures to affect housing consumption and investment decisions. It adjusted the loanable funds in financial institutions and the cost of funds through its monetary policy, and when necessary, even imposed selective credit controls or granted selective credit finance to directly manage property-

related credit. Recently in May 2005, government initiated a newly revised Housing Policy aimed at creating a living environment both amiable and respectable for all citizens on this island. The Policy evolves around a sound housing market, high living standards and equitable and efficient housing subsidies.

4.1 Housing Development Policy

In Taiwan, the developments of the property market are highly related to the government's land use and construction management policies, as well as market transaction systems. Also important are the government's measures to reduced people's burden by implementing various tax cuts.

4.1.1 Land Use Policy

Being an island covered mostly by mountains and forests, Taiwan offers limited land for use of development. The government divides land into districts of different uses according to urban and district planning. As of the end of 2003, districts available for development purposes amounted to less than 10 percent of the nationwide land area, while agricultural districts totaled around 25 percent and natural reservation districts reached as high as 65 percent⁵. Restrictions on land uses further highlight the scarcity of land available for construction. To prevent constructors from speculating in the property market by piling up land ownership, the government limits the time period allowed between land acquisition and construction works in 1978. Since 1998, the government has successively relaxed restrictions on land uses and simplified the reviewing process for land use alteration to further improve efficiency of land use.

4.1.2 Construction Management Policy

Since the 1990s, the government has adopted a series of measures to guide the sound development of the property market and improve construction safety and living standards. These measures include allowing agricultural land for construction use in 1995, imposing restrictions on floor area ratios in 1997, forbidding construction on mountain slopes in 1998, forbidding construction on earthquake active areas and controlling house supply in 1999⁶, all of which have

5. According to the *Urban and Regional Development Statistics* published by the Council for Economic Planning and Development, Executive Yuan, R.O.C. and the authors' calculation.

6. Major house supply controls included a halt of house construction by the public sector from 1999 to 2004. Private companies obtaining construction licenses before 1999 were allowed to extend their licensed periods for 5 years.

had important influence on the property market. Particularly in the early 1990s, construction companies sped up construction works ahead of the imposition of stricter floor area ratios and land tax regulations. Meanwhile, the lifting of the ban on bank entries led to a mushrooming of new banks, which in turn intensified the competition of mortgage loans. These two factors, combined with a relatively sluggish growth in housing demand, resulted in a severe oversupply of houses. From 2002 onwards, the government has actively promoted "urban renewal" plans to foster sustainable environment and upgrade living standards.

4.1.3 Enhance Housing Market Services

To guide a sound housing market transaction system, the government initiated an evaluation mechanism for companies in the real estate business in 1988. Certification for real estate agents and real estate appraisers was also implemented to raise the service quality of real estate transactions and enhance consumer confidence. In 2002, the Institute for Physical Planning and Information Center⁷ was set up with an aim to raise public confidence in market information and avoid information asymmetry.

4.1.4 Preferential Tax Schemes

To assist homebuyers and boost industrial developments, the government has provided various preferential tax schemes:

- (1) Applying preferential tax rates on houses for residential and business purposes:
The government adopted lower tax rates on houses and land for residential and industrial development purposes. For residential houses with a land area of 3 acres and under, the current land value tax rate is 0.2 percent and house tax rate is 1.2 percent (reduced from 1.38 percent in 2001). For land used for designated industries (including industrial zones), the base rate of 1 percent is applied.
- (2) Relaxing the applicability of house tax exemption: To reflect the trend of rising house prices, the government relaxed the applicability of tax exemption on houses for residential purposes four times, in 1970, 1974, 1981 and 1992.

7. The information center was supported by the Council for Economic Planning and Development, Executive Yuan, R.O.C.

- (3) Lessening income tax burdens on mortgage homebuyers and tenants: In 1987, the government cancelled the rule that land value tax, house tax and other relevant tax payments may be deducted from personal income in tax calculation, while at the same time, added that interest payments on home mortgages may be deducted up to a total amount of NT\$20 thousand. In 1999, this ceiling was significantly raised to NT\$300 thousand, and a tax refund for repurchase of residential houses was introduced to encourage people to improve living standards by changing to new houses. In 2001 amid economic recession, the government reduced tenants' burden by allowing rental payments to be deducted from personal income up to NT\$120 thousand.
- (4) Lowering transaction costs: To encourage housing transaction activities, the government reduced the deed tax rate from 7.5 percent to 6 percent in 1999, and in February 2002 halved the land value increment tax rates for a period of three years ending in January 2005⁸. In February 2005, the government lowered the land value increment tax rates to 20 percent, 30 percent and 40 percent with additional discounts for ownership of 20 years and above.

4.2 House Ownership and Land Tenure

4.2.1 High Ratios of House Ownership

Of the three types of housing in Taiwan, owned, rented, and issued or leased, owned housing has accounted for the lion's share. With economic developments advancing, household income increasing and house supply rising, the ratio of house ownership, as shown in Figure 5, has been growing steadily since the 1970s and by 1990 had exceeded 80 percent. In 2004, Taiwan's house ownership ratio stood at 86.8 percent, a rather high level compared to other developed economies⁹.

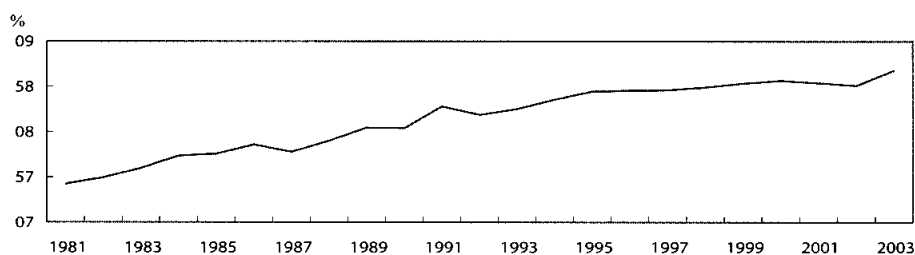
4.2.2 Higher Ratios of Rented Houses in Urban Areas

In general, the higher degree of urbanisation, the more population from outside areas and hence the higher ratios of rented houses and lower ratios of house ownership. In Taiwan, as of 2004 the house ownership ratio, as shown in Table

8. A tertiary progressive tax scheme of 40%, 50% and 60% was adopted for land value increment tax in 1977.

9. See Ludwig, Alexander and Torsten Slok (2002).

Figure 5: Ratio of Housing Ownership in Taiwan



Source: The Summary of Housing Statistical Data, Construction and Planning Agency, Ministry of the Interior.

10, was the lowest at 85.4 percent in cities, followed by 92.4 percent in town and 94.7 percent in the countryside.

Table 10: 2004 Housing Tenure of Household

Taiwan Area Housing Tenure	By farm and nonfarm		By urbanization		
	Non-farm %	Farm %	City %	Town %	Village %
1. Owned	85.78	97.97	85.39	92.38	94.71
2. Rented	8.71	1.20	9.30	2.99	2.48
3. Issued	0.46	0.00	0.47	0.20	0.39
4. Leased and others	5.05	0.3	4.84	2.42	2.42

Source: The Survey of Family Income and Expenditure, Directorate General of Budget, Accounting and Statistic, Executive Yuan.

4.3 Taxes and Levies

4.3.1 Higher Transaction Costs Than Ownership Costs

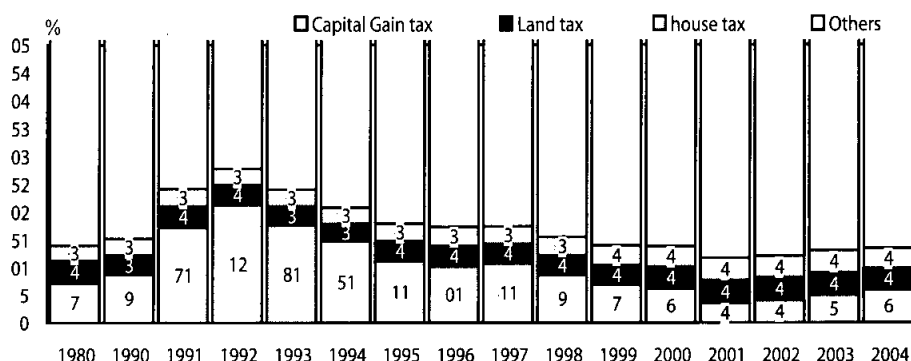
In Taiwan's taxation system, property related taxes mainly include: (1) land value tax and house tax on ownership of real estate, and (2) land value increment tax, deed tax and stamp tax on transaction of real estate (refer to Table 11). Because the officially announced land price was set by government, which serves as the tax base, is significantly lower than the market price, property taxes

(comprising land value tax and house tax) in Taiwan are considerably lower than major industrial countries¹⁰. Hence the costs of owning real estate are relatively low. On the other hand, real estate transaction costs remain relatively high with land value increment tax, deed tax and stamp tax rates all relatively high. Owing to this reason, the house ownership ratio in Taiwan has been high, many people own two or more houses, and liquidity of real estate transactions tends to be low.

4.3.2 Property Related Tax Revenue

Property related taxes mainly include land value tax, land value increment tax and house tax. In 1980, as shown in Figure 6, land value tax accounted for 4.0 percent of the government's total tax revenue, while land value increment tax made up 7.3 percent and house tax 2.9 percent. In 1990, the share of land value tax declined slightly to 3.5 percent, while those of land value increment tax and house tax increased to 8.8 percent and 3.1 percent, respectively. In 1990, the share of land value tax declined slightly to 3.5 percent, while those of land value increment tax and house tax increased to 8.8 percent and 3.1 percent, respectively. In 2004, the share of land value tax increased to 3.9 percent, while that of land value increment tax declined to 6.0 percent and house tax increased to 3.6 percent. In total, property related tax contributed an important share of 13.5 percent to tax revenue. To sum up, land value tax and house tax revenues are more stable, while land value increment tax revenues are affected by cycles of the property market and hence more varied.

Figure 6: Property Related Taxes Revenue in Taiwan



Source: The Yearbook of Tax Statistics, R.O.C., Department of Statistics, Ministry of Finance, R.O.C.

10. See Hua (1999).

Table 11: List of Property Related Taxes in Taiwan

	Ownership tax	Transaction tax	
		Buyer	Seller
Applicability	Owner of property during the period of ownership	Counter parties in a property transaction deal	
Tax	Land tax: The base rate is 1% of the officially announced land price. Beyond the base rate, progressive tax rates between 1.5% and 5.5% are applied. A preferential 0.2% is applied to residential houses with a land area of 3 acres and less and 0.3% for land areas exceeding 3 acres.	Deed tax: 6% of the contract price Stamp tax: 0.1% of the contract house and land prices	Land value increment tax: A preferential 10% is applied on houses for residential purposes. For the rest, a tertiary progressive tax scheme of 20%, 30% and 40% is applied according to the magnitude of increases in officially announced land prices with additional discounts for ownership of 20 years and above.
	House tax: 1.2% on houses for residential purposes, 3% on those for business purposes, and 1.5% on the rest.		Property transaction income tax
Legal cost		Registration fee: 0.1% of the house and land contract prices Service charge for real estate agents: 1% of the strike price Contract scrivener fee: NT\$1,000 to NT\$2,000 per case Registration scrivener fee: NT\$9,000 to NT\$12,000 per case	Service charge for real estate agents: 4% of the strike price Registration cancellation scrivener fee: NT\$1,500 to 2,000 per case

Source: Compiled by the authors from the Laws and Regulations Database of the Republic of China.

4.4 Government Subsidy Schemes

4.4.1 Government Subsidy Schemes Varied with Times

Because houses are relatively expensive, to buy them most households rely on their long-term savings or borrowing from financial institutions. In addition, Taiwan's government has often intervened to assist people with their home buying needs. Prior to 1990, the government's subsidy scheme featured directly building houses and then selling them with rationed quotas. Main measures included building public housing, rationing houses to public servants and teachers, building houses for rent, subsidising rehabilitation needs of farmers and fishermen, encouraging private sector participation in building public housing, and remodeling run-down soldier housing.

During the late 1980s and early 1990s, house prices in Taiwan rose sharply, heavily weighing on homebuyers' burden. To help solve this problem, the government expanded its construction works of medium- and low-income houses. In addition, the government also launched various mortgage subsidy programmes, including assistance extended to five groups of people for building and purchasing homes, the general public, labourers, soldiers, public servants and teachers, and aborigines.

4.4.2 Increasing Variety of Preferential Loans

Since 1998, the government has provided various policy lending programmes to assist people's home purchase or rehabilitation needs. These programmes include: (1) appropriating NT\$150 billion to fund a special mortgage programmes for new homebuyers and first-time homebuyers in January 1999; (2) appropriating NT\$100 billion to extend preferential loans for rehabilitation needs in the wake of the earthquake on September, 1999; (3) launching a 3 percent low-interest loan programmes for young homebuyers in 2001; and (4) appropriating a total amount of NT\$1.8 trillion during August 2000 and September 2005 to launch preferential housing loans. Boosted by the successively increasing amount of policy lending, bank lending collateralised against real estate has also grown speedily.

5. Housing Finance

A number of housing finance policies in Taiwan has been implemented by the government to respond to fluctuations in the housing market. Financial

deregulation in the 1990s and increased government housing subsidies boosted the demand for mortgages. The sluggish property market in the late 1990s and growing non-performing loans held by financial institutions prompted the government to accelerate the pace of financial reform and set up a framework for asset securitisation to foster the sound development of the domestic capital market.

5.1 Primary Market Lenders

Housing mortgages are funded by financial institutions and by the government. In particular, mortgage loans are primarily provided by domestic banks.

5.1.1 Domestic Banks as the Main Housing Mortgage Lenders

Residential construction and purchase in Taiwan are mainly financed by the banking industry due to the large amount of expenses involved. In the 1980s, most homebuyers took mortgages from commercial banks and community financial institutions. Developers and builders obtained project financing from the Land Bank, designated as the lender of construction loans by the Ministry of Finance in 1980. Later, more banks were allowed to underwrite loans to the construction industry. However, the CBC implemented tight selective credit controls on real estate financing in the late 1980s to rein in the overheated property market. Such measures were gradually relaxed from October 1990 and finally removed in September 1996.

The emergence of new commercial banks and insurance companies and permission for the insurance industry to extend mortgage loans in the early 1990s expanded the number of financial institutions offering real estate financing. Currently, housing mortgage lenders include domestic banks, investment and trust companies, community financial institutions, and life insurance companies. Among those, domestic banks provide the bulk of the funding required.

In 2004, total loans provided by domestic banks accounted for 86.8 percent of loans extended by all financial institutions. In contrast, the figure for community financial institutions was only 4.8 percent and life insurance companies 5.3 percent¹¹. Around half of those made by life insurance companies were loans secured by insurance policy.

11. According to the Financial Statistics Monthly, R.O.C. published by the Department of Economic Research of The Central Bank of China and the authors' calculation.

5.1.2 Government Housing Loans Limited in Scope

The government has set up quite a number of housing funds, including those targeted at public servants at the central government and local governments, military officers, and the general public. However, despite its growth, the total housing loans provided by government housing funds are still relatively limited compared to those by financial institutions. In 1995, as shown in Table 12, the total housing loans financed by the government reached NT\$156 billion, only 5.3 percent of the amount funded by domestic banks. In 2004, housing loans financed by government funds reached NT\$271 billion, still only 5.9 percent of those funded by domestic banks.

Table 12: Real Estate Loans and Government Housing Loans in Taiwan

Year	Housing Loans by	Real Estate Loans by Domestic Banks ¹	Total Housing Loans	Housing Loans by Public Sector as % of Total Housing Loans	Housing Loans by Public Sector as % of Real Estate Loans by
	(1)	(2)	(3)=(1)+(2)	(%)	Loans by (%)
1995	156	2.959	3.116	5.02	5.28
1996	200	3.157	3.357	5.97	6.35
1997	241	3.546	3.787	6.37	6.81
1998	278	3.773	4.051	6.87	7.38
1999	310	3.842	4.152	7.46	8.06
2000	338	3.969	4.306	7.84	8.51
2001	326	3.826	4.152	7.85	8.51
2002	297	3.785	4.083	7.28	7.85
2003	286	4.051	4.337	6.59	7.05
2004	271	4.595	4.866	5.57	5.90

Note: 1. Domestic banks include domestic commercial banks and medium business banks.
 2. Real estate loans by domestic banks include housing loans, house-repairing loans, and loans for construction.

Source: 1. The Summary of Housing Statistical Data, Construction and Planning Agency, Ministry of the Interior, R.O.C.

5.2 Types of Mortgage Loans

5.2.1 Alternative Pricing Methods

The majority of mortgage loans prior to 2002 were priced using floating interest rates where the lending rate is tied to a prime lending rate. However, from May 2002, the CBC has been encouraging banks to offer adjustable rate mortgages and take deposit rates or rates in the money market into account. This will allow more transparency in mortgage rates and improve the transmission effect of the CBC's adjustments to the rediscount rate and bank deposit rate. The banking industry has responded by offering mortgages with alternative pricing and repayment methods.

Table 13: Main Types of Mortgage Loans in Taiwan

Type	Interest Rate	Current Market Rate
Conventional Mortgages	Mostly floating interest rate Interest rate=A margin is added on top of a base interest rate	3.76%
Adjustable Rate Mortgages	Interest rate=A margin is added on top of a reference rate, usually deposit rates or money market rates	1 st year 1.98% ~2.35%, 2 nd year 2.2%~2.4%, from 3 rd year 2.37%~3%
Offset Mortgages	Interest payment is offset by the deposit account Interest rate=A margin of 0.25%~0.5% added on top of a reference rate	3.13%
Wealth Management Mortgages	Interest rate=Risk premium added on top of a reference rate	3.5%
Structured Mortgages	Combining insurance and mortgages Interest rate=Insurance premium added on top of an index rate	1 st and 2 nd years 2.3%, from 3 rd year 3.85%

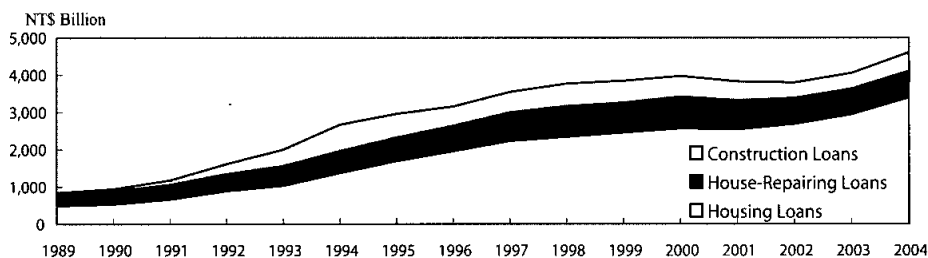
Source: Compiled by the authors.

5.2.2. Volume and Features of Mortgage Loans

As shown in Figure 7, total real estate loans in Taiwan have seen rapid expansion since 2001. Real estate loans extended by domestic banks reached NT\$5,514 billion in September 2005, growing 27.3 percent compared to the balance of NT\$3,968.8 billion at the end of 2000. The growth of residential housing loans rose 45.6 percent with a balance of NT\$3,733 billion. The average amount of mortgage loans granted by domestic banks per household was NT\$2.1 million in 1995, dropped to NT\$1.8 million in 2004 due to falling property prices, and edged back up to NT\$1.8 million in July 2005.

To limit risk, the amount of money the bank lends against the value of the collateral, also known as the loan to value ratio, tends to be lower when the housing market is not doing well. The majority of loan to value ratios of most mortgage loans in Taiwan currently fall between 80 to 90 percent with maturities of 20 to 30 years.

Figure 7: Outstanding Real Estate Loans by Domestic Banks in Taiwan



Sources: The Financial Statistics Monthly, Republic of China, Department of Economic Research, the Central Bank of China.

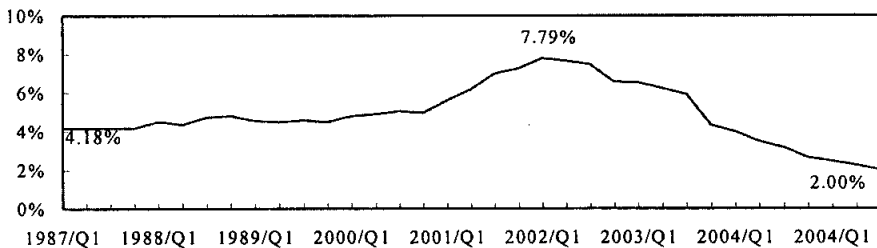
5.2.3 Risks and Regulations on Mortgages

5.2.3.1 Overdue Real Estate Loans

The construction industry in Taiwan was struck a heavy blow during the period of the Asian financial crisis. Furthermore, the bursting of high technology bubbles worldwide, the disastrous earthquake in September 1999, and frequent occurrences of floods and typhoons led to the considerable fall in housing demand in recent years. The resulting decline in the market value of property had a negative impact on the value of the collateral held by financial institutions.

The economic slump in 2001 led to rising unemployment and falling personal income and wealth, affecting the general public's ability and willingness to repay debt. The non-performing loan ratios of domestic banks' real estate loans, as shown in Figure 8, surged from 4.2 percent in 1987 to 7.8 percent in March 2002. However, since 2000 the government has been pushing for financial reform. Financial institutions have also been improving asset quality and writing off non-performing loans. In addition, with a revival in the property market, the ratio of overdue real estate loans fell by 5.8 percentage points to 2 percent in September 2005 after peaking in 2002.

Figure 8: Non-performing Ratio of Real Estate Loans by Domestic Banks



Source: Calculated by the authors based on the Monthly Credit Statistics from the Joint Credit Information Centre.

5.2.3.2 Regulations on Real Estate Loans

From 1980 onwards, restrictions were successively imposed on financial institutions extending real estate loans and making real estate investment. These included the total credit lines, the maximum duration of loans and the credit lines by type of borrowers. From 1989 onwards, financial institutions were required to list risk-based capital to strengthen their financial soundness and risk control efficiency. Real estate finance was included in the risk-based capital with a risk weighting of 50 percent on housing loans and 100 percent on real estate investment.

From 1998, the government relaxed the restrictions regulating financial institutions on housing financing. According to the Banking Act, banks may extend medium- or long-term loans for the purchase and construction of residential buildings or buildings for business purposes. The terms for such loans should not exceed 30 years. The total amount of loans extended for residential construction and construction for business purposes by a commercial bank shall not exceed 30 percent of its deposits and bank debentures issued at the time. Total outstanding

medium- and long-term loans should not exceed the total amount of deposits held by the lending bank. According to the Insurance Law, the total loans extended by an insurance company should not exceed 35 percent of its funds, including its capital and funds it raises from the insurance policies.

5.3 Financial Innovations in the Housing Market

With banking deregulation and financial innovation in post 2002, banks may now provide housing mortgages with different pricing and payment methods. Asset securitisation offers a new way for companies and financial institutions to raise capital while giving investors a new investment option. However, asset securitisation may also affect the impact of the CBC's monetary policies and increase the difficulty in financial supervision and regulation.

5.3.1 New Secondary Mortgage Market

After the Financial Assets Securitization Law was enacted in July 2002, the government promoted a secondary market for mortgage-backed loans. As of the end of September 2005, 19 financial asset-backed securities, including 4 residential mortgage-backed securities (RMBSs), have been issued. The outstanding balance of RMBS issued was NT\$19.7 billion with a market liquidity of NT\$11.2 billion.

5.3.2 Diversified Developers' Funding

Following the enactment of the Urban Renewal Act, Trust Law, and Trust Enterprise Act, the Real Estate Securitization Act was promulgated in 2003 to serve as the framework for the securitisation of real estate investment trusts (REITs) and real estate asset trusts (REATs). Through asset securitisation, developers may raise capital directly from the capital market and allow more investors may invest in properties.

By the end of fall 2005, real estate trusts in Taiwan had NT\$64.3 billion in assets¹². The outstanding balance of the 7 REATs was NT\$22.2 billion with a transaction amount of NT\$14.5 billion¹³. The outstanding balance of the 2 REITs

12. According to the statistics in the Quarterly Report of Trust Business published by the Trust Association of the Republic of China.

13. According to the Financial Statistics provided by the Banking Bureau of the Financial Supervisory Commission of the Republic of China.

was NT\$22.3 billion. There were also another 3 REITs investing in global property markets with an outstanding balance of NT\$14.8 billion, offering domestic investors with alternative investment instruments.

5.3.3 The Benefits of Asset Securitisation

Conducting real estate mortgages is one of the main businesses of domestic banks. Real estate mortgages are mostly mid- to long-term. The long duration, coupled with the lack of sufficient house price indices and credit risk hedging tools, adds to the difficulty involved in controlling credit risks of financial institutions. In addition, property investment requires a considerable amount of expertise, time, and effort while the real estate itself is indivisible, irremovable, and expensive. Therefore investing in property may not seem easy to many investors. Securitising mortgages opens new sources for funding and helps reduce and transfer risk. Other benefits include greater liquidity in the property market, allowing more investors the opportunity to make property investments, and improving market liquidity.

5.3.4 The Effect of Asset Securitisation on Monetary Policy

Currently, asset securitisation is still at a beginning stage in Taiwan, and with a limited scale, its effects on monetary policy are not yet evident. In the long run, a mature asset securitisation market will provide banks with another important funding channel, thus reducing banks' reliance on central bank financing. This could weaken the effectiveness of monetary policy. Nevertheless, asset securitisation will raise sensitivity of interest rates on mortgage credit to monetary policy, hence strengthening the monetary policy transmission effects of interest rate channels.

5.4 Housing Finance and Capital Market

5.4.1 Current Status for Housing Developers in Capital Market

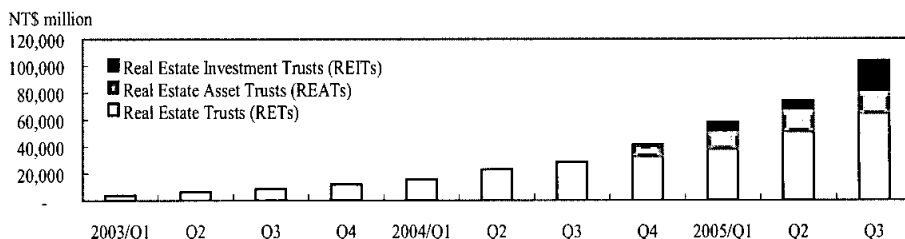
From 1990s onwards, housing developers have benefited from developments in the domestic financial market and financial instruments by raising capital through stocks and corporate bonds. However, tapping the capital market became increasingly difficult when a number of developers suffered from financial crisis in 1998 and the price of construction stocks slumped. The property market's revival from the latter half of 2003 onwards boosted the price of construction

stocks and offered developers renewed opportunity to raise capital through the stock market. In contrast, the proportion of domestic developers seeking funding from the bond market is still limited due to low credit ratings. A low credit rating means higher risk premium and more cost involved when issuing corporate bonds and mortgage-backed securities.

5.4.2 Promising Future to Raise Funds from Capital Market

The steady growth of the stock market and bond market in Taiwan since the 1990s has led to the growing importance of the domestic capital market. The outstanding real estate loans as a proportion of the total face value of all listed stocks (including stocks traded over the counter) and outstanding bonds issued, as shown in Figure 9 and Table 14, sank from 179 percent and 390 percent in 1990 to 79 percent and 85 percent in July 2005, respectively. The vast amount of real estate loans currently funded by domestic banks shows great potential for securitised products linking the property market and the capital market such as RMBSs, REATs, and REITs. The growing sophistication of the asset securitisation market will not only offer new investment alternatives but also contribute to the growth of Taiwan's capital market.

Figure 9: Outstanding Balance of Real Estate Securitisation in Taiwan



Source: Quarterly Report of Trust Business, Trust Associations of Republic of China.

Table 14: Real Estate Securitisation and Capital Market in Taiwan

Year	Real Estate Loans of Domestic Banks	Total Loans of Domestic Banks	Total Face Value of Listed Stocks	Outstanding Bond Issued	(1)	(1)	(1)
	(1) NT\$ Billion	(2) NT\$ Billion	(3) NT\$ Billion	(4) NT\$ Billion	(2) (%)	(3) (%)	(4) (%)
1988	7,061	25,253	3,563	2,378	28.0	198.2	296.9
1990	9,484	36,143	5,293	2,430	26.2	179.2	390.3
1991	11,838	45,023	6,205	5,356	26.3	190.8	221.0
1992	16,183	57,006	7,400	7,434	28.4	218.7	217.7
1993	21,930	65,461	8,945	8,625	33.5	245.2	254.3
1994	26,795	77,818	10,809	9,923	34.4	247.9	270.0
1995	29,593	85,369	14,976	10,949	34.7	197.6	270.3
1996	31,568	90,275	18,935	14,085	35.0	166.7	224.1
1997	35,457	105,953	26,558	15,727	33.5	133.5	225.5
1998	37,725	114,059	35,248	18,133	33.1	107.0	208.0
1999	38,423	121,483	40,457	22,231	31.6	95.0	172.8
2000	39,688	128,962	48,557	25,348	30.8	91.7	156.6
2001	38,262	127,151	52,648	30,795	30.1	72.7	124.2
2002	37,853	125,049	55,530	39,383	30.3	68.2	96.1
2003	40,509	131,311	58,563	49,046	30.8	69.2	82.6
2004	45,946	144,395	61,601	55,903	31.8	74.6	82.2

Note: 1. Real estate loans include house-purchasing loans, house-repairing loans and loans for construction.

2. Listed stocks include the stocks of listed companies and GTSM companies.

Source: 1. The Financial Statistics Monthly, Republic of China, Department of Economic Research, the Central Bank of China.

2. Major Indicators of Securities & Futures Market, Taiwan District, Republic of China Financial Supervisory Commission, Executive Yuan, R.O.C.

6. Housing Market Interrelationship with Macroeconomic Variables

6.1 Relationship of House Price and Other Variables

According to the previous literature on the determination of house prices, the main determinants of house prices include: real GDP, real monetary aggregates (M2), real interest rates, stock prices and inflation. The following sections discuss

the theoretic relationship of each of these variables with house prices and are followed by an empirical study testing the specified relationship in Taiwan's housing market using the Granger Causality Test.

Real GDP. The real GDP is expected to be positively correlated with house prices for different reasons. In general, when the real GDP rises, the national income will rise in response and consumers' ability and desire to purchase houses will be boosted.

On the supply side, expecting to profit from housing market booms and rising house prices, developers build more houses. This will in turn increase GDP. On the demand side, house owners' wealth increases when house prices increase. Consumption, a major portion of GDP, likewise, increases due to this newfound wealth. As such, one can conclude that the real GDP is positively correlated with house prices.

Monetary Aggregate. The monetary aggregate is positively correlated with house prices. Bank credit expands when household demand for mortgage loans increases; this increases the level of monetary aggregates. Under this condition, the market will be filled with excess liquidity, and credit constraints will be relaxed, making it easier for consumers to obtain loans. Demand for house purchases goes up, thus pushing house prices up.

Inflation. The relationship between inflation and house prices is ambiguous. The relationship is positive when inflation boosts housing demand, but negative when the increase in interest rates resulted from the CBC's effort to fight inflation discourages house purchases. When prices inflate, consumers worry about the domestic currency losing value. To minimise loss, consumers turn to durables with consistent values such as houses, which push up house prices. The rise in prices will not stop unless the CBC puts a stop to rising inflation by implementing monetary tightening policies. The CBC's effort to restrict the over-expansion of credit will lead to an increase in the market rate, which will push house demand down and suppress a further rise in house prices.

Bank Loan Rate. Bank loan rates are negatively correlated with house prices. On the demand side, houses become less affordable, house demand declines, and house prices rise when the interest rate rises. On the supply side, because the cost of obtaining land and raw materials for construction rises when the interest rate increases, in theory, developers' willingness to build declines,

and housing supply drops, driving up house prices. In reality, since housing supply is quite inelastic, the reduction in housing supply in the short run due to a rise in interest rates is limited.

Stock Prices. Stock prices are positively correlated with house prices because when investors' wealth increases due to a swelling stock market, they tend to diversify their newfound wealth with house purchases. With increasing housing demand, house prices soar.

6.2 Empirical Evidence

The results of various statistical tests exploring the relationship between house prices and macroeconomic variables are discussed below. (see Appendix I for data sources and definitions.)

6.2.1 Augmented Dickey-Fuller Unit Root Test

Before performing the Granger causality test, we have checked the presence of unit roots for quarter-on-quarter house prices published by the Ministry of the Interior and the five macroeconomic variables mentioned in the previous section for the period of from the second quarter of 1980 to the second quarter of 2005. Test results are listed in Table 15.

Among the six variables used in the test, real GDP, inflation, and monetary aggregates are seasonally adjusted, the rest including house prices, stock prices and real interest rates are not seasonally adjusted.

All six variables pass the ADF test, indicating no unit root (see Table 15).

Table 15: Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	ADF t-Statistic		
	Include Constant	Include Constant & Trend	No Constant & Trend
Real Average Price of New House	-4.5954*** (k=1)	-4.6523*** (k=1)	-4.5346*** (k=1)
Real GDP	-6.6052*** (k=0)	-7.2436*** (k=0)	-1.8648* (k=2)
Consumer Price Index	-5.8588*** (k=0)	-5.9954*** (k=0)	-5.5931*** (k=2)
Real Monetary Aggregate M2	-2.3241 (k=3)	-6.0564*** (k=0)	-0.9215 (k=3)
Real Lending Rate	-2.9435** (k=7)	-3.8698** (k=7)	-0.9480 (k=6)
Stock Price Index	-7.0645*** (k=0)	-7.1564*** (k=1)	-6.9714*** (k=0)

- Notes: 1. The above variables are all quarter-on-quarter percentage change rates (the real lending rate is the quarter-on-quarter difference).
2. The null hypothesis is accepted for those without a * mark (these series have a unit root).
3. *** indicates that the unit root null hypothesis is rejected at a significance level of 1%.
4. ** indicates that the unit root null hypothesis is rejected at a significance level of 5%.
5. * indicates that the unit root null hypothesis is rejected at a significance level of 10%.
6. The figures in the parentheses (k) are the number of lagged quarters.

6.2.2 Granger Causality Test

Test results for the Granger Causality Test performed on the six variables mentioned earlier are displayed in Table 16 below.

Table 16: Granger Causality Test

Analytic	Lagged Quarters (k)		
	k=1	k=2	k=3
	Influencing Direction (→ or ←)		
1. Real GDP and Real Average Price of New Houses	→ (5.85)**	→ (3.89)**	—
2. Consumer Price Index and Real Average Price of New Houses	← (6.30)**	—	← (2.82)**
3. Real Monetary Aggregate M2 and Real Average Price of New Houses	→ (9.81)***	→ (4.75)**	→ (2.99)**
	← (4.22)**	← (3.22)**	← (3.14)**
4. Real Lending Rate and Real Average Price of New Houses	← (3.98)**	—	← (2.54)*
5. Stock Prices Index and Real Average Price of New Houses	→ (18.75)***	→ (6.93)***	→ (5.66)***
		← (3.39)**	

Notes: 1. The Influencing Directions are the results of the null hypothesis rejected at a significance level of 10%.

“—” means that there is no relation between the two variables

2. The figures in the parentheses are the F statistics in pairwise Granger Causality Test. ***, **, and * indicate that the null hypothesis is rejected at significance levels 1%, 5%, and 10%.

(i) Real GDP and Real House Price

The Granger causality test indicates that lagging one to two quarters, real GDP is the cause while house prices the result, which is consistent with classical theory.

(ii) Inflation and House price

The Granger causality test indicates that lagging one to three quarters, house prices causes inflation. This is inconsistent with expectations predicted by classical economic theory. The reason for this may be because house prices have declined for a long period of time since the early 1990s and housing supply has been in excess, causing rent to decline and consequently a decrease in prices.

(iii) M2 and House Price

The Granger causality test indicates that lagging one to three quarters, M2 causes house prices and house prices cause M2. Test results are consistent with theory.

(iv) Bank Loan Rate and House Price

The Granger causality test indicates that lagging one to three quarters, house prices cause bank loan rates, perhaps due to developers rising demand for bank loans when the housing market sizzles.

(v) Stock Price and House Price

The Granger causality test indicates that lagging one to three quarters, stock prices cause house prices. Lagging three seasons, these two variables are causes for one another. This is consistent with theory.

6.3 Housing Market and the Transmission Mechanism of Monetary Policy

6.3.1 Monetary Policy and Asset Price Changes

The interest rate, the channel for which the monetary policy exerts its influence on the amount of credit extended by banks and the cost of borrowing,

affects suppliers' demand for housing construction and consumers' demand for house purchases. Under the normal case, there are no sudden surges in either the demand for or the supply of housing. In the case of a bubble, the demand for housing swells abnormally, marking up house prices. Developers rush into the market until equilibrium is reached. Banks expand credit to both consumers and developers, exposing them to severe concentration of risk. The risk is manageable if house prices remain stable. However, if house prices decline, the quality of collaterals will deteriorate, increasing the probability of non-performing loans, and thus endangering the stability of the financial system. The CBC, to fulfill one of its objectives of maintaining financial stability can adjust the policy rate to reduce the loss incurred due to price declines or executes selective credit controls to influence consumption and other economic activities.

6.3.2 Monetary Policy Reaction to Asset Price Changes

The role of house prices in the monetary policy transmission mechanism can be analysed from two perspectives: (1) how monetary policy may affect overall economic activities by affecting house prices, and (2) how changes in house prices affect monetary and economic activities and the financial system.

As far as the first perspective is concerned, monetary policy may affect financial institutions' and the general public's cost of funds through the interest rate channel. It can also affect banks' loanable funds through the credit channel. The resulting changes in bank lending, in turn, affect house prices and further economic activities.

Regarding the second perspective, when house prices rise, the asset value of households and enterprises increases, thus improving their asset and liability conditions and raising their borrowing ability. Under these circumstances, financial institutions are also more willing to lend. The likely result is a rise in household debt burdens, excessive concentration of financial institutions on loan business, and the pro-cyclical tendency of bank credit. Once bank credit expands too rapidly, the central bank may adopt monetary tightening, raising interest rates which may adversely impact economic activities.

Moreover, in case house prices turn to fall or even plunge, housing rents will decline and the value of collateral held by financial institutions will also shrink. These chained developments may lead to low inflation or even deflation, as well as deterioration in the asset quality of financial institutions, thus hampering economic and financial stability.

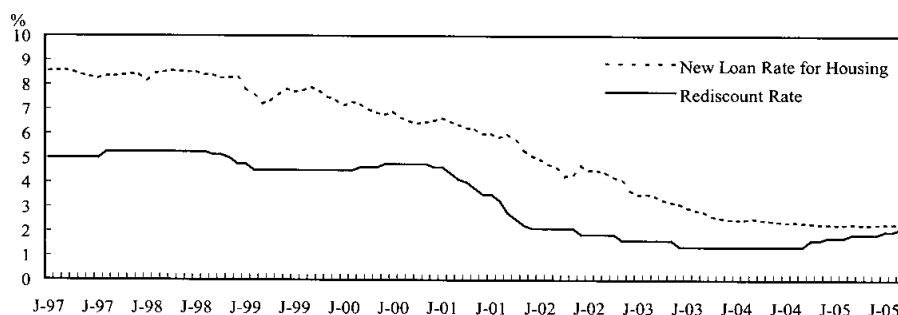
As to whether the CBC should stabilise excessive house price fluctuations with monetary policy, so far, there is no consensus. One school believes that since it is almost impossible to discern whether house price changes were fundamental or speculative in nature as many factors play parts in the determination of house prices, the CBC should not be so quick to respond to fluctuations in house prices by lowering the interest rate. Another school believes that because fluctuations in house prices will influence overall consumption and investment through the wealth channel and since they are also good indicators for future prices and output gap, the CBC should respond promptly.

6.3.3 CBC's Measures

The CBC has implemented various measures in the past in response to fluctuations in the property market and to maintain general financial stability. During the two periods of high inflation, 1973-1976 and 1980-1982, the CBC raised the discount rate substantially to fight the rising house price level. During the real estate boom in the late 1980s, the CBC increased the reserve requirement significantly to curb speculative activities. From December 2000 to 2003, to minimise the perverse effects of a sustained general price decline and house price downturn, the CBC lowered the discount rate 15 times from 4.75 percent to 1.375 percent, the lowest in banking history, as shown in Figure 10. Around the same time, from August 2000 to June 2005, as an alternative measure to enliven the economy and to encourage house purchasing, the CBC initiated a 1.8 trillion preferential loan programme, which subsidises banks for extending credit to consumers at favourable rates.

In practice, because the CBC's primary objective is to maintain stable prices, it is unlikely that the CBC directly reacts to house price fluctuations with monetary policy. But because the CBC's policy decision making is forward-looking, it will likely incorporate house prices as part of its policy decision-making process in order to maintain long-term price stability.

Figure 10: Discount Rate and New Loan Rate for Housing



Sources: Financial Statistics Monthly, Department of Economic Research, Central Bank of China.

7. Conclusion

Our main findings are summarised as follows:

1. The vacancy rate in Taiwan was high from 1980 to 1999 until the government instigated policies to encourage house purchases. In 1999, the number of vacant houses peaked at 1.3 million. In 2004, the number of vacancy was 1.2 million, rising from 1.18 million in the previous year.
2. Housing market transactions in Taiwan have exhibited considerable fluctuations. In the early 1990s, construction companies sped up construction works ahead of the imposition of stricter building bulk controls and land tax regulations, resulting in a severe oversupply of houses. The total transaction volume reached a peak of 123.19 million square metres in 1991, but hit a bottom of 41.11 million square metres in 2001, and then rose to 50.35 million square metres in 2004 as the housing market regained strength.
3. Over the last three decades, the Taiwan government has undertaken proactive policy measures in response to cycles of the domestic property market to assist in its sound developments and dampen speculative activities. Major policy includes a housing policy related to land use, construction management and transaction safety, a housing subsidy policy to help people with their housing needs, and an accompanying tax policy. The CBC has also adjusted the loanable funds in financial institutions and the cost of funds through its monetary policy, and when necessary, even imposed property-related credit controls.
4. Taiwan's government has often intervened to help people with their home buying needs. During the late 1980s and early 1990s, the government

expanded its construction works of medium- and low-income houses, and launched various mortgage subsidy programmes. Since 1998, the government has provided various policy lending programmes to assist people's home purchase or rehabilitation needs.

5. Total housing loans made by the public sector is still relatively limited compared to that by financial institutions. In 2004, total housing loans made by the public sector reached NT\$271.1 billion, still only 5.9 percent of those funded by domestic banks.
6. With economic developments advancing, household income increasing and house supply rising, the ratio of house ownership has been growing steadily since the 1970s and by 1990 had exceeded 80 percent, a rather high level compared to other developed economies.
7. Currently, asset securitisation in Taiwan is at a beginning stage, and with a limited scale, its effects on monetary policy are not yet evident. However, in the long run, a mature asset securitisation market will provide banks with another important funding channel, thus reducing banks' reliance on central bank financing. This could weaken the effectiveness of monetary policy. Nevertheless, asset securitisation will raise sensitivity of interest rates on mortgage credit to monetary policy, hence strengthening the monetary policy transmission effects of interest rate channels.

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Appendix 1: Data Definition and Sources

1. **Real Average Price of New Houses:**
The average standard prices of pre-sale and new-completed houses. Real prices are obtained by nominal prices deflated by the consumer prices index.
Source: Architecture Research Institute, The Ministry of Interior, R.O.C.
2. **Real GDP: at 1996 fixed prices**
Source: The Quarterly National Economic Trends, Taiwan Area, ROC, Directorate General of Budget, Accounting, and Statistics (DGBAS), Executive Yuan, R.O.C.
3. **Consumer price index: (2001=100)**
Source: Same as Real GDP.
4. **Real Monetary Aggregate M2:**
Daily average, Real M2 is obtained by nominal M2 deflated by the consumer price index.
Source: Financial Statistics Monthly, Taiwan District, the Republic of China.
5. **Real Lending Rate:**
The real weighted average lending rate of domestic banks, Real Lending Rate is obtained by nominal lending rate deflated by the average annual increase rates of the consumer price index for the past four quarters.
Source: Same as Real Monetary Aggregate M2.
6. **Stock Price Index:**
The weighted average stock prices index of the Taiwan Security Exchange, 1966=100, daily average.
Source: Same as Real Monetary Aggregate M2.

CHAPTER 10

HOUSING AND MORTGAGE MARKETS IN THAILAND

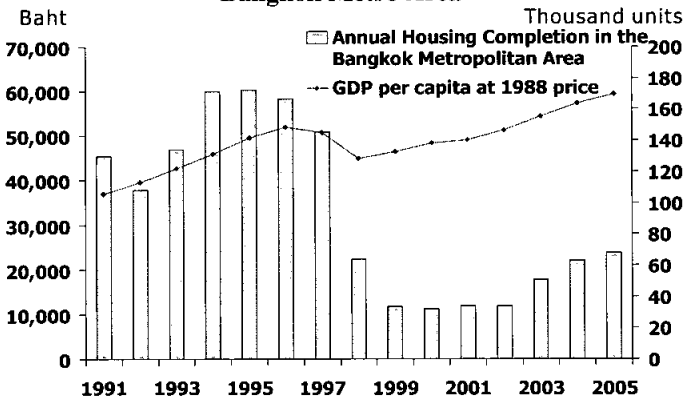
by
Rawisprapa Ruckphaopant
Jarupan Wanitthanankun
Yunyong Thaicharoen

1. Overview

1.1 Macroeconomic Characteristics

The condition of overall macro economy has had great relevance to the health of housing markets in Thailand. During the early 1990s period, characterised by high economic growth rates with relatively easy financing, Thai housing markets expanded rapidly, with annual housing completion in the Bangkok Metropolitan Region (BMR) exceeding 170,000 units in 1995. Fuelled by speculative demand, property prices rose markedly and became the basis for property developers to obtain new loans. This had led to excess supply and market overheating. As a result, financial institutions became deeply entangled with developments in the property sector. And when the economy began to slow down in 1996, which caused almost all property developers to experience cash flow problems, the financial sector became very vulnerable. Eventually, the overextended balance sheets of these developers proved unsustainable as many defaulted in their loans.

Figure 1
GDP per capita and Annual Housing Completion in the Bangkok Metro Area



Source: National Economic and Social Development Board (NESDB)
and Government Housing Bank (GHB)

Confidence in the economy quickly eroded and things snowballed into a major economic crisis. Thus, the period surrounding 1997 crisis indeed exemplified the interplay between the property markets, commercial bank lending and the overall economy.

In the immediate aftermath of the 1997 crisis, the economy shrank by 10.5% in 1998, dealing a heavy blow to domestic demand and economic confidence. High inflation in 1998 mainly as a result of significant baht depreciation further eroded household's purchasing power. Though the economy, supported by favourable export performance and government spending, registered positive growth during 1999-2000, the housing market continued to shrink, with the number of annual housing completion falling drastically during the three years after the crisis, reaching the trough in 2000, with only 32,000 units completed. It is partly due to the high level of excess supply (vacancy housing). Additionally, economic slowdown in 2001 due partly to contracted global IT cycle and the 911 incidence further delayed the acceleration of activities in the housing market.

The recovery of the housing market began in 2002 and gained further momentum during the next two years in line with favourable macroeconomic conditions. These included strong GDP growth and low interest rates made possible by relatively low inflation and accommodative monetary policy. This has resulted in greater consumer's ability to purchase new houses through their increased ability to service debt. The activities were also aided by a number of government measures including temporary tax reductions as well as changes in laws with regards to foreign ownership of Thai properties. The demand for housing is also further boosted by a number of key major demographic trends including higher population and increased urbanisation rate. Besides demand factors, commercial banks have also been eager to provide mortgage loans to households as a mean to reduce their excess liquidity as they became more cautious to extend credit to the manufacturing sector.

Table 1
Selected Macroeconomic and Demographic Indicators

Selected Indicators	Unit	1980	1990	2000	2001	2002	2003	2004	2005
Real GDP (1988 price)	Bil. Baht	662.5	2,183.5	3,008.4	3,073.6	3,237.0	3,464.7	3,678.5	3,842.5
Real GDP growth	%	4.6	11.2	4.8	2.2	5.3	7.0	6.2	4.5
Nominal GDP (in US dollar)	Bil. USD	32.3	85.3	122.6	115.4	126.8	142.8	161.5	176.4
GDP per capita	USD	688.8	1,528.1	1,980.9	1,852.3	2,018.5	2,263.2	2,606.1	2,827.7
Household income	% GDP	n.a.	34.8	49.1	n.a.	52.4	n.a.	50.3	n.a.
Household expenditure	% GDP	n.a.	33.7	39.8	n.a.	41.5	n.a.	41.4	n.a.
Headline inflation	%	19.7	5.9	1.6	1.6	0.7	1.8	2.7	4.5
Minimum loan rate	%	16.3	13.2	8.1	7.5	7.0	6.1	5.6	5.9
Total population	Mil. persons	47.0	55.8	61.9	62.3	62.8	63.1	62.0*	64.8
Population growth	%	1.8	-0.1	0.1	0.7	0.8	0.4	-1.8*	4.5
Population density	Persons / sq. m.	92	110	121	121	122	123	121	126
Urbanisation rate (BKK and 5 adjacent provinces)	% of total population	n.a.	15.2	15.2	15.3	15.4	15.6	15.5	15.7

Note: * Data collection system has changed for eliminating double count since 2004.

Source: Various official agencies including BOT, MOI, NESDB, MOC and NSO (See appendix for acronyms)

1.2 Relevance of Housing Market Development

In recent years, developments in the housing markets in general, and house prices in particular have received much attention from economists and monetary policymakers everywhere. This is certainly the case for Thailand. The 1997 crisis highlighted the strong interlink between the health of housing markets and overall economy, thus providing greater impetus on better understanding and closer monitoring of the developments in housing markets.

In the Thai context, there are at least three reasons why the Bank of Thailand has paid considerable attention on housing market development in recent years. **First, housing wealth is an important part of the net worth of households.** Moreover, housing-related expenses (e.g. mortgage or rent payments) represent a significant portion of household expenditure. Thus, fluctuations in household wealth, income and expenditure caused by changes in house prices, rents, and mortgage interest rates could have a significant impact on demand and price pressure, and thus play an important role in the transmission mechanism of monetary policy.

The second reason for greater attention to housing developments is due to the fact that housing rents are an important component of the consumer price index and thus warrant close monitoring to assess risks to price stability. In Thailand, rents account for 24 % of the representative basket of goods and services, which is used to calculate headline inflation. The weight rises roughly to 30 % of the baskets for the calculation of core inflation, of which 0-3.5 percent quarterly average band being the operating target under the BOT's current inflation targeting framework. Changes in rents as a result of national tax policies or regulations could potentially generate significant second-round effects on price developments, as they may impact on wage contracts.

Third, episodes of boom and bust in house prices, both locally and internationally, have underscored their role in shaping the business cycles and their implication on financial stability. The 1997 crisis highlights the "financial accelerator" mechanism which implies a positive correlation between bank credit and property (and other asset) prices. Early in the expansionary periods, households and firms experience improved financing conditions mainly through better cash flows and increased collateral value in form of higher property prices. This in turn leads to higher credit availability, higher demand and higher property prices. In periods of contraction, the process is reversed. Falling property prices undermine the quality of households' and firms' balance sheets, thus making banks less likely to lend. This could lead to credit crunch and recession.

This "financial accelerator" mechanism seemed to be very relevant for Thailand as most banks have historically given considerable weight on the value of collaterals especially in form of land or property when deciding whether to extend bank credits. Given that the Thai economy remained largely bank-based, fluctuations in property prices and thus associated vulnerability in bank's balance sheets would imply considerable impact on households' and firms' ability

to raise funds during the downturn. This could potentially increase the scope of pronounced financial cycles and the amplifications of business cycles.

In addition, the increase in Thailand's household indebtedness in recent years was significantly attributed to rising mortgage loans. The data from the household survey in 2004 indicated that mortgage loans accounts roughly for one-third of total debt for average household. Since most of these loans are of floating rate types (except for the first few years), there is potential for future concerns with regards to households' ability to service debt and thus the stability of financial institutions in the event of an extended economic recession and/or a significant increase in interest rates.

Given the explanation provided above, it is clear why the Bank of Thailand has included the analysis of housing markets in its overall assessment of the economic conditions.

2. Housing Sector Overview

2.1 Market Size and Structure

2.1.1 Population and Housing Stocks

According to the latest data collection, Thailand had 18.9 million housing units and a population of 62.4 million in 2005. During 1990s, housing stocks in Bangkok and adjacent provinces grew much more rapidly than those in the country. However, the growth in the two areas has been much more comparable over the past five years. In addition, the size of Thai households continues to be smaller, with households in Bangkok and adjacent provinces tend to have fewer persons per house compared to those in the country. The smaller household trend has added further demand for housing as well as influence the type of housing available in the market.

Table 2
Population and Housing Stock in Thailand

	1990	1995	2000	2001	2002	2003	2004 ^{1/}	2005
Number of Households (millions)	n.a.	n.a.	17.3	n.a.	17.9	n.a.	18.9	n.a.
Population (million)								
- Whole Kingdom	56.3	59.5	61.9	62.3	62.8	63.1	62.0	62.4
- Bangkok and five adjacent provinces	8.5	8.9	9.4	9.5	9.7	9.8	9.6	9.8
- The other provinces	47.8	50.6	52.5	52.8	53.1	53.3	52.3	52.6
Housing Stock (million)								
- Whole Kingdom	11.3	14.7	16.6	16.9	17.3	17.9	18.4	19.0
- Bangkok and five adjacent provinces	1.8	2.8	3.3	3.4	3.4	3.5	3.6	3.8
- The other provinces	9.4	11.9	13.3	13.6	13.9	14.3	14.8	15.2
Persons per House								
- Whole Kingdom	5.0	3.9	3.7	3.7	3.6	3.5	3.4	3.3
- Bangkok and five adjacent provinces	4.6	3.1	2.9	2.8	2.8	2.8	2.6	2.6
- The other provinces	5.1	4.1	3.9	3.9	3.8	3.7	3.5	3.4

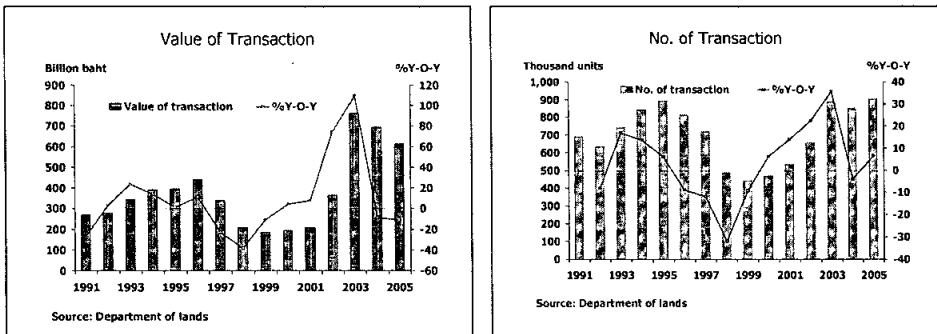
Note: 1/ Data collection system has changed for eliminating redundant since 2004.

Source: Department of Provincial Administration

2.1.2 Housing and Real Estate Transactions

Housing and real estate transactions increased steadily during the pre-crisis period, peaking in term of value of transactions in 1996. Both the number and value of transaction fell steeply in the aftermath of the crisis as domestic demand collapse in the face of excess supply of housing units. During 1999-2001, the markets remained subdued with value of transactions being half of the level seen during the peak in 1996. The activities did picked up noticeably in 2002, and especially in 2003 as the rapid recovery of the housing markets was underway as a result of strong GDP growth, favourable financing environment, and government stimulus. The observed decline in value and number of transactions in 2004 was mainly due to the acceleration of transaction completions to take advantage of transaction tax incentive which expired at the end of 2003.

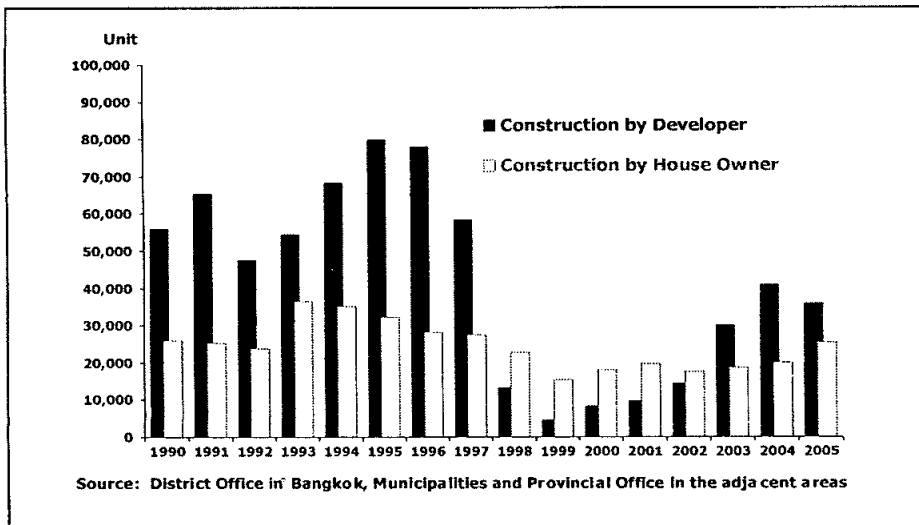
Figure 2
Value and Number of Housing and
Real Estate Transactions Nationwide



2.1.3 Types of Housing Completions

During the pre-crisis period, most of the new houses in Bangkok Metropolitan Areas were constructed by housing developers. However, the crisis brought a marked decline in housing projects as most developers failed to stay afloat amid tightening credit and waning demand. As a result, the share of housing

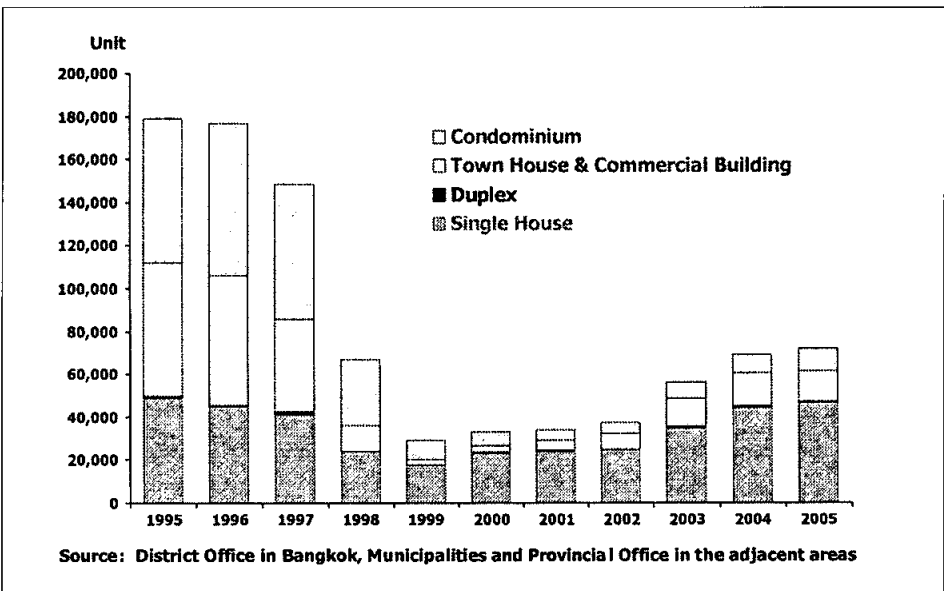
Figure 3
Housing Completions in Bangkok Metropolitan Areas and
Vicinity, by Construction Types



constructed by developers dropped to only 42% in 2001. Nevertheless, over the past few years, housing projects have picked up gradually but not yet reached the pre-crisis level, as only developers with strong financial health could compete in a much more competitive environment.

During the past decade, there was also a significant change in the types of new housings units in the BMR. The share of condominium units increased rapidly from only 3 percent in 1987 to the peak of 46 percent in 1998. After the crisis, the share of condominium has declined gradually as most completed housing units have been single detached houses, accounting for two-thirds of the newly constructed units in 2005.

Figure 4
Housing Completions in Bangkok Metro Areas and Vicinity, by Housing Types



2.2 House Price Dynamics and their Determinants

House price volatility can have significant effects on economic activities and financial stability. This fact has prompted many economists especially in OECD countries to examine the factors driving house price dynamics. Important questions usually focus on, first, whether housing market fluctuations are an independent source of shocks or whether they just reflect macroeconomic fluctuations and second, whether certain institutions and policies can amplify or dampen the effect of a macroeconomic shock on house price. However, in case of Thailand, the study on this issue had been in the past hampered by the lack of reliable housing price indices. Available housing price indices in Thailand must be treated with caution as data are from private real estate firms and are confined to specific types of property, namely commercial offices and luxury condominiums in the central business areas.

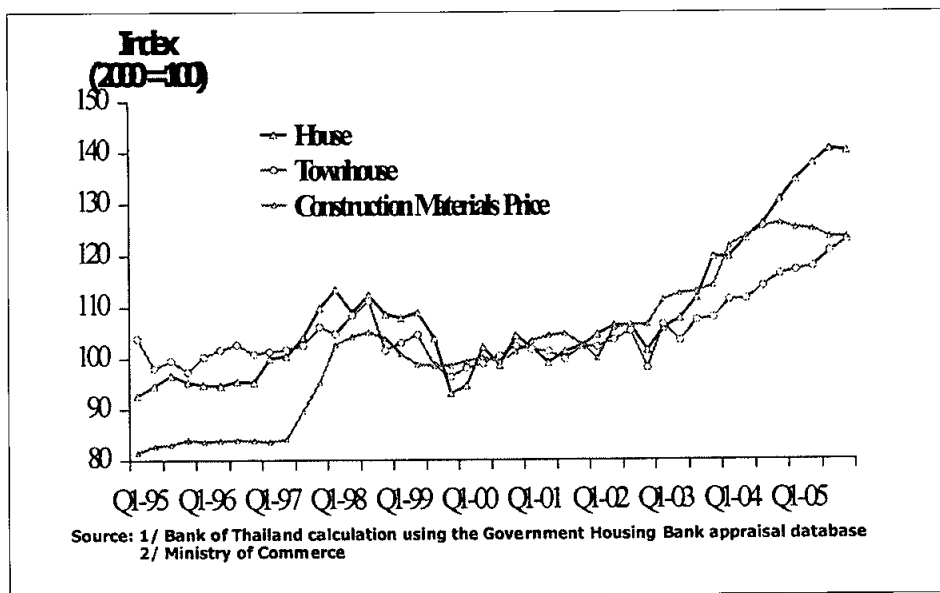
To develop a reliable indicator for housing price development, in 2004 the Bank of Thailand (BOT) has, in collaboration with the Government Housing Bank (GHB), constructed quarterly housing price indices starting from 1990 to present and to updated each quarter. The indices represent house price appreciation within the medium- to low - end price range in Bangkok and its vicinity, which includes Nonthaburi, Samutprakarn and Patumthani. There are three indices:

- (1) **Single-detached House Price Index or Townhouse Price Index (excluding land)** is characterized by type: single-detached house or town house. A hedonic methodology is used to compute this index, based on the reason that no two houses are alike in physical characteristics and/or location. The model thus adjusts for these differences.
- (2) **Land Price Index** is based on the quarterly median price rather than the hedonic approach because data on land characteristics are unavailable. Land price indices for each district is constructed, then weighted with the ratio of each district's land size to total land size to obtain quarterly series of the aggregate land price index.
- (3) **Housing Price Index** is a weighted average of (1) and (2). The combination between the house price and the land price is done using the ratio 40:60 and 45:55 for single-detached houses and town houses, respectively.

2.2.1 Housing Price Developments

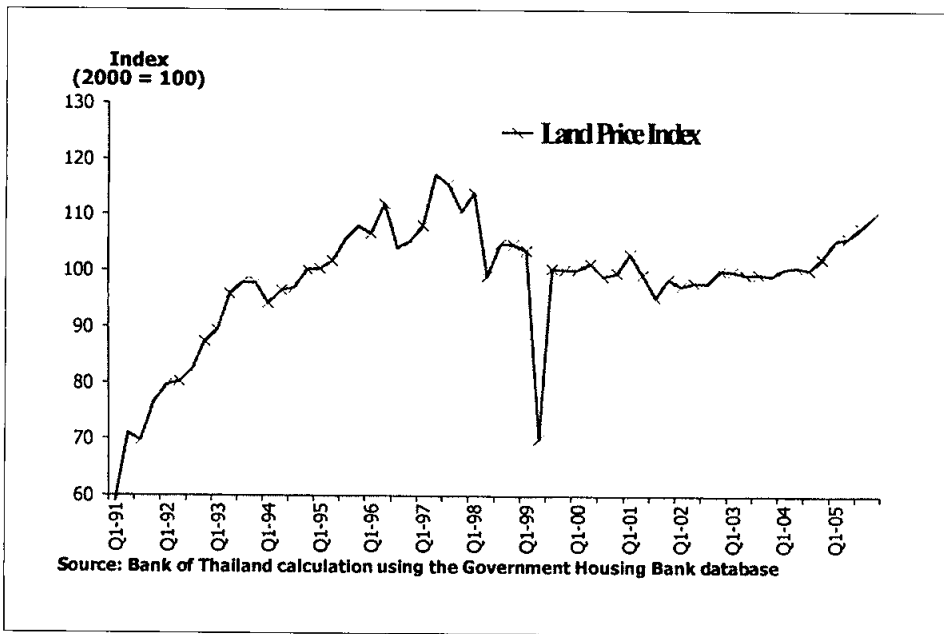
1. **The Single-Detached House Price Index and Town House Price Index (excluding land price)** move in line with the Ministry of Commerce's wholesale construction price index. The correlation between these indices is hardly surprising since the cost-based approach is employed in the GHB's house appraisal. However, in terms of magnitude, the change in house price indices is less than that of the wholesale construction price index. This is because the total cost of building a house includes not only the cost of construction materials but also labour costs, profit margin, and contractor tax. Note that construction costs lead house prices which reflects higher construction costs for contractors during the later periods.

Figure 5
Housing Price Index^{1/} and Construction Material Price Index^{2/}



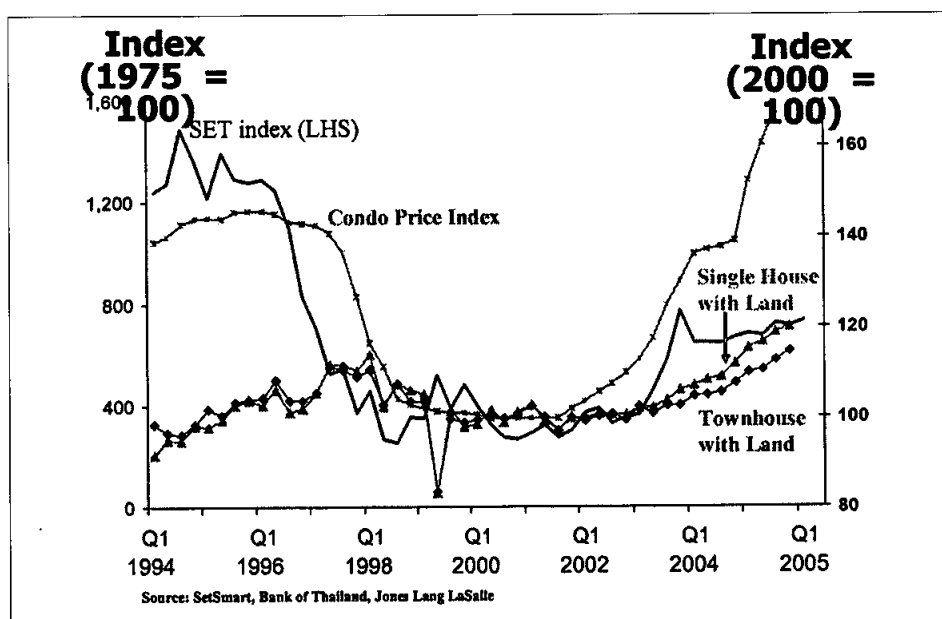
2. **The Land Price Index** represents the weighted average of land price in 22 districts across Bangkok and its vicinity (11 in Bangkok, 5 in Nonthaburi , 4 in Samutprakarn, and 2 in Patumthani). The index reflects the business condition reasonable well as follows:
- Before the 1997 economic crisis, land prices rose continuously at around 9 per cent per annum during 1991 to 1997. If data from 1988 to 1991 were available, a higher rate of land price increase would have likely been observed during that period.
 - The land price index dropped slightly following the crisis. The drop was due to the price cut of many completed projects, which wanted to sell off housing inventories from the market. The V-shape slump during 1999 Q2 reflected debt restructuring and asset liquidation carried out by the Financial Sector Restructuring Authority (FRA), whose valuation was subsequently used as a market benchmark. After assets were sold off, housing inventories in the market declined leading to an increase in asset prices corresponding to the new market condition. Land prices rose slowly since 2001 as the real estate business was clearly in recovery.

Figure 6
Land Price Index



3. **The Housing Price Indices** are constructed by combining each type of the house price index with the land price index, whose movement is consistent with the land price index in 2.2. Overall, the behaviour of Thailand's housing price indices is in line with that of other countries, i.e. peaks in Thailand's stock price index lead peaks in housing price indices by about 3 years. Moreover, the sharp drop in the stock price index in 1996 preceded the fall in house prices by around 2 years. The housing price indices also move in line with prices of luxury condominiums in Bangkok's Central Business District (CBD) area.

Figure 7
House Price Index and SET Index



Limitations of the Index

Data used by the BOT in constructing these indices are from the GHB database which covers mostly medium- to low-end houses in some parts of the periphery of central Bangkok. They do not represent the overall housing price inflation in Thailand as they do not take into account high - end houses and those in the CBD areas.

2.2.2 Determinants of House Price Dynamics

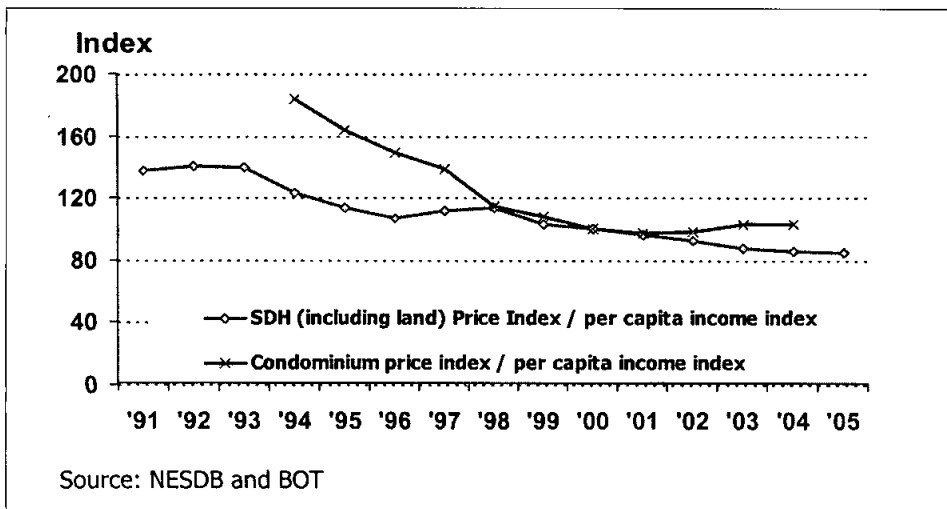
Explaining house price movements econometrically is a very difficult task, given the complex dynamics and the importance of expectations, particularly in periods of booms and busts. Here, we shall investigate analytically the factors that have influenced house price dynamics in Thailand.

(i) Macroeconomic Factors

- **Household income** is among the single most significant explanatory variable of house prices. Empirical studies in OECD countries find that, in the long run, the elasticity of house prices with respect to income is close to or just below unity. The main reason why house prices are expected to rise with income in the long run is that income growth generates more demand for living and creational spaces and drives up the price of construction land.

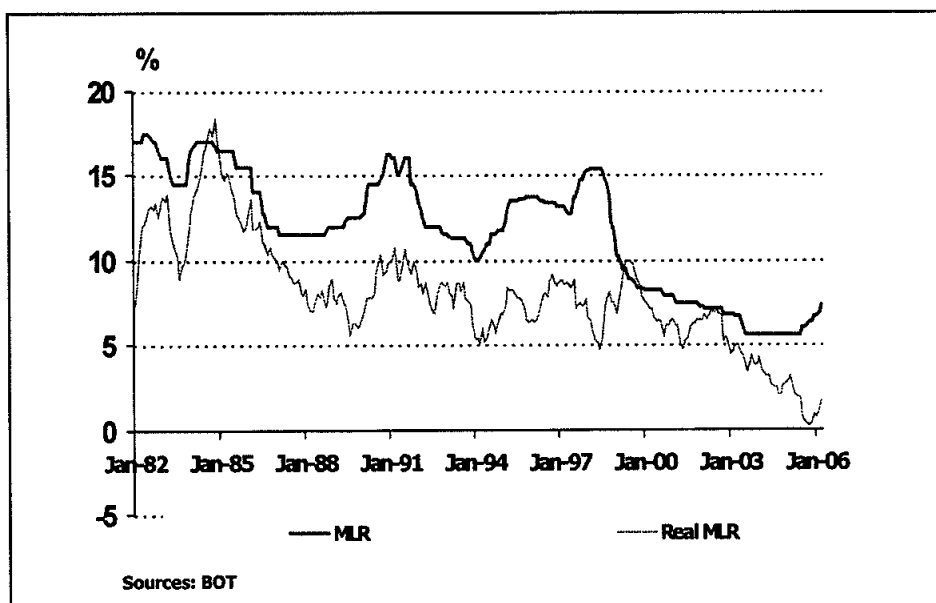
Figure 8 shows the ratio of house price indices to per capita income indices in Thailand. The trend over the past 10-15 years for the most parts has been falling, which means that, all other things being equal, the affordability of owner-occupied housing has improved over the long term, with household income growth has outpaced house price growth. However, in recent years, condominium prices have risen faster than income, resulting in rising price to income ratio.

Figure 8
Ratio of House Price to Per Capita Income



- **Real and Nominal interest rates** are other important factors in explaining house price developments. High nominal interest rates increase the initial debt servicing cost, creating a threshold for less wealthy households. Thus, a permanent drop in interest rate should lead to higher demand for housing and higher house prices, all other things being equal.

Figure 9
Nominal and Real Minimum Loan Rate



Both real and nominal interest rates in Thailand declined substantially after the 1997 crisis. The Minimum Loan Rate, which is the reference lending rate for mortgage loans, averaged around 13.5 percent during 1980-2000, but it has averaged only 6.5 percent between 2000 – present. Lower interest rates not only lower cost of borrowing but also effectively reduce credit constraints as borrowers could increase the amount of borrowing for financing larger and more expensive housing.

- **Household formation** In the long run, demand for housing also depends on rate of household formation. For Thailand, household formation has been boosted by the fall in the members per household, while being counterbalanced by slow growth of population.

(ii) Microeconomic Factors

House price volatility could also be affected by changing elasticity of the supply of new housing. Countries with low responsiveness of new house supply to change in prices tend to find that their house prices grow by more over time and fluctuate more strongly. The responsiveness of the supply of new housing depends largely on the time it takes to design and construct houses as well as on economic and policy factors such as competition in the construction industry, the availability and cost of specialised labour, building regulations, and taxes and subsidies.

In addition, the structure and institutions of credit markets could also influence the sensitivity of house prices to interest rates as credit constraints were reduced. With much more liberalized mortgage markets in Thailand now compared to the past, it is expected that change in interest rates and mortgage rates will have more impact on house prices. Lastly, Taxes, subsidies, and other public interventions could have important effects on house prices. In case of Thailand, improved property right law and the availability of loans for homebuyers created the housing boom in Bangkok housing market in 1970. Another example, in 1993, 5-year income tax exemption offered by the Board Investment (BOI) to developers who build low-income housing units set off a boom in housing developments, adding further fuel to market speculation frenzy at the time.

2.3 Housing Market and the Supply Side Developments

In the previous section, we have discussed about land price development over the past few years. In this section, we will focus on the development of construction material price, which is another main component of housing construction cost. Among items in this group, steel, concrete and cement account for 54 percent of construction material cost. Over the past few years, the cost of construction material has risen significantly, increasing by 7.7 and 10.2 percent in 2003 and 2004, respectively. In addition, higher oil price also contributes to higher cost for transporting construction materials. Higher cost for construction materials partly explains the rise in property price over the past couple years. The impact of higher material cost on developers will be varied, depending cost structure and segment competition. However, condominium developers will likely experience the highest cost impact as construction materials account for higher share of total cost compared to other types of developers.

Figure 10
Construction Material Prices and Property Price Index

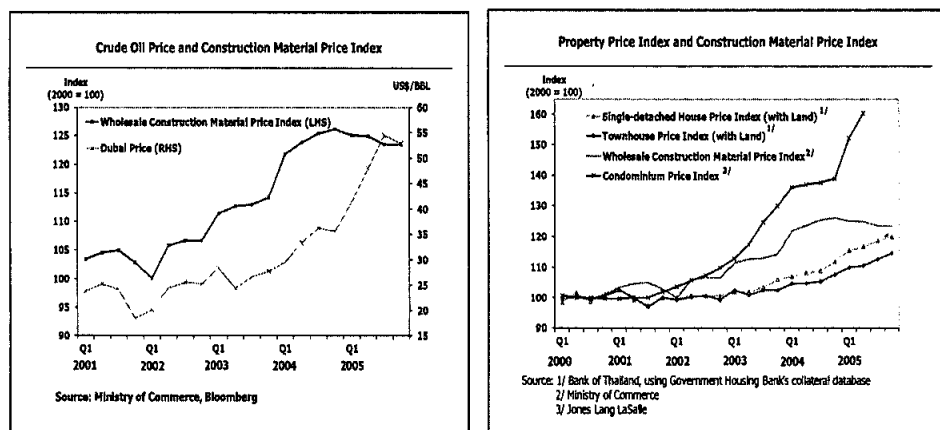


Table 3
Cost Structure of Property Business (percentage)

Unit: %

	Single-detached House	Townhouse	Condominium	Commercial Building
Land Cost	23	24	15	10
Construction Material and Labor cost	45	47	51	54
Others (Marketing, Tax, Interest rate, etc.)	8	6	9	3
Profit	24	23	25	33

Source: interview with selected developers in 2005

3. Housing Policy

3.1 Housing Development Policy

Housing development and housing finance policies intended to solve housing problems and promote home ownership in Thailand have been major policy issue for every Thai government in the past three decades. Rapid population growth and continuous urbanization have created numerous demands for housing over a wide range of income levels. Upper-middle and higher income-level housing needs are, however, currently well-served by the private sector. In 2004, private sector developers developed 66.7 percent of Thai housing.

Despite their housing-market dominance, private developers have largely avoided providing lower-income and lower-middle-income housing. In large urban areas such as Bangkok, various governments have implemented a wide range of policies to address the housing needs in urban slum and squatters' areas, as well as adequate housing for labourers who have migrated to urban based manufacturing and service industries.

The Government Housing Bank, established in 1953, acted both as a developer and as a housing financing institution at the outset but relinquished its housing development role to the National Housing Authority (NHA) when this was established in 1973. The NHA was established to provide housing and financial assistance to low and middle-income people. It was the government's catalyst to the development of rental accommodations and affordable homes that could be purchased by low and middle-income citizens. It was also involved in upgrading slum and squatter housing environments.

To formulate long-term national housing policies and measures dealing with current housing problems the Housing Policy Subcommittee under the National Economic and Social Development Board was created in 1985. Housing and housing finance policies have, moreover, been part of many National Economic and Social Development Plans.

The Seventh National Economic and Social Development Plan for 1992–1996 included the following policies in this regard:

- Promote and support the allocation of housing credits for low-income earners, facilitate housing loans, and support the operations of the Government Housing Bank;

- Encourage the private sector to provide housing at fair prices for low-income earners, by extending incentives for the construction of low-cost housing;
- Reduce the personal income tax burden by increasing the rate of tax deduction for interest paid on housing installment payments;
- Provide more low-income rented housing to meet the demand for temporary residences in the current industrial society;
- Set up a fund and allocate capital for loans for the purchase of plots of land and houses, and encourage private financial institutions to provide more credit for low-income housing, especially in slum communities; and
- Promote the establishment of housing credit institutions to mobilize long-term funds, and reduce house acquisition costs for families and low-income earners.

The Eighth National Economic and Social Development Plan for 1997–2001, on the other hand, has the following housing policy objectives:

- Raise the standard of living and quality of life through urban planning to guide land development and coordinate investment in social infrastructure and environmental protection;
- Make housing more affordable by promoting savings and long-term funding as well as adequate housing finance services nationwide; and
- Improve the efficiency of public management to support and supervise the housing market and provide consumer protection, and promote community organisations as the core of self-development with the support of public and private organisations.

The housing finance goals stated in **the Financial Development Master Plan for 1987–2001 of the MOF** are as follows:

- Expand the lending services of the Government Housing Bank particularly to take into account the housing needs of the low- and moderate- income groups in the provincial and rural areas; and

- Promote the establishment by private financial institutions of a credit bureau to check the creditworthiness of individual borrowers, in support of home mortgage lending and consumer lending operations.

The current government has initiated several joint private and public programs to address the needs of the urban poor and lower-income households. A brief synopsis of two of these programs is shown below:

1) Baan Eur-Artorn Low-Cost Housing Programme

This low-cost housing development was aimed at making housing affordable for lower-income people, including civil servants and government enterprise employees as well as enhancing economic growth. The programme has been assigned to the Ministry of Social Development and Human Security, with the NHA served as the project execution agency. The goal is to construct standard residential quarters for the less advantaged, the low income earners, junior government personnel and employees whose household income does not exceed 15,000 baht per month in 2003-2004 and not exceed 17,500 baht per month in 2005. The target is initially set at 600,000 homes to be completed in 5 years (2003 and 2007), with total investment budget approximately 308,000 million baht. The cost per units is set at 470,000 baht, with the government providing subsidies for 80,000 Baht per unit. Thus, the selling price to purchaser is 390,000 baht (\$US 9,750) per unit. For post financing, Government Housing Bank (GHB) will provide low-interest loans to buyers.

The Baan Eur Ah-torn project has admirable objectives but it has been difficult achieving its stated production-goals, with fewer than 10,000 units completed by mid 2005. Even with zero land costs, developers in Thailand are finding it difficult to build houses profitably at the designated sale prices that translate into affordable monthly mortgage payments for the urban poor. Many private housing developers say that they avoid this market because margins are too thin. However, more economical alternative construction models are continuously being evaluated. Many Thai developers are now considering constructing mass-produced housing modules that can bring costs down to levels that can support the current sale price and yet still yield a reasonable developers' profit.

2) Baan Mankong - National Slum Upgrading Programme

According to the 2000 survey, there were 1.14 million households or 5.13 million people living in various urban poor communities in Thailand, including squatters on public, private or temple lands. Baan Mankong Programme is created

to secure tenure and provide basic infrastructure and improve housing in these settlements as a basic right on a nationwide scale. It is considered as alternative to delivering new housing units by delivering comprehensive long-term solutions. The key is to link development of secure housing with the larger and more comprehensive process of community development, encompassing economics, environment and public health. Another key feature is that the implementation and execution will be carried out by community people and community networks with local development organisation support.

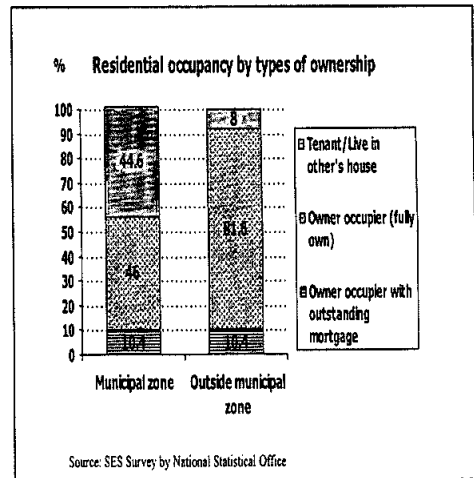
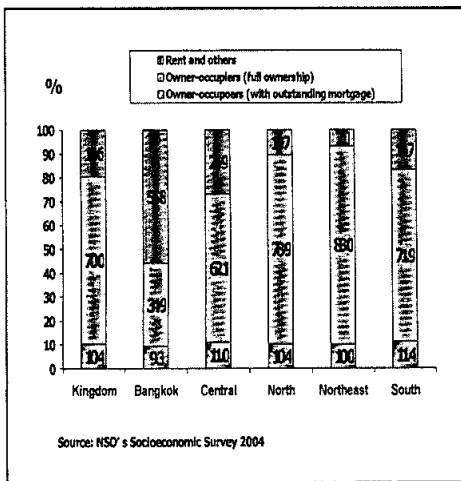
Table 4
Baan Mankong: Progress update as of March 2006

Regions	Number of communities	Number of families	Budget approving 1/ (million Baht)	Credit budget approving million Baht)
Bangkok & Vicinity	214	17,584	677.6	491.7
Center Region	20	1,179	42.3	18.9
Eastern Region	20	1,239	42.7	2.9
Western Region	26	1,928	78.0	68.8
Northeastern Region	116	7,270	254.0	166.1
Southern Region	72	5,486	181.4	80.2
Northern Region	76	3,621	116.7	49.1
Central department			28.5	
Total	544	38,307	1,421.2	877.7
Note: 1/ include budget about infrastructures, temporary house, administration and process development in the city Source: the Community Organisations Development Institute (CODI)				

3.2 House Ownership

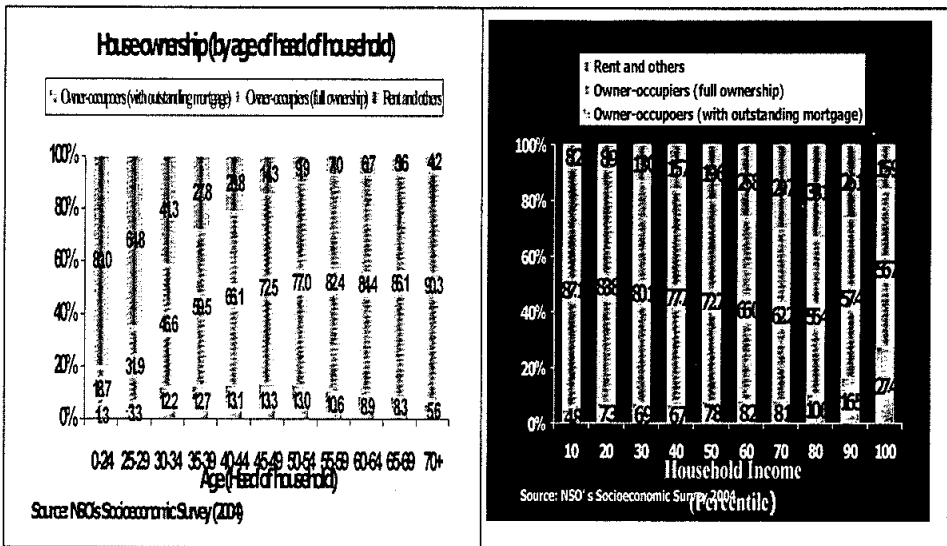
According to the latest socioeconomic survey conducted by the National Statistical Office (NSO) in 2004, owner-occupiers account for 80 percent of Thailand's households, with 70 percent for complete ownership and 10.4 percent with outstanding mortgage. The rest is renter and other types of arrangement. The share of owner-occupiers is much higher in the provinces, ranging from 70-90 percent, compared to Bangkok area. Meanwhile, the majority of households in Bangkok up to 56 percent are renters. This likely reflects the much higher cost of owning a house in Bangkok.

Figure 11
Housing Stock, By Tenure
(Left: by region, right: by municipality zone)



We also find negative relationship between home ownership and level of household income. Again, the likely explanation is that households with relatively higher income level tend to live in Bangkok or in municipal area, which have much higher cost of living and higher cost of owning a house. In addition, the data also indicates that home ownership rises with the age of the head of household.

Figure 12
Housing Stock, By Tenure (Left: by percentile of household income, right: by age of household head)



3.3 Housing Taxes and Levies

Housing taxes play a key role in Thai housing market as to their policy importance: they are used as policy tools to encourage desirable activity in the housing market particularly following the 1997 economic crisis. Changes in housing taxes can influence housing affordability as well as housing prices as the housing tax burden is indeed expenses for homebuyers and homeowners or costs for home sellers and real estate developers.

Housing taxes can be classified into three aspects:

1. Taxes related to homeownership or property tax.
2. Taxes related to housing transactions, consisting of registration fee, and stamp duty.
3. Taxes related to income earned from the sale of properties, including Specific Business Tax, and Personal Income Tax

Of particular interest are the structures of certain housing taxes that inherently tend to promote certain types of properties or activities. For instance, the structure of the property tax inherently tends to favour owner-occupied dwellings, while that of expense deduction, applied to personal income earned from selling or renting out real estates, essentially tends to promote the sale of properties, particularly non-inherited ones.

This section reviews features of housing taxes, paying particular attention to tax burdens that would affect housing affordability and housing prices. It also provides the implications of the nature of certain housing taxes.

3.3.1 Property Tax

The property tax is imposed both at national and local levels, with identical structure across jurisdictions. Typically, properties are subject to annual levies based on their utilisation. Profit-oriented properties, such as commercial buildings, are charged with a higher property tax rate than non profit-oriented ones, such as primary residences. In this regard, the property tax represents significant operating costs for landlords, but relatively lighter housing expenses for homeowners.

At the national level, commercial, and industrial properties are liable for the property tax rate of 12.5 percent of their imputed rent, or rental value. But similar properties that are used entirely as residences are non-taxable. Empty lands are taxed at the flat rate of 0.35 percent of their market value regardless of utilisation.

At the local level, empty lands are subject to local property tax at varying rates depending on their assessed value per plot. Allowances are granted to different extents according to their location and utilisation. For instance, a fixed

portion of a dwelling-purposed land located within municipal areas is exempted from the local property tax. Other properties, which the national property tax has already been paid for, are also exempted.

To sum up, homeowners are virtually free from the property tax, where renters may be the ultimate tax bearer as the landlord may attempt to recover the property tax expense through rents. In the short run, the property tax has no direct effect on rents since market rent is set by the current demand and available rental residence. But in the long run, the property tax can affect rents as supply of rental residences may change, depending on the ratio of the market rent to costs of providing new rental residences. If the ratio is high, the market rent is high relative to the costs or expenses. The landlord may then decide to build a new rental residence and get a higher rent for it relative to the costs.

3.3.2 Taxes Related to Housing Transactions

(i) Registration Fee

The registration fee is applied when properties change hands, indicating a transfer of ownership or possession right. The structure of the registration fee is the same across the country, ranging from 0.1 percent – 2 percent. Applicable rates and bearers of the registration fee are determined by the class of registration. The rate of registering for property ownership or transfer registration is set at 2 percent, borne equally by the buyer and the seller. Mortgage registration fee resulting from pledging properties for mortgage loans is 1 percent, borne solely by the mortgagor. Because lower transfer and mortgage registration fees translate into improved housing affordability and lower housing prices, via lower housing expenses for homebuyers and lower operating costs for real estate developers, they have been used repetitively as important policy tools for promoting the housing market activity and the real estate sector since 1999. Relevant registration fees are shown in Table 5.

Table 5
Structure of Registration Fee

Classes of registration	Rates of the registration fees
Transfer registration that results from buying-selling a property	2% of the assessed property value
Mortgage registration that results from pledging a property for a mortgage loan	1% of the pledged property value, but not exceeding 200,000 Baht
Inheritance registration that results from inheriting a property from parents or a spouse	0.5% of the assessed property value
Rent registration that results from renting a property	1% of rental value or additional charges, or the sum of both

Source: Department of Lands, Ministry of Interior

(ii) Stamp Duty

Stamp duty is levied on 28 listed instruments, with varying rates for different instruments. Included in the listed instruments are a transfer registration and a rental agreement. The first is subject to the stamp duty of 0.5 percent of its assessed property value or the selling price, whichever is higher. The latter is subject to the stamp duty of 0.1 percent of the property's rental value, or the additional charge, or the sum of both. Allowances are granted to instruments that Specific Business Tax has already been paid for. Usually, the holder of instruments or the beneficiary is liable for the stamp duty, but the beneficiary and the counter party can agree upon as to who will bear the charge. As such, the stamp duty can be either housing expenses for homebuyers or operating costs for real estate developers and landlords. Stamp duty is being used along with the registration fee to stimulate the second hand-housing market for the period from 2005 to 2007.

3.3.3 Taxes Related to Income Earned from the Sale of Properties

(i) Specific Business Tax

The Specific Business Tax (SBT) applies to businesses whose value added tax is difficult to define including real estate. The SBT is computed on gross

receipts at rates varying from 2.5 percent to 3 percent, taxable on a monthly basis. Because of its significance in terms of operating costs for real estate developers, the SBT has been used along with the registration fee to promote the recovery of the real estate sector between 2000 and 2003.

Real estate developers are subject to the SBT rate of 3 percent based on selling prices or assessed property value, i.e. gross receipt, whichever is greater. Imposed on top of the SBT is a 10 percent municipal tax, resulting in the total tax rate of 3.3 percent. Other businesses, on the other hand, are subject to Value Added Tax (VAT) of 10 percent imposed on the value added of each stage of production or distribution. Presently the VAT rate is temporarily reduced to 7 percent in order to encourage economic activities.

Table 6
Comparison of Tax Burden of Firms of Equal Gross Receipt

Unit: Baht

Gross receipt or a selling price	Value added create	VAT burden	SBT burden
100	10	1	3
100	20	2	3
100	30	3	3
100	40	4	3
100	50	5	3

Source: BOT staff calculation

Based on the 3 percent SBT and the regular 10 percent VAT, a real estate developer and a firm with equal gross receipt pays the same amount of tax if both create value added equal to 30 percent of their gross receipt.

Since the ratio of value added to gross receipt of over 30 percent is rather difficult to achieve by most businesses, the SBT appears to produce heavier operating costs to real estate developers.

Because of its importance in terms of operating costs, the SBT was reduced significantly during the period 2000 – 2003 to allow lower housing prices that would eventually result in greater activity in the housing market.

(ii) Personal Income Tax

Personal Income Tax (PIT) is income tax of an individual, taxable on 8 categories of incomes. Capital gains are treated as ordinary income since there is no separate capital gains tax. Incomes earned from the sale of real estates and incomes from renting out properties are subject to the PIT and the taxes are usually withheld at source. However, the treatment of expense deduction inherently makes income from selling properties more attractive than income from letting out ones, particularly for non-inherited properties. For mortgagor-taxpayers, mortgage interest payments are deductible, currently capped at 50,000 Baht per year, up from the previously 10,000 Baht. Since 2000, changes in the mortgage interest allowance and tax treatment for income earned from selling properties have been in such a way to create lighter costs for homebuyers or to provide tax savings for home-sellers.

To derive the tax burden arising from incomes earned from sale of properties, or withholding tax paid at source, involves the following four factors:

$$\text{Withholding tax} = \left(\left(\frac{\text{Assessed property value} - \text{expense deduction}}{\text{Holding period}} \right) * \text{PIT rate} \right) * \text{Holding period}$$

Where

- Expense deduction for a property acquired by inheritance or by bequest is 50 percent of its assessed property value.
- Expense deduction for a non-inherited property acquired without profit making intention ranges from 50 percent – 92 percent of its assessed property value, depending on the holding period, i.e., the shorter the holding period, the greater the rate of the expense deduction, as shown in Table 8.
- Holding period is the number of years that the property is held, maximum 10 years.
- PIT rate is a progressive rate and runs at 5 percent - 37 percent, as shown in Table 7.

- The withholding tax derived shall not exceed 20 percent of the assessed property value.

Table 7
Structure of PIT

Taxable income (Baht)	Tax rate (%)
0 - 80,000	Exempted
80,000 - 100,000	5
100,000 - 500,000	10
500,000 - 1,000,000	20
1,000,000 - 4,000,000	30
4,000,001 and over	37

Source: Revenue Department, Ministry of Finance

Table 8
Structure of Expense Deduction

Holding period (year)	Expense deduction rate (%)	
	Inherited	Non-inherited
1	50	92
2	50	84
3	50	77
4	50	71
5	50	65
6	50	60
7	50	55
8 and over	50	50

Source: Department of Land, Ministry of Interior

To calculate the tax burden or withholding tax paid at source for income from renting out a property, in comparison, is fairly simple: it is set at 5 percent of the property's rental value. The tax withheld will then be credited against tax liability of the taxpayer at the time of filling the PIT return to which the following expense deduction applied:

- 30 percent of rental income for rental buildings and wharves.
- 15 percent rental income for rental non-agricultural lands.

The difference in methods of expense deduction creates greater expense deduction for income earned from the sale of properties than income from renting out ones, allowing lighter withholding tax burdens for the property seller-taxpayers, thus encourages the sale of properties rather than renting out ones.

Comparing an inherited property and a non-inherited property of equal assessed property value, the latter is likely to be sold or change hands earlier than the first because of its lighter withholding tax burden as shown in Table 9. In this view, the expense deduction's structure not only tends to favour the sale of properties but appears to benefit non-inherited properties in particular.

Furthermore, income from the sale of an inherited property located outside Bangkok Metropolis, municipal zones, sanitation districts, Pattaya city, and other local administrative districts set up by law, is exempted from PIT for a fixed amount. In addition, income from the sale of a property used as a primary residence in which the owner resides for over one year is also exempted.

Table 9
Comparison of Withholding Tax Burden of Equal Assessed Property Value

assessed property value (Baht) Holding period (year)	Withholding tax of a ten-million-baht	
	Inherited	Non-inherited
1	1,411,000	101,000
2	1,182,00	202,000
3	1,023,00	283,000
4	864,000	344,000
5	705,000	405,000
6	646,000	446,000
7	587,000	487,000
8 and over	528,000	528,000

Source: BOT staff calculation

3.4 Government Subsidy

3.4.1 Introduction

The Thai housing market has been influenced by policy measures directly related to the housing market since 1997. Such policy measures provide both direct and indirect government subsidies for housing. Direct subsidies are those that come through the budgetary system, of which, Baan Eau-Athorn, the government's large-scale housing project, is the most important. Indirect subsidies are those that come through the tax system as income tax deductions and exemptions, and tax relief. Indirect subsidies generally enhance:

1. The ability of homebuyers to deduct from their income the interest portion of their mortgage payments.
2. The ability of home sellers to exclude from PIT the portion of income earned from sale of dwellings.
3. The ability of homebuyers and real estate developers to realizes significant tax savings.

At the same time, the policy measures enable homebuyers to have better access to financial resources. Over the period of 1999 – 2005, the stance of the policy related to the housing market has remained unchanged, but the development of the policy measures suggests that the focus has been shifted from new housing to existing dwellings. This creates some distortions in the housing market as follows:

1. A distortion in the consumer's decision-making between buying and renting a residential property.
2. A distortion in the homebuyer's decision-making between buying a new residential property and purchasing an existing residential property.
3. A distortion in the investor's decision-making between the real estate business and other businesses.
4. A distortion in the homebuyer's decision-making between the low price residential property and the middle price residential property.

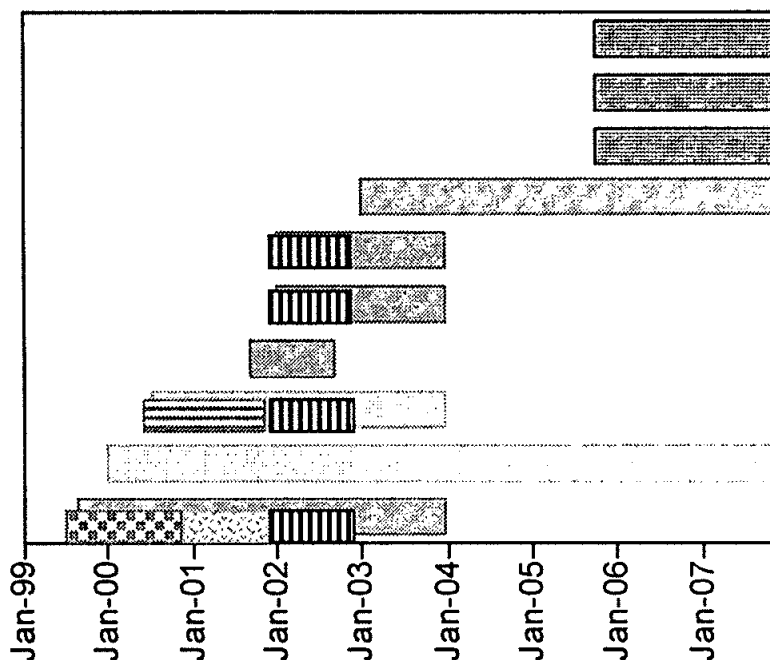
This section presents a brief overlook of key policy measures directly related to the housing market that would be useful in developing a full understanding of government subsidies. It also offers some evidence on distortions created by such policy measures.

3.4.2 Key Policy Measures and Government Subsidies

Five key policy measures introduced during the period 1999 – 2005 tend to favour homeownership in general by creating indirect subsidies in the forms of lower expenses for homebuyers, lighter operating costs for real estate developers, and selling incentive for homeowners, as summarised in Figure 13.

On August 10, 1999, the first measure entitled “A measure to revive the real estate business” was introduced. It aimed to restore an efficient mechanism of the real estate business as well as to promote owner-occupied housing, particularly for low and middle income earners. Under this measure, homebuyers were provided with fixed-rate long-term loans offered by the Government Housing Bank, and Secondary Mortgage Corporation. In addition, homebuyers and real estate developers were granted tax relief in the form of lower expenses when the transfer registration fee was temporarily reduced to 0.01 percent. This explicitly tend to favour new dwellings in particular since it applied only to residential properties developed according to the law of land allocation, in other words, new dwelling units developed by legitimate real estate developers. Furthermore, the measure also took care of tarnished home buyer confidence on unfinished private housing projects by having the National Housing Agency (NHA) purchased them, provided that the projects met certain conditions. The NHA would then complete the building works, and resell these housing units to homebuyers.

Figure 13
Milestones of Key Policy Measures and Indirect Subsidies



On June 27, 2000, the second measure, “A measure to promote the recovery of the real estate sector” was introduced. It came with a single objective – to alleviate housing-related tax burdens. This time homebuyers benefited more from a registration fee cut as it was extended to cover both transfer and mortgage registration fees. In addition, the ceiling of mortgage interest allowance was raised, from 10,000 baht per year to 50,000 baht per year, effectively enhanced homebuyer housing affordability. At the same time, a reduction in Specific Business Tax rate, from 3.3 percent to 0.11 percent, provided a generous tax relief and allowed lighter operating costs for most real estate developers.

The third measure, “A measure to promote the real estate business”, was initiated on April 3, 2001, focused solely on “enhancing homebuyer purchasing power”, in other words, housing affordability. It exempted expense on buying a dwelling from Personal Income Tax calculation. For instance, a mortgagor-taxpayer was entitled to deduct the actual amount paid for a dwelling, but not exceeding 200,000 baht per year, while a taxpayer who used his own funds to acquire a dwelling was entitled for a deduction up to 100,000 Baht per year.

The measure also extended the benefited of the registration fee cut offered by the previous measure by one year, allowing continual lighter expenses for homebuyers.

The next measure was launched on December 3, 2002. "A measure to promote the recovery of the real estate business and to promote income of low income earners" was targeted at easing the tax burden of an individual and stimulating the recovery of the real estate sector. Under this measure, the maximum income exemption for Personal Income Tax was raised from 50,000 Baht per year to 80,000 baht per year, easing tax burden for every individual. Homeowners in particular appeared to benefit more because income earned from the sale of a primary dwelling was also excluded from the Personal Income Tax. As it was required that the primary residence sold had to be resided in by the owner for at least one year, this measure essentially marked the focus shifting from new dwellings to existing dwellings. At the same time, homebuyers and real estate developers continued to enjoy the benefit of the registration fee cut and Specific Business Tax rate reduction.

On January 14, 2003 came the approval of "Baan Eua-Athorn Project", the government's large-scale low-price residential project aiming to enhance residential security and improve the quality of life of the less advantaged and low income earners. Bann Eua-Athorn Project would provide the total of 601,727 residential units during 2003 – 2007, with the government subsidising the costs of public utility development of the total amount of 12,138 million Baht and the cost of construction of central public facility buildings of about 5 – 10 million Baht per project.

Finally, on September 13, 2005, the latest measure, "A measure to promote the second-hand housing market", was launched. It primarily intended to broaden homeownership, particularly for the less advantaged and low income earners, and to lighten homebuyers borrowing costs. This time, homeowners who sell their primary residence after resided in for at least one year would entitled to a reduction of transfer and mortgage registration fees, as well as waiving of stamp duty.

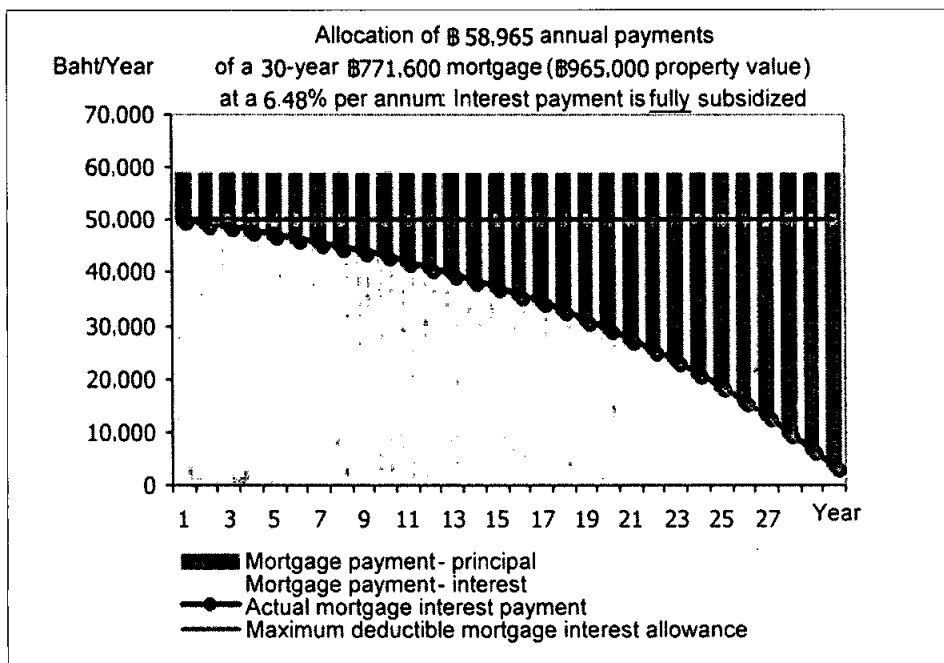
Table 13 in the appendix summarises indirect subsidies resulting from all five key policy measures.

3.4.3 Evidence on Government Subsidies

As the ceiling of mortgage interest allowance for Personal Income Tax has been raised to 50,000 Baht per year since 2000, a taxpayer-homebuyer who takes out a mortgage loan to finance his housing purchase has greater ability to deduct from PIT the portion of mortgage interest payment, resulting in greater housing affordability. This appears to benefit most to an owner of low and lower-middle price property since the entire mortgage interest payment may be fully deductible, i.e. fully subsidized. An owner of higher price property, on the other hand, gets relatively less benefit as the proportion of interest subsidy becomes smaller.

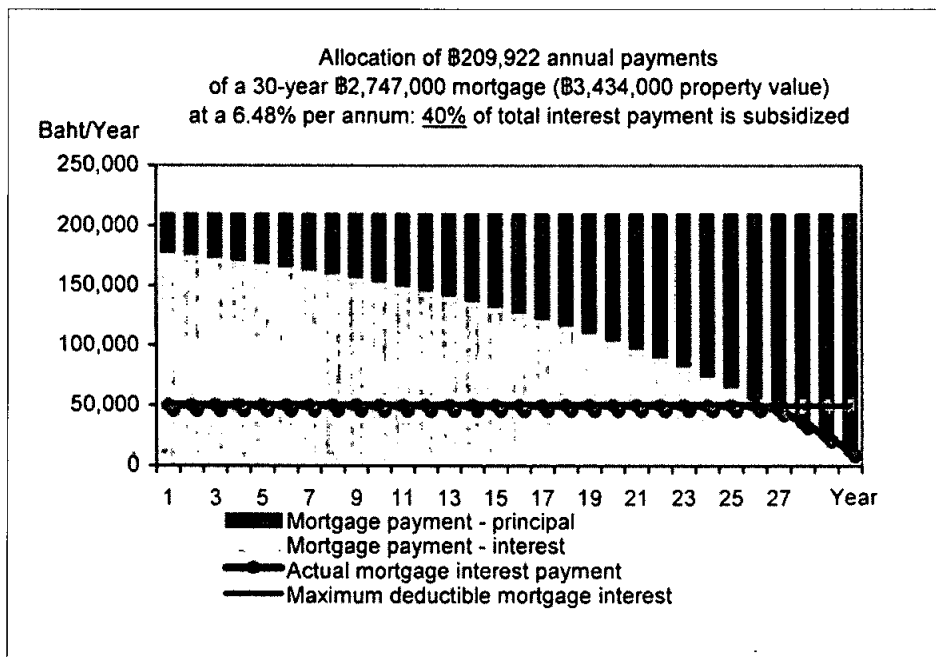
Consider the fully subsidized mortgage interest payment in Figure 14. Supposed a homebuyer purchases a house of 965,000 Baht value and loan to value ratio (LTV) is 80 percent, the homebuyer then can takes out a 30-year 771,600 Baht mortgage loan to finance his housing purchase. At 6.48 percent interest per annum (an average of daily MLR of commercial banks during January 2002 – August 31, 2005), the homebuyer annual mortgage payment is 58,965 baht, consisting of principal and interest portions. As the loan draw closer to the maturity, the principal portion increases and the interest portion declines. Every year the homebuyer is able to deduct the full amount of interest paid because the interest portion is always lower than the maximum deductible mortgage interest allowance, resulting in fully mortgage interest subsidy.

Figure 14
The Case of Fully Subsidized Mortgage Interest Payments



When similar mortgage terms and conditions are applied to higher price property as shown in Figure 15, the owner appears to receive relatively less benefit. Only 40 percent of total mortgage interest paid over the life of the mortgage can be redeemed by interest subsidy.

Figure 15
The Case of Partially Subsidized Mortgage Interest Payments



In this view, the typical low income and lower-middle income households tend to benefit most from interest subsidy since they are able to get higher proportion of mortgage interest subsidy to interest payment, which results in greater housing affordability.

4. Housing Finance

Housing finance is an important factor to support housing development in Thailand. Most housing project developers require adequate funding for construction and consumers, mostly don't have enough saving to buy their own residence, also want to borrow money form financial institution for purchasing house.

This section provides the information about housing finance and type of mortgage loans after the financial crisis in 1997, comparing with the before crisis. Additionally, it also explains some innovation of mortgage finances in Thailand.

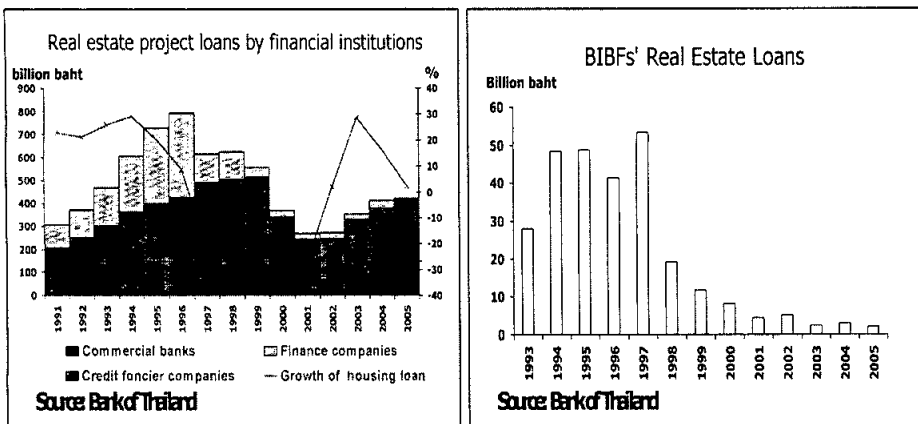
4.1 Primary Market Lenders

The financing of housing sector can be divided into pre-financing and post-financing. The pre-financing is funding which developers require for investment since housing construction phase until completion and the post-financing is mortgage loan for homebuyer.

Pre-financing of housing projects comes from debt financing or/and equity financing. Debt financing, developers may borrow from domestic or abroad financial institutions or may issue debt instrument. Equity financing, they can choose to use fund from their own capital or retained earning or stock issuance.

Presently, the structure of developers' financing has changed dramatically from the period before the financial crisis. Since 1993, financial liberalization and lower interest foreign currency financing attracted many developers to borrow abroad through BIBFs, through both commercial banks and financial companies. Real estate loan through BIBFs accounted for 6% of total pre-financing between 1994-1996. Additionally, large property developers were able to borrow directly from abroad or issue foreign currency debentures such as Euro convertible debentures.

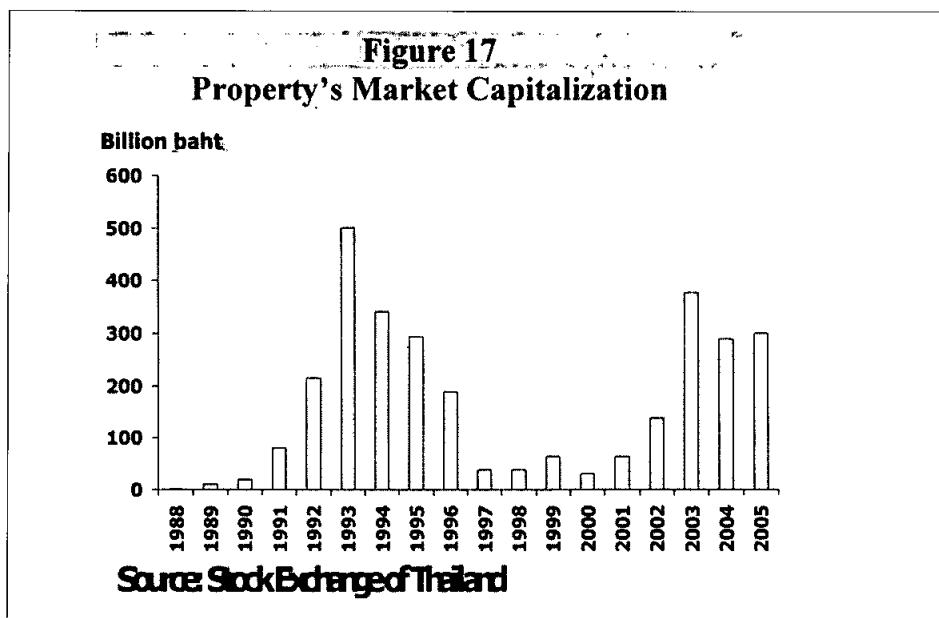
Figure 16
Pre-Financing of Housing Projects
(Left: by Financial Institutions, right: by BIBFs)



It is not until many financial companies bankrupted after crisis in 1997, number of financial companies decreased from 91 to 18, that pre-financing from financial companies significantly plunged. The change from fixed to float exchange rate regime made financial institutions have learnt a painful experience. All financial institutions paid off their BIBF loan and also avoided borrowing from foreign sources. In addition, foreign currency debentures disappeared and new debentures presently issue in baht. Now, the pre-financing from commercial banks plays a major role in real estate sector more than before and accounts for more than 90% of total real estate loans.

As for equity financing, capital market has an important role in real estate sector. The capital market development makes developers with potential have more alternative source of financing. Before the financial crisis, the stock market not only picked up with the capital market development but also with high capital gain expectation in property sector. Then the stock market sharply fell when the economy bubble burst. But recently, it picked up again with real activities in this sector.

Figure 17
Property's Market Capitalization



For post-financing, the financial institution is the major lender of residential mortgage loan because homebuyers have limit to access to other sources. Homebuyer can choose to borrow housing loan from both public and private financial institutions. The former FI consists of the Government Housing Bank and Government Saving Bank and the latter FI is compose of Commercial Banks, Finance Companies and Credit foncier companies.

Figure 18

Post-Financing of Residential Homebuyers by Financial Institution
(Left: by Share of Mortgage Loan, right: by Value of Mortgage Loan)

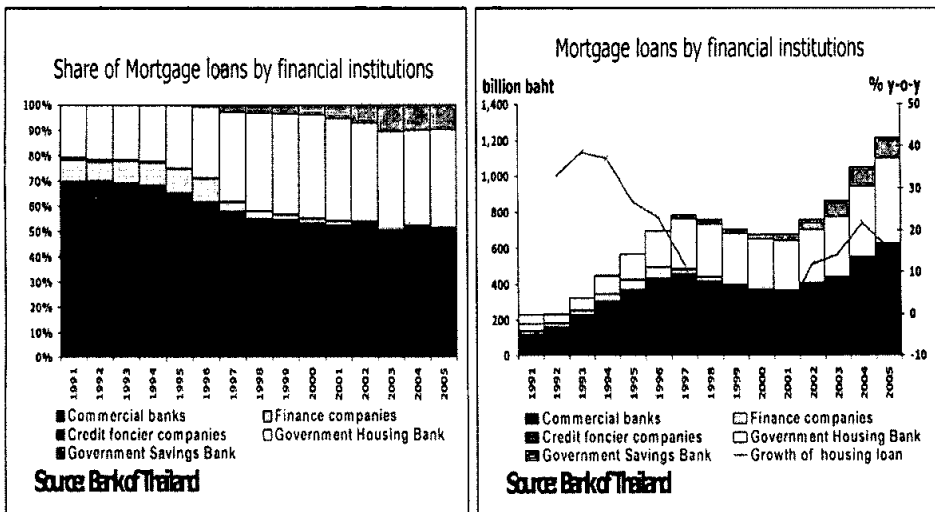


Figure 10 shows the outstanding mortgage loans by financial institutions. It is obvious that the public financial institution has more important in lending mortgage loan after the crisis, particularly GHB. It is mainly due to government policy measure that makes an effort to help low- to medium-income workers have their own house. In addition, GHB has attractive lending rate owing to its lower cost funds from the issuance of government-guaranteed bonds, and has expansion of its branch network much in the Bangkok Metropolitan Region and the Provinces. Now, share of GHB and GSB become greater and together control market nearly 50%.

Commercial banks, however, are usually the major financial institution in lending mortgage loan. The market share of the CBs remains more than 50%. The reason that enable CBs still have the most market share is the competition among each bank in lending to homebuyers with the promotion, such as offer low 1- to 5-year fixed interest rate and expand repayment period.

The below summary table will show again that commercial banks, which are under control and scrutiny of Bank of Thailand, have an importance so much to housing market.

Table 10
The Summary of the Major Lender in Real Estate Sector

	Before crisis	After Crisis
<u>Pre-financing:</u>		
➤ financial institution		
- Commercial bank	+	++
- Finance company and credit foncier	++	-
➤ Capital market	+	++
<u>Post-financing:</u>		
➤ Public sector (GHB, GSB)	+	++
➤ Private sector		
- Commercial bank	++	+
- Finance company and credit foncier	+	-

4.2 Types of Mortgage Loans

The characteristic of housing loans today has some change from the past (Table 11). This is partly due to the government policy measure and partly owing to the intense competition of financial institutions to offer attractive residential mortgage loan package.

The real estate stimulus packages, which were launched by the government in 1998, supported commercial banks to extend repayment period to 30 years for both old and new borrowers in order to increase affordability of consumers. Therefore, Loan repayment period of mortgage loan has expanded from 20-year maximum before crisis to 30-year maximum now. However, most customers choose generally 15- to 20-year repayment period.

The competition among financial institutions becomes more intense in 5 year later after the financial crisis. It results from excess liquidity of FIs as business sector needs to borrow less than before. Because of this, FIs resort to lend retail loan, particularly housing loan which have less risk than any other loan. Consequently, the major feature of mortgage loan become changed visibly as following:

- *Maximum loan-to-value ratio*: Typically, LTV ratio depends on the type of property, the property market, and the lending policy of each financial institution. Now, the intense competition of FIs results in greater LTV ratio to average 85% from 80% of appraised value for single-detach house; and to average 80% from 75% for of appraised value condominium. Additionally, in order to prevent real estate sector from speculative bubble, BOT set LTV ratio at 70% for more than 10-million-baht residence since December 2003.

- *Mortgage rate*: After a couple of the financial crisis, interest rate went down and had stayed at low rate for long time that never been before. In order to attract customers, each FI launched various mortgage plans. Homebuyer can choose mortgage plan with a fixed-then-float rate or reset rate or floating rate. In addition, some entrepreneurs collaborating with insurance company offer fixed interest rates loans for all long period. The popular mortgage plan, however, is the plan with a fixed-then-float rate, which fixed interest rate at 1-5 first years (number of years relies on plan). Notwithstanding, after FIs begin to increase interest rate recently in accordance with BOT's 14-day repurchase rate, the number of fixed interest rate year seems to shorten because FIs don't want to take any risk when interest rate increase.

- *Monthly installment payments*: In the past, homebuyers have to repay at constant amortization. But now they have another choice that is progressive amortization, which installment payment will increase in line with income of customer. In general, FIs will calculate the monthly installment payments by using present interest rate plus 50-200 basis point in order that they have a cushion when interest rate increases in the future.

Notwithstanding, the characteristic of housing loan may change in the near future since BOT has recently used tight monetary policy in order to keep inflation rate in target band because there is high pressure on price from cost-push due to high oil price.

Table 11
The Characteristic of Housing Loan

	Before crisis	After crisis (as of Aug05)
<u>Loan amount</u>	Not clear limits	Not clear limits
<u>Maximum loan-to-value ratio</u>	- Average 80% for single-detach house and 75% for condominium	- Average 85% for single-detach house and 80% for condominium - 70% if housing value exceed 10 million baht.
Maximum loan relative to income	Not exceed 30 times the monthly income of a borrower with regular income or 15-20 times the monthly income of a borrower who is self-employed and has irregular income	Not exceed 35 times the monthly income of a borrower with regular income or 20 times the monthly income of a borrower who is self-employed and has irregular income
Maximum payment-to-income ratio	normally should not exceed 30-35 percent of household income	normally should not exceed 30-35 percent of household income
Fixed or floating mortgage rate	Floating interest rate	- Fixed-then-float rate - Floating rate - Reset mortgage rate
Loan repayment period	Generally 10-20 years	Maximum 30 years
Maximum repayment period relative to age of borrower	The period of the loan plus the borrower's age typically cannot exceed 65 years.	The period of the loan plus the borrower's age typically cannot exceed 70 years.
Monthly installment payments	Constant amortization	- Constant amortization - Progressive amortization

4.3 Mortgage-Backed Securities and other New Mortgage Finances

This section presents the development of the secondary mortgage market and asset securitization in Thailand, the asset securitization laws and regulatory bodies, the market players, and the implications of secondary mortgage market for housing and housing finance.

4.3.1 Development of a Secondary Mortgage Market

Securitization is the pooling and repackaging of assets into tradable securities financed through the capital markets. Risk is based on the characteristics of the asset pool instead of the credit standing of the originator of the assets. Investors look to future cash flows and credit enhancement rather than to the originator. The originators normally transfer the assets (the right to receive payments) to a special-purpose vehicle (SPV). The SPV will structure and issue securities which are often rated. Some forms of credit enhancement are usually added to the structure to improve credit quality and to satisfy investor preferences.

A secondary mortgage market in Thailand, particularly the securitization technique of packaging pools of mortgage loans into mortgage-backed securities, was proposed for nearly two decades as a supplementary funding strategy to mobilize funds for the GHB. However, circumstances then did not permit the development of mortgage securitization. It was only in the Seventh National Economic and Social Development Plan (1992– 1996) that securitization was included as an instrument for long-term savings and capital market development. The plan designated the GHB to play a role in the securitization of mortgage assets.

In 1992, a working group was established at the GHB to study the feasibility of a secondary mortgage market in Thailand. But realizing that the creation of a secondary mortgage market would involve main financial institutions as well as regulatory organisations, the Minister of Finance formed the Secondary Mortgage Development Committee in 1993. Its main purpose was to set up and promote the secondary mortgage market and securitization in Thailand, to ensure a stable residential mortgage market and more funds for housing loans on a continuing basis.

4.3.2 Potential Benefits of the Secondary Mortgage Market of Housing Finance in Thailand

(i) Increased Flow of New Funds

The creation of the secondary mortgage market will help increase the flow of funds from the capital market to the housing finance sector. As wholesale secondary institutions, the SMC and the SPVs will play crucial roles as intermediaries between the capital market and home lending institutions.

They will channel capital funds and long-term savings, such as pension funds, provident funds, and insurance funds, to the housing finance system in an efficient and safe manner, thus increasing the availability of mortgage loans to home-buyers.

(ii) Increased Liquidity

The secondary market institutions, the SMC and the SPVs, will provide more liquidity to primary lenders. They will ensure a constant flow of capital to mortgage lenders (such as finance companies and credit foncier companies) particularly during tight money situations, such as at present, when many financial institutions are hampered by severe liquidity problems.

(iii) Improved Equity Capital Management

The securitization business will provide considerable relief from the pressure most financial institutions are currently facing regarding their capital bases. When an originator, such as a bank or finance company, sells its mortgage loans to a secondary institution, these mortgage assets are removed from its balance sheet. The off-balance-sheet structure will reduce its capital reserve requirement (set by the Bank of Thailand according to the BIS capital adequacy requirements). The capital that is no longer needed to cover the risk assets of the originator thus becomes available for further lending, and the return on capital will increase as a result.

(iv) Improved Risk Management for Originators

Interest-rate risk in Thai housing finance is relatively small because the overwhelming majority of mortgage loans are floating rate, matching the

originators' funding. However, many mortgage lenders must still contend with other risks associated with mortgage lending, particularly funding risk and liquidity risk. The funding risk arises from maturity mismatches. The average life of a mortgage loan is much longer than the average maturity of funding, which comes mainly from public deposits or short term financial instruments, mostly less than a year. If funding sources become more volatile, lenders will be exposed to funding risk. This risk can be reduced if mortgage loans can be liquidated quickly by being sold to a secondary mortgage institution. The liquidity risk can also be reduced if funding opportunities can be increased. In addition, financial institutions will be able to manage their liquidity by choosing to hold liquid MBSs instead of illiquid mortgage loans.

(v) Sound Mortgage Lending Criteria

The SMC or the SPV will also help establish sound lending criteria or prudent loan standards as it will purchase only mortgage loans of reasonable quality. Sound lending criteria, which originators would have to follow to sell their mortgages to the secondary mortgage institution, will eventually force loan originators to be more cautious in lending. The underwriting process will improve, ensuring that a borrower is both able and willing to repay the debt and that the property provides sufficient security for the mortgage in case of foreclosure. Sound underwriting policies of originators will eventually help decrease loan defaults and delinquency levels and thus enhance the financial health of originators in particular and the stability of the banking system in general.

4.3.3 Possible Impact on the Housing Property Market

The following advantages of the secondary mortgage market and securitization to home-buyers and the housing market are foreseeable.

(i) More Funds Available for Borrowers

Since housing loan originators, such as commercial banks and finance companies, can sell their mortgage assets to the SMC or SPVs, they will have a constant source of funds to be loaned to borrowers. Thus, homebuyers will never lack mortgage credits.

(ii) Lower Lending Interest Rates to Borrowers

Increased availability of mortgage funds among mortgage lending institutions will in turn ease potential upward pressure on mortgage interest rates. Over the long term, a lowering of mortgage rates will be possible because of improved liquidity as well as lower cost of funds for mortgage lenders. Interest rates have a significant impact on housing affordability and demand. Even a 1 percent lowering of the interest rate will cause a 5–7 percent reduction in monthly installment payments on mortgage loans. This will help home-buyers save substantial amounts of money over a repayment period of 15–20 years.

(iii) Increased Demand for Housing

The availability of loanable funds coupled with lower interest rates will help improve the purchasing power of potential home-buyers and will therefore increase housing demand and housing consumption. A secondary market can also make housing finance more affordable to borrowers by offering longer terms of repayment (such as from the typical 15 years to 20 or even 30 years) and alternative mortgage instruments (such as fixed-rate loans and graduated-payment loans). A secondary mortgage market is therefore conducive to home ownership particularly among the lower-income groups.

The secondary mortgage market, as well as securitization, is a relatively new field of activity in Thailand. The two securitization laws passed in 1997 will provide a solid legal framework for the sound development and operation of the secondary mortgage market in Thailand and contribute to the improvement of the housing finance sector and the housing market. Moreover, with the increasing globalization of capital markets and financing techniques, mortgage securitization as a funding strategy will play a more crucial role in Thai housing finance. Securitization is expected to grow in importance as financial institutions seek to diversify their funding sources and to manage better their housing finance risks.

4.3.4 Other Innovations in Housing Finance

(i) Mortgage Default Insurance

Efforts are being made to develop market for mortgage default insurance in Thailand. The availability of such insurance for risk associated with loans that exceed normal 75 to 80 per cent loan to value ratios will allow reduce credit

constrained faced by households as financial institutions would be able to extend more credit per mortgage loan. It also will support values for future securitization portfolios and thus help mobilize greater funds from capital markets to housing markets. In 2002, World Bank-funded feasibility study had been conducted in conjunction with the GHB. Since April 2005, the Government through the GHB has been in cooperation with Canada Mortgage Housing Corporation (CMHC) and International Finance Corporation (IFC) in order to develop action plan for establishing Mortgage Default Insurance for Thailand. The result of the plan as well as the establishment of MDI market in Thailand is expected to take place in 2006.

5. Interrelation with other Macroeconomic Variables

5.1 Housing Market and the Economy

The importance of the construction and real estate sector to the Thai economy extends beyond its shares to GDP and employment of 12 and 6 per cent, respectively. To a significant degree, the sector's performance has implications on economic stability, through linkages with financial stability and household wealth - with the latter helping to determine aggregate consumption and investment. Pre-crisis over-investment in the real estate sector brought about considerable non-performing loans (NPLs) that threatened the soundness of the commercial banking system and its ability to extend credits in the ensuing years. Today, loans extended to the real estate sector account for 25.1 percent of total financial institution loans, of which a higher portion goes to residential mortgages whereas a lower portion goes to property developers compared to the pre-crisis level.

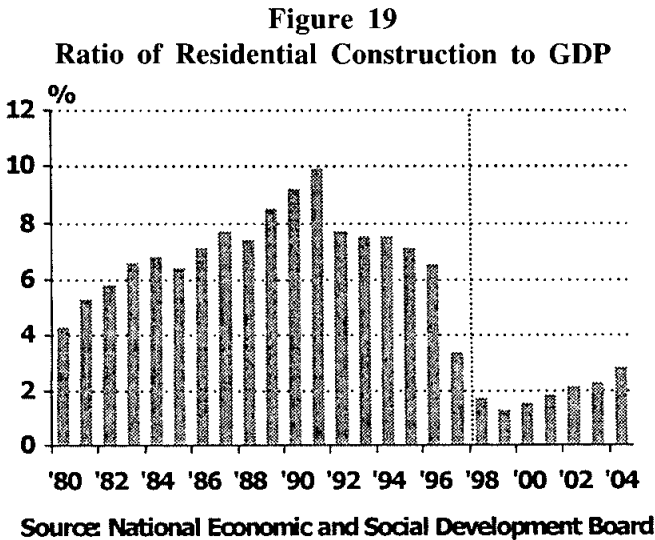
Table 12
Selected Indicators of Thailand Housing Sector

	1993-1995	1996-1998	1999-2001	2002	2003	2004	2005
Ratio of construction investment to GDP (%)	20.1	15.4	9.0	8.4	8.5	9.0	n.a.
Ratio of residential investment to GDP (%)	7.3	3.9	1.5	2.1	2.3	2.8	n.a.
Employment in Construction sector (% of total)	6.4	7.3	4.8	5.4	5.5	6.1	6.0
Share of owner occupied dwellings (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	80.4
Ratio of mortgage debt to GDP (%) at end period	12.1	16.1	14.0	13.9	14.5	16.1	17.1
Ratio of household monthly expenditure in housing related (%)	n.a.	n.a.	n.a.	0.24	0.23	0.23	0.22
Ratio of real estate loans to total FI credits (%) at end period	23.0	20.7	20.2	19.3	21.9	23.9	25.1
- Mortgage loans	9.9	11.0	13.1	14.1	15.5	17.1	18.6
- Loans to Developers	13.1	9.7	7.1	5.2	6.4	6.8	6.5
Ratio of housing loans to financial institution assets (%) at end period	8.2	8.2	8.3	9.2	10.0	11.4	12.5
House price inflation (%)	5.4	2.2	-2.3	0.7	3.0	5.4	8.0
Rent inflation (%)	5.0	2.2	-0.2	-0.5	-1.3	-0.7	0.3
Headline inflation (%)	4.7	6.5	1.2	0.7	1.8	2.7	4.5
Core inflation (%)	5.2	5.6	1.3	0.4	0.2	0.4	1.6

Source: Various official agencies including BOT, NESDB, MOC and NSO (See appendix for acronyms)

Changes in property prices affect the economy in many channels, namely through:

1) *The effects through residential construction.* An increase in house prices which causes a rise in the market value of the housing stock relative to its replacement cost, would induce the activities in new house construction as well as existing house renovation. Usually, this effect is expected to build up quite gradually as the housing markets by their nature are operated with a rather long lag compared with other sectors. This was due to typical constraints related to the availability of land for construction, planning policy and competition conditions in the construction sector.



For Thailand, residential investment over the past two years represents about 2-3% of GDP, much lower proportion compared to the pre-crisis period which saw the proportion averaging 7.9 % during 1987- 1996 period and reaching historical high of 9.9 percent in 1991. The reason for the relatively small share of residential investment to GDP at the present time is to be expected as markets have been coping with substantial amount of available housing units built during the pre-crisis period. Also, the contribution of residential investment to the economy certainly exceeds its direct share of GDP as residential construction has a wide range of backward and forward linkages to other sectors in the economy, such as financial institutions, building materials and other services.

2) *Wealth effects on non-housing consumption.* Higher house prices would raise the market value of the wealth of house owners, which could induce these owners to increase their non-housing consumption expenditure. However, this positive wealth effects from higher house prices need to be balanced with negative wealth effects through higher cost of consuming housing services on owner-occupiers in form of higher imputed rents and tenants in the rental market sector. Therefore, higher house prices may have an ambiguous effect on non-housing consumption as they involve redistribution of income between current homeowners, tenants, and prospective new buyers. In any case, the positive effect of housing prices on non-housing consumption will be more likely to dominate if the proportion of owner-occupiers is high. In case of Thailand, this seems to be the case as the proportion of owner occupiers (including both complete ownership and those with remaining mortgage debts) is about 89.6% as of 2004. However, there is quite substantial discrepancy between those living in municipal areas and those living outside.

3) *Credit channel through house equity withdrawal.* Credit market imperfections arising from asymmetric information mean that consumers and firms face with a finance premium and credit constraints in external borrowing. The magnitude of the premium and constraints in turn depend on the quality of balance sheet and the net worth of borrowers. An increase in housing prices permits households and firms to borrow more to finance consumption and investment. This mechanism could amplify the propagation of the monetary impulses to the economy. The ability of house owners to extract the equity embodied in the housing wealth would depend on various structural characteristics of the retail finance and mortgage markets. In case of Thailand, the equity withdrawal is possible, but the available data indicates that it has not been widely employed by house owners.

4) *Effects of monetary policy changes on household disposable income via the mortgage market.* Changes in mortgage rates caused by a change in the monetary policy stance will directly affect households' disposable income (net of interest payments), and thus their consumption decisions. The size of the mortgage debt outstanding and the characteristics of the mortgage contracts therefore are important factors in determining the impacts of changes in interest rates on household consumption. For Thailand, the total amount of mortgage loan outstanding has been on rising trend and is around 32.5% of GDP as of Sep 2005. With regards to mortgage contracts, most of the contracts are of floating rate type (except for the first few years in which the rates are fixed) with

typical length of 25-30 year maturity. This could lead to greater sensitivity of household consumption to changes in interest rates in the future.

The link between housing markets and the rest of the economy operates primarily through the impacts of house price fluctuations, as they represent the main source of housing wealth. Though house prices can be affected by many factors both on the supply of and the demand for housing, it is their sensitivity to interest rate changes that will have significant impact on the transmission mechanism of monetary policy.

5.2 Housing Market and the Transmission Mechanism of Monetary Policy

In recent years, asset price inflation has occurred under a low consumer price inflation environment in several industrial economies. These experiences have given rise to a debate over the role of monetary policy.

Most central banks agree that asset prices are too volatile to be an additional target but should be used as indicators to aid the forecasting process. We view the property price cycles as a fixture of the economy. Nevertheless, not every boom and bust has to lead to a financial crisis. The consequences on the real economy depend on the wealth effect and the role of bank credits in the economy. As property price tends to lead inflation and react to interest rate changes, a monetary regime that promotes price stability such as inflation targeting can help moderate the asset price cycles to some degree. Without the pressure on the general price level, however, monetary policy only plays an indirect role, while the central policy elements rest with the promotion of financial system resiliency.

5.2.1 Understanding the BOT's Preventive Measures

In the past 2-3 years, the real estate sector has continued its recovery. Although prices have not risen much, the exception being condominiums in the central business district (CBD), as an exception, the BOT has taken preventive anti-speculation measures and plays its part in promoting good corporate governance by stipulating that financial institutions: (1) lower the post-construction loan-to-value ratio to 70 per cent for residential property with the transaction price exceeding 10 million baht; (2) extend credit to property developers only when the projects are legal; and (3) report to the BOT on new real estate loans made over 100 million baht on a quarterly basis. Aiming to monitor real estate

credit and financial stability, measures (1) and (2) took effect on 1 December 2003 while (3) became effective as of 9 December 2003. Effect of those measures is rather satisfactory since inefficient developers had left from the housing market as well as developer loans slowed down in 2004 and 2005.

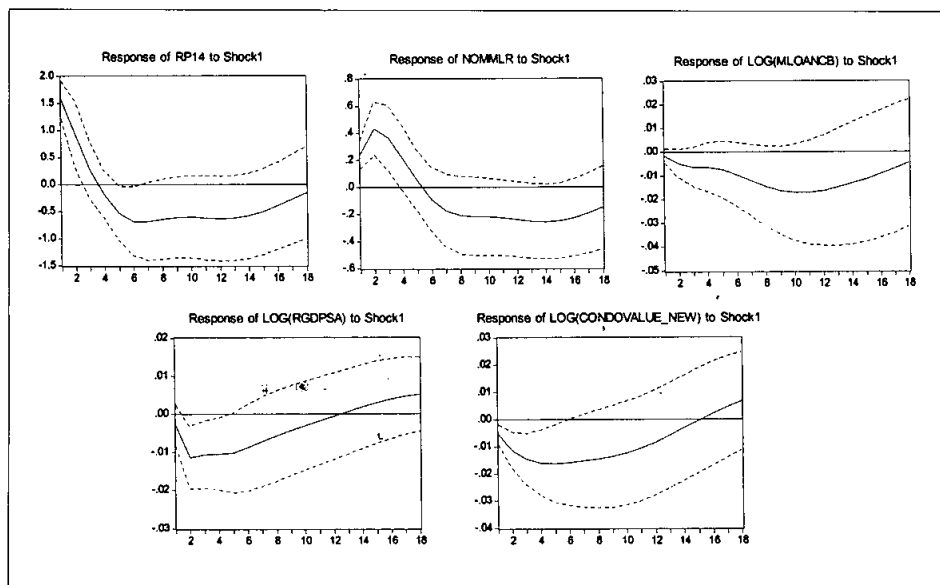
5.2.2 Impact of Monetary Policy on Property Prices

Don Nakornthab et al. (2004) employ a structural vector autoregression (SVAR) analysis to explore the extent to which monetary policy movements – changes in the repurchase rate – affect property prices by altering bank lending and the macroeconomy. They find evidence of a strong causal link from monetary policy to property prices. The transmission mechanism of this process is as follows: An increase in the policy rate first causes short-term market interest rates to rise which in turn increase the cost of loans and reduce the demand for credit by both developers and consumers. This consequently decreases house buying and planned fixed investment, two components of real output, which in turn contributes to a fall in property prices.

Using quarterly data from 1993 Q43 to 2004 Q1, the variables include 14 day repurchase rate (RP14), nominal minimum lending rate (MLR), mortgage lending by commercial banks, real gross domestic product, and the condominium value index. The SVAR methodology assumes that the economy can be approximated by a linear, dynamic system of structural equations by imposing restrictions to identify the orthogonal (structural) components of the error terms. The results show that RP14 does not have a contemporaneous effect on mortgage lending by commercial banks, real GDP, and asset prices (*i.e.*, the null hypotheses that a_{31} , a_{41} , and a_{51} are zero cannot be rejected). Also, real GDP does not have a contemporaneous effect on the condominium value index. On the other hand, it was found that MLR has a contemporaneous effect on the condominium value index.

Figure 20 below shows the impulse responses of model variables to an innovation in the RP14 rate (Shock 1). For the shock to reach its maximum effect on each variable, it takes 1 quarter for MLR, half a year for real GDP, 2.5 years for mortgage lending, and 1.25 year for property prices. The full impacts of a one-standard deviation or 150-basis point increase in RP14 imply a 23 basis point increase in MLR, a 1 billion baht decrease in mortgage lending, a 1 billion baht reduction in real GDP, and a 1.2% fall in property prices.

Figure 20
Response to an RP14 Shock Within the Short Run



Using the n-period forecast error variance for the condominium value index that is attributed to each random innovation in the SVAR model, the study also finds that around 40% of the variation in property prices can be explained by variation in MLR and another 30% by variation in RP14. Surprisingly, shock to mortgage loans explains less than 5% of variation in property prices.

Overall, the study finds that changes in monetary policy play an important role in bank lending, the economy, and property prices. For this reason, there is a trade-off in applying monetary policy to deal with property prices, as it would affect other sectors of the economy as well.

5.2.3 Impact of Interest Rate Increase on Housing Demand and Mortgage Loans

After BOT decided to adopt tighten monetary policy to prevent high inflation pressure since September 2004, it takes more than 10 months that the MLR is increasingly more responsive to the policy rate adjustment i.e.; higher “Pass-Thru” ratio as a result of the ample liquidity overhang in the financial system. The MLR has been raised in line with the policy rate and also with shorter lag since July 2005. As Thailand has not developed a market for mortgage backed

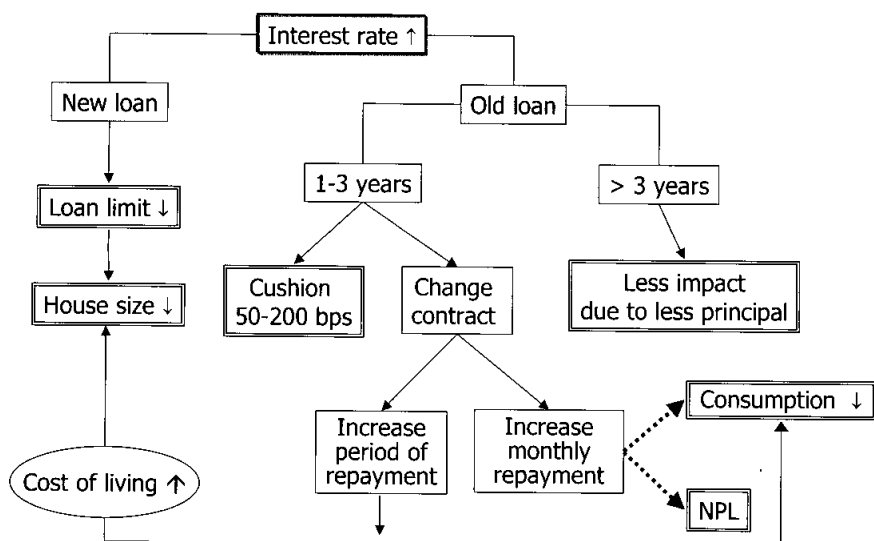
securities (MBS), all floating mortgage rates are linked to the MLR and in effect to the policy rate, resulting in more effective monetary policy in controlling real estate demand in light of tighter linkage between the policy rate and the MLR.

Consequently, we concern that interest rate increase will impact on household debt and financial stability. Form Real Estate Situation Report (2005), if interest rate increase, it will affect both new homebuyer and old homebuyer. For new loan, loan limit will decrease due to debt service ratio limit, so homebuyers can afford smaller house or may change type of housing, which they can afford, from single-detached house to townhouse. As for old loan, homebuyers who borrow and repay installment for more than 3 year will get a little impact because the principal has yet decreased much. Nevertheless, homebuyers who just borrowed for 1-3 years will have more impact as remaining principal are still high.

During the first period of increasing interest rate, if interest rate increase not much, the mortgage contract don't need to be adjusted, but it may be expanded repayment period within due date by the contract. Because most FIs have already a cushion, which is they have used current mortgage rate plus 50 to 200 basis point already to calculate monthly repayment, borrowers will finish repayment before due date if interest rate is not changed. However, if interest rate increase so much, FI's may adjust the mortgage contract by increasing repayment period or increasing monthly installment. In case of increasing monthly installment, homebuyer's income for consuming other goods and services will decrease as well as if expansion in income is less than increase in monthly repayment, default mortgage loan may appear. Additionally, homebuyer's ability to pay may be worse since cost of living has increase in line with higher oil price.

For financial institutions, they have avoided default risk by inclining cushion or increasing fixed rates or decreasing the period of fixed rate lending from 1-5 years to 1-2 years or offering floating rate only, except Government Housing Bank (GHB) that still provides long term fixed rate thanks to financing from fixed rate bond issuance.

Figure 21
Impact of Interest Rate Increase on
Mortgage Loans and Housing Demand



Sources: Real Estate Report vol.2 2005, BOT

5.3 Housing Price and Inflation

Housing price relates to inflation both directly and indirectly. Direct impact of inflation on housing price is cost push from construction cost, which we said in the Part 2C section that recent increasing in material construction cost, particularly iron and steel, have passed through on housing price further. Correlation between construction price growth and single-detached house price growth is 0.53 as well as correlation between construction price and townhouse price growth is 0.50.

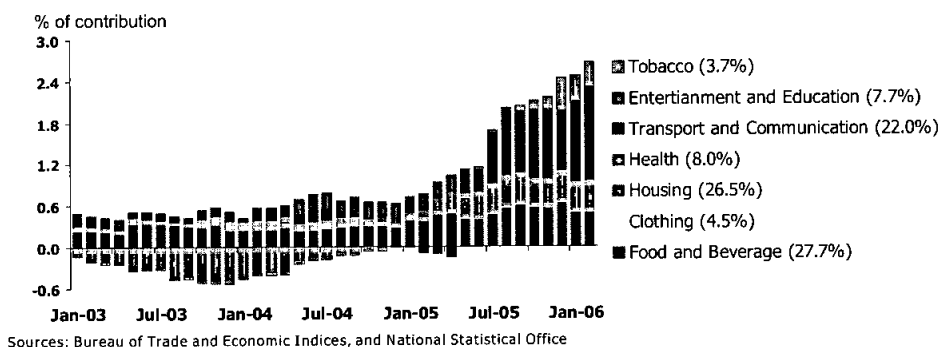
House price relates to inflation indirectly via rent since housing rent constitutes approximately 24 per cent of the basket used to calculate core consumer price index, which is the target of monetary policy of Bank of Thailand. As housing rent is usually based on housing prices, declining housing price lead to declining housing rent.

From the evidence after financial crisis in 1997, excess supply of housings continuously emerges in the market as non-performing assets of financial

institutions are sorted and then auctioned off. Declining housing price due to excess supply of housing and the continuous accommodating monetary policy stance which leads to declining lending rates, prompted a number of renters to buy their own housings, depressing housing rent further. The falling housing rent pulled down steadily low core inflation during 2002-2003. At that time, core inflation rate almost stayed outside target band.

In 2005, housing rent, as an indicator of overheating in the economy, began to pick up since the real estate sector returned to equilibrium and maintenance cost increased due to higher inflation and wage.

Figure 22
Contribution of Rent to Core Inflation



5.3.1 Relationship between Housing Rent and Interest Rates

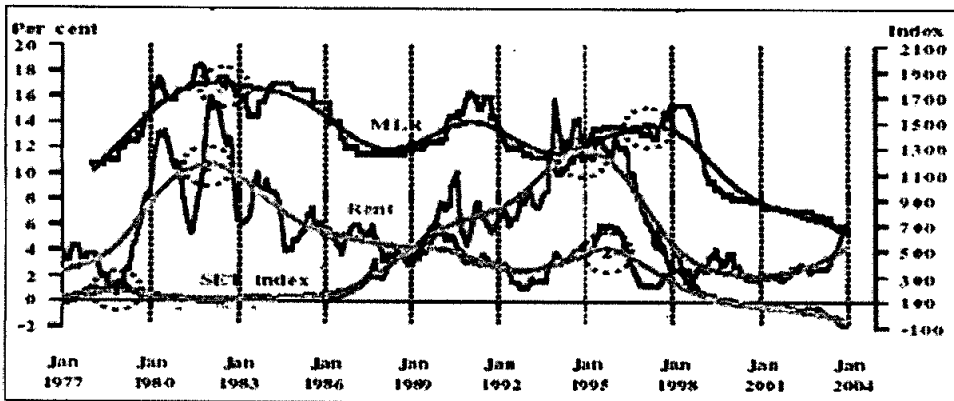
Inflation report (Jan 2004), Monetary Policy Committee (MPC) used to assess the appropriateness of including housing rent in the core consumer price index basket by investigating the positive relationship between interest rates and housing rent. Housing rent is hypothesized to be the normal returns on real estate. Any acceleration of activities in the real estate sector will be ultimately reflected on housing price and rent. If this is the case, monetary policy should respond in the same direction to the changes in housing rent. In other words, if housing rent rises in line with economic activities, monetary policy should be tightened ultimately.

Analyzing cycles of the housing rent, the Minimum Lending Rate (MLR), and the stock market over the past 25 years (Figure 23), two peaks are found. Rising wealth in the stock market leads to an acceleration in the real estate sector and subsequently to that of the real estate returns or housing rent. Results

from the Vector Autoregression (VAR) confirm the response of MLR to a change in housing rent that subsequently leads to a downward adjustment in the stock market index. In the conduct of monetary policy, housing rent is thus useful as a demand-side pressure indicator.

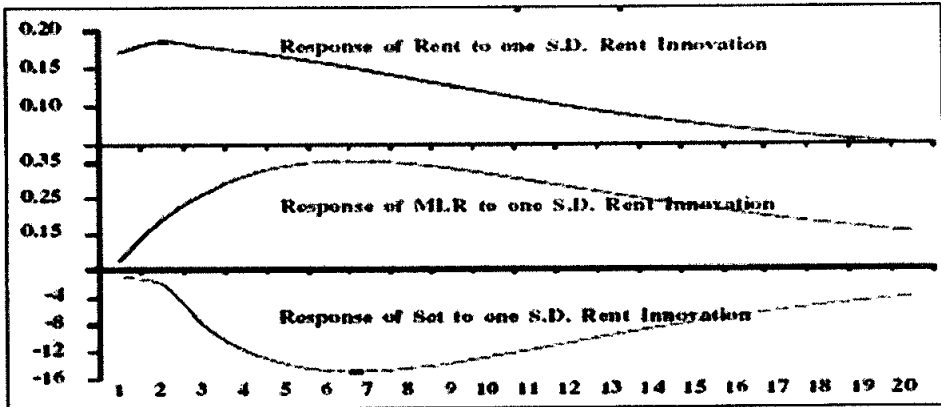
The exclusion of housing rent from the core inflation calculation would entail an accuracy loss in measuring the cost of living. Core consumer price index excluding rent accounts for only around 57 per cent of the headline consumer price index.

Figure 23
Cycles of the Stock Market Index, Housing Rent, and MLR



Source: Stock Exchange of Thailand, Bank of Thailand and Ministry of Commerce

Figure 24
VAR Test of Impulse Responses



Source: Bank of Thailand estimates

5.4 Housing Finance and Capital Market

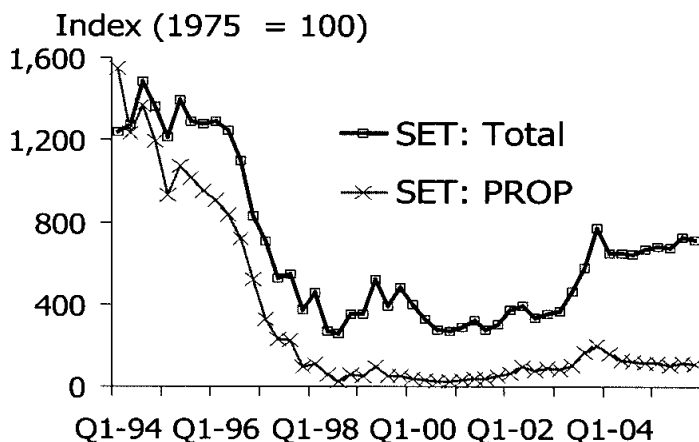
Capital market has an important role in housing market for both developers and investors. As we said in Section 4, developers take advantage from capital market as another source of funding besides financing from financial institutions. Potential large developers, most of them have well-known brand name in the market, have more opportunity to access stock market than small developers. Investors can reduce market risk by reason of more ability to diversify investment in property fund besides bond and debt instruments, which is preferred small investor who have small amount of money but want to invest in property for rent.

Transaction of property stock in stock exchange can partly reflect the property market and has a significant role in the total stock market, especially in the period before 1997. The movement of property stock index is along with total stock index (Figure 25). In addition, we have already proved in the previous section that rising wealth in the stock market leads to an acceleration in the real estate sector and subsequently to that of the real estate returns or housing rent.

Property fund in Thailand

Property funds, categorized as mutual funds but unlike any other mutual funds, have the objective of mobilizing the funds from general investors by issuing the unit trust and then investing the fund in real estate, residential projects or other property-linked securities allowed by law. The property funds focus on

Figure 25
Relationship Between Total Stock Index and Property Index



Source: Stock Exchange of Thailand

investment in property that returns a regular income rather than buying and developing property for future sale or trade.

Under the Securities and Exchange Commission regulations, the property funds in Thailand must be closed-end funds with a minimum capital of 500 million Baht. The property funds are classified into 2 types 1) “specific” property funds, which have clearly specified the property or properties to be purchased or leased in the prospectus and 2) “non-specific” property funds which only describe the type of property to be acquired in the future. Nevertheless, both fund types are required to invest at least 75% of their net asset value (NAV) in real estate, or the leasehold rights of real estate, which must be located in Thailand and be at least 80% constructed. Furthermore, after property acquisition, the property funds must hold the property for a minimum of one year. The regulations concerning property funds do not, however, allow investing in dormant land.

In terms of the unit trust holders’ portion, property funds are required by the regulations controlling them to pay dividends at a minimum of 90% of the annual net profit to the unit holders.

Even though property fund establishment regulation was adopted in the beginning of 1997, no property fund is established because rather restricted criteria and some unclear regulation. Until 1998, many stern criteria and regulation is

alleviated in order that property fund type 2, type 3 and type 4¹ are established to absorb the unoccupied housing in the market and sale to investor in the capital market.

In 2003, the first type 1 property fund is established and at the end of 2005, there are 8 type I property fund, value 19.4 billion baht. Total property funds invest in various properties such as housing, office and industrial building for rent.

6. Conclusion

This paper investigates the nexus between housing and the Thai economy. It provides an overview of relevant institutions, presents data on selected aspects of the linkages, and presents empirical analysis of several key relationships.

Housing price is affected by both housing market and macroeconomic variables. Macroeconomic factors, such as the falling interest rate and rapid expansion of consumer credit, are responsible for the recent increases in overall housing price in Thailand. As income grows and demography changes, demand for housing becomes more diverse and complicated. It is important that government secure an environment in which supply can respond to changing demand in a flexible and efficient manner.

Going forward, there are a number of issues needed to be addressed if the Thai housing market is to meet the challenges of future housing demand. These are

- Maintaining economic and financial stability under the inflation targeting framework to ensure stable interest-rate environment.
- Developing a reliable Real Estate Information Center which produces accurate, timely, and relevant data for housing market analysis.

1. Type 1 property fund is property fund public offering.

Type 2 property fund is property fund for resolving financial institution problems.

Type 3 property fund is mutual fund for resolving financial institution problems.

Type 4 property fund is property and loan fund.

- Improving Consumer Protection laws for homebuyers such as the law on escrow account
 - Developing an active secondary housing market
 - ensuring that the country has a financial and legal infrastructure that can rapidly adjust to the quick-changing needs of the financial institutions that deliver mortgages to the country's home buyers. Laws must be continuously up-dated to ensure that foreign capital can be readily invested in the funding of these institutions as they inevitably grow to service the mushrooming housing needs of a rapidly expanding young Thai population.
- (i) Developing the secondary home-resale market.
 - (ii) Developing the capital market and increasing its linkage in fund mobilization to the housing market to ensure sustainable housing market development.

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Appendix for Tables

Table 13
Features of Indirect Subsidies

Measures ^{1/}					Target properties	Policy tools	Effective date (dd/mm/yy)	Revenue forgone (million Baht)
1	2	3	4	5				
☆					- A new dwelling - A single-detached house - A duplex - A townhouse - A row house - All of the above and land used in connection therewith - A condominium unit	Cut transfer registration fee to 0.01 percent	19/8/99 – 31/12/00	2,500
☆					- A dwelling purchased or leased, which is used as collateral for a mortgage loan or a refinancing loan - A dwelling built on one own land, which is used as collateral for a mortgage loan or a refinancing loan	Raised the maximum mortgage interest allowance for Personal Income Tax to 50,000 Baht per year	1/1/00 onwards	550 (per year)
☆	☆	☆	☆		- A new dwelling - A single-detached house - A duplex - A townhouse - A row house - All of the above and land used in connection therewith - A condominium unit - Empty land - All of the above that is operated by a relevant public authority	Cut transfer registration fee to 0.01 percent	11/7/00 – 31/12/01	1,100 (per year)
							28/12/01 – 31/12/02	n.a.
							27/12/02 – 31/12/03	4,700 ^{2/}
						Cut mortgage registration fee to 0.01 percent	28/12/01 – 31/12/02	n.a.
							27/12/02 – 31/12/03	4,700 ^{2/}
	☆	☆			An office building	Cut transfer registration fee to 0.01 percent	28/12/01 – 31/12/02	n.a.
							27/12/02 – 31/12/03	4,700 ^{2/}
☆	☆	☆			A new dwelling sold	Cut Specific Business Tax rate to 0.11 percent	5/7/00 – 31/12/01	5,200 (per year)
							1/1/02 – 31/12/02	n.a.
							1/1/03 – 31/12/03	7,000

Appendix for Tables

Table 13
Features of Indirect Subsidies (cont'd)

Measures ^{1/}					Target properties	Policy tools	Effective date (dd/mm/yy)	Revenue forgone (million Baht)
1	2	3	4	5				
		☆			- One dwelling purchased. It is required that the dwelling will be under the buyer's ownership for at least two year after buying it. - One plot of land purchased, on which the buyer is obliged to build a building. It is required that the land will be under the buyer's ownership for at least two years after the purchase is made.	Excluded expense on buying a dwelling from Personal Income Tax for the actual amount paid, but not exceeding the followings: - 100,000 Baht for a dwelling purchased and used as collateral for a mortgage loan - 200,000 Baht for a non-collateral property	7/9/01 – 6/9/02	n.a.
			☆	☆	A primary dwelling sold. It is required that the seller resides in the primary dwelling for at least one year before selling it. The seller is also required to buy another dwelling within one year before/after selling the old one.	Excluded income earned from sale of a primary dwelling from Personal Income Tax	1/1/03 onwards	n.a.
						- Waive stamp duty - Cut transfer registration fee and mortgage registration fee to 0.01 percent	The day after such information is posted in Thailand's Royal Gazette – 31/12/07	n.a.

Note: 1/ = 1. Measure to revive real estate businesses, 2. Measure to promote the recovery of the real estate sector,

3. Measure to promote the real estate business, 4. Tax measure to promote the recovery of the real estate business and to improve revenue of the lower income earners, and 5. Measure to promote the second-hand housing market

2/ = Revenue forgone for cutting transfer and mortgage registration fees for a residential property, and transfer registration fee for an office building

Sources: Thailand's Royal Gazette, Ministry of Finance news, and summary of the cabinet meeting

Appendix for Acronyms

BOT	Bank of Thailand
MOI	Ministry of Interior (Thailand)
MOC	Ministry of Commerce (Thailand)
NSO	National Statistical Office (Thailand)
NESDB	Notional Economic and Social Development Board