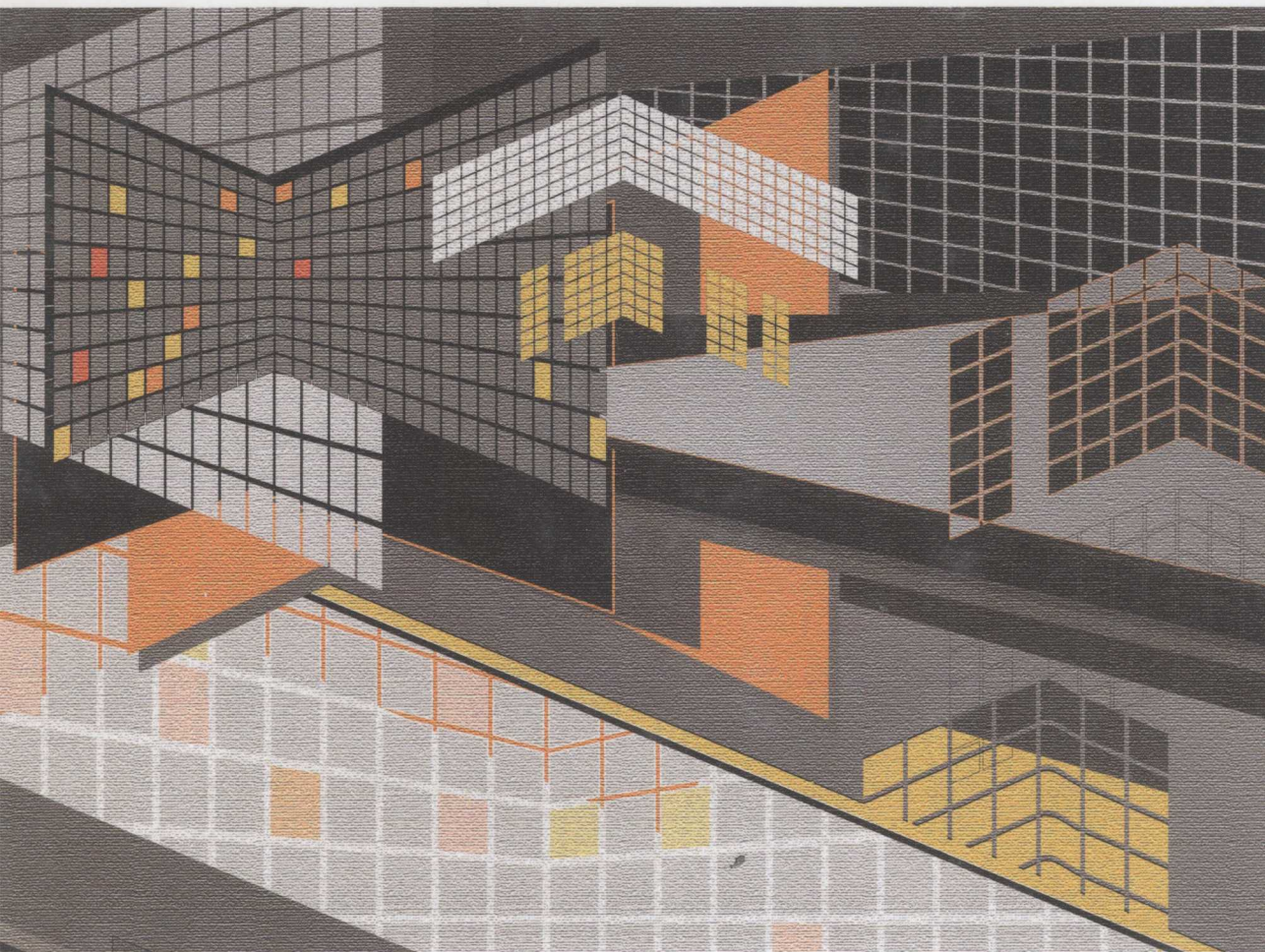


# GLOBAL HOUSING MARKETS

Crises, Policies, and Institutions



*Ashok Bardhan, Robert H. Edelstein, Cynthia A. Kroll, Editors*

**KOLB SERIES IN FINANCE**

Essential Perspectives

# GLOBAL HOUSING MARKETS

Crises, Policies,  
and Institutions

Ashok Bardhan

Robert H. Edelstein

Cynthia A. Kroll



The Robert W. Kolb Series in Finance



WILEY

John Wiley & Sons, Inc.

Copyright © 2012 by John Wiley & Sons. All rights reserved.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.  
Published simultaneously in Canada.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the Web at [www.copyright.com](http://www.copyright.com). Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at [www.wiley.com/go/permissions](http://www.wiley.com/go/permissions).

**Limit of Liability/Disclaimer of Warranty:** While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books. For more information about Wiley products, visit our web site at [www.wiley.com](http://www.wiley.com).

***Library of Congress Cataloging-in-Publication Data:***

Global housing markets: crises, policies, and institutions / Ashok Bardhan, Robert Edelstein, Cynthia Kroll, editors.

p. cm. – (Robert W. Kolb series)

Includes index.

ISBN 978-0-470-64714-1 (hardback); ISBN 978-1-118-14421-3 (ebk); ISBN 978-1-118-14422-0 (ebk); ISBN 978-1-118-14423-7 (ebk)

1. Housing policy—Case studies. 2. Global Financial Crisis, 2008–2009.  
3. Globalization. I. Bardhan, Ashok Deo, 1957- II. Edelstein, Robert H. III. Kroll, Cynthia A.

HD7287.3.G57 2011  
333.33'8—dc23

2011021443

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1

The *Robert W. Kolb Series in Finance* provides a comprehensive view of the field of finance in all of its variety and complexity. The series is projected to include approximately 65 volumes covering all major topics and specializations in finance, ranging from investments, to corporate finance, to financial institutions. Each volume in the *Kolb Series in Finance* consists of new articles especially written for the volume.

Each volume is edited by a specialist in a particular area of finance, who develops the volume outline and commissions articles by the world's experts in that particular field of finance. Each volume includes an editor's introduction and approximately thirty articles to fully describe the current state of financial research and practice in a particular area of finance.

The essays in each volume are intended for practicing finance professionals, graduate students, and advanced undergraduate students. The goal of each volume is to encapsulate the current state of knowledge in a particular area of finance so that the reader can quickly achieve a mastery of that special area of finance.

Please visit [www.wiley.com/go/kolbseries](http://www.wiley.com/go/kolbseries) to learn about recent and forthcoming titles in the Kolb Series.



# Acknowledgments

We would like to thank the Fisher Center for Real Estate and Urban Economics, the Center's Policy Advisory Board, and the Center chair and co-chairs, Ken Rosen, Robert Helsley, Dwight Jaffee, Atif Mian, and Nancy Wallace, for the resources that made the preparation of this book possible. Several graduate and undergraduate students over the past few years contributed efforts to the underlying research and to manuscript preparation, including Jackie Begley, Tyler Fach, Sean Wilkoff, Sandra Winkler and Tiffany Yu. The Homer Hoyt Institute provided funding for the chapter on the United States. In addition to those already mentioned, we received helpful comments and advice from many different individuals, some of whom include Shaun Bond, John Duca, Samir Dutt, Robert Kolb, Lu Ming, Maury Seldin, Felix Schindler, Branko Urošević, Richard Walker, and Peter Westerheide. The staff of Wiley's editorial department, ably led by Emilie Herman, has been both helpful and patient in shepherding the manuscript through the final preparations for publication.

# Editor's Note

The financial crisis of 2008–2009 originated within the U.S. housing markets and the U.S. financial system. This volume presents articles containing detailed analysis of national housing markets around the globe, and was conceived for the purpose of examining if and how the contagion spread to housing markets throughout the world; what were the transmission paths and mechanisms by which it spread; and what was the institutional and regulatory context in which policy measures were adopted in response to the spreading financial crisis. The timeline in most of the papers starts with the period prior to the crisis, proceeds through the unfolding months of the crisis, and concludes with the post crisis recovery period up to the present time (summer 2011). The widely divergent experiences of both the housing and mortgage markets across various countries provide evidence of the complex interplay between and among economic conditions, the institutional settings, international linkages, regulatory frameworks, and policy responses in directing and responding to the flow of the crisis. Indeed, the interaction of the global linkages of the crisis, the economic fundamentals underlying the housing market at the local and national level, and the remedial policy measures being played out on the national stage constitute the recurring theme of this book.

# Contents

<b>Acknowledgments</b>	ix
<b>Editor's Note</b>	xi
<b>1 The Financial Crisis and Housing Markets Worldwide: Similarities, Differences, and Comparisons</b>	<b>1</b>
<i>Ashok Bardhan, Robert H. Edelstein, and Cynthia A. Kroll</i>	
<b>PART I The United States Leads the Housing Bubble's Rise and Collapse</b>	
<b>2 The U.S. Housing Market and the Financial Crisis</b>	<b>23</b>
<i>Ashok Bardhan, Robert H. Edelstein, and Cynthia A. Kroll</i>	
<b>PART II The European Union—One Continent, Many Markets: A Gauge of Government Institutions and Interventions</b>	
<b>3 The 2008 Financial Crisis and the Danish Mortgage Market</b>	<b>53</b>
<i>Jacob Gyntelberg, Kristian Kjeldsen, Morten Baekmand Nielsen, and Mattias Persson</i>	
<b>4 Prolonged Crisis</b>	<b>69</b>
<i>Thies Lindenthal and Piet Eichholtz</i>	
<b>5 The Dynamics of the Irish Housing Market</b>	<b>101</b>
<i>Simon Stevenson</i>	
<b>6 House Prices and Market Institutions: The Dutch Experience</b>	<b>135</b>
<i>Dirk Brounen and Piet Eichholtz</i>	
<b>7 Real Estate Boom and Crisis in Spain</b>	<b>157</b>
<i>Antoni Sureda-Gomila</i>	

- 8 The UK and Europe's Selective Housing Bubble** 173  
*Christine Whitehead and Kathleen Scanlon*

**PART III Eastern Europe: European Emerging Markets  
 Ride the Waves**

- 9 The Housing Market in Russia: Lessons of the  
 Mortgage Crisis** 195  
*Nadezhda Kosareva and Andrey Tumanov*
- 10 The Housing Market and Housing Finance in Russia  
 and Its Regions: A Quantitative Analysis** 229  
*Carsten Sprenger and Branko Urošević*
- 11 The Housing Market in Serbia in the Past Decade** 247  
*Dejan Šoškić, Branko Urošević, Boško Živković, and Miloš Božović*

**PART IV Asia Housing Bubbles Past, Present, and Future:  
 Contrasts among Asian Economic Giants**

- 12 Irrational Prosperity, Housing Market, and  
 Financial Crisis: An Empirical Study of Beijing** 271  
*Lu Ping, Zhen Hui, and Xu Yuehong*
- 13 Home Mortgage and Real Estate Market in Shanghai** 295  
*Jie Chen*
- 14 Evolution of the Indian Housing Finance System and  
 Housing Market** 319  
*R. V. Verma*
- 15 The Housing Market and Housing Finance under  
 Liberalization in India** 343  
*C. P. Chandrasekhar*
- 16 The Recent Financial Crisis and the Housing Market  
 in Japan** 357  
*Miki Seko, Kazuto Sumita, and Michio Naoi*



## **PART V Managing Housing Bubbles and Housing Markets in Diverse Asian Economies**

- 17 Comparing Two Financial Crises: The Case of Hong Kong Real Estate Markets** 377  
*Charles Ka Yui Leung and Edward Chi Ho Tang*
- 18 The Global Financial Crisis and the Korean Housing Sector: How Is This Time Different from the 1997 Asian Financial Crisis?** 399  
*Kyung-Hwan Kim*
- 19 Government Policy, Housing Finance, and Housing Production in Singapore** 421  
*Lum Sau Kim*
- 20 Taiwan: Housing Bubbles and Affordability** 447  
*Chin-Oh Chang and Ming-Chi Chen*

## **PART VI Avoiding Contagion in Other Markets**

- 21 Australia's Economic Response to the Global Financial Crisis and Its Housing Markets** 467  
*Dogan Tirtiroglu*
- 22 The Financial Crisis and Brazil's Expanding Housing Market** 491  
*Emilio Haddad and Joao Meyer*
- 23 The Canadian Housing Market: No Bubble? No Meltdown?** 511  
*Tom Carter*
- 24 Partly Cloudy to Clear: The Israeli Economy and the Local Housing Market under the Storm of the World Financial Crisis** 535  
*Danny Ben-Shahar and Jacob Warszawski*
- Index** 557

## CHAPTER 1

# The Financial Crisis and Housing Markets Worldwide

## Similarities, Differences, and Comparisons

**ASHOK BARDHAN**

Fisher Center for Real Estate and Urban Economics,  
University of California–Berkeley

**ROBERT H. EDELSTEIN**

Haas School of Business, University of California–Berkeley

**CYNTHIA A KROLL**

Fisher Center for Real Estate and Urban Economics,  
University of California–Berkeley

## INTRODUCTION

The subprime crisis that began in the United States in 2007 sent the world into a financial crisis of unprecedented proportions. In the United States, this was manifested in a boom-bust cycle in residential real estate markets, the near shutdown of the country's financial sector in 2008, and a prolonged Great Recession of a magnitude not seen in the country in any cycle since the 1930s. The contagion in financial markets became clear very quickly, affecting countries around the world, including Singapore, New Zealand, Iceland, the United Kingdom, Germany, France, and Ireland, to name a few, as well as some fast-growing emerging economies to a lesser extent. Both residential and commercial real estate markets as well as stock, bond and asset markets appeared vulnerable worldwide.

As the dust settles, it has become clear that some countries were more vulnerable than others. In particular, impacts on residential real estate ranged from unnoticeable in countries as far apart as Australia, Germany, and Israel to sharp downturns in Ireland, Spain, and the United Kingdom; the latter group at a level that at a cursory glance appears to closely mirror the U.S. experience. This book was conceived for the purpose of examining if and how the contagion spread to housing markets throughout the world, what were the paths and transmission mechanisms by which it spread (through financial markets, directly through global real estate markets), and what was the institutional and regulatory context in which

policy measures were adopted in response to the spreading financial crisis. The timeline in most of the papers in this volume covers the period starting with the run-up prior to the crisis, the unfolding months of the crisis itself, and the post-crisis recovery period up to the present time (summer 2011). The widely varying experiences of both the housing and mortgage markets in the countries described here provide evidence of the complex interplay of the roles of economic conditions, the institutional setting, regulatory framework and policy responses in directing and responding to the flow of the catastrophe.

The financial crisis was global; housing markets are local; and the primary geographic unit of analysis in the chapters in this book is national, albeit with numerous examples of subregional and urban housing markets in those countries. The institutional structure of housing markets and the policy domain in most countries is national, as was the political and economic response to the crisis. It is the interaction of the global linkages of the crisis, the economic fundamentals at the local and national level, and the policy issues being played out on the national stage that is the recurring theme of this book.

The book is organized in five sections, and each primarily groups together nations along geographic lines, although there are also other shared characteristics among the national market settings in each section. Part I is devoted to the housing market experience of the United States, as the epicenter of the global financial crisis (hereafter referred to as GFC). Part II includes chapters on six different European countries that experienced widely varying effects from the financial crisis, ranging from Germany, which continued its long-term but gradual downward trend in home sales and prices; to Denmark and the Netherlands, which, although affected, were able to contain the impact and did not need banking bailouts; to Ireland, Spain, and the United Kingdom, each of which experienced different combinations of financial and housing market woes.

Part III includes three chapters on Eastern European transition economies. Two of the chapters examine various aspects of the housing market and mortgage finance system in Russia, while the third describes the transformation of the Serbian housing market since the political situation stabilized at the beginning of the twenty-first century.

Part IV is divided into two sections. The first consists of papers on the largest Asian economies. Two chapters look at two critical urban housing markets—Beijing and Shanghai—and the financial system in the People's Republic of China. Two other chapters analyze the housing market and financial system in India, one focusing on the transformation of the mortgage finance system and its implications for housing India's population with all of its diverse needs, and the other focusing in more detail on the evolution of its housing market and its experience during the GFC. This subsection of Part IV is rounded out by a paper describing the Japanese experience over a series of real estate cycles and economic challenges that began long before the GFC and continue through to the present day.

The remainder of Part IV includes chapters on other, smaller Asian markets. In terms of institutional setting, Hong Kong, Taiwan, Singapore, and Korea are even more diverse than the European markets described in Part II. However, these countries all came into the GFC after enduring the common and painful experience of the Asian Financial Crisis (hereafter referred to as AFC) more than a decade earlier. Each chapter describes not only the GFC from the country's

perspective but also the manifestations of the current crisis in comparison to the AFC.

Part V is the only section of the book that is not based on a common geographic region. Instead, this section covers four countries from around the globe—Australia, Brazil, Canada, and Israel—whose housing markets showed various levels of immunity to the consequences and contagion effects of the GFC.

In this chapter, we take the liberty of briefly summarizing some of the key points of each paper by the contributors in this volume and draw on their research, as well as on some other key studies that have provided a comparative context for examining housing markets and housing finance across countries, in order to describe the commonalities and differences in the behavior of these markets in the context of the GFC. We conclude the chapter with our observations on some common knowledge gleaned and lessons learned regarding the factors that made housing markets and financial systems in different countries more or less vulnerable to the consequences of the GFC, with particular attention to economic structure and institutions, role of the public sector, global financial and economic linkages, housing market specifics, and regulatory stance as key elements.

## A COMPARATIVE LOOK AT HOUSING AND FINANCIAL SYSTEMS

Earlier research has compared housing finance systems across different parts of the globe and housing price trends before and during the GFC. Green and Wachter (2005), Ben-Shahar, Leung, and Ong (2009), Kim and Renaud (2009), Duca, Muellbauer, and Murphy (2010), and Lea (2010 and 2011) deal with a selective, comparative analysis of mortgage and housing markets worldwide. To our knowledge, our book stands out in two respects: (1) It is set against the backdrop of the financial crisis, which helps to bring out the differences and commonalities of markets and institutions across the world in a vivid fashion; and (2) it is very broadly representative, with examples from every major continent and most significant markets, particularly those with important distinguishing characteristics and structural attributes in their housing systems.

The countries examined in this volume vary along several important dimensions, including size of the economy, role of government in economic and housing affairs, structure of financial institutions, the role of the private sector in housing production and finance, and the history of the housing market. Several of these dimensions are summarized in Exhibit 1.1. The group of countries includes two city states with a housing base on the order of a million units, small countries with approximately 2 to 8 million housing units, mid-sized countries with housing stock in the range of 12 to 30 million units, and larger countries, with stock ranging from close to 60 million to over 200 million. Owner occupancy ranges from only 42 percent in Germany to close to 100 percent in Serbia, with many countries averaging between 60 and 70 percent.

The institutional setting also varies widely, with some governments heavily involved in either the ownership, control, and distribution of land (as in China), the construction of housing (Singapore), or the privatization of previously public

Exhibit 1.1 Comparative Data on Housing Market and Housing Finance Systems

	Housing Stock 2009 (millions of units)	Percent Home-owners	Loan to Value Ratio	Variable or Fixed Rate (majority)	Government Role in Housing	Mortgage Deductibility	Fee-Free Prepayment?	Government Guarantee or Mortgage Insurance	Mortgage Securitization	Recourse or Nonrecourse
Australia	8.3	70%	70%	Variable	Low	No	Partial; full after mid 2011	For lenders	Moderate	Recourse
Brazil	58.6	81%	62%	Variable	Low	No*		Mortgage subsidies	Moderate, gov't presence	Recourse
Canada	12.4	65.9%	90%	Short-term fixed	Low	No		CMHC	Moderate, gov't presence	Recourse
China	[11.2B m <sup>2</sup> ]	~80% in urban areas	60%	Variable	Moderate/High	No	Yes	Insurance required for HPF loans	None	Loans linked to compulsory savings
Denmark	2.7	54%	65%	Variable	Low	Yes	Yes	No	Covered Bonds	Recourse
Germany	39.4	43.2%	74%	Variable with fixed limits	Moderate (for rental)	No	No	Covered bonds	Bonds	Recourse
Hong Kong	2.5	52.5%	70%	Variable	Moderate/High	Yes (10 years)	Yes after 3 years	Mortgage Insurance may increase LTV	Yes	Recourse
India	211.9	65%	65%		Moderate	Yes	No	On the table	Partial	Recourse
Ireland	2.0	74.5%	90%+	Variable		Yes (5 years)				
Israel	2.2	65.8%	NA	Both	Moderate	No*	Partial	Small share with private mortgage insurance	None	Recourse



Japan	58.0	61.1%	80%	Variable 44%, Hybrid 31%, Fixed 25%	Low/ Moderate	No	For some lenders; most no	JHF (GHLC until 4/2007) 35% of loans	REITS, JHF (GHLC until 4/2007)	Recourse
Korea	13.8	60.3%	50-70%	Variable	High	No	No	Yes	Yes	Recourse
Netherlands	7.1	57.2%	80%	Fixed	Moderate	Yes	Limited	Government loan guarantees	Small OTC	Recourse
Russia	59.0	64%	60-70%	Mostly fixed	High historic	Yes	Limited	Being established	New since 2000	Recourse
Serbia	2.7	98%	95%	Variable	High historic	No	No	Yes	Under- developed	Mostly recourse
Singapore	1.1	80%+	80%	Variable	High	No	Yes, after teaser period	Insurance mandatory for public housing purchase	None	Both, non-R requires co- borrower
Spain	25.6	85%	70-80%	Variable	Moderate	Only for low income as of 2011	No	No	64% Covered Bonds, 36% ARM	Recourse
Taiwan	7.8	87%	70%	Variable	Low	Yes for 1st home.	No	Not yet	<5%	Recourse
United Kingdom	27.1	67.4%	74%	Short-term fixed, then turn variable	Moderate	No*	Yes if rate not dis- counted	Insurance available for mortgagor	Grew 2000-2007. now negligible	Recourse
United States	130.2	67.2%	80-90%	Both, currently mainly fixed limits	Low, local limits	Yes*	Varies by state	Multiple agencies involved	Highly Developed	Non- Recourse

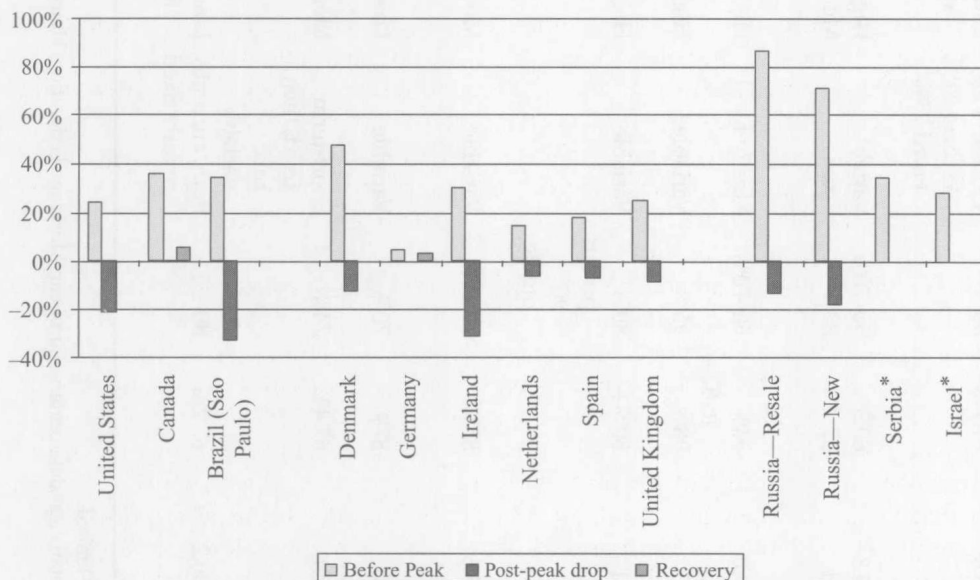
\*Capital gains tax limited.

Sources: Country statistical data centers; European Mortgage Federation; Housing Finance Information Network; Van den Noord 2005.

housing stock (Serbia and Russia), while others rely primarily on market mechanisms and the private sector to take the lead in housing construction and sales. In some countries the government role involves encouraging homeownership through everything from subsidized transfer of government property to individual households, to tax relief from interest payments, down-payment support, or capital gains relief. Other countries focus instead on “social housing,” with an emphasis on using government subsidies for the rental sector. Similarly, in some countries the mortgage financing system for housing is largely government-operated or heavily regulated, whereas others provide extensive leeway to the private sector, and even opportunities for foreign lenders. The capital market for securitized mortgages is another dimension along which there is a great deal of variation. These institutional differences set the stage for the degree of vulnerability of individual housing and mortgage markets, the degree and direction of a country’s policy response, and the extent of intervention in financial and real estate markets once the GFC began.

## THE FINANCIAL CRISIS AND GLOBAL HOUSING MARKETS

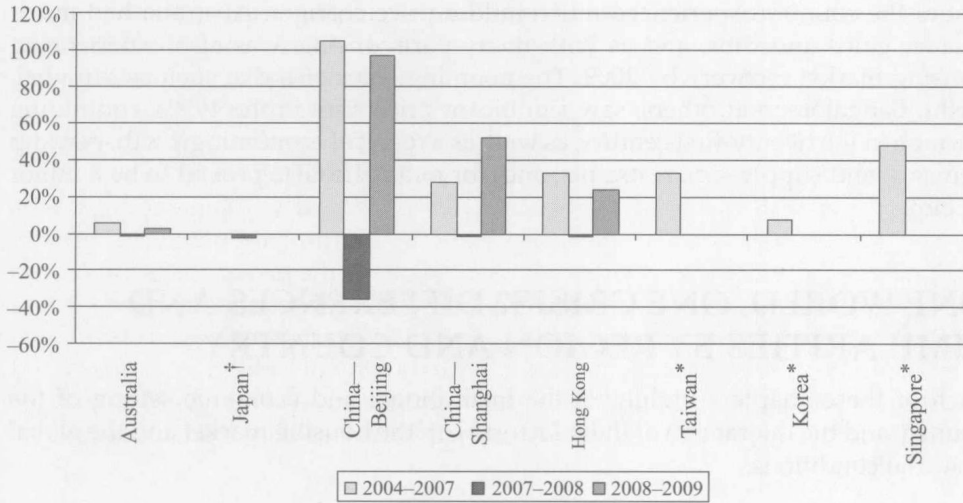
It is not surprising, given the local and national attributes of housing markets, that the GFC had different degrees of impact around the world. Exhibits 1.2 and 1.3 provide a rough comparison of housing market reaction globally, by focusing on price gains during the run-up to the peak in a country’s housing market, price declines in the period just following the GFC, and any subsequent price gains,



**Exhibit 1.2** Annual Average Housing Price Changes, American and European Countries (three years up to peak, losses following peak, and recovery, if any).

\*Housing market has not seen a price drop; three years to peak is the most recent three-year period.

Sources: European Mortgage Federation; World Economic Outlook; Australian Bureau of Statistics; chapter authors.



**Exhibit 1.3** Annual Average Housing Price Changes, Asia-Pacific Countries (three years up to peak, losses following peak, and recovery, if any).

\*Housing market has not seen a price drop; three years to peak is the most recent three-year period.

†Housing market saw price declines even during the boom. Drop is for the 2007–2009 period.

Sources: European Mortgage Federation; World Economic Outlook; Australian Bureau of Statistics; chapter authors.

through 2009. The comparison is tentative because housing market statistics are not directly comparable across countries, with measures varying from indices drawn from repeat home sales, to time series of average or median prices. What is most relevant here is the direction of change, rather than small differences among trends. The United States did not have the highest rate of growth in housing prices in the period leading up to the crisis, nor the highest rate of decline in prices in 2008 and 2009, but the pattern of price build-up and decline is apparent. Most European markets also had price increases in the mid-2000s, followed by a price decline, but only in Ireland did the magnitude of the decline come close to that of the United States. Canada had a much milder drop, and was already seeing price recovery in 2009. Sao Paulo, in Brazil, had large gains and losses, although these were explained as much by a change in mix of homes sold as by the GFC, as described later. Two other markets on the periphery of the European sphere, Serbia and Israel, have not as yet shown any price downturn.

The Asian and Pacific markets had a very different profile from that of the United States and most of Europe. With the exception of Japan, which did not participate in the upswing at all, all Asia/Pacific markets that had a downturn during the GFC have had recovery upturns by now. In general, the urban or city state markets (Beijing, Shanghai, Hong Kong, and Singapore) showed much larger percentage upswings. Beijing and Shanghai had relatively large downturns as well, but these were smaller than the previous price gains and were quickly counterbalanced by price recovery in 2009. The greater volatility of these concentrated urban markets is consistent with the experience in the United States, where the largest gains and losses were concentrated in a few metropolitan areas, and much of the

rest of the country experienced much milder price changes. Australia had much smaller gains and dips, and as with many parts of Asia was also experiencing housing market recovery by 2009. The booming cities of India, such as Mumbai, Delhi, Bangalore, and others, saw significant price rises in the 1990s, continuing through in the twenty-first century, as well, as a result of economic growth, pent-up demand, and supply-side restraints, and, for most, the GFC proved to be a minor hiccup.

## ONE WORLD, ONE CRISIS? DIFFERENCES AND SIMILARITIES BY REGION AND COUNTRY

Each of these chapters highlights the institutional and economic setting of the country and the interaction of these factors with the housing market and the global financial conditions.

### United States

Bardhan, Edelstein, and Kroll highlight the factors that led the country into a situation where the financial sector and housing sector interacted to produce two bubbles that fed on each other. They describe the genesis and evolution of the crisis, including the role of federal policy in keeping rates low, the investor response leading to exotic and risky financial instruments, predatory lending, rampant speculation, the rise of household debt, leverage and other factors. They also present a cross-state analysis revealing the role of regulatory laxness in the growth of sub-prime mortgages and foreclosures. They point out that U.S. policy was reactive rather than proactive, and took many months to address the housing side of the problem. The crisis has led to a reworking of the mortgage finance system, with some stricter controls, but other troubling features, such as the “too big to fail” financial institutions, remain. The authors evaluate and analyze the policy initiatives proposed, and suggest some essential elements of a fair, effective, and viable plan to fix the residential finance system and the housing market.

### Western Europe

#### *Denmark*

Despite having a funding model that fully matches the cash flow for loans and the bonds used to finance the loans, the Danish housing market was a full-fledged participant in the frenzy of the price-rise preceding 2007–2008. Gyntelberg, Kjeldsen, Nielsen, and Persson point out that house prices dropped 20 percent during the crisis, and Danish policy makers were forced to introduce measures to stabilize the financial sector. Despite the turmoil, the mortgage system, including the mortgage bond market, continued to function throughout the crisis period. Furthermore, the authors argue, there were very few defaults, which was perhaps attributable to a combination of the recourse nature of Danish mortgages and the underlying social safety net that helped preserve household income even during financial stress.