IDB WORKING PAPER SERIES No. IDB-WP-312

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Instruments, Actors, and Policies

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May 2012

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2012

Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library

Housing finance in Chile : Instruments, actors, and policies / Alejandro Micco ... [et al.].
p. cm. (IDB working paper series ; 312)
Includes bibliographical references.
1. Housing—Chile—Case studies. 2. Housing policy—Chile—Case studies. 3. Housing—Chile—Finance—Case studies. I. Micco, Alejandro. II. Parrado, Eric. III. Piedrabuena, Bernardita. IV. Rebucci, Alessandro. V. Inter-American Development Bank. Research Dept. VI. Series.

http://www.iadb.org

Abstract[1]

The Chilean system of housing finance is a mixture of public and private elements that has arguably been very successful. This paper provides an up-to-date review of the main instruments, actors, and government policies of the Chilean system of housing finance. It concludes that, while the system is indeed functioning well, the increasingly important role of *BancoEstado* warrants further analysis of the role of public banks in a modern, fully developed housing finance system.

JEL Classifications: F33, E52

Keywords: Housing finance, Mortgage loans, Government policies

[1] The views expressed are those of the authors and do not necessarily reflect the opinions of the Universidad de Chile, Universidad Adolfo Ibáñez or the Inter-American Development Bank. We are grateful to Juan Enrique Pino for superb research assistance. This paper was undertaken in preparation for the 2012 Development in the Americas report *Room for Development: Housing Markets in Latin America and the Caribbean*.

1. Introduction

The Chilean system of housing finance is a mixture of public and private elements that has arguably been very successful over the course of the past several decades. From the perspective of the quantitative and qualitative housing deficit, the Chilean system of housing policies and housing finance has been very successful. In 1990, one in every four houses was overcrowded or extremely overcrowded, while in 2009 only one in 10 houses was overcrowded. Moreover, these improvements were more marked in the first deciles of the income distribution. Similarly, from the perspective of macroeconomic stability, the Chilean mortgage system was also very successful, coping with the global financial crisis fairly well. Despite the fact that the mortgage market in general, and public housing programs in particular, are based on banking credit, the system did not suffer significant losses, even though during and immediately after the crisis, risks increased and loans to households and businesses declined.

This paper provides an up-to-date review of the main instruments, actors, and government policies of the Chilean system of housing finance, which has significantly developed over the past 30 years. Several authors have described and assessed its evolution and the key steps that have led to the current configuration of these markets. Morandé and García (2004) describe three complementary elements contributing to this progress: i) the elimination of the impact of inflation on the value of long-term debt, first by developing a unit of account indexed to inflation, which remains important and transparent (the UF), and later with the abatement of inflation as a macroeconomic phenomenon; ii) the pension reform of the early 1980s, which was key to the birth and development of a capital market with longer maturities; and iii) the social housing policy, under which the state has been moving steadily toward subsidizing housing demand for families via access to private markets for financing. They also note that the legal system in Chile contains a proper balance between the rights of debtors and creditors, including procedures for enforcement of the security rights that accompany mortgages. This situation, coupled with sound commercial policies by credit issuers and a strict system of risk classification of debt securities, has enabled housing finance markets to develop without significant institutional barriers. Furthermore, the authors point out that the state is still a relevant actor in the provision of housing finance, with policies of direct intervention to support lower-income groups, as discussed at length in this paper. Indeed, as Chile's per capita income has gone up and business practices have been consolidated, the market has evolved dynamically to provide financing to a broader spectrum of families. Morandé and García note, however, that room for improvement remains in reducing transactions costs, lowering risk estimates, and increasing lower income groups' access to financing.

In an earlier study, Pardo (1999) also assessed the Chilean experience with housing finance since 1970, highlighting best practices to be possibly applied and replicated in other developing economies. The author underlines the importance of state interventions in housing, which have been comprehensive in several dimensions such as housing finance, social protection, and well-defined mechanisms for establishing public-private partnerships. At the same time, however, successive governments have been flexible enough to adapt to new realities and learn from experience. In terms of redistribution policies, the state has improved the social protection safety net and therefore, by carefully targeting fiscal subsidies, has helped to resolve the housing needs and vulnerabilities of the poorest segments of society. Pardo (1999) arrives at conclusions similar to those of Morandé and García (2004), suggesting that price indexation and the development of a vibrant capital market based on institutional investors are key developments. The latter requires strong relations between mortgage originators and institutional investors such as pension funds and insurance companies that are looking for long-term investments. Despite these improvements, Pardo (1999) calls for continuing the sound lending practices applied in Chile, avoiding excessive credit risk and asset and liability mismatches in their balance sheets. He stressed that the quality of the collateral and the presence of a strong legal and regulatory framework foster the mortgage and credit market. In addition, he recommends keeping interest and liquidity risk exposures well under control. In particular, mortgage originators must have a clear strategy for timely access to long-term funding in local currency in the local capital market.

The paper is organized as follows. Section 2 describes the housing sector in Chile and its principal trends, and Section 3 describes financing sources and households' indebtedness. Section 4 presents government policies in recent decades, including the role of housing finance policies during economic crises. Section 5 explains the current challenges of reconstruction after the earthquake, and Section 6 concludes.

2. Housing in Chile in Recent Decades

Between 1992 and 2002 the number of permanent houses increased by 31.6 percent, reaching 3.7438 million homes in 2002.[2] Given that the population grew 13.2 percent during the same period, this large increase in housing stock implied a substantial reduction in the housing deficit. In fact, between 2002 and 2006 Chile's housing deficit decreased by 24 percent, falling from 540 thousand units to 410 thousand units.[3]

Chile has not only reduced its quantitative housing deficit but also vastly improved the quality of housing. In addition, the share of the population living in overcrowded housing has also fallen dramatically in the last two decades. According to the National Socioeconomic Characterization Survey (Casen), in 1990 one out of every four houses was overcrowded or extremely overcrowded. By 2009, however, only 9.1 percent of houses were overcrowded. There have also been signs of improvement for the first quintile, for whom this problem has been particularly pronounced. In 1990 one out of every two houses belonging to this quintile was overcrowded, while in 2009 only one out of every five was (see Table 1).

Table 1. Overcrowded Houses
Percentage of Houses by quintile

Quintile	1990	2009
I	48.4	17.6
II	35.0	13.3
II	22.8	8.7
IV	10.7	4.6
V	4.3	1.3
Total	**24.2**	**9.1**

Source: Casen 1990 and 2009.

While in 1990 almost 8 percent of total houses were uninhabitable, twenty year later less than one percent of total houses were uninhabitable. As in the case of overcrowding, the improvement was by far more significant in the first and second deciles. In fact, during this period the share of uninhabitable houses plunged from one out of every five to one out

2 Permanent houses include housing that is not mobile or slums.
3 Of which 28 percent is accounted for by uninhabitable houses. We focus on housing quality below.

of every 70 in the first deciles, and from one out of every 10 to one out of every 100 in the second deciles (see Table 2).

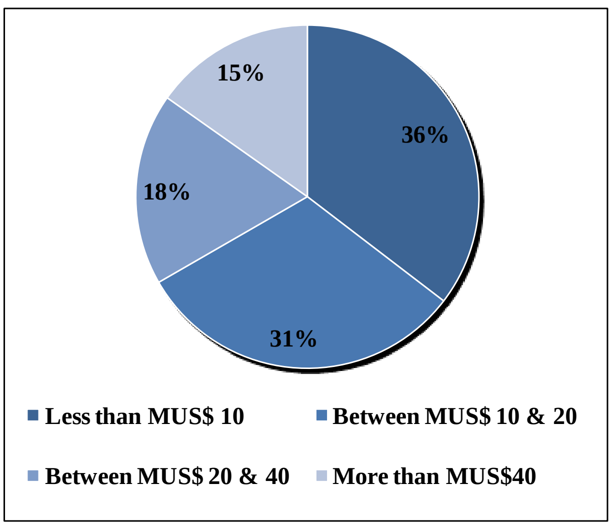
Table 2. Irrecoverable Houses, Percentage of Houses by Quintile

Quintile	1990	2009
I	15.5	1.4
II	10.2	0.9
II	7.1	0.6
IV	4.3	0.3
V	1.7	0.1
Total	**7.8**	**0.7**

Source: Casen 1990 and 2009.

In terms of value, only 15 percent of houses had a value above US$40 thousand, equivalent to four times Chile's per capita GDP in 2007. Almost 50 percent of houses in Chile had a value between US$10 and US$40 thousand. The remaining 36 percent of houses had a value below US$10 thousand (see Figure 1).

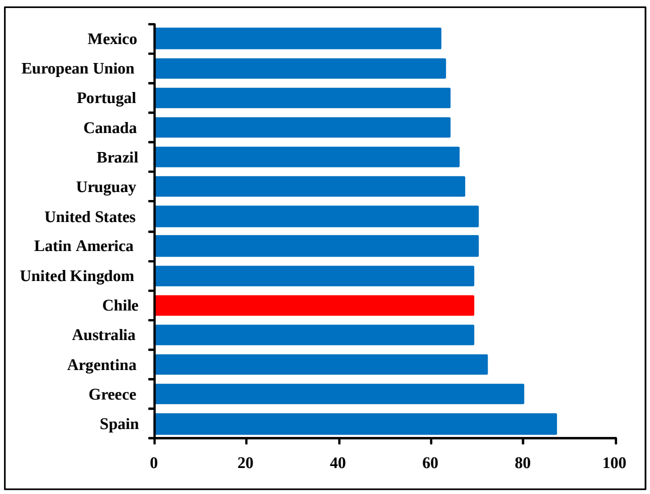
Figure 1. Percentage of Houses by Value, 2007*



* Total houses: 3,850,944.
Source: Observatorio Habitacional, Housing and Urban Development Ministry.

In Chile, as in many other countries, housing is the main component of household wealth and the main guarantee of loans made by the financial system. According to the CASEN, about 70 percent of all households own the house in which they reside, while 17 percent of households are tenants.[4] This homeownership rate is comparable to those in other developed and Latin American economies (see Figure 2).[5] Of the owners, 73 percent have fully paid their housing, while the remaining 27 percent (equivalent to 770,000 households) are still paying off their mortgages.

Figure 2. Homeownership Percentage



Source: De Ferranti et al. (2005), Debelle (2004), and Mideplan based on Casen 2003.

In sum, the housing problem in Chile, which was critical at the beginning of the 1990s, has been largely solved over the past 20 years. As we shall see, public policies have played an important role in this process.[6]

[4] The remainder includes the following categories: courtesy of one family member to another, courtesy services, enjoyment, and irregular occupation shared with another family.

[5] This shows that lower-income Latin American countries have not failed to reach high rates of homeownership, despite the low coverage of formal credit. However, the high rates observed could be explained by the various housing policies implemented by governments. In the case of Chile, the results of the 2003 Casen indicate that 43.3 percent of households owning the dwelling in which they live have been the beneficiaries of a state housing program.

[6] Although the 2010 earthquake halted the house deficit reduction, the special program launched after the earthquake, of additional 100,000 houses suggests that the deficit will continue with its reduction.

3. Households' Finance

3.1 Demand Side: Asset and Liabilities by Income Groups

Chilean households' indebtedness has significantly increased in the last decade. In aggregate terms, the average real growth rate of total household debt was almost 13 percent per year in the period 2000-2009, with mortgage and consumer credit growing at average rates of 14 percent and 12 percent, respectively. Given that this growth notably exceeds average GDP growth of 3.7 percent during the same period, the stock of debt increased from 22 percent of GDP in 2000 to 39 percent in 2009.

Higher levels of debt imply higher risks. The main indicators for monitoring risks associated with the financial exposure of households in Chile are aggregate measures of household debts and assets. The problem with such measures, though, is that they hide the genuine financial situation of many households that could suffer the most from financial stress. To work around this problem, it is necessary to analyze the financial position of the household population as well as its distribution. Thus, this section reports summary statistics based on microeconomic data that help to characterize Chilean households' financial position.

One of the most recent sources of household financial data is the 2007 Financial Survey of Households (EFH, *Encuesta Financiera de Hogares*) conducted by the Central Bank of Chile, which allows us to characterize the balance sheets of Chilean households, as it measures both assets and liabilities. We also consider the 2004 Social Protection Survey (EPS, for *Encuesta de Protección Social*) conducted by the Ministry of Labor, which includes for the first time a financial module designed to assess the wellbeing of workers and non-workers and their households. Although the EPS is not a financial survey, the financial module makes the dataset comparable to those found in other countries.[7]

More than half of the Chilean households are reported to hold some debt. While only 16 percent of households report secured debt, 50 percent of households report unsecured debt (see Table 3). Although access to credit seems to be quite widespread across the population, richer households tend to use more debt. In fact, the richest quintile

[7] See, for example, the Survey of Consumer Finances in the United States, the Survey of Household Income and Wealth in Italy, and the Spanish Survey of Household Finances (EFF).

has 25 percent of households' secured debt, while Quintiles I and II (the poorest) have only 10 percent and 12 percent, respectively.

Table 3. Distribution of Debt by Income Quintiles, Percentage

Type of Debt	Quintiles I	II	III	IV	V	Total
Total debt						
% of households with debt	45	50	57	63	66	56
Share of debt	5	8	12	18	57	100
Secured debt						
% of households with debt	10	12	17	17	25	16
Share of secure debt	4	8	10	17	61	100
Unsecured debt						
% of households with debt	40	44	50	56	58	50
Share of unsecured debt	8	9	15	19	49	100

Source: Cox, Parrado and Ruiz-Tagle (2006).

A large proportion of the debt is secured debt, indicating that the principal liability of households corresponds to housing. In fact, secured debt accounts for 64 percent of total debt, while unsecured debt accounts for only 36 percent. This pattern is similar for all quintiles, but the first quintile has unsecured debt accounting for 52 percent of total debt.

Total debt is highly concentrated in the richest quintile, which holds 57 percent. In contrast, the first quintile holds only 5 percent of total debt, and the third and fourth quintiles together hold 30 percent of total debt. Both secured and unsecured debts are mainly held by the richest quintile. Quintile V accounts for 61 percent of secured debt, while the poorest quintile holds only 4 percent. Also, the richest quintile holds almost 50 percent of unsecured debt, and Quintiles I and II together hold no more than 20 percent of unsecured debt (see Table 3).

The concentration of secured debt in the richest households is highly correlated with the prices of properties they live in. Likewise, low-income quintiles have a small amount of debt because they buy low-price properties. The concentration of unsecured debt similarly follows the unequal distribution of income. Households request and are offered credit according to their income levels.

On the assets side, more than 80 percent of households hold some sort of assets. The breakdown indicates that 77 percent of households in the poorest quintile report holding assets, while more than 90 percent of those in the richest quintile hold assets (see Table 4).

Table 4. Distribution of Assets by Income Quintiles
Percentage

Type of Asset	Quintiles					
	I	II	III	IV	V	Total
Total assets						
% of households with assets	77	82	83	87	92	84
Share of assets	10	13	14	20	43	100
Real estate assets						
% of households with assets	71	72	73	77	81	75
Share of real estate assets	11	13	15	21	40	100
Non-real estate assets						
% of households with assets	23	30	37	44	64	40
Share of non-real estate assets	7	7	9	15	61	100

Source: Cox, Parrado, and Ruiz Tagle (2006).

Assets are also concentrated in the richest households, but less dramatically than debt. In fact, Quintile V holds 43 percent of total assets, while Quintiles III and IV together hold 35 percent of total assets. Quintiles I and II hold only 10 percent and 13 percent, respectively (see Table 4).

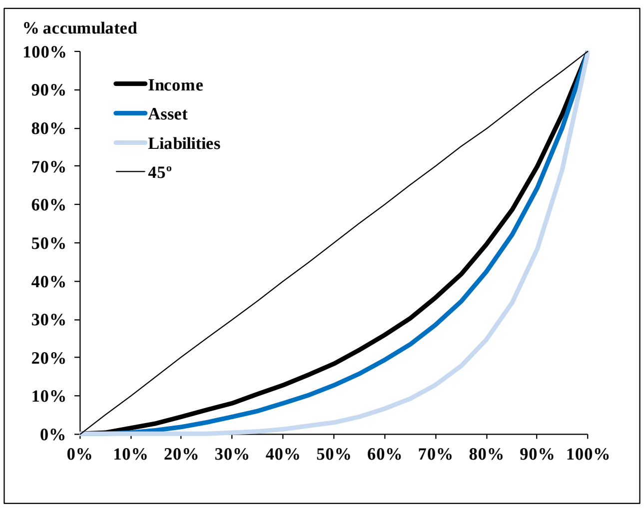
When assets are broken down into real estate assets and non-real estate assets (financial assets plus cars and other assets) it is observed that above 75 percent of households in all report real estate asset holding. The relevance of real estate assets is reflected in the fact that they account for 88 percent of total assets. Even for the richest quintile, non-real estate assets are a minor part of total assets (18 percent). Breaking down further into financial assets and cars and other assets shows that financial assets are less than 3 percent of total assets. Even households in Quintile V have a low share of financial assets (4.4 percent).[8]

[8] These results may be due mainly to the fact that this is not a financial survey and hence does not make a particular effort to collect financial data appropriately.

The distribution of assets is not as concentrated as that of debt, however, because it is driven by real estate assets, which are distributed more evenly than debt.[9] This is reflected in the Lorenz curves, which show that debt distribution is more unequal than asset distribution and even more than income distribution (see Figure 3).

Two aspects must be underlined here. First, the concentration of assets indicates an important backing to the concentration of debt, although a household-by-household analysis is required to determine household overindebtedness. Second, there is a low percentage of financial assets holding, which may be due to non-reporting problems in the survey.

Figure 3. **Distribution of Households' Incomes, Assets and Liabilities, Lorenz Curve**



Source: Cox, Parrado, and Ruiz Tagle (2006).

3.2 Supply Side: Banks and Non-Banks

The main suppliers of credit to Chilean households are banks, which financed 72 percent of the total debt stock of households in 2008 (see Table 5). In the mortgage loans segment, banks accounted for more than 85 percent of funding, and in the consumer segment, 55 percent.

[9] The high rates observed could be explained by the various housing policies implemented by the Chilean government. In the case of Chile, the results of the 2003 CASEN indicate that 43.3 percent of the households that own the home in which they live have benefited from one of the state's housing programs.

Table 5. Household Debt, Percentage of Respective Total

	2004	2005	2006	2007	2008
Total Debt					
Banks	**71.8**	**72.6**	**72.3**	**71.6**	**71.5**
Non Banks	**28.2**	**27.4**	**27.7**	**28.4**	**28.5**
Consumption Debt					
Banks	**57.4**	**57.7**	**58.0**	**55.9**	**55.2**
Non Banks	**42.6**	**42.3**	**42.0**	**44.1**	**44.8**
Retail (1)	*15.0*	*15.6*	*14.7*	*16.1*	*15.9*
CCAF (2)	*8.5*	*7.6*	*8.9*	*9.0*	*9.3*
Cooperatives	*4.7*	*5.2*	*5.3*	*5.7*	*5.7*
Other (3)	*14.4*	*14*	*13.2*	*13.3*	*13.8*
Housing Debt					
Banks	**83.7**	**85.7**	**85.7**	**85.6**	**85.5**
Non banks (1)	**16.3**	**14.3**	**14.3**	**14.4**	**14.5**

(1) Includes securitized debt.
(2) Credit Unions (Cajas de Compensación de Asignación Familiar).
(3) Includes cars financing, university debt and insurance companies.
Source: Central Bank of Chile.

The importance of banks as a counterpart of households is also seen in other economies as it is showed in IMF (2006). However, Chile is characterized by relatively high participation by retailers and suppliers of consumer credit, which in 2008 amounted to 16 percent of the stock of consumer debt.

Box 1. Housing Finance Instruments

All mortgage finance instruments in Chile are subject to prudential rules and regulations set forth by the Superintendencia de Bancos e Instituciones Financieras (SBIF). Additionally, endorsable mortgage loans and mortgage bonds are subject to specific rules involving macro-financial considerations as well as considerations related to their placement in the stock market and their effects on financial stability.

Mortgage bonds (*letras hipotecarias*)

Mortgage bonds are regulated by Central Bank's financial rules and specific regulations by the SBIF. These rules allow banks to finance mortgages with third-party resources but forces them to keep originating loans in their balance sheets and take the risk of non-payment to investors.

Until August 2009, mortgage bonds were subject, among other regulations, to a loan-to-value (LTV) ratio of 75 percent and a limit on the dividend equal to 25 percent of taxable income for loans of less than UF3,000. In August 2009, the Central Bank of Chile decided to modernize, integrate, and adjust its rules on mortgage loans by issuing mortgage bonds. At the same time, the measure allows loans of this type to be offered at more competitive terms than other mortgage loans.

The Central Bank incorporated into the current regulations a number of provisions that allow banks greater flexibility in the payment of dividends and achieve greater consistency between the simulations of the dividends of loans granted by mortgage bonds and those offered by other mortgage financing modalities (see mortgage loans below). It also clarifies that banking institutions are empowered to give such credits covenanting more than one fixed interest rate during the term of a mortgage. The Central Bank additionally created a new category of mortgage bonds, which may be financed by loans representing over 75 percent of the value of collateral, with a limit of 100 percent, anticipating the need to observe regulatory safeguards especially designed for this purpose. Last year, the Central Bank allowed banks to issue jumbo bonds (bundle of mortgages bonds) that allow banks to issue bonds without repayment risk (although they have to remain on the bank balance sheet).

These safeguards include, among other things, that mortgage loans pertaining to this new category are issued by those banks with higher credit assessment assigned by the SBIF and, in turn, allocate the respective financing to customers to whom it assigned the highest credit quality on the applicable risk rating scale.

Mortgage loans (*Préstamo o mutuo hipotecario*)

Endorsable mortgage loans are regulated by law through the "Ley General de Bancos" and specific SBIF regulations. These rules allow banks to finance mortgages with their own sources and then transfer them to other financial institutions, mainly insurance companies.

Endorsable mortgage loans are subject to a loan-to-value (LTV) ratio of 80 percent, fire and life insurance, and prepayment rules, but they are not subject to a limit on the dividend-taxable income ratio. These loans can have fixed or flexible rates (TAB plus spread-Bank Active Rate), and they can be securitized.

Non-endorsable loans

Non-endorsable mortgage loans do not present any special requirement. They do not have a loan-to-value limit, insurance requirement, or dividend limit, and they have the same repayment restrictions as endorsable loans. They are the most flexible instrument for mortgage loans.

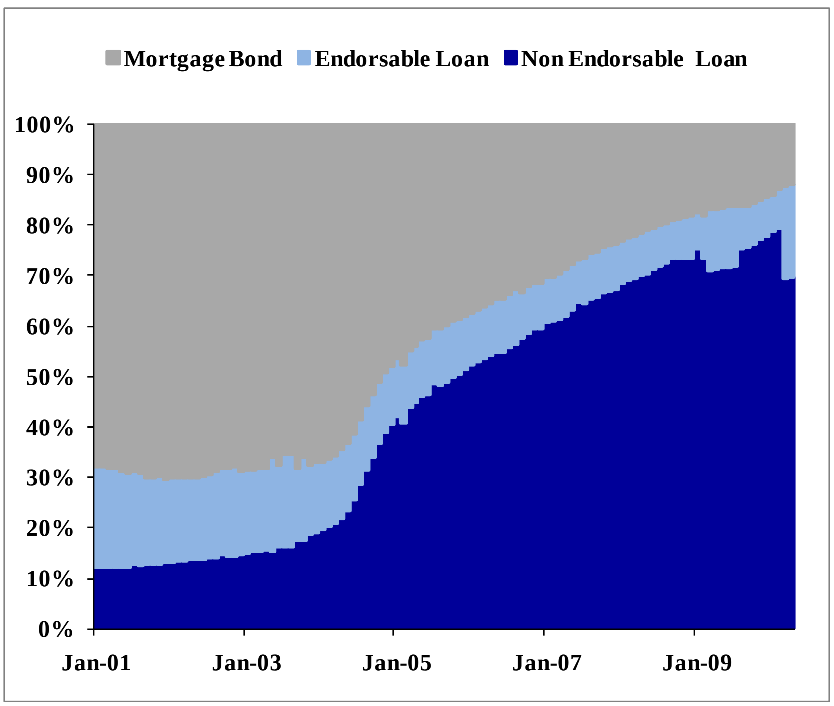
Although market shares have not change in the mortgages segment, the way financial institutions finance these loans has experienced significant changes in recent times (Box 1). The share of mortgage bonds (*letras hipotecarias*) has decreased from 49 percent in 2004 to 17.5 percent in 2008 (Table 6 and Figure 4). Mortgage loans, which are funded by financial institutions' own funds, have increased in share from 24 percent to 61 percent over the same period. These loans are flexible in several ways: they can be fixed rate, adjustable rate or mixed, of any term, and with varying debt-guarantee requirements.[10] Recently, new types of mortgages bonds have been allowed, which is expected to demand for them.

Table 6. Housing Debt, Percentage of Total Household Debt

	2004	2005	2006	2007	2008
Banks	**83.7**	**85.6**	**85.8**	**85.7**	**85.5**
Mortgage loans (1)	24.3	40.2	47.9	55.0	61.1
Endorsable mortgage loans (1)	10.7	9.5	8.6	7.7	6.9
Mortgage bonds (1)	48.7	35.9	29.3	23.0	17.5
Non banks (2)	**16.3**	**14.4**	**14.3**	**14.4**	**14.5**

(1) Mortgage loans are (endorsable) loans backed by a mortgage on a property, while mortgage bonds are financed by third-party resources issued as an obligation of the originating bank.
(2) Includes securitized debt.
Source: Central Bank of Chile, SBIF and SVS.

Figure 4. Banks' Mortgage Loans by Type



Source: SBIF.

[10] See Matus et al (2010).

Box 2. Securitization in Chile

The securitization process was introduced in Chile in the late 1970s with commercial banks issuing on-balance mortgage-backed securities, transferring the interest rate risk to market participants but holding the credit risk. In 1994, securitization was formally introduced and included in Law 19.301 as a tool to support the housing market growth with characteristics similar to those of the mortgage-backed securities (MBS) used in the United States.

The Chilean securitization model is a rather simple one. Commercial banks and other financial institutions act as originators by offering loans to their customers, generating a financial asset in their portfolio that will later be transferred to institutional investors through securitizing companies created under the terms of Law 19.301.

Marketplace practices regarding the administration of these instruments are sound. While there are no specific prohibitions on securitized non-endorsable loans, in practice securitized bonds are backed mostly by endorsable loans originated under more stringent conditions. An additional strength is the existence of a single record of securitized bonds administered by the SVS. This record contains detailed information on dates of issue, securitizing firms, and characteristics of the underlying assets.

Notwithstanding the existence of a good legal framework and good market practices, the mechanism for structured finance has not reached significant volumes in Chile. In fact, as of October 2008 the current total stock of securitized bonds backed by mortgages was approximately US$ 350 million, equivalent to just over 1 percent of the total stock of residential housing mortgages granted by the banking system.

This small volume is associated with, among other factors, the preferences of market players, given the degree of competition, and the fact that Chilean commercial banks largely meet capital requirements according to Basel standards. The securitization process has also been slowed by the high demand for refinancing underlying loans in previous years during periods in which market interest rates were historically low (i.e., high prepayment risk). Moreover, the international financial crisis has increased the relative risk aversion of international investors and consequently increased the cost of capital for MBS, which imposes a new restriction on securitization.

The Chilean situation contrasts with the widespread use of structured finance practices in developed markets. For example, the U.S. mortgage finance market is based on the model "originate-to-distribute," through which a large of mortgage loans generated by commercial banks and other financial institutions are exported from their balance sheets. For these instruments there is no agency (equivalent to the SVS in Chile) to centralize the information of the instruments and the risk profile of the mortgages that underpin it.

3.3 Mortgage Market Characteristics

3.3.1 Banking System Market Structure

Chile has a well-developed banking sector; credit to the private sector represents 80 percent of GDP, well above the average of 35 percent of GDP for countries in the region. The market presents a high level of concentration, in which the four largest banks account for more than 69 percent of total credit (see Table 7). Among these four banks is *BancoEstado,* a commercial stated-owned bank that accounts for 16 percent of the loan market.

Table 7. Market Structure, Loans, June 2010

	Total Loans		Mortgage Loans		
	Millions Ch$	%	Millions Ch$	%	as % of the total lending
Bice	1,966,275	2.7%	208,814	1.0%	10.6%
Bilbao Vizcaya Argentaria, Chile	5,032,126	7.0%	1,495,919	8.0%	29.7%
Consorcio	83,871	0.1%	20,926	0.0%	25.0%
Corpbanca	5,322,887	7.4%	860,037	5.0%	16.2%
De Chile	13,506,456	18.9%	2,714,884	15.0%	20.1%
De Crédito e Inversiones	9,179,415	12.8%	1,822,875	10.0%	19.9%
Falabella	663,997	0.9%	210,898	1.0%	31.8%
HSBC Bank (Chile)	256,999	0.4%	0	0.0%	0.0%
Internacional	476,305	0.7%	1,157	0.0%	0.2%
Itaú Chile	2,414,781	3.4%	500,28	3.0%	20.7%
Paris	183,968	0.3%	14,806	0.0%	8.0%
Penta	3,369	0.0%	0	0.0%	0.0%
Rabobank Chile	318,732	0.4%	0	0.0%	0.0%
Ripley	199,175	0.3%	57,803	0.0%	29.0%
Santander-Chile	14,582,466	20.4%	4,360,496	24.0%	29.9%
Scotiabank Chile	4,011,312	5.6%	1,353,714	7.0%	33.7%
Security	1,943,707	2.7%	275,031	1.0%	14.1%
The Royal Bank of Scotland (Chile)	117,793	0.2%	572	0.0%	0.5%
BancoEstado	11,364,417	15.9%	4,506,031	24.5%	39.7%
TOTAL	71,628,051	100.0%	18,404,243	100.0%	25.7%

Source: Superintendency of Banks and Financial Institutions (SBIF).

The mortgage loans market is even more concentrated, with the four largest banks representing 74 percent of total mortgage loans. *BancoEstado* has 25 percent of mortgage loans (in terms of value) and the highest exposure to mortgage loans. The latter represent almost 40 percent of total loans for *BancoEstado*, compared to approximately 22 percent for private banks. More importantly, *BancoEstado* already has 80 percent of Chile's mortgage operations (some 700,000 loans), whereas the following bank only has 11 percent. In addition, *BancoEstado* is almost the only player in mortgage loans to low-income households; the average size of a mortgage loan by private commercial banks is five times that of *BancoEstado*. Finally, as will be discussed below, *BancoEstado* is almost the only commercial bank that provides financing to households receiving public subsidies (see Table 8).

Table 8. Size of Mortgage Loans by Bank, April 2010

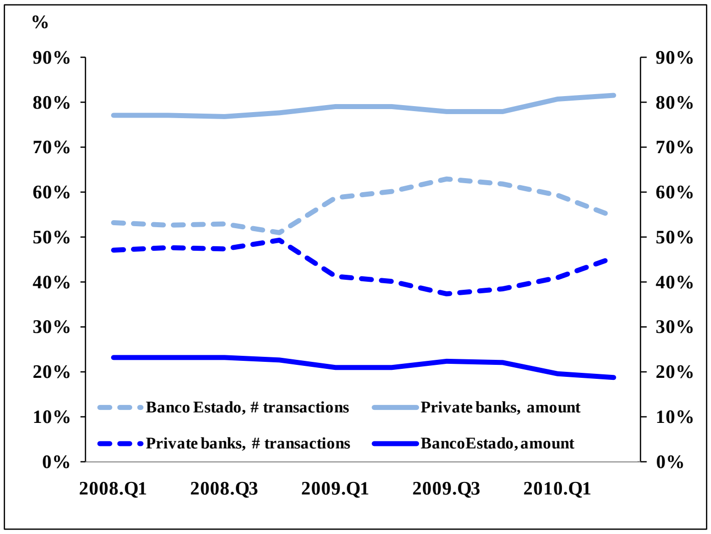
	Mortgage Loans	
	Number	average, millions Ch$
Bice	3,347	61.2
Bilbao Vizcaya Argentaria, Chile	39,255	35.5
Consorcio	0	0.0
Corpbanca	24,614	29.9
De Chile	130,779	36.4
De Crédito e Inversiones	47,837	36.6
Falabella	12,393	15.2
HSBC Bank (Chile)	0	0.0
Internacional	35	29.0
Itaú Chile	10,196	46.4
Paris	1,130	11.3
Penta	0	0.0
Rabobank Chile	0	0.0
Ripley	5,653	9.5
Santander-Chile	132,006	31.7
Scotiabank Chile	83,079	14.8
Security	4,021	65.5
The Royal Bank of Scotland (Chile)	15	39.6
BancoEstado	705,411	5.2
TOTAL	1,199,771	15.7

Source: SBIF.

The evolution of the market share of *BancoEstado* and private banks, with regard to loan volume and the number of debtors, confirms the figures presented above. In a two-year span the market share of *BancoEstado* in value terms declined to about 19 percent in June 2010.[11] However, on the same date, over 50 percent of the credit system's debtors had contracted with this bank (see Figure 5).

[11] These figures consider standing and non-performing loans.

Figure 5. Evolution of Market Share

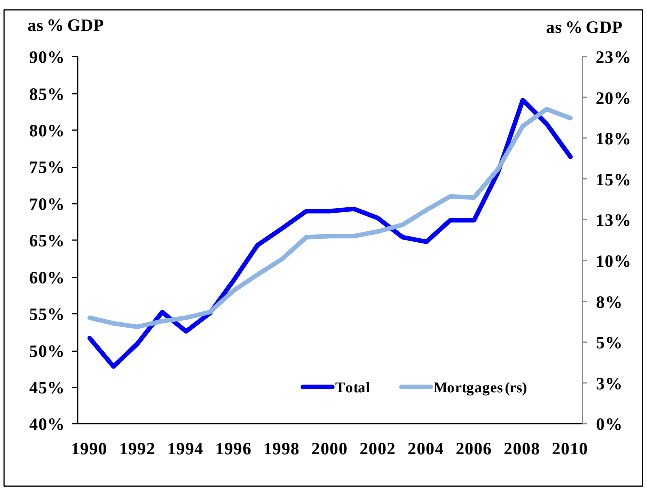


Source: SBIF.

3.3.2 Mortgage Lending Evolution and Interest Rates

From 1990 to 2010, credit to the private sector as a percentage of GDP has increased 25 percentage points, while housing loans have tripled (see Figure 6).

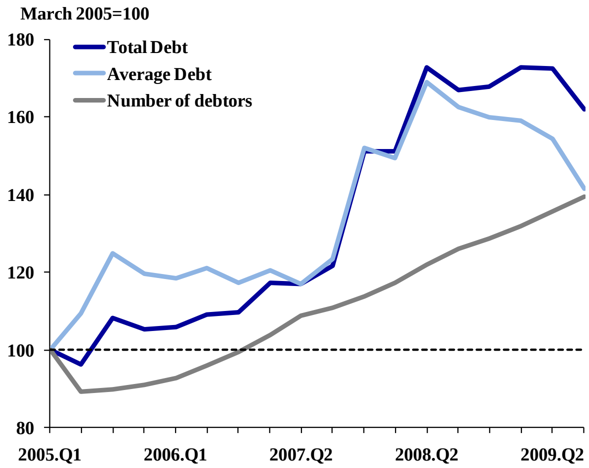
Figure 6. Total and Mortgage Bank Credit



Source: Authors' compilation based on SBIF data.

Between 2005 and 2008, mortgage debt growth was led mainly by the average amount and not by the number of debtors. However, two facts stand out. First, the growth in number of borrowers between 2005 and 2008 is significant (29 percent). Second, although the growth rate of mortgage debt declined between 2007 and 2009, the number of debtors continued to grow (see Figure 7).

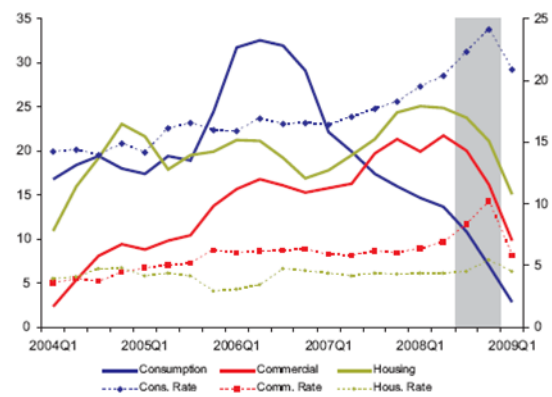
Figure 7. **Bank Mortgage Debt***



(*) Amounts expressed in million of pesos of December 2008.
Source: Central Bank of Chile and SBIF.

During the financial turmoil of late 2008, there were significant slowdowns in credit, and interest rates increased. Calani, García and Oda (2010) observe that these simultaneous movements affected both the supply and demand for credit (see Figure 8). The authors estimate that the magnitude of the slowdown observed in the supply and demand of mortgage loans was –9 and –8 percent, respectively.

Figure 8. **Growth and Cost of Credit**



Source: D31 - Database System (SBIF)

The cost of mortgage credit has been relatively stable over time, below the cost of commercial credit throughout the period considered (Figure 8). It increased during the crisis, but much less than commercial and consumer credit.

3.3.3 Risk in the Mortgage Loans Segment

The credit risk to which banks are exposed in the segment of mortgage loans is the lowest among the different types of loans, particularly in relation to consumer loans (see Table 9). The reason is that a significant portion of these loans have collateral that covers more than 100 percent of credit.[12]

Table 9. Non-Performing Loans: Total Loans and Mortgage Loans, June 2010

	Total Loans	Mortgage Loans
Bice	5.4	1.4
Bilbao Vizcaya Argentaria, Chile	8.0	6.1
Consorcio	5.1	1.2
Corpbanca	7.1	4.1
De Chile	5.7	2.8
De Crédito e Inversiones	7.4	5.3
Deutsche Bank (Chile)	---	---
Falabella	12.8	14.1
HSBC Bank (Chile)	9.3	---
Internacional	10.2	0.0
Itaú Chile	8.3	2.6
Paris	16.9	12.7
Penta	0.0	---
Rabobank Chile	12.2	---
Ripley	18.4	15.3
Santander-Chile	10.3	3.5
Scotiabank Chile	16.6	15.5
Security	8.1	7.7
The Royal Bank of Scotland (Chile)	20.5	0.0
Del Estado de Chile	**14.6**	**28.1**
System	**9.5**	**10.9**

Source: SBIF.

In 2008 the Superintendency of Banks and Financial Institutions introduced changes to the accounting rules for banks according to IFRS. This affected the way institutions account for their portfolio of nonperforming loans: until 2009, institutions reported non-

[12] Until October 2009, only mortgage loans could finance up to 100 percent of the property; mortgage bonds have a 75 percent upper bound.

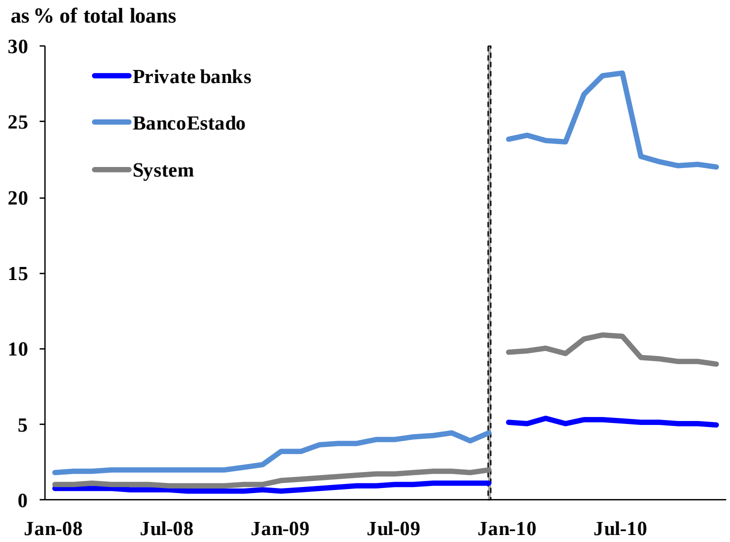
performing loans as "*cartera vencida*"[13] Since January 2010, institutions reports their non-performing loans under the concept of impaired portfolio (*cartera deteriorada*).[14] This change produced an increase in the percentage of non-performing loans to 10 percent of total portfolio (see Figure 9).

The evolution of non-performing loans have generally remained steady over time, increasing significantly only in the case of *BancoEstado* (see Figure 9). In recent years some banks have provided mortgage loans endorsed with more favorable conditions in terms of amount, duration and fees. This type of housing finance has favored lower-value properties and consequently, lower-income debtors. The greater risk of such debtors would explain the deterioration observed in the mortgage portfolio by end-2008 and 2009. In June 2010, non-performing mortgages loans represented 11 percent of total loans, while *BancoEstado* presented the highest rate among commercial banks with 28 percent, almost three times the system average. (In June 2008, before the crisis, *BancoEstado*'s rate was about twice the system average.) This difference is not surprising if we consider that *BancoEstado* covers most low-income households. In any case, at the end of 2010, the situation had improved, as the percentage of non-performing loans fell below 10 percent for the system overall and to 20 percent for *BancoEstado*.

Given the importance of mortgage loans to *BancoEstado*, they are becoming an important risk factor for this institution.

[13] Credit defaults that have met the deadline prescribed by the SBIF, a maximum of 90 days. The transfer of credits from the normal to the overdue portfolio is automatic.
[14] Loans on which there is evidence that the debtors will not meet any of its obligations under the agreed conditions, regardless of the possibility of recovery through guarantees or actions in court.

Figure 9. **Evolution of Non-Performing Loans, 2008-2010,***
As Percentage of Total Loans



*There was a change in definition of non–performing loans in 2009.
Source: SBIF.

4. Government Policies

Since the 1970s, the Chilean government has implemented demand-side housing policies by means of vouchers (for down payments), supplemented by savings and mortgage credits from either public or private sources.

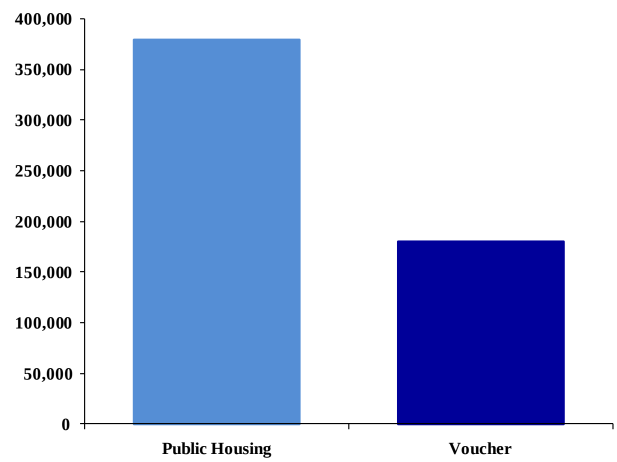
These policies have changed over the decades. In the 1970s, the government played a subsidiary role, and financing was provided by the private sector through banks and construction companies. This role changed, however, due to the economic crisis at the beginning of the 1980s. The government then began to provide housing directly through construction and focused its efforts on lower-income groups through government mortgage lending. During the 1990s, the government provided low-income housing and special programs for slums that were not bankable. At the beginning of the 2000s, the government implemented a policy for the middle-income population with a voucher system and mortgage credit and a policy for the low-income population with a voucher system (but without mortgage credit) for basic standard housing.

The government has additionally implemented policies that offer incentives in the form of tax relief, encouraging potential homebuyers to take on mortgage credit during crisis periods. This policy, which targets middle to upper-income groups, has made use of tax credits to individuals and temporary tax exemptions.

4.1 Housing Policies

During the 1970s and 1980s, the government reformulated the housing policy, creating a "demand subsidy and its complement with a savings and mortgage credit" (MINVU, 2004). This change reflected a broader change of direction toward a more liberal economic model, where the government plays a subsidiary role. The government focused its action on low-income families in order to give them access to private housing financing by supplementing their income with housing subsidies (vouchers). However, since the economic crisis of the 1980s, the government has directly contracted housing and provided mortgage loans to low-income families. In addition, middle-income families have had access to a voucher system, complemented by savings and mortgage credit to finance housing (see Figure 10).

Figure 10. Housing Solutions, 1973-1989

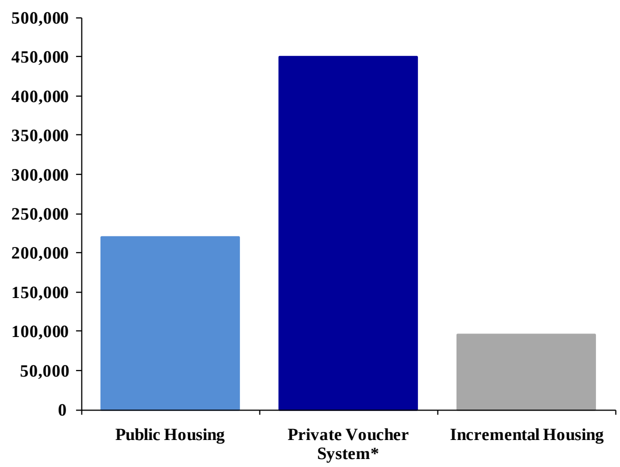


Source: Observatorio Habitacional, Housing and Urban Development Ministry.

In the 1990s, the new administration kept the voucher policy, improving programs for low-income groups by increasing resources while not neglecting the policies that provided the middle-income population with access to the necessary financial instruments (MINVU, 2004). The main goal during this decade was to reduce the housing shortage with available instruments, adding a voucher system to purchase or build incremental housing.

The voucher financed the initial part of the house (basic standard), and the beneficiary would subsequently finance and build the rest of the house over time. In addition, the government implemented several kinds of policies addressing the needs of different types of families (see Figure 11). The Chile Barrio Program sought to provide housing solutions to inhabitants of slums, whose poverty had previously prevented them from accessing credit. On the other hand, in order to encourage the revitalization of city downtown areas, the government implemented a special voucher program, called "Urban Renewal," which could only be used to buy new housing in these areas. This program was directed to middle-income individuals.

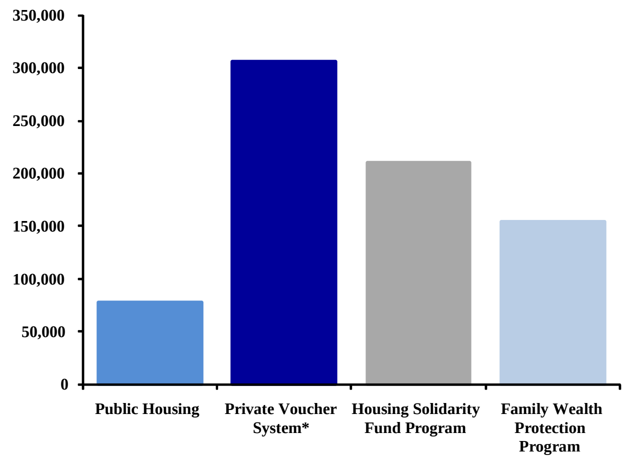
Figure 11. Housing Solutions, 1990–1999



* Private Voucher System: United General System, Special Program for Workers, Basic Housing Voucher, Rural Voucher.
Source: Observatorio Habitacional, Housing and Urban Development Ministry.

At the beginning of the 2000s, the government again improved housing policy, consolidating a differentiated voucher system according to income level. First, the government created the Housing Solidarity Fund Program for low-income people, which enables families to buy or build a house for a value up t o US$23,000 without a complementing mortgage loan. In addition, the government ended the Public Housing construction and Public Mortgage Credit in 2002. For middle-income people, the Government established a single voucher system, the General Housing Subsidy System, which allows families to purchase housing with additional savings and mortgage credit; this system includes the Urban Renewal Program. In addition, the government initiated a recovery housing stock program through a voucher system that allows low and middle-income families to repair and improve existing housing. This program is called Family Wealth Protection (see Figure 12).

Figure 12. Housing Solutions, 2000–2009



*Private Voucher System: United General System, Special Program for Workers, Basic Housing Voucher, General System of Housing Voucher (DS 40).
Source: Observatorio Habitacional, Housing and Urban Development Ministry.

Table 10. Private Voucher System

Period	% Private Voucher
1973 – 1989	32,19%
1990 – 1999	58,84%
2000 - 2009	37,94%

Source: Observatorio Habitacional, Housing and Urban Development Ministry.

As shown in Table 10, in the past several decades private vouchers have played a leading role in housing policy. The amounts of the mortgage loans complementing the voucher have been small, given low housing values (see Table 11), and small mortgages are not highly profitable for banks. In addition, voucher beneficiaries' low income level makes complementary loans to them riskier than mortgage loans to other groups. In order to remove this barrier, the government has recently reinforced the voucher system with a guarantee covering the unpaid balance if a house goes into foreclosure. This guarantee is expected to reduce the credit risk of this market.

Table 11. Housing Value for General Housing Subsidy, 2004–2009

Housing Value UF*	Housing Value USD	Loan amount UF	Vouchers
less than UF 400	less than 16,700	less than 145	15,336
400 - 500	16,700 - 20,900	145 - 263	10,256
500 - 600	20,900 - 25,000	263 - 380	26,160
600 - 700	25,000 - 29,220	380 - 498	15,401
700 - 800	29,220 - 33,400	498 - 615	10,599
800 - 900	33,400 - 37,570	615 - 733	8,700
900 - 1,000	37,570 - 41,750	733 - 850	12,094
more than 1,000	more than 41,750	more than 850	6,365

* UF or Unidad de Fomento is a unit of account that varies daily according to the inflation of the last month.
Source: Observatorio Habitacional, Housing and Urban Development Ministry.

4.2 Housing Finance Policies

Housing finance policies have been implemented in two ways: i) demand-side subsidies, focused on low and middle-income families; and ii) tax benefits that encourage the construction and purchase of new housing.

As described above, subsidy policies consist of financing the down payment on home purchases through a voucher, which can cover the entire value of the home or be complemented by a mortgage. In addition, through a longstanding program that ended in 2002, the government built and sold houses, issuing mortgages to beneficiaries. Considering the total number of building permits issued by municipalities between 1990 and 2009, 60 percent of houses were built or purchased with a government subsidy. That is, in the last 20 years, three out of every five new houses have been financed by a government grant, with significant impacts on the real estate and construction industries.

The other area of financing policies has been implemented through tax benefits. As set forth in Decree Law No. 2 of 1959 (DFL2), these benefits apply to homebuyers purchasing houses with an area of less than 140 m2. Those purchasers are exempt from payment of half the land tax for a period of 10 to 20 years. In addition, income earned from rent the house is not classified as taxable income under the Revenue Tax Law. Finally, since 1998 buyers of new homes have been able to deduct from their taxable annual income the payment of interest on mortgage loans issued to purchase their homes.

Finally, the use of the *Unidad de Fomento* (UF) as the monetary unit for loan amounts has helped to stabilize the supply of bank loans.[15] Since each monthly payment varies according to inflation, in real terms, payments are the same each month. The use of this instrument has allowed savings and loan institutions to lend long-term at fixed real rates and hence avoid inflation risk.

4.2.1 The End of Public Housing Policy?

The voucher system, which combines public subsidies with commercial bank financing, has proven highly successful. In recent years, however, most commercial banks have not provided credit through this scheme. Only *BancoEstado* has taken a key role in this market, gaining market share continuously. This has occurred even though *BancoEstado* is already highly exposed to low-income mortgage loans, owning around 75 percent of credit originated in private vouchers.

Continuous involvement in this market has become problematic, particularly because of liquidation of assets in case of insolvency. Although *BancoEstado* foreclosures increased from 2003 to 2005, in 2006 they declined dramatically as a result of political pressure (see Table 12).

[15] The Unidad de Fomento is a unit of account that varies daily according to the inflation of the last month.

Table 12. Foreclosure Auctions Related to Mortgage Loans from Vouchers, 2000-2006

House value (UF)	2000	2001	2002	2003	2004	2005	2006
0 - 400			2	105	108	184	41
400 - 600	1		2	30	43	74	37
600 - 800			5	8	8	14	16
800 - 1000	1	1	2	1	12	10	14
Total	2	1	11	144	171	282	108
BancoEstado				120	109	207	50

Source: SBIF (2008).

4.2.2 Housing Policies during Crises

During economic crises, distress in the housing market has increased significantly because of strong economic downturns and high unemployment. In particular, during crises policymakers have attempted to maintain access to credit for both households and companies. While some policy instruments involved incentives for commercial banks to provide credit in spite of an increase in perceived risk, others involved increasing housing purchase subsidies to offset, to some extent, the housing sector slowdown.

A measure that had a significant impact on the housing market during the Asian crisis was the temporary inclusion in law of a tax incentive to buy new homes. More recently, Chilean Chamber of Construction data indicate that, during the recent global crisis, home sales fell nationally by almost 20 percent between October and December 2008; only in May 2009 did home sales return to the October 2008 level. This recovery was partially explained by the Fiscal Plan announced in early 2009 and the set of initiatives jointly known as Credit Initiative. The main objectives were to support microenterprise, facilitate access to bank financing and promote alternative financing options for households and businesses. In the case of household mortgage financing, the government temporarily extended the limit of financing with state-subsidized loans from the previous 80 percent to 90 percent of property value.

The government additionally made temporary changes in the voucher system in order to support the construction industry. During this period, the government:

- Increased to UF 200 (US$ 8,360) the maximum voucher amount from the General Housing Subsidy Program (DS 40) for middle-income homebuyers to finance housing up to a value of UF 1,000 (US$ 42,500).
- Created a new voucher section (DS 40) to finance housing of a value up to UF 2,000 (US$ 85,000).
- Increased the foreclosure guarantee from 80 percent to 90 percent of the unpaid balance and extended coverage to housing up to for a value of up to UF 2,000.
- Introduced mortgage insurance, an unemployment insurance for all new loans. This new insurance covers up to 12 monthly payments to creditors in case the borrower becomes unemployed.
- Created a new voucher program (DS 4) to finance middle-income housing. The voucher amount ranges from UF 380 (US$ 15,880) to UF 520 (US$ 21,740) for the purchase of housing up to UF 950 (US$ 40,000) in value.

5. Challenges of Reconstruction after the Earthquake

The devastating earthquake that struck Chile on February 27, 2010, one of the strongest earthquakes ever recorded, is an informative case to consider in relation to Chile's economy in general and housing in particular. According to recent information from the Chilean government, the earthquake killed 342 people out of a population of approximately 17 million. Cavallo et al. (2010) conclude that such an event is not likely to generate long-term adverse impacts on per capita GDP.

To measure the effects of the earthquake in the ability to pay of households, the Central Bank of Chile simulated the impact on households using the EFH 2007, considering two effects: income and wealth. The income effect would come from an increase in unemployment in the regions of the country directly affected (VI, VII and VIII), and the wealth effect from the asset reduction caused by damage to housing.[16,17] Table 13

[16] The income effect was modeled using the estimated contraction of economic activity in important sectors in the affected regions and extrapolating the rise in unemployment. Based on the above, they computed the probability of becoming unemployed for each head of household belonging to certain economic sectors.

shows that banks' at-risk debt increased by 3.4 percent for mortgages loans and 3.8 percent for consumer loans, which is explained mainly by the income effect.[18]

Table 13. Change in Household Debt at Risk Due to Earthquake Effects

	Banks	
	Mortgage credits	**Consumer credits**
Income effect	2.8	2.6
Wealth effect	0.6	1.2
Total	**3.4**	**3.8**

Source: Central Bank of Chile (2010).

According to the most recent evaluation undertaken by the government, 370,051 houses were affected by earthquake, with effects ranging from minor damage to total destruction. Although a large share of reconstruction has presumably been funded through private insurance, statistics are not yet available. It can nonetheless be reasonably inferred that such expenses would largely be covered by insurance because a large number of individuals have purchased relevant policies and because mortgage loans are associated with policies that provide coverage in the event of a disaster (fire, earthquake, etc). Coverage is generally total if property is completely destroyed, thus canceling the entire credit balance at the time of the disaster, or partial if the property is damaged, funding the repair of it.[19]

Following the earthquake, the government focused its support on low and moderate-income families, providing direct reconstruction assistance to 133,994 units and repair assistance to 61,956 units; these figures were determined on the basis of survey data from

[17] It is assumed that the destruction of those households with more than 40 years old in the regions directly affected. For the rest of the houses in these areas were assigned probabilities of serious and minor damages. With these estimates, simulations of what would happen with the financial burden of households affected by the earthquake. In the case of a house completely destroyed, it was assumed that buying a new home if it had enough slack to request a mortgage. If not, they charged an average monthly rent according to economic status and region to which it belongs.

[18] Debt held by households with an RCI (Financial Burden Ratio to Disposable Income) greater than 75 percent and net interest income (interest margin is revenue minus total household expenditure as a proportion of income) under –20 percent.

[19] Policies of this sort generally have specified deductibles.

the 2006 Casen 2006 (MINVU, 2010). In September 2010, with more accurate information, the required number of new units decreased and the number of repair assistances increased. Finally the number of voucher to assists victims are:

- 85,000 Housing Solidarity Fund vouchers.
- 115,000 subsidies for repair through the Family Wealth Protection program.
- 20,000 General Housing Subsidy vouchers.

The reconstruction plan costs US$ 2.5 billion, which will be funded within four years by the fiscal budget. The plan is a combination of programs and instruments created in previous administrations (MINVU, 2010). Less than 10 percent of the plan will require a private mortgage loan to complement the General Housing Subsidy.

6. Concluding Remarks and Policy Implications

The Chilean housing system is based on public-private synergies which, by many standards, have proven highly successful. In 1990, for example, one out of every four houses was overcrowded or extremely overcrowded, while in 2006 only one out of every 10 houses was overcrowded. In 2006 the housing deficit stood at 410 thousand units, a small number if we consider that each year the public housing system provides around 100 thousand units. In terms of stability, the system successfully coped with the international financial crisis, which was a major stress test.

The voucher system in particular, which combines public subsidies with commercial bank financing, has been key to this success. In recent years, however, most commercial banks have not provided credit with this scheme, and only *BancoEstado* has continued to play an active role in this market, reaching a significant market share. Even before the global financial crisis, *BancoEstado* had already reached a high level of exposure to low income borrowers, with about 75 percent of the credit originated with private vouchers. This warrants further analysis on the role of this important public bank in the system.

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