Building Sustainable Housing Finance Markets: Proceedings of The Housing Finance Roundtable in the Andean Region[1]

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1. Introduction

There is a remarkable need to support the design and the implementation of sound housing finance policies in Latin America and the Caribbean intended to enhance access to housing and, as a result, an improved living standard for a greater share of population. The World Bank and its affiliate, the International Finance Corporation (IFC), have been greatly involved in many housing finance activities in the region providing with both funding and expertise. As far as the Andean region countries are concerned, both the World Bank and the IFC maintain an increased interest in providing support for the housing policies and identifying and structuring viable housing finance transactions. The initiative of holding the *Housing Finance Roundtable in the Andean Region* was launched by the World Bank and the IFC as a way to achieve a better understanding of lessons in housing finance and policy issues relevant for the region and to present the World Bank Group´s experience in this area. The Roundtable was also conceived as a timely opportunity to establish the grounds for upcoming projects in the Andean region that require financial and technical cooperation.

In the implementation of the Roundtable, the World Bank Group worked closely with two major institutions, also greatly involved in the development of mortgage markets through funding and other incentives in one case, and through technical co-operation and expertise in the other: Fondo Mivivienda, the leading publicly-owned, second-tier mortgage bank in Peru; and the Inter American Housing Union (UNIAPRAVI), an international organization headquartered in Lima which performs as a trade association for housing finance and other sectoral institutions in the Americas. The Roundtable, held in Lima, in April 2004, was attended by 172 participants (including senior governmental officers, top private sector executives, and experts) from 17 countries and four international organizations.

Building sustainable housing finance markets was the central topic of the Roundtable which was aimed at being a forum of discussions on a wide range of issues relevant to both primary and secondary mortgage markets, housing finance policies, and the infrastructure required to support housing finance systems. The Roundtable focused on exploring constraints on the development of housing finance markets in the Andean region and on reviewing successful practices to increase access to housing. The Roundtable included a private sector workshop which dealt with practical lessons in order to stimulate private sector involvement in housing finance.

Discussions emphasized the overall idea that the creation of sustainable housing finance markets must be supported by a public-private partnership and a stable macroeconomic scenario. Two major challenges were identified: on one hand, the need to enhance affordability of housing finance alternatives for lower-income segments; and on the other hand, the need to foster long-term funding for housing finance. In order to overcome these challenges, the Roundtable highlighted policy practices intended to enlarge primary mortgage markets making them accessible to a previously underserved population. Also, the Roundtable focused on principles and practices to stimulate linkages between mortgage markets and capital markets and, particularly, to develop secondary mortgage markets. The Roundtable put a special emphasis in experiences seeking to achieve an improved risk management as a pillar to make mortgage lenders less vulnerable to credit and market risks. Being a long lasting process, it is necessary to be patient and persevering as well as to be careful and thoughtful with the implementation of subsidies. There is a lot of experience, both in the region and globally, so that it is critical to establish a robust networking of knowledge and expertise in this area.

The primary objective of this paper is to collate the main ideas that were presented at the above-mentioned Roundtable. As a

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Table 1. Housing deficits in selected Andean countries (number of dwelling units)

Country	Quantitative deficit	Qualitative deficit	Total deficit
Colombia [1]	1,132,433	975,859	2,108,292
Peru	325,998	907,001	1,232,999
Venezuela	176,000-264,000	1,424,000-2,136,000	1,600,000-2,400,000

[1] Data comprise the urban sector only.

Source: Beatriz Uribe (2004), "*Experiencia en políticas y financiamiento de vivienda: el caso de Colombia*,"; Cecilia Esteves (2004), "*Atención de las necesidades de vivienda en el Perú: el papel de Mivivienda*," y Jacobo Rubinstein (2004), "*Política y financiamiento de vivienda en Venezuela*," unpublished presentations.

result, this paper should be useful both to record the main findings and recommendations of the Roundtable for further dissemination, and to serve as a guide for subsequent policy analysis on the basis of a number of critical lessons learnt.

2. Housing policy and housing finance experiences in Latin America

There is no dispute regarding the tremendous impact that housing finance exerts on development globally. From the viewpoint of households, housing finance enables them to purchase an asset which will represent their largest single investment. As Pamela Lamoreaux pointed out,[3] it is estimated that personal residences account for 75-90% of household wealth worldwide, which amounts to three to six times their annual income, and housing represents 40% of the monthly expenditure of households worldwide. From an economic development standpoint, investment in housing accounts for 15-35% of aggregate investment worldwide, and residential construction accounts for 5% of the labour force worldwide, while real estate services (including finance) constitutes 4% of the labour force worldwide.

However, to a greater or a lesser extent, all Latin American and Caribbean countries face huge housing deficits as shown in Table 1 for a number of selected Andean countries. In Colombia, the quantitative deficit in the urban sector affects 15.4% of total urban households and, if existing dwelling units which need any kind of improvement are added, total deficit impacts on 28.7% of total urban households. In Peru, 26% of total housing deficit is explained by lacking dwelling units and, in addition, there is a new demand for housing of about 90,000 units yearly. In Venezuela, the housing deficit is heavily explained by the qualitative deficit which accounts for 89% of the total deficit.

This adverse situation highlights not only the magnitude of the housing deficit but also the ineffectiveness of housing and housing finance policies implemented in the past. The review of a number of Latin American experiences in this respect leads to the overall conclusion that these huge and growing housing deficits are a combined result of wrong policies and a number of barriers. On one hand, the State has traditionally been seen as having an active role both as a direct housing builder and lender. The instruments used to perform this role have prevented the private sector from being an active participant in the housing sector. For instance, the use of subsidized interest rates or ceilings to the interest rates in the mortgage market have impeded the expansion of a sustainable housing finance market. Within inflationary contexts, the real value of mortgages has tended to vanish, thereby heavily constraining the long-term sustainability of the housing finance market. When the State has performed a role as a direct lender for housing, this lending has been heavily associated with hidden subsidies and high rates of arrears, even after governmental intervention with repeated debt relief mechanisms. For example, in Chile the role of the State as a low-income housing lender has been rated quite unsatisfactory by some authors who, in turn, assert that this policy practice has enlarged an already large moral hazard.[4]

In addition to wrong policies, the poor record in meeting housing needs can also be explained by the impact of a number of barriers. One of these is the low purchasing power of an important share of population which has become a limiting factor for accessibility to market-oriented mortgages and housing. The typical response has been to set administrative controls over the cost of housing finance which, as has been

[3] See Pamela Lamoreaux (2004), "The IFC´s Role in Developing Housing Finance," unpublished presentation.

[4] See Claudio Pardo (1998), "Housing financing in Chile: the experience in primary and secondary mortgage financing," paper presented at the IDB Conference "*The development of mortgage securitization in Latin America and the Caribbean*," Washington, DC, November; and Eduardo Rojas (1999), "The long road to housing reform: lessons from the Chilean experience," in *Sustainable Development Department Best Practices Series*, Inter American Development Bank (IDB), Washington, DC, July. Also see Sergio Almarza (2004), "*Creación de mercados financieros de vivienda sostenibles*," unpublished presentation.

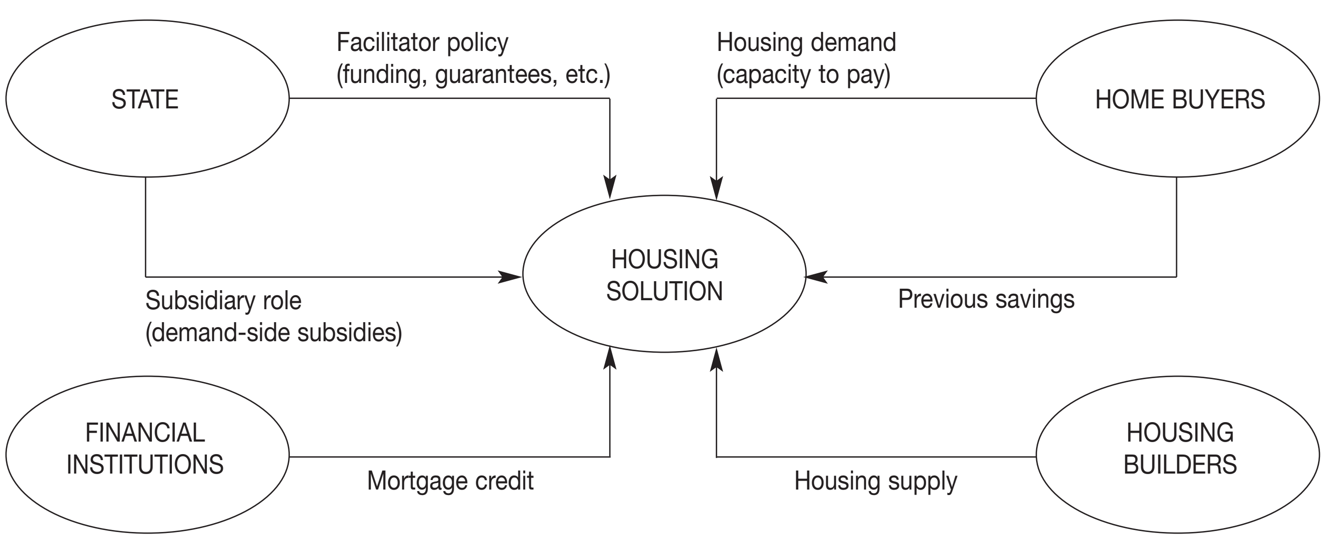
noted, did not favour mortgage market development. Another barrier emerges from the macroeconomic arena and it is related to inflation – and some times, hyperinflation – as well as domestic currency depreciation which have posed serious difficulties to the availability of long-term finance as required for housing acquisition purposes. The typical response has been the creation of a wide range of alternatives – from floating-rate to single- or double-indexed mortgages – seeking to protect the profitability and viability of mortgage lenders. While this might be true to a limited extent, within the context of highly volatile economies – because of high inflation and devaluation rates and growing interest rates – these mortgage schemes have adversely affected the capacity of borrowers to pay. In fact, there are cases in which market risks – i.e., macroeconomic shocks – have given rise to credit risks in the housing finance systems, leading them – in the extreme case – to their collapse. For example, the default rate of mortgages soared, banks abandoned mortgage lending, and costly governmental intervention took place as a consequence of the so-called Tequila crisis in Mexico in 1994-95.

The limited growth of formal mortgage markets and the unsuitable terms of accessibility for lower-income families of the existing housing finance alternatives have resulted not only in huge unmet housing needs but also in the search for housing solutions beyond the formal channels. As a result, land invasions and informal settlements are remarkable features of the urban growth path in many Latin American cities. In turn, these informal settlements have evolved over a long period of time on the basis of self-construction, a process which has been inefficient and explains the bulk of the current so-called qualitative housing deficit.

Currently many countries have replaced former housing policies with a heavy intervention of the State as a direct builder and lender with more market-oriented policies. In the Andean region, Colombia, Peru and, to a lesser extent, Bolivia are examples of this kind of efforts, as were documented;[5] but there are other relevant examples in the rest of Latin America as are the cases of Chile, Costa Rica, El Salvador, Mexico, among others. In the market-oriented approach, the State is basically to have a role as a facilitator of the private investment in the housing sector and a subsidiary role designed to ensure equity so that all families, whatever their economic condition, will have the possibility of finding a housing solution commensurate with their efforts and economic capacity. Within the framework of these revised policies, the intervention of the State is aimed at supporting the conditions for an enhanced accessibility to housing for lower-income groups (including those with very limited debt capacity). For instance, demand-side direct subsidies are an integral part of housing policies in most Latin American countries today as a way to transform potential demand into actual demand for housing. This instrument is expected to remain as one of the key roles under responsibility of the State. (See Diagram 1.)

As a part of these revised housing policies, the responsibility of housing lending, including options for lower-income families, is basically transferred to the private sector agents. However, the State can play an active role in enhancing the expansion of mortgage credit availability by inducing a decrease in credit costs. This can be done

Diagram 1. Key elements and concurrent agents in revised housing policies



[5] See Beatriz Uribe (2004), op. cit.; Cecilia Esteves (2004), op. cit.; and Walter Kreidler (2004), "*Programa de financiamiento de vivienda en Bolivia*," unpublished presentations.

by mitigating market risks and credit risks from a position in which a publicly-owned institution performs a role of second-tier bank.[6] As market risks are concerned, swaps can be implemented so as to simultaneously avoid that both mortgage lenders and borrowers can be adversely affected by macroeconomic shocks which eventually may give rise to credit risk situations, as is the case of Mexico (see Box 1). Regarding credit risk management, the role of the State should focus on providing insurances – e.g., mortgage insurance – as well as on stimulating good practices in mortgage origination and servicing as a pillar of a sustainable housing finance system. For instance, two publicly-owned second-tier institutions such as Mexico´s SHF and Peru´s Fondo Mivivienda are reshaping their functions and products towards this direction rather than keeping their primary role of funding private financial intermediaries for mortgage origination.

In seeking the expansion of mortgage credit availability, it should be noted that there is a significant room to enhance the penetration of mortgage activity in all countries. Table 2 shows that the mortgage portfolio/GDP ratios in Latin American countries lie well below the ratios in developed economies such as the United States and the European Union, thereby indicating that only a small share of existing dwelling units has been acquired with a mortgage. The same effectiveness of demand-side direct subsidies heavily depends on the availability of suitable mortgage credit opportunities for those beneficiaries who have some debt capacity. In fact, as Beatriz Uribe reports, more than 20% out of the total approved subsidies in Colombia has not been disbursed because of lack of access to mortgage credit for beneficiaries.[7] On the other hand, since there is a significant need for home improvement as a way to mitigate existing housing deficits, housing microfinance is another product that is deserving a growing attention within the revised housing policy agendas. The need to enhance housing finance alternatives for lower-income families – both mortgage and microfinance – poses important challenges to financial intermediaries given the relatively high administrative costs of small-sized loans, the unsuitable funding sources, and the difficulty of family earning verification, among other constraints. A number of innovative products – such as household contract savings programs as a way to demonstrate loan eligibility – are being implemented to overcome these constraints.

Box 1. Mexico: the case of a wage-inflation swap in the mortgage market

Since 1999 in Mexico mortgages have been originated with a market risk hedge that is intended to cope with extraordinary or permanent decreases in real minimum wages so as to allow borrowers to pay minimum wage-indexed mortgages while lenders can extend inflation-indexed mortgages. To this purpose, a swap is implemented under the current administration of *Sociedad Hipotecaria Federal*-SHF (at the beginning, it was administered by its predecessor FOVI) through the financial intermediaries. The cost of the swap is shared by the borrower and the Federal Government: the former currently pays a 71 basis points prime, which, in conjunction with a credit line backed by the Federal Government, is giving rise to a fund intended to meet either a temporary lack of payment flows or to face severe crises situations. This fund is arranged so as to be able to support a 25% deterioration in real wages over a 30-year period. If the fall is higher (lower), SHF would incur (obtain) losses (profits). Thus, this is a case in which a public sector participation is combined with a commitment of borrowers so as to share the cost of a hedge useful to mitigate macroeconomic shocks impacting on the mortgage activity.

Table 2. Mortgage portfolio/GDP ratios in selected countries *(percentages)*

Country(ies)	Ratio
United States	53
European Union	36
Chile	14
Colombia	4.5

Source. Beatriz Uribe (2004), "*Experiencia en políticas y financiamiento de vivienda: el caso de Colombia*," unpublished presentation.

In order to enhance long-term funding, a major lack of most Latin American housing finance systems, it may be useful to foster linkages between housing finance markets and capital markets. The existence of a secondary mortgage market may serve this purpose, while publicly-owned institutions may concentrate their efforts in providing guarantees not only on mortgage originations but also on mortgage-backed bonds and securities and other kinds of issues. In this respect, there are already concrete initiatives underway such as in Colombia with several securitization deals completed and, to a lesser extent, in Mexico and in Peru, where the agenda for publicly-owned second-tier institutions is markedly set towards replacing their typical funding role for an innovative guarantor role.

The eventual success in managing both market risks and credit risks, thereby strengthening the primary mortgage market, will positively influence the creation and the development of a secondary mortgage market. Currently this is not only favoured because many Latin American countries have seen the surge of domestic institutional investors that manage growing typically long-term domestic savings as a result of privatization of pension funds, but also because these agents are in a better position to absorb and disseminate market risks impacting on mortgages, taking into account the long-term oriented structure of

[6] See Guillermo Babatz (2004), "El papel de Sociedad Hipotecaria Federal en el desarrollo del programa de vivienda en México," unpublished presentation.

[7] See Beatriz Uribe (2004), *op. cit.*

their liabilities. As is the case in several Latin American countries, there is a growing demand for debt instruments in the domestic capital markets which can partially be met by mortgage-related debt instruments.

3. Policies for social housing

As has been argued, informal human settlements have proliferated in most Latin American cities, producing huge social and economic costs in terms of lack of public space, deficient public services, exposure to natural disasters, environmental pollution, etc.[8] It is estimated that costs of regularizing existing infrastructure in these informal settlements are from twice to three times higher than costs associated with developing planned settlements.[9] This task creates a fiscal contingency which puts pressure on governmental finance. The recommendation is straightforward: it is necessary to shape sound policies for social housing (i.e., housing that can be afforded by the poor) that allow cities to grow efficiently and the poor to have access to opportunities for developing progressive housing. Within this framework, a number of key components of any program for social housing were identified, namely: land production, property rights, subsidies, and microfinance.

In order to enhance accessibility to housing for lower-income families, there is a need to create an institutional framework which exerts pressure on permanently decreasing housing prices. One way to accomplish this is to reform the grounds of land production. Typically urban regulations influence the minimum housing price in each city and, as a result, determine which share of the population can afford a formally-produced housing unit. In order to overcome these constraints, and based on the experience of Metrovivienda in Bogota, Colombia (see Box 2), the role of the State as a land producer can mitigate costs and risks associated with social housing production, thereby exerting a downward pressure on privately-produced social housing pricing. Furthermore, there is a multiplier effect in relation to the role of the State. Based on the above-mentioned Colombian case,[10] fiscal investment for producing a social housing unit is one fifth of that needed in the traditional role of direct construction by the State, the time elapsed in recovering fiscal investment is reduced to 25% of the time associated with the traditional model, and the amount of portfolio recovery is increased up to 2.5 times the amount allowed by the traditional model. This case also shows that a new formal low-cost house building industry has emerged which has been able both to increase the average size of a social housing unit and to decrease its minimum price as a result of cost and risk mitigation associated with land urbanization and technological innovation by the private sector.

A second major component of any program for social housing refers to property rights on land and housing. Given the important informal settlements which lack formal titles, it may be necessary to launch an urban property formalization program. A program of this sort is expected to provide tenancy safety and, consequently, an incentive to improve the quality of the housing occupied as well as a better position for credit eligibility. A formalization program comprises a number of components, namely legal and institutional reforms, a physical and legal inventory of informal housing units and lots, a regularization of the housing unit or lot itself (e.g., tenancy background, plan drawing, etc.), and a regularization of individual properties and their registry. In 1998 a formalization program was launched in Peru intended to establish clear-cut information on the physical location and the legal property of urban lots in informal settlements for a proper registration. This program is being conducted by a publicly-owned agency – COFOPRI – with the support of a financial co-operation of the World Bank. As Felipe Morris states,[11] a number of research studies show a positive socio-economic impact of this program in terms of an improved life quality standard. For instance, there is empirical evidence that access to credit has increased in

Box 2. *Metrovivienda*: the case of a land bank in Bogota, Colombia

Metrovivienda is a publicly-owned (local government), second-tier land bank established in Bogota, the capital city of Colombia, in 1998. It is aimed at producing urbanized land – i.e., with public services, roads, and equipment – for its sale to private sector builders who compete within the market in producing low-cost housing units which, in turn, are sold at their own risk. This firm and its working model respond to a facilitator approach, based on the market functioning but contravening its failures. The working scheme of *Metrovivienda* comprises three stages. The first consists of obtaining non-developed land in the periphery of the city. The second refers to the urbanization of land, including designs and works; as a result, land will be ready to build housing and other types of buildings (e.g., schools, markets, etc.). The third is the sale of urbanized lots (*manzanas*) to developers specialized in producing and selling low-cost housing under regulation and control of *Metrovivienda* as far as maximum pricing and mimimum specifications are concerned. Revenues that accrue from the sale of urbanized lots are used by *Metrovivienda* to undertake new projects on a sustainable basis.

[8] See Andrés Escobar (2004), "*Prevenir la marginalidad: el papel de los niveles del Estado y el caso de Bogotá*," unpublished presentation.

[9] See again Andrés Escobar (2004), op. cit., and Bruce Ferguson (2004), "*Hacia ciudades sin barrios: nuevas políticas y programas de vivienda social*," unpublished presentation.

[10] See again Andrés Escobar (2004), *op. cit.*

[11] See Felipe Morris (2004), "*El rol de los derechos de propiedad en la política social para vivienda: la experiencia peruana*," unpublished presentation.

formalized areas though it is a process that takes time. Furthermore, the newly-formalized housing tenant is a good borrower as ratios of portfolio quality indicate. There is also evidence showing that a housing tenancy with a property title is associated with a higher investment in upgrading the housing unit. This research also provides an estimate of US$925 being the impact of titling on the increase of property value, which is equal to 25% of average value of non-titled properties. Taking into account that the above-mentioned program has titled more than 565,000 properties, the gross economic benefit of this formalization program equals US$523 million.

Box 3. Shifts in perception of subsidies in the housing sector

The key principles in designing subsidy regimes in the housing sector are as follows:

a) Subsidies are being intended to enhance the functioning of markets, and not to crowding them out.
b) Subsidies are being oriented to foster access to credit markets.
c) Subsidies are performing as an incentive, rather than a hand-out, so that beneficiaries must contribute to the solution of their housing problem depending on their economic possibilities.
d) The provision of subsidies is giving priority to transparency in substitution of hidden subsidies.

The third component of any program for social housing is related to subsidies. As Marja Hoek-Smit maintains,[12] there is a wide range of subsidies in Latin America, most of them linked to housing finance: at the funding system level (e.g., non-market special tax funds), at the borrower level (e.g., interest rate subsidies by special tax funds), at the production level (e.g., land subsidies), and crisis-related borrower subsidies (e.g., loan or payment forgiveness). Taking into account that there are many disastrous examples of finance-linked subsidies – e.g., because of the prevalence of high hidden costs and inefficiencies or macroeconomic volatile conditions that make subsidies too costly – a strong recommendation emerged to revise the type and scope of subsidies according to the targeted sectors. In revising the subsidy regimes, the first question to be tackled is why subsidies are needed. There are two major reasons. The first is more straightforward and relates to social equity. The second is to enhance market efficiency. Accordingly, a number of key principles for designing subsidy regimes is taking place (see Box 3).

In designing housing subsidies, authorities must consider the appropriate types of subsidies depending on the different market segments since their needs and capabilities differ from each other. For the low-income market segment, subsidies should focus on improving living conditions and increasing new suitable housing options. Sizable, long-term, mortgage-guaranteed credits are not suitable for a low-income population with very limited indebtedness capacity. Since mortgage finance markets do not work for this segment, subsidies should be intended to provide grants for home improvements and to the strengthening of the microfinance industry. For the (lower) middle-income segment, subsidies should be aimed at increasing affordability to formal housing options. These may include up-front demand-side subsidies but also some housing finance-linked subsidies which may address various risks and costs faced by private mortgage lenders (e.g., origination subsidies to meet the administrative costs of originating small-sized credits as is the case of Chile).[13] Finally, for the (upper) middle-income segment, which typically comprises the largest recipients of subsidies, the main problem to be addressed is the efficiency of the housing finance system in order to make housing less expensive. To reach this segment, subsidies should focus on reducing risks and costs in housing finance which are reflected in the interest rates, thereby widening accessibility to housing finance, rather than providing grants to beneficiaries. Subsidies which provide incentives to originators in terms of interest rate risk- or prepayment risk-guaranteed funding are some examples in line with this focus.

The fourth component of any program for social housing concerns housing microfinance which consists essentially of small short-term credits for financing a progressive home building and improvement process. As Bruce Ferguson argues,[14] only a small share of households can qualify for a traditional mortgage to purchase the least expensive commercially built unit. Thus, a significant segment of households builds over a long period of time with no or little institutional support. For this segment of the population, small credits could be useful, and desirable, to build homes progressively (e.g., to expand and improve the core unit). Housing microfinance can address the typically large effective demand for housing improvement lending. On the other side, since housing microfinance has typically short-term maturities, microfinance institutions can better fit the terms of their assets and liabilities, thereby overcoming the typical mismatch involved in traditional mortgage lending when funded with short-term liabilities.

Perhaps more importantly, housing microfinance is characterized by underwriting requirements which fit better the conditions of lower-income households than traditional mortgage lending does. As is well known, for eligibility, mortgage

[12] See Marja Hoek-Smit (2004), “Designing effective housing subsidy systems,” unpublished presentation.

[13] See again Sergio Almarza (2004), *op. cit.*

[14] See Bruce Ferguson (2004), *op. cit.*

lending typically requires that borrowers can demonstrate a permanent, sufficient and verifiable source of income as well as a legal tenancy of the property, but lower-income families can seldom meet all of these requirements. In turn, short-term maturities and small-sized amounts associated with housing microfinance, together with additional instruments such as non-traditional collateral and innovative criteria to determine credit eligibility, can ease the accessibility to this sort of housing finance for lower-income families. The feasibility of housing microfinance in addressing the demand for housing improvement lending for lower-income families can be demonstrated by an increasing number of successful experiences: Mibanco´s one in Peru is remarkable. Housing microfinance can also be useful in providing the credit component, usually missing for lower-income households, thereby supporting the effectiveness of increasingly widespread up-front demand-side subsidy regimes as an integral part of revised housing policies.

4. Fundamentals for expanding primary mortgage markets

As was stressed, throughout Latin America, and particularly the Andean region, mortgage markets are far from being developed and mature financial markets. Not only there is a huge room to increase penetration in primary mortgage markets but also the scarce credit available is hardly affordable for the lower-income population. In addition, there is a strong lack of long-term funding and mortgage lending typically faces significant credit and market risks. The expansion of primary mortgage markets is also important given the relevance of a well-developed primary market to support the creation of a secondary mortgage market which allows the establishment of linkages with the capital market. The latter, in turn, is supposed to provide the mortgage market with two necessary components: (a) long-term funding; and (b) risk atomization, but the creation of secondary mortgage markets cannot substitute for primary market development. In fact, there are numerous examples of publicly-supported secondary market institutions that do little or no business due to a non-existent or weak primary mortgage market.

To expedite the expansion of primary mortgage markets, some recommendations can be made based on a number of experiences. First, as far as the role of the State is concerned, a direct performance of the State as a builder and as a lender has typically proven to be harmful with respect to the efficiency of the housing finance market. Publicly-owned mortgage lenders usually have poor quality underwriting, politically motivated lending, inappropriate instruments, and weak or non-existent risk management; in the end, they tend to crowd out private sector lending. Instead, the primary role of the State should be to enable the development of mortgage markets through the creation of the proper infrastructure for, and the elimination of barriers to, lending. The State can accelerate the development of mortgage markets by improving the legal and regulatory framework – e.g., an efficient and inexpensive title and lien registration process. Also, it may be quite relevant for the State to perform a second-tier banking role, to foster, from this position, the development of the mortgage market by providing either funding or guarantees, and by enhancing better practices such as standardization.

As explained above, subsidies are needed but hidden subsidies do not help markets to work. For instance, interest rate subsidies are clearly inefficient since they often last beyond the needs of the borrowers and seldom reach the most needy; also their opportunity cost is difficult to track. Moreover, interest rate subsidies do not favour a secondary market development because the asset yield does not compensate for risk. Experience demonstrates that in order to reach lower-income households, it may be necessary to establish some incentives for the private lenders to provide these groups with affordable housing finance options. This is the case – for instance – of mortgage origination subsidies recently implemented in Chile.

On the other side, incentives must also be in place to allow available funding, particularly long-term funding, to flow towards housing finance. In this respect, the design of mortgage products is important not only to provide, or maintain, affordability to borrowers but also to meet the needs of investors. A good example of this is the implementation of the above-explained inflation-indexed mortgage, along with a swap, providing borrowers with coverage in the Mexican mortgage market following the so-called Tequila crisis in 1994-95. Responding to market conditions, mortgage lenders are to play a crucial role in balancing the diverse interests of borrowers and investors.

A major challenge for any primary mortgage market is to offer affordable loans to lower-income families with market-driven mechanisms. To this purpose, programs and products offered by mortgage lenders, supported by sound governmental policies, must be capable of addressing typical borrower constraints. Taking into account that there is a wide range of customers with diverse needs, there is a significant room for addressing housing finance market niches. For instance, in Mexico one of the leading sofols manages, via a mutual entity, a savings program that has been designed to allow informal economy customers that cannot prove complete income requirements and those with no credit history, to establish payment capacity and creditworthiness, and to save for the down payment.[15] More recently, similar programs have been implemented in Peru: they are essentially contractual savings programs that, upon a period of time, are prerequisite to apply for a demand-side direct subsidy and/or a mortgage loan. In Chile and Mexico innovation has considered the availability of mortgage loans to purchase used dwelling units; in doing so, a secondary market of used dwelling units is being fostered.

[15] See Manuel Campos (2004), "Improving mortgage product design for low income housing and underserved markets," unpublished presentation.

There are also examples in which some interest rate reduction – either explicit or implicit – is offered when payments are made on time, thereby increasing affordability of these loan programs, as is the case of *Fondo Mivivienda* in Peru with the so-called *Premio al Buen Pagador*, or premium to good payer (see Box 4). As was also argued, the effectiveness of all of these products also relies on a good servicing practice. For instance, in Panama, there is a legalized practice of charging the monthly mortgage installments directly from the payroll of borrowers,[16] while in Mexico mortgage lenders (*sofols*) make use of specialized collection systems, namely on-site booths, hand delivery of account statements, etc. To the extent that these programs and products contribute to enhance affordability, thereby widening mortgage markets, to improve the performance of mortgage lending, to attract available funding, and to increase profits for lenders, solid pillars will develop on which sustainable primary mortgage markets will be able to expand.

Box 4. Peru: *Premio al Buen Pagador* in Mivivienda mortgage loans

Fondo Mivivienda´s mortgage loans comprise, from 2000, the so-called *Premio al Buen Pagador*, an incentive to increase affordability by lowering the monthly payment or, which is the same, the implicit interest rate of the loan. This is divided into two parts, one being a concessionary share equivalent to 20% of total loan, to be paid semi-annually. If the borrower fulfills all the monthly payments for the non-concessionary share (equivalent to 80% of the total loan) within a semester, he/she is exempted from paying the concessionary installment for that semester. In those semesters in which the borrower does not benefit from the *Premio al Buen Pagador*, the concessionary installment for that semester is prorated in the following semester in six parts; thus, the borrower must pay timely the installments corresponding to both shares of the loan, in order to be elegible for the benefit in the following semester. Though Mivivienda mortgage loans allow prepayments, in order to access to the *Premio al Buen Pagador* benefit they can only be made 10 years after origination.

Liquidity risk and credit risk are major deterrents to expanding primary mortgage markets. On the former side, mortgages are long-term and illiquid assets, while, as will be emphasized later on, depositary institution lenders usually have short-term funds and this mismatch often induces them to limit or avoid mortgage lending. On the credit risk side, there are high transaction costs in underwriting mortgage assets which may preclude sale and securitization and individual lenders may not be able to adequately diversify mortgage credit risk. In order to manage liquidity risk, liquidity facilities may be useful as long as they may provide lenders with loans or purchase on recourse from lenders. With the purpose of deterring credit risk, mortgage insurance may be relevant as long as it can spread risk across lenders and areas, as well as reduce risk by requiring improved documentation and underwriting – enforcing standardization – and monitoring lender performance. In both cases, the State can play a direct role – e.g., owning a liquidity facility or investing in a mortgage insurer – or a catalyst role – e.g., performing as a bond market-maker or providing co-insurance for private providers.[17]

As was noted earlier, the agenda of a number of publicly-owned, second-tier mortgage institutions is giving considerable room for developing guarantee schemes, including mortgage insurance. To this respect, the well-developed experience of the Canada Mortgage and Housing Corporation was thoroughly reported.[18] In Canada, mortgage insurance is mandatory in mortgage lending with loan-to-value ratios higher than 75%. This practice facilitates protection for lenders against a portion of the costs related to homeowner mortgage defaults or foreclosures and, in so doing, has benefited the financial system by enhancing access to affordable housing, promoting standardization and transparent lending practices, and acting as a credit enhancement and audit verification to support securitization. In this country, mortgage insurance has been a powerful instrument to achieve an improved risk management by disseminating credit risk and reducing systemic risk. Since mortgage insurers share the risk, they are motivated to demand quality credit information, property valuations, and underwriting standards.

Additionally, the application of technology may perform as a key factor to attain a successful expansion of mortgage lending.[19] In this respect, the U.S. mortgage market experience may be a relevant reference for emerging markets. First, technology may contribute to faster, more responsive and cheaper loan applications since automated processing reduces time, improves accuracy and facilitates the creation of databases. Second, automated underwriting can reduce cost and improve fairness in mortgage lending by allowing nearly instantaneous decisions and a standardized and more objective origination process. As was reported by Lea, based on technology, today a credit approval may take in the United States as short as 20 minutes, while in 1994 the same task took no less than two days. Third, automated property valuation speeds origination because of on-line availability of information on recent sales data of comparable properties, which eases property price analysis, as well as reduces possibilities of fraud. Fourth, technology also facilitates

[16] See John Rauschkolb, "Developing regional and specialized mortgages companies in small economies," unpublished presentation.

[17] See Britt Gwinner, "The role of the State in developing and funding mortgage markets: lessons and best practices," unpublished presentation.

[18] See Jay Thakar (2004), "Developing mortgage insurance products in emerging markets," unpublished presentation.

[19] See Michael Lea (2004), "Expanding primary markets: programs, processes and technology," unpublished presentation.

improved risk management by providing on-line access to portfolio data which constitute a useful input for a better product design, pricing, and funding. Fifth, servicing technologies – such as electronic payment options and automated account information – improve customer service, reduce risk and increase profits. Finally, technology also contributes to improved delinquency management because available data may be used to identify potentially weak borrowers and, as a response, to deal with them on the basis of pro-active counselling strategies. As can easily be recognized, all of these contributions of technology to improving origination and servicing processes in the primary mortgage market provide better grounds for a successful development of a secondary mortgage market.

5. Funding strategies to support sound primary mortgage markets

Many argue that appropriate funding – i.e., stable, long-term, lower cost, low risk funding sources – is the most difficult ingredient needed to sustain a housing finance system. From the viewpoint of funding, market-oriented housing finance has typically relied on a financial intermediation process in which long-term mortgage origination has been supported by deposit-taking instruments. This has been the case whether mortgage origination has been undertaken by specialized housing finance institutions (e.g., savings and loan associations or housing banks) or non-specialized housing finance institutions (e.g., commercial banks with mortgage portfolios). As long as liabilities are based on (predominantly) short-term deposits, this financial intermediation process involves a potential maturity mismatch. In fact, there are numerous examples where this approach to funding has resulted in financial market instability and limited capability to grow soundly or, even worse, eventual collapse. A deposit-based housing finance system may face another limitation when deposits are raised on a variable-interest rate basis which prevents the intermediaries from originating fixed-rate mortgages. Other problems include currency mismatch.

The genuine objective of housing finance institutions to seek an appropriate asset/liability maturity matching may pose an important barrier for mortgage lending to expand when this is predominantly funded on the basis of a deposit-raising model. As was noted,[20] the case of Peru is a good example of this issue. Over the last five years, mortgage credit has been growing more rapidly than any other type of credit while recording, at the same time, a lower default rate. Based on reasonable assumptions, it is estimated that mortgage credit could increase by US$1.4 billion over the next 10 years; this would double the current balance of mortgage credit in the Peruvian banking system. But this growth would be difficult to realize if it were supported only by medium-term deposits (the so-called *CTS* deposits), together with other minor instruments (e.g., mortgage bonds and other bonds), which allow financial intermediaries to match asset/liability maturities.

Furthermore, the Peruvian mortgage market presents another striking feature. Given the prevalence of a highly-dollarized economy and financial system, a currency mismatch exists, not for financial intermediaries -their assets (i.e., mortgages) and liabilities (i.e., *CTS* deposits) are both predominantly denominated in foreign currency-, but for mortgage borrowers, whose income is denominated in domestic currency but their mortgage borrowing is held in foreign currency. In the event of a devaluation, this situation could impair borrowers´ ability to pay and, consequently, create a potential credit risk for mortgage lenders. Thus, a major challenge is to generate medium-term, fixed-income, domestic currency-denominated resource-raising instruments to fund the expansion of the mortgage market in Peru.

The traditional deposit-based model for funding housing finance poses not only a maturity mismatch constraint but also heavily depends on the credit quality of the mortgage lender. In addition, as long as all the functions in the mortgage business are concentrated in the same institution – i.e, origination, fund raising, servicing, etc – all the subsequent risks remain concentrated on the balance sheet of that institution. In seeking to overcome this kind of constraints, a model based on specialized participant agents has been analysed which is useful to raise funds from the capital markets. This alternative model has a number of advantages but one particularly important is its ability to allow risk atomization, particularly when it is associated with the issuance of mortgage-backed securities: risk is no longer associated with the lender or issuer but with the underlying assets (mortgages). This distinctive feature, for success, demands specialization, information availability, transparency and, remarkably, appropriateness of the mortgage product in meeting the needs of the purchaser of home. As a result, it can facilitate a more appropriate funding, in both volume and terms, for housing finance, thereby benefiting the end borrower with a more dynamic and less costly mortgage lending.

There are a number of initiatives towards setting legal and institutional frameworks necessary to implement this alternative model in Latin America. For instance, in the case of Colombia,[21] the currently prevalent Housing Law enacted in 1999 comprises a number of provisions to allow and enhance a significant shift in funding mortgage lending. To this end, two instruments – mortgage-backed bonds (*bonos hipotecarios*) and mortgage-backed securities (*titularización hipotecaria*) – are regulated in order to enable long-term resource mobilization from capital markets towards mortgage markets.

On the other side, financing residential construction has also led to a search for

[20] See Walter Bayly (2004), "*Estrategias de captación de recursos para el sostenimiento del mercado de hipotecas: el modelo basado en a captación de depósitos en el Perú*," unpublished presentation.

[21] See Alberto Gutiérrez (2004), "*Desarrollo de la titularización hipotecaria en Colombia*," unpublished presentation.

alternative funding sources as in the case of *sofols* (mortgage banks) in Mexico. In 2003 the *Sociedad Hipotecaria Federal* (SHF), the predominant funding source of *sofols*, stopped funding new bridge loans for residential construction and is instead providing guarantees. Following this change, *sofols* have developed market funding through the domestic debt capital market, through domestic and international commercial banks and through securitization (including construction-related bridge loans). It is worthwhile noting that the proceeds from securitizations will be used to fund housing construction loans as long as financing is available for the individualization of the loans. As a result, these new funding sources have contributed to decreased dependency on SHF funding, have allowed a greater flexibility in the development and implementation of new products for developers with better conditions, and have fostered strict controls in loan origination, administration and loan individualization, thereby mitigating risks.[22]

Within this model, a number of agents or instruments may be particularly relevant to boost funding from the capital market and to provide the mortgage market with efficiency.[23] On one side, based on a high financial capacity, warehouse lending can provide intermediaries with shorter-term, revolving lines of credit. One way to enhance efficiency in the market is by establishing origination criteria that foster standardization. On the other side, the existence of conduits, whether they are related to the warehouse lender or not, may play a relevant role by providing a significant capacity to store mortgages and to assume interest rate and liquidity risks associated with this task. The role of conduits may also be important at the time of needing investment capacity to purchase subordinated bonds. In addition, management risk may also be supported by the implementation of a wide range of hedging alternatives to mitigate market risks in funding mortgage activity, for instance, to cope with interest rate risks or, as explained above, exchange risks which eventually give rise to credit risks adversely affecting lenders. As has been the case of one outstanding experience – Fannie Mae´s one in the United States – the widespread availability of numerous derivatives for risk management has allowed financial institutions to meet effectively the huge demands of mortgage borrowers for long-term, fixed-rate loans.

6. Fundamentals and options for developing secondary mortgage markets

The development of a secondary mortgage market can play a significant role in creating sustainable housing finance activity. Basically, two major benefits can be highlighted. On one side, the existence of a secondary mortgage market should contribute to provide liquidity and to diversify funding sources by creating a linkage with the capital market. By using secondary market mechanisms, it is possible to recycle funds before original maturities, thereby providing mortgage lenders with liquidity for new originations and lessening the need for new capital. By accessing the capital markets, mortgage lenders have additional, and more appropriate in terms of maturity, funding. A secondary market is more crucial for specialized non-banking financial institutions (e.g., *sofols* in Mexico) but, for depository institutions, can also serve as a stabilizer taking into account that their deposit bases can become volatile and can allow fixed-rate lending when no derivative options are available. On the other side, a secondary mortgage market should allow an improved risk management by transferring market risks to capital market participants who have a better capacity to deal with them. Risk atomization should give rise to efficiency earnings in resource mobilization, thereby making mortgage finance less costly to borrowers and more profitable to lenders.

A number of pre-conditions necessary for establishing a secondary mortgage market were noted. The four most critical factors are the following: (a) a sufficient legal, tax, and regulatory framework; (b) a robust primary mortgage market; (c) capital market preparedness and appetite for mortgage-backed debt instruments; and (d) economic incentives for secondary market participation.[24]

Laws and regulations applicable must allow an easy and cost-reduced true transfer of assets to secondary market and capital market investors, cost-reduced and time-saving foreclosure procedures, and tax and accounting rules which do not render securitization uneconomical vis-à-vis other funding sources. One key aspect is, as was remarkably noted, the need to insulate mortgages to be securitized, or backing bonds, from any insolvency and remote bankruptcy of the originator or the issuer. In effect, laws and regulations must be shaped to ensure a true sale of mortgages which are to be securitized, thereby enabling investors to access the benefits of the collateral in the event that the originator enters insolvency. The need to previously notify, and/or to get a consent from, the borrower in order to complete a legal transfer of property of the collateral may also deter a more expeditious process. As was maintained, this factor contributed to the delay in the implementation of mortgage securitization in Mexico.[25]

Laws and regulations should also constrain the probability of an issuer entering insolvency or bankruptcy by establishing, for instance, provisions that limit the

[22] See Kathleen Towle (2004), “Financing residential construction in emerging economies,” unpublished presentation.

[23] See José Landa (2004), “*Diseño de facilidades de liquidez eficaces para el sostenimiento del financiamiento hipotecario para vivienda*,” y Gonzalo Ortiz de Zevallos, “Developing hedging mechanisms to mitigage market risks in funding mortgage facilities,” unpublished presentations.

[24] See, for example, Soula Proxenos (2004), “Essentials for secondary market development,” unpublished presentation.

[25] See Brigitte Posch (2004), “*Consideraciones legales y regulatorias en las securitizaciones*,” unpublished presentation.

purpose of the issuer only to the issuance of securities, or provisions that restrict the capacity of the issuer to get indebted. On the other side, effective and efficient foreclosure laws and enforceable liens on property are required to minimize loss severity in the case of defaults. Judicial foreclosure regimes often take too long and, if time usually devoted to enforce liens and to sell the property is added, the whole process turns out to be even longer and more costly. As was asserted, when existing laws and regulations do not embrace these fundamentals, legal reforms will be necessary to foster financial institutions to intervene in the mortgage markets and in the capital markets. From the viewpoint of taxation, a tax-neutral special purpose vehicle could help to develop secondary mortgage markets; otherwise, if the assets are taxed when mortgages are passed to the special purpose vehicle and also when the security is sold to investors, double taxation might render the securitization deal unprofitable.

A secondary mortgage market requires a robust primary market to develop, for which a number of critical elements is required: macroeconomic stability, marketability and liquidity of the housing market, a sufficient network of quality primary market lenders, product standardization across the industry, and alternative credit enhancement options to overcome insufficient credit quality or lack of data. On this basis, each function performed in the primary mortgage market – such as loan origination, underwriting, funding and loan closing, loan servicing and loss mitigation, and criteria, timing, and management of loan default – should contribute to develop a product appropriate for secondary market operations. In other words, underlying mortgages for securitization should be high-quality assets with a long-term profitability, low default and foreclosure rates, predictable and steady loan performance, and standardized. Uncertainty or unpredictability of loan performance will cause investors to demand higher returns on the mortgage-backed securities and rating agencies to require greater credit enhancement.

The existence of reasonably deep capital markets is crucial for the development of a secondary mortgage market. A fairly solid institutional development for the capital market includes an investor understanding of the investment vehicle, an interested and active investor base, an efficient and regulated clearing-house infrastructure, and information service providers. For instance, independent, credible rating agencies are required to assess the relative risk of mortgage-backed securities issues; otherwise, investors must rely on their own ability to conduct this task making it a more costly and time-consuming process. The size of the capital market matters: a domestic capital market with a well-endowed resource base is expected to provide mortgage-backed debt instruments with liquidity, while the international capital market should provide, whenever possible, a complementary demand-side support for such debt instruments.

Finally, the development of a secondary mortgage market requires a number of economic incentives in order to help overcome barriers that make this progress more difficult. These barriers may be related to funding as expressed in terms of a liquidity crunch for lenders; to credit risk, for which an enhanced credit guarantee issued by a third party may be useful; to interest rate risk; to risk-based capital and taxation, for which a capital relief for holding a security and a favourable taxation of securities may be implemented; among others.

In developing a secondary mortgage market, particular market conditions should be accurately assessed in order to make a choice between mortgage-backed bonds (MBB) or mortgage-backed securities (MBS). While both of them commonly share some prerequisites such as the existence of efficient mortgage collaterals and sound macro-economic scenarios, they differ from each other.[26] As is well known, basically MBB remains to be a debt obligation of the originator (and, at the same time, the issuer) which is collateralized by pools of mortgage loans that stay on the originator´s balance sheet; for them, some regulatory eligibility criteria – e.g., first mortgage, limited LTV or debt-servicing-to income ratios – are applied in order to ensure a special quality of the underlying portfolio. MBB feature a contingent transfer of credit risk just in case of insolvency of the issuer, and the originator assumes the market risks on the basis of asset/liabilities management techniques. On the other hand, MBS are fundamentally based on the true sale and bankruptcy remoteness principles; as a result, MBS are issued by a special purpose vehicle as off-balance-sheet instruments, while payments associated with securities are based on the direct allocation of mortgages cash-flows without recourse to the originator. The issuance of MBS, using homogeneous pools of mortgage loans, involves a transfer of market risks to investors, and a transfer of credit risk to credit enhancers (e.g. guarantors) or to investors.

When both instruments are compared, they both need robust legal frameworks to be implemented, but MBS are a somewhat more complex instrument requiring perhaps more time to develop. In this regard, a larger critical mass may be very important: large volumes ease periodical, sizeable issues, while sporadic, small issues are costly – first-time issues face high costs – and do not provide the market with enough liquidity. In turn, MBB may be less costly as long as neither external credit enhancement nor large overcollateralization is required, and they involve simple, standardized financial instruments easy to value and to trade. A major challenge for MBB is to mitigate prepayment risk taking into account that the capital market may not accept call options, while a major challenge for MBS is the availability of a market for credit risk because, in the absence of external credit enhancement, securitization requires either costly cushions (e.g., overcollateralization) or credit risk retention by the originator. The typical candidates for MBS are specialized, non-deposit taking institutions in a market with no or few derivatives available, while the typical candidates for MBB are commercial banks

[26] See discussion by Olivier Hassler (2004), "Mortgage bonds or mortgage-backed securities," unpublished presentation.

with "natural hedges" (i.e., diversified assets and liabilities with different durations) and/or external hedging instruments.

The development of secondary mortgage markets in Latin America, and particularly in the Andean region, remains a relatively incipient process. Within this context, the promising case of Titularizadora Colombiana (TC) was thoroughly documented (see Box 5).[27] Since its establishment in 2001, TC has run over a significant share of the above-mentioned relevant elements. The work of TC is based on a well-established legal framework with a remote bankruptcy-typed special purpose vehicle called *universalidad*. In addition to the currently performed functions by TC, such as appointing originators and servicers, selecting loan portfolio, structuring issues, purchasing portfolio and issuing securities, following up securitized loan portfolio, and administering the special purpose vehicle, it is anticipated that TC can provide issuers with guarantees and hedges (*coberturas*) in the future. In terms of future developments, TC is planning to use for a next issuance a performance scoring which will allow a methodology for selecting the loan portfolio to be securitized; and an origination scoring which is expected to allow a more expeditious process for purchasing and storing mortgage loans. TC is also working on the establishment of a database with mortgage loan performance information – i.e., payments, pre-payments, and defaults – which is to be useful to implement a statistical portfolio management.

Box 5. Titularizadora Colombiana: a leading secondary mortgage market institution

Titularizadora Colombiana (TC) is a specialized secondary market institution established in July 2001 within the framework of the 1999 Housing Law in Colombia. Its shareholders are five mortgage banks in Colombia with the partial partnership of the International Finance Corporation (IFC). As of 2003 year end, TC had completed four securitization deals totaling US$720 million, having securitized about 15% of the outstanding mortgage portfolio in Colombia. By the time of the Roundtable, TC was about to complete a non-performing mortgage-backed securitization deal, which was successfully marketed in May 2004, totaling about US$150 million. Yield at the time of issuance was lower from one deal to the following, showing a growing confidence and acceptance by investors. TC is currently the biggest private debt-instrument issuer in Colombia and the biggest mortgage-backed securities issuer in Latin America.

The experience of TC shows a number of benefits derived from securitization, including generating additional funding for mortgage lending, controlling maturity and interest rate risks for mortgage originators, increasing return rate for originators, lessening new capital requirements, improving mortgage standardization across the industry, fostering the development of capital markets, and diversifying investment portfolios, all of them with a minimal intervention of the State. The achievement of other benefits – an increased competition in the mortgage industry, lower interest rates, more stability in the mortgage activity, and an increased specialization – is expected in the future. Some major challenges to be faced by TC include to accomplish securitization deals equivalent to 40% of outstanding mortgage loans in the next five years; to make further progress in non-performing mortgage-backed securitization; to make securitization profitable enough with no need of tax privileges which are only temporal; and to securitize social housing-oriented mortgage portfolios for informal sectors. Broadly speaking, the experience of TC in developing a secondary mortgage market is quite illustrative as regards the importance of the fundamentals previously explained: a robust primary mortgage market, an appropriate legal and regulatory framework, a fairly developed capital market, standardization (of mortgages and securities) across the industry, and an initial commitment and support by the State.

[27] See again Alberto Gutiérrez (2004), *op. cit.*