Regional Economic Outlook ANALYTICAL NOTES
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Western Hemisphere Department

Keeping an Eye on Housing Markets in Latin America

Mortgage credit across Latin America is growing very fast, albeit from a low base. Although risks do not seem imminent based on available data, vulnerabilities can rapidly emerge. For this reason, countries in the region should act decisively to close information gaps and strengthen oversight of the housing sector.

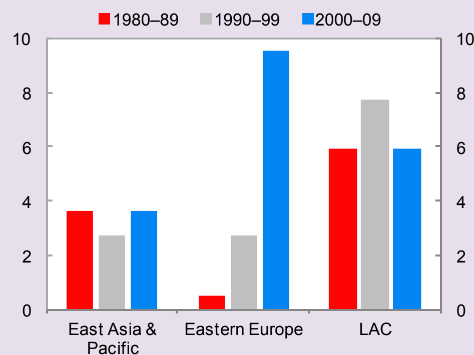
Easy financing conditions and favorable terms of trade have fueled credit and domestic demand in much of Latin America for almost a decade now, with a short interruption during the 2008–09 global crisis. Given the region's long history of credit booms gone wrong (Figure 1), there are valid concerns about the potential buildup of financial sector excesses, even if current credit indicators appear manageable. Experience shows that credit-driven bubbles build slowly but can sour quickly.

Mortgages in particular have expanded rapidly in some countries. Although this growth may reflect generally low mortgage credit levels and significant housing deficits,[1] if sustained it could create financial instability. Housing market crashes have been rare in the region, but Colombia's experience in the late 1990s is a useful reminder of the systemic effects that even a small mortgage sector can have on the economy (Box 1).

This chapter documents developments in mortgage credit and the housing sector in Latin America during the past decade, and compares them with those in other emerging economies. Unfortunately, data limitations hamper the analysis of trends, vulnerabilities, and risks. Available information reveals few areas for concern, but information shortcomings and data gaps urgently need to be addressed.[2]

Figure 1. Latin America has experienced more episodes of credit booms than other emerging regions since 1980.

Incidence of Credit Booms in Emerging Economies
(*Frequency distribution, percent of all credit expansions*)



Source: Dell'Ariccia and others (2012).
[1] Credit booms are identified based on deviations of credit-to-GDP ratio from a country-specific, backward-looking, rolling trend.

Mortgage Credit in Latin America

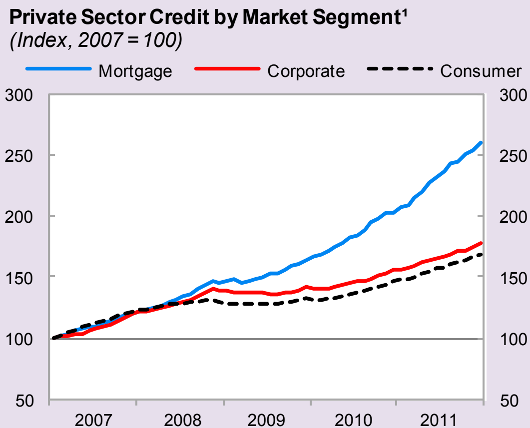
Despite rapid credit growth in recent years, financial intermediation levels in most of Latin America (with the notable exception of Chile) remain well below those of other emerging regions, even after accounting for income per capita. This gap reflects the region's long history of macroeconomic instability (often associated with credit booms and busts), as well as weak institutions, in particular those related to creditor and property rights, (Cottarelli and others, 2005). Underlying the relatively low credit-to-GDP levels is the shallowness of mortgage markets. Mortgage credit in Latin America stands at about 7 percent of GDP, on

Note: Prepared by Luis Cubeddu, Camilo E. Tovar, and Evridiki Tsounta, with the assistance of Marola Castillo and Alejandro Carrion.

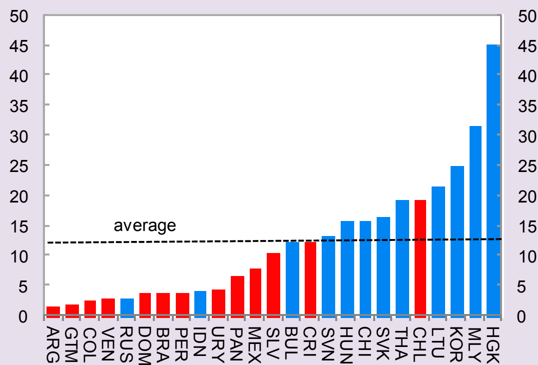
[1] In 2007, only 60 percent of families in Latin America and the Caribbean (LAC) had adequate housing; 22 percent lived in houses that required significant structural improvements; and the remaining 18 percent were in need of a new home (Ministerial Commission on Housing and Urbanization for Latin America and the Caribbean).

[2] IMF (2011a) discusses mortgage markets in emerging economies more broadly.

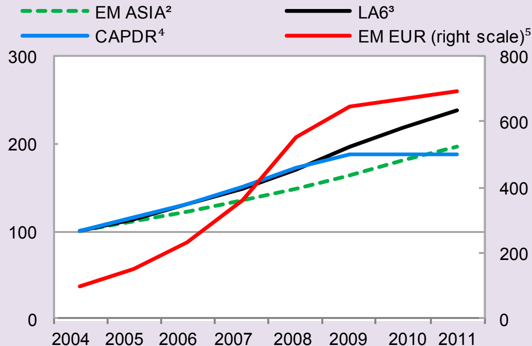
Figure 2. Despite its recent growth, mortgage credit in Latin America (as a share of GDP) remains relatively low.



Sources: National authorities; and IMF staff calculations.
[1] In real terms. Simple average of Brazil, Chile, Colombia, Mexico, Peru, and Uruguay.



Sources: Haver Analytics; national authorities; and IMF staff calculations.



Sources: Haver Analytics; national authorities; and IMF staff calculations.
[1] Last data observation is 2011:Q3.
[2] China, Hong Kong SAR, Indonesia, Korea, Malaysia, and Thailand.
[3] Brazil, Chile, Colombia, Mexico, Peru, and Uruguay.
[4] Costa Rica, Dominican Republic, El Salvador, Guatemala, and Panama.
[5] Bulgaria, Hungary, Lithuania, Russia, Slovak Republic, and Slovenia.

average, and the share of mortgage credit to total credit (at 22 percent) is below that of other emerging economies (Figure 2).

During the past decade, however, much of the region has experienced unprecedented expansions in mortgage credit. Favorable external conditions, sustained economic growth, stronger fundamentals, and legal reforms have raised living standards and improved financing conditions, helping to unleash housing finance. Real mortgage credit in the more financially integrated economies of the region (Brazil, Chile, Colombia, Mexico, Peru, and Uruguay) has grown by an annual average of 14 percent since 2003, and was less affected by the 2008-09 global financial crisis than other sectors (such as consumption and corporate credit). Growth in mortgage credit has been particularly strong in Brazil, where the inflation-adjusted stock of mortgage loans has increased seven-fold since 2003.

Structural reforms in property and credit markets as well as government efforts to broaden access to credit have been critical. Both Brazil (2005) and Mexico (2007) enacted bankruptcy reforms to strengthen creditor rights,[3] and overhauled their credit registries to enable banks to better gauge the credit worthiness of debtors.[4] In addition, Brazil (where ¾ of all housing credit has been provided by state-owned banks) relied extensively on mortgage credit subsidies; and Mexico provided mortgage insurance and guarantees through a government agency to support the residential mortgage-backed securities market. The expansion of mortgage credit in Latin America has also gone hand in hand with the growth of domestic bond markets in local currency and the lengthening of the term structure of yield curves (which in some cases reached 20–30 years) (see Jeanneau and Tovar, 2008).

[3] Since its inception in 2000, the insolvency law in Mexico has been used on very few occasions.
[4] Warnock and Warnock (2008) show that housing finance is positively correlated with the enforceability of legal rights, as well as with the existence of systems to assess credit risk.

Data Gaps

Data on housing prices and activity are particularly weak in the LAC region, despite recent progress. Only Brazil, Chile, Colombia, Mexico, Peru, and Uruguay publish housing price data, but even in some instances these time series are short, and coverage is limited to large metropolitan areas.[5] Little information on the stock and flows of housing, as well as on construction activity, is available (see Table 1).

Supervisory authorities across the region are just starting to set up the infrastructure to maintain current information on housing-specific financial soundness indicators and household balance-sheet data.[6] The latter is critical for assessing credit risks based on leverage ratios and meaningful affordability indicators. Progress on this issue also lags behind that in other regions.

Lack of comprehensive time series on house prices is perhaps the most serious shortcoming for monitoring and assessing housing market developments. Home price data series should have national coverage and distinguish between new and existing homes, as well as between commercial and residential real estate. Those series should be complemented by information on the stock and flows of housing, as well as on construction activity (including employment, price of inputs, and land prices). Good data on housing transactions are also necessary.

Making the Most of Imperfect Data

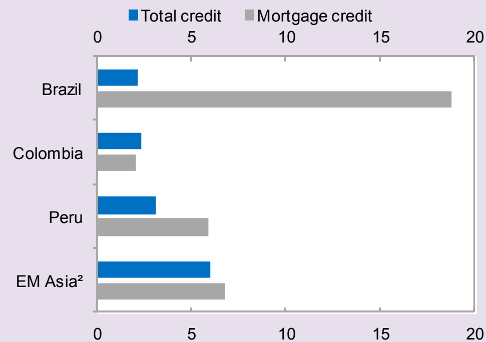
Notwithstanding severe shortcomings in the data, policymakers in the region still need to know

[5] Housing prices in the region are often published by a wide variety of agencies, which makes cross-country comparisons more cumbersome.

[6] Brazil, Chile, and Colombia have household financial or expenditure surveys aimed at collecting micro-data about households' real and financial assets. The data provide a picture of credit access and debt concentration among different household income segments, improving the assessment of credit risk and the implications of household debt for financial stability (see Persson, 2009).

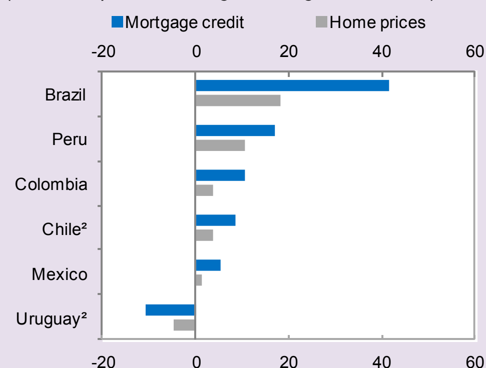
Figure 3. Mortgage credit, housing prices, and construction activity in selected countries.

Episodes of Real Credit Surges [1]
(Maximum deviation since mid-2009, percent)



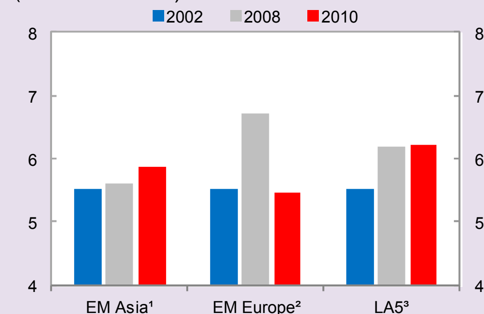
Source: IMF staff calculations based on national sources.
[1] Estimates based on end-adjusted rolling Hodrick-Prescott filters estimated using monthly data since 2000 when available. The smoothing parameter, λ, was set at 129600, and the filter was rolled month-over-month with the seed set in January 2006. In countries where sample size was an issue, the seed was adjusted accordingly. The threshold is defined to be 1.5 times the standard deviation of the level relative to trend.
[2] Average of sample includes China, Hong Kong SAR, Indonesia, Korea, Malaysia, and Thailand.
EM = emerging market.

Real Mortgage Credit and Housing Prices[1]
(12-month percent change, average of 2010–11)



Sources: Global Property Guide; Haver Analytics; national authorities; and IMF staff calculations.
[1] All data expressed in local currency and deflated by CPI.
[2] Includes 2010 only.

Size of Construction Sector
(Percent of GDP)



Sources: Haver Analytics; and IMF staff calculations.
[1] Average of China, Hong Kong SAR, Indonesia, Korea, Malaysia, and Thailand.
[2] Average of Bulgaria, Hungary, Lithuania, Russia, Slovak Republic, and Slovenia.
[3] Average of Brazil, Chile, Colombia, Mexico, and Peru.
EM = emerging market.

whether the pace of expansion of mortgage credit is reasonable or excessive. We tackle this question with the data available. Using a standard technique to identify credit booms, the results provide evidence of excessive growth in mortgage credit for a few economies in the region (Figure 3, top panel).[7] In Brazil, the maximum deviation from trend credit growth in recent years seems particularly large, although this may be explained by the introduction in March 2009 of a housing program ("*Mia casa, Mia vida*") aimed at low-income households. In that regard, while the technique may not capture changes in trend credit growth or structural breaks, the rapid expansion of mortgage credit warrants careful monitoring of this market segment.

Housing Prices

Residential housing prices have tended to rise more where mortgage credit is more exuberant. The average annual real home-price increase for the five countries in the region with readily available housing price data is well below that observed in the countries of emerging Europe in the years prior to the Lehman crisis, and somewhat above that registered in emerging Asia. Although housing price increases mostly reflect developments in higher-income segments of metropolitan areas, these are also the segments that had the most access to mortgage credit (see Hoek-Smit and Diamond, 2003).

Construction Activity

The share of construction in GDP has grown sharply during the past decade in the more financially integrated countries of the region, to levels well above those recorded in emerging Asia, yet below the pre-crisis peaks observed in emerging Europe (Figure 3, bottom panel). However, housing is not the only factor behind this rising share; commercial real estate and public works also contributed to the rise. To the extent that housing was the main driver of the increase, however, boom-bust cycles in construction tend to have important social ramifications, because construction is labor intensive and employs relatively unskilled workers who experience longer unemployment spells.

Credit Quality

In line with the trends for aggregate bank credit quality in the region, the share of non-performing mortgage loans is relatively low. Strong growth in household income has contributed to this low rate, as well as to record low unemployment.

However, this situation could change should favorable external conditions reverse. Moreover, many loans are new, and defaults are typically rare early in the life of a loan. It also seems that banks are extending loans to households with underdeveloped credit and payment histories; such households tend to be more vulnerable during downturns.

Banks and households have relatively low direct exposure to housing, providing an important mitigating factor.[8] Mortgages account for less than 20 percent of banks' total credit in many countries in the region, and banks have a sound funding structure that relies little on cross-border funding or on complex instruments (Figure 4). Moreover, the few existing household indebtedness indicators seem to be at manageable levels, although they have been on the rise in recent years, particularly in the case of low-income households. That said, data gaps limit a more-comprehensive assessment of household leverage.

[7] The techniques identify a credit expansion as a boom when the level of credit exceeds the underlying trend (estimated using a rolling, backward-looking Hodrick-Prescott filter) by a threshold equal to 1.5 times the standard deviation around trend. See Mendoza and Terrones (2008) and Gourinchas, Valdés, and Landerretche (2001).

[8] Although not discussed in this chapter, mortgage credit quality can have important implications for fiscal policy depending on the degree of exposure of public banks. In Brazil, for instance, the state-owned banks hold ¾ of all housing credit (IMF, 2011a), and in Mexico the government housing finance agency supports the market for residential mortgage-backed securities by offering mortgage insurance.

Conclusions

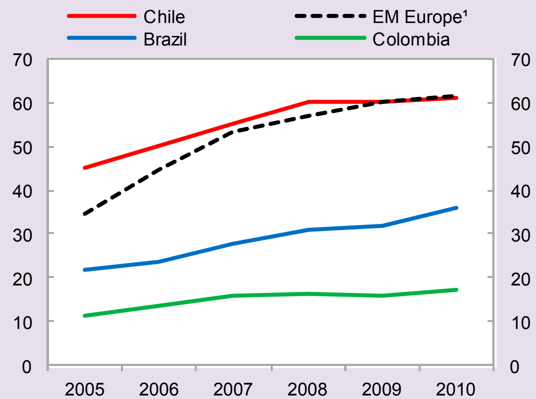
Mortgage credit is growing rapidly across much of Latin America. Although available indicators generally do not suggest imminent problems, there can be no room for complacency. Problems can arise quickly, especially in new markets with significant data gaps.

Action is needed to close information gaps and strengthen oversight. Internal risk models to gauge misalignments in housing and other credit sectors can help with risk assessments. Further efforts are needed to improve credit registries and the underwriting standards of mortgage loan originators and brokers. Standards should take into account the value of the underlying property (based on sound independent appraisals) and the borrower's credit worthiness (via credit registries), with proper verification of the submitted information. These efforts should be complemented by programs to increase consumer financial literacy, particularly as credit access expands to lower-income households.

If vigor in the housing sector is sustained, targeted macroprudential measures should be considered, similar to those recently adopted in Asian countries. The use of loan-to-value and debt-to-income limits could be particularly useful.

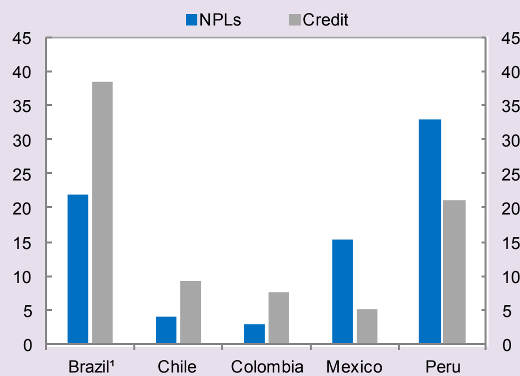
Figure 4. Household debt and NPLs are growing considerably, although they remain manageable in most countries.

Emerging Economies: Household Debt
(*Percent of disposable income*)



Sources: Eurostat; national authorities; and IMF staff calculations.
[1] Average of Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Slovenia, and Slovak Republic.
EM = emerging market.

Mortgage: Nonperforming Loans and Credit
(Real average 12-month percent change, 2009–11)



Sources: National authorities; and IMF staff calculations.
[1] Data on NPLs are only available for unearmarked housing. Mortgage credit corresponds to total housing loans.

Table 5.1. Data Availability on Select Financial and Housing Sector Indicators

Country	Housing Indicators					Household Indicators		Financial Soundness Indicators[1]			Access to Credit	
	House Prices[2]			Housing Starts/Permits	Construction Cost Index	Household Debt to Income	Household Debt Service to Income	Commercial Real Estate Loans to Total Loans	Mortgages to Total Loans	Non-performing Mortgages[3]	Legal Rights (0–10)[4]	Credit Information (0–6)[5]
	Available since	Frequency	Coverage									
United States	1987	monthly	national	√	√	√	√	√	√	√	9	6
Canada	1999	monthly	national	√	√	√	√	√	√	√	7	6
Latin America												
Brazil	2010	monthly	metropolitan		√	√	√	√	√	√	3	5
Chile	2004	quarterly	national	√	√	√	√	√	√	√	6	5
Colombia	1997	quarterly	metropolitan	√	√	√	√	√	√		5	5
Mexico	2005	quarterly	national			√	√		√	√	6	6
Peru	1998	quarterly	metropolitan						√		7	6
Uruguay	2000	monthly	metropolitan		√	√	√		√	√	4	6
Memo:												
Emerging Asia												
China	2005	monthly	city			√	√				6	4
India	2010	quarterly	metropolitan			√	√				8	4
Indonesia	2002	quarterly	city			√	√	√	√		3	4
Malaysia	1999	quarterly	national	√	√	√	√			√	10	6
Philippines	1994	quarterly	metropolitan					√	√		4	3
Emerging Europe												
Bulgaria	1993	quarterly	national								8	6
Croatia	2006	monthly	national			√			√		6	5
Estonia	2004	monthly	metropolitan		√						7	5
Hungary	1998	quarterly	national					√			7	4
Latvia	2004	monthly	metropolitan		√				√	√	10	5
Lithuania	1994	monthly	city								5	6
Poland	2004	monthly	metropolitan			√		√	√	√	9	5
Romania	2009	quarterly	national	√		√	√		√	√	9	5
Russia	2000	quarterly	national	√				√	√	√	3	5
Turkey	2007	monthly	national	√		√		√			4	5
Ukraine	2000	monthly	metropolitan	√							9	4

Sources: Eurostat; Haver Analytics; Global Property Guide; IMF Financial Soundness Indicators; World Bank, 2012 Doing Business Indicators.

[1] Information based on reported data reported in the IMF Financial Soundness Indicators (black). In some instances, it was complemented with readily available data (green) from national sources.

[2] Data refer to start date of the series, frequency, and coverage. Some countries have more than one index, we report the one with the highest frequency.

[3] Data not reported in the FSI but are available from national sources.

[4] World Bank index that measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The index ranges from 0–10, with higher (green) and lower (red) values.

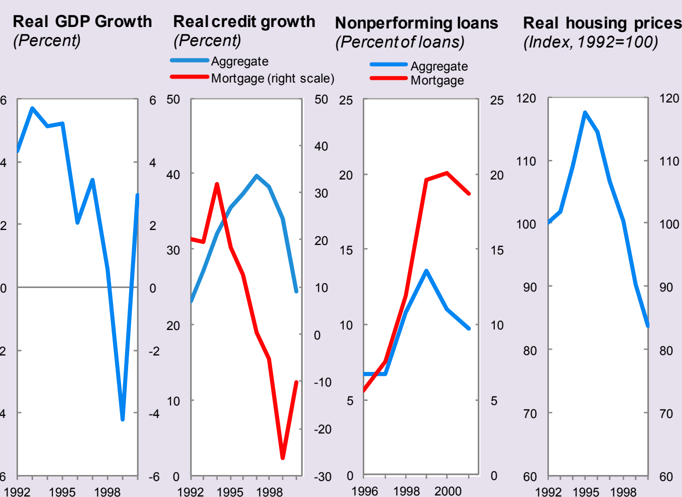
[5] World Bank index that measures rules and practices affecting the coverage, scope, and accessibility of credit information available through a credit registry. The index ranges from 0–6, with higher values (green) indicating greater availability of credit information.

Box: Colombia's Mortgage Crisis of the Late 1990s: A Cautionary Tale

The Colombian mortgage crisis of the late 1990s illustrates the possible systemic effects of problems in the housing market. The crisis had its origins in the early 1990s when a process of financial deregulation set the stage for unsustainable credit growth and asset price overvaluation, amidst weak regulatory and supervisory frameworks.

Reforms aimed at increasing competition and efficiency in the Colombian financial system in the early 1990s led to a rapid expansion of bank assets along with undesirable changes in their liability structure. A period of easy external financing conditions triggered massive capital inflows that were intermediated by the domestic financial system. Assets prices (including housing prices) rose quickly and credit boomed (bank credit as a share of GDP doubled between 1991 and 1997). At the same time, financial institutions adopted aggressive funding practices in an environment of increased competition.

Weak regulatory and supervisory systems and internal risk managing models made the financial system vulnerable. Internal risk models were ill suited for assessing borrowers' capacity to pay, and collateral was frequently overvalued. Weak regulation and supervision practices did not prompt an increase in capital requirements or loan-loss provisions to mitigate growing risks as the process unfolded. In addition, there were important information blind-spots that prevented the adequate assessment of risks.



When external conditions became less favorable and the economy began to slow in 1995, housing prices started to fall. This process was compounded by the sudden stop that followed the Asian and Russian crises and domestic political problems. By 1998 interest rates reached historical highs, and households found themselves unable to continue servicing mortgages. Properties were seized, non-performing loans (NPLs) skyrocketed, and banks specializing in mortgage lending became illiquid or insolvent.

In 1999, the government was forced to intervene. Financial institutions were nationalized, closed, or recapitalized, and Colombia suffered its first recession since 1933. The crisis also set back the development of the housing market in Colombia. In the end, the total fiscal cost of the crisis (including the effects of judicial rulings that further undermined creditors' rights) exceeded 15 percent of GDP (FOGAFIN, 2009).

Note: Prepared by Camilo E. Tovar.

[1] For a detailed overview of the Colombian Mortgage crisis, see FOGAFIN (2009) and Urrutia and Llano (forthcoming).