

Does Housing Finance Promote Economic and Social Development in Emerging Markets?

An empirical analysis commissioned by the
International Finance Corporation

By

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Abstract

Assisted by growing capital supply, declining interest rates and legal reforms, in the past decade housing finance has grown dramatically in emerging markets. The paper explores with evidence available from those emerging economies in which housing finance developed early, mainly situated in Latin America and Asia, under which conditions the lending boom has translated into promoting economic and social development as measured by various indicators. It finds that the introduction of housing finance is almost invariably accompanied by negative short-term effects, such as initial house price increases and boom-bust cycles. Their magnitude is strongly related to the pace of system expansion and housing supply conditions. However, introducing housing finance in the long-run can be credited to have supported thriving construction and financial service industries, with some emerging market players now starting to go global. Deeper housing finance systems also help to enhance both blue and white collar employment opportunities. Where housing supply moved down-market and regional in parallel, greater availability of finance was finally able to contribute to declining housing deficits and indirectly has reduced slums. The paper concludes the analysis by drawing lessons for a housing finance system development strategy conducive to maximizing long-term impact and keeping cyclical risk low.

Introduction¹

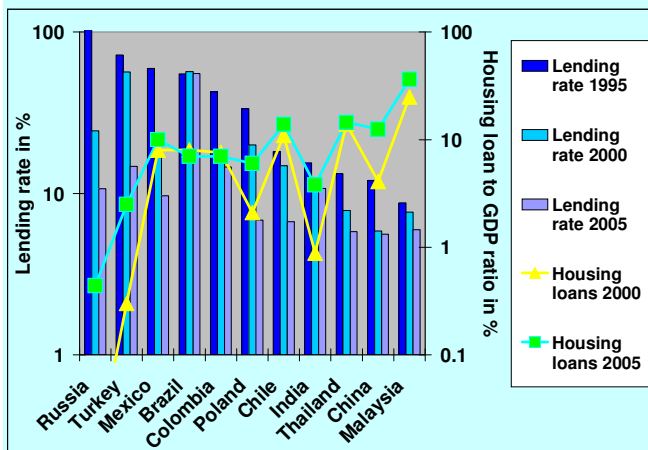
Housing finance has become a **boom industry in emerging markets** over the past decade. Supporting trends were the global disinflation until very recently, and declining real interest rates. By the middle of the 2000s, an unprecedented number of countries had reached the magic 10% interest

¹ The author is an independent financial sector consultant based in Berlin/Germany. He is indebted to the IFC and World Bank housing finance business groups lead by Kenroy Dowers and Loic Chiquier for their financial and substantial support of this and other projects. Special thanks also go to Simon Walley in the World Bank business group who complemented the comprehensive data generation effort necessary for this analysis. Please send comments and questions to: aduebel@finpolconsult.de.

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rate threshold (see Figure 1). Below that level, standard local currency mortgage finance instruments with greater appeal to both investors and consumers than indexed or foreign currency instruments can be applied. Latin America had started to move out of decades of indexation. Legal and regulatory reforms had improved registration and enforcement of mortgage collateral, or at least created credible shortcuts. The IT and communications revolution had allowed lenders to leverage their distribution networks in countries served thinly by branches and created a new level of transparency about collateral and borrowers alike that gave a new level of comfort to extending credit in uncharted territory.

Figure 1: Interest rate compression and housing finance system penetration trend: selected emerging markets 1995, 2000 and 2005



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants. Lending rates – IMF international financial statistics and other sources.

Still, the idea of housing finance as a tool for economic and social development is met with skepticism. Some see it as the main culprit of house price inflation that has plagued emerging and developed markets alike. Stability questions are raised as new lending instruments and risk management techniques seem to enable both, better access to ownership as well as greater speculation. The U.S. subprime mortgage lending debacle is fuelling such concerns: are not **emerging mortgage markets** the potential **global subprime market**?

A second line of questions confronting an institution such as the World Bank Group focused on eradicating poverty, and in contradiction with the former argument, is: is it possible to achieve **rapid down-market penetration** and fast social development with **a new housing finance system**? In line with this reasoning, housing finance is often being given a connotation of a 'top-down' development tool benefiting only the middle class and standing in opposition to, and competing for resources with, 'bottom-up' alternatives, such as microfinance, or traditional public housing policies.

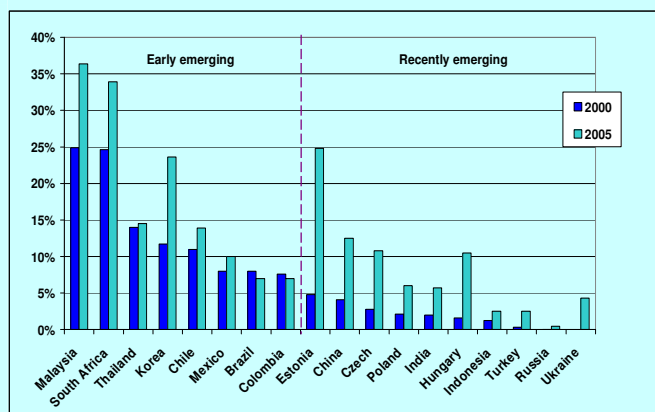
The paper intends to take stock of the impact that the fast mortgage market development in the past decades has had on the economies and social development of emerging markets, addressing the value that the above arguments and how they can be reconciled in a holistic and sustainable sector development strategy.

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Country samples

For an impact assessment it is useful to differentiate between **two groups of emerging housing finance systems**, early emerging markets that had developed housing finance by 2000 into the range of 10% of GDP and more, and recently emerging markets with new, and partly precipitously, growing housing finance markets (see Figure 2). For the former group an empirical impact analysis is already possible, data situation permitting; for the latter group we can check whether system design is set right in order to achieve a maximum development impact following the earlier examples.

Figure 2: Swift housing finance system penetration: selected emerging markets 2000 and 2005



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultant information.

Most **early emerging markets** have now successfully developed their housing finance systems, typically from initial public sector initiative into private markets with supporting government roles (Chile, Mexico, Malaysia, and Korea). Virtually all have gone through pronounced lending and house price cycles and some are still lagging behind as a result of resulting financial crisis (Brazil, Thailand). Developed markets experienced similar cycles and crises during their early development in

the 19th century.

Recently emerging markets are a more heterogeneous group: the former socialist subgroup started from a severely repressed, government intermediated housing finance systems (Estonia, Russia, China), while the remaining group of large developing countries suffered hitherto from a more pronounced underdevelopment of institutions, laws and markets (India, Pakistan, Indonesia) that is now being removed. Common to both groups is a precipitous growth: for example China within a few years surpassed most early emerging markets in market size not just in absolute terms, but even relative to gross domestic product.

Impact hypotheses

Housing plays an important role in the economy as both wealth storage and urban production factor. Figure 3 depicts the classical **S-curve theory of latent housing investment demand** whose peak coincides with the peak rate of urbanization. Clearly, the conceptual idea of housing finan

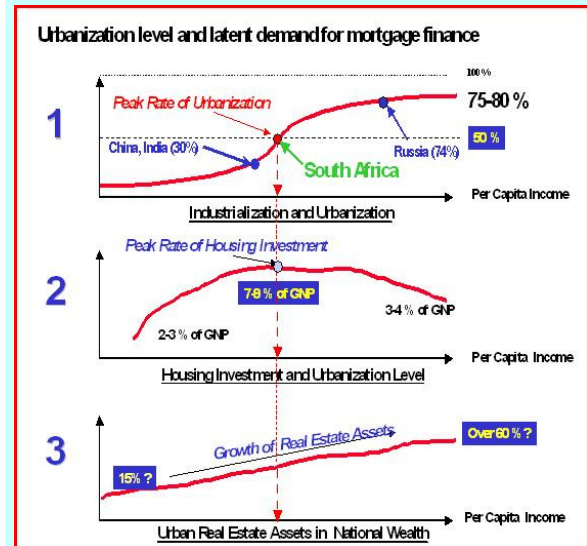
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ce in emerging markets is to turn this high level of latent demand into active demand by spreading financing costs over the long-term.

Yet, due to long production lags, urban land market and infrastructure constraints, housing markets tend to be characterized by **slowly responding supply conditions** in the short-term. While the introduction of housing finance will reduce interest rates, it will initially just provoke a revaluation of existing housing stock on the capital market – i.e. a short-term house price increase.

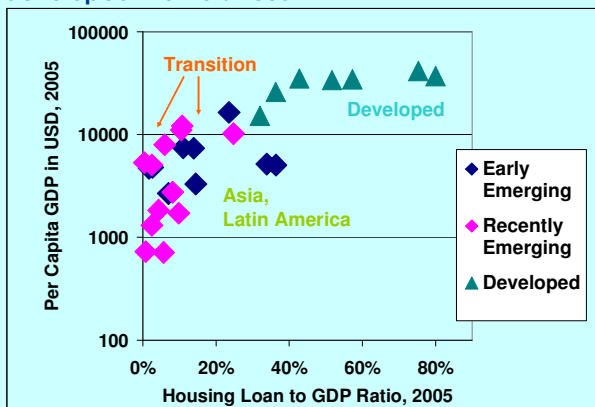
However, such an **initial price effect** must not be confused with inflation. It is **a desirable relative price change** that will eventually set a chain of supply reaction in the land and construction markets in motion that leads to more housing becoming available in the mid-term. New construction is being stimulated, and more entrepreneurial capacity in finance and construction industries is being developed.

Figure 3: Urbanization levels and latent demand for housing finance: stylized facts ca 2003



Source: Bertrand Renaud.

Figure 4: Per capita income levels and housing finance system penetration: emerging and developed markets 2005



Source: IMF International Financial Statistics (per capita GDP, US GDP deflator), Finpolconsult research with World Bank Group staff support (Housing Loan to GDP). Sample includes: Brazil, Chile, Mexico, Colombia, Korea, China, Indonesia, Thailand, Malaysia, India, Pakistan, Iran, Hong Kong, Turkey, Russia, Estonia, Poland, Czech republic, Hungary, South Africa, Germany, United Kingdom, Canada, Australia United States. Note: logarithmic income scale.

A **key to supply growth** is held by **developers**: companies that were forced to finance consumers from their thin capital base in the absence

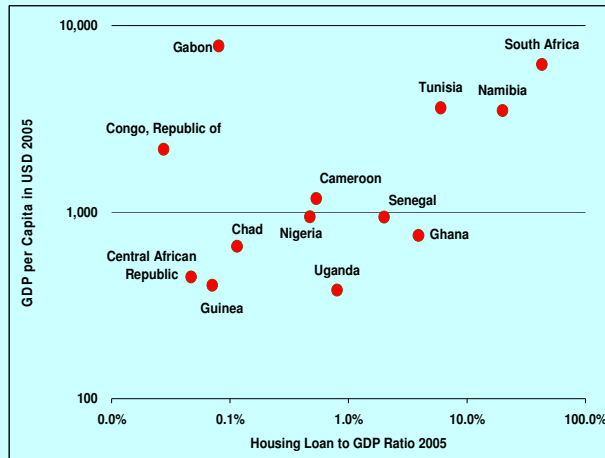
of housing finance in its presence may multiply pipeline, production and turnover. This enables them to attract both more capital from banks and equity investors through better focus, higher profitability and solvency – a virtuous circle.

Similar mechanisms can be assumed to be at work in the **progressive housing market** where - with appropriate techniques such as microfinance - housing

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finance may help to raise the efficiency of house-building through faster and higher quality housing construction.

Figure 5: Per capita income levels and housing finance system penetration: African countries in 2005



Source: IMF International Financial Statistics (per capita GDP, US GDP deflator), World Bank (housing loan to GDP). Note: logarithmic income and housing loan to GDP scale.

effects, changes in both quantity and quality of housing supply, effects on household wealth via an increase in the homeownership rate, effects on household consumption, as well as direct and indirect labor market effects.

Findings - economic development impact

Housing finance develops **closely with the income level** of the economy as Figure 4 above shows. Currently, emerging housing finance market size seems broadly in line with the individual nation's income levels. The exceptions are the former socialistic financial systems that have smaller, but faster growing, markets compared to peers. In contrast to developed markets, there should be no reason for concern at this point that emerging housing finance markets are over-dimensioned.

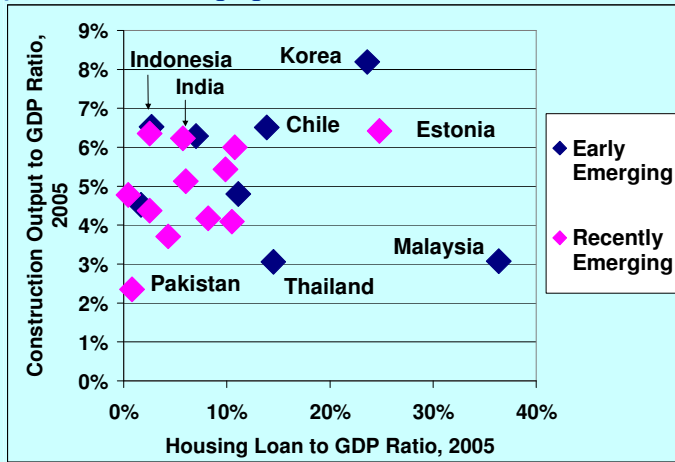
Proportionality with income even holds true at the lowest income levels, as a comparison of some of the more **recently emerging markets in Africa** in Figure 5 shows. A broad correlation between income level and housing loan market penetration emerges, with resource-rich but financially and politically unstable countries as Gabon

Beyond the construction sector, introducing housing finance with sufficiently broad access and borrower screening techniques, sound collection and funding mechanisms as well as regulatory safeguards minimizing housing market volatility should have a considerably positive impact on the economy as well as important social development indicators.

Indicators for development impact of particular interest for this analysis are construction activity and investment, the corresponding demand multiplier effects,

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Figure 6: Construction activity and housing finance system penetration: emerging markets 2005



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants; for construction output shares – United Nations. Notes: Sample includes: Brazil, Chile, Mexico, Colombia, Korea, China, Indonesia, India, Pakistan, Iran, Estonia, Czech republic, Hungary, Poland, Russia, Ukraine, Turkey. Malaysia, Thailand post mortgage and construction sector cycle.

and the Republic of Congo being negative outliers. Legal and financial institution building programs are currently under way in a number of African countries, including Nigeria and Uganda.

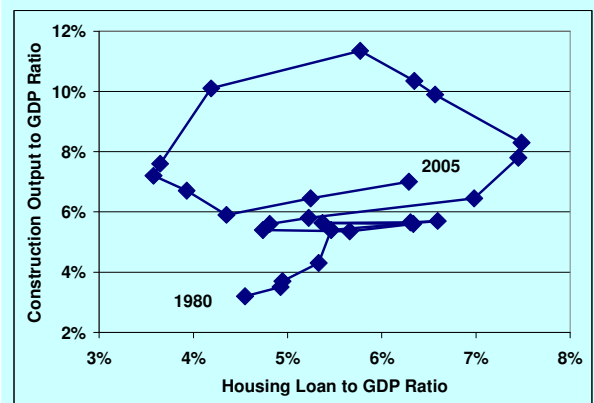
Clearly, there are **open causality questions** on economic impact channels open: greater macroeconomic stability, lower real interest rates and dynamic labour markets may stimulate both higher incomes and larger finance sectors. However, housing finance can be shown to have a causal impact on gross fixed investment levels in emerging markets.

Housing finance also **directly drives construction output** in emerging markets, in both cross-sectional and inter-temporal perspective. Figure 7 shows the example of Colombia, where despite a strong sector cycle housing finance contributed to sector expansion in the long-run.

In certain constellations, however, construction sectors remain underperforming despite finance becoming available, resulting in considerable house price risk. **Access to serviced urban land and developer finance** is crucial to unclog construction supply, and is often missing due to underfunding of public sector entities doing land servicing and risk aversion of lenders. Also the structure of the city system may work against greater im

pact. A particularly striking example that has ended in financial crisis has been the case of Latvia with its dominating centre in the city of Riga (see Figure 8).

Figure 7: Large construction activity vs. housing finance system penetration cycles occur: Colombia 1980 – 2005

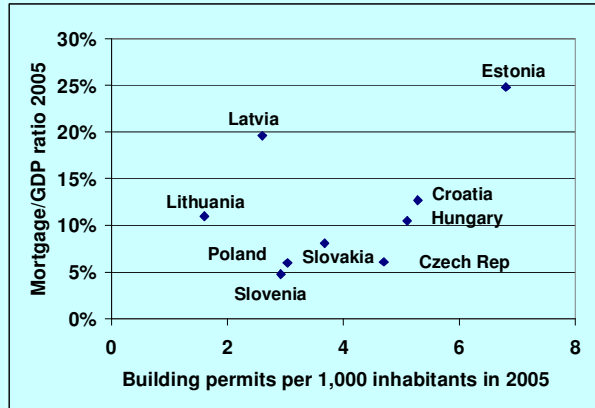


Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants; for construction output shares – United Nations.

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Early emerging markets that addressed supply issues forcefully, most notably Malaysia and Mexico, in the past 15-20 years have both developed **competitive and internationally active developer industries** as well as shown better down-market penetration results. Malaysian developers are successful in South Asia and the Gulf. Mexico's Homex – which grew with publicly guaranteed construction finance loans - today has one of the most efficient low-cost production platforms and exports its knowledge base around the globe, e.g. to Egypt and Brazil. Brazil's developer industry itself has tripled its production pipeline after a series of successful IPOs between 2004 and 2006. The deepening of South-South trade is likely to play a

Figure 8: Building permits and housing finance system penetration: Central and Eastern Europe 2005



Source: Hypostat, Finpolconsult computations.

prominent role in access to housing in other emerging markets.

Housing finance, via construction output, creates also significant **demand multiplier effects** for other sectors of emerging market economies. Table 1 provides the example of Argentina. Also, evidence for an independent direct impact on the development of the real estate and financial service industries can be found (see discussion on employment effects below).

Table 1: Construction multiplier Impact: estimate for Argentina 2006

Sector	Production	Employment
	Pesos	Jobs
Direct Demand	1,000,000	40
Indirect demand	800,000	20
Services	300,000	10
Industry	450,000	9
Mining	50,000	1
Multiplier	1.8	1.6
Total Demand	1,800,000	60

Source: Freire, Hassler et al. (2006) based on INDEC Input-Output Matrix and consultants. Note: multiplier for each A\$ 1 million

Despite partly aggressive growth of their housing finance systems, **emerging markets do not see the strong consumption effects** associated with a deepening system in developed markets. Figure 9 reveals a pronounced U-shaped correlation between household consumption and sector penetration in cross-country perspective. The main reason is likely to be the proximity of emerging markets to the housing investment peak, which was conceptualized before (see Figure 3). Countries beyond the investment peak will use a rising share of the additional finance available to finance other (e.g. business) investments or even consumption. In fact, driven by declining interest rates and high levels of competition, many emerging housing markets have moved fast-forward in developing home equity

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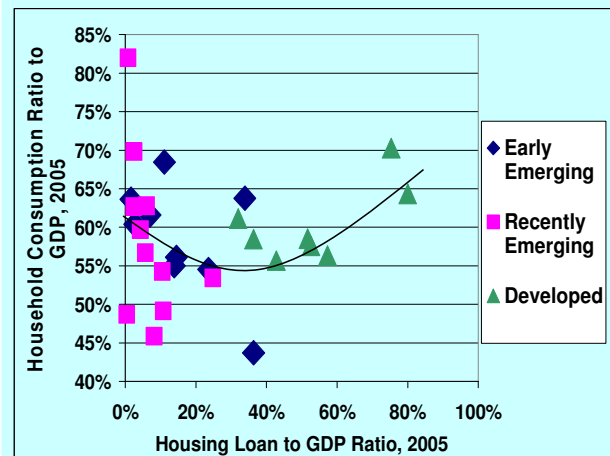
and other consumption finance products that use houses as collateral. Examples are found in Latin America and Central and Eastern Europe: in the Czech Republic, for example, home equity loans became available just 15 years after the system started and upon their introduction were suitably called 'American mortgages'.

Social development impact

Many critics of housing finance regard the sector as being insufficiently focused on, or even damaging via financial bubbles, to socially vulnerable groups. However, few of these will dispute the fact that **emerging markets need formal housing finance** in order to cope with their **vast housing investment challenge**. Current UN urbanization forecasts and typical household formation trends imply that cities in emerging markets will require more than 1 billion new housing units until 2030 in order to house an increasing urban population characterized simultaneously by increasing individual housing consumption. Expanding the housing stock at such colossal scale and pace implies investments in the range of 75 trillion USD under conservative assumptions, which means mobilizing 25 times the 2007 US mortgage finance production. Additional large-scale demand arises in rural areas, through regional mismatches related to regional economic shocks, through necessary modernization and upgrading investments.

Spectacular housing bubble cases with the associated high vacancy levels, such as Dubai or Shanghai in the early 2000s tend to conceal that a **greater overall housing supply** following from lending-construction booms also eventually leads to **greater availability of lower-cost units**. Even when most new construction takes place only at the upper end of the market, the filtering chain of the housing market, i.e. the series of upgrades and moves of households, helps to vacate lower-quality stock for lower-income households. This was the case in the Bangkok housing market, which cleared its production overhang within a few years after the 1990s construction boom as middle-income consumers filtered up to the vacant units. The units vacated by

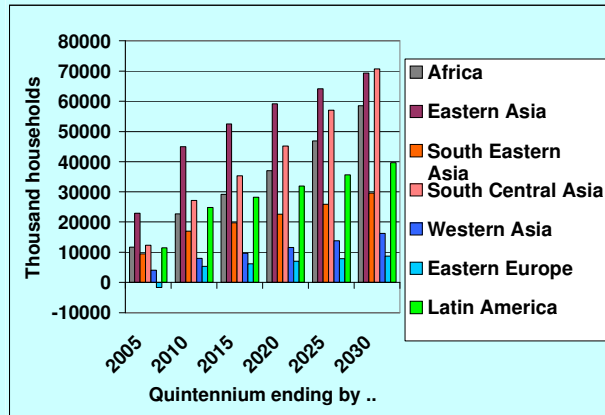
Figure 9: Household consumption ratio and housing finance system penetration: emerging and developed markets 2005



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants; for household consumption shares – United Nations. Notes: Sample includes South Africa, Brazil, Mexico, Colombia, Chile, Korea, Thailand, Malaysia, Russia, Poland, Ukraine, Estonia, Hungary, Czech republic, India, Pakistan, China, Iran, Turkey, Indonesia, Hong Kong, Taiwan, Germany, United Kingdom, Australia, Canada, United States.

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Figure 10: Urban housing demand resulting from urbanization and household formation trends: estimate based on UN population forecast 2005



Source: UN Population Division (2005), Finpolconsult computations. Notes: computation takes differences of urban population estimate during quinquennium, multiplied by average household size change assumption. Average household size is assumed to decline by 10% per quinquennium, starting per 2000/2005 with (current levels): Africa (4.5), Eastern Asia (3.5), South Eastern Asia (4), South Central Asia (4.5), Western Asia (4), Eastern Europe (3), Latin America (3.5). Household formation translates into increased demand for both existing and new urban dwellers.

those households were rented or bought by lower-income households. The lesson that even large construction cycles do not necessarily have to end in wasteful allocation of scarce capital in emerging markets is important for policymakers: only when the result of the construction boom is permanent vacancies or weak construction quality, there will be a deadweight loss imposed on economy.

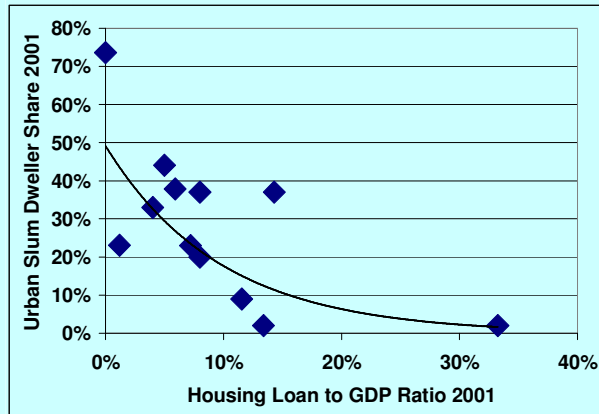
Developing nations with deeper housing finance systems can also be shown to have **a lower proportion of their population living in slums** (see Figure 11). Thailand has been able deliver new low-cost housing down to the second income distribution decile

as a market solution by enabling large-scale low-cost land servicing and stimulating a low-cost focus of the developer industry. The production overhang from the 1990s boom helped to drive down prices further and the country was able to remove urban slums in high speed. Mexico and Malaysia have achieved similar results as Thailand with moderate and varying subsidy incentives. Public support has been particular pivotal in assisting developers to increase scale compensating for lower margin per unit delivered. The most effective tools have been access to working capital and indirect support via public land servicing and transportation development.

Seen from the credit demand side, most emerging markets **start with a prime mortgage market** – as developed markets have done earlier – **and are not subprime**. Following the de Soto empowerment school, improving tradability and enforceability of collateral through legal reform then is the priority approach for speeding up downmarket penetration to serve poorer income segments with housing loans, or even business loans collateralized on the home. However, many emerging market lenders today also recognize the considerable solvency risks of this ‘bricks-and-mortar’ approach and focus on establishing both data and relationship with such borrowers first. This requires a bottom-up borrower screening and monitoring infrastructure in banking, which many emerging markets miss for historical reasons. Local or social strata-focused lenders, such as microfi

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Figure 11: Urban slum dwellers and housing finance system penetration: Asia and Latin America 2001



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants; for urban slum dweller share – ADB, IADB, United Nations. Notes: Sample includes South Africa, Brazil, Chile, Mexico, Colombia, Thailand, Malaysia, Korea, China, Indonesia.

finance institutions, savings banks or finance companies have proven to be able to overcome that gap. In Peru, microfinance lenders have overtaken the banking industry focused only on high-income households in the past 15 years. Initially concentrating on the distribution of short-term loans, once the customer relation is established and their credit is confirmed, these lenders in the next step seek capital market access to be able to provide the longer-term loans needed to finance housing.

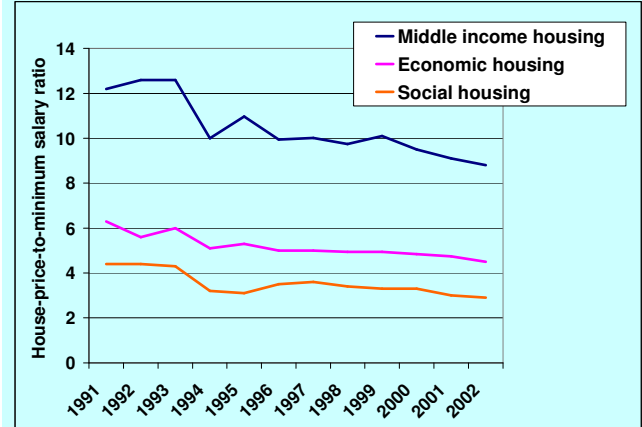
Expanding the loan product menu too fast has equally proven a mixed blessing as an access driver in emerging markets. While maturity expansion and greater shares of fixed-rate lending contribute to greater stability in lending portfolios, products that try to lower initial payments such as foreign currency lending or short-term adjustable rate lending risk may produce considerable risk. Such products require some level of downside risk protection for consumers. Especially Latin American and more recently Eastern European countries have had negative experiences with the wrong initial product set.

As a rule, **low-income households should be selected to safer mortgage** products, e.g. fixed-rate lending in local currencies. Because these loan products are more costly, and sometimes initially hardly available in the market, there is an additional affordability gap resulting in a case for government intervention. Mexico has addressed the high protection costs in the market by offering public wage to inflation unit swaps. India and South Africa are starting efforts to develop a fixed-rate low-income housing finance market. The modern U.S. market was jump-started by government intervention in 1934 via tying public guarantees to a new, 20-year fixed-rate mortgage product.

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Alternatives to retail lending products and immediate homeownership such as **renting** that target the poor and young are still explored only marginally in emerging markets. There has been lasting stigmatization of rental tenure in many regions through failed public housing experiments of the 1970s and the impact of rent controls on the quality of rental housing; privatization of rental housing has sometimes even driven the mortgage market, e.g. in Hong Kong in the 1990s. Most emerging mortgage markets are still far away from developing rental housing finance, including with the exception of South Africa the early emerging markets. In contrast, bank-financed **leasing** is more widespread, e.g. in Latin America and the Arabic world, and especially in the low-income housing sector where the foreclosure likelihood is higher. Gaps in foreclosure legislation are the key driver: for example, Brazilian housing lenders primarily use a leasing instrument where home ownership is only fully transferred after a complete repayment of the financing.

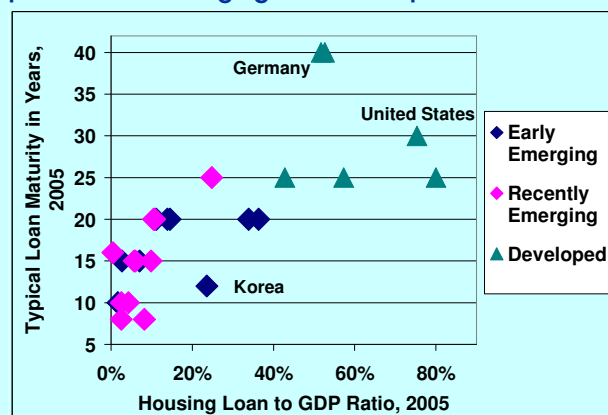
Figure 12: Improving affordability indicators for different housing supply categories: Mexico 1991-2002



Source: Alberdi (2003). Notes: House prices as multiples of the annual minimum salary.

Introducing new housing finance systems adds demand to the housing

Figure 13: Affordability of mortgages as measured by loan maturity and housing finance system penetration: emerging and developed markets 2005



Source: for Housing Loan to GDP ratio - Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants. Typical loan maturities - Merrill Lynch and other sources. Notes: Sample includes South Africa, Brazil, Mexico, Colombia, Chile, Korea, Thailand, Malaysia, Russia, Poland, Ukraine, Estonia, Hungary, Czech republic, India, China, Iran, Turkey, Indonesia, Spain, Germany, United Kingdom, France, United States, Canada, Australia.

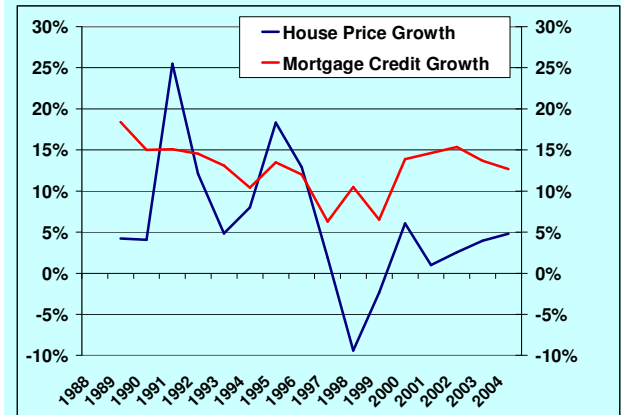
market, both in terms of loan volume and numbers of borrowers. Thus such a policy move will always be accompanied by an initial upward house price adjustment, the hope being a stimulation of construction activity and subsequent price moderation. Yet, this expectation is often frustrated. Examples for **short-term house price booms** associated with parallel housing credit expansions in the 2000s are the cities of Kiev, Astana, or Riga in transition economies. Other cities in the same region, such as Moscow or Istanbul, in contrast have experienced comparable house price booms

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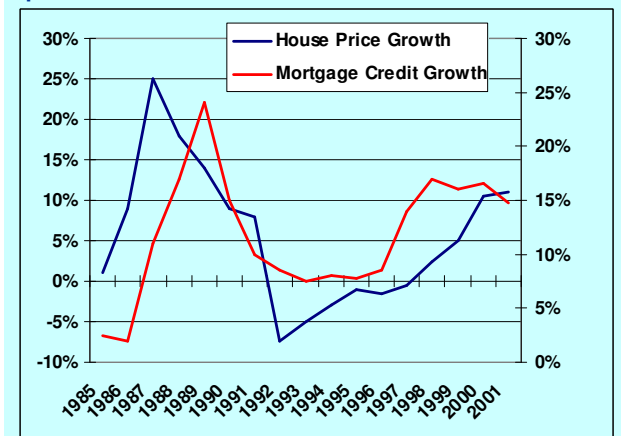
without any significant mortgage portfolio build-up. In the latter as well as in the former cases, the underlying real trends - capital gains expectations arising from migration pressure meeting strong land and construction industry supply constraints - played a dominant role. Clearly, if meeting such conditions, 'easy finance' can be further destabilizing. Tough regulatory responses, such as the numerous restrictions now imposed on developer and retail credit in China, may be the answer.

There is a more worrisome problem compared to short-lived initial bubbles of the above kind from a structural development perspective. As systems begin to mature, there is danger of **repeated lending and house price cycles caused by inappropriate initial system setup**. Mexico in the 1990s is the classic case of misguided system set-up: when the Tequila crisis hit, a foreign bank-financed boom in adjustable-rate housing lending was followed by a complete withdrawal of the same banks, frustrated by large foreclosure losses. In fact, housing lending had greatly contributed to the inflation preceding the crisis. The Mexican government reacted by promoting safer lending standards, wage-to-inflation swaps, consumer protection and new domestic distribution channels. South Africa and India in contrast are struggling with their British variable-rate product legacy, which is convenient for banks but risky for borrowers. In Eastern Europe, with most banks sold to Western European lenders, foreign currency lending is advancing. Repeated price cyclicity can generally be traced back largely to a combination of weak regulations, especially towards the product menu, and lax monetary policies. These policy failures are no privilege of emerging markets. Figure 14 shows that the house price and lending cycles in seemingly completely disparate countries - Malaysia and Spain, with however the same predominant lending instrument - adjustable-rate mortgages, were almost identical.

Figure 14: Initial house price increase followed by classical credit-price cycle: Malaysia and Spain
Malaysia 1988 - 2004



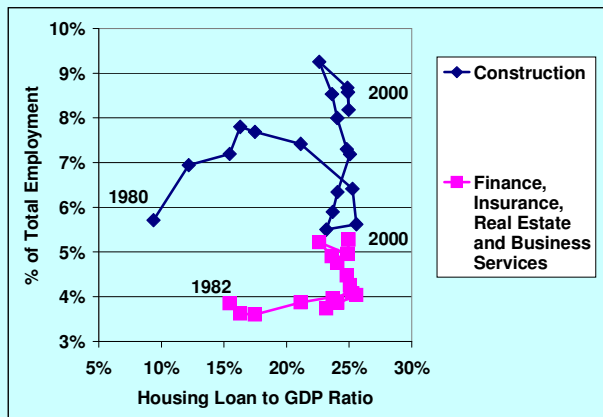
Spain 1985 - 2001



Sources: Bank Negara, Cagamas Berhad, Bank of Spain, Finpolconsult computations.

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Figure 15: Construction and services sector employment and housing finance system penetration: Malaysia 1980-2000



Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants. Employment – UN, based on ILO.

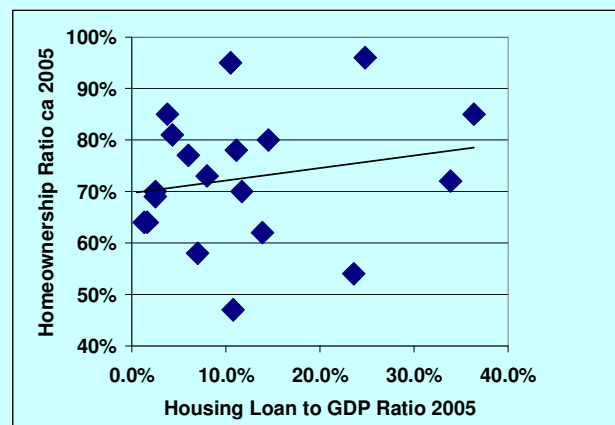
a **motor for male blue collar employment** in urban areas. Additional activity there also indirectly increases female and rural employment levels. In fast forward, compared to developed countries, the sector plays an integral role in the emergence of new financial centres, the most prominent case perhaps being Dubai. Figure 15 shows the related relative sector employment data for Malaysia, which have been positive despite the profound intermediate impact of the real estate cycle of the 1990s. Similar data can be found for China, Thailand or Mexico; in contrast with this, confronted with an illiquid housing finance system the Brazilian residential construction sector has been ailing for almost two decades.

Anecdotal data suggests that in the fast urbanizing markets of Asia, the Middle East and Latin America, moreover, housing finance has helped to further **increase home ownership against the urbanization trend**. Home ownership should be expected to decline with increasing urban density due to increasing control problems over properties and other negative externalities of densification. However, condominium ownership of multifamily housing units, which requires a great deal of individual owner coordination, in emerging mar-

Under such conditions, greater housing finance availability can easily frustrate low-income policies. A recent example is the failing Financial Sector Charter credit extension program of South Africa, a policy initiative that is meeting the challenge of unaffordable land and house prices for the low-income households it intends to help.

Regarding broader social benefits promoted by housing finance, the construction sector promoted via housing finance can be shown to be

Figure 16: Home ownership ratio and housing finance system penetration: emerging markets 2005



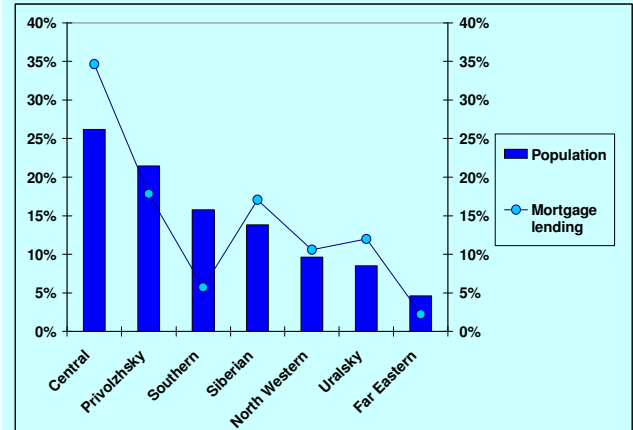
Source: for Housing Loan to GDP ratio – Finpolconsult computations based on World Bank Group, Merrill Lynch and private consultants. Homeownership ratio – Merrill Lynch, UN-ECE, United Nations, World Bank mission reports, other sources. Notes: Sample includes South Africa, Argentina, Brazil, Mexico, Colombia, Chile, Korea, Thailand, Malaysia, Russia, Poland, Ukraine, Estonia, Hungary, Czech republic, India, China, Iran, Turkey, Indonesia.

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ket cities appears to be far more widespread than in Europe or the U.S. One important driver is rental housing being depressed through rent controls (e.g. those spread through British post-WWI legislation in the Commonwealth). Another seems to be inadequate cash pension systems: with significant gaps in capital market development and limits in pay-as-you go systems, home ownership is a more important pillar of the pension system in emerging than in developed markets.

Finally, we can find **capital city bias** as a particularly extreme form of urban bias after housing finance systems have been introduced. In markets such as Colombia and Brazil 60-70% of mortgage lending is concentrated in the capital regions, far above population share. However, the evidence is hardly surprising when introducing a new system and it also is not uniform across countries. A banking decentralization approach may be implemented early and effectively reach regional cities. An example is the Russian case displayed in Figure 17 where local mortgage agencies were created to support lending in the regions. With liquidity pressure being diverted from capital cities, the risk of lending-induced price bubbles in the capital city will diminish.

Figure 17: Housing finance system penetration by region: Russia 2006



Source: Federal States Statistics Services, Merrill Lynch based on Bank of Russia, Finpolconsult computations.

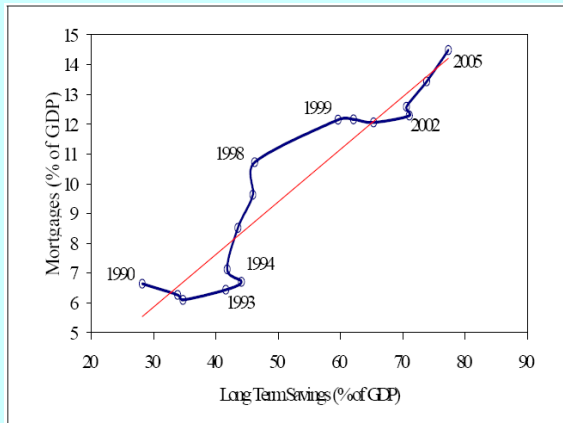
No sound system development without domestic capital markets

Despite the fact that emerging market mortgage portfolios in many cases are still small, developing the domestic capital markets has played a pivotal role for funding and risk management in housing finance. The first candidate for funding is typically deposits. Yet, due to fast demand growth, the lack of financial distribution channels and frequent fragility of banks resulting in **high risk premiums of unsecured borrowing**, deposit funding in emerging markets hits liquidity constraints sooner than in most developed markets. Banks are also wary of holding illiquid assets given their funding side liquidity risks, a stance that good bank regulation should encourage.

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Direct **policy responses** to the lack of long-term funding such as tax-funded public lending circuits and subsidies have proven to be **sometimes a cure and sometimes a cause for illiquidity**, depending on the approach

Figure 18: Long-term savings mobilization and housing finance system penetration: Chile 1990 - 2005



Source: Ruprah & Marcano (2007)

and in particular quality of implementation. In the Brazilian case, a deeply subsidized and politicized housing credit system must be debited with at least one lost decade for housing finance development in the 1990s. Tax credit is still given for short-term deposits, discouraging long-term instruments. In Malaysia, in contrast, a public-private liquidity facility carrying moderate subsidy content has substantially supported market development. The long list of failed public mortgage lenders shows that in particular direct government lending is often not a good idea.

Reliance on foreign currency lending and/or foreign short-term portfolio investment in banks on the other hand has proven to be as potentially destabilizing in the historic emerging market crises in particular 1990s with mortgage sector crises in Thailand and Mexico, followed by Argentina in 2001.

Facing these risks, successful emerging markets have adopted **diversified capital market strategies** consisting of building a domestic institutional investor base, domestic bond market instruments, including mortgage-backed securities and covered bonds, and of attracting foreign direct investments as well as long-term portfolio investment. Chile is the example of excellence here with its pension reforms of the 1980s that jump-started what is the oldest mortgage bond system in emerging markets (see Figure 18). Chile and Denmark excel globally in featuring almost entirely capital market-funded housing finance systems, which minimize the risk of banking crisis.

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The **case of Mexico** shows a gradual diversification strategy that has led to more diverse funding sources for the housing finance system.

An important role has been played by the system of SOFOL finance companies funded through the corporate bond market. Their bond issuance activity had developed dynamically, from a few 100 million USD in 1999 to 10 billion USD in 2003. Investor confidence in the system remained high during the U.S. subprime crisis and the Mexican MBS market remained open so far.

The initial guarantees on such bonds provided by a public agency, Sociedad Hipotecaria Federal, were later being phased out. Some of the SOFOLs have

responded by engaging in a **joint issuer entity**, Hipotecaria Total, an issuer of covered bonds modeled after the Danish mortgage bond system.

Meanwhile direct investment had replaced the short-term lending programs of foreign investors in Mexican banks of the early 1990s. Some of the banks have bought SOFOLs in order to participate in the growing lower-middle income market.

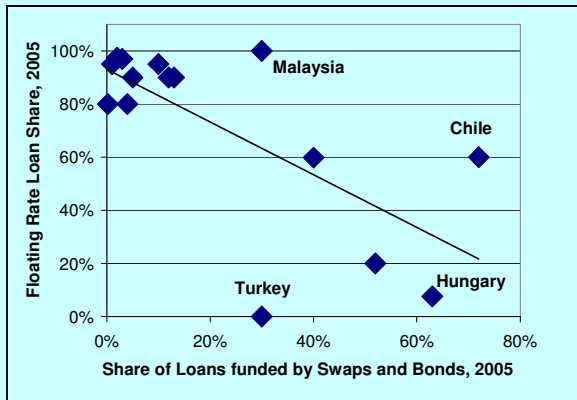
Wage tax funded lending through the public fund Infonavit has been restructured to top up private mortgage loans. Infonavit and its sister organization Fovisste play an important role in backing up the private mortgage market.

Table 2: Development stages of emerging housing finance market: Mexico since the 1980s

	1980s	1990s	2000s
Funding structure	Wage taxes Deposits External debt financing of commercial banks	Wage taxes Deposits Foreign direct investment in commercial banks Corporate bonds	Wage taxes (declining) Deposits Foreign direct investment in commercial banks and finance companies RMBS Corporate bonds Covered bonds (forthcoming)
Lending/guarantee structure	Wage tax fund lending Direct public lending Commercial bank lending	Wage tax fund lending Commercial bank lending (diminished by Tequila crisis) Finance company lending Public guarantees	Wage tax fund lending (restructured) Commercial bank lending Finance company lending Public guarantees (focused)

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Figure 19: Share of loans funded by bonds and swaps and share of fixed-rate lending: emerging markets 2005



Source: floating rate loan share – Merrill Lynch and other sources. Share of loans funded by swaps and bonds – Lea (2005), Merrill Lynch, Finpolconsult assessment. Notes: Sample includes South Africa, Brazil, Mexico, Colombia, Chile, Korea, Thailand, Malaysia, Russia, Poland, Hungary, Czech republic, India, China, Turkey.

Finally, a **key function of bond** (and swap) **markets** in emerging housing finance systems is to **reduce mismatch, extend maturities and thus enable fixed-rate lending**. Especially Latin American markets due to their inflation risk history excel with developed regulations that intend to contain lender mismatch. Housing finance systems that provide fixed-rate lending can be found to be more stable and in the long-term provide better outreach to low-income households. Price cycles are cushioned as the market is more likely to refrain from using very low short-term interest rates to price houses, and low-income

households receive products with protection against interest rate risk. Yet, as Figure 19 shows interest rate risk protection available through bond (and swap) markets is often not used in an optimal manner, and in many cases it remains simply unavailable.

Lessons for emerging housing finance system development

The most **successful early emerging markets** in terms of economic and social impact – Chile, Mexico, Colombia, Thailand, Malaysia, and Korea – have pursued **broadly similar development strategies** with the following elements:

- Macroeconomic stability and fiscal discipline reducing the crowding out for corporate bond and bank deposits markets;
- An attack on credit risk through an improved legal and regulatory framework for mortgages and banking sector modernization;
- Access of lenders to capital markets, esp. via bond issuance and liquidity facilities, more recently also via securitization, and control of mismatches;
- Development of the contractual savings system generating the demand for long-term local currency assets, such as mortgage bonds or long-term deposits;
- Liberal, or where planned accommodating, land market and urban planning policies;

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- Public support securing sufficient scale of the low-cost developer industry, especially via access to finance; and
- Public support for downmarket access to retail lending while eliminating untargeted sector subsidies or directions.

Chile, Mexico, Thailand and Malaysia also managed to significantly **expand the least cost formal housing frontier** and in addition to attacking the housing deficit developed internationally competitive developer industries. Brazil finally is currently catching up with this peer group as real interest rates are declining, lending is restarting and a low-cost developer industry is becoming active. Russia may be cited as a case, in which the regionalisation of mortgage finance succeeded, adding another important social policy dimension that is still missing especially in Latin America. South Africa finally, starting from the best developed sector infrastructure, is struggling with bridging the gap to the lower-income market.

Even the successful performers, including those that successfully developed capital markets, still show a number of **strategy gaps**. Most important is a **lack of focus on long-term stability**:

- Current strategies too much focus on retail lending and ignore the corporate housing finance sector, i.e. rental housing and – with the exception of Chile and South Africa – leasing. There are **limits to homeownership** related to income or house price risk, despite the successes. These limits can also not be overcome by pushing the least cost formal house price much further down. Rising vacancies and defaults in Malaysia and Mexico suggest that marketability of standardized units is limited and there is risk of substantial misallocation through subsidies.
- Also, **fast growth is still too often bought by** distributing **risky housing finance system setup**, especially through adjustable-rate or forex mortgages without interest caps and high loan-to-value ratio loans accommodating price bubbles. This is a particularly redundant approach in markets that successfully have developed mortgage-related securities. The situation can be corrected with regulatory measures favouring fixed-rate products and other safe lending standards.

Current strategies are also still **weak on diversifying the institutional framework**, which would help to further increase economic and social impact. With the named exceptions the financing and risk management constraints of developers as central agents of the housing supply chain is still too often ignored. The universe of long-term mortgage and property investors, from contractual savings via REITs to non-profit rental investors, needs expansion in most countries.

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Despite the shortcomings, **recently and future emerging markets** are left with valuable experiences from the cited experiences for **benchmarking their own strategies**. Many of them are currently experiencing excessive house price growth, beyond the expected initial inflation effect when introducing new housing finance. The overheating cases can mostly be traced to severe distortions in land supply and in the developer industry that prohibit the price signal to be transmitted into production. Also contributing are a short-term funding and product mix carrying interest rate and liquidity risks, and declining underwriting standards. The options of housing finance policies to correct those issues are limited to the second set of issues; a broader and consistent sector development strategy is needed that in addition removes land and housing supply constraints in order to set the stage for sustainable development.

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