HOUSING FINANCE IN DEVELOPING COUNTRIES

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October 19, 2007
Overview

- Reducing poverty and developing the financial sector
- Housing finance components and functions - what has worked, major regulatory issues
Housing finance can help to reduce poverty and develop the financial sector
Housing Finance is Missing From Most Developing Economies

- Financial systems generally fail to deliver solutions for poor and moderate income households
  - e.g., Latin America – between 60% and 80% of the population in most countries lack access to banks, 60% or more of the population lives outside the formal economy
- Urbanization – Economic growth is always accompanied by urbanization - 50% of the world’s poor will live in urban areas by 2035 (Ravaillon, 2001)
- “Cities are built the way they are financed” – (Renaud) – informal settlements, progressive construction, and slums are rational solutions to formal market failures, generally a land development process that fails to serve low income people
Developed Countries Use Mortgages
(Housing Finance as % of GDP)

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>NETHERLANDS</td>
<td>88%</td>
</tr>
<tr>
<td>UK</td>
<td>62%</td>
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<tr>
<td>USA</td>
<td>53%</td>
</tr>
<tr>
<td>GERMANY</td>
<td>51%</td>
</tr>
<tr>
<td>MALAYSIA</td>
<td>21%</td>
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<tr>
<td>FRANCE</td>
<td>19%</td>
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<tr>
<td>THAILAND</td>
<td>16%</td>
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<tr>
<td>CHILE</td>
<td>12%</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>7%</td>
</tr>
<tr>
<td>TUNISIA</td>
<td>6%</td>
</tr>
<tr>
<td>MEXICO</td>
<td>5%</td>
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<tr>
<td>BRAZIL</td>
<td>4.5%</td>
</tr>
<tr>
<td>IRAN</td>
<td>2.5%</td>
</tr>
<tr>
<td>ALGERIA</td>
<td>1.5%</td>
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<tr>
<td>PAKISTAN</td>
<td>0.6%</td>
</tr>
<tr>
<td>GHANA</td>
<td>0.5%</td>
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Sources: EMF, World Bank
Mortgages Enable Long-Term Financing for Individuals

- A mortgage is the most leverage most consumers will ever have – permits them to finance an asset 4 to 6 times their annual income
- Access to mortgage finance largely depends on affordability, one measure is the price/income (P/I) ratio (i.e., ability to pay)
- For lenders, a monthly P/I ratio above 25% means limited capacity to repay a loan (but note that poor families often pay up to 50% of monthly income for shelter)
- Median income vs. median price
  - e.g., US Q4 03: median income was $54,000
  - Median house price was $171,600
  - Income required for median house would be $39,000
  - → Median household can afford to pay 38% above the median house price assuming 20% down on a 30 year fixed rate loan at 6%
Success Factors for Long Term Mortgage Financing

- Macroeconomic stability
- Ideally, government debt management that establishes a dependable yield curve of risk-free government rates
- Real estate markets that are minimally functional, with reasonably efficient title registration and transfer
- Lenders that can manage credit and operational risk for 10 to 30 years
- Legal and regulatory environment that allows for contract enforcement, consumer protection
- Stable funding sources for lenders
Benefits to the Economy and Financial Sector

- Construction and financial sector employment
- Efficient real estate development
- Easier labor mobility
- For lenders, savings products, credit management, credit data, operational risk management
- Long term securities for pension funds, mutual funds, insurance companies
- An estimated 46% of jobs created in U.S. 2001-2005 were related to the housing industry
Housing finance components and functions - what has worked and where, regulatory issues
Primary Mortgage Market Elements – Mitigating Credit Risk - Overall

- Origination – Requires data about the borrower and the property – a secured loan is backed by the individual, then the asset
- Critical role of credit information and credit scores for borrowers
  - Information on borrowing and payment history (positive and negative)
  - An indication of the willingness to pay
  - Consistency with privacy/bank secrecy laws can be an issue
  - Mortgages and consumer credits – people will continue to pay their mortgages long after defaulting on consumer credit
  - Informal earners – how to use alternative data, e.g., rental and utility payments to establish ability to pay
- Property Appraisal – independent and conservative
- Servicing – longer term than consumer credit, hands-on for lower income segments (e.g., Mexican sofols, Peru microfinance)
U.S. Subprime Crisis – Failure to Verify Income in a housing boom

- U.S. house prices rose 86% between 1996 and 2006
- Increasing volumes of financing with 80% first lien and piggyback, resulting in combined loan to value ratio (CLTV) frequently between 90 and 100 percent
  - Trade-off between risk and affordability via low down payments
- Lower standards for loan documentation – “no doc” and “low doc” – also known as “liar loans” - but yield spreads of 500bp and more over conforming conventional
  - Lenders are consciously gambling, “If prices keep rising, I can earn my benchmark return in two years.”
- Underwriting for conventional conforming and loans with mortgage default insurance loans remained more strict, these loan types lost market share
  - But when subprime ARM delinquencies rose, other delinquency rates remained relatively stable
U.S. Subprime - Consumer Protection

- It is important that mortgage products suit the capacities of low income households – they lack resources to compensate for errors
  - Especially important in new mortgage markets in developing countries
- U.S. disclosure rules appear inadequate to the complexity of the exotic subprime products offered
  - Even upper income, better educated borrowers often fail to understand the terms of their mortgage loans
- Congress and regulators have been reluctant to restrict mortgage products or impose suitability test for fear of reducing access to finance for low income households
  - But, evidence shows very limited additional homeownership through subprime lending
U.S. Subprime - Investor Loans

- In the U.S., up to 20% of new purchases in some areas in 2005 and 2006 were for investors – not owner occupied
- When prices stop growing, investor loans are among the first to default - now, 16%-30% of recent defaults in formerly hot markets are investor loans
- In China, Russia many middle class investors buy apartments to speculate on price increases
  - Such loans should be evaluated as business loans, with larger down payments than owner-occupied, higher rates of interest, larger cash reserves on the part of the borrower – China just issued such a rule
  - But, generally lack of credit reporting makes it difficult to determine whether property is first or second home
Emerging Markets – Loans Denominated in Foreign Currency

- Inflation has often led to dollarization of savings and price quotations for durable goods and real estate in many countries
  - Latin America in the 1980s and 1990s
  - Transition economies in the 1990s
- Low nominal rates on Dollar or Euro denominated credits can lead consumers to prefer credits in Dollars or Euros (Russia, Mongolia, Peru, Argentina, and others)
- Monetary stability after an inflation can have the perverse effect of encouraging foreign exchange-denominated debt
  - Appreciating local currency and low nominal rates on foreign currency borrowing work the borrower's favor, eg., Poland – Swiss Francs
- But when conditions reverse themselves, borrower mismatch between salary and loan denomination can dramatically increase credit risk – e.g., Argentina
Primary Mortgage Market Elements – Mortgage Default Insurance (MI)

- A specialized form of credit insurance - protects lenders and investors against loss stemming from borrower default
- Distinguishing characteristics: Unique insurance hazard; Longer exposure period; Longer loss cycle; Dominant influence of government/economic policies

- Uses
  - Expand affordability, increase homeownership by lowering downpayment requirement, extending maturity (U.S. in 1930s, Mexico, Kazakhstan, Jordan)
  - Expedite flow of funds from secondary/capital markets
  - Improve market efficiency/credit risk management
  - Upgrade physical housing standards

- MI is not a subsidy, does not directly reduce the cost of homeownership – enables lower down payment, mitigates lender credit risk

Source: Roger Blood
1) Mitigate lender losses when foreclosure process is slow, expensive, uncertain. Examples: Algeria (SGCI), France (Credit-logement), Jordan (JLGC), Slovenia, Mali, West bank Gaza (PMIF). Loan criteria may be more restrictive than that of lenders, coverage includes anticipated forced sale proceeds. Can be expensive, cost may be borne by borrowers or lenders.

2) To mitigate losses for higher risk loans, usually loan to value ratio (LTV) above the norm (norm in most markets is 70% or 80%). LTV serves as indicator of both probability of default and loss given default. Examples include U.S., Canada, Australia, Thailand. Cost borne by borrower.
Some Key MI Regulatory Requirements

- Avoid 100% coverage of credit risk – make sure lenders and investors are exposed to risk, and so play their roles
- Long credit risk cycle requires independent source of capital for mortgage credit risk
  - U.S., Canada, Mexico, have adopted monoline requirement – requires a dedicated company or subsidiary to provide MI
  - Focused management expertise, cyclical nature requires disciplined approach, very long cycle duration requires commitment
- Strong risk-based minimum capital rules, e.g., link to portfolio risk (LTV and other measures Canada, stress tests Australia)
- Contingency reserves, case loss reserves, unearned premium reserves
U.S. Subprime - Reduced Use of MI Helped Weaken Lending Standards

- Low income borrowers with positive equity positions and FHA-insured loans were able to take cash out of properties quickly by refinancing with subprime loans
  - Payment on ARM subprime loan was often kept low with low initial interest rates ("teaser rates")
  - FHA refinance requirements more strict, reputation for slow processing compared to subprime lenders
- As interest rates rise and subprime ARMs reset, many borrowers have defaulted
- At the same time, FHA-insured loans to low and moderate income borrowers have performed better than subprime
Most Subprime Lending For Refinance, Not for Purchase

Source: Inside Mortgage Finance, Center for Responsible Lending
FHA-Insured Loans Outperform Subprime

<table>
<thead>
<tr>
<th>Month</th>
<th>Conventional</th>
<th>FHA</th>
<th>Subprime</th>
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<tbody>
<tr>
<td>Jun-06</td>
<td>0.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Sep-06</td>
<td>0.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Dec-06</td>
<td>0.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Mar-07</td>
<td>0.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Jun-07</td>
<td>0.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: Countrywide Financial
Market Risk Mitigation – Funding Methods - Deposits

- An important component of home finance - about 70% in continental Europe, 50% in the US
- A cheap, stable source of funds but stability not always sure:
  - Currency run
  - Political instability
  - Weak deposit insurance
- Adequate when mortgages are a small part of assets, risk rises with portfolio growth due to term mis-match and liquidity risk between short-term deposits and 20 year mortgages, especially fixed rate mortgages
- Some banks ask for cash balances from borrowers to mitigate liquidity risk, (roughly: installment = 8%-10% mortgage, and = ¼ income → 15% initial balance secured as a stable deposit throughout the life of the loan if no savings)
- In many countries, banks are liquid, low ratio loans/deposits, but do not lend long term, would do if the assets, although long term, were liquid. In U.S., in response, US banks GSE swaps (also regulatory arbitrage). Still the same funding (deposits), but assets = securities instead of loans
Market Risk Mitigation – Funding Methods – Capital Markets

The safety and soundness of long term finance provision requires a linkage to capital markets. Special usefulness in emerging countries:

- Volatile deposit bases
- Absence of hedging instruments (would help fixed rate lending funded by deposits)
- Vital for non-deposit taking institutions (U.S. mortgage banks, Mexican Sofoles)

Access to the capital market enables lending volume to grow beyond the deposit base of the banking system

A condition for the sustainable development of mortgage market
Market Risk Mitigation – Funding Methods – Mortgage Related Securities

- Direct goal: Hedge financial intermediaries' risks
- Indirect impact: Promote primary market discipline
- Requires investor confidence in the primary market (lending standards, efficiency of collateral, quality of recovery)
  
  … sometimes with the help of regulation: special foreclosure procedures for loans refinanced by capital market (Chile, Poland, Argentina), lending quality norms (mortgage bonds)

- Foster capital market development
- Often, institutional savings lacks investment vehicles (low-return, short term or foreign currency investments)
- An archetypical experience: Chile (parallel take off of reactivated mortgage bonds and newly created pension funds after 1980)
Market Risk Mitigation – Funding Methods – Covered Bond

A general obligation bond issued by a bank, backed by the cash flows of a specified portfolio of mortgages

- Allows the bank to match fund its mortgage portfolio
- Lien on the loan portfolio in case of issuer bankruptcy
- Lowers the cost of bond funding - collateral backing can raise the bond rating by two or so notches above the issuing bank’s corporate rating
- Provides an attractive, long term asset for pension funds

Key issues – Ring-fencing and matching

Several national models exist

- Denmark – 200+ year history, fixed rate, 30 year loans, strict rules on allowable assets, matching between assets and liabilities, public registry of bonds and collateral pools
- Germany, European transition economies (Poland, Hungary, Bulgaria, Czech Republic…), UK, Colombia
Covered Bond - Basic Structure

Lender Balance Sheet

Assets
- Mortgages
- Other Assets

Liabilities and Capital
- Mortgage Bonds
- Capital

Bonds Sold to
Pension Funds, Insurance Companies
Sell the portfolio to an independently managed legal entity (i.e., special purpose vehicle or SPV)

- The SPV issues bonds, the issuer usually services the assets in the collateral pool

Not magic, will not spin straw into gold – Securitization does not change any underlying economics, cannot create performing assets out of junk

Allows the transfer of:

- Liquidity risk
- Interest rate risk, in particular prepayment option
- Credit risk potentially, thus relieving lenders from capital constraints

May require legislative changes to achieve “true sale” per International Accounting Standards (IAS) and Basel 2 Accord - Arms-length sale to SPV, no control over assets by seller, no ability for issuer’s creditors to “claw back” the assets in case of issuer bankruptcy
Securitization – Basic Structure

Individual Mortgages

Pooled, Sold to SPV

Credit Allocation

AAA

A? BBB?

Unrated

3rd Party CRM

(Also vertical slicing for maturity)

Sold to Pension Funds, Insurance Companies

Retained by Issuer

The World Bank
Market Risk Mitigation –
Covered Bonds vs. Securitization

Although mortgage bonds and mortgage backed securities share the same general philosophy, they do not address exactly the same issues and are not equally appropriate in all situations:

- Outright vs. contingent transfer of credit risk
- Transfer of financial risk to capital market versus A/L management by financial intermediaries
- Standardized loans vs. standardized securities
- [A simplified view. The real world is more complex: pass-through mortgage bonds Danish style, securitization conduits, etc…]
Market Risk Mitigation – Covered Bonds vs. Securitization

MBS is most suited to:

- Large countries or zones where geographical credit risk diversification is possible (e.g., India, Mexico)
- Lenders whose size, specialization, or history hamper their capacity to manage financial risks
- Lenders with scarce capital base or insufficient rating

Issues:

- Expensive, at least initially (agency risk, illiquidity premium, credit enhancement based on worst case scenarios), but cost to be balanced with benefits (rating upgrade, economy of capital, transfer of risks)
- Needs a long maturation period (data series for valuation, availability of credit risk buyers - insurers, high-yield investors)
- Securitization in emerging countries tends to start with ABS rather than MBS, contrary to the historical path in developed economies
Market Risk Mitigation –
Covered Bonds vs. Securitization

Mortgage bonds are most suited to:

- Lenders of fairly good standing (rating enhancement: 1 to 3 notches, < securitization)
- Lenders with nationwide networks (credit risk diversification)
- Market liquidity enhancement

Cheaper than MBS, - simple, often more liquid, regulation vs. expensive risk cushions
  - No deterioration of the portfolio average quality

Main challenge: the handling of prepayment risk

- If callable bonds are accepted: possible inefficiencies (valuation of the financial option disconnected from the actual prepayment rates)
- If prepayment risk kept by the lender: more fit to diversified financial institutions (capable of internal hedging) than to specialized institutions (# origin in developed economies)
Unbundling, Securitization, and Incentives

- U.S. mortgage market - separate entities manage the business operations that a single commercial bank traditionally manages
  - Mortgage origination, servicing, and funding are often performed by separate companies that earn fees for their services

- Lending for portfolio
  - Portfolio lenders originate loans and keep them on balance sheet, funded by deposits. The credit risk on balance sheet is a strong incentive to originate carefully.

- Mortgage bankers and mortgage brokers originate loans, and then sell them
  - Many mortgage bankers sell the loan, but keep the servicing – the value of the servicing rights is an incentive to originate carefully
  - Brokers always sell the loans “servicing released” – the loan and the servicing go somewhere else, and the broker keeps an origination fee
  - Reputation and contractual requirements such as repurchase in case of “early payment default” are the only incentives for the broker to originate carefully
U.S. Subprime Rating Agency and Investor Shortcomings

- Many investors depend excessively on bond ratings
  - Invest in ratings instead of in bonds and industries – Emerging markets are “AAA” markets - often can’t sell anything less
  - A bond rating should not be the sole criteria for purchase, investors need to understand structures, issuers, and their markets

- Ratings have been procyclical
  - Downgrades in quantity in 2007 of deals originated in 2006 and 2005, when house prices began to turn down
  - Why didn’t original ratings take loan quality, house price downturns, and interest rate increases into account?

- Standards for disclosure of methodology are important
  - Europe explored regulations two years ago, is again taking the issue up

- Many emerging markets have one agency or none at all

- As bond markets develop and countries adopt Basel 2, they will have to pay more attention to the role and capacity of rating agencies
Mitigating Market Risk –
Liquidity Facilities

- Centralized refinancing institutions that pool the funding requirements of lenders and issue bonds
- Examples: Malaysia (Cagamas Berhad), Jordan (JMRC), Algeria (SRH), USA (FHLB system)
- Lend (with overcollateralization), or buy with recourse: bring long term liquidity, do not take over credit risks
- Typically owned by their users, sometimes with government/Central Bank participation or support (USA)
- Specialized, low cost intermediaries
- Frequently catalyst effect on the primary market
- Drawback: an additional layer of intermediation
Liquidity Facilities – Regulatory Issues

- Government liquidity facilities must be regulated the same way that any private sector financial institution is
  - Risk based capital regulations, regular examinations, public financial reporting rules, internal controls, etc.
- Liquidity facility pricing should be at market – e.g., Federal Home Loan Banks, Cagamas
- Make sure collateral is high quality, appropriately documented – examine both liquidity facility and client institution portfolios regularly
Conclusion

- Housing finance has been an important element of economic growth, financial sector development, safe bank lending in many countries for many years.
- Housing finance is growing in emerging markets, and should be encouraged.
- A variety of financial products (MI, securitization, covered bonds) have been successfully used in both developed and emerging markets to mitigate risk and provide funding for growing mortgage markets.
- The sub-prime crisis in the U.S. illustrates some of the complexities and challenges that can affect the largest and most well-developed markets.
Buckley, Robert M. and Kalarickal, Jerry, Housing Policy in Developing Countries, Conjectures and Refutations, The World Bank Research Observer, Volume 20, Number 2, Fall 2005