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FINANCIAL SECTOR ASSESSMENT PROGRAM
DEVELOPMENT MODULE

MONGOLIA

HOUSING FINANCE

TECHNICAL NOTE

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GLOSSARY

Aimag	Province (there are 21 *aimags* in Mongolia)
ALM	Asset-liability management
APR	Annual percentage rate
ARM	Adjustable-rate mortgage
ATM	Automatic teller machine
BOM	Bank of Mongolia (central bank)
CAR	Capital Adequacy Ratio
CIB	Credit Information Bureau
CSD	Central Securities Depository
DTI ratio	Debt-to-income ratio
EAP	East Asia and Pacific region
ETT	Erdenes Tavan Tolgoi (mine project)
FRC	Financial Regulatory Commission
FRM	Fixed-rate mortgage
FSAP	Financial Sector Assessment Program
GDP	Gross domestic product
Ger districts	Urban plots without utility services on the outskirts of Mongolia's cities
GoM	Government of Mongolia
HF	Housing finance
HOA	Homeowners' Association
HPA	Housing price appreciation
ICT	Information communication technology
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IPCCN	Interbank Payment Card Centralized Network
IPO	Initial public offering
IT	Information technology
KYC	Know your customer
LSEG	London Stock Exchange Group
LTV ratio	Loan-to-value ratio
MDF	Microfinance Development Fund
MHFC	Mongolian Housing Finance Corporation
MICPA	Mongolian Institute of Chartered Public Accountants
MIK	Mongolian Mortgage Corporation
MMLF	Mortgage market liquidity facility
MNT	Mongolian Tughrik
MOF	Ministry of Finance
MOJ	Ministry of Justice
MOU	Memorandum of understanding

MSE	Mongolian Stock Exchange
MSME	Micro, small and medium enterprise
NPC	National Payment Council
NSO	National Statistical Office of Mongolia
NBFI	Nonbank financial institution
NPL	Nonperforming loans
OT	Oyu Tolgoi (mine project)
OTC	Over-the-counter
POS	Point-of-sale
POB	Point-of-banking
PPP	Public-private partnership
REE	Residential energy efficiency
REIT	Real estate investment trust
RMBS	Residential mortgage-backed securities
ROSC	Report on Observance of Standards and Codes
SCC	Savings and credit cooperative
SCH	Securities Clearinghouse
SIPR	State Immovable Property Registry
SME	Small and medium enterprise
SML	Securities Market Law
Soum	Village (there are 360 *soums* in Mongolia)
SPC	State Property Committee
SSHF	Small-scale housing finance
T+3	3 days after trade date
TA	Technical assistance
US$	United States Dollar
WB	World Bank
Yoy	Year-on-year

Exchange Rate (as of February 2, 2012)
MNT 1 = US$ 0.000735294
US$ 1 = MNT 1360

Contents

PREFACE

This technical note on Housing Finance complements the FSAP Developmental Module Aide Memoire and delves in greater depth into some of the technical aspects of the Mongolian mortgage market[1].

This note is based on the work of the World Bank Financial Sector Assessment Program (FSAP) Development Module team that visited Ulaanbaatar from January 23-February 4, 2012. The FSAP team's remit with regards to housing finance was to review the current state of the mortgage sector with a view to identify opportunities for further sustainable development. Furthermore, the main focus of the technical note is on residential mortgage lending, and not on other housing finance mechanisms, such as construction lending.

The team held discussions with Bank of Mongolia, Ministry of Finance, Financial Regulatory Commission, Ministry of Agriculture, Food and Light Industry, Ministry of Construction and Urban Development, Mongolian Stock Exchange, Information Communication Technology Authority, SME Authority, other government agencies, banks, non-bank financial institutions, and other market participants.

The team would like to express its gratitude to all these counterparts for their availability and excellent cooperation. Staff of the resident representative office of the World Bank provided valuable support to the work of the FSAP.

[1] This technical note was prepared by Andrey Milyutin, Senior Housing Finance Specialist, Financial and Private Sector Development, the World Bank. Valuable commentary was received from Sonja Brajovic-Bratanovic, Alex Pankov, Ira Peppercorn and Simon Walley (all World Bank).

I. Executive Summary

As the Mongolian mortgage market grows rapidly, and the GoM pursues an ambitious social housing agenda, there is an urgent need for a holistic sector approach. The following three key areas require attention from policymakers:

a. First, there is a need to better balance housing supply and demand, which requires the authorities to focus on prudent mortgage lending standards and supervision, as well as on provision of housing infrastructure and zoned land.

b. Second, it will be important to ensure effective implementation of ongoing and planned public housing finance programs, with a focus on preventing mortgage market distortions in pricing, emphasizing robust planning and rigorous transparency and governance.

c. Third, authorities should aim for better balance in the composition of mortgage funding, with a focus on improvement in the legal and regulatory framework for capital markets, as well as MIK governance, products and operations.

The Mongolian mortgage market is exhibiting strong growth, with portfolio outstanding increasing by 190 percent to MNT 656 billion (US$482 million) between 2009 and end-2011. This represents 8 percent of 2010 GDP and 12 percent of the 2011 banking loan book. The sector is highly concentrated, with top 4 lenders accounting for 89 percent of the market, as well as spatially in and around Ulaanbaatar. Housing prices have risen sharply in the last two years, particularly in 2011, when the increase for the predominantly mortgaged market segment was over 36 percent. While mortgage lending growth rates are consistent with the overall growth of household credit, real estate prices significantly outpaced CPI and GDP growth in 2011. Currently non-performing loans (NPL) are very low due to the unseasoned mortgage portfolio; however, high debt-to-income (DTI) ratio levels may exacerbate future loan age-related and cyclical delinquency increases.

Due in part to extreme climatic constraints, shortage of zoned and serviced land, and infrastructure bottlenecks, housing supply is severely constrained. To avoid overheating of the real estate market and keep lending in balance with housing supply, banks and regulatory authorities are advised to adopt a conservative approach to mortgage lending, that is, one that seeks to proactively and counter-cyclically influence the supply of mortgage credit. In addition to significant increase in land and other housing infrastructure, property modernization initiatives, including those for energy efficient purposes should be pursued to improve the quality and supply of housing, thereby improving collateral values. Further expansion of small-scale housing finance (SSHF) products should increase availability of housing solutions to the lower-income population.

Large-scale, publicly-funded, subsidized housing initiatives, such as the "100,000 Apartments" Program, need to be carefully planned, so that they cause minimal distortion to the broader housing finance market. It is important that the GoM conducts extensive strategic planning for program design and implementation that will address such critical success factors as the scheme's governance and transparency, availability of infrastructure, household eligibility criteria, and yearly volumes relative to the overall market. Currently, Mongolian Housing Finance Corporation (MHFC) seems to target similar borrowers as commercial lenders which, coupled with significant volumes of business, may already distort the market. Furthermore, MHFC is engaging in construction and mortgage finance simultaneously, which is contrary to key principles of appropriate subsidized housing activities.

Absence of long-term funding is a challenge for further market development; the Mongolian Mortgage Corporation (MIK) does not fulfill its mandate of a mortgage market liquidity facility and requires significant strengthening. The authorities and the banking sector stakeholders are advised to critically review MIK operations with a goal to update its business model, corporate governance, and product features in line with international good practice.

The majority of recommendations from the 2007 FSAP Housing Finance Technical Note remain relevant, as implementation has been limited.[2] Progress was made in establishing a real estate price index under the National Statistical Office of Mongolia, adopting elements of the housing legislative framework and strengthening the State Immoveable Property Registry (SIPR). However, further improvements are required in such areas as property valuation, capital market funding, borrower financing of unfinished construction, registering of the property and mortgage rights transfer, mortgage loan liquidity, and judicial foreclosure process.

[2] Please see Annex 1 for key recommendations from the 2007 FSAP Housing Finance Technical Note and the status of their implementation.

II. KEY RECOMMENDATIONS[3]

Issues	Recommendation	Urgency
Emerging misbalance in housing demand and mortgage lending; rapid real estate price growth in 2011; constrained housing infrastructure	Improve real estate price index, and implement its utilization for mortgage lenders' prudential supervision.	Short Term
	Implement prudential counter-cyclical measures to proactively balance the supply of housing finance in relation to availability of housing and to loan origination growth rates and quality.	Short Term
	Facilitate small-scale housing finance and building-level home improvement lending , particularly energy-efficient modernization of pre-2000 stock, in part by strengthening legal and regulatory framework for homeowners associations (HOA).	Short Term
	Improve consumer disclosure rules, standards for real property appraisals, and supervision of real estate agent industry.	Short Term
	Enhance the capacity and efficiency of State Immoveable Property Registry operations. Consolidate and automate registration of property rights for land, buildings and pledges.	Short to Medium Term
	Reduce risks of developer finance by strengthening contractual framework and developing financial vehicles for construction finance.	Medium Term
	Support the increase of residential construction volume by focusing on provision of power and utility infrastructure.	Medium Term
Large-scale, subsidized housing program envisioned by GoM needs clear design and implementation mechanism to avoid distortions to housing finance market	Adopt a clear strategy for program design and implementation, considering, inter alia, infrastructure and construction, governance, transparency of execution, funding, household eligibility criteria, independent monitoring and evaluation mechanism;	Short Term
	Estimate and forecast fiscal costs of the program, including administration, entity establishment, capitalization, real estate, land, construction, materiel price growth, infrastructure, demographic patterns, etc.	Short Term
	Apply strict, measureable and transparent eligibility criteria for end-beneficiaries—that is, the borrower households and properties to be financed—which are easy to enforce, and supervise compliance.	Medium Term
	Consider appropriate and sustainable design of the subsidy mechanism to match the needs of the target market segment. Down-payment and demand-side subsidies are typically preferred.	Short Term

[3] It is worth noting that the above recommendations are broadly presented in the order of their relevance and suggested implementation priority, i.e. the lack of *supply of housing* is a more acute and urgent challenge for further sustainable market development than the *supply of mortgage finance*.

	Yearly program allocations—components of a multiyear strategic plan—should be publicly forecast and correlate with available funding, and they should remain a small share of the overall housing finance market.	Long Term
	Strict procurement and project monitoring policies and procedures should be put in place to ensure transparent bidding and selection process for developer and construction companies.	Long Term
	Due to significant differences in risks and business models related to residential construction and mortgage lending, these functions should not be covered by single entity.	Medium Term
Financial system lacks diversified, long-term sources for mortgage funding	Adopt laws on securitization and mortgage-covered bonds, and enact relevant regulations.	Medium Term
	Enhance MIK corporate governance to the level of current international practices to provide a level playing field for all shareholders.	Medium Term
	Evaluate and simplify MIK loan purchase products with the overall goal of maximizing lender capital and liquidity benefits.	Medium Term
	Provide regulatory preferences to MIK debt instruments, such as capital charge and BOM repo regime equal to that of sovereign bonds, etc. This should be done subject to strengthened corporate governance and operations.	Medium Term
	Provide a defined amount and term of sovereign guarantees on MIK debt with a clear sunset provision under a complex amendment regime. Seek arrangements with international developmental institutions to provide partial credit guarantees on MIK debt.	Medium Term

III. Overview of the Housing Finance Market

1. **Mongolian mortgage lending is exhibiting strong growth.** The portfolio outstanding increased 190 percent to MNT 656 billion (US$482 million) between 2009 and end-2011. This represents 8 percent of 2010 GDP of MNT 8,255 billion and 12 percent of the 2011 banking sector loan book of MNT 5,439 billion. The sector is highly concentrated, with the top 4 lenders[4] accounting for 89 percent of the market. Most lending is concentrated in and around Ulaanbaatar. 2011 origination volume was MNT 267 billion. Figure 1 illustrates the relative ranking of Mongolia compared to regional comparator countries in terms of mortgage debt-to-GDP ratio. Figure 2 shows both origination volume and portfolio outstanding dynamics between 2008 and 2011. Note the decline in originations in 2009.

Figure 1. Mortgage Debt Outstanding to GDP ratio: Mongolia and select comparator countries

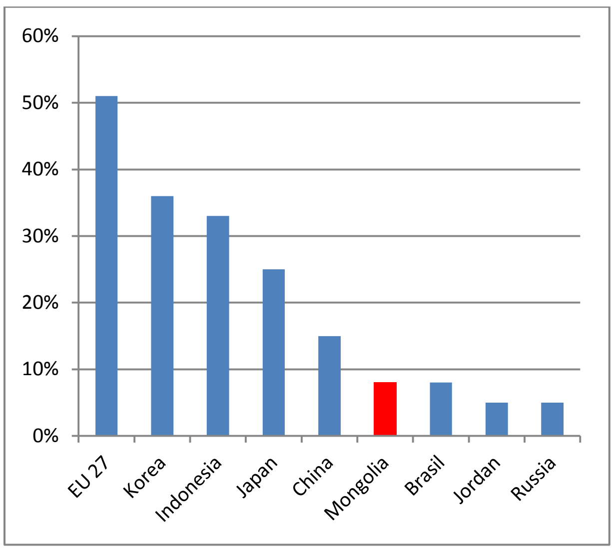
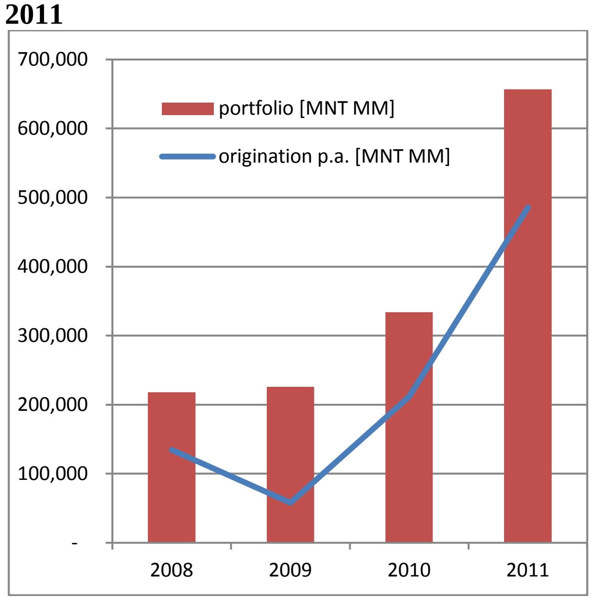


Figure 2. Mongolia mortgage portfolio outstanding and origination dynamics 2008-2011



Sources: Hofinet, World Bank, BOM, latest available data

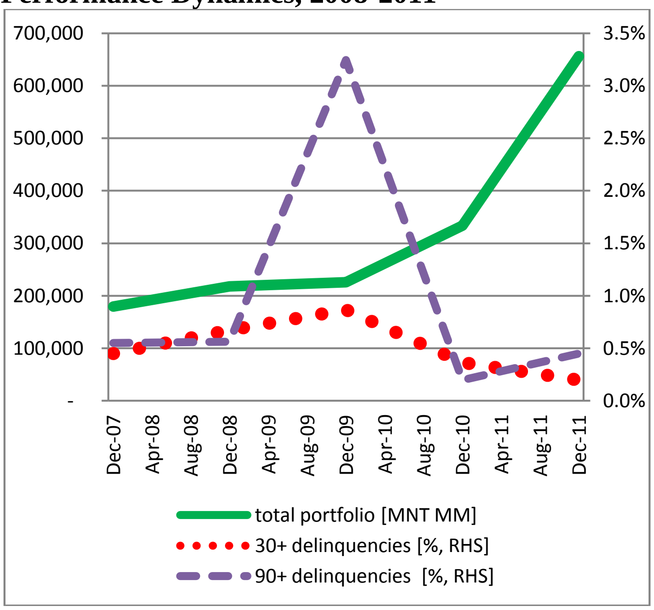
2. **The prevailing mortgage loan products are relatively prudent, except for a very high DTI ratio.** The average mortgage loan amount for 2011 originations was MNT 32 million (US$24,000), and the average loan-to-value (LTV) ratio is 70 percent. Since 2009, 93 percent of mortgage lending has been in local currency, while during 2008-2009 it was 70 percent. According to major lenders, fixed-rate mortgage (FRM) and lender-discretionary adjustable-rate mortgage (ARM) products are evenly split. The net-of-tax payment-to-income (PTI) ratio is 50-70 percent, which is very high compared to international best practices and may indicate low mortgage affordability in the backdrop of rapidly rising real estate prices. Furthermore, such high DTI rates suggest increased credit risk pressure on borrowers during future negative cyclical or ad hoc events. Prevailing interest rates for a 10-15 year mortgage are 15 percent per annum. Full or partial prepayments are penalty-free and common.

[4] Khan Bank (35 percent of 2011 national portfolio outstanding), Golomt Bank (29 percent), Xac Bank (15 percent), and TDB Bank (10 percent).

3. **Housing prices have risen sharply in the last two years, particularly in 2011**, **when house price appreciation (HPA) for typically mortgaged apartments was 36.7 percent.** Housing stock in Ulaanbaatar is comprised of semi-formal *ger* (or *yurt*) districts, where 45 percent of the city population lives, and formal housing consisting primarily of older block houses. The *ger* districts are populated by *yurts*, as well as adjacent small private houses built on the same plots of land. The real estate community groups the formal housing stock in Ulaanbaatar into three categories according to year of construction: (1) pre-2000 buildings, (2) 2000-2009 buildings, and (3) buildings less than 3-years old, which carry developer warrantees. Typical mortgaged apartments range from studios to 2-bedroom units[5] located in newly constructed and existing buildings constructed after 1985.[6]

4. **GoM pursues an ambitious social housing agenda to address the demand for housing from a rapidly growing UB population.** During 2007-2011 the volume of mortgage lending and construction finance in the context of four programs—"40,000 units", "100,000 units", "4,000 units" and "Housing for Veterans" — accounted for 25 percent and 30 percent of total national loan origination and unit construction, respectively. The main implementing institution for these taxpayer-funded initiatives is the Mongolian Housing Finance Corporation (MHFC), which provides for both mortgage loans on subsidized terms and conditions, as well as for developer and construction finance. A key target for these initiatives has been the *ger*-dwelling population in UB. This group in particular poses a significant social and environmental challenge, as coal heating during winter contributes materially to air pollution.

Figure 3. Mortgage Portfolio Outstanding and Performance Dynamics, 2008-2011



Source: BOM

5. **Funding and institutional capacity constrain growth of small-scale housing finance and micro-mortgages**. Banks report that about 1 percent of their loan books are allocated to home improvement or similar loans. Some NBFIs deliver innovative SSHF products that combine funds with technical advice and phased loan utilization supervision. Micro-mortgage loans of up to MNT 27 million (US$20,000) have terms up to 3 years at rates of 3 percent per month (42.5 percent per annum, or three times higher than mortgages) and are collateralized by real estate. SSHF loans for renovation are reported to have similar terms and pricing, and their average size is MNT 5.4 million (US$4000). NBFIs report that lack of funding and ALM constraints are the main impediments to further growth. There have been a number of recent initiatives by international financial institutions aimed at strengthening the

[5] A typical apartment with total area of 30-50 m^2 priced MNT 1-1.5 million (US$735-1,100) per m^2 at end-2011.

[6] Central Bank regulations prohibit extending mortgage loans for homes constructed prior to 1985.

SSHF sector. For example, the 2010 IFC Housing Microfinance Project delivered a Toolkit and training to NBFIs.

6. **Portfolio performance has significantly improved since the last banking crisis, although quality of servicing for new loans remains untested**. Over 74 percent of the current bank mortgage loan portfolio was originated in 2011. Both 30+ and 90+ days-delinquency categories have been declining since late 2009, the year that seemed to be the peak of sector performance problems. The recent trend of 90+ days-NPLs exceeding 30+ days-NPLs may indicate that special loan servicing is not functioning efficiently. High growth rates of the outstanding loan portfolio (48 percent yoy in 2010 and 97 percent yoy in 2011, so that 74 percent of current portfolio outstanding was originated in 2011) also disguise potential portfolio performance issues, especially in the context of very high prevailing DTI.

7. **Banks' capacity to deliver housing finance is restricted by a shortage of term funding**. BOM reports that term deposits and particularly bank capital together fund 98 percent of mortgage originations, and this funding structure raises issues of asset-liability term mismatch and liquidity risk. Since banks are not allowed by Capital Markets Law to issue debentures, and other capital market access mechanisms are undeveloped, there is also competition for government-guaranteed retail deposits, resulting in yields of up to 15 percent on a 12-month term deposit. In 2010 and 2011 Mongolian Mortgage Company, a private mortgage intermediary, remained an insignificant market participant, having refinanced about 2 percent of originations worth MNT 5.4 billion. MIK seems to be constrained by funding, business model and product inefficiencies, as well as lack of competitive capital market instruments in comparison to deposits.

8. **The real estate brokerage and appraisal sectors lack proper supervision and capacity**. Although real estate appraisers are being licensed, the real estate agents are not, and this raises the question of responsible service to housing buyers and sellers. Additionally, the existence of two competing real estate agent associations is inefficient given the small market size, and it prevents standardization of practices and establishment of a single listing of properties for sale.

9. **The majority of recommendations from the 2007 FSAP Housing Finance Technical Note remain relevant.** Progress has been made in establishing a real estate price index under the National Statistical Office of Mongolia and adopting elements of the housing finance legislative framework.

IV. BALANCING HOUSING SUPPLY AND DEMAND

10. **After a short slump in the 2008-2009 banking crisis, the Mongolian housing finance market has grown rapidly.** In 2011, the national portfolio outstanding doubled, with increase in origination accompanied by a spike in the real estate prices in the segments of the market that are mostly served by mortgage finance. The worsening imbalance between availability of houses for sale and mortgage finance[7] should be considered in the context of institutional and systemic risks arising out of a potential real estate market overheating. This is particularly relevant in Mongolia, where climatic conditions preclude construction during six winter months. The long winter naturally extends the construction cycle and thus the lag between perceived demand and completed supply for housing.

Figure 4. Mortgage Origination, Housing Construction and HPA Dynamic, 2008-2011

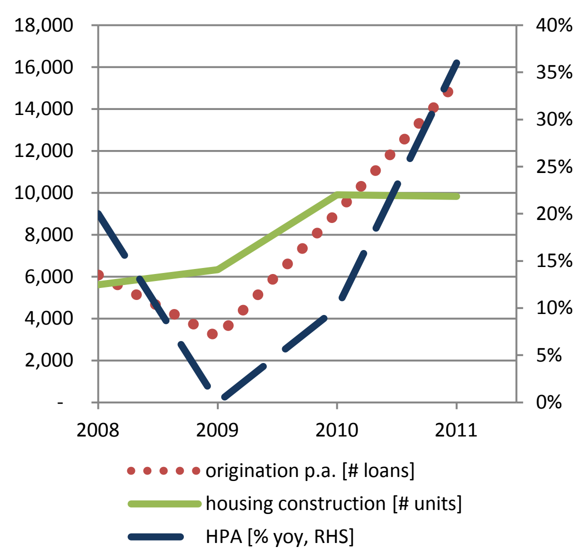
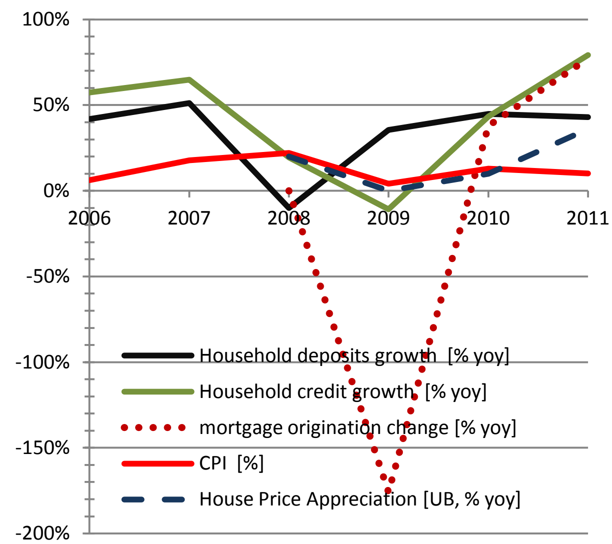


Figure 5. Mortgage Origination and Select Consumer Credit Indicator Dynamics 2006-2011



Sources: BOM, Ministry of Construction, Tenhleg Zuuch Real Estate Agency

11. **The mortgage origination rate has followed overall household credit growth, except for a significant decline in the aftermath of the financial crisis in 2009.** Of particular interest is the unfolding situation of divergent real estate price growth and CPI, as during the last several years those curves were aligned very closely. The behavior of mortgage debt in relation to household deposits, particularly in the context of very high DTI ratios, may illustrate increasing consumer indebtedness. Mortgage lending accounts for about 30 percent of all housing transactions, and up to 50 percent of purchases of newly constructed apartments. This suggests that mortgage credit availability plays a significant role in real estate purchases and thus has an effect on pricing. The same effect is illustrated by the curve behavior in 2011, the year with significant volumes of mortgage lending. Given that the existing middle- and lower-market segment housing

[7] It is reported that lenders currently have 22,000 approved mortgage applications in Ulaanbaatar, while there are only 20,000 units for sale.

stock is UB is relatively old, the price hike seen in 2011 in those segments (where mortgage lending is concentrated) is particularly worrisome. The price hike further supports the view that a misbalance in housing finance supply and housing stock may be pushing real estate prices up.

12. **Critical housing infrastructure of power and heating has reached maximum capacity.** The fifth power plant for Ulaanbaatar is not yet complete, and connections to the central heating grid are scarce. This suggests that increasing construction supply may be difficult and involve more than increasing imports of materiel and labor.[8] Market participants report scarce supply of power, as well as other essential housing utilities, such as heat, water, and sewage for new construction in Ulaanbaatar. Mongolian climatic conditions and the substantial share of older housing stock suggest that measures to modernize buildings (including energy-efficient ones) are urgently needed. Such improvements are important for household comfort and also strengthen mortgage collateral values and reduce stress on the utility and power grid.[9]

13. **The rapid growth of housing prices, combined with the public sector exposure to housing finance, require close monitoring of the sector.** Due to the importance of housing for job creation and industrial output, along with its impact on households' leverage and banks' balance sheets, close monitoring of the mortgage sector is warranted. In this regard, the experience of other central banks on the development of timely and comprehensive housing price data is worth consideration. The regulator should examine various data regarding housing price fluctuations:[10]

a. Availability of current, accurate, complete and stratified HPA information overlayed with real estate purchase and sale transaction information of similar fidelity and characteristics. This is a necessary but not sufficient requirement to addressing the issue.

b. Level of mortgage finance penetration in terms of overall real estate transaction volume, spatial distribution of mortgage finance, and distribution by property type. Such information would inform the selection of appropriate regulatory instruments to address the issue.

c. Detailed profile of the real estate investor by source of funds, spatial and property preferences, etc. This would further refine guidance on the selection of appropriate regulatory instrument in addressing the issue.

14. **There are broadly three groups of tools in the arsenal of the authorities to deal with the issue, if data support the view that real estate market is overheating**.

[8] Several renewable power projects were reported to be in the design stage, including a wind turbine park 80 km from Ulaanbaatar, and a large solar-powered residential development 20 km from the city.

[9] There was only 1 residential energy efficiency project financed and delivered by GTZ with sophisticated building-envelope measures in utility and power conservation and generation (roof photovoltaic panels). Two houses were modernized.

[10] See Annex 2 for select examples of policy responses to real estate market bubbles globally.

a. *Administrative tightening*. This tool is applied in cases when a particular transaction profile is determined to be contributing to "speculative" housing transactions. Examples include restrictions for foreign buyers, purchases for cash, multiple apartments per person, etc.

b. *Regulatory*. This tool is applied in case mortgage lending is determined to play a significant role in "speculative" housing transactions. Examples include increased capital charge for particular property type or location, increased LTV and PTI requirements, loan portfolio allocation requirements, etc.

c. *Fiscal and Monetary*. This tool seeks to decrease the frequency of real estate transactions. Examples include punitive taxation for realized gains from real estate, linking taxation with property holding period or to number of properties per owner.

Table 1. Policy Options to Deal with Real Estate Boom[11]

Measure Type	Measures	Potential impact	Potential Side Effects	Practical Issues
Monetary	Interest rates, reserve requirements	Potential to prevent booms, less so to stop one already in progress	Inflicts damage to economic activity and welfare	Identifying 'doomed' booms and reacting in time; Constraints imposed by monetary regime
Fiscal	Transaction / capital gains taxes linked to real estate cycles Property taxes charged on market value Abolition of mortgage interest deductibility	Automatically dampens the boom phase (Could) limit HPA and volatility Reduces incentives for household leverage and HPA	Impairs already-slow price discovery process	Incentive to avoid by misreporting, barter, folding the tax into the mortgage amount Little room for cyclical implementation
Regulatory	Higher risk weights and dynamic provisioning on mortgage loans Limits on mortgage credit growth Limits on exposure to real estate sector Limits on loan-to-value and debt-to-income ratios	Increases cost of real estate borrowing while building buffer to cope with the downturn (Could) limit household leverage and HPA (Could) limit leverage and HPA as well as sensitivity of banks to certain shocks (Could) limit household leverage and HPA while decreasing probability of default	Costs associated with potential credit rationing Loss of benefits from financial deepening Lender earnings management Costs associated with limiting benefits from specialization	May get too complicated to enforce, especially in a cyclical context; effectiveness also limited when capital ratios are already high Data requirements and calibration Shifts lending to newcomers for whom exposure limits do not yet bind or outside the regulatory periphery
Source: IMF				

[11] Please see Annex 2 for further detailed information on policy options to try to prevent real estate bubbles.

15. **GoM is advised to adopt an approach to the housing sector that balances supply and demand.** Firstly, GoM and particularly BOM should significantly enhance their understanding of the real estate price dynamics and its drivers. Thus, the existing real estate index should be enhanced with spatial and property-type stratification and be utilized to closely monitor lenders' portfolios as well as the market overall. Furthermore, the nature of the prevailing sale and purchase transactions should be understood by the authorities (for example, examining whether there is a significant share of investment purchases). It is important to extend the market awareness and thus appropriate policy measures beyond mortgage finance as such, although a large share of credit-based transactions suggests a particular focus on enforcement of prudent lending practices. Armed with full and accurate information, BOM would be in a position to monitor lenders' portfolios for signs of price hikes, LTV fluctuations and market segment concentrations which may distort the overall market. BOM would then be able to calibrate prudential requirements, such as capital charges, loan-loss provisions, and portfolio composition structure, in order to proactively discourage concentrated or aggressive lending.

16. **On the supply side, GoM is advised to support the increase of volume of residential construction by focusing on provision of power and utility infrastructure.** These may be designed and executed in a PPP model with private capital, where developers receive support and possibly certain preferences in consideration for committing capital. Some examples of such preferences include: expedited zoning and utility connection procedures, fiscal preferences in case of low-income housing construction, loan guarantee schemes, and contribution of land to the PPP projects. Of particular importance are the large-scale infrastructure projects which typically strain private capital resources in volume, duration, and rates of return.

17. **Additionally on the supply side**, **GoM may wish to take measures to reduce the risks of non-bank developer finance.** This is important, because risk of non-completion, operational risks and legal risks inherent to the weakly-regulated developer and construction sector cannot be properly assessed by borrowers. Specifically, developers should be encouraged to reduce reliance on retail financing (often borrower financing) of unfinished construction in favor of bank-provided project finance funding. Such initiatives may require a legal and regulatory approach, involving both prudential regulation of bank lending and establishment of a modern borrower-developer contractual framework. Specific measures include statutory standardization of project finance policies and procedures for residential construction finance, legal initiatives on specialized investment vehicles (typically investment fund equity structures), and establishment of a legal framework for retail financing of unfinished construction, possibly in a separate law. Such measures should reduce instances of fraudulent sales of unfinished apartment, limit the impact of developer/construction company insolvency, and facilitate improved construction quality and consumer protection.

18. **GoM may also consider facilitating lending for energy-efficient residential property maintenance and modernization purposes.** Given the harsh Mongolian climate and the large share of aging housing stock, such projects would achieve several objectives, including (i) increasing property values, (ii) extending building life expectancy, (iii) offering an alternative housing finance product to borrowers, (iiii) reducing public sector exposure to ongoing and capital building maintenance, and, importantly, (v) improving energy efficiency of the residential sector, which should reduce the strain on the ageing central power and heating grid, as well as reduce household maintenance and utility expenditures. Specific measures in this context would include

strengthening the legal and regulatory framework for homeowners associations (HOA), in particular in their access to finance.[12] BOM should also consider adopting favorable banking regulation and prudential requirements for uncollateralized lending typically used for HOA finance. Another form of such projects is a variation of SSHF, where a household (as opposed to the HOA) takes out a smaller and shorter-term loan to improve certain energy consumption aspects of the dwelling. Such projects are particularly appropriate for the *ger* and other stand-alone residences, where the impact of energy efficient measures on comfort and savings is the greatest.

19. **In addition, in order to provide a foundation for sustainable mortgage market development, the capacity, quality and efficiency of operations of the State Immoveable Property Registry should be enhanced.** Specific issues to be addressed include (i) integration of the land and building records, which are physically separated in paper-based books; (ii) review of existing SIPR legal, regulatory and supervisory framework to ensure full coverage and consistency; (iii) improvements in SIPR technical and institutional capacity to include full automation for all regional offices, improvements in IT capacity and interconnectivity, and a staff training program.

[12] World Bank Group has extensive regional experience in this matter from past and ongoing work in Hungary, Serbia, Ukraine, Russia, and China.

V. Strengthening Publicly-Funded Housing Programs

20. **Publicly-funded social housing initiatives have accounted for a large share of overall housing construction and lending in recent years.** Mongolian Housing Finance Corporation was established in 2006 (owned by MOF, City of Ulaanbaatar and Ministry of Construction and Urban Development) and is being used as the main implementing vehicle for such programs. MHFC provides subsidized mortgage lending terms, as well as developer finance for housing construction. In the framework of 2007-2011 "40,000 Units", "4,200 Units", and "Housing for Veterans" Programs, GoM provided funding via MHFC for 10,115 mortgage loans at subsidized rates and for construction of 8,900 apartments. This represents 25 percent and 30 percent of total loan origination and unit construction, respectively, during that period. By late 2011, MHFC accumulated over 25 percent of the total outstanding mortgage loan portfolio.

21. **MHFC product design requires modifications and alignment with target market segments.** Specifically, it appears that the borrowers of commercial mortgage lenders and of MHFC are very similar, as evidenced by the nearly equal average loan amounts. Additionally, interest subsidy, while lowering borrower debt service requirements, effectively precludes refinancing of such loans, including by capital market channel. It appears that both MHFC and the commercial lenders serve the same market segment.

Table 2. Selected Mortgage Product Data, Commercial Lenders and MHFC

Selected data	Commercial mortgage lenders	MHFC
Interest rate level	15 percent	6-11 percent
Interest rate structure	50 percent FRM/ 50 percent ARM	FRM
Loan term	10-15 years	15-20 years
Mortgage Loan LTV	70 percent	75-90 percent
Average Loan amount	MNT 50 million (US$37,000)	MNT 40 million (US$29,000)
Eligible property	New and built after 1985	Only new
2011 Mortgage portfolio	MNT 656 billion (US$482 million)	MNT 180 billion (US$132 million)
Source: BOM *and MHFC*		

22. **While subsidized housing initiatives are common globally, such programs carry significant risks.** The Mongolian housing market presents specific challenges due to its rather small size and severe infrastructure constraints. In this context, risks of misaligned or improperly implemented subsidized housing initiatives include:

a. Potential market distortion as private lenders are forced to compete with subsidized loans carrying below-market interest rates, particularly in cases where borrower selection and eligibility framework is weak or broad;

b. Institutional and implementation inefficiencies, as supervision, reporting, transparency, and governance of state-owned enterprises may be weak;

c. Crowding out of private capital from both lending and construction sectors by relatively large and weakly monitored volumes of subsidized mortgage and construction loans.

23. **While mitigating measures for the above risks vary from country to country, examples of socially oriented, subsidized housing programs have certain core principles.** The notion of housing affordability and that of a balanced market[13] are important in planning for the size of the program and in monitoring the progress. As the demand for affordable housing generally outstrips the supply of low-cost housing options, it is important to balance the subsidized funds in terms of directing them towards construction and infrastructure. Subsidies for loan downpayment are preferred over those for the interest rate. Appropriate borrower eligibility criteria should be considered against the population composition and available fiscal resources. Particular care should be taken to avoid perception of corruption and misallocation of subsidies, in part by ex-ante program volume calculations and maintenance of public list of eligible borrowers. Underwriting and servicing should be done by commercial lenders in adherence to policies and standards.

24. **A recently implemented, large-scale, affordable housing program in Egypt provides insights in effective design and implementation.** Note the discussion in Box 1 on key success factors: demand-side subsidies, carefully calibrated borrower eligibility, removal of interest rate subsidy, improved institutional implementation.

Box 1. Egypt Housing Subsidy Program

The subsidy has three parts: a fixed, market-rate mortgage loan, a 20 percent down-payment, and a demand subsidy to assist qualifying borrowers to pay for part of the monthly mortgage payments. This assistance decreases each year and is phased out after 4 to 7 years.

1. **Holistic approach** is taken, focusing on: (i) strengthening the legal, regulatory, and institutional framework for the mortgage finance subsidy program, including the operating entity; (ii) developing an effective and efficient mortgage finance subsidies mechanism; and (iii) improving the institutional framework to enhance transparency and targeting of housing subsidies, moving away from supply side implicit subsidies to a more efficient demand side system.
2. **Subsidy to developers is eliminated** and substituted with a transparent subsidy to qualifying borrowers.
3. **Interest rate subsidies are replaced** by mortgage loans made at market rates. The targeted groups are borrowers that are mortgageable, but currently underserved.
4. **Improved household targeting system** is based on a set of parameters that align public and private objectives and reduce incentives to cheat. Professional lenders and appraisers verify incomes and house values. Results are verified independently.
5. **Implementing entity stops acting as a developer**, but instead focuses on program implementation.

[13] A common measure of community-wide affordability is the number of homes that a household with a certain percentage of median income can afford. For example, in a perfectly balanced housing market, the median household (and the half of the households which are wealthier) could officially afford the median housing option, while those poorer than the median home could not afford the median home. Fifty-percent affordability for the median home indicates a balanced market.

25. **In the context of the newly adopted "100,000 Apartments" Program, it is particularly critical to ensure that the risks of even greater market distortion are managed properly.** Mongolia has a severely constrained construction potential, and thus massive subsidized lending may materially distort the mortgage market and drive private lenders out, as they become non-competitive in terms of loan pricing and borrower eligibility. It is worth noting that the 2007 FSAP recommendations regarding a smaller 40,000 apartments program were explicit regarding the risks of inefficient and distortive design and implementation. However, the key ones have not been implemented and the larger, 100,000-unit initiative has the potential to significantly disrupt market operations and ultimately drive private capital out of mortgage lending.

26. **Adapting the discussion above to the Mongolian circumstances, the following recommendations may be considered by the GoM to ensure efficient and effective expenditure of public resources**:

a. **GoM should take a balanced, long-term approach in program design with a focus on development of utility and power infrastructure, zoning and local construction capacity, so as to facilitate increased supply, instead of directly funding a large share of existing construction volumes.** Yearly program allocations should correlate with available funding and remain a reasonably small share of the overall housing finance market; the program amounts to a 10-year supply of new construction at current volumes, thus presenting a challenge and a requirement for long-term implementation and monitoring policies and procedures. Particularly in the context of the need to provide affordable housing to the large *ger*-dwelling population in UB, large-scale construction efforts can be envisaged as part of the program. To that end, it is imperative not to encroach on the existing limited supply of housing construction. Housing supply is limited largely due to unavailability of infrastructure, zoning inefficiencies and capacity constraints of the developer and construction industries, including supply of materials and labor. Furthermore, it may be efficient to consider construction not in the UB city as such, but rather on the existing *ger* areas and not of the large multifamily buildings, but quicker and cheaper smaller housing. Such a design may also contribute to relieving pressure on the power and utility grid, as hookups to the central grid may not be necessary and locally provided power and utilities may be appropriate.

Box 2: 2007 FSAP Subsidized Housing Recommendations

On the "40,000" apartments program: "…Other elements of the program are focused on supply-side subsidies and public provision of housing, particularly for public employees, and some limited resettlement programs for *ger* inhabitants. Such public construction programs rarely succeed in delivering housing solutions on a large scale to low-income households. Instead, the government should consider means by which the state could supply more serviced urban land, and facilitate the provision of credit to low-income households by private banks."

On HFC: "… The HFC should serve a role as facilitator or liquidity facility at market rates rather than acting as a housing developer. HFC provision of sub-market rate credit will distort the market and provide a very limited number of new housing units. HFC should be re-cast as a provider of credit enhancements, and possibly as administrator of demand subsidies. Using credit enhancements and better-structured subsidies as incentives, HFC could bring together municipal governments and private sector developers to increase the supply of low-cost housing.

b. **If a specific entity to administer the program is established, its operations should be transparent with a strong supervision and reporting regime; it is important to consider up-front the required cost of operational and capital resources.** While not advocating designation of MHFC as the implementing entity, as alternatives are being discussed (Development Bank, State Housing Bank, etc.), this principle applies to any institution appointed as implementing entity.

c. **Strict procurement and project monitoring policies and procedures should be in place to ensure transparent bidding and selection process for developer and construction companies.** Program progress and, if established, the implementing entity, should be subject to regular independent monitoring and evaluation, as well as public reporting of findings. Success may be supported by proper corporate governance structure and procedures, strict supervision and explicit reporting and auditing policies.

d. **The separate functions of residential construction and mortgage lending should be covered by separate implementing entities.** There are significant differences in risks and business models related to those two sectors of the housing market. This echoes the recommendation from 2007 FSAP in relation to MHFC. In particular, there are risks that the construction price will be artificially driven down, there could be an absence of substantive GoM measures to reduce the overall cost of residential construction, and GoM might not adequately provide infrastructure and utilities. This may result in shoddy construction, compensatory price increases in "market" project by the developers and construction companies, and general disinterest in the program, which may lead to corruption.

e. **GoM should apply strict, measureable and transparent eligibility criteria for end-beneficiaries—borrower households and properties—which are easy to enforce, and supervise compliance.** This is the key element of a properly designed and executed subsidy program. Fiscal resources, multi-year planning and housing affordability metric should guide this effort. Similar to the Egypt example, subsidized programs do not need to be a "one size fits all", but rather should be calibrated to meet the specific challenges of target beneficiaries. Thus, product design and eligibility criteria should take into account availability of down-payment, current and projected income, etc.

VI. IMPROVING MORTGAGE FUNDING STRUCTURE

27. **Term deposits and bank capital fund the vast majority of mortgage originations**, which is sub-optimal, particularly given the presence of a mortgage market intermediary facility. Mongolian lenders do not have many options to procure medium- and long-term liabilities, such as corporate unsecured debt, MBS or mortgage-covered bonds, and this puts strain on their ALM and capital allocation. Long-term mortgage lending accounts for 12 percent of the overall banking sector loan book. Unsecured debt is prohibited by law, and retail deposits enjoy blanket government deposit insurance guarantee and yield up to 15 percent per annum for a 12-month term deposit.

28. **Mongolian Mortgage Corporation was established in 2006 by 9 commercial banks and BOM** (currently holding 8 percent equity stake) with a traditional securitization business model. This means that MIK (or rather its wholly-owned subsidiary, TZK, which is effectively an SPV established for the purpose of purchasing and pooling loans and issuing MBS) would purchase loans (with and without recourse) from originating banks with a view to subsequently issuing mortgage-backed securities to domestic or foreign capital markets. As specialized, asset-backed capital market legislation is in draft (Law on Securitization), TZK issuance is under the general Capital Markets Law and is effectively a secured debt. The securitization facility business model is rather advanced and requires certain elements of the legal and regulatory framework to be in place in order to function as designed.[14] Specifically, key elements of such a framework should permit efficient, whole-loan sales, loan pooling and MBS issuance, legal perfection of the true sale transactions, efficient functioning of the SPV, detailed and transparent investor disclosure, accommodating accounting rules for removal of risk and assets from balance sheet, etc.

29. **MIK does not provide liquidity to mortgage lenders to a meaningful degree and struggles to be a relevant and sustainable market liquidity facility.** Since 2008, the volume of loan purchases from lenders has been minimal, standing at MNT 3-5 billion (US$2-2.9 million), or about 2 percent of originations in 2011.Given that there is no asset securitization market in Mongolia, and MIK corporate debt does not have regulatory preferences except for repo-ability with the BOM or a sovereign guarantee, it is challenging for MIK to build up its operations. Additionally, as TDB Bank (fourth of the top four Mongolian mortgage lenders) directly controls 31.6 percent of MIK shares,[15] it may lack incentives to support its competitors by refinancing mortgage debt, or enhancing its corporate governance and shareholder structure. Note that in 2010, for example, loan purchases by MIK from TDB accounted for over 60 percent of the total MNT 5.8 billion. Key deficiencies that prevent further growth of MIK are listed below.

30. **MIK's cost of funds is not competitive with high yields on deposits or other sources.** It is effectively trapped between high yields on deposits and low mortgage rates, which preclude provision of attractive funding option to banks. The key element of a successful business model for MIK should be that it is able to offer mortgage lenders a suitable funding source based on issuance of agency paper or RMBS. Unusually high yields on deposits (50 percent higher than current CPI)

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[14] See Annex 3 for further details.

[15] 2011 TDB Group auditors' report.

are likely due to the blanket guarantee, elevated inflation expectations, and the dearth of other bank funding mechanisms. Such yields put upward pressure on the expected yields of MIK debt, which it cannot offer due to rating profile and portfolio cash flows. Such expected yields preclude positive spread between MIK debt and mortgage assets. Note that in the absence of a proper securitization regime, secured debt cannot be tranched, and thus MIK has limited capability to structurally enhance the duration of bonds and credit risk profile to reduce yield.

31. **MIK's business model based on an "asset swap" technique may not be fully suitable to Mongolia's circumstances.** The intended benefits for the originators are primarily in their risk management, ALM and capital allocation, as well as in funding costs and structure. In case MIK was able to achieve significant volume of business at attractive yields—on the security issuance side and thus on the loan purchase side—mortgage lenders would be able to off-load their long-duration assets to MIK, and this achieve capital relief, lessen asset liability duration gap, and lower their cost of capital for long-term mortgage lending. Currently, however, lenders' whole-loan sales transactions with recourse with MIK are qualified under IFRS as secured financing and as such do not trigger balance sheet reduction consequences. Thus, no capital relief or balance sheet consequences occur, which precludes achieving one of the most important potential benefits of a securitization facility, capital relief and ALM management support for lenders. This has important cost-of-capital implications for the lenders, as they do not realize its reduction by transacting with MIK.

32. **Subject to appropriate strengthening measures, MIK can play a critical role in housing finance market development.** By requiring a steady and homogenous supply of mortgage assets, MIK is in a position to foster significant market standardization in products and practices, and to promote prudent mortgage origination and loan servicing. Additionally, MIK may be in a position to lead required legal and regulatory developments more efficiently compared to the private mortgage-lending community. By introducing an appropriately-structured and priced source of funds to lenders, MIK may be in a position to promote fixed-rate mortgage lending, as lenders report that under existing ALM constraints they are forced to develop potentially riskier ARM products. It is essential for MIK to maintain market-oriented mortgage loan pricing and other terms and conditions in order to avoid market distortion and maintain a portfolio of mortgage assets with sufficient quality for domestic capital market placement. Although there are currently no institutional investors for RMBS in Mongolia, MIK bonds may initially be distributed to banks, a practice that is common globally, with gradually developing domestic investor base.

33. **MIK shareholders, including BOM, should critically reassess MIK's business model, with a goal to develop a functional and relevant market intermediary.** The following measures are recommended:

a. Evaluate and simplify the loan purchase products with the overall goal of maximization of lender benefits. Transactional costs and long-term "all-in" funding yield should guide these efforts. Thus, MIK should consider either (i) simplifying its product offering and conversion to a plain-vanilla liquidity facility with a portfolio of corporate loans; or (ii) expanding its practice of purchasing mortgage loans without recourse with further refinement of the credit risk coverage with insurance.[16] Additionally, participating lenders should consider obtaining a legal and auditors' opinion on proper accounting and tax treatment of such transactions in order to fully recognize balance sheet benefits.

b. With the goal of increasing attractiveness of MIK funding congruent with its risk profile, provide specific regulatory preferences to MIK debt instruments, such as capital charge and BOM repo regime equal to that of sovereign bonds, etc, subject to strengthened corporate governance and operations. Symmetrically to this, BOM should critically assess the capital allocation requirements for mortgage loans, as its share approaches significant share of the banking loan book; this will provide additional incentive for MIK and lenders to perform no-recourse, whole-loan transactions, subject to strict underwriting and servicing standards.

c. Enhance MIK corporate governance to the level of current international practices with the goal of providing a level playing field for all shareholders. Note that lenders' legal and accounting opinion as to consolidation may in part depend on the share of ownership in MIK, and thus adjustments to such a structure may in fact be financially beneficial for current shareholders.

d. Provide a defined amount and term of sovereign guarantees on MIK debt with a clear sunset provision under a complex amendment regime; and/or seek arrangements with international development institutions to provide partial credit guarantees on MIK debt issues. Note that predictability of such arrangements on a forward looking basis is critical for increasing investor and market stakeholder confidence, which current small-scale, ad hoc transactions may not provide.

e. GoM is advised to support domestic issuance of MIK mortgage-backed securities by accelerating development of the relevant legal and regulatory framework for securitization and mortgage covered-bonds in line with current best global examples.

[16] Note that in 2010, 24 percent of MIK's whole-loan purchases occurred without recourse but were insured by MIK against credit risk.

ANNEX 1. RECOMMENDATIONS OF THE 2007 FSAP HOUSING FINANCE TECHNICAL NOTE

2007 Recommendation	Current status
Draft laws the mortgage lien as collateral, mortgage securitization, and covered mortgage bonds should be passed soon…to provide the necessary legal structure to support the stable growth of the residential mortgage market.	**Some progress** - The law on mortgage was passed in July 2009, asset backed capital market channel legislative framework is currently in draft.
BOM should collect monthly data on mortgage portfolios... Data would include: volume and number of loans outstanding, currency of loans, weighted average interest rates, weighted average maturity, volume and number of thirty and ninety day delinquencies….	**Significant progress** - BOM does collect detailed mortgage market data in originations, portfolio composition, delinquency, currency of loan, and outstanding amounts.
Foreign currency lending in the mortgage sector should be discouraged… The risks of foreign currency mortgage lending can be greater than with other consumer lending, as mortgage balances are typically larger, and mortgage maturities are longer.	**Significant progress** - Since 2009, 93 % of mortgage lending has been in local currency. Overall, mortgage loan products appear conservative, with the exception of high DTI ratios and persisting large share of ARM loans, which is largely due to lack of long term funding sources.
Real estate prices in UB are reported to be rising rapidly, leading to concerns about the medium term stability of mortgage lending... Supply constraints, particularly with respect to serviced urban land, contribute to rising prices. Over the longer run, it will be important for mortgage lenders to monitor price trends, demand, and supply in the real estate sector to assure the value of the collateral that they use for lending.	**Some progress** – while a UB house price index was created in 2011, it is not location or property type specific. Additionally, BOM does not yet link mortgage portfolios – grouped by property type and vintage – to real estate price evolutions. Such a mechanism is required to properly assess the LTV performance of outstanding portfolios with a view to monitor sector risks and supply-demand balance.
BOM should encourage well managed bank lending to construction contractors to keep the credit risk in the hands of institutions rather than consumers.	**Little progress** – construction finance remains small and risky for the borrowers, with reports of fraudulent sales. Further work not only on project finance mechanisms, but also on proper borrower protection measures is required, particularly given that the supply of residential real estate is an acute challenge.
GoM should develop consumer disclosure rules for mortgage lenders, education programs in financial literacy, standards for real property appraisals, and real estate brokerage services…	**Little progress** – Real estate brokerage and appraisal sectors lack supervision and capacity. Although real estate appraisers are being licensed, the real estate agents are not, raising the question of responsible service to housing buyers and sellers. Existence of two real estate agent associations is inefficient given the small market size, and prevents standardization of practices and establishment of a single listing of properties for sale.
GoM should encourage housing microfinance in ger areas that lack urban services... One useful financial product is micro loans for progressive housing construction and renovation, and service connections. The government should encourage NGOs, NBFIs,	**Some progress** - Banks report that about 1 percent of their loan books are allocated to home improvement or similar loans. Some NBFIs deliver SSHF products which combine funds with technical advice and phased loan utilization supervision. Micro-mortgage loans of up to MNT 27 million (US$20,000) have terms up to 3 years at rates of 3 percent per

and banks that provide such credits.	month (42.5% per annum or three times higher than mortgages) and are collateralized by real estate. SSHF loans for renovation are reported to have similar term and pricing, and their average size is MNT 5.4 million (US$4000). NBFIs report that a lack funding and ALM constraints are the main impediments to further growth.
GoM should re-orient its 40,000 house program to emphasize well-targeted demand side support for low income households... The Housing Finance Corporation (HFC) should serve a role as facilitator or liquidity facility at market rates rather than acting as a housing developer. HFC provision of sub-market rate credit will distort the market and provide a very limited number of new housing units. HFC should be re-cast as a provider of credit enhancements, and possibly as administrator of demand subsidies…	**Little progress** - Publicly-funded social housing initiatives have accounted for a significant share of overall housing construction and lending. HFC provides significantly subsidized mortgage lending terms – including interest rate subsidy - as well as developer finance for lower-income housing construction. By late 2011, MHFC accumulated over 25 percent of the total outstanding mortgage loan portfolio. Furthermore, In the context of the newly adopted “100,000 Apartments” Program, it is particularly critical to ensure that the risks of market distortion are managed. It is important that the Program be considered “additional” to the overall market and account for a reasonably minor share of yearly originations and unit construction at below-market rates. The Program is large—amounting to a 10-year supply of new construction at current volumes— and thus presents additional challenges in long-term implementation and monitoring. The focus of Program implementation may be more appropriately directed at infrastructure and zoning, rather than at building construction.
GoM should further strengthen its cadastre and its overstretched State Property Registry. The active housing market severely strains the capacity of the State Property Registry. The State Property registry systems and facilities are and have been for some time inadequate to the volume of transactions.	**Some progress** - An ADB project in support of SIPR ended in 2010; Millennium Challenge Corporation is currently undertaking a property rights project. Specific outstanding issues remain: • Integration of the land and building records, which are physically separated in paper-based books; • Review of existing SIPR legal, regulatory and supervisory framework to ensure full coverage and consistency; • Improvements in SIPR technical and institutional capacity. This should include full automation for all regional offices, improvements in IT capacity and interconnectivity, and a staff training program.

ANNEX 2. SELECT RECENT GLOBAL EXPERIENCE WITH REAL ESTATE MARKET OVERHEATING

In addition to mortgage credit availability, utilization of residential real estate for investment purposes - a reportedly widely used practice in UB - may lead to excessive and rapid positive House Price Appreciation (HPA) growth which, as the historical evidence suggests, is cyclically followed by a significant decline in HPA. In case such activity is performed with mortgage finance, negative effects in a down cycle are amplified by lender portfolio performance issues leading to institutional capital and liquidity issues. Furthermore, the more steep the upward curve of the cycle is, the shorter is the rational investor's purchase and sale transaction horizon, which auto-amplifies the effects.

Below we present several tables with global policy measures that have been taken to either combat or prevent a real estate asset bubbles, as well as an in depth look at such measures in China and, lastly, a brief look at impact of such measures in select countries.

Annex 2 Table 1. Select global real estate bubble policy measures examples

Country Situation	Measures taken	Outcome and Impact
Bulgaria Like in many other countries in the region, credit, especially to households and in the form of mortgages, grew rapidly following the transition and at the prospects of EU membership. A credit boom was accompanied by a house price boom in early 2000s.	In the first stage, moral suasion was tried through public statements and meeting with 'aggressive' banks. Through 2004 and 2005, loan classification and provisioning requirements were tightened and stringent rules on capital adequacy were adopted (in particular, restriction on conditions under which current profits can be counted in the capital base). Differential risk weights were introduced: mortgages with LTV exceeding 70% would be risk-weighted at 50% and, if this is violated, the risk-weight on the loan would be 100%. Tighter reserve requirements were implemented in 2004 by reducing the share of vault cash in eligible assets and broadening the liability base to deposits and securities with longer maturity and repos. Marginal reserve requirements for banks exceeding the average credit growth rate came into effect in February 2005 aimed at cutting rapid credit growth.	Credit growth decelerated somewhat but it was only in late 2008, with the global financial crisis, that it came to a significant halt. Similarly, house price appreciation remained strong, recording 42% from 2005 to 2008. On the positive side, capital adequacy ratios had reached adequate levels by 2006 and credit risk in the corporate sector seemed to be contained, sparing the banking system from a full-blown systemic crisis. Yet, risks in the household sector had actually increased and foreign borrowing by banks to fund these loans created significant vulnerabilities.
Korea	LTV limits were introduced in 2002; these were complemented	Overall, both LTV and DTI appear to be effective

In the aftermath of the Asian crisis, expansive policies to stimulate the economy created a credit boom (in particular, credit cards), the bust of which came in 2003 and left policymakers with a desire for tougher regulation. Real house prices increased by 26% from 2001Q1 to 2003Q3. After stalling in 2004, prices appreciation resumed in 2005 and recorded an increase of 14% between 2005Q1 and 2007Q1.	with DTI limits in August 2005. FSS lowered LTV limits in speculative areas twice in June and October 2003, first to 50% and then to 40% down from 60%, but provided certain exceptions. In 2006, these exceptions were abolished for loans extended by banks and the LTV reduction was expanded to loans made by non-bank intermediaries bringing the ratio from 60-70% to 50% while DTI limits in speculative areas were reduced to 40%. In July 2009, FSS lowered LTV limits in non-speculative areas as well. It also tightened DTI limits twice in February 2007 and again in September 2009.	but the impact does not seem to last long and be rather small with year-on-year credit growth rate decreasing by 0.7 percentage points (against an average growth rate of 12%) and HPA declining by 0.3 percentage points (against an average rate of 4%) during the month following the tightening. LTV limits seem to have a slightly larger effect but DTI limits may be better-targeted as the dynamics in non-speculative areas are affected less. Since the effect is short-lived, it may be hard to obtain the desired outcome in a single move: for instance, in 2003, markets responded to the introduction of LTV limits and subsequent decreases appeared to bring things back in control, but it took three sequential moves to slow down credit growth and tame HPA through 2003-04. At their current level of 40% and 50-60% in speculative and non-speculative areas, respectively, LTVs are already very low, limiting room for further reductions, were boom dynamics to return. DTI tightening last year may have been too strong, demonstrating the difficulty of calibrating these tools. The fear that the market has "softened too much" led to relaxation of the rule and adoption of several other measures (e.g. exemption from income verification evidence for low-income borrowers, waiver period of two years on transactions taxes for owners of multiple properties) in August 2010.
Malaysia (1990s) After increasing at 3% per year in 1993-94, house prices accelerated to an annual growth rate of 13% in 1995-96.	The reserve requirement was increased from 8.5 to 11.5% in 1994, and then again to 13.5% in 1996. LTV limit of 60% was introduced in 1995. In April 1997, exposure to property lending in a bank's portfolio was restricted to be below 20%. In addition, purchases by foreigners were restricted.	The measures were credited for their contribution to the slowdown in property prices and lending to the real estate sector. They did not, however, prevent the systemic banking crisis following the bust.

Malaysia (2000s) The boom-bust in the 1990s left the market with a significant supply hangover, in particular at the high-end condo segment. There have also been considerable additions to supply at the lower-end as a consequence of mass building of housing units by government agencies. The residential mortgage growth gained speed starting in 2001 with HPA increase of 4% in 2004. Concerns about rapidly rising household indebtedness were exacerbated by the reports about lax lending standards and the desire to preemptively stop another possible era of exuberance and overbuilding.	In 2005, risk weight on non-performing residential mortgage loans was increased from 50 to 100%. Following the global financial crisis, policy priorities changed and a stimulus package, that included a tax relief on housing loan interest for three years and deferred loan repayments for one year for homeowners, was announced in March 2009. However, during the summer, capital gains tax was reinstated on properties sold within five years of acquisition (the 5% tax was abolished in April 2007); in January 2010, the price floor for foreign buyers was hiked to twice the previous level; in November 2010, a new LTV limit of 70% was introduced for third residential property purchases.	The spike in prices that happened at the end of 2009 has already shown signs of subsiding and lending for construction and other real estate activities slowed down somewhat.
Singapore Land supply is closely regulated through the Government Land Sales (GLS) program and a large portion of the housing market is controlled by the government (similar to Hong Kong SAR). Housing & Development Board (HDB) has authority over public housing, which has developed side-by-side with the much smaller private housing segment. (Public housing has been mostly 'privatized' by allowing 99-year leases on dwellings being traded at open market prices.) Residential Property Act limits	Particular loan types (e.g. interest absorption scheme and interest-only housing loans) were abolished and assistance to property developers implemented as part of the stimulus package were discontinued in September 2009. In February 2010, a seller's stamp duty on all residential land and properties sold within one year was introduced while LTV was reduced from 90 to 80%. Other measures followed in August 2010, including extension of holding period for stamp duty to three years, further reduction of LTV to 70% for second and subsequent mortgages, extending housing grants to lower-income households for purchase of new flats, increasing the supply of properties and shortening the completion time of build-to-order flats, lengthening the minimum occupancy period for non-subsidized flats from 3 to 5 years, and banning concurrent ownership of HDB flats and private residential properties. In October 2010, new curbs on foreign ownership of landed	Sales of all property types started to decline in the second quarter of 2010 and dropped by 16% in the third quarter. Apartment and condominium (non landed properties) price appreciation also slowed down considerably. However, price appreciation for single-family houses (landed properties) continues to accelerate. This may be an indication of the speculative forces, reinforcing the suspicions of the authorities, who are not expected to give up and actually intensify their efforts to cool down the real estate markets.

foreign ownership of landed homes, further segmenting the market by forcing a submarket specializing on expatriates. Real estate cycles have been strong, with the most recent one involving an increase of 45% in real house prices from 2004Q2 to 2008Q1. During the global financial crisis, prices declined 4%, but they rebounded sharply recording an increase of 36% since 2009Q2.	homes were unveiled, raising the penalties on breach of the Residential Property Act. Most recently, in January 2011, Seller's Stamp Duty was raised and the holding period for its imposition was increased from 3 to 4 years while LTV limit was lowered again, to 60% for individuals with one or more outstanding housing loans at the time of the new purchase and to 50%for purchasers that are not natural individuals.	
Thailand (early 2000s) Burnt by the bad memories of the land price bubble prior to the Asian crisis, the authorities were cautious watching credit growth, and prices in some segments of housing markets, reaches double-digit annual growth rates again in 2003.	A maximum LTV limit of 70 percent for high-end real estate (i.e. condominiums, lands, and residences valued at or more than 10 million baht) was introduced in 2003. At the same time, tighter eligibility requirements for mortgage loans were announced.	House prices moderated, and so did credit growth. Actually, housing markets entered a downturn starting around 2006.
Thailand (late 2000s) House prices have been declining since 2006, with the speed of decline accelerating in 2008. Yet, in 2010Q2, prices spiked posting a 10 percent quarter-on-quarter increase and commercial bank loans grew strongly over the summer.	In 2009, the LTV rule was relaxed by increasing the limit from 70 to 80% but risk weights for loans with LTV over 80% were set at 75% against the 35% for loans with LTV below 80%, with the aim to support real estate market activity while maintaining sound risk management practices in the banking system. In November 2010, at the first sign of revival in housing markets and credit growth regaining strength, the tide was reversed: the LTV rule will be extended to dwellings valued less than 10 million baht with LTV set at 90% for condominiums, effective 2011, and at 95% for low-rise housing units, effective 2012.	It is too soon to see the effectiveness of the measures taken, but, in 2010Q3, house prices declined again while bank credit growth remained robust.

Annex 2 Table 2. China Snapshot: Policy responses to housing prices surge

Date	Measure	Aim / Reach	Agent
Jan 07 2009	Impose value-added taxes on land transactions.	Tightening / Nationwide	State Tax Administration
Sept 07 2009	Raise the minimum down-payment to 40% and the min mortgage rate to 110% of the benchmark rate for 2nd mortgages. Minimum down-payment and mortgage rates are higher for third mortgage loans.	Tightening / Nationwide	Banking Regulatory Commission
Nov 07 2009	Restrict foreign investment in second-hand house transactions and property development.	Tightening / Nationwide	Ministry of Finance
Aug 08 2010	Forbid loans for land purchases and for idle projects.	Tightening / Nationwide	
Oct 08 2010	Waive stamp duty and value added taxes on land transactions. Lower the min mortgages rate to 70% of the benchmark rate and the down-payment to 20%.	Relaxing / Nationwide	Ministry of Finance
Dec 08 2010	Extend preferential policies for first-home purchases to second-home purchases. Shorten the holding period to enjoy business tax exemption from 5 years to 2 years.	Relaxing / Nationwide	Central government
May 09 2011	Reduce developers' capital requirement for housing investment to 20%.	Supportive / Nationwide	Central government
Feb 10 2011	Set the share of residential land supply going to policy-oriented housing projects to 50%.	Supportive / Beijing	Beijing municipal government
Mar 10 2011	Set the amount of land supply for welfare housing, residential redevelopment properties and owner-occupied ordinary commodity housing to at least 70% of the total land supply.	Supportive / Nationwide	Ministry of Land and Resources
Mar 10 2011	Change the land auction winning rules such that sites now go to the bidder offering not the highest but the most reasonable price.	Tightening / Beijing	Beijing municipal government
Apr 10 2011	Raise min down-payment for the first mortgage to 30% for a residential property of no more than 90 square meters. Raise the down-payment for the second mortgage to 50% and the min rate to 110% of the benchmark rate. Increase down-payment and min mortgage rate for third and subsequent mortgages. Restrict mortgage lending for non-residents.	Tightening / Nationwide	Central government
Apr 10 2011	Impose home purchase restriction rule that will only allow households, local or from outside the city, to purchase one new home.	Tightening / Beijing	Beijing municipal government
Jun 10 2011	Suspend approval of listing of property companies via "shell companies".	Tightening / Nationwide	Securities Regulatory Commission
Sep 10 2011	Tighten down-payment requirement, even for first-time home buyers (for instance, the max mortgage loans for some new housing projects in Beijing are only 60% of the purchase price for first-time home buyers, and will be only 30% for second-time home buyers).	Tightening / Beijing	Beijing municipal government

Annex 2 Table 3. Stylized Facts on Policy Responses to Real Estate Booms: Stocktaking

Measure	To address ...	Used in …	Impact?
Monetary tightening	Rapid credit growth and/or real estate boom	Croatia, Iceland, Latvia, Ukraine; Australia, Israel, Korea, Sweden	Not always effective, capital flows and currency switching risk are major limitations
Flexible and consistent FX policy	Rapid credit growth	Poland, Romania	FX-denominated credit growth slowed down in Poland but not in Romania
Fiscal tightening or removal of incentives for debt financing (e.g. mortgage interest tax relief)	Rapid credit growth and/or real estate boom	Estonia, Netherlands, Poland, United Kingdom; Lithuania, Spain	Limited effect on house prices, slightly more on household leverage
Additional/higher transaction taxes to limit speculative activity	Real estate boom	China, Hong Kong SAR, Singapore	Some effect on transaction activity, but not long lasting
Higher/differentiated capital requirements or risk weights by loan type	Rapid credit growth and/or real estate boom	Bulgaria, Croatia, India, Poland, Norway	Not always effective, some side-effects of shifting the risk elsewhere in the system
Dynamic provisioning	Resilience to cyclical downturn/bust	China, Colombia, India, Spain, Uruguay, Bolivia, Peru	Dependant on when in cycle were implemented, limited data so far
Tightening eligibility requirements, e.g. limits on loan-to-value ratios	Real estate boom	China, Hong Kong SAR, Korea, Malaysia, Singapore; Sweden	Short-lived effect on prices and mortgage activity
Tighter/differentiated loan classification and provisioning requirements	Rapid credit growth and/or real estate boom	Bulgaria, Croatia, Greece, Israel, Ukraine	Limited effect
Source - IMF			

ANNEX 3. MORTGAGE MARKET INTERMEDIARY FACILITIES PRIMER

Market intermediaries[17], a.k.a. market liquidity facilities are widely used corporate entities[18] which employs a business model of issuing corporate and structured debt instruments to the capital markets and purchasing claims on rights arising out of residential mortgage loans either via whole-loan sales or by extending corporate loans to mortgage originators.

The latter practice aims to facilitate ALM to lenders by way of providing liabilities, whereas purchasing mortgage loans by way of whole-loan sales serves similar purpose by removing assets. Either way lenders' liquidity ratios are improved by improving term and duration matching between assets and liabilities. A common terminological distinction between the two methods is that (i) securitization facilities purchase mortgage loans while (ii) liquidity facilities provide lenders with a corporate loan.

Importantly, such facilities establish strong contractual or corporate relationship with the primary mortgage lenders, which are typically regulated banking organizations, although loan servicing and special servicing may be performed by non-banking companies.

The format of such relationship may vary according to jurisdictional legal and business environment, although it is critical for the intermediary facility to secure predictable flow of mortgage assets "into the system". Advanced mechanisms include forward-based (as opposed to spot based) pricing and volumes, high degree of financial and operational disclosure from lenders to the facility, strict retail mortgage product origination and servicing standards (including pricing), etc.

On the capital market side, market intermediaries' instruments include (i) traditional RMBS bonds, which are typically issued via a third-party special purpose company owning mortgage loans, or (ii) Agency paper, which is a general corporate debt obligation of a firm with homogeneous assets (either mortgage loans or corporate loans to mortgage originators). Agency paper are often expressly guaranteed by the sovereign in terms of timely and full payment of principal and interest, or just principal; such bonds may have also specific issuance, listing, trading or tax preferences. Both instruments generally feature a high degree of correlation between cash flows from mortgage cover pools and remittances to investors, notably on time series and currency basis.

Among key requirements for a sustainable market intermediary in a given jurisdiction are:

- A relatively large *real* household demand for mortgage loans, i.e. since both Agency paper and RMBS typically are issued on a regular basis to achieve liquidity and sovereign pricing, the lenders in the country need to have the capacity to extend significant volumes of

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[17] For information, see 2007 World Bank Note on Liquidity Facilities by Hassler and Walley.

[18] Among the better known ones in non-OECD countries are JMRC (Jordan), TMRC (Tanzania), AMF (Azerbaijan), NMC (Armenia), EMRC (Egypt), AHML (Russia), KMC (Kazakhstan), SMI (Ukraine), SHF (Mexico), NHB (India), Cagamas Berhad (Malaysia), as well as institutions in US, France, Morocco, Algeria, etc.

unsubsidized mortgage loans so that cover pools of mortgage loans can be aggregated with a reasonable and predictable speed;

- A significant degree of homogeneity in retail mortgage lending practices and products so that cover pools of mortgage loans can in fact be aggregated for financial and analytical purposes;
- A functional capital market, i.e. there needs to be a legal, regulatory, analytical and business environment for issuance and trading of relatively sophisticated capital market bond instruments;
- A high credit rating (and thus low cost of capital) of a market intermediary is required and can be achieved by following appropriate corporate governance procedures in addition to adhering to market driven product design and pricing; this is particularly important in case such a facility has strategic plans to attract private equity capital.

Although they may have private shareholders, commonly such facilities are owned by the sovereign with a mandate to support development of local residential mortgage markets.

It is, however, paramount to clearly separate the socially desirable and subsidized products and practices from the market-based ones so that the facility achieves investor confidence, low cost of capital and financial stability. Further to this point – for such organizations it may be advantageous to strive for a high degree of financial stability and transparency in part by adopting stringent capital allocation, risk management and corporate governance policies and practices which may in fact go beyond regulatory requirements.

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