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MBS with an impact: Mortgage-backed securitisation for affordable housing finance

by Sreya Ray and Vaibhav Anand, IFMR Capital

Affordable Housing Finance Companies (AHFCs) in India have emerged as a small but fast-growing segment committed to addressing the credit gap in the mainstream financial system for low-income households seeking mortgage finance. These AHFCs have overcome the challenges in credit appraisal of undocumented cash flows of low-income borrowers through a deep and localised understanding of the informal economy and innovative models to evaluate the financial position and creditworthiness using non-traditional data points. Given this non-traditional approach to credit appraisal, these AHFCs face challenges in accessing debt that they can then on-lend to their potential borrowers. Access to capital markets via securitisation can be a very effective tool to provide efficient, reliable and sustainable sources of funds for AHFCs on a maturity matched basis, provided the legal complexities and risks of a mortgage-backed securitisation (MBS) can be adequately managed. IFMR Capital pioneered the first ever MBS for an AHFC, Hebros AHL IFMR Capital 2014, on March 27, 2014, leading the way for AHFCs to enter capital markets.

Affordable housing finance: The aim and the challenges

India has a shortage of nearly 19 million homes in urban India and 44 million homes in rural[1]. Of this combined shortage, more than 90% is faced by economically weaker sections or low income group segments of society.
The reason for this gap lies as much in the need for financing as in the supply of affordable housing.
In response to this, AHFCs have emerged in India over the last five years to provide mortgages and secured credit for low-income borrowers. These loans have ticket sizes in the range of 300,000 Indian rupees (INR) to INR1.5m and are provided for purchase of a house, house construction or home extension/improvement.

The borrower base is a mix of self-employed micro, and small and medium enterprises (MSME) entrepreneurs (such as dairy farmers, small shopkeepers, vegetable and flower sellers etc.), salaried informal sector workers (such as housemaids, drivers, shop assistants), and salaried but low-income and blue-collar formal sector workers (such as municipal sweepers, contract employees of private sector companies). Such categories lack formal documentation to substantiate income history, solvency, tax payments and ownership of assets. AHFCs compensate for the lack of formal documentation by way of a comprehensive field-based credit assessment process and physical verification of residence, employment and businesses, the most typical building blocks of which are illustrated in Exhibit 1.

Sanction of a loan typically requires the approval of more than one senior management person. The entire process from application to sanction is usually two to three weeks for most applicants.

AHFCs: Pricing and funds

AHFCs are registered with the National Housing Bank (NHB), India's central regulator and facilitator for the housing finance industry. The NHB does not regulate the housing loan interest rates and permits housing finance companies (HFCs) to have their own lending policies. Interest rates charged by HFCs on housing loans are linked to their risk perception and cost of funds. AHFCs lend to borrowers at 14%-18% which is significantly higher than the 10.25%-12.50% (not including processing fee) that a borrower in the formal retail financial system can expect to pay over a typical loan tenure of 30 years. The loan is secured by a mortgage on the property.

The higher pricing is largely due to the higher cost of debt AHFCs incur, which is typically around 11%-15%, and the higher cost of credit delivery. It also reflects the relatively narrower funding base AHFCs have compared to that of deposit-accepting banks and large HFCs. Lenders to AHFCs, including banks, charge comparatively higher pricing on debt due to the higher risk perception of the underlying borrowers of AHFCs and the relative lack of business vintage. Most AHFCs have been in business for five years or less and have not had a completely seasoned portfolio performance when considering the longer tenure of housing loan products. Lastly, the absence of long-term debt capital markets in the country significantly constrains the supply of long-term financing for AHFCs, in turn resulting in asset liability management (ALM) issues for these entities.

In the face of the constraints of funding AHFCs, securitisation can be an effective step towards closing the funding gap. IFMR Capital, an India-based non-banking financial company (NBFC), has been an innovator in using securitisation to create mainstream markets in India for asset classes such as microfinance and small business loan-backed securitised paper (Fernandes, 2011). It has enabled small and medium microfinance institutions (MFIs) and small business lenders (SBL) in accessing hitherto untapped sources of finance such as mutual funds, NBFCs, private banks, and other financial institutions via capital markets (Balakrishnan and Anand, 2013).

The MBS market in India has been historically dominated by the National Housing Bank (NHB), commercial banks, and large HFCs securitising pools of housing loans to medium to high income segments. In March 2014, IFMR Capital carried out the first MBS securitisation of a pool consisting exclusively of small-ticket housing loans originated from the low-income/informal-income segment by an AHFC. The case study that follows describes the transaction in detail.


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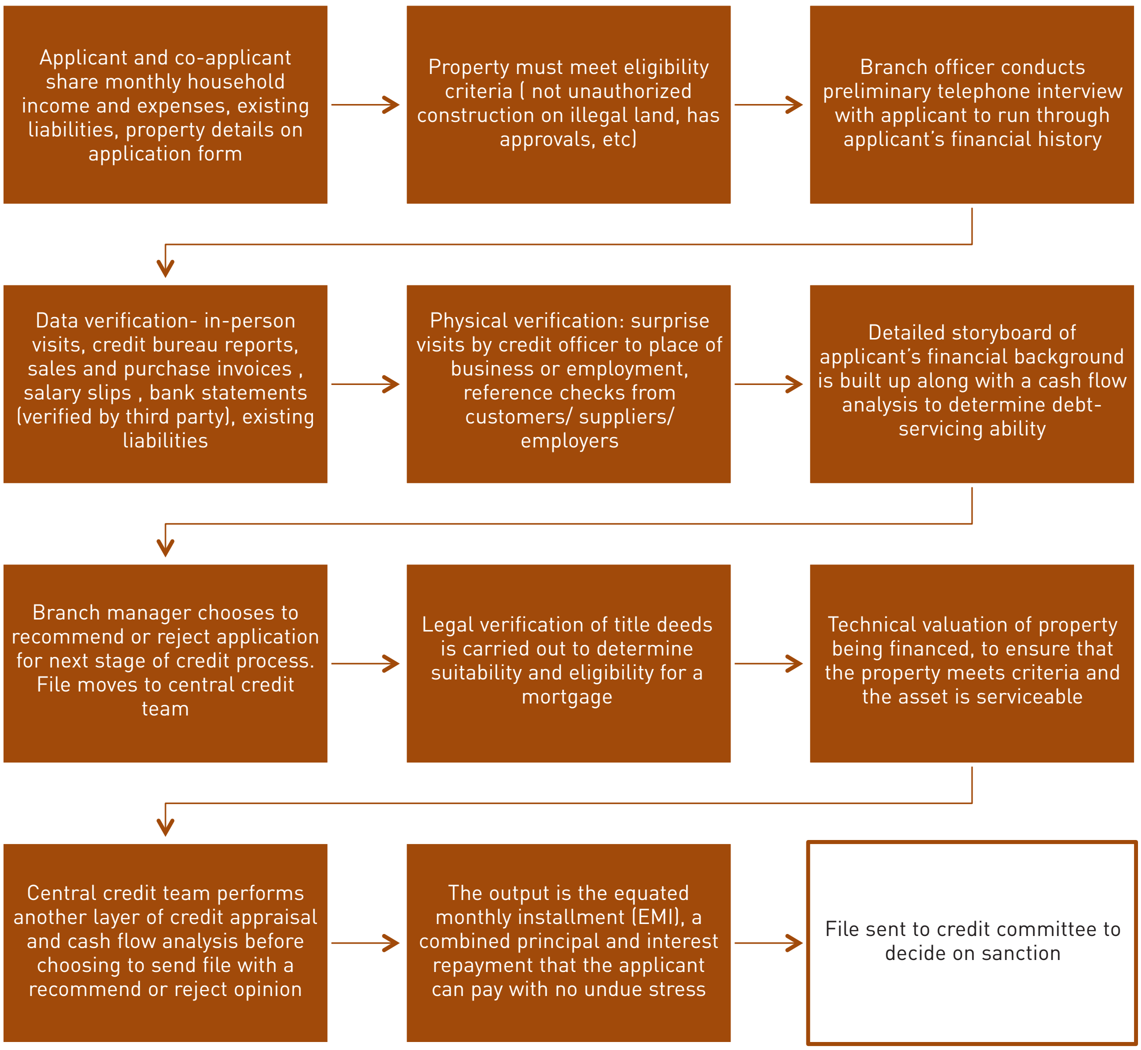
Appraisal framework for AHFCs **Exhibit 1**



Source: IFMR Capital

Case study: Hebros AHL IFMR Capital 2014

The transaction Hebros AHL IFMR Capital 2014 was rated by ICRA[2]. The senior (A1) tranche was rated BBB+ and the junior (A2) tranche was rated BB+. The senior tranche was subscribed by a large Indian private sector bank, while IFMR Capital, in keeping with its policy of incentive alignment, purchased the junior tranche.

Hebros had an underlying pool of 311 housing loan contracts with an outstanding principal value of INR165.3m originated by Shubham Housing Development Finance Company (Shubham). Shubham is a Delhi National Capital Region (NCR) based housing finance company providing retail home loans to the low-income segment for home purchase, home construction, home extension, and home improvement. Shubham serves over 2,300 borrowers and has a total loan book of INR1.2bn, as of September 2013[3]. Loan sizes typically range from INR300,000 to INR1.2m with maximum tenures going up to 15 years. The loans in the Hebros pool were a mix of loans for ready home purchase and for self-construction on owned land, and had the characteristics as depicted in Exhibit 2.

The higher seasoning of the pool compared to that of loans from other asset classes that have been securitised in India was an outcome of the central bank regulations on securitisation, which require a minimum of 12 instalments to be repaid prior to securitisation for loans with original maturity of more than five years[4].

Transaction structure

The transaction was structured 'at par' with over-collateralisation, where the purchase consideration paid by the investors was equal to the pool principal sold to the special purpose vehicle (SPV), adjusted for the over-collateralisation at 10% of the total pool principal. The proportion of investment in the senior and junior tranches was in the ratio of 17:1. While both tranches would receive interest at the same periodicity, only the senior tranche would receive the principal payments for the first 48 months. Subsequent to this, principal would be paid to the senior and junior tranches in the ratio of their respective outstanding investments. However, the payments to the junior tranche would be subordinated to those made to the senior tranche at all times. The credit enhancements in the transaction were structured as depicted in Exhibit 4.

Characteristics of Hebros pool **Exhibit 2**

Weighted average seasoning	20 months
Weighted average IRR	16.9%
Average ticket size	INR570,000
Weighted average original LTV*	55.5%
Top 10 obligors as % of pool	5.87%

* loan-to-value

Source: IFMR Capital

Managing the challenges and risks in MBS

Economic viability

One of the reasons behind the torpid state of the Indian MBS market in spite of the exponential growth in housing finance demand, is the high cost of transfer of mortgage security interest from the originator to the investors, due to stamp duty and registration requirements on all MBS in India. In India stamp duty is a state subject, and differs from state to state in a range of 3% to 14%. An additional cost factor is the mandatory registration fees payable for MBS in India. A geographically-diverse pool, structured so as to reduce concentration risk, can carry substantial stamp duty and registration fees.

The legal structure of the transaction and geographic selection of the pool are therefore intertwined.

Apart from stamp duty costs, the tax impact on investors in securitisation arising from the provisions in the 2013 Finance Bill is another bottleneck in the economic viability of such transactions. Under the Finance Bill, all investors, apart from tax exempt investors, must pay tax on income distribution by the SPV[5].

Event risk

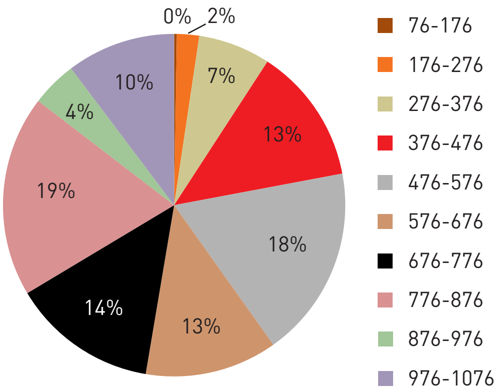
A relatively less-geographically diversified pool carries higher event risk, or the chance of loan defaults due to adverse events in Gujarat and/or Delhi. This is a risk that the investors have accepted.

Servicer risk

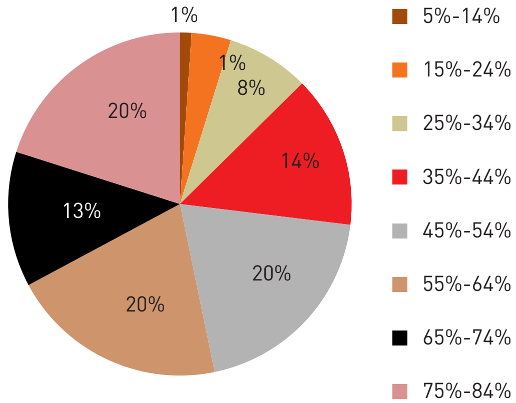
As a matter of practice across any transaction undertaken, originators are first evaluated by IFMR Capital on their ability to service the portfolio, maintain portfolio quality and operational effectiveness without compromising on

Hebros' pool characteristics **Exhibit 3**

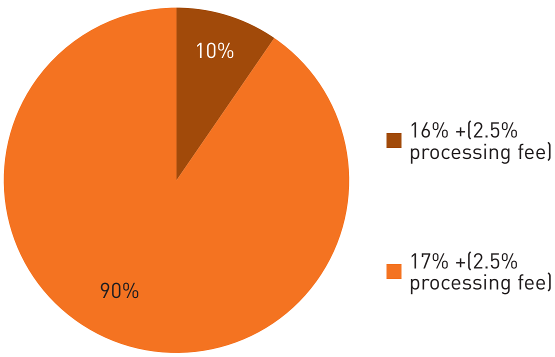
Pool by original loan amount (INR '000)



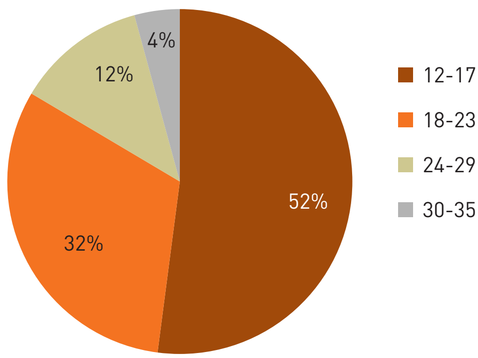
Pool by original LTV



Pool by loan interest rate



Pool by seasoning (months)



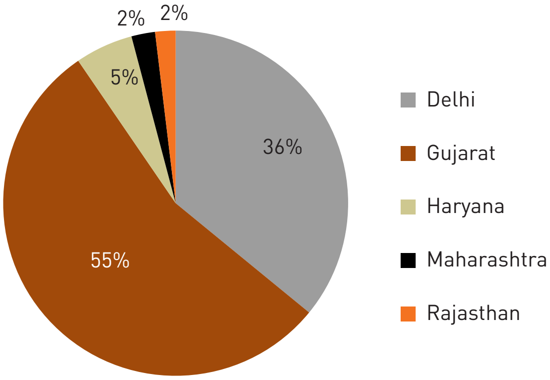
Source: IFMR Capital

Credit enhancements in Hebros structure **Exhibit 4**

Source	% of pool principal	
Principal subordination to A1	15%	Includes over-collateralisation and A2 subordination
Principal subordination to A1	10%	Includes over-collateralisation
Excess interest spread	50.86%	
Cash collateral	2%	Provided by the originator-cum-servicer

Source: IFMR Capital

Geographic diversification of Hebros **Exhibit 5**



Source: IFMR Capital

profitability and growth. Further, under the transaction structure, the Trustee is authorised to organise post-transaction discretionary audits to evaluate the servicer.

Moreover, the service risk can be mitigated through strong institutional equity backing and an experienced senior management team. Shubham has strong institutional equity support from four private equity investors and venture capital funds. The senior team has significant experience in managing housing finance businesses.

Credit risk

Credit risk, the risk of defaults by the underlying borrowers, was managed via careful pool selection and structuring to ensure the following:

i. no loans with overdues as on the pool cut-off date were included;

ii. all loans had a minimum seasoning of 12 repayments[6];

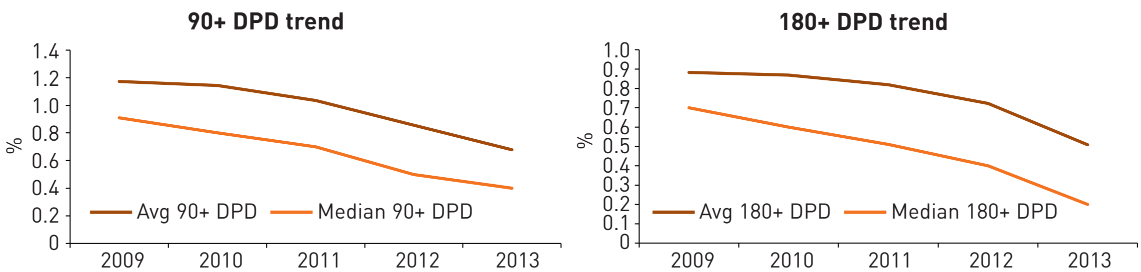
iii. borrower concentration was maintained at a maximum of 1%; and

iv. loans with very high LTV and very high IIR (instalment to-income ratio) were excluded

Apart from these filters, IFMR Capital conducted a detailed file audit for the 'top slice' of the pool. As detailed in Balakrishnan and Anand (2013), the adherence of each loan sanctioned to origination process and documentation integrity is a useful indicator of the credit quality of the loan and the enforceability of security. A pre-transaction file audit of the pool is a good tool to measure this. A sample of the pool with a large proportion of high-ticket loans and a good geographic mix was selected for the audit.

As previously mentioned, Shubham has a relatively short vintage as an originator of mortgage loans. However, investors can derive comfort from the good performance of mainstream MBS transactions in India, as displayed by the decreasing 90-day and 180-day

Delinquency (DPD*) trends in rated MBS in India **Exhibit 6**



* days past due

Source: IFMR Capital analysis based on data from ICRA, CRISIL, CARE

delinquency trends in Exhibit 6. This is based on a sample of 108 rated MBS in India since 2004 and their performance till end-2013.

Further, it has been observed that borrowers may miss payments but are less likely to default on a housing loan because of the following reasons:

i. significant equity by borrower in the property – weighted average LTV on the pool is very low at about 56%;
ii. homes are typically primary residences and are self-occupied; and
iii. in India there is a social and status value attached to owned homes. Most low-income borrowers consider their home as more than just an economic asset and are committed to holding on to it through periods of financial distress

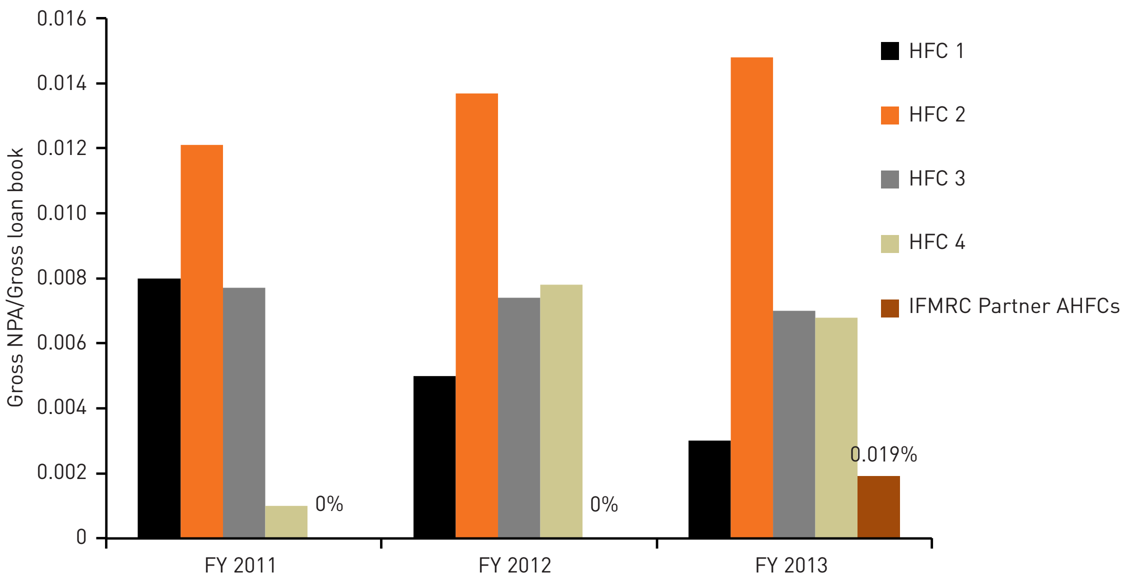
This strong credit behaviour of AHFC borrowers in general is reflected in the good asset quality of IFMR Capital's AHFC partners over the last few years compared to that of mainstream housing finance companies.

While the vintage of this asset class is not significant and hence the data not strictly comparable, the good asset quality reflects the absence of significant proportion of early defaults, a good indicator of the strong underwriting practices of the AHFCs. Furthermore the transaction structure has sufficient credit enhancement to mitigate the risk of defaults, as detailed in the following sections.

Risk of losses due to interest rate changes, defaults and prepayment

Due to the high tenure, there is a potential risk of interest rate rise which may impact the effective yield of the investors. In Hebros, this risk is mitigated for the senior investor by linking the yield on the senior tranche to a benchmark interest rate. The fixed yield on the junior

IFMR's AHFC partners' asset quality vs mainstream housing finance industry **Exhibit 7**



Source: IFMR Capital

tranche factors in this risk premium.

Prepayments on the underlying loans can lead to erosion in the excess interest spread (EIS). Prepayments in the case of AHFCs is likely to be driven by refinancing by borrowers as they build credit history and are able to access lower-cost home loans from mainstream lenders. This is expected to be different from other housing finance markets where mortgage prepayments are largely linked to interest rate cycles and economic cycles. Actual prepayment rates would be determined by the competitive response of the originator.

Structuring the transaction to re-size the EIS and add a further credit enhancement in the form of over-collateralisation can provide protection against default risk and interest losses due to prepayment, as illustrated in Exhibit 8.

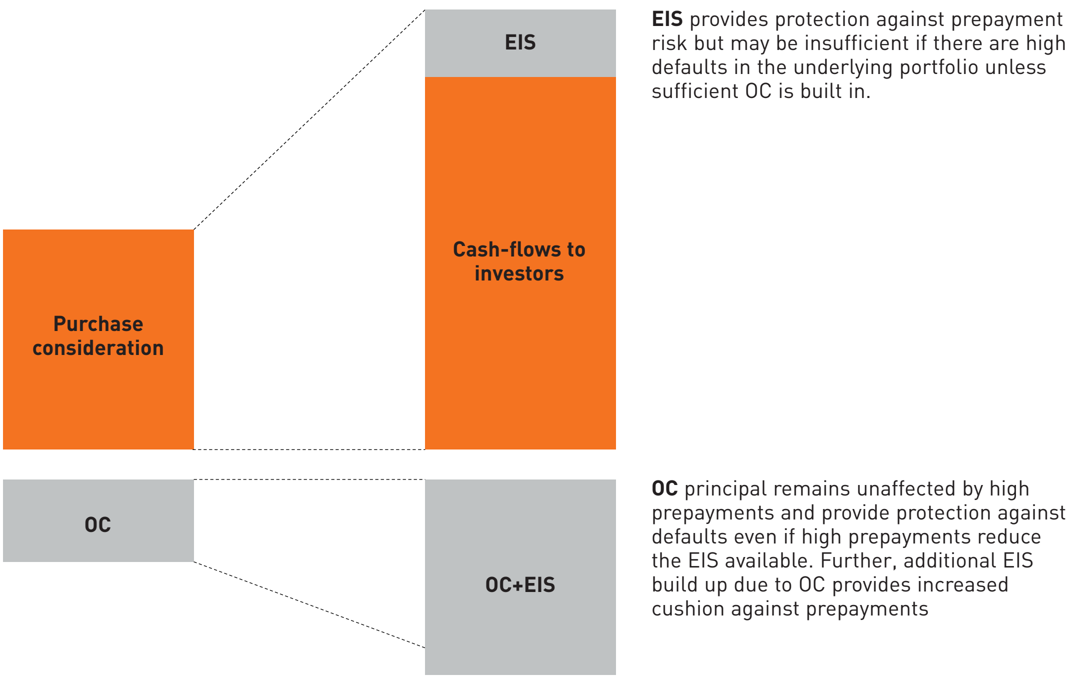
To determine the adequacy of credit enhancement to cover different risks, IFMR Capital has created a proprietary Loss Estimation tool to estimate the revised cash flows and the loss to investors, due to any or all of the following:

i. changes in prepayment rate, including the proportion of partial prepayments and pre-closures;
ii. changes in default rate;
iii. changes in the interest rate on the underlying loans; and
iv. changes in the senior tranche interest rate

For Hebros, the key findings of the model were as follows:

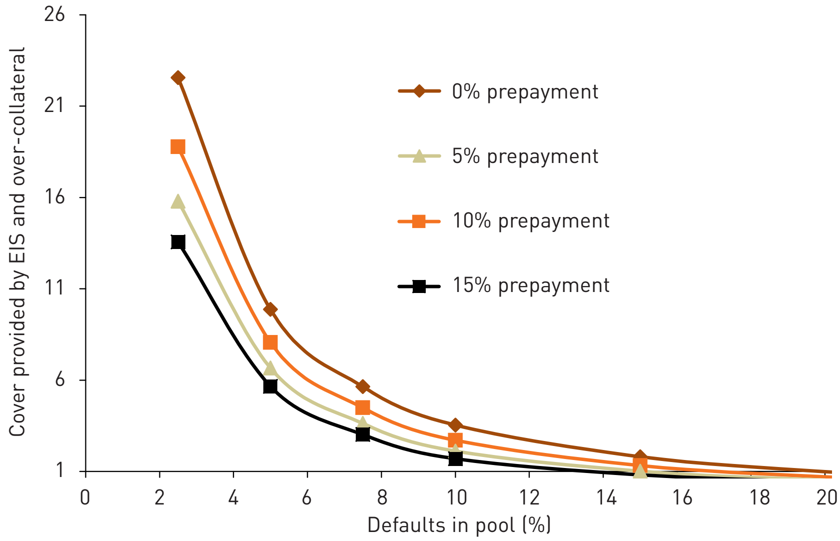
1. The planned EIS and over-collateral would be sufficient to cover for a mild to high stress on prepayments and

Credit enhancements **Exhibit 8**



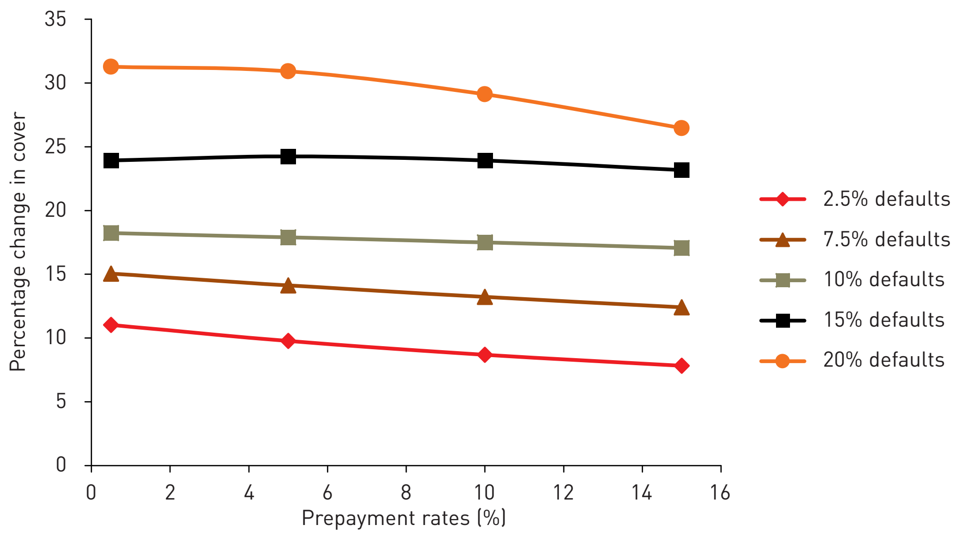
Source: IFMR Capital

Hebros structure: x-times cover provided by the EIS and over-collateral against credit defaults **Exhibit 9**



Source: IFMR Capital

Hebros structure: Change in the cover with 100 bps rise in senior tranche yield **Exhibit 10**



Source: IFMR Capital

defaults (Exhibit 9). The cover provided by the non-cash credit enhancement was sufficient to provide cushion in a scenario of 12% defaults over a period of 24 months (i.e., 0.5% of the pool defaults each month up to 24 months until the default rate stabilises at 12%) and 15% annual prepayment in the pool. However, in the absence of any prepayments, the credit enhancement would be able to cover defaults up to nearly 20% over a period of 24 months.

2. Potential risk could arise from interest rate increase which could result in higher defaults, lower prepayments and higher yield to the senior tranche (Exhibit 10). As depicted in Exhibit 10, a 100 bps rise in the senior yield will cause erosion of the credit enhancement cover provided by the EIS and over collateral. The erosion in the cover during the transaction tenure is high for low annual prepayment rates and high defaults.

Conclusion

In an environment where AHFCs in India are unable to access long-term, competitively-priced funding from banks and from the as-yet-underdeveloped long-term debt markets, securitisation is an important tool for accessing capital markets financing. The first MBS for an AHFC, arranged, structured and invested in by IFMR Capital, is a promising step in this direction. Catalysing this market requires the participation of a large number of investors and credit enhancement providers with a long-term risk horizon. Just as IFMR Capital has created an active market for securitisation for microfinance institutions and small business lenders, it aims to create a thriving, long-term market for MBS, thereby widening the funding 'net' available for these affordable housing finance companies.

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2. Fernandes, K., 2011. *A structured finance approach to microfinance*. In: The Euromoney Securitisation & Structured Finance Handbook 2011/12. West Sussex: Wyndeham Grange Ltd, pp.56-64.
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4. Report of the Technical Group (11th Five Year Plan: 2007-12) on *Estimation of urban housing shortage, ministry of housing and urban poverty alleviation*. India: Government of India.
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Notes:

1 2012 study by the Technical Group on Housing Shortage, Ministry for Housing and Urban Poverty Alleviation.
2 ICRA, a fully owned subsidiary of Moody's, is one of India's leading rating agencies.
3 Available at: <http://www.shubham.co/financials.php> [Accessed July 7, 2014].
4 Available at: <http://www.rbi.org.in/scripts/NotificationUser.aspx?Id=7184&Mode=0> [Accessed July 7, 2014].
5 Available at: <http://ajayshahblog.blogspot.in/2013/03/unanticipated-consequences-of-finance.html> [Accessed July 7, 2014].
6 The RBI requirement for securitisation specifies all loans with a maturity of above five years must have a minimum seasoning of 12 repayments (typically monthly repayments).

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