

A structured finance approach to microfinance

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THE LENDING MODEL OF MAKING SMALL-SIZED LOANS TO GROUPS OF BORROWERS WHO MUTUALLY GUARANTEE REPAYMENT, WAS BROUGHT TO THE FOREFRONT WHEN MOHAMMAD YUNUS AND THE GRAMEEN BANK WERE AWARDED THE NOBEL PRIZE IN 2006. VARIANTS OF THE GRAMEEN MODEL AND OTHER FORMS OF MICROCREDIT HAVE BEEN IMPLEMENTED BY MICROFINANCE INSTITUTIONS (MFIS) ACROSS THE WORLD, PREDOMINANTLY IN LATIN AMERICA, AFRICA, ASIA AND EASTERN EUROPE. THE NEED FOR CONTINUOUS AND RELIABLE SOURCES OF CAPITAL IS CRITICAL FOR GROWTH AND SUSTENANCE IN THIS SECTOR. THE STRUCTURED FINANCE APPROACH HAS GIVEN MFIS ACCESS TO A NEW CLASS OF DEBT INVESTORS, THEREBY REDUCING OVER-DEPENDENCE ON TRADITIONAL SOURCES OF FUNDS AND ENABLING RISK TRANSFER OVER A LARGER GAMUT OF FINANCIAL INSTITUTIONS.

MFIs lend small amounts of money to low-income households to enable them to engage in income-generating activities, asset building and consumption smoothening. Many MFIs also provide access to financial products and services such as insurance, savings and remittances. By making finance available to a segment of society that has no access to banks or other formal financial institutions, they play an important role in financial inclusion.¹ However, most MFIs are overly reliant on banks and development financial institutions (DFIs) for funding.² This funding is extremely sensitive to external risks, as was proven in the aftermath of the Andhra Pradesh ordinance in India³, where bank funding to the sector came to a standstill following events triggered by political risk. Therefore it is imperative for MFIs to diversify their sources of capital beyond traditional sources of funding and access mainstream capital markets investors.

In this chapter we discuss the microfinance securitisation market in India and how this approach has been

successfully applied by MFIs to reliably access debt capital. In the first half of the chapter we discuss the approach and why microloans lend themselves as a good asset class for securitisation. In the second half, we review the structures



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and performance of a few pioneering microfinance securitisation transactions in India. We conclude by discussing the outlook for structured finance in this sector.

Applying the structured finance approach to the microfinance asset class

The Committee on the Global Financial System (2005) defines structured finance based on three characteristics:

- i. pooling of assets (either cash-based or synthetically created);
- ii. tranching of liabilities that are backed by the asset pool; and
- iii. delinking of the credit risk of the collateral asset pool from the credit risk of the originator, usually through the use of a finite-lived stand-alone special purpose vehicle (SPV).

Structured microfinance transactions can be broadly classified as direct and indirect securitisations (Bystrom, 2008). In direct securitisation, microloans originated by MFIs are pooled into an SPV that is typically a trust. Microloans originated by multiple MFIs could be pooled as well. The trust issues securities backed by the cash flows from the pool. The consideration received for the issuance pays off any original financier. The buyers of these securities now own a portfolio of microloans.

Typically, these securities are sold in 'tranches'. The waterfall mechanism defines how the cash flows will be distributed across the various tranches. When several thousand microloans are pooled, one can statistically estimate the percentage of cash flows that will be available to meet investor payout. One can then create and sell a high-quality 'senior' tranche of securities with low default risk, which is served first from the periodic cash flow received by the SPV. Once the senior tranche is paid off, the cash flow services a second, lower quality tranche for which the repayment risk is higher. One can further divide tranches into securities with different levels of default risk. In this form of securitisation, investors have an exposure to the underlying borrower and the performance of these

transactions depends upon the credit worthiness of the microloan borrower and the MFI's ability to collect repayments in a timely manner.

In indirect securitisations, loans made to MFIs get pooled into an SPV. The most commonly used form of indirect securitisations are collateralised debt obligations (CDOs). Similar to direct securitisation, tranching can create different risk-return profiles within the possibilities of the asset pool and instruments, and hence can attract a varied class of investors. In this form of securitisation, investors have exposure to the balance sheet of the MFIs and the performance of these transactions depends upon the credit worthiness of the MFIs.

While direct securitisation of microfinance receivables is important for local capital market development, very few transactions of this nature have been attempted in the international markets (Mostowfi, 2011). The first issuance of this nature was completed in Bangladesh in 2005 by BRAC, formerly known as Bangladesh Rural Advancement Committee. There have however been a series of direct rated securitisation transactions in the Indian market, most of them structured and arranged by IFMR Capital, a non-banking finance company (NBFC) based in Chennai. Most large securitisation transactions in microfinance have been indirect in nature. Since 2005, large investment banks have teamed up with specialised asset managers to fund MFIs via the use of vehicles such as CDOs (Jobst, 2010). The first microfinance CDO was issued in 2004 (and again in 2005) by the Geneva-based microfinance investment consultancy, BlueOrchard Finance SA in co-operation with the US investment advisory group, Developing World Markets.

Microfinance securitisation provides the same benefits that conventional structured finance products provide. For the originator of the microfinance assets, the advantages of securitisation include relief in regulatory and economic capital, diversification of the investor base, access to new (and potentially cheaper) sources of funding based on asset risk rather than corporate risk and portfolio management. Rating analysis and market based pricing also create credit history that may enable the originator to raise future capital at market-linked rates. For investors,

buying into structured securities gives access to a diversified portfolio with a return profile that matches their risk appetite. High repayment rates, low volatility of returns, low prepayment, granularity of loans and low correlation with other asset classes make microfinance an interesting asset class for securitisation.

What drives the high repayment rates and low volatility of returns? How can unsecured loans made to borrowers with no credit history be of a credit quality comparable to more established asset classes? To understand these questions, one must look at the underlying model used by MFIs in India and elsewhere.

The microfinance model

Most microcredit models, including the joint liability group (JLG) model are operationally intensive with strong emphasis on adherence to simple, yet well-designed processes that drive repayments. The JLG product is typically a one to two-year loan with weekly, fortnightly or monthly repayments. Borrowers get together and form the basic unit called the JLG, which is based on self-selection by the members in the group. Living in the same neighbourhood, they know each other well enough to understand the cash flow and debt requirements of their households. The group members have better insights into the ability and willingness of their members to repay than those provided by any formal credit evaluation process.

Members in a group agree to collectively guarantee the loans given to them. This means that if one or more of the group members fail/s to pay on time, the others pool together the shortfall and make the requisite payment on the predetermined date. Very often non-payment of an instalment is due to reasons of liquidity and not wilful default. The model effectively replaces physical collateral with social collateral.

The efficacy of the social collateral may be best understood by observing the normal cash flow behaviour of low-income households. Such households as a normal practice borrow from and save with each other⁴, and the JLG model builds upon this behaviour. Hence, the model

effectively allows households to provide a 'liquidity cushion' to each other, aided by the small size of each individual loan instalment payable.

While this may appear simple, the implementation is rather complex. Borrowers, who have never availed loans in the past or experienced the discipline of repayments, need to be educated about the product, group formation process and the liability they take on by being a member of the group. While many MFIs insist that borrowers use the loans to engage in an income-generation activity, often the loans are utilised to smoothen lumpy cash flows.

Most rural households engage in multiple income-generating activities. They grow seasonal vegetables, rear livestock and work as daily wage labourers. Thus, repayments often come from existing household activity, rather than from new business income. These small repayments match well with the high frequency cash inflows. The group guarantee based on self-selection, repayment discipline with close group monitoring and a financial product that matches the household's cash flow patterns result in high repayments.

The low correlation observed between returns on this asset class and other mainstream asset classes such as equities, bonds, commodities and bullion is because in the short run, the small-scale activities and occupations engaged in by borrowers continue irrespective of the happenings in mainstream markets (Krauss & Walter, 2009). As markets for end products/services produced by borrowers are largely local, the micro economy continues to function irrespective of rise in interest rates or inflation, or fall in stock market indexes or exchange rates.

Microfinance loans are small-ticket size loans. In India loan amounts range between INR5,000 to INR50,000 with an average loan size of about INR12,000.⁵ The granular nature of loans with diversified business activities underlying them make for a well-diversified underlying loan portfolio.

Most microloans are short-tenor loans with high frequency of repayment. The principal outstanding on the loans steadily reduces with every period of repayment. The duration of a typical weekly repayment loan with a

one-year maturity is around six months. This makes securitisation attractive to capital market investors who may prefer a shorter term exposure until sufficient track record is established. Also, loan repayments map well with the periodic cash inflows from the borrowers' livelihood activities. This minimises the proportion of prepayments and pre-closures, enhancing the predictability of cash flows to the SPV.

Illustrations of structured microfinance transactions in India

Structured financial transactions such as securitisations can be efficiently used to enable risk transfer by isolating risks and allocating them to entities best equipped to take them on (Ananth & Sahasranaman, 2011). A typical securitisation transaction involves multiple entities, namely, the originator, the SPV, a rating agency, a trustee, investors and intermediaries who structure and arrange such transactions. To ensure the effectiveness of the structure, all parties involved in the structure must be appropriately incentivised. In transactions where all risks are passed on to the end investor, asset originators and financial intermediaries have little incentive to perform the requisite due diligence at the time of origination and purchase, or to monitor the underlying assets on a continuous basis to ensure consistent performance.

From a structured finance perspective, efficient structures provide optimum tranching and credit enhancement (in the

form of cash collateral, overcollateralisation or guarantees) in a manner that provides attractive pricing for the originator and also matches the risk-return requirements of investors. Here, we discuss two pioneering structures in microfinance in India which were designed to be optimal from the point of view of originators as well as investors. Pool selection was done on the basis of scientific portfolio analysis.⁶ The originators of the microloans, who continued servicing the loans over the life of the transaction, retained the first loss. As structurer and arranger, IFMR Capital invested in the second loss or subordinated tranches. The senior tranches were sold to capital markets investors.

Single originator securitisation: IFMR Trust Pioneer-II

Structured and arranged by IFMR Capital, IFMR Trust Pioneer II was the first rated microfinance securitisation transaction in India to be placed with capital markets investors. Structured in the form of a 'premium' transaction, the SPV issued Pass Through Certificates (PTCs) in exchange for a purchase consideration equal to the discounted value of total pool cash flows. The INR515.4m transaction had 55,993 microloans underlying it. The SPV issued three series of PTCs, rated by CRISIL.

The senior tranches, Series A1 (rated P1+) and Series A2 (rated AA) were bought by a private bank and a mutual fund, while the subordinated residual tranche rated BBB was bought by another private bank and IFMR Capital. Equitas Micro Finance India Pvt. Ltd ('Equitas') was the originator of the microloans. Credit enhancement was

IFMR Trust Pioneer-II – transaction details

Exhibit 1

	Yield	Principal (INRm)	Tenure ⁷ (months)	Credit support	Rating
Series A1	Fixed	312.8	12	120.9 ⁸	P1+(so)
Series A2	Fixed	81.8	19	120.9 ⁹	AA(so)
Series A3	Residual	86.6	19	71.0 ¹⁰	BBB(so)
Cash collateral	-	54.7	19	-	Unrated

Source: IFMR Capital

IFMR Trust Pioneer-II – credit enhancement

Exhibit 2

Credit enhancement	For Series A1 (INRm)	For Series A2 (INRm)	For Series A3 (INRm)
Subordination	66.2	102.9	16.3
Cash collateral	54.7		

Source: IFMR Capital

provided by way of cash collateral and subordination benefits to the senior tranches. Exhibit 1 gives the transaction details and Exhibit 2 shows the credit enhancements available in the structure. The transaction structure is illustrated in Exhibit 3.

The cash collateral of 10.6% of the pool cash flows maintained in the form of a fixed deposit along with the subordination benefits provided cover over the expected peak shortfalls in the pool. During the life of the

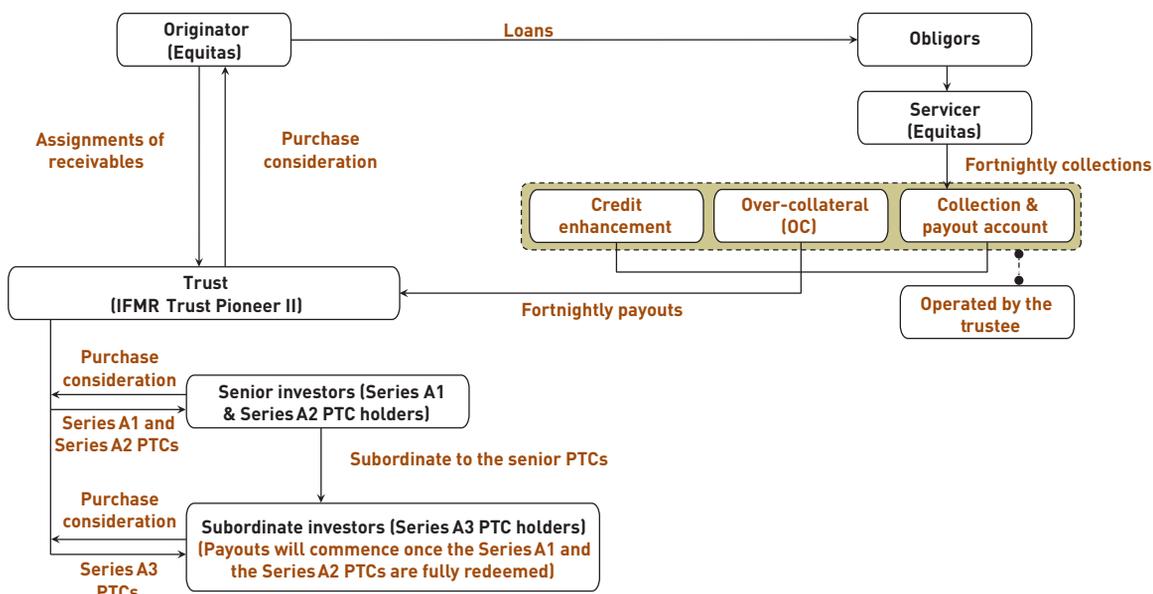
transaction, the BBB tranche was upgraded to A- and the AA tranche was upgraded to AAA. The transaction closed with a collection efficiency¹ of 99.64%

Multi-originator securitisation: IFMR Capital MOSEC-I

The multi-originator transaction, IFMR Capital MOSEC I, involved microloan pools from four Indian MFIs: Asirvad Microfinance, Sahayata Microfinance, Satin Creditcare, and

Pioneer-II Structure

Exhibit 3



Source: CRISIL Credit Rating Report IFMR Trust Pioneer II, 2009

Sonata Finance. This was the first time that microloans originated by multiple MFIs were pooled in a single transaction. Combining pools from various originators helped attain the critical portfolio size required to make a capital markets transaction viable. The transaction demonstrated that pooling loans across multiple MFIs not only achieved diversification across entities and geographies but also enabled small and medium-sized entities to access capital markets via a multi-originator approach. MOSEC-I was structured as a premium transaction where both interest and principal on the underlying loans were sold to the SPV. The transaction size was INR298m with 37,627 microloans underlying it.

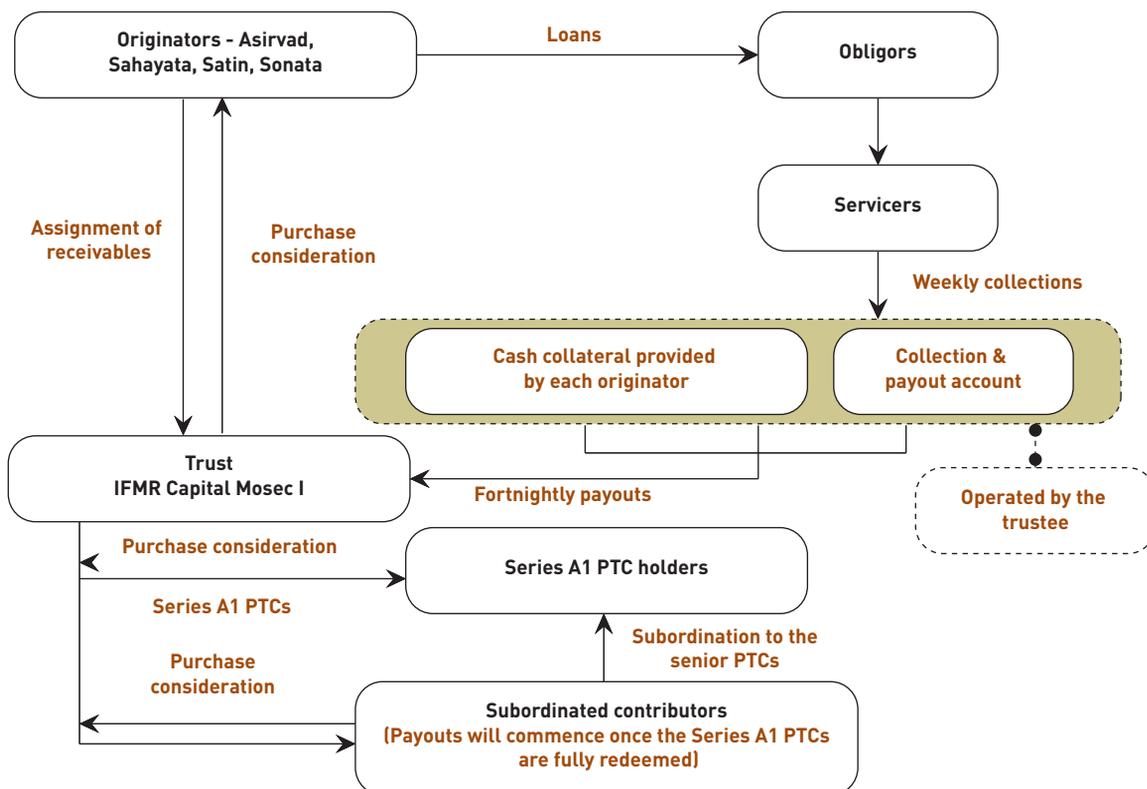
Exhibit 4 maps out the transaction structure, while Exhibit 5 gives the transaction details.

The senior tranche rated P1+ (so) was bought by a capital markets investor. The unrated subordinated tranche was bought by IFMR Capital.

Credit enhancement was available by way of cash collateral provided by the four MFIs. The transaction had an average credit enhancement of 13% in the form of cash collateral and 24% in the form of the subordinated tranche. As per the waterfall, the junior subordinated tranche would only begin to receive payments after the interest and the principal on the senior tranche was fully repaid. The transaction closed with a collection efficiency of 99.03%.

MOSEC-I Structure

Exhibit 4



Source: CRISIL Credit Rating Report IFMR Capital MOSEC I, 2010

Details	Yield	Cash Flows (in INRm)	Tenure ¹² (in months)	Credit support ¹³ (in INRm)	Rating
Series A1 PTCs	Fixed	233.3	11	116.5	P1+(so)
Subordinated	Residual	75.2	11	-	Unrated
Cash collateral A	-	3.6	11	-	Unrated
Cash collateral B	-	26.7	11	-	Unrated
Cash collateral C	-	5.2	11	-	Unrated
Cash collateral D	-	5.8	11	-	Unrated

Source: IFMR Capital

The future of structured microfinance

Over the last two years, MFIs in India have successfully used the securitisation route to access debt capital. Use of the structured finance approach has enabled these entities to raise the much needed liquidity during times when most regular funders stayed away from the sector due to risk considerations. A new class of investors comprising of NBFCs, mutual funds, bank treasuries and private wealth have emerged, enabling MFIs in India to diversify their sources of capital. These securitisation transactions have shown very high collection efficiencies. Exhibit 6 provides the collection efficiencies of some rated securitisation transactions in the Indian market. Several of the rated securities have been upgraded during the life of the transaction.

The success and sustainability of the structured finance approach in the microfinance sector depends on the high-quality origination of loans, appropriate incentives for all parties to a transaction and continuous monitoring of the portfolio and originator. Transparency and adequate disclosures ensure that market players act responsibly and the best originators are recognised. Finally, a strong regulatory framework that promotes innovation while ensuring transparent reporting, sufficient accounting mechanisms, prudent exposure limits and effective risk

management¹⁴ is critical. Past experience has shown that the importance of this cannot be overestimated.

Notes:

- 1 Sane and Thomas, 2011. A policy response to the Indian microfinance crisis.
- 2 Stieber, 2007. Is securitisation right for microfinance?
- 3 Unnikrishnan and Datta, 2011. MFIs lean on securitised loan market to raise funds. Available at <<http://www.livemint.com/2011/05/29225316/MFIs-lean-on-securitized-loan.html>>
- 4 Portfolios of the Poor, Princeton University Press (2009), talks about how many poor people have surprisingly sophisticated financial lives, saving and borrowing with an eye to the future and creating complex 'financial portfolios' of formal and informal tools.
- 5 Approximately US\$250.
- 6 Static pool analysis involves analysing a pool of loan accounts originated during a certain period to check performance over geography, loan size, loan cycle, seasoning, type of product etc., and correcting for growth. The analysis is used to identify patterns and give additional insights into the performance of the overall portfolio. It helps to track delinquency of loans originated in a month, as they progress towards maturity.
- 7 Indicates door-to-door tenure. Actual tenure will depend on the level of prepayments in the pool and exercise of the clean up call option.
- 8 Credit support for the Series A1 PTCs includes INR66.2m in the form of subordination of over-collateral.
- 9 Credit support for the Series A2 PTCs includes INR102.9m in the form of subordination of over-collateral.
- 10 Credit support for the Series A3 PTCs includes INR16.3m in the form of subordination of over-collateral.
- 11 Collection efficiency is a ratio used to measure the performance of the underlying pool. It broadly reflects the quality of origination, consistency in performance and the efficiency in operations of the MFI. The ratio is obtained by dividing the total amount due for a

Collection efficiencies of some microloan securitisation transactions in India
Exhibit 6

Date	Name of originator	Rating agency	Structure	Name of transaction	Transaction size (INRm)	Collection efficiency
13-Mar-09	Equitas Microfinance Pvt. Ltd	CRISIL	Par	IFMR Trust Pioneer I	157	99.91%
19-Nov-09	Equitas Microfinance Pvt. Ltd	CRISIL	Premium	IFMR Trust Pioneer II	481	99.64%
15-Jan-10	Sonata, Sahayata, Satin & Asirvad	CRISIL	Premium	MOSEC-I IFMR Capital	298	99.03%
25-Mar-10	Gameen Financial Service Ltd	CRISIL	Premium	IFMR Capital Pioneer III	265	100.00%
14-May-10	Sahayata, Satin & Asirvad	CRISIL	Premium	MOSEC-II IFMR Capital	339	97.54%
22-Jun-10	Grameen Financial Service Ltd	CRISIL	Premium	Alpha Pioneer IFMR Capital	312	99.72%
18-Aug-10	Janalakshmi Financial Services Pvt. Ltd	CRISIL	Turbo Par	Delta Pioneer IFMR Capital	248	98.79%
16-Sep-10	Sahayata, Satin & Asirvad	CRISIL	Premium	MOSEC-III IFMR Capital	354	98.95%
1-Oct-10	Equitas Microfinance Pvt. Ltd	CRISIL	Premium	Gamma Pioneer IFMR Capital	986	99.39%
1-Dec-10	Grama Vidiyal	ICRA	Turbo Par	Zeta Pioneer IFMR Capital	437	100.00%
28-Dec-10	Grameen Financial Service Ltd	CRISIL	Turbo Par	Epsilon Pioneer IFMR Capital	155	99.45%
17-Feb-11	Grama Vidiyal	ICRA	Turbo Par	Eta Pioneer IFMR Capital	449	100.00%
22-Feb-11	Satin Creditcare	CRISIL	Turbo Par	Theta Pioneer IFMR Capital	79	99.49%
24-Feb-11	Janalakshmi Financial Services Pvt. Ltd	CRISIL	Turbo Par	Iota Pioneer IFMR Capital	370	98.96%
10-Mar-11	Grameen Financial Service Ltd	ICRA	Turbo Par	Sigma 2 Pioneer IFMR Capital	165	98.32%
14-Mar-11	Grama Vidiyal	ICRA	Turbo Par	Lambda Pioneer IFMR Capital	173	100.00%
23-Mar-11	Grameen Financial Service Ltd	ICRA	Turbo Par	Tau Pioneer IFMR Capital	153	99.11%
23-Mar-11	Pudhuaaru KGFS	ICRA	Turbo Par	Omikron Pioneer IFMR Capital	151	99.98%
23-Mar-11	Satin Creditcare	ICRA	Turbo Par	Phi Pioneer IFMR Capital	146	98.78%
23-Mar-11	Satin Creditcare	CARE	Turbo Par	Chi Pioneer IFMR Capital	133	100.03%
24-Mar-11	Utkarsh Microfinance	ICRA	Turbo Par	Kappa Pioneer IFMR Capital	87	100.08%
29-Mar-11	Grameen Financial Service Ltd	ICRA	Turbo Par	Sigma1 Pioneer IFMR Capital	250	98.27%
29-Mar-11	SV Creditline	CARE	Turbo Par	Upsilon Pioneer IFMR Capital	82	99.74%
29-Mar-11	Asirvad Microfinance Private Limited	ICRA	Turbo Par	Rho Pioneer IFMR Capital	84	98.94%
30-Mar-11	SKS Microfinance	CARE	NA	NA	5500	NA
30-Mar-11	Grama Vidiyal	ICRA	Turbo Par	Psi Pioneer IFMR Capital	120	100.00%
2-Apr-11	SKS Microfinance	ICRA	NA	NA	2000	NA
29-Apr-11	Satin Creditcare	CARE	Turbo Par	Heta IFMR Capital IFMR Capital	155	99.82%
20-May-11	Ujjivan	ICRA	Turbo Par	Omega Pioneer IFMR Capital	174	100%
22-May-11	SKS Microfinance	CARE	NA	NA	500	NA
24-May-11	Grama Vidiyal	ICRA	Turbo Par	Beta IFMR Capital	108	99.98%
1-Jun-11	Grameen Financial Service Ltd	ICRA	Turbo Par	Hyperion IFMR Capital	222	100%
17-Jun-11	PFSL, Satin, Utkarsh Microfinance	ICRA	Premium	IFMR Capital MOSEC I V	272	NA
29-Jun-11	Grama Vidiyal	ICRA	Turbo Par	Athena IFMR Capital 2011	268	100%
30-Jun-11	Asirvad, Disha, Suryoday, SVCL	ICRA	Premium	IFMR Capital MOSEC V	269	NA

Source: IFMR Capital

period from the outstanding pool by net collections made during the period (adjusted for pre-closure and overdue collections).

- 12 Indicates door-to-door tenure between placement date and final maturity date. Actual tenure will depend on the level of prepayments in the pool and the extent of shortfalls.
- 13 Credit support for the Series A1 PTCs includes INR75.2m in the form of subordinated contribution and INR41.3m in the form of cash collateral provided by the four MFIs.
- 14 The Indian securitisation guidelines require extensive disclosure of financials from the SPV and the originator.

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