



Microfinance Index of Market Outreach and Saturation

India

February 2018

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India – the single largest microfinance market in the world – is moderately saturated, with a MIMOSA score of 4. It features strong regulation, but undermined by a political environment that can have unpredictable effects on lending. Competition is high but mitigated by a strong regional focus on the part of many MFIs. However, it is also fast evolving into a more complex market, with long-standing market segmentations disappearing, and banks and MFIs coming into more direct competition. Combined with high growth rates, this new environment will require significant changes to the monitoring and oversight structure that has governed the MFIs until now. Given these changes, we developed a special approach to measuring microfinance lending that's tailored to the Indian market (see Appendix for details). Finally, India continues to feature very high variation in lending patterns between different states and even within states. For more, consult the accompanying reports on Uttar Pradesh, Maharashtra, and Tamil Nadu.

Regulation is generally strong, receiving the third highest overall score in the 2016 EIU Microscope report. However, though the official regulatory authority of the RBI is an important steadying hand, its contribution must be tempered by the political reality, which introduced a sudden and deeply unsettling demonetization policy in late 2016. This had an especially large and negative impact on the financial condition of the cash-reliant households that typically comprise MFI clientele. A MIMOSA field survey conducted in March 2017 found many individuals struggling with cashflow challenges, sizeable decreases in income and even job loss as a result of demonetization. Additional announcements of loan waivers in different parts of India have further affected client behavior and unsettled the sector.

These actions should be seen in the context of a long history of destabilizing political interference in the Indian financial sector, especially where it interacts with poor rural and semi-urban households that make up the bulk of the microfinance sector. Such tendencies may not directly impact loan demand and thus the sector's direct

Category	Indicator	2016	Rating
Saturation	1a) Loan penetration over capacity	+ 5.5%	4
	1b) Credit card penetration	n/a	n/a
Regulation	2a) Overall quality of regulation*	78/100	●
	2b) Prevention of overindebtedness	2/2	●
	2c) Appropriate collections	1/2	●
	2d) Quality of credit bureau & credit reporting	92/100	●
Competition / overheating	3a) Level of MFI competition (HHI)*	605	●
	3b) % total borrowers with 3+ loans	3.3%	●
	3c) MFI loan portfolio CAGR in value past 3 years	46%	●
	3d) MFI loan portfolio growth in value expected next 12 months	43%	●
Maturity of microfinance institutions	4a) % clients at MFIs <10y or >20y old	14% at >20y old 6% at <10y old	●
	4b) Experienced crisis in past 15 years	yes	●
Transparency	5a) Composite transparency score	3.1/4	●
	5b) % leading MFIs with ratings in past 2 years*	89%	●
Other risks	6a) FX exposure	nil	●

1a) MIMOSA calculations; 2a-d) EIU Microscope 2016; 3a-b) CRIF High Mark; 3c) MFIN, Sa-Dhan, Bandhan, IMF; 3d) MIX Market Barometer Sep 2017, IMF; 4a) MIX Market, MIMOSA; 5a-b) MIMOSA

* rating adjusted – see text for explanation

MFI defined as: members of MFIN and Sa-Dhan, all SFBs, LABs, and Bandhan (see Appendix for details)

capacity to sustain a certain level of penetration, but they introduce fragility that makes the sector more susceptible to sudden downturns. Any assessments of long-term sustainable levels of lending must account for this. For this reason, we reduce the assessment of overall quality of regulation from positive to neutral.

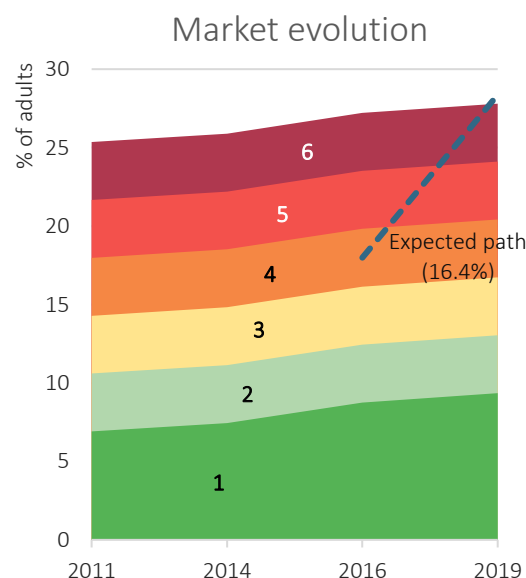
With this political backdrop, microfinance lending regulations and practices generally support sustainable growth, through policies that prevent overindebtedness via loan limits to both amount lent and number of concurrent loans. However, recent shifts in the market, with the transformation of many leading MFIs into banks (e.g. Bandhan) or the newly-created Small Finance Bank (SFB) licensees widens existing gaps in regulation. Indeed, even if the SFB's themselves continue to observe limits on multiple lending, this shift accelerates their competition with commercial banks and non-microfinance NBFCs, which do not fall under such lending limits. The result is an introduction of regulatory gaps that will need to be closed (see Special Discussion, below).

Collections practices are generally appropriate, but they nevertheless continue to be limited by the dynamics of joint liability. A number of borrowers who themselves did not complain about their financial situation, pointed to defaults by several group members as the reason they themselves stopped paying their loans. It is plausible that joint liability was a significant factor aggravating delinquencies following the demonetization. There are also pockets of concern. The MIMOSA field survey came across multiple instances where clients claimed that in the event of loan default, other group members could forcibly sell the defaulter's household property to settle their group liability. In one case (albeit out of nearly 500 interviews), the person said this action was proposed by the loan officer himself.

The presence of a generally reliable credit bureau system provides confidence about the information available on individual borrowers. Nearly all significant financial institutions are required to report their loans. There is also high level of awareness of credit reporting among clients – 81% of individuals polled in the MIMOSA field survey stated that if they didn't pay a loan to one lender, other lenders would know this from checking the "computer or internet" and thus refuse to lend. Some also mentioned that lenders also check for outstanding loans to comply with the 2-loan limit applied by MFIs. Several understood the notion of a credit history, and a handful of interviewees even mentioned the name High Mark – one of the leading credit bureaus in the country. This level of credit bureau awareness is on par with some of the most developed microfinance markets in the world.

	2011	2014	2016	2019
HDI	0.597	0.604	0.624	0.641
Population density per km ²	419.6	435.7	445.4	460.4
Credit Bureau Score	25.2	37.3	72.5	79.5
Loan capacity	10.6	11.1	12.4	13.0
Borrowers per adult	n/a	n/a	18.0	28.4
Microfinance loans per adult	n/a	n/a	5.9	10.1
MIMOSA Score	n/a	n/a	4	6
GDP per capita (current \$)	1,498	1,607	1,742	2,165
CAGR GDP, past 3 years (constant LCU)	8.4%	6.4%	7.5%	7.3%

* forecasts: IMF for GDP, UNDP for population; MIMOSA for others



Competition in India appears high when measured by the Herfindahl-Hirschman Index (HHI), which at 605 is more competitive than any market assessed by MIMOSA to-date.¹ However, MFIs tend to have a strong focus on one or a couple of states, reducing the effective level of competition at the state level, though even there it remains high, typically around 1,000 HHI (scale is inverted – lower score implies higher competition). That said, it appears that even at the state level, some lenders have a regional focus that further mitigates competition among target customers. As part of the MIMOSA field survey, borrowers are asked to name the lenders with which they have active loans. The result was that in each of the three states surveyed, the top 4 lenders accounted anywhere from 50% to 75% of market share among those polled.

This pattern of modest competition among MFIs appears to be changing, and in the near future MFIs and especially the recently-transformed SFBs are likely to get into increased competition with commercial banks and non-MFI NBFCs (see Special Discussion below).

The combination of explicit limits on multiple lending and until recently, significant separation between bank and MFI lending (not counting SHGs, business correspondent, and other indirect lending by banks) have resulted in lower multiple lending levels than expected, relative to other microfinance markets. This too may begin to change, as MFIs enter into more direct competition with banks that aren't subject to multiple lending limits.

Growth poses significant concern in India. Historical and expected portfolio growth of around 45% CAGR is not only greatly exceeding the growth rate of the underlying economy, it also cannot be explained by broadening expansion into less-penetrated parts of the country.² While such geographic expansion is indeed taking place, growth remains high in regions with already high levels of penetration, and at least lately, it has been also driven by rapidly growing loan sizes (see Special Discussion, below).

The growth forecast of the MFIs is very aggressive – MFIs expect to grow their loan portfolios by 43% in the next 12 months. Whether that aggressive goal is met and sustained remains to be seen. But simply extending last year's growth in outreach (including the slower-growing bank and non-MFI NBFC sector) would push saturation levels above a MIMOSA score of 6 by 2019.

Past experience has shown that it is difficult for markets to moderate growth in a controlled manner when they have been undergoing rapid growth for extended periods. It would be prudent to begin moderating growth targets in anticipation of this future need, rather than continue at the current pace, and then have to deal with the much more difficult rapid slowdown that could become unavoidable should market growth continue unchecked.

Maturity. India is also a relatively young microfinance market. Of the leading MFIs, only a small minority are older than 20 years and a handful are less than 10 years old. This relative youth is tempered by the experience of the Andhra Pradesh crisis, which is recent enough to have affected the mindset of many MFI managers who remain at senior positions across the sector. These two factors – institutional maturity and direct experience with crisis are important for instilling a long-term perspective and alertness to potential troubles down the road. However, it's difficult to say which of these factors will play the more significant role in India. There are other factors whose role is difficult to predict – rapid growth and staff turnover (average 15%, according to MIMOSA MFI

¹ HHI index is a standard measure of competition based on market shares of different competitors. For this exercise, we requested CRIF High Mark to calculate HHI both for India and at the state level for institutions defined as MFIs (see Special Discussion below), with market share expressed by number of active loans (not portfolio amount).

² Growth figures extrapolated from CRIF High Mark (2016-17) and MFIN and Sa-Dhan (pre-2016) data. Since these two data sets are not strictly comparable, we report only the estimated growth rates, not the historical penetration levels. Forecasts for microfinance are based on MIX Market Barometer – India Sept 2017; for overall market growth, forecast is based on recorded growth in number of loans during March 2016-17.

survey) increase the challenges of staff training and reduce the effect of mature industries, since the majority of staff has had no experience with crisis.

Transparency. Indian MFIs and the broader financial sector are relatively open, with regular and significant level of reporting to regulators, the credit bureau, and microfinance associations. However, with recent changes, this transparency appears to be declining – the country's largest MFI, Bandhan, provides no data to associations or other organizations where it may be readily accessed. The recently created SFBs continue to report to MFIN, but in less detail than before. The market is becoming more opaque. The partial overlap between the two SROs, MFIN and Sa-Dhan, also muddy the level of market transparency. The data is there, but it's difficult to see the full picture.

The widespread practice of securitizing portfolios and offering debentures insures that basic financial ratings are being done regularly, and these allow for some level of insight. However, such rating reports are often limited to the specific security being offered, and are moreover brief and rarely cover operational details not directly related to financial standing of the institution. These ratings are thus less informative than the type of institutional ratings done by specialized microfinance rating agencies.

F/X risk. There is no significant lending in foreign currency to end-clients in India.

MIMOSA Scores by Region

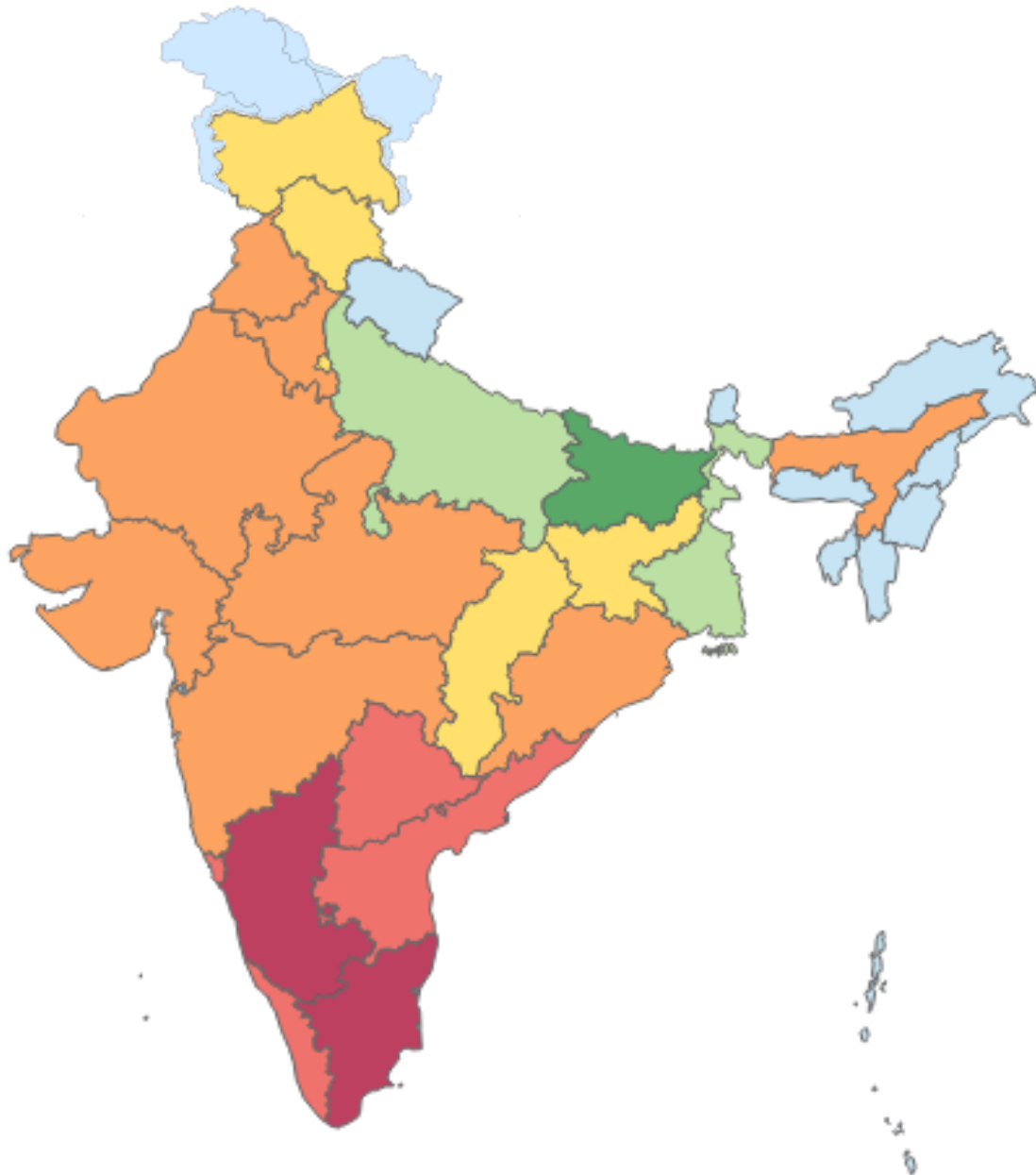
India shows great variation in levels of penetration between states. States in the south have the highest penetration levels, with Tamil Nadu well ahead of the others. Northern and especially north-eastern states have far lower levels of penetration, with some being outright under-served.

Of the major states, Bihar is the most under-served, scoring 1 on the MIMOSA scale. Uttar Pradesh and West Bengal are just a step above, but at least for the former, there are nevertheless serious concerns about overindebtedness (see report on Uttar Pradesh).

In the south, Andhra Pradesh (scored jointly with Telangana) remains highly penetrated (scored at 5), despite minimal lending there by the MFIs. Karnataka's saturation level is comparable to Peru, the most saturated market covered by MIMOSA to-date (also scored six on the MIMOSA scale). But the figures in Tamil Nadu are higher still, and the state would score an 8 if we extended the MIMOSA scale past 6. No other market assessed by MIMOSA has come close to that level.

The state-level scores also obscure another important feature – many states have as high a variation within their own borders, as does the country as a whole. See the accompanying state reports for Uttar Pradesh, Maharashtra and Tamil Nadu.

Due to lack of demographic data required to calculate capacity, and hence the Mimosas score, there are no scores for most of the smaller states. However, we report their penetration levels, some of which are concerning. Given its location, Puducherry has a penetration level roughly similar to Tamil Nadu. Chandigarh likewise has a high penetration level, though it should be noted that penetration is expected to be higher in cities. If one were to assume similar capacity as Delhi (for which we have the needed data), both Puducherry and Chandigarh would score 6.



Column no:	1	2	3	4	5	6	7	8
Region	Population (000s)	HDI	Population density (per km2)	MIMOSA Score	Borrowing capacity (%)	Borrowers per adult (%)	Penetration over capacity	Borrowers with 3+ loans (%)
National	1,324,171	0.624	445	4	12.4	18.0	5.5	3.3
Uttar Pradesh	218,511	0.555	907	2	14.1	11.8	-2.3	2.3
Maharashtra	122,891	0.682	399	4	13.3	19.5	6.2	3.5
Bihar	113,841	0.549	>1200	1	15.8	10.4	-5.4	4.7
West Bengal	99,818	0.619	1,125	2	16.7	14.2	-2.5	3.0
Andhra Pradesh*	92,496	0.632	336	5	11.9	21.9	10.0	1.3
Madhya Pradesh	79,423	0.570	258	4	10.2	16.9	6.6	4.6
Tamil Nadu	78,899	0.683	607	6	14.6	35.5	20.9	5.2
Rajasthan	74,963	0.591	219	4	10.4	15.1	4.8	2.8
Karnataka	66,813	0.633	348	6	12.0	26.9	14.9	4.0
Gujarat	66,096	0.631	337	4	11.9	17.8	5.8	3.5
Odisha	45,902	0.570	295	4	10.5	16.6	6.1	3.1
Kerala	36,532	0.729	940	5	17.6	27.4	9.8	3.0
Jharkhand	36,075	0.573	453	3	11.5	12.3	0.8	3.1
Assam	34,126	0.569	435	4	11.3	16.8	5.5	2.2
Punjab	30,340	0.677	602	4	14.5	19.2	4.7	3.6
Chhattisgarh	27,936	0.563	207	3	9.8	11.8	2.0	3.1
Haryana	27,724	0.677	627	4	14.6	21.1	6.5	3.2
Delhi	18,359	0.780	>1200	3	20.2	22.6	2.4	2.6
Jammu and Kashmir	13,715	0.665	62	3	10.8	11.8	1.0	0.3
Uttarakhand	11,030		206			19.1		3.2
Himachal Pradesh	7,507	0.686	135	3	11.7	13.1	1.4	1.1
Tripura	4,018		383			18.1		2.8
Meghalaya	3,245		145			10.1		1.1
Manipur	3,123		140			7.5		0.4
Nagaland	2,164		131			8.6		0.1
Goa	1,595	0.707	431	5	13.9	24.0	10.1	2.7
Arunachal Pradesh	1,513		18			13.1		0.2
Puducherry	1,365		>1200			32.8		4.9
Mizoram	1,200		57			7.7		0.5
Chandigarh	1,154		>1200			31.3		2.8
Sikkim	668		94			16.5		1.7
Andaman and Nicobar	416		50			10.7		0.4
Dadra and Nagar Haveli	376		766			9.3		1.5
Daman and Diu	266		>1200			9.6		1.3
Lakshadweep	71		>1200			12.6		0.2

Source: 1) India 2011 Census, UNDP; 2) India Planning Commission; Live Mint; UNDP; 3) Ministry of Statistics and Programme Implementation; 4-5, 7) MIMOSA; 6, 8) CRIF High Mark

* includes Telangana (due to absence of separate demographic data)

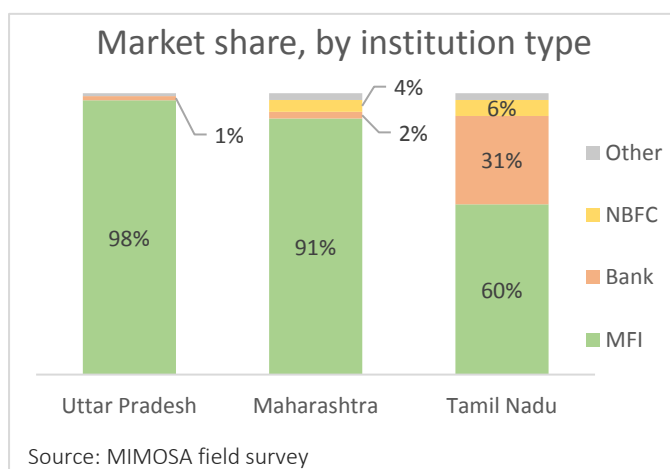
Most smaller states do not have consistent HDI indicators to allow calculation of capacity and MIMOSA score

Special discussion: Mixing the credit biryani

Of the best ways to cook biryani is in layers – each layer having its own special flavors. The credit market in India has for years been layered – MFIs serving the low-income layer, NBFCs and banks the mid- and upper-income ones. Yes, banks would reach down through business correspondent and SHG channels to somewhat compete with MFIs, but this was driven more by government policy than competitive pressures. MFIs saw each other as competitors, but rarely considered the banks that way.

These layers are fast disappearing. Erstwhile MFIs are turning into Small Finance Banks (SFBs) or even commercial banks, as in the case of Bandhan. In the process, they're blurring the distinctions between the sectors, competing as much with commercial banks as with each other and their former MFI compatriots. In this, India is traversing a well-trodden path. In Latin American countries, where microfinance is now entering its 5th decade, the line between MFIs and commercial banks has largely been erased. MFIs upscaled, banks downscaled, and everyone competes with everyone else.

In India, this transformation has been on hyper drive. Since Bandhan became a bank in August 2015, an additional eight MFIs have become or are in the process of becoming Small Finance Banks – a newly-created regulatory structure that purposefully straddles the line between banking and microfinance. The resulting change in the landscape is already visible at the client level.



Part of the MIMOSA field survey of likely microfinance clients asks the institutions from which these individuals borrowed. The results are revealing. While the layers are still very much present in Uttar Pradesh, they have already become largely eliminated in Tamil Nadu, India's most penetrated credit market. There, the same interviewees were as likely to mention borrowing from Indian Bank as Ujjivan, Repco Bank as Equitas, Grama Vidiyal as HDFC. Is Tamil Nadu the bellwether state? In this respect, it's safe to say yes.

This is a positive development, providing greater choice – including new products such as deposits – to people who were previously consigned to joint liability groups as their only form of financial inclusion. Perhaps this will lead to a future where we won't hear responses such as "loans are only offered to women, so I don't borrow" – responses that remain sadly common in our field survey, including in Tamil Nadu. But this development comes with the responsibility of adapting to a more complex, less predictable competitive environment. Lenders, shareholders, and regulators will all have to start evaluating the sector through a wider lens and develop new monitoring tools to do so.

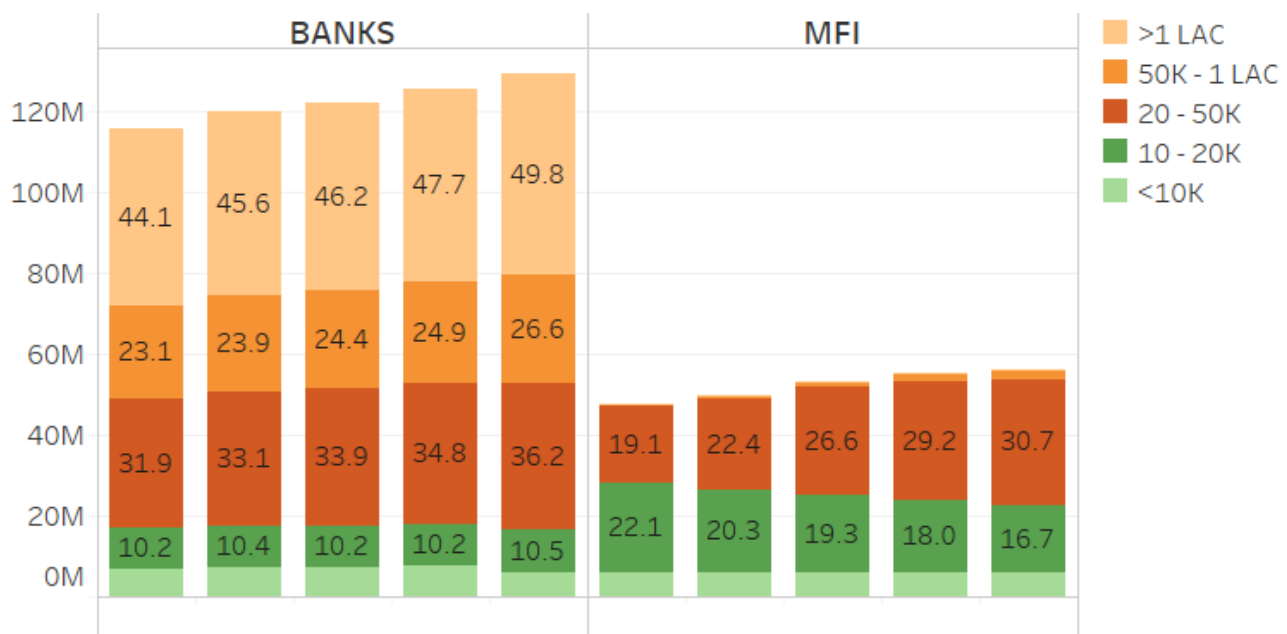
It will also be important for regulations to change to adapt to an environment where institutions under different regulatory regimes are entering into direct competition. Not doing so risks creating regulatory gaps that aggressive lenders will certainly find and exploit. Specifically, limits on multiple borrowing should be broadened to apply not only to institutions by to client segments.

Thus far, that has not happened. Not only has data collection by MFIN and Sa-Dhan been hampered by the transformations, with nothing to replace it, the MFIs thus far don't seem especially attuned to the new

competitive landscape. In our survey of MFIs (including several SFBs), only one organization mentioned a bank (YES Bank) as one of its top 3 competitors.

And yet, this change in the competitive landscape has already had a massive shift in lending patterns. The 1-year period from March 2016 to March 2017 saw an 18% average growth in number of loans – unremarkable given the history of high growth in the country. But that obscures a far more important shift. Using a detailed set of figures from CRIF High Mark, we can break this growth into loan size segments, finding that loans with original balance greater than 20,000 Rs (\$312 USD) grew by 69%, even as the number of loans below 20,000 Rs declined by 19%. The result has been a reversal of focus from small loans to mid-sized ones. Indeed, with this change MFIs are now quickly approaching the outreach of banks into a major customer segment. By March 2017, where banks had 36.2 million loans outstanding in the range of 20,000 – 50,000 Rs, MFIs had 30.7 million in the same range. Little surprise that this is putting MFIs in direct competition with the banks. It may be the case that some

Number of active loans (mln) by size (Rs) and lender type



Source: CRIF High Mark

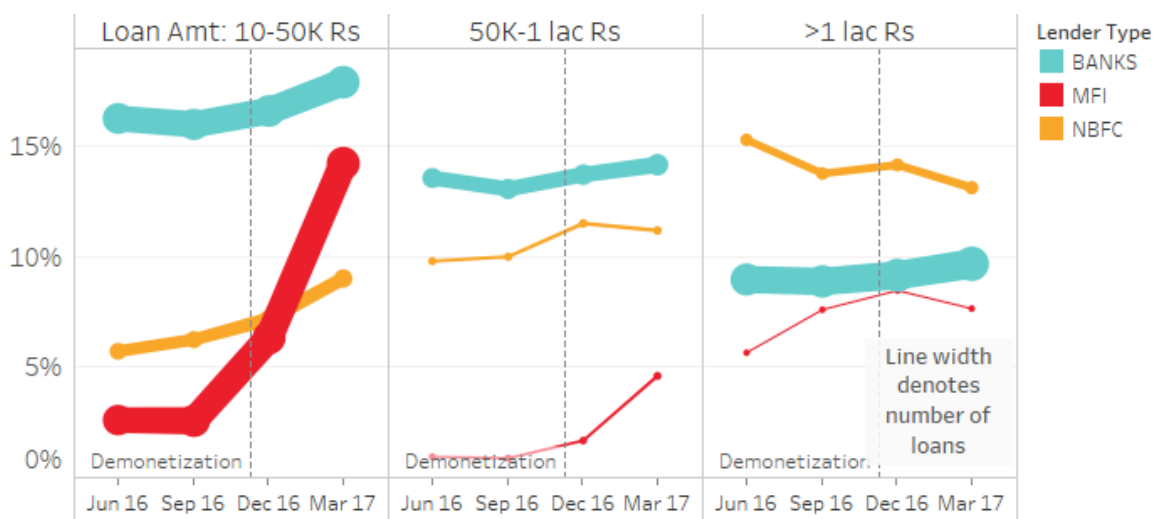
of this was driven by a response to demonetization (see below), but nevertheless, this shift does not seem likely to be reversed.

Special discussion: The demon in demonetization

In February 2018, discussing demonetization that took place 16 months ago seems quaint. And yet, as the huge shift in MFI portfolio composition demonstrates, its effects continue to be felt, and some may well be permanent. In our survey of MFIs (including several SFBs) conducted in Jan-Feb 2018, 43% reported still dealing with after-effects of the demonetization, including a change in borrower credit culture.

At the field level, the impacts were likewise widely reported. During surveys conducted in March 2017, 64% of interviewees asked about demonetization said that the policy had a negative impact on their businesses (the question was asked only in Uttar Pradesh and Maharashtra, not Tamil Nadu). The negative impact on MFI portfolio quality is well known and does not need to be repeated here. However, in analyzing High Mark data, an interesting pattern emerges.

Number of loans delinquent > 30d as share of total active loans,
by loan size and lender type



Source: CRIF High Mark

It is clear that small loans (<50,000 Rs or \$777 US) were affected for all types of lenders, and that banks and non-MFI NBFCs saw little or no effect on larger loans. Moreover, the scale of impact on MFIs in the bottom loan segment dwarfs that of other lenders. The most likely cause of this difference is the larger impact of demonetization on households typically reliant on cash, which is the case for many MFI customers. But a possible role may also be the flipside of joint liability groups (JLGs) used by MFIs – as multiple individuals in a group can no longer repay their loans, others are often prone to follow. That is a story that came up multiple times in the MIMOSA field survey. For larger loans (above 50,000 Rs) that are typically made on an individual basis rather than through JLGs, the impact on MFI delinquency rates is much lower.

Another important point to consider is that prior to the demonetization, MFI loan repayment rates were far superior than either for non-MFI NBFCs or banks, magnifying the impact of subsequent spike in delinquency. This analysis of demonetization has no direct bearing on our assessment of market capacity, other than the rating for regulations (see p.1). But it sheds important light on the risks and vulnerabilities of MFI lending in India.

Appendix: explaining the data

One of the foundational principles behind the MIMOSA methodology is compiling a large number of data sources to draw a multi-faceted picture of the market. This is outlined in the MIMOSA White Paper, available on our website. However, the India data has complications that need some special explaining.

As many practitioners recognize, there is no real single source of data to describe either the financial or microfinance sector. On the latter, MFIN and Sa-Dhan reports are key inputs, but both overlap in ways that make seeing the full picture especially difficult. Moreover, recent transformation of Bandhan and the SFBs have made this picture even more complex.

Our analysis has thus relied on very detailed data from CRIF High Mark. Consistent with the MIMOSA methodology, the data include only retail loans, excluding loans to legal (corporate) entities, and count only fixed-term loans (excluding credit cards and overdraft accounts). Specifically for India we also excluded gold loans. These rules were applied to all financial institutions that report to CRIF High Mark.

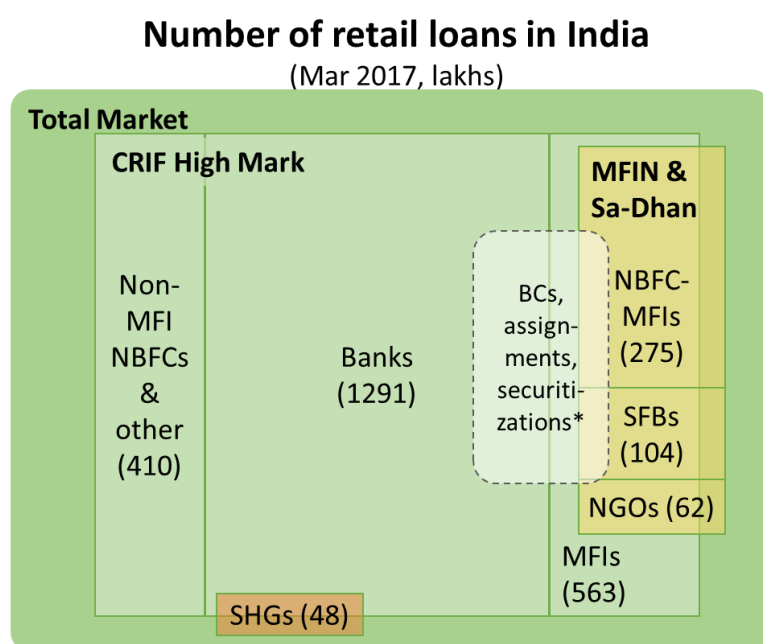
In addition, we asked to structure the data by lender type: Bank, NBFC (non-MFI), and MFI, with the latter defined as follows:

- All members of MFIN and Sa-Dhan that are registered as Trust, Society, Section 8, Cooperative, or MFI-NBFC.
- All Local Area Banks (LAB) and all Small Finance Banks (SFB), including those that aren't members of either MFIN or Sa-Dhan
- Bandhan Bank

In effect, these are the group of institutions that had their origins in the microfinance sector, even if they're no longer legally considered to be MFIs. Another key principle in this definition is one that we have applied in other markets – an MFI is defined at the institutional level, not at the loan level. From this perspective, a bank making microfinance loans (such as via SHGs or BCs) is not considered to be a microfinance institution. Meanwhile, a 1 lakh loan by an SFB is yet considered part of the microfinance sector. This naturally introduces some problems,

especially with respect to business correspondent (BC) loans, but it is more relevant from a competitive perspective – which is our primary focus in this type of analysis. Those loans are still counted as part of penetration metrics, they're just not counted as MFI lending. One additional point is that this treatment is not fully counting SHG lending. It only captures those loans that are reported to the credit bureau (i.e. lending from internal SHG funds is excluded), and moreover, these are counted by group rather than individual SHG participant.

The result allows a broader view than is possible by relying on publicly available data.



Note: diagram drawn to scale, except Total Market and BCs & assignmts

User Guide

This is an abbreviated guide. For explanation of the methodology behind the penetration and capacity values, please consult the MIMOSA whitepaper.

The MIMOSA index consists of several measures. The primary score evaluates the degree to which the level of penetration exceeds estimated market capacity. The score levels and their interpretation is shown in the below table.

MIMOSA Score	Penetration over/ under capacity		
	Percentage points	Standard Deviations	Market status
6	>11.1%	3+	Saturated
5	7.4-11.1%	2 to 3	
4	3.7-7.4%	1 to 2	
3	0-3.7%	0 to 1	Normal
2	-3.7 - 0%	-1 to 0	
1	< -3.7%	< -1	Underserved

In addition to the score, we include the component metrics underlying the capacity and penetration calculations:

Human Development Index (HDI): developed by UNDP to assess the level of development, comprising GNI per capita, life expectancy, and education metrics. The scale ranges from 0-1.

Population density per km²: standard measure retrieved from country statistical bureaus.

Credit Bureau Score: derived from the Getting Credit measures in the World Bank Doing Business report. We include the level of coverage, and amount of information (both repayment history and debt outstanding) provided. The scale ranges from 0-400.

Borrowing Capacity: % of adults expected to be active borrowers, based on the MIMOSA model.

Borrowers per adult: derived from multiple sources, including the World Bank Findex survey, central bank reports, credit bureaus, and MIMOSA field surveys.

Microfinance borrowers (% of loans): number of active loans of microfinance institutions. Usually defined either by institutional registration with the regulator or membership in the microfinance association. Multiple loans held with the same institution are counted once.

Credit card borrowers (% of adults): number of adults with an outstanding credit card balance. Figure from Global Findex.

Credit card score: level of penetration vs. capacity. Graded on a three-point scale, indicating a market whose credit card demand is under-served, appropriately served, or over-saturated.

GDP 3-year CAGR (current \$): three year cumulative growth rate of GDP. Figure from IMF WEO.

GDP per capita (constant LCU): figure from IMF WEO.

In addition, we include a list of indicators that serve as additional risks or mitigants that in aggregate may increase or reduce the country's ability to manage increased levels of penetration:

Category	Indicator	Indicator	Mitigant 	Neutral 	Risk 
Regulation	Overall quality of regulation	Overall microscope score (0-100)	≥ 75	50-75	< 50
	Consumer protection (OID)	Microscope score 4.2.1	3	2	0 or 1
	Consumer protection (Collections)	Microscope score 11.3.2	2	1	0
	Credit bureau, credit reporting	Microscope score 10	≥ 75	50-75	< 50
Competition / overheating	Level of competition	Herfindahl-Hirschman Index	$HHI > 3,000$	$1,500 < HHI < 3,000$	$HHI < 1,500$
	Multiple borrowing	% borrowers with 3+ loans	$< 5\%$	5-15%	$> 15\%$
	Prior growth	Loan portfolio 3-year CAGR	$< 2x$ GDP growth	2-3x GDP growth	$\geq 3x$ GDP growth
	Future growth	Loan portfolio 12-mth growth expectations	$< 2x$ GDP growth forecast	2-3x GDP growth forecast	$\geq 3x$ GDP growth forecast
Maturity of microfinance institutions	Age of FIs	% clients of MFIs $> 20y$ or $< 10y$ old	$> 65\%$ of the borrowers are clients of MFIs > 20 years old	Other	$> 65\%$ of the borrowers clients of MFIs < 10 years old
	Prior crisis experience	Date of previous crisis	Market experienced crisis in past 15 years	no crisis experience	
Transparency	Composite score	See Transparency worksheet	≥ 3		< 1.5
	Ratings	% leading MFIs rated in past 2 years	≥ 75	50-75	< 50
Other risks	FX exposure	% of loans in foreign currency	< 10	10-25	≥ 25
	Interest rate level	Average Full APR, weighed by number of borrowers	$< 30\%$	30-60%	$> 60\%$