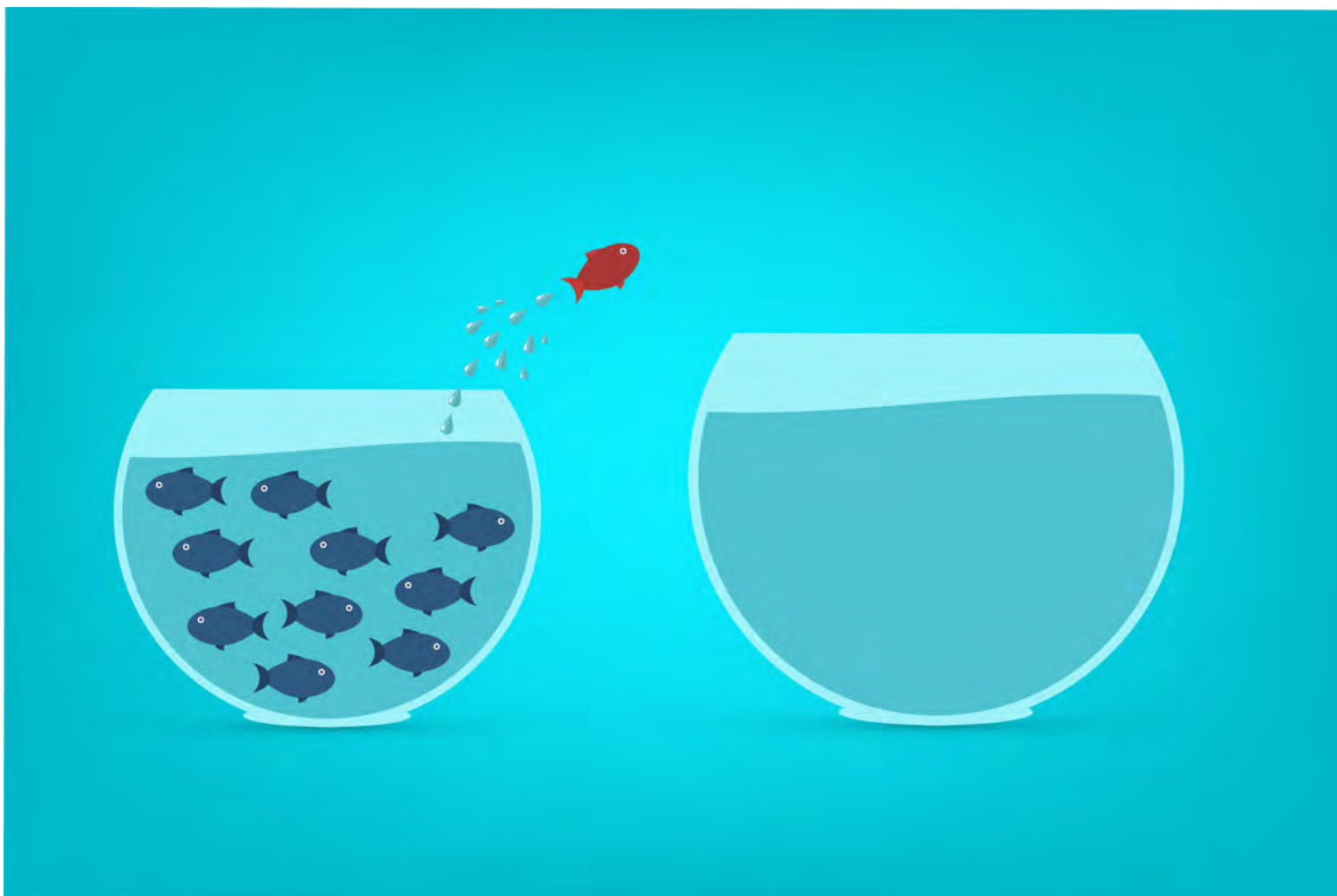


Bandhan Bank

Sui Generis: In a league of its own



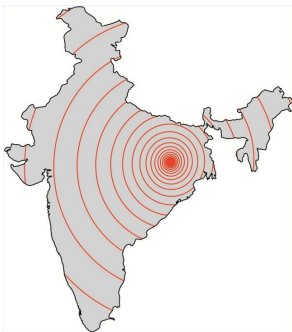
**Largest microlender
with best-in-class
asset quality**

**Significant presence
in under-penetrated
markets**

**Superior profitability;
initiate with BUY and
TP of INR 595**

TABLE OF CONTENTS

Introduction	3
Key charts	4
Microfinance Industry – Baptism by fire	5
Micro-lending in the banking framework	14
Bandhan – An improvised micro-lender	21
A highly granular retail asset mix	27
Scale-up of deposits the real success story	29
The advantage of the East	31
Industry leader in terms of profitability	40
Valuation	43
Risks	44
Financial tables	47



Bandhan is India's largest microfinance lender. After its successful transition to a universal banking franchise, it is now the most profitable universal bank in India. The strength of Bandhan's unique micro-lending franchise is exhibited by its asset quality metrics, which are among the best in class, superior cost efficiencies and the rapid ramp-up in its liabilities franchise. With a dominant presence in Eastern India, Bandhan now intends to expand its geographical presence as well as product suite.

RECENT INITIATIONS



AVENUE SUPERMARTS



RELIANCE NIPPON LIFE
ASSET MANAGEMENT



MID-SIZED
PRIVATE BANKS



GALAXY SURFACTANTS



PARAG MILK FOODS

Bandhan Bank

Sui Generis: In a league of its own

Bandhan Bank's (Bandhan) successful transition from being the largest micro-lender in the country to a universal banking franchise, while maintaining its superior profitability metrics, is a reflection of its exceptional execution abilities. As it moves forward to achieve a retail-focused but diversified portfolio mix, we forecast earnings CAGR of 45% over FY18-20, with average RoA/RoEs of 3.8%/21%. We initiate coverage with a BUY rating and a target price of INR 595, valuing the stock at 25x FY20E EPS and 5.1x FY20E P/BV.

The strength of Bandhan's unique micro-lending franchise is exhibited by its a) asset quality metrics, which are the best in the industry, despite FY18 being one of the toughest years for microfinance, b) superior cost efficiencies and c) robust growth trajectory. These factors, aided by Bandhan's dominant presence in home markets, have driven a strong ramp-up in its liabilities franchise within 3 years of the bank's launch. We see the microfinance industry returning to growth as the pains of Demonetization/rural distress ebb and believe that Bandhan is well-positioned to capture this upcycle.

In our view, Bandhan would continue to command rich valuations (of 25x FY20E P/E and 5.1x FY20E P/BV at our target price) as investors acknowledge the sustenance of its superior cost efficiencies and expansion of its product suite as well as geographical presence, all while maintaining industry-high profitability.

Dominant presence in underpenetrated eastern markets: With over 68% of branches and 81% of loan mix in the under-penetrated East/Northeast India markets, Bandhan clearly has established itself as a player to reckon with in these geographies. Moreover, the ability to attract granular liabilities (72% retail deposits) within three years of launch indicates the strong acceptance of the Bandhan brand among its target customer base. As it diversifies away from micro loans to other retail/SME products and expands geographically (23% non-microfinance by FY20E), we see this brand acceptance aiding growth momentum in its assets as well as liabilities.

Fundamentally strong micro-loan business, superior cost efficiencies: Bandhan's microfinance business has demonstrated its resilience in spite of multiple industry-disruptive events over the past 12-18 months. Despite these events coinciding with its transition phase, Bandhan's quality metrics have outperformed the industry by a wide margin (GNPLs at 1.25% for FY18). Moreover, its low-cost banking distribution model (through DSCs) indicates that cost efficiencies would remain stronger for longer, despite product diversification.

The most profitable universal bank – expect valuations to stay rich: Bandhan's profitability ratios are the best amongst Indian banks and we expect them to remain so over the medium term. While the recent large capital raise has driven a dip from historical high levels (of 26-28% RoEs), it also implies a high cushion in case of any systemic shocks. We expect the stock to trade at rich valuations, given its strong growth outlook, while maintaining high RoAs. We forecast earnings CAGR of 45% over FY18-20, with average RoA/RoEs of 3.8%/21%. We initiate coverage with a BUY rating and target price of INR 595 (25x FY20E P/E and 5.1x FY20E P/BV).

Recommendation and Price Target

Current Reco.	BUY
Previous Reco.	NA
Current Price Target (12M)	595
Upside/(Downside)	18%

Key Data – BAND IN

Current Market Price	INR505
Market cap (bn)	INR601.9/US\$9.0
Free Float	12.8%
Shares in issue (mn)	1192.8
Diluted share (mn)	1192.8
3-mon avg daily val (mn)	
52-week range	541/455
Sensex/Nifty	34,915/10,618
INR/US\$	66.8

Price Performance

%	1M	6M	12M
Absolute	-0.7	NA	NA
Relative*	-4.5	NA	NA

* To the BSE Sensex

Financial Summary

	(INR mn)				
Y/E March	FY16A	FY17A	FY18A	FY19E	FY20E
Net Profit	2,753	11,119	13,455	20,048	28,240
Net Profit (YoY) (%)	NM	304.0%	21.0%	49.0%	40.9%
Assets (YoY) (%)	3649.7%	53.0%	46.5%	38.8%	36.5%
ROA (%)	2.71%	4.45%	3.61%	3.79%	3.88%
ROE (%)	14.4%	28.6%	19.5%	19.4%	22.4%
EPS	2.5	10.2	11.3	16.8	23.7
EPS (YoY) (%)	NM	304.0%	11.1%	49.0%	40.9%
PE (x)	200.8	49.7	44.7	30.0	21.3
BV	30.4	40.6	78.7	94.5	116.9
BV (YoY) (%)	204.1%	33.3%	93.7%	20.1%	23.8%
P/BV (x)	16.57	12.43	6.42	5.34	4.32

Source: Company data, JM Financial. Note: Valuations as of 04/May/2018

JM Financial Research is also available on: Bloomberg - JMFR <GO>, Thomson Publisher & Reuters S&P Capital IQ and FactSet. You can also access our portal: www.jmflresearch.com. Please see Appendix I at the end of this report for Important Disclosures and Disclaimers and Research Analyst Certification.

Sameer Bhise
sameer.bhise@jmfl.com
Tel: (91 22) 6630 3489

Jayant Kharote
jayant.kharote@jmfl.com
Tel: (91 22) 6630 3099

S Parameswaran
s.parameswaran@jmfl.com
Tel: (91 22) 6630 3075

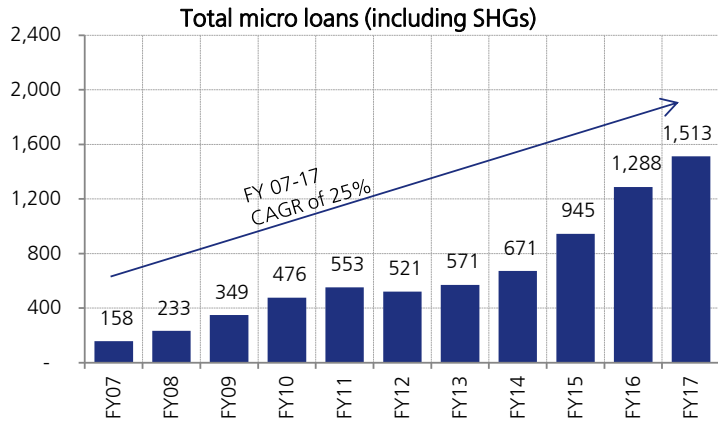
Karan Singh CFA FRM
karan.uberoi@jmfl.com
Tel: (91 22) 6630 3082

Nikhil Walecha
nikhil.walecha@jmfl.com
Tel: (91 22) 6630 3027

Bunny Babjee
bunny.babjee@jmfl.com
Tel: (91 22) 6630 3263

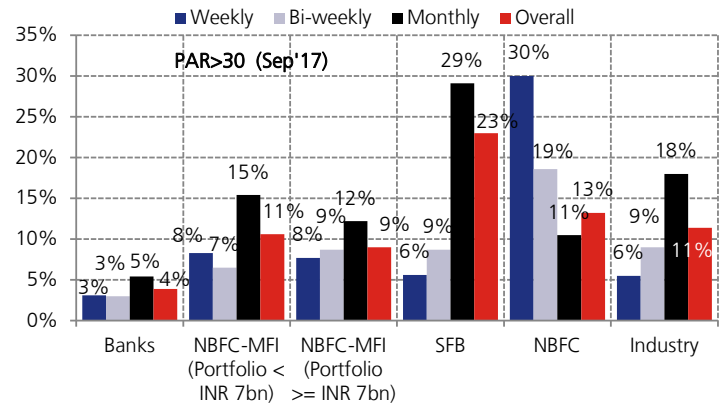
Key charts

Exhibit 1. Micro-lending industry growth remains robust*



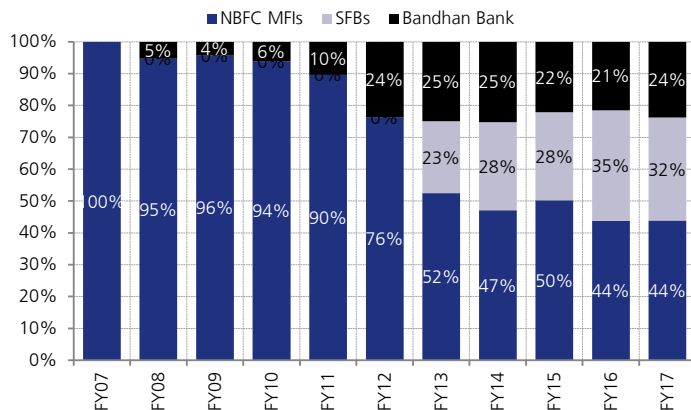
Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial ** Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable. Current outstanding of such loans is to the tune of INR 189 bn

Exhibit 2. Asset quality is best for banks, weekly collection freq.



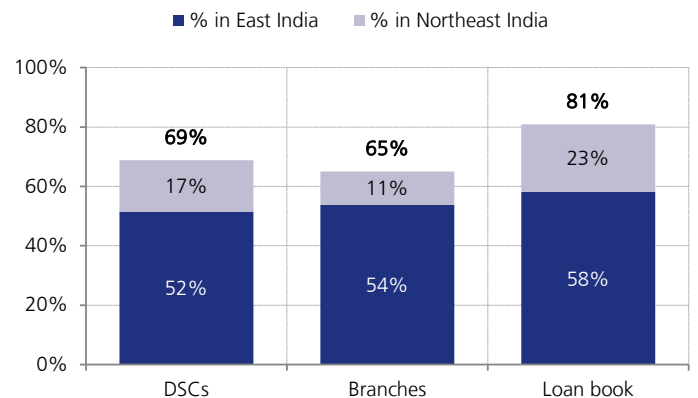
Source: Equifax, CRISIL, JM Financial

Exhibit 3. Microlending gradually moving under banks' fold



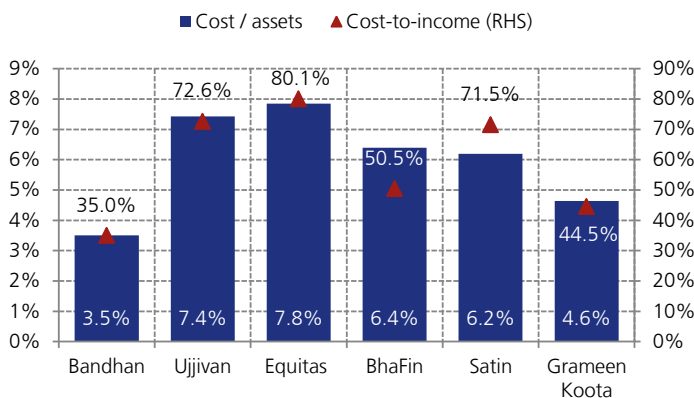
Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial ** Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable. Current outstanding of such loans is to the tune of INR 189 bn

Exhibit 4. Bandhan presence : Dominant in East / Northeast India



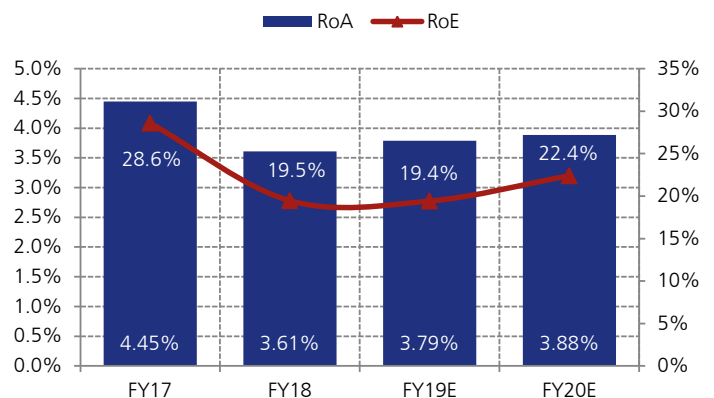
Source: Company, JM Financial

Exhibit 5. Cost-ratios are best-in-class by a wide margin



Source: Company, JM Financial

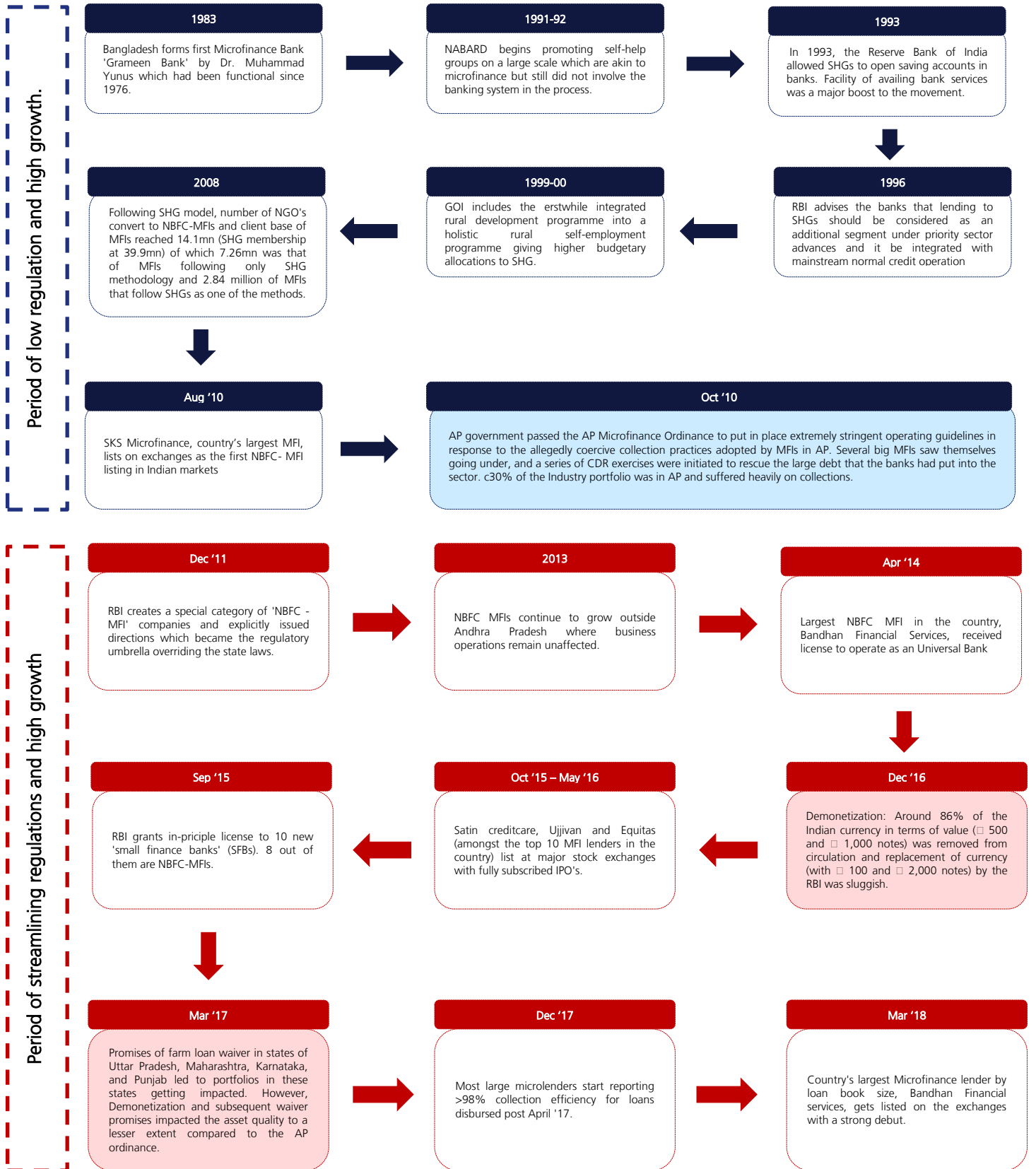
Exhibit 6. Bandhan Bank: Return profile



Source: Company, JM Financial

Microfinance Industry – Baptism by fire

Exhibit 7. Evolution of the Microfinance industry and key milestones



Source: JM Financial

Evolution of micro-lending in India

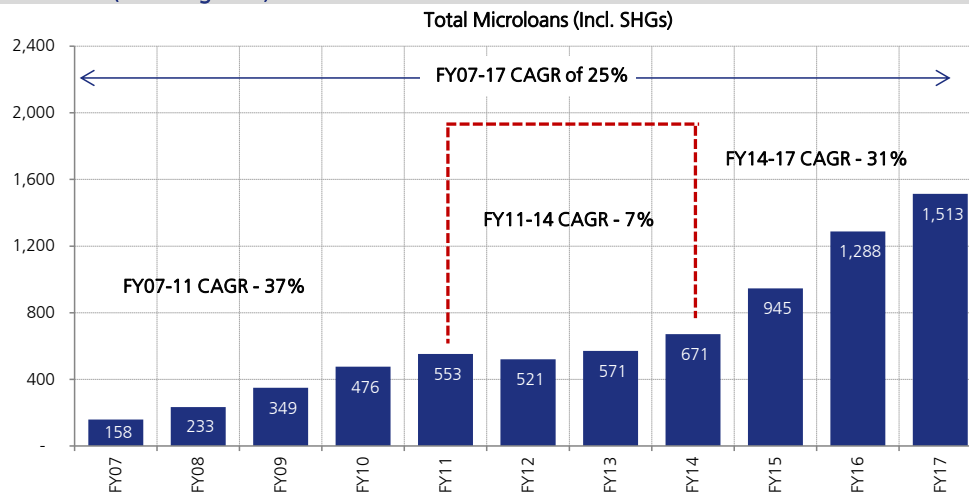
After micro lending was successfully executed in Bangladesh in 1983 – through the ‘Grameen Bank’ by Dr. Muhammad Yunus – India decided to adopt the model in a modified form. In 1991-92, the National Bank for Agriculture and Rural Development (NABARD) started promoting self-help groups (SHGs) on a large scale, which was the real take-off point for the ‘SHG movement’. After FY01, SHGs began scaling up in size and loan book as they received impetus in the form of Government of India (GOI) budgetary allocations and policy push. However, further extension of credit lines by banks to SHGs depended on the savings deposit pool, which could only grow slowly from these credit-deficient segments of the population.

Up to the mid-2000s some NBFCs had begun microfinance lending, but primarily using the SHG model barring the requirement of a savings balance. While a pilot with c.1000 groups was formed on the JLG model (joint group liability vs. individual liability in SHGs) by Germany’s Development Bank GTZ, the JLG model did not scale up meaningfully until 2007-08. It was during this time that many earlier NGOs operating in this segment began converting to NBFCs as they had scaled up their books and wanted to streamline their accounts and finance functions. Until this time, most micro lending in India followed NABARD guidelines in the absence of a clear regulator.

FY 2007-11: First phase of accelerated growth (Microloans including SHGs - loan book CAGR 37%)

By 2007, NBFC MFIs had recorded a significant share (22%) in micro loans and saw fresh interest from private investors. There was strong growth during this period in South India (especially in Andhra Pradesh - AP - and Tamil Nadu), where several NBFC MFIs sprung up and began lending operations. Over FY07-11, micro loans recorded a 37% CAGR. A large part of this growth came from NBFC-MFIs, which posted a c.65% CAGR over this period. Their share in micro loans doubled to 44% in FY11 from 22% in FY07.

Exhibit 8. Growth of Micro loans (including SHG) in India*



Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial ** Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable. Current outstanding of such loans is to the tune of INR 189 bn

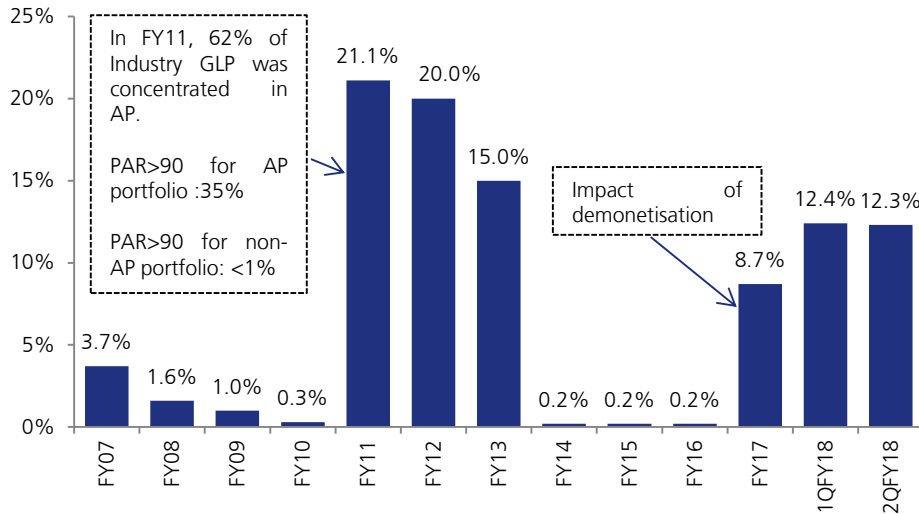
AP crisis and aftermath

By 2009, some southern states were witnessing instances of overleveraging in certain geographies, especially AP. For a state with 16.9mn households as per the 2011 census, total number of clients for SHG (17.3mn) and MFI (6.24mn) exceeded the size of the target segment by a wide margin. By FY10, AP constituted 39% of total SHG loans and >60% of total NBFC MFI loans. As political pressure began building up in light of some unsavoury recovery incidents, the state government enacted a tough ordinance to regulate MFI lending practices. This led to operations of all MFIs and some SHGs in the state coming to a grinding halt, recoveries dipping to an all-time low and season of write-offs beginning.

While Bandhan and Ujjivan had no exposure to AP, other large NBFC-MFIs such as Bharat Financial (erstwhile SKS Microfinance) had to write off a large portion of their book (c.40% in some cases). The impact of the AP law on the recovery practices of MFIs in the state not only resulted in virtual stoppage of repayments by customers but also contaminated the SHG portfolio where banks were facing large delinquencies. At end-Jun’11, about 228,000 SHGs

had defaulted on repayments (17% of linked groups) with loan balances in these accounts amounting to INR 22.9bn. These constituted a portfolio at risk (PAR) ratio of 16.7%. For NBFC MFIs, PAR >90 levels for FY11-12 remained >20% as most of these were heavily concentrated in AP. Furthermore, fresh disbursements in AP were effectively stalled. SHARE Microfin, Asmitha Microfin, Spandana Sphoorty Financial, Trident Microfin and Future Financial Services had to recast ~INR 50bn of loans under RBI's corporate debt restructuring.

Exhibit 9. PAR >90 for micro-lending sector (SFBs and NBFC-MFIs)



Source: MFN, Equifax, CRISIL, JM Financial # Data excludes asset quality of banks

FY2011-14: Formalisation of the regulatory infrastructure of micro-loans (Microloans including SHG – loan book CAGR of 7%)

The situation demanded central bank intervention and the Reserve Bank of India (RBI), reluctant to intervene so far, set up the Malegam Committee to look into the issues. By Jan'11, the committee's report was released and the RBI finally identified a new section of 'NBFC-MFIs' in the micro-lending space. It also set clear guidelines for the sector such as (i) a margin cap of 10%, (ii) maximum lending rate of 24% for Individual loans, (iii) maximum loan amounts of INR 15,000 and INR 25,000 for 1-year and 2-year MFI loans, respectively and, (iv) a maximum of two MFIs per borrower. Important decisions such as the setting up of a Microfinance Bureau, classification of bank loans to such MFIs in priority sector lending (PSL) were also made during this time. Although confidence in the business model was shaken to a large extent, RBI guidelines after the AP ordinance helped improve the overall risk perception towards the microfinance sector.

Post 2012-13, Non-AP MFIs continued to lead Industry growth. **By FY12, Bandhan Financial Service, which operated in eastern India had become the country's largest microlender from being the fourth largest in FY10.** While MFI's continued to grow with available resources, flow of credit from banking sector was also hampered leading to a period of moderation in the industry. Over FY11-14, Microloans (SHG+MFI) posted a weak loan book CAGR of ~7% with that of NBFC MFI's being <5% CAGR.

By 2014, normalisation had taken place with most diversified or non-AP microlenders recouping their losses from write-offs and beginning to lend in other states. Meanwhile, the larger companies began harbouring the dream of a banking license, which was seen as a better tool to handle recoveries and tackle event risks from localised political issues, when needed. When the RBI invited applications to grant banking licenses after a gap of nearly a decade (the last ones to receive one were Kotak and Yes Bank in 2003-04), 25 entities – including some major business houses of the country had applied. In Apr'14, the RBI announced that a banking license would be given to two entities only: IDFC Ltd (an infrastructure finance entity) and Bandhan Financial Services (an NBFC-MFI). **After a decade of operating in an adverse regulatory environment, Bandhan became the first microfinance firm to get a banking licence.** This was recognition of the microfinance sector and its efforts to reach and provide financial services in unbanked areas.

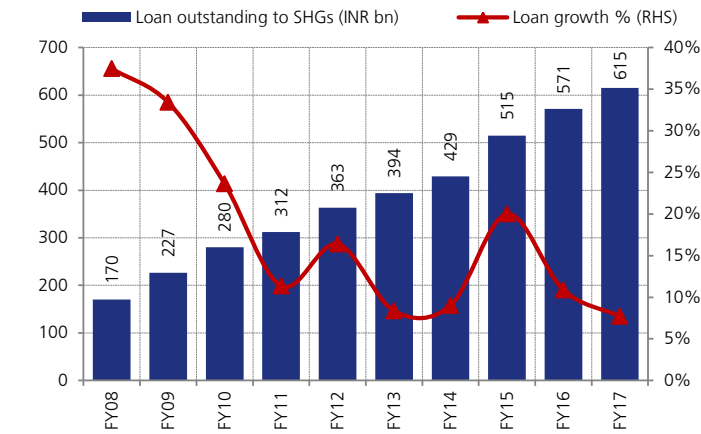
2014-17: Second phase of accelerated growth: (Microloans including SHG - loan book CAGR of 31%)

While Bandhan was in the process of receiving the banking license, the regulator had begun toying with the idea of differentiated banking. The RBI placed a policy discussion paper titled the 'Banking Structure in India – The Way Forward', in Aug'13. One of the observations in the discussion paper was that in India, where extending banking services to the underserved and unserved sections of the population are a challenge, there was merit in considering access to bank credit and services through the expansion of small banks in unbanked and under-banked regions. The RBI felt that small finance banks could play an important role in the supply of credit to micro and small enterprises, agriculture and banking services in India's unbanked and under-banked regions.

After healthy support from the newly elected government, the RBI began inviting applications for Small Finance Banks (SFB) in Nov'14. By this period, microlending had begun penetrating newer geographies in East and West India. NBFC MFI's gross loan portfolio grew nearly 80% in FY15, led by reinvigorated investments by private equity players and global development banks. During this period, the JLG model – with fewer delinquencies – had emerged as a better risk management tool than SHGs, which were facing rising delinquencies and tepid growth. Banks came back to lend to healthy MFIs, which provided continued access to resources for these MFIs for growth.

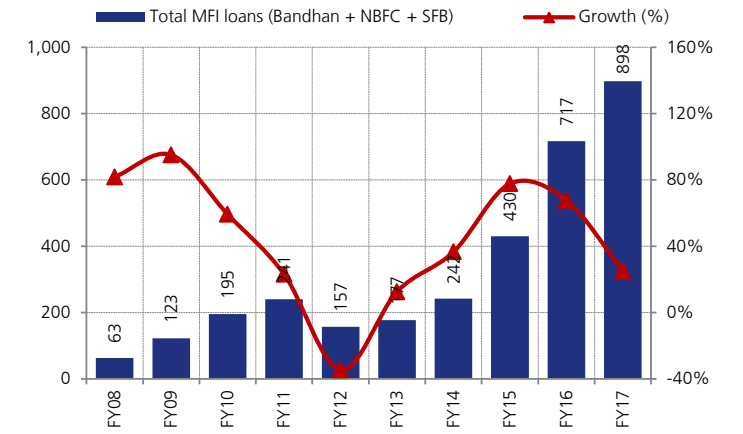
The RBI awarded in-principle SFB licences to 10 applicants in Sep'15, of which 8 were MFIs. This came as a watershed moment for the evolution of microlending in India as the sector resumed its pace, which it had lost after the AP crisis. These SFBs began diversifying their presence in hitherto unexplored geographies and the sector witnessed strong growth trends without the level of concentration risks seen in the AP crisis. By FY17, these 8 SFBs accounted for approximately 32% of the total microloans gross portfolio (incl. Bandhan).

Exhibit 10. SHG loan growth slowing down...



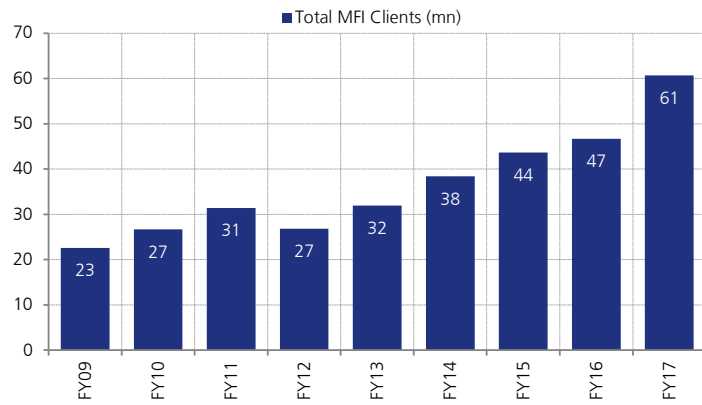
Source: Status of microfinance of India 2016-17, JM Financial

Exhibit 11. ...as the microlending model grows on a stronger footing*



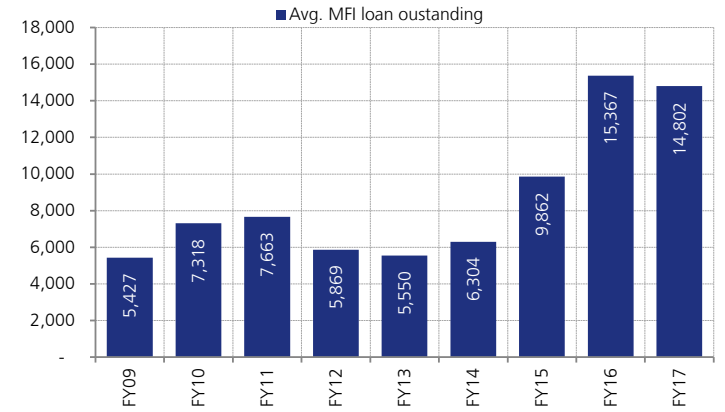
Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial , Company* Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable. Current outstanding of such loans is to the tune of INR 189 bn

Exhibit 12. Growth in MFI (incl. Bandhan) Customer base



Source: MFIN, The Bharat Micro-finance Report, JM Financial

Exhibit 13. Avg. loan o/s per borrower have risen

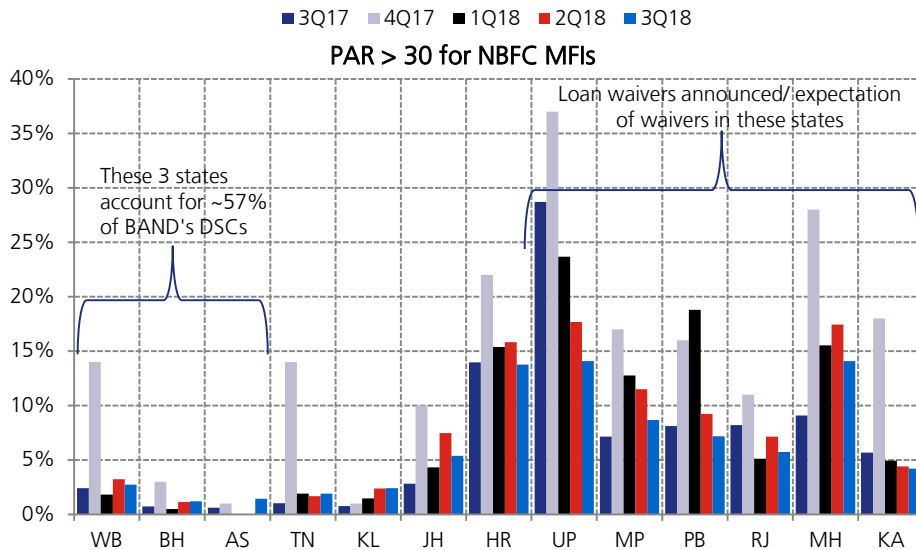


Source: The Bharat Micro-finance Report, MFIN, JM Financial

Demonetization and its aftermath

In Nov'16, Gol stripped specified bank notes (SBNs) – of INR 500 and INR 1,000 denominations – of their legal tender. The government thereby invalidated c.86% (in terms of value) of currency notes in circulation overnight. This had an adverse impact on the microfinance industry, as microloan customers primarily operate in the cash-based economy, which faced a direct hit from the note ban, thereby directly impacting their ability to repay.

Exhibit 14. Asset quality (for NBFC-MFIs) remained stable in Bandhan's core geographies

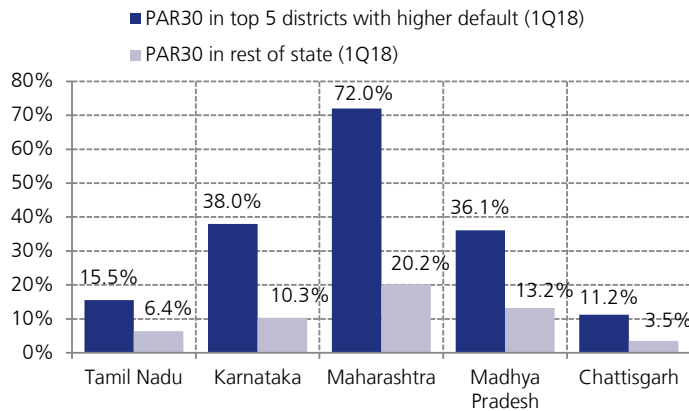


Source: MFIN, JM Financial

However, a closer look at the impact of Demonetization across geographies throws up some interesting insights. As shown in exhibit 14 above, the MFI asset quality in the three eastern states of West Bengal, Bihar and Assam (which account for c.57% of Bandhan's DSC presence) were least impacted by Demonetization. On the far right in the exhibit above are states where farm loan waivers were announced post-Demonetization, which reported a significant deterioration in asset quality.

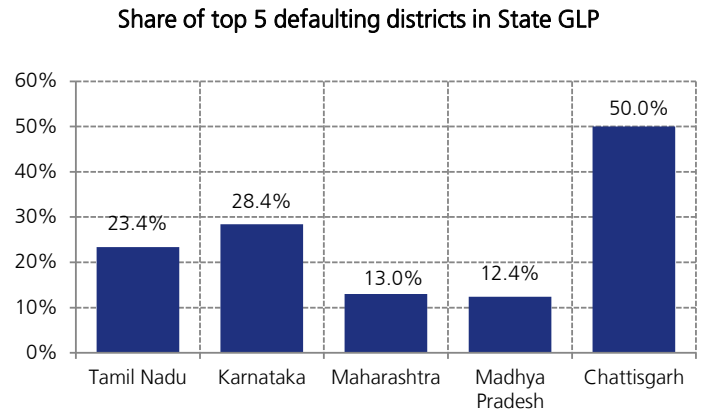
Some of these states also happened to be hotbeds of political activity in the period Nov'16-FY18. Uttar Pradesh (UP) and Punjab elections were held in Feb'17 and Maharashtra local body elections were held in Dec'17. This seems to suggest that political interferences and waiver expectations had a much larger impact on MFI asset quality than the note ban per se.

Exhibit 15. Asset quality pressures localised even in problematic states



Source: Equifax, CRISIL, JM Financial, # Data for NBFC-MFIs

Exhibit 16. Share of top 5 defaulting districts in State MFI GLP



Source: Equifax, CRISIL, JM Financial, # Data for NBFC MFIs

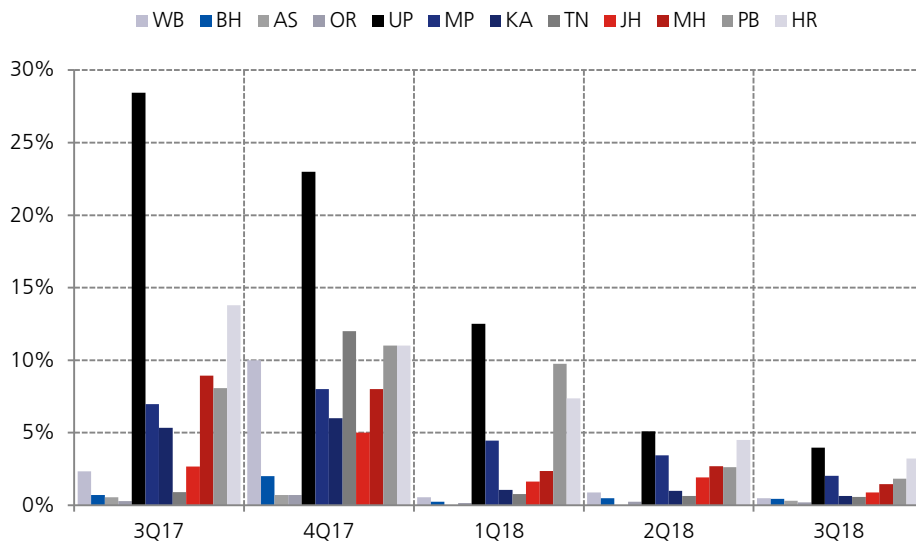
Moreover, even within states where asset quality deteriorated noticeably post-Demonetization, there was significant variation in portfolio quality across districts, with the bulk of the portfolio at risk (PAR30) for MFIs emanating from certain pockets within these states, as shown in exhibits 15-16 above.

This seems to indicate that defaults post-demonetisation were more localised occurrences, driven by political instigation as opposed to systemic pan-state or pan-India phenomena. MFIs with geographically diversified portfolios with less exposure to the stressed districts, were comparatively better off to weather the storm post demonetisation.

Demonetization-related loan losses have been largely absorbed

In order to assess incremental loan loss pressures in the industry, we look at the divergence between PAR30 and PAR90 figures for the NBFC-MFI industry. This metric (i.e. PAR30 minus PAR90), is a barometer of fresh stress formation for the industry. As shown in exhibit 17 below, this divergence has reduced substantially since 3QFY17, indicating that most of the loan losses relating to Demonetization have been absorbed by the industry and fresh stress formation is relatively muted.

Exhibit 17. Divergence between PAR30 and PAR90 (PAR30 – PAR90) for NBFC-MFIs has reduced

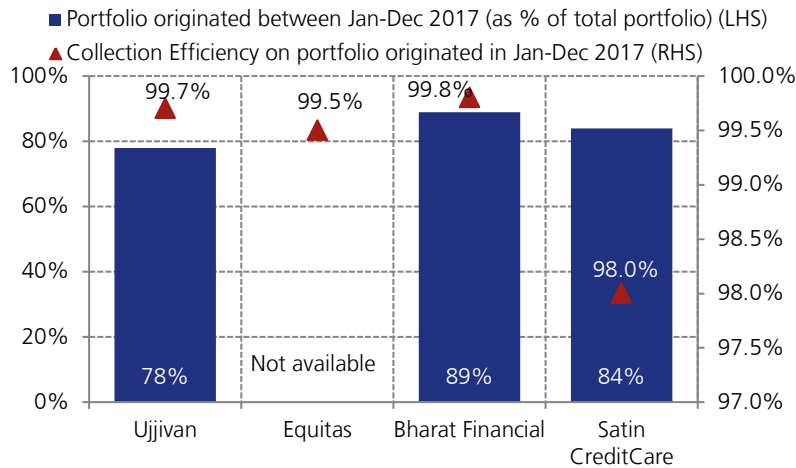


Source: MFIN, JM Financial

Another important observation is that most MFI players have reported a return to normalcy in collection efficiencies in the portfolio originated post-demonetisation. This can be explained by the fact that MFI loans are generally of <12 months duration, and consequently the loan book churns much faster compared to an ordinary financier. A snapshot of the current loan

book health of some large micro-loan financiers can be seen in exhibit 18 below. The portfolio originated by these lenders post-demonetisation accounts for >75% of their current loan books. Moreover, this portfolio is reporting collection efficiencies of >98% for these micro lenders.

Exhibit 18. Steady asset quality on portfolio originated post-Demonetization



Source: Company, JM Financial

Market share movement in favour of banking licensees

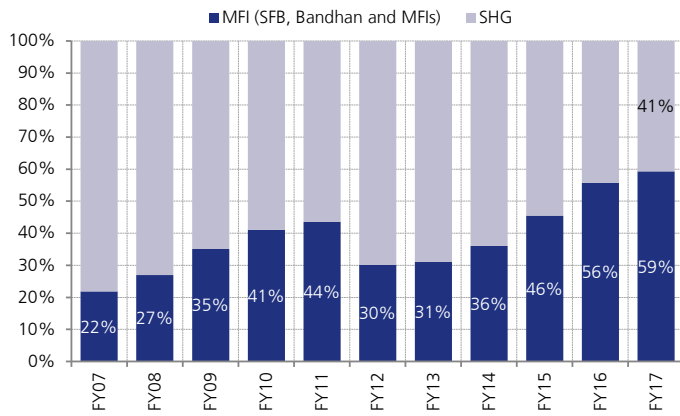
The concentration of the SHG loan book continues to be in South India (76% of o/s loans), which remains a competitive market. This, coupled with elevated NPA levels (~6% over the past 3 years), has led to banks becoming increasingly cautious to lend in this segment. Hence, while SHGs' loan book grew c.20% in FY15 (vs. >75% for MFIs), the momentum has slowed down since then and the book is currently growing in single digits (<8% in FY17). On the other hand, firm investor confidence helped MFIs tide over the transitional issues of Demonetization and loan waivers. This has allowed them to continue on the accelerated growth trajectory once again, leading to improved share in micro loans vis-à-vis SHGs, whose share stood at its lowest ever of ~41%.

Amongst non-SHG micro loans, c.INR 409bn (24% of overall) is with universal banks. Bandhan Bank constitutes a large share (c.54%) of these as among banks, only HDFCB (c.INR 40bn) and IIB (c.INR 30bn) have been actively participating in micro loans directly. Traditional bank networks in rural and semi-urban areas are not as well penetrated as those of NBFC-MFIs (which included Bandhan and SFBs earlier). Hence, they preferred lending to NBFC-MFIs, which helped them fulfil their PSL requirements without incremental capex or credit risk. As data on direct MFI lending by banks has not been available historically, we have calculated market share movement excluding it but including Bandhan.

Another key feature of market share movement is geographical domination by the large players. Bharat Financial (largest NBFC-MFI) and Bandhan (largest micro lender) are both focused in the eastern markets where banking penetration has been below national averages. In Bandhan's home market, eastern India, it has a dominant 42% market share in microloans. Southern India, even after the AP crisis, continues to be a focus market with the highest share (52% share excl. SFB) in micro loans in the country. The addition of SFB data would only increase this proportion as large players such as Janalakshmi (largest microloans focused SFB by loan book) and Equitas have c.60% of their loans in the southern market.

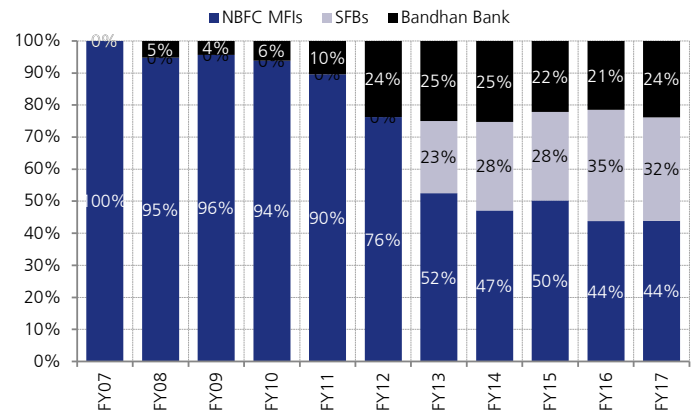
NBFC-MFIs have been shedding their market share owing to top players (except Bharat Financial) being converted to banks and SFBs. NBFC-MFIs served as feeders for such small finance banks and Bandhan Bank, which put together accounted for c.56% of non-SHG micro loans in FY17. This was much higher than the 48% share for these entities in FY13. Access to capital and relatively lower impact of macro events such as Demonetization and loan waivers have ensured that banks (both Bandhan and SFBs) grew faster than the NBFC lot in the last 2 years. We believe this market share gain will further accelerate over the medium term driven by the following: 1) Most SFBs have come out from asset quality worries after Demonetization and are guiding for accelerated growth in coming years; 2) access to deposits and lower cost of borrowing would ensure that some SFBs and Bandhan can offer competitive interest rates and 3) the merger of the largest NBFC-MFI – Bharat Financial – with IndusInd Bank may increase pressure on interest rates for NBFC-MFIs.

Exhibit 19. SHG vs. MFI (incl. Bandhan) split over the decade



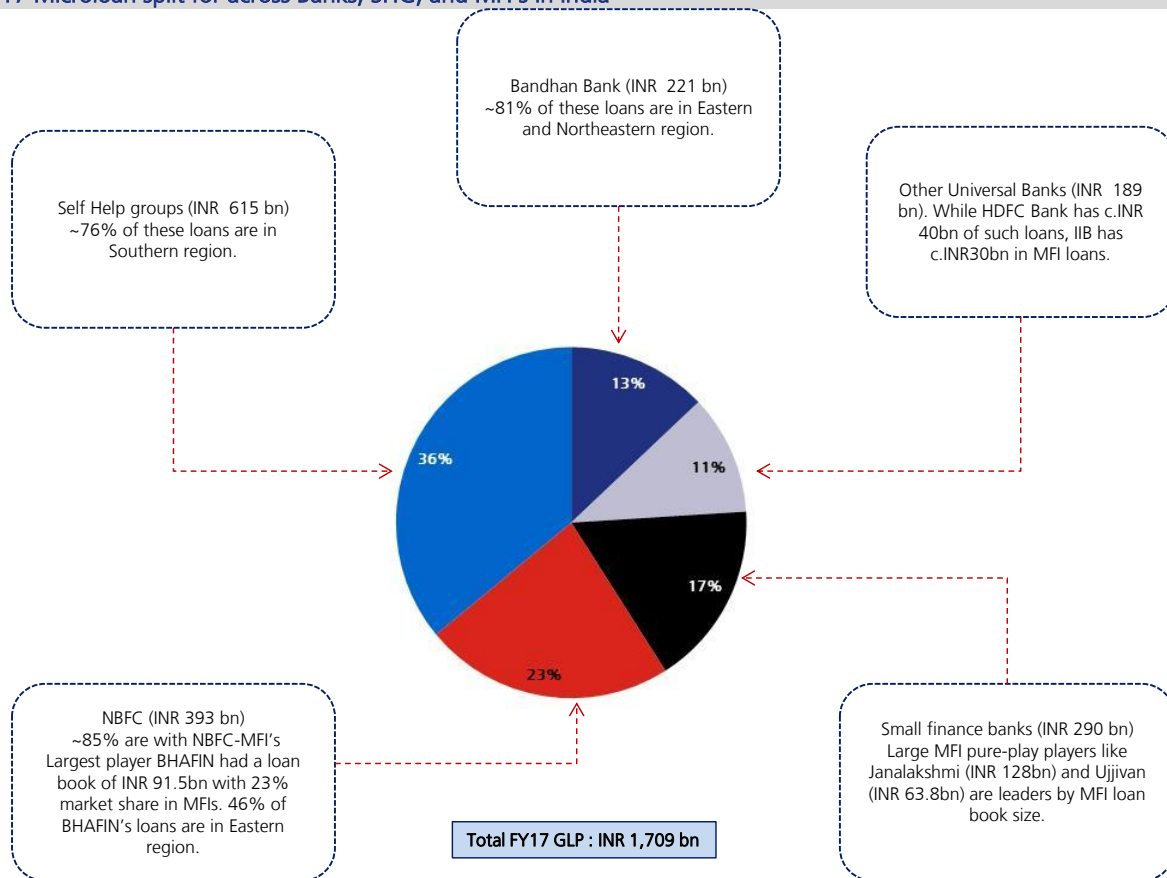
Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial ** Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable.

Exhibit 20. Within microlending, new organisation formats emerge



Source: Status of microfinance of India 2016-17, The Bharat Micro-finance Report, MFIN, CRISIL Research, JM Financial ** Does not include data on direct micro loans by other universal banks (ex-bandhan) as the same is unavailable.

Exhibit 21. FY17 Microloan split for across Banks, SHG, and MFI's in India



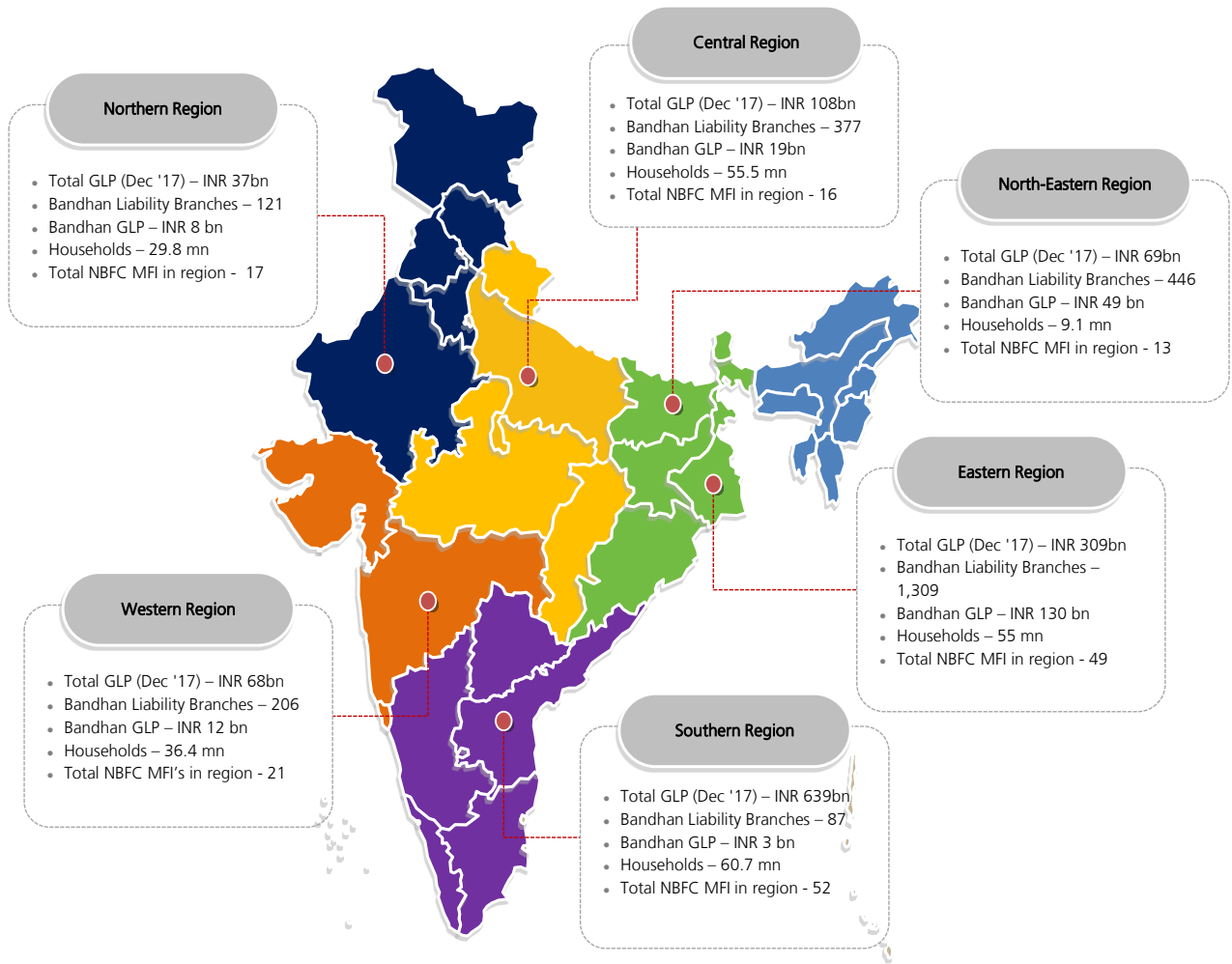
Source: MFIN, CRISIL Research, JM Financial

Exhibit 22. GLP by region and Bandhan's market share (Excluding SFB)

GLP as on Mar '17	Bandhan	SHGs	NBFC MFIs	Total (Ex-SFB)	Overall mix	Bandhan Market share
Central	19	22	67	108	8.8%	17.3%
Eastern	130	89	91	309	25.1%	42.0%
Northern	8	9	20	37	3.0%	22.7%
Northeastern	49	8	12	69	5.6%	70.9%
Southern	3	466	169	639	51.9%	0.5%
Western	12	21	35	68	5.5%	17.5%
Total	221	616	394	1,231	100.0%	18.0%

Source: Company, JM Financial

Exhibit 23. Key geographical markets for micro loans are concentrated in southern and eastern region*



Source: Status of microfinance of India 2016-17, MFN, Census of India 2011, Company, JM Financial * Does not include data on direct micro loans by other universal banks (ex-bandhan) and SFB's as the same is unavailable. Current outstanding of such loans is to the tune of INR 478 bn (28% of Total GLP).

Micro-lending in the Banking framework – Significant advantages

Exhibit 24. Regulatory norms : Banks vs. SFBs vs. NBFC-MFIs

	Scheduled Commercial Banks	Small Finance Banks	NBFC - MFIs
Key players	Bandhan Bank	Ujjivan, Equitas, AU	Bharat Financial, Satin, Grameen Koota
Priority Sector lending			
Targeted lending to sectors	40 percent for priority sector lending of their Adjusted Net Bank Credit (ANBC) or equivalent off-balance sheet exposure (whichever is higher) - 18% of ANBC to Agriculture - 7.5% of ANBC to micro enterprises - 10% of ANBC to weaker sections	75 per cent for priority sector lending of their Adjusted Net Bank Credit (ANBC) - 18% of ANBC to Agriculture - 7.5% of ANBC to micro-enterprises - 10% of ANBC to weaker sections At least 50 per cent of loan portfolio should constitute loans and advances of up to INR 2.5 million.	85% of loans should be qualifying micro-finance assets - Income generation loans > 50% of total loans
Prudential norms			
Capital adequacy framework	- Minimum Tier 1 capital: 7% - Minimum capital adequacy ratio: 9%	- Minimum Tier 1 capital: 7.5% - Minimum capital adequacy ratio: 15%	- Tier 1 capital > Tier 2 capital - Minimum capital adequacy ratio: 15%
NIM	No margin cap	No margin cap	Maximum of 10% for MFIs with a loan portfolio above INR 1 billion
CRR / SLR	Maintenance of CRR / SLR ratio mandatory	Maintenance of CRR / SLR ratio mandatory	No such requirement
Leverage ratio	Minimum leverage ratio of 4.5%	Minimum leverage ratio of 4.5%	No such requirement
LCR / NSFR	Mandatory requirement to maintain liquidity coverage ratio	Minimum liquidity coverage ratio of 100% by Jan-2021 NSFR will be applicable to SFBs on par with scheduled commercial banks as and when finalized	No such requirement
Funding			
Deposits	Primarily rely on deposits for funding requirements	Primarily rely on deposits for funding requirements Deposit ramp-up will take time	Cannot accept deposits
Bank loans / market funding	Access to broader array of market borrowings	Access to broader array of market borrowings No access to bank loans	Diversified funding sources including bank loans, short term and long term market borrowings
Products			
Products offered	Full spectrum of banking, savings, investment and insurance products	Can offer savings and investment products apart from credit products / loans Can act as Corporate Agent to offer insurance products Cannot act as Business Correspondent to other banks	Can act as Business Correspondent to another bank and offer savings, deposits and investment products Can act as Corporate Agent to offer insurance products

Source: JM Financial

Micro-lending within the banking framework has significant benefits as shown in exhibit 24 above. These were also highlighted in our [note on the IndusInd-Bhfin merger](#). Some of these are summarised below:

Access to deposits gives micro-lending banks a cost advantage

- There is no cap on margins for micro-lenders operating in the banking setup. Margins of NBFC-MFIs however, cannot exceed a cap of 10%.
- Banks have access to deposits, which lowers their overall funding costs significantly. This gives them a significant cost advantage compared with NBFC-MFIs and even SFBs (which are yet to scale up their deposit franchises).

Banks have lower capital adequacy requirements and lower capital consumption

- Capital adequacy norms are less stringent for banks: the minimum CAR requirement for banks is at 9% vs. 15% for SFBs and NBFC-MFIs. This essentially means that banks can lever up more for funding the same asset base. However, this is partially offset by mandatory CRR/SLR requirements (which lowers overall portfolio yield to an extent).
- Capital charge for micro-lenders in the banking/SFB setup is lower than that for NBFC-MFIs. While micro-loans by NBFC-MFIs attract a risk-weight of 100%, the same for banks/SFBs is 75%. Lower pace of capital consumption and lower regulatory capital adequacy requirements, reduce dependence on growth capital and improve RoE outlook for banks vs. NBFC-MFIs and SFBs.

Micro-lending banks have option value to scale up retail/corporate businesses

- A bank has a lower priority sector lending requirement, i.e. 40% of ANBC, as compared with 75% for SFBs and 85% for NBFC-MFIs. Lower priority sector lending requirement frees up regulatory headroom for fee-income generation by selling of Priority Sector Lending Certificates (PSLCs).
- Moreover, apart from less stringent priority sector lending requirements, in a banking setup, there are no restrictions on ticket sizes. This provides a micro-lending bank an option value for scaling up a retail/corporate franchise as well. Bandhan has started utilising this advantage to scale up its retail/general banking business.

How is Bandhan's micro-lending model different?

Group-based individual lending

All of Bandhan's microloans are group-based individual loans. The group-based individual lending methodology is utilised to extend loans to women who have formed groups of approximately 30 members. The general requirement for forming a group is that the women must be from the same area and know each other, but not be related to one another. The groups are self-selected and each member is eligible to obtain loans individually.

The formation of the group serves as a protection against defaulting members and increases credit discipline through mutual support within the group. It ensures that individual members are prudent in conducting their financial affairs and prompt in repaying their loans, without the need to take any formal collateral.

Bandhan extends microloans exclusively to women from low-income households, although loan proceeds may be used for business activities that are run by the women's families, including their husband.

Bandhan has several micro loan options with loan tenures up to 2 years with a maximum loan amount of INR 150,000.

Exhibit 25. Micro-lending models – Bandhan alone has a group-based individual lending model

MFI model	SHG	JLG	Group-based individual lending
Model	Savings led (Members collectively save money for 6 months to avail credit)	Credit led (No savings required, members have an access to the finance as per the requirement)	Credit led (No savings required, members have an access to the finance as per the requirement)
Borrowers Segment	Women/Men	Women	Women
Lending Methodology	Group (Size 10-20 members)	Group (5 members)	Group (~30 members)
Liability	Individual liabilities	In-case of default by a group member, other members required to fund the collection deficit (upto 3 EMIs)	Individual liabilities. Credit discipline through mutual support within group, to ensure that members repay promptly
Loan Processing time	~4 Months	1 week	1 week
Repayment frequency	Monthly	Weekly / Monthly	Weekly
Credit Decision	Group leader decides the quantum of loan for the member	Entire group and the center decides the quantum of loan	Head of DSC visits customer's house and checks details entered in loan applications and, if satisfied, sanctions the loan

Source: JM Financial, Bharat Financial Inclusion - investor presentation

Group-based individual lending vs. SHG vs. JLG models

The SHG model is savings-led: Members make small regular savings contributions over a few months until there is enough money in the group to begin lending. Under NABARD's SHG Bank Linkage Program (SHG-BLP), SHGs borrow from banks once they have accumulated a base of their own capital and have established a track record of regular repayments. SHGs are largely concentrated in South India, with AP and Telangana contributing 48% to the total SHG-based micro-loan portfolio in India. We believe however that the SHG mechanism suffered from twin drawbacks of a) lack of scalability – as the group essentially funds itself, with no principal lender driving the loan and b) lack of availability of data – SHGs were only mandated to share data with credit bureaus after July '16 and it might be some time before this data becomes comprehensive.

Micro-lenders have, as a result, avoided the SHG model as well as geographies associated with the model after the AP crisis and preferred the JLG route. The JLG model is not savings-led, the groups are much smaller (5 members) and in the case of a default by a member in the group, the other members are liable to fund the deficit for 2-3 EMIs.

Bandhan is unique in pioneering the group-based individual lending model. In this model, the loan liabilities are individual-based (and not for the entire group). Credit discipline is enforced through mutual support within the group, which ensures that individual members repay overdues promptly. We believe this lending methodology, coupled with a weekly collection policy, has helped keep Bandhan’s asset quality in good health.

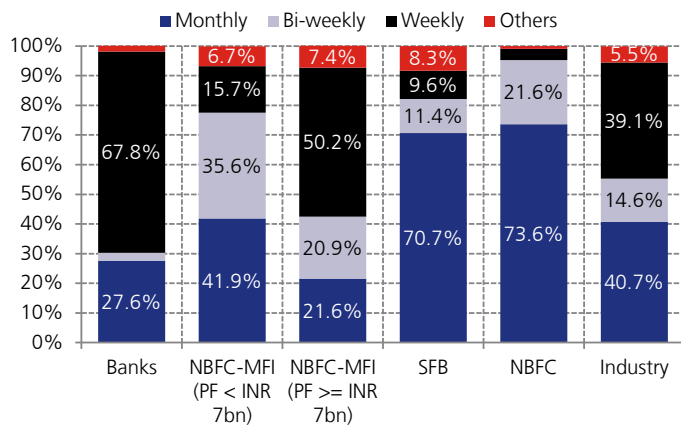
Moreover, our interactions with industry professionals lead us to believe that a number of micro-lenders are increasingly leaning towards a similar model to Bandhan’s, albeit within the JLG framework. In the period of widespread defaults after Demonetization, many lenders felt that the JLG rule, which stipulated that the rest of the group had to fund 2-3 EMIs of defaulting members, was onerous on the remaining group members and they have withdrawn it since.

Weekly collection frequency

As per Equifax data, close to 40% of micro finance loans for the industry are collected on a weekly basis, with the proportion being relatively lower at 3.8% in the case of NBFCs and 9.6% for SFBs (exhibit 26 below). Bandhan operates with a weekly collection frequency model.

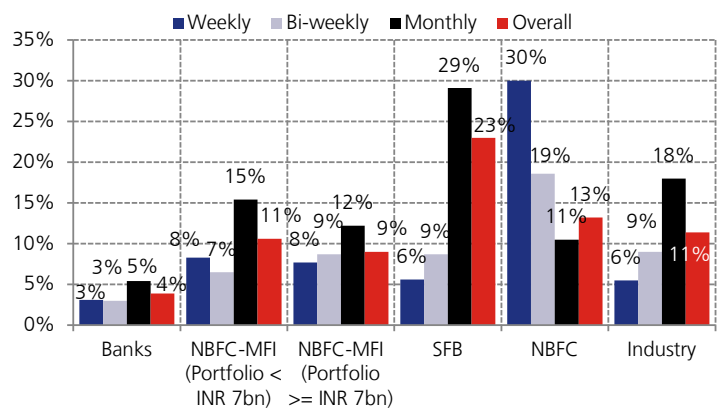
A closer analysis suggests that players following a weekly collection model tend to perform better in terms of asset quality, as they engage more frequently with borrowers. The PAR30 for weekly repayment frequency was the lowest at 5.5% as of Sep’17 compared with the monthly and bi-weekly repayment frequency models. Even after Demonetization, PAR30 for weekly repayment frequency stood at 5.7% as of Mar’17, compared with 17.9% for monthly repayment frequency as of the same quarter. Close to two-thirds of the loans of SFBs are under the monthly repayment frequency model, where the asset quality experience, has been relatively inferior. As can be seen in exhibit 27 below, a bank operating with a weekly collection frequency (essentially Bandhan) had the lowest PAR30 (3.1%) as of Sep’17.

Exhibit 26. Split of GLP for industry groups based on collection frequency (as of Sep’17)



Source: Equifax, CRISIL, JM Financial # Data excludes SHGs, excludes AP & Telangana portfolio

Exhibit 27. PAR30 variation based on industry group, collection frequency (as of Sep’17)

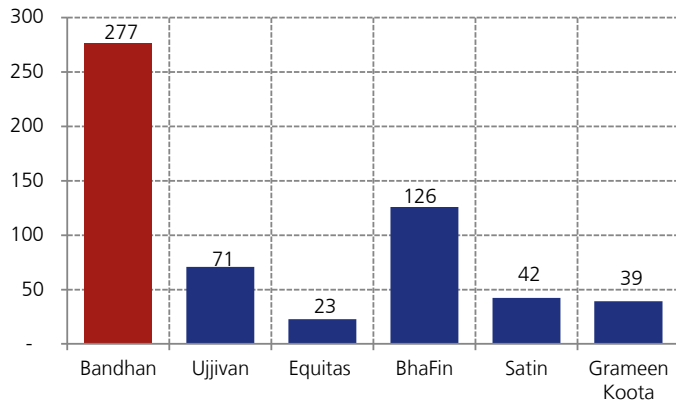


Source: Equifax, CRISIL, JM Financial, #Data excludes SHGs, excludes AP & telangana portfolio

What makes Bandhan tick so efficiently?

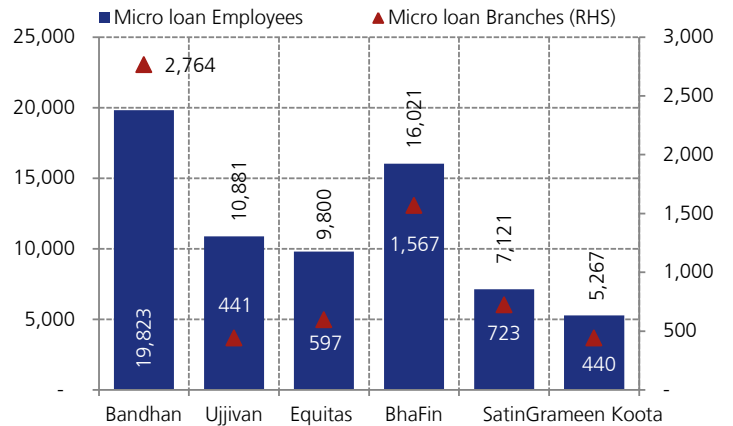
In this section we compare Bandhan’s financial and operating metrics vis-à-vis other micro-lenders. For our comparisons, we have considered the two largest listed small-finance banks engaged in micro-lending: Ujjivan and Equitas, along with the three largest NBFC-MFIs: Bharat Financial, Satin and Grameen Koota.

Exhibit 28. Gross micro loan portfolio (INR bn)



Source: Company, JM Financial

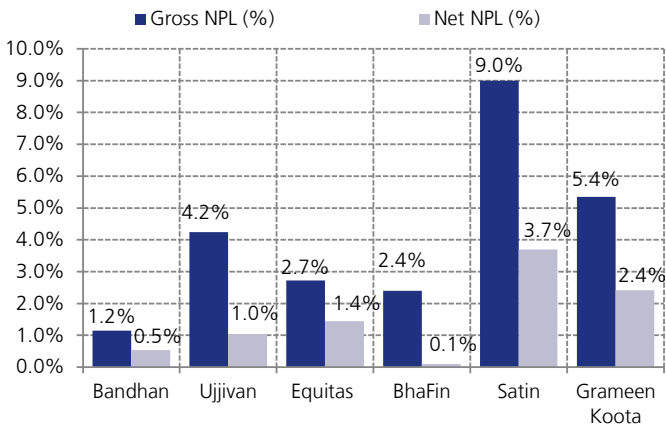
Exhibit 29. Total micro-lending touch-points and employees



Source: Company, JM Financial, # only DSCs and DSC employees considered for Bandhan

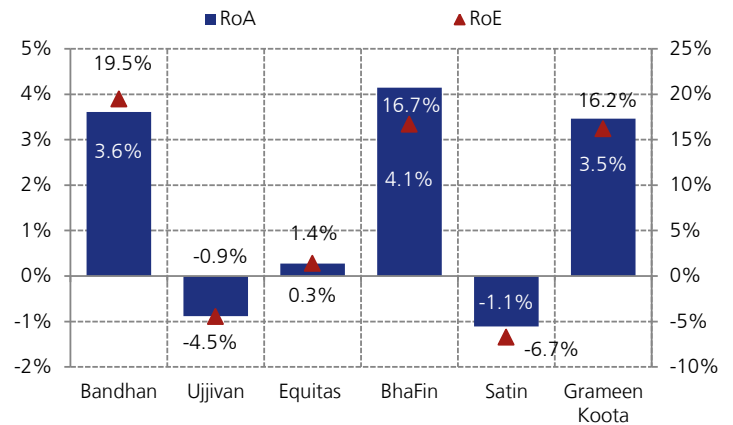
As seen in exhibits 28 and 29 above, Bandhan is the largest micro-lender by far, both in terms of the gross micro-loan portfolio, as well as employees and branches. In our view, this makes Bandhan’ superior asset quality and return metrics even more impressive as they have been achieved despite the massive scale. These are shown in exhibits 30 and 31 below.

Exhibit 30. NPL ratios (most recent reported) : Bandhan is best-in-class



Source: Company, JM Financial

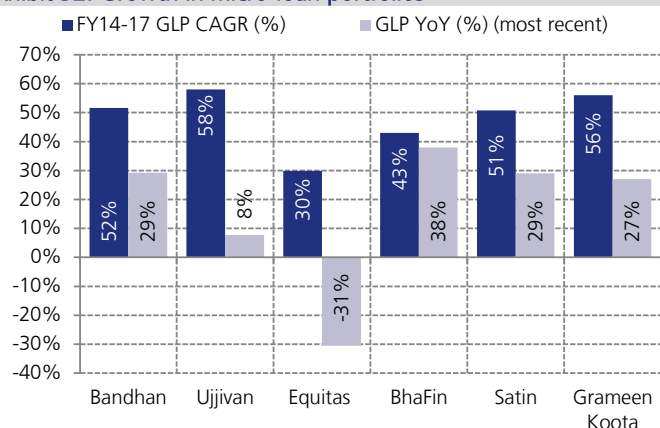
Exhibit 31. Return metrics : Bandhan and BhaFin stand out



Source: Company, JM Financial, #9MFY18 annualised no.s for Ujjivan and Satin, 6MFY18 for Grameen

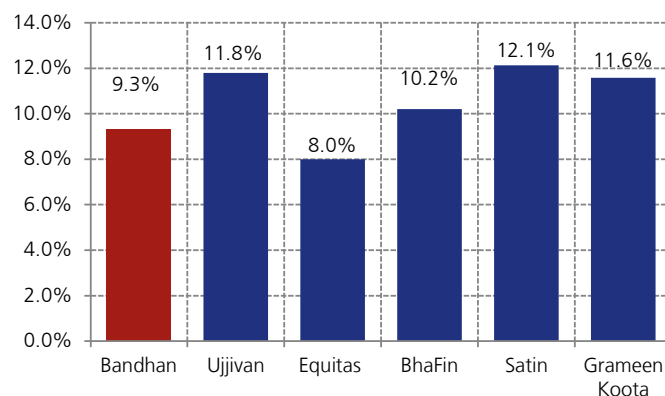
Although the growth trajectory has been robust for micro-lenders as they continue to gain market share from bank-linked SHGs (exhibit 19), in the recent past growth has been muted for players such as Ujjivan and Equitas, which were impacted by demonetisation during the course of their transformation from NBFC-MFI to small finance banks. Bandhan’s NIM reported in 4QFY18 was at 9.3% (down from 10.7% in 4QFY17), is lower than most other micro-lenders as loans earlier classified as IBPCs (Inter-bank Participation Certificates) have now been replaced with PSLCs (Priority Sector Lending Certificates). As a result, income arising from these loans is now classified as fee income and not interest income (which was the case earlier).

Exhibit 32. Growth in micro-loan portfolios



Source: Company, JM Financial # Only micro-loan portfolio for Equitas considered

Exhibit 33. NIMs lower for Bandhan as IBPC loans replaced with PSLCs



Source: Company, JM Financial # NIM of last reported quarter is shown here

In exhibit 34 below, we look at the Dupont analysis of micro-lenders and it soon becomes evident as to what sets Bandhan apart from the rest of the pack. As can be seen below, employee cost-to-assets and overall operating-cost-to-assets are lowest for Bandhan among all micro-lenders in the peer group. As a result, Bandhan's PPop profile is best-in-class, despite lower NIMs than its peer group.

Exhibit 34. Dupont comparison of micro-lenders: Bandhan's operating cost and credit cost profiles differentiate it from the rest

Dupont Analysis	Bandhan (FY18)	Ujjivan (9MFY18)	Equitas (FY18)	BhaFin (FY18)	Satin (9MFY18)	Grameen Koota (1HFY18)
Net Interest Income / Assets (%)	8.1%	8.8%	8.1%	10.2%	8.7%	10.2%
Other income / Assets (%)	1.9%	1.6%	1.7%	2.5%	1.3%	0.3%
Total Income / Assets (%)	10.0%	10.4%	9.8%	12.7%	10.0%	10.4%
Employee Cost to Assets (%)	1.8%	5.7%	4.6%	4.8%	4.4%	3.0%
Other Cost to Assets (%)	1.7%	1.7%	3.3%	1.6%	1.8%	1.6%
Cost to Assets (%)	3.5%	7.4%	7.8%	6.4%	6.2%	4.6%
Pre-provisioning operating profit (PPoP) / Assets (%)	6.5%	2.9%	2.0%	6.3%	3.8%	5.8%
Provisions / Assets (%)	1.0%	4.3%	1.5%	2.1%	5.6%	1.0%
PBT / Assets (%)	5.5%	-1.3%	0.4%	4.1%	-1.9%	4.7%
ROA (%)	3.6%	-0.9%	0.3%	4.1%	-1.2%	3.0%
Leverage (x)	5.4	4.7	5.1	4.0	6.1	5.3
RoE (%)	19.5%	-4.2%	1.4%	16.7%	-7.6%	16.2%

Source: Company, JM Financial

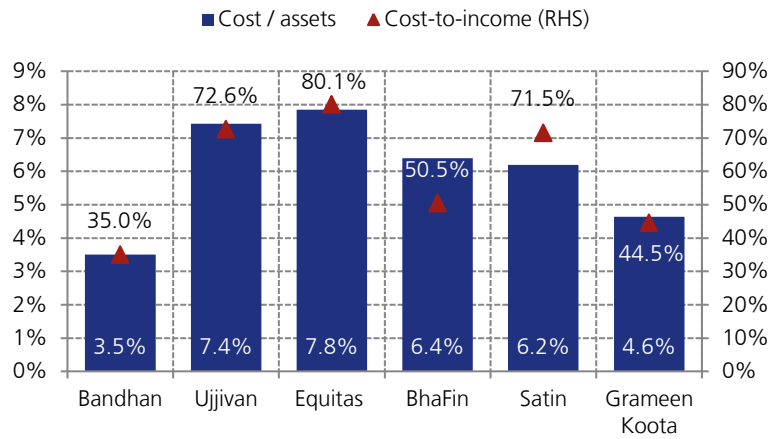
Moreover, even when we move below the PPop line, credit costs for Bandhan (imputed from provisions / assets) are the lowest in its peer group. This can, to an extent, be explained by the fact that the weekly collection policy adopted by Bandhan has been demonstrated to result in significant lower credit costs. Separately, Bandhan draws significant advantages as a micro-lender within the banking setup: as a universal bank, it was allowed to accept the demonetised SBNs from its borrowers even when the others were not (except Equitas which had commenced operations as an SFB).

The fact that Bandhan runs the leanest micro-lending operations despite adopting a weekly collection model seems counter-intuitive. In the section below, we look at Bandhan's unit economics and productivity metrics and compare it to its micro-lending peers.

Superior cost ratios are structural to the franchise

Cost ratios for Bandhan are significantly better than the peer group in exhibit 35 below. Even though cost-to-income might not be the right approach to understand the cost profile (given the low income base for a lot of these lenders), when we look at operating cost-to-assets, Bandhan clearly stands out.

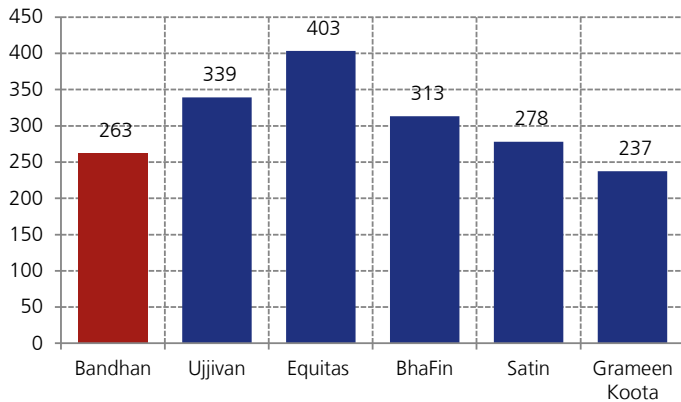
Exhibit 35. Cost-ratios for Bandhan are best-in-class by a wide margin



Source: Company, JM Financial # 9MFY18 numbers for Ujjivan,Satin; 1HFY18 numbers for Grameen Koota

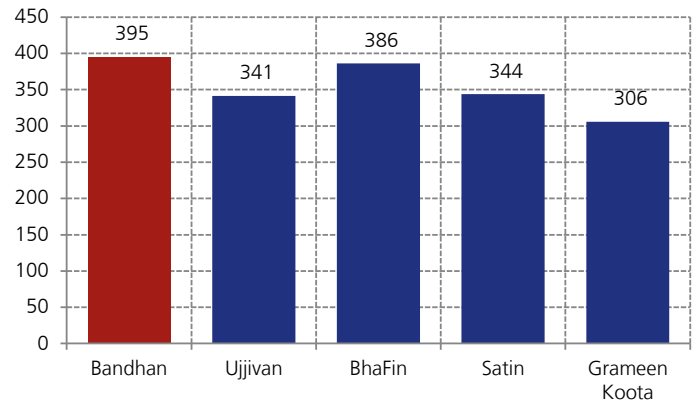
Costs per employee are amongst the lowest for Bandhan as shown in exhibit 36 below. This is despite the fact that we have considered the overall employee costs to the overall employee base (including general banking employees) in this comparison. Employee cost per DSC employee would be much lower (INR 125,000-175,000 per year). In our view, Bandhan has a significant advantage due to its dominant presence in East India, which has high population concentration and low per capita incomes. This allows Bandhan to hire at significant lower costs per employees compared with its peers.

Exhibit 36. Annual cost per employee among the lowest for Bandhan (INR '000) ...



Source: Company, JM Financial

Exhibit 37. ..While number of active borrowers / micro loan employee is highest



Source: Company, JM Financial # only DSC employee base considered for Bandhan

Productivity per employee is amongst the highest for Bandhan. As shown in exhibit 37 above, each DSC employee caters to 395 active borrowers. We believe this is possible for Bandhan, despite operating on a weekly collection model because of the larger group sizes (~30 members each) in its individual based group lending approach. Hence the above number roughly translates to ~13 groups per DSC employee or 2.6 group meetings per day for the employee (considering 5 working days /week). We believe that although productivity is best-in-class for Bandhan, there is further headroom for even more improvement by further increasing DSC employee productivity. This can be seen in exhibit 38 below:

Exhibit 38. Unit economics of micro-lenders on weekly collection model

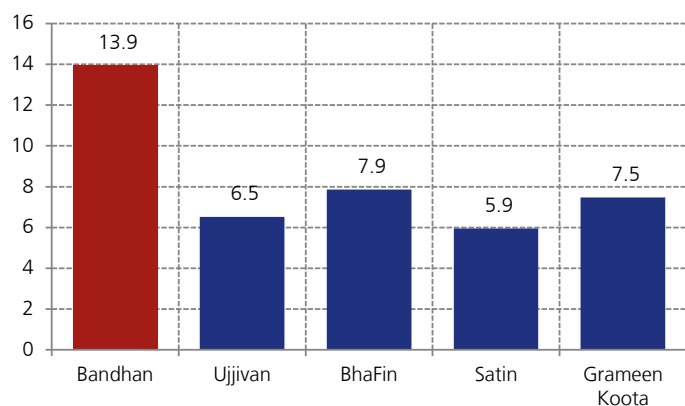
	Bandhan	BhaFin	Grameen Koota
Group micro loan portfolio (INR bn)	277	126	39
Active Micro borrowers (mn)	7.8	6.2	1.6
Avg ticket size (INR)	35,313	20,352	24,453
Number of Groups/centers /Kendras	2,61,000	2,86,183	93,000
Number of borrowers per group/centre/Kendra meeting	30	21.6	17.3
Number of micro loan employees	19,823	16,021	5,267
Number of Groups/centers /Kendras per employee	13.2	17.9	17.7
Mode of collection	Weekly	Weekly	Weekly
Meetings per day for employee	2.6	3.6	3.5
Gross loan Portfolio / employee (INR mn)	13.9	7.9	7.5
Monthly salary / employee (estimated)*	17,000	24,000	20,000
Annual Employee cost / loan book	1.5%	3.7%	3.2%

Source: Company, JM Financial *Effective cost per employee including corporate overheads.

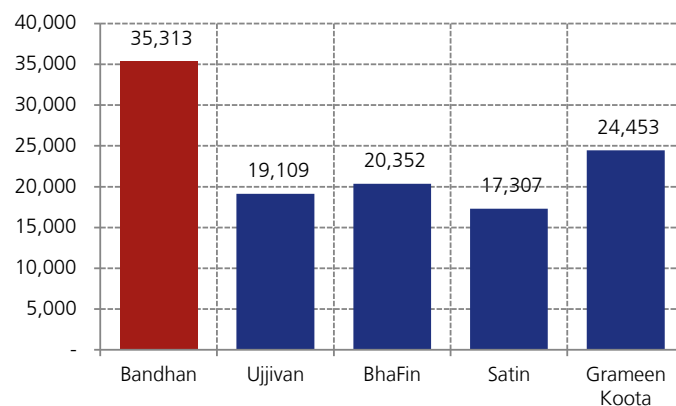
Bandhan has the highest gross loan portfolio per employee among the peer group as shown in exhibit 39 below. This is a result of the two factors a) larger group sizes per meeting and b) higher ticket sizes offered by Bandhan as shown in exhibit 40 below. As a result the gross loan portfolio per DSC employee for Bandhan is almost double of that of its peer group. Moreover, we believe that larger group sizes of c.30 members each provide scale economies such that Bandhan's cost economics can be improved even further.

Although Bandhan's larger average ticket size (gross loan portfolio per active borrower) might raise some concerns, we believe this has more to do with the fact that most of its borrowers are deep into their respective borrowing cycles. Unlike other micro-lenders, Bandhan sailed through loan waivers, the AP crisis and Demonetization with relative ease and hence, its borrowers have matured with the organisation. On the other hand most other micro lenders have churned their borrower pools during periods of difficulty and have comparatively fewer deep-cycle borrowers.

Moreover, incremental disbursements from most micro-lenders are at comparatively higher ticket sizes as shown in exhibit 41 below.

Exhibit 39. GLP / micro-loan employee is highest for Bandhan (INR mn) ...

Source: Company, JM Financial

Exhibit 40. ..While GLP / active borrowers is also amongst the highest (INR)

Source: Company, JM Financial

Exhibit 41. Micro-lending : Incremental disbursement ticket sizes are higher

Company	Incremental disbursement ticket sizes (INR)
Bharat Financial (IGL loans) (4QFY18)	25,081
Ujjivan (3QFY18)	27,591
Satin (3QFY18)	30,000

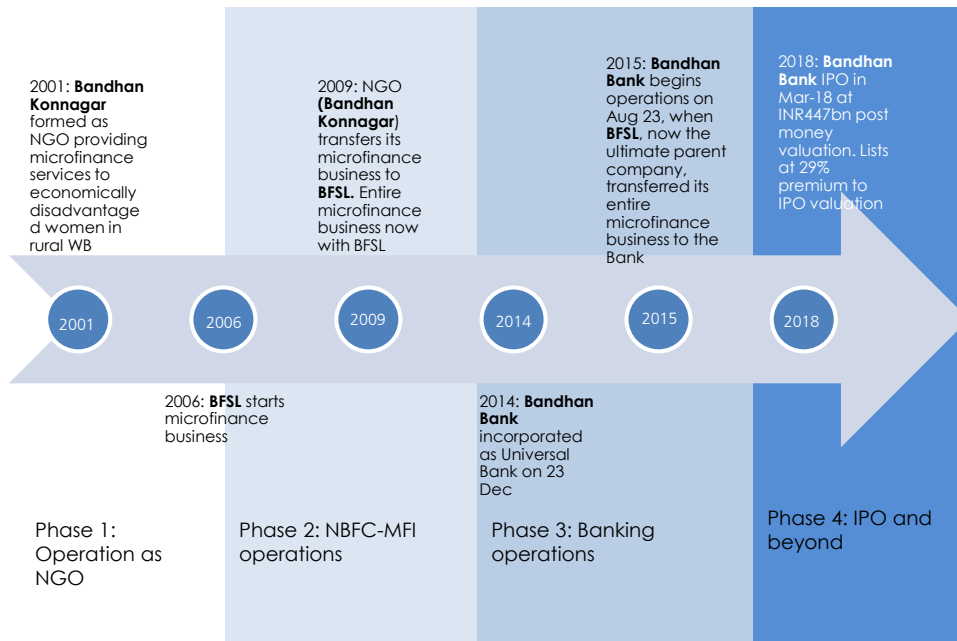
Source: Company, JM Financial

Bandhan– An improvised microlender

Bandhan has had a relatively unique trajectory in terms of its evolution, right from its beginning as an NGO (Bandhan Konnagar) followed by its transformation into a microfinance lender (earlier NBFC and then NBFC-MFI) under Bandhan Financial Services Ltd (BFSL) – eventually leading to its current form of a universal bank.

BFSL started its microfinance business in 2006 and the NGO transferred its microfinance business to BFSL in 2009, and therefore, the entire microfinance business was undertaken by BFSL. By the time BFSL transferred its microfinance business to Bandhan Bank, it was India's largest microfinance company by number of customers and size of loan portfolio.

Exhibit 42. Evolution of Bandhan Bank



Source: Company, JM Financial

Group-based individual lending model – backbone of Bandhan's microfinance success

Bandhan follows a group-based individual lending model unlike other MFIs/banks which either focus on self-help groups (SHGs) or joint-liability groups (JLGs) to operate in the microfinance segment. The group-based individual lending model is based on the belief that the under-privileged have skills that are under-utilised and if they are given access to credit, they will be able to identify new opportunities and grow existing income-generating activities.

Under the group-based individual lending model, loans are extended to women who have formed themselves into groups of approximately 30 members. The groups are self-selected and each member is eligible to obtain loans individually. As a result, other group members typically encourage the defaulting member to make timely payments.

The general requirement for forming a group is that the women must be from the same area and know each other, but not be related to one another. Family members or relatives cannot be part of the same group.

According to the management, the formation of a group serves as protection against defaulting members and defaulting loans. Also, the lending model increases credit discipline through mutual support within the group in order to ensure that individual members are prudent in conducting their financial affairs and prompt in repaying their loans, without the need for the bank to take any formal collateral.

However, unlike the JLG model where the group members have the repayment responsibility in case of the default by one of the group members, the group-based individual lending model places the repayment responsibility on the individual at all points in time. Thus, it also shields “good” borrowers from subsidising the “bad” borrowers. However, sometimes in case of default in payment by any customer, the group members offer to help the customer in repaying the loan, although they are under no obligation to do so.

Bandhan extends microloans exclusively to women borrowers, although loan proceeds may be used for business activities that are run by the women’s families, including the husband. Management believes that extending loans to women borrowers improves the portfolio quality given that **a)** they are generally more risk averse **b)** cooperate better in groups and **c)** are generally more accessible than their working husbands and can meet regularly at group meetings to administer the repayment of their loans.

Bandhan places significant importance on attendance at group meetings and absenteeism at group meetings is considered as an early warning indicator for potential problem customers.

Exhibit 43. Bandhan Bank: Key stats

As on Mar '18

AUM (INR bn)	323.4
Number of Customers (mn)	13.01
Number of active MFI borrowers (mn)	7.83
MFI GLP / Active borrower	35,313
Avg. Cycle of customers	5.5

Products offered	Max. Ticket size	Interest rate
MFI loans (with both 1 year and 2 year tenor)	0.1 mn	18.4%
Small enterprise loans (SEL)	1.0 mn	16.0%
SME loans	> 1mn	
Retail loans - housing and mortgage loans, two wheeler loans, personal loans, loans against property, loans against term deposits and gold loans		

Source: Company, JM Financial

Bandhan’s operating model – Microbanking vs. General banking

As Bandhan transformed into a universal bank in 2015, it ensured that its microbanking set-up remained largely untouched from an operational perspective except from being connected to the core banking system.

While microbanking customers were onboarded to the banking platform through savings accounts, Bandhan ensured that the customer experience for these customers remained almost the same from a positioning and process perspective. At the same time, Bandhan’s branch rollout for general banking customers ensured that the bank competed with other universal private sector banks on customer experience, product suite, etc without carrying its “microlender” baggage.

Microbanking distribution architecture

Bandhan reaches out to its microfinance customers through its Doorstep Service Centre (DSC) network which ensures credit origination and management of micro loans. The DSCs are strategically located in close proximity to customers to provide them customised services in a timely manner. About 3-4 DSCs are linked to a single bank branch, and the network of DSCs and branches operate under this “hub and spoke” model.

Each DSC is staffed with 6-7 personnel who are equipped with handheld devices connected to the core banking system. However, DSC is a low-cost banking outlet and has bare minimal operational infrastructure – typically 1 internet-enabled computer, 5-6 chairs, 2-3 tables and few handheld devices for on-field personnel – and are located in remote areas even within Tier2/Tier3 towns, away from main streets. This ensures low operating as well as fixed costs and without compromising on proximity to the customer base.

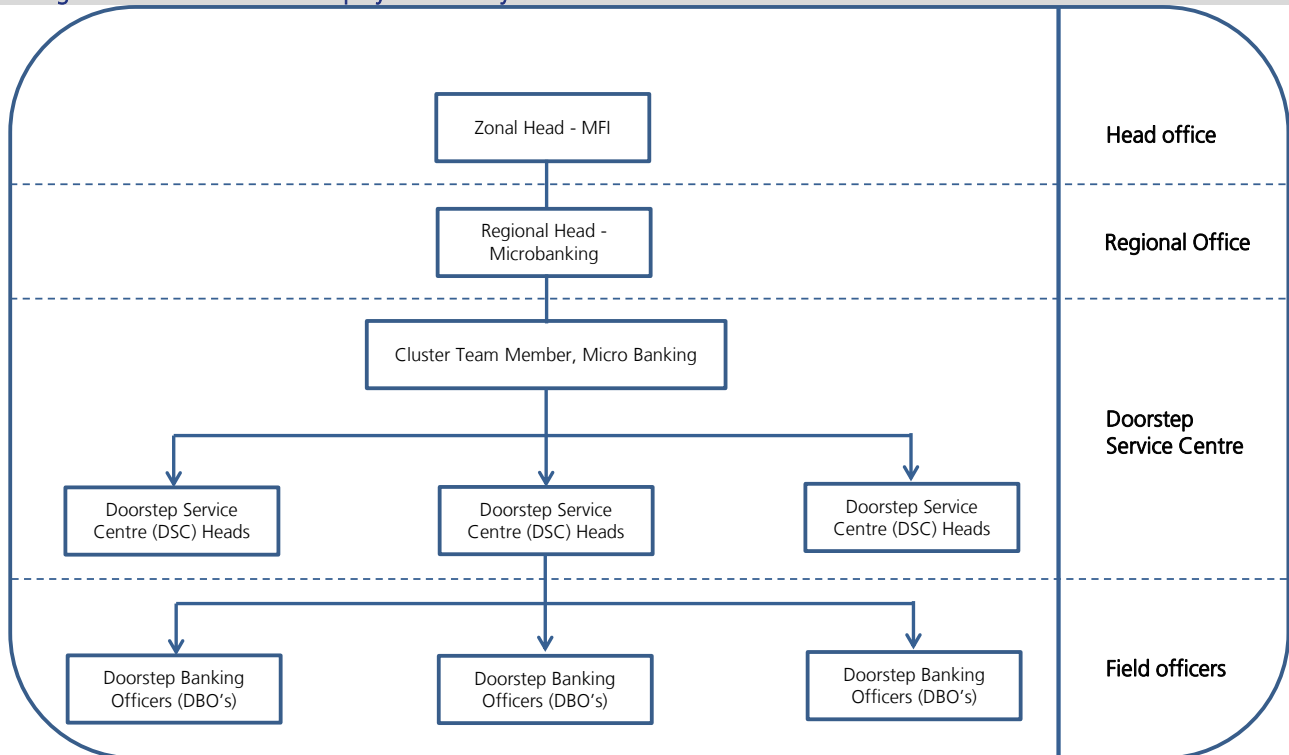
Exhibit 44. Bandhan DSCs are basic structures to support DBOs in centre activities



Source: JM Financial

The DSCs are run by head officers (“DSC Heads”) who are supported by DBOs. DBOs interact with micro banking customers on a regular basis. The DSC Heads report to the “Cluster Team Members, Micro Banking” who monitor the activities at the DSC level, and who themselves report to regional heads of micro banking for their particular regions. Finally, Zonal Heads for micro banking at head office monitor and provide policy support and direction to the cluster heads.

Exhibit 45. Organisation structure and Employee hierarchy



Source: Company, JM Financial

Each DSC is linked to a bank branch. While all of the work related to liabilities account opening and cash management are dealt by the linked bank branches, all micro loan account opening is done at the DSC level. The credit bureau check is conducted by the Loan Processing Unit, which is part of the Central Processing Unit. Both individual banking (including the opening of savings and current accounts) and information collection at group meetings can be done through handheld devices, which are linked to the Core Banking System.

Exhibit 46. Bandhan's general banking branches are at prime locations with comparable set up to large private peers



Source: JM Financial

In Focus : Bandhan's micro-banking process

Group formation

In order to select clients and promote the formation of borrower groups, an initial survey is conducted by the DBO and DSC Head. After a visit and discussions with the potential customers, the DBOs and/or DSC Head facilitate formation of groups of interested women from the locality in question.

Savings account opening

After formation of a group, a common place is selected where the group members meet at regular intervals. Simultaneously, the bank provide savings bank account forms and conduct know-your-client ("KYC") verification, as well as house visits to the customers, before sending the customer information to the linked bank branch. The bank branch, after being satisfied with the completeness of the application, sends the report to our central processing unit ("CPU") for opening the account. The CPU checks the completeness of the application along with KYC documents and opens the account. The savings account of the customer resides with the linked bank branch.

Loan applications

Loan applications are filled out during the group meeting based on the recommendation of the group members. The DSC Head is empowered to sanction loans to customers after physical verification of the original KYC documentation, place of business, and the filled-in loan forms. The sanctioned loan amount is disbursed to the savings account of the customer maintained with the linked bank branch and the customer withdraws the amount from the savings account after due biometric authentication on handheld devices. Typical turnaround time from loan application to disbursement is around a week.

Loan sanctions

For microloans, doorstep banking officers ("DBOs") source loan applications, conduct the primary appraisal and customer visits and make loan recommendations to the head of the applicable DSC. The head of the DSC then visits the customer's house and checks the details entered in the loan applications and, if satisfied, sanctions the loan. The appraisal criteria for micro loans are primarily qualitative, and include factors such as customer profile, age, current enterprise, income, surplus income and Credit Bureau report on past performance.

Loan recovery

Daily, the DBO starts at the DSC by downloading of a list of customers from whom an amount is to be collected during the day. Collection of payments due happens at a close vicinity to the customers. Group meetings are held at the relevant location, and collection of due amounts is done using the handheld device. The printed acknowledgement receipt is handed over to the customer as well as manually entered in the group register. The collected amount is credited into the savings account of the customer and the due amount is transferred to the loan account of the respective customer. Each DBO handles four to five such groups daily. In each group, there is a group resolution register where customers' attendance as well as the total collection for the day is recorded. After completion of all the groups, the DBO returns to the DSC and hands the cash to the cashier. The DSC picks up the cash from the group itself and deposits it in the DSC at a stipulated time on the same day. The surplus cash beyond the prescribed cash retention limit, if any, is sent to the linked bank branch through the DSC officials.

General Banking

Bandhan's branches provide full range of banking services. The general banking team handles the entire general banking customer base, and there is a dedicated team for supervising the micro loan portfolio, which is part of the branch books.

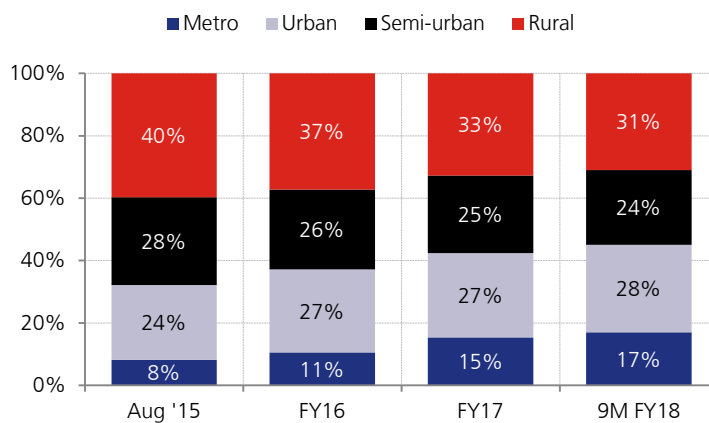
Bank branches are led by branch heads, who report to cluster heads. The cluster heads are supported by zonal heads for general banking, who sit at the head office and monitor and provide policy support and direction to the cluster heads.

Exhibit 47. Branch statistics (includes both DSC and general banking) – Dec '17

	Rural	Semi-urban	Urban	Metropolitan	Total
Central Region	65	243	134	58	500
Eastern Region	849	556	301	93	1799
North Eastern Region	331	153	68	0	552
Northern Region	4	59	67	53	183
Southern Region	5	39	42	61	147
Western Region	15	130	55	92	292
	1269	1180	667	357	3473
Branch Mix (%)					
Central Region	5%	21%	20%	16%	14%
Eastern Region	67%	47%	45%	26%	52%
North Eastern Region	26%	13%	10%	0%	16%
Northern Region	0%	5%	10%	15%	5%
Southern Region	0%	3%	6%	17%	4%
Western Region	1%	11%	8%	26%	8%
	100%	100%	100%	100%	100%

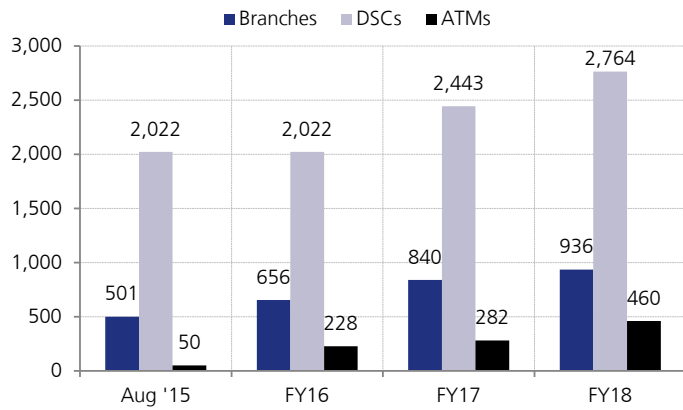
Source: RBI, JM Financial

Exhibit 48. Area-wise split of general banking branch network (9MFY18)



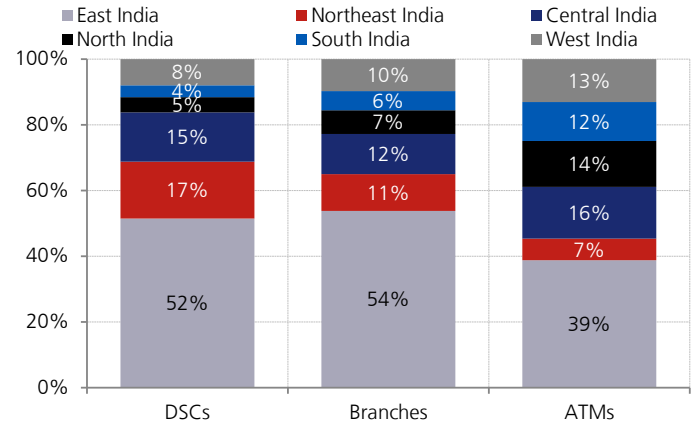
Source: RBI, JM Financial

Exhibit 49. Growth in distribution network



Source: Company, JM Financial

Exhibit 50. Region-wise split of Branches, DSCs and ATMs (9M FY18)

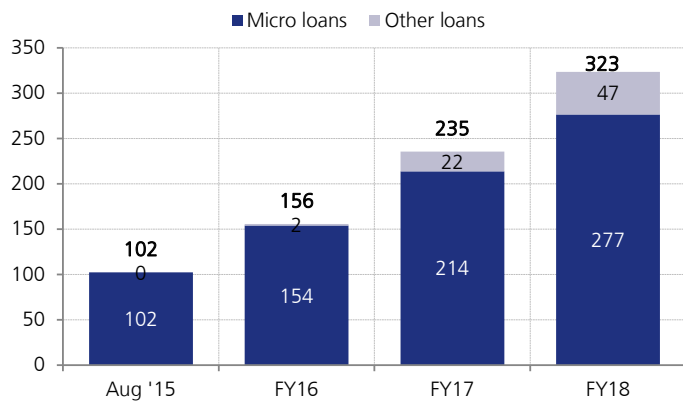


Source: Company, JM Financial

A highly granular retail asset mix – a first amongst universal banks

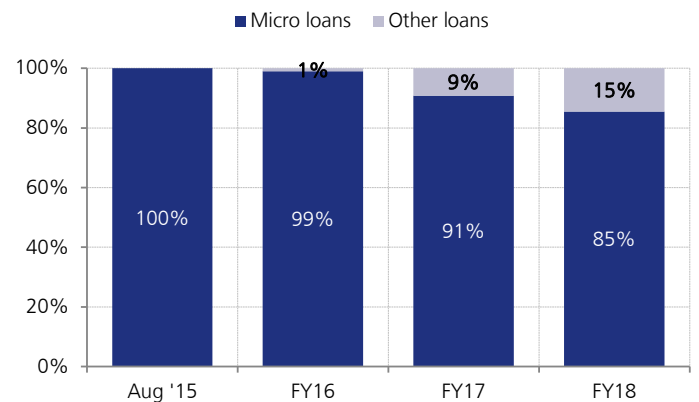
Bandhan boasts of a 100% retail focused loan mix emanating from its origins as an NBFC-MFI. After transitioning into a bank, Bandhan has diversified into other retail assets, namely: a) SME loans b) small enterprises Loans – an extension of its existing microlending product and c) other retail loans such as two-wheeler (2W) loans, home loans, LAP, personal loans and gold loans.

Exhibit 51. AUM growth (INR bn)



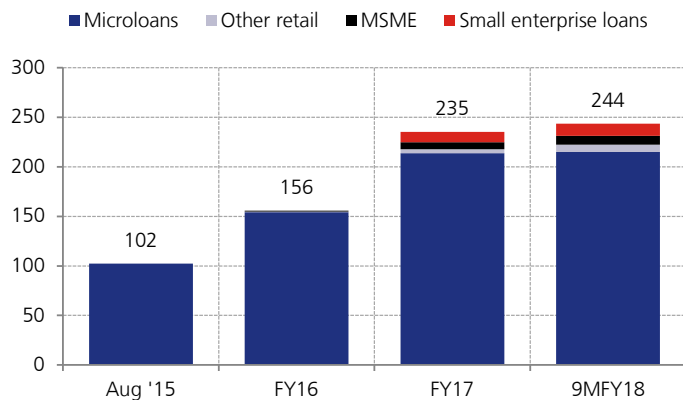
Source: Company, JM Financial

Exhibit 52. AUM mix (%)



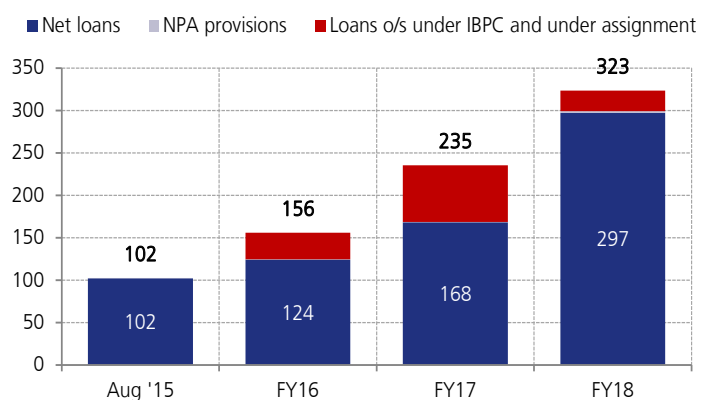
Source: Company, JM Financial

Exhibit 53. Loan book mix by product



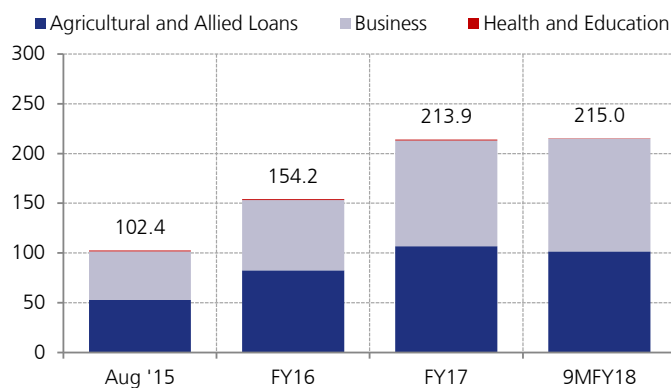
Source: Company, JM Financial

Exhibit 54. Break-up of gross and net loans on book (9M FY18)



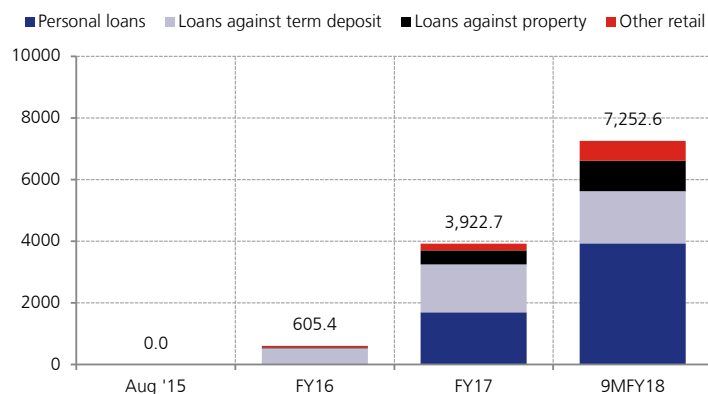
Source: Company, JM Financial

Exhibit 55. Micro loan book split by type of loan (INR bn)



Source: Company, JM Financial

Exhibit 56. Break-up of retail loan book – (INR mn)



Source: Company, JM Financial

Exhibit 57. Bandhan Bank : Loan products offered

Loan classification	Micro-loans	Small Enterprise loans	SME loans	Other retail loans
Target group	Women	Men/women	Men/women	Men/women
Lending methodology	Group based individual lending	Individual lending	Individual lending	Individual lending
Purpose	To invest in income-generating activities by having convenient access to funds. Bandhan also offers microloans to pay for children's education as well as for medical emergencies	Collateral-free loans for income generating activities. Provided in the form of working capital or for assets creation for business or for short-term business requirements	These loans include business loans, CV loans, term loans, equipment loans and working capital loans	For personal and business requirements, such as housing and mortgage loans, 2-wheeler loans, personal loans, LAP, loans against term deposits and gold loans
Ticket size	INR 15k - 150k	INR 100k - INR 1mn	>INR 1 mn	
Sourcing	Through doorstep service centers (DSCs)	RMs	Branches and SME hubs with RMs	Branches and RMs
Tenure	Upto 2 years	1-3 years	<7 yrs	Depends on type of loan
Interest rate	18.40%	~16%	11% -13.5%	Housing loan : 9.5-14% 2-wheeler : 15-17% Personal loans : 14-18% LAP : 12-14.5%
Loan processing fees	~1%	~2%	~1%	Depends on type of loan
% of loans (9MFY18)	88%	5%	4%	3%

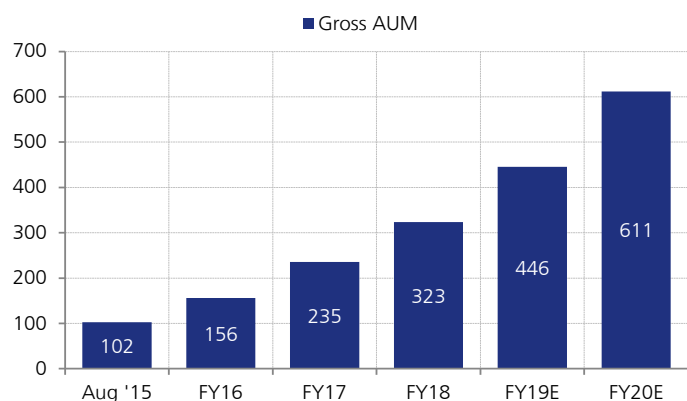
Source: Company, JM Financial

Sourcing of SME loans takes place through bank branches and SME hubs, which are hubs with dedicated relationship managers within select branches with potential for SME business. The SME hubs also house SME credit managers who assess the creditworthiness of business proposals. SME loans are a combination of collateralised as well as unsecured loans .

Small Enterprise Loans (SELs) are primarily given to customers who have been with Bandhan under its micro loan business and whose credit requirements have grown over the years beyond the limit of INR 150,000. When a customer migrates from microloans to SEL, a fresh appraisal and diligence is undertaken before a SEL is granted to the customer. As of Mar'18, ~5% of the portfolio comprised SELs.

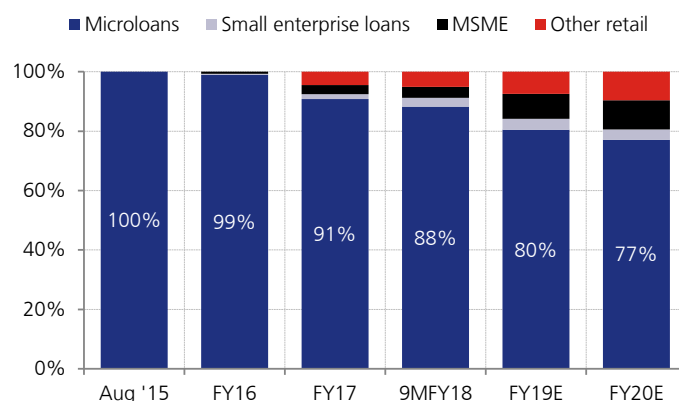
We expect Bandhan's portfolio mix to undergo a change over the next 3-4 years as non-micro loan products scale up despite healthy growth in the micro loan book. Management believes that as general banking asset products grow, the proportion of microfinance in the overall loan mix would reduce from over 90% currently to ~75%. Our estimates factor that micro loans would decline to 77% of the overall loan book by FY20E.

Exhibit 58. AUM growth over FY18-20E (INR bn)



Source: Company, JM Financial

Exhibit 59. Break-up of AUM (%)



Source: Company, JM Financial

We expect Bandhan's loan growth to exceed industry growth rates by a wide margin driven by 36% CAGR in microloans and 42% CAGR in other assets over FY18-20E.

Bandhan Bank – Scale up of deposits has been the real success story

Bandhan's real success has been the scale-up of its liabilities franchise within 24-30 months of the launch of its banking operations. Almost the entire liabilities in the erstwhile MFI entity – which were transferred to the bank – have been replaced by deposits as of Mar'18. Additionally, the bank has been able to garner CASA deposits of ~34.3% of deposits, which we believe is quite commendable. Also, 72% of Bandhan's deposits is retail in nature.

Exhibit 60. Bandhan Bank: Deposits franchise has been a big success story

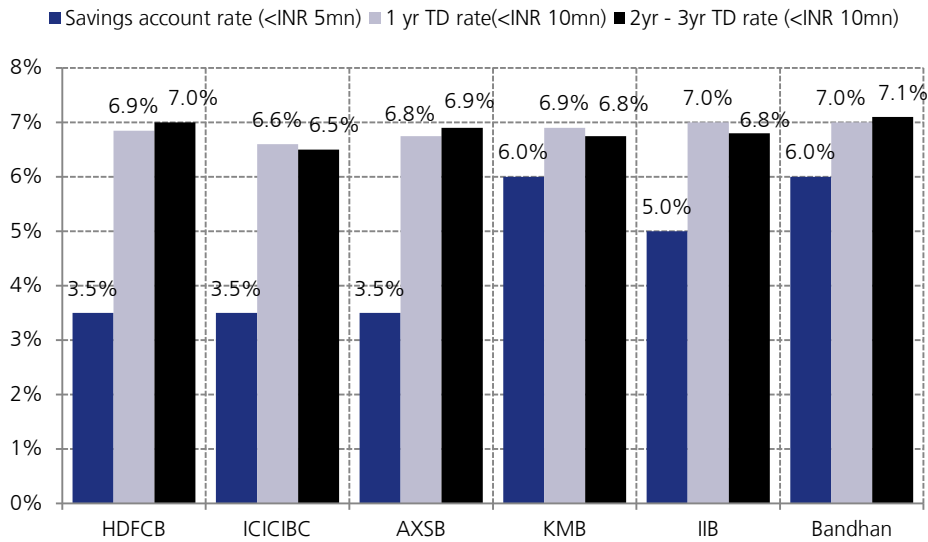
Deposits break-up	FY16	FY17	FY18	FY16-18 CAGR
Current account (INR bn)	2	15	24	220%
Savings account (INR bn)	24	54	92	97%
CASA (INR bn)	26	68	116	111%
Term deposits (INR bn)	95	164	223	53%
Total deposits (INR bn)	121	232	339	67%
Mix (%)	FY16	FY17	FY18	FY16-18 increase (%)
Current accounts (%)	1.9%	6.2%	7.1%	5.2%
Savings accounts	19.6%	23.2%	27.2%	7.6%
CASA (%)	21.6%	29.4%	34.3%	12.7%
Term deposits (%)	78.4%	70.6%	65.7%	-12.7%
Total deposits (%)	100.0%	100.0%	100.0%	0.0%

Source: Company, JM Financial

After the launch of its banking operations, Bandhan consciously adopted a strategy to focus on mass affluent, self-employed/SME and senior citizen customers to garner retail liabilities given that the ability of its microloan customer base (c. 6.8 mn customers when banking operations were launched) to provide deposits was limited due to limited savings/income.

To begin with, Bandhan has been offering higher interest rates on savings as well as term deposits to its liability customers to attract retail deposits. In addition, Bandhan deployed a fleet on street in its key geographies to attract customers/deposits.

Exhibit 61. Bandhan offers attractive interest rates on SA as well as TDs

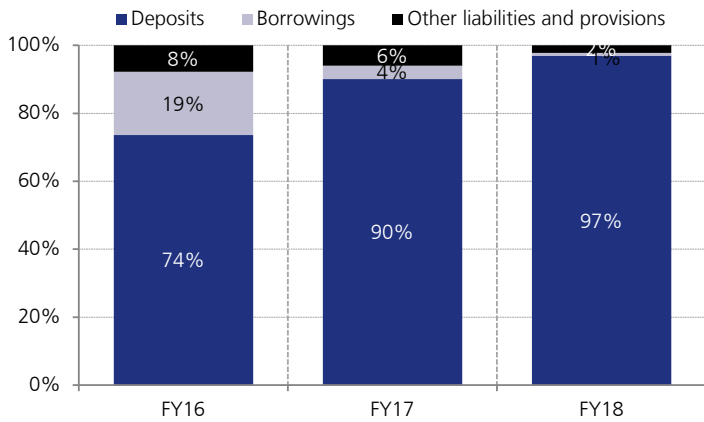


Source: Company, JM Financial

However, a key differentiating factor has been Bandhan’s strong acceptance as a retail brand in its key geographies, Eastern and Northeastern India. As the erstwhile MFI transitioned into a bank, Bandhan’s brand perception as a “socially responsible financial services provider” had a positive impact on its ability to garner retail liabilities in these geographies.

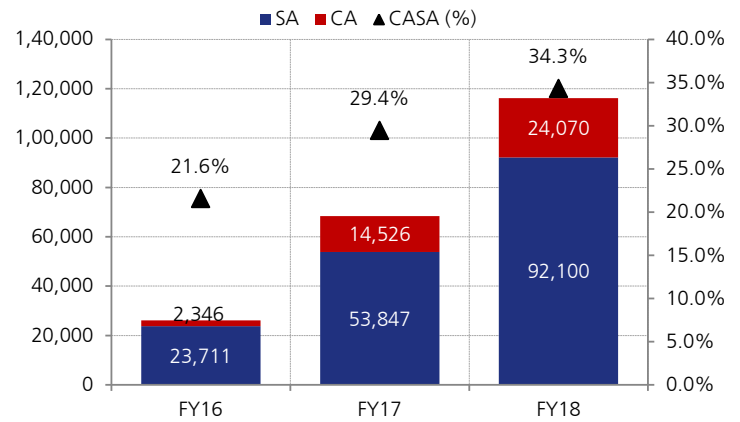
The quality metrics of Bandhan’s liability profile too indicate inherent strength. believe that avg CASA per branch at INR 124mn is very impressive for a bank that is in its 3rd year of operations. Moreover, SA ticket sizes are amongst the lowest for Bandhan compared to peer PvBs as shown in exhibit 66 below.

Exhibit 62. Deposits have nearly replaced all borrowings



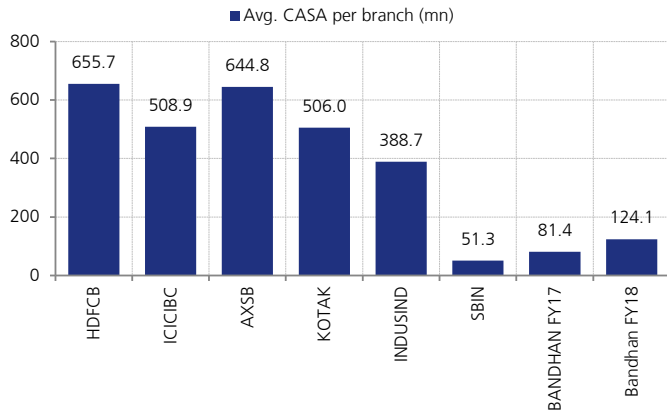
Source: Company, JM Financial

Exhibit 63. CASA ratio steadily climbing up (INR mn)



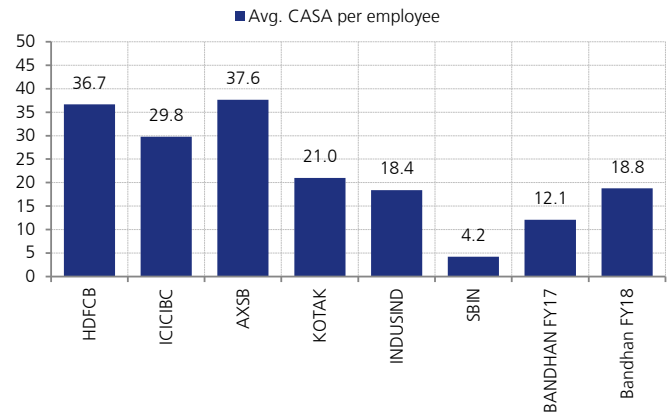
Source: Company, JM Financial

Exhibit 64. Avg CASA per branch



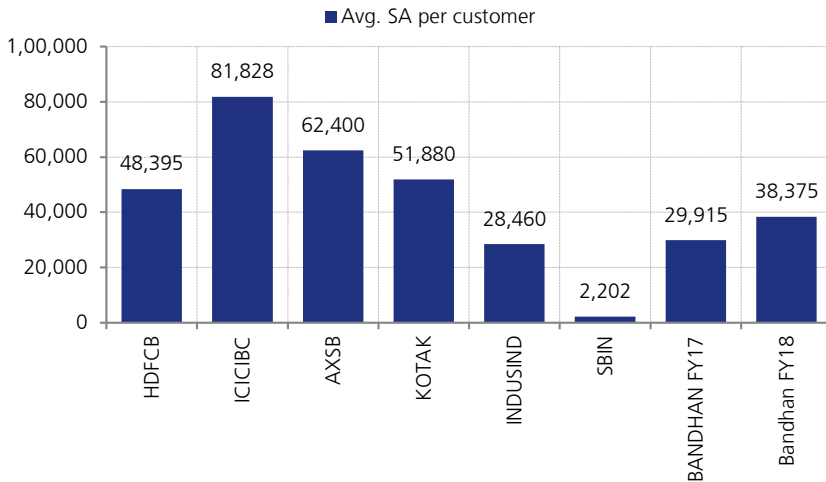
Source: Company, JM Financial

Exhibit 65. Avg CASA per employee (INR mn)



Source: Company, JM Financial

Exhibit 66. Bandhan Bank has a granular SA deposit base



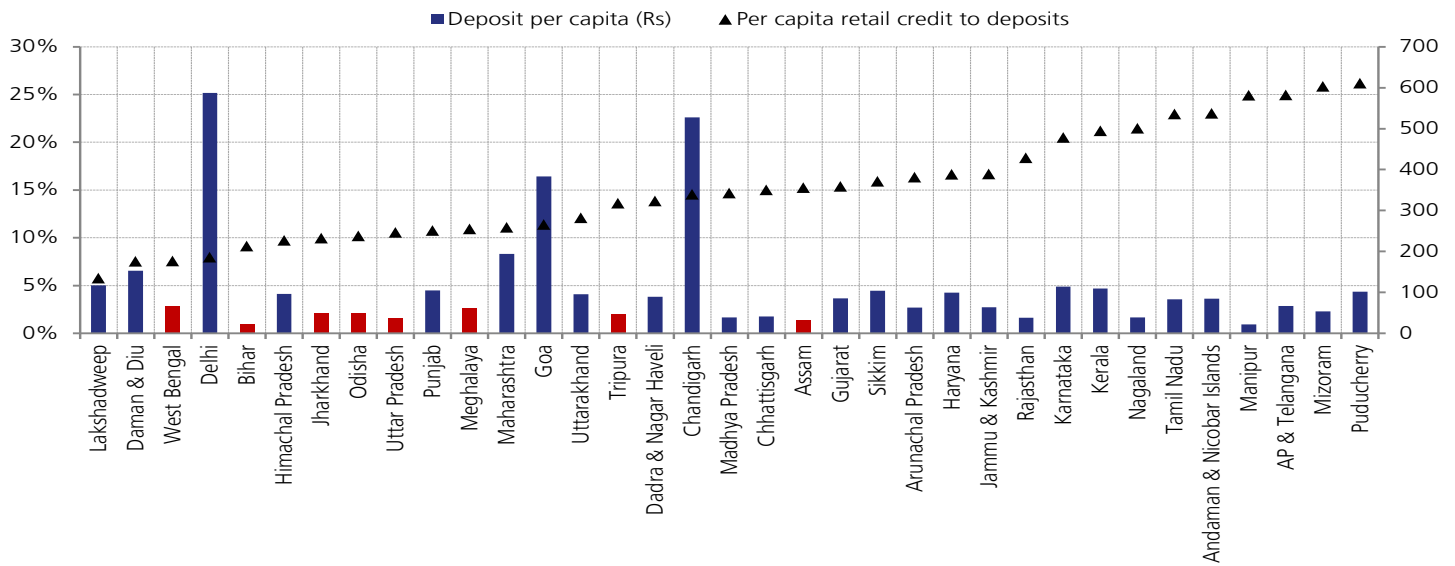
Source: Company, JM Financial

The advantage of the East

Bandhan’s origins in the relatively under-banked region of East India and its proximity to the Northeast have had a profound impact on the rapid growth of its deposit franchise, in our view.

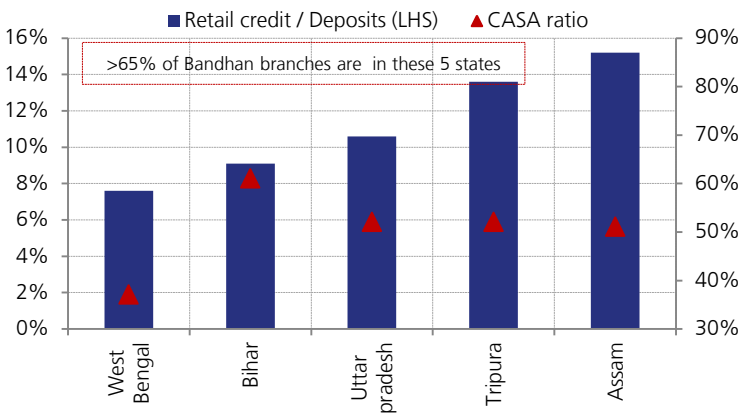
Low per-capita retail credit in East, Central and Northeast India, compared with other regions, shows low penetration of banks in these areas. Banking retail credit per capita in the East is the lowest and is 5x lower than that in the South.

Exhibit 67. Bandhan primarily operates in geographies with lower deposit per capita, lower per capita C-D ratio



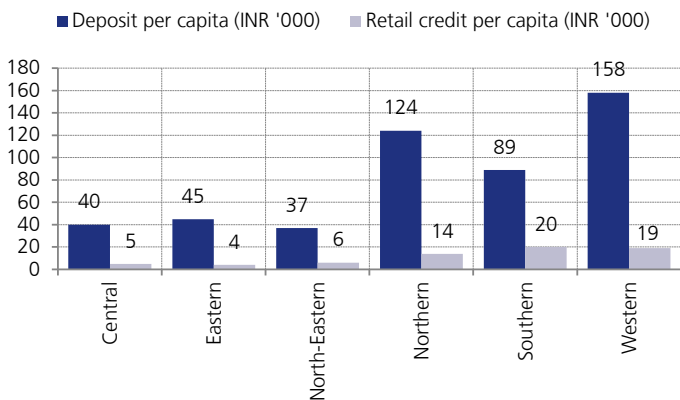
Source: Company, JM Financial

Exhibit 68. Bandhan has higher penetration in states with low CD ratio



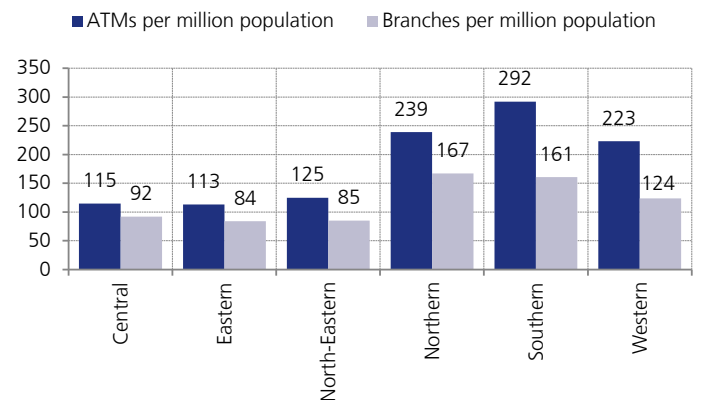
Source: Company, JM Financial

Exhibit 69. Penetration of retail credit and deposits



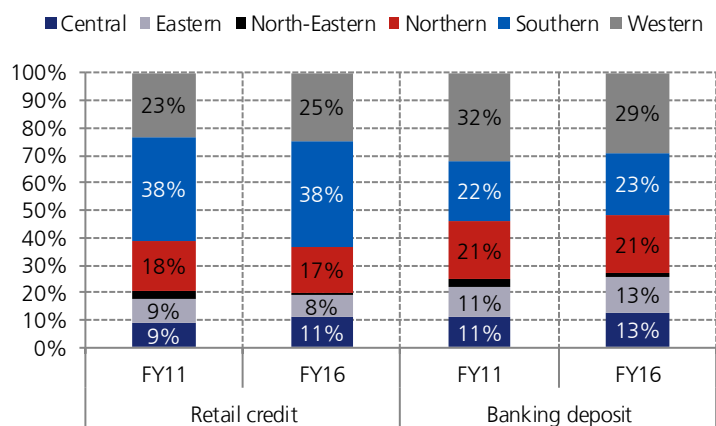
Source: Company, JM Financial

Exhibit 70. Penetration of ATMs and Branches by regions in India



Source: Company, JM Financial

Exhibit 71. Region-wise split of retail credit and deposits in India



Source: Company, JM Financial

While the deposit base is highly granular and well-diversified, around 45% of Bandhan's deposits are from India's East/Northeast. Bandhan has strong penetration in states that are relatively under-banked. These states have lower deposit-per-capita and CASA ratio compared with the rest. As seen in exhibit 67 above, Bandhan has strong presence in the states highlighted. The 5 states called out in exhibit 68 above account for 565 or 65% of Bandhan's branches.

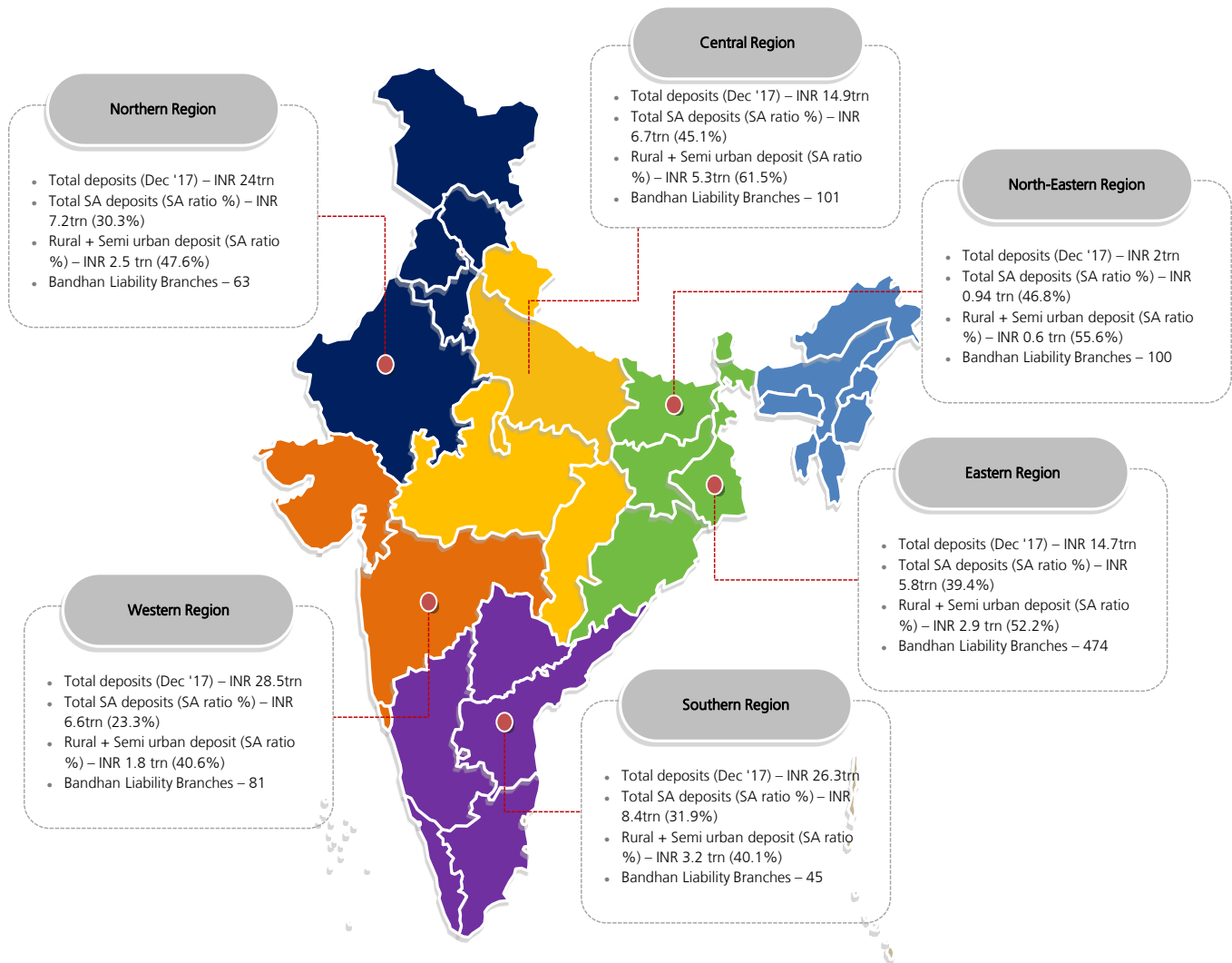
Exhibit 72. Deposit market share by region

			(INR bn)				
	Total deposit	Share in total (%)	Rural	Semi-Urban	Total Rural + Semi-Urban	As a % of total	Overall SA ratio
Central	14,973	13.5%	2,665	2,733	5,398	36.1%	45.1%
Eastern	14,734	13.3%	2,855	2,822	5,677	38.5%	39.4%
Northern	24,005	21.7%	2,350	2,878	5,228	21.8%	30.3%
North-eastern	2,005	1.8%	431	575	1,006	50.1%	46.8%
Southern	26,334	23.8%	2,035	6,147	8,181	31.1%	31.9%
Western	28,502	25.8%	1,501	2,944	4,445	15.6%	23.3%
Total	1,10,553	100.0%	11,836	18,098	29,935	27.1%	32.4%

	SA deposit	Share in total SA (%)	Rural	Semi-Urban	Total Rural + Semi-Urban	As a % of total	Rural + Semi Urban SA ratio
Central	6,752	18.9%	1,717	1,605	3,322	49.2%	61.5%
Eastern	5,811	16.2%	1,584	1,382	2,965	51.0%	52.2%
Northern	7,271	20.3%	1,130	1,356	2,486	34.2%	47.6%
North-eastern	938	2.6%	251	308	559	59.6%	55.6%
Southern	8,396	23.5%	839	2,443	3,282	39.1%	40.1%
Western	6,632	18.5%	651	1,154	1,806	27.2%	40.6%
Total	35,799	100.0%	6,172	8,248	14,420	40.3%	48.2%

Source: RBI Database on Indian Economy.

Exhibit 73. Key geographical markets for bank deposits are concentrated in the southern and western regions*



Source: RBI Database on Indian Economy, JM Financial, Company

Exhibit 74. Bank-group wise deposit market share in regional markets – As on Mar '17 (INR bn)

	SBI and associates	Other PSU Bank	Foreign Banks	Regional Rural Banks	Private Sector Banks	Total
Northern	4,871	10,729	1,108	484	5,590	22,782
North-eastern	865	727	2	184	204	1,981
Eastern	4,047	7,469	99	725	1,839	14,179
Central	3,813	7,804	30	1,083	1,582	14,312
Western	4,387	13,416	2,192	225	8,469	28,691
Southern	6,495	9,852	1,024	957	7,028	25,356
Total	24,477	49,998	4,455	3,657	24,712	1,07,300

Mix (%)

	SBI and associates	Other PSU Bank	Foreign Banks	Regional Rural Banks	Private Sector Banks	Total
Northern	21.4%	47.1%	4.9%	2.1%	24.5%	100.0%
North-eastern	43.7%	36.7%	0.1%	9.3%	10.3%	100.0%
Eastern	28.5%	52.7%	0.7%	5.1%	13.0%	100.0%
Central	26.6%	54.5%	0.2%	7.6%	11.1%	100.0%
Western	15.3%	46.8%	7.6%	0.8%	29.5%	100.0%
Southern	25.6%	38.9%	4.0%	3.8%	27.7%	100.0%
Total	22.8%	46.6%	4.2%	3.4%	23.0%	100.0%

Source: RBI Database on Indian Economy, JM Financial, Company

As shown in exhibit 74 above, PSU banks have a deposit high market share in the Eastern states. Some of the banks which have relatively large deposit/loan market share in these states include ALBK, UCO and United which struggle with asset quality woes of their own. In our view, Bandhan has been to scale up its liability base in these states driven by the **a)** acquisition of customers from these banks given better pricing and service levels and **b)** transfer from non-formalised savings instruments into the formal banking channel after Demonetization.

Superior margin profile given the retail-led asset mix

Bandhan enjoys the best margin profile in the banking industry given its high-yielding asset mix, superior execution of liabilities at an attractive price and high capitalisation.

Portfolio yields have trended lower over the past 12-18 months driven by a **1)** reduction in lending rates in its micro loan portfolio and **2)** gradual change in asset mix as newly-launched products in SME/retail are at lower interest rates.

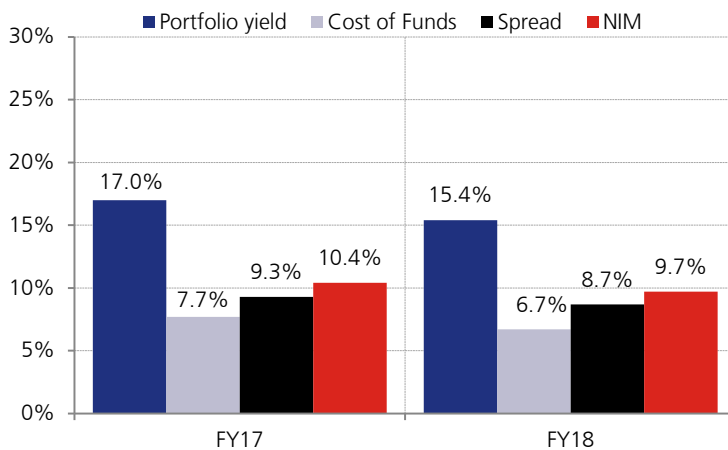
We expect portfolio yields (calculated) to taper off from FY18 levels of 16.4% to 16.1% by FY20, led by gradual rebalancing of the loan mix due to increasing share of lower yielding assets.

We are not materially concerned on pricing competition in micro loans and we expect Bandhan to be the price leader in this segment given its wide reach, superior funding profile strong asset quality.

On other retail/SME products, we expect pricing competition to remain high and thus Bandhan's ability to boost profitably will be driven by its ability to pick customers that offer healthy risk-adjusted margins.

We expect Bandhan's healthy funding mix to continue to improve further as it adds more CASA deposits to its fold. In addition, Bandhan's margins should benefit from reduction in SA deposit rates gradually towards the industry leaders' rates of ~3.5%. However, this could be a medium-term benefit as the balance sheet scales up.

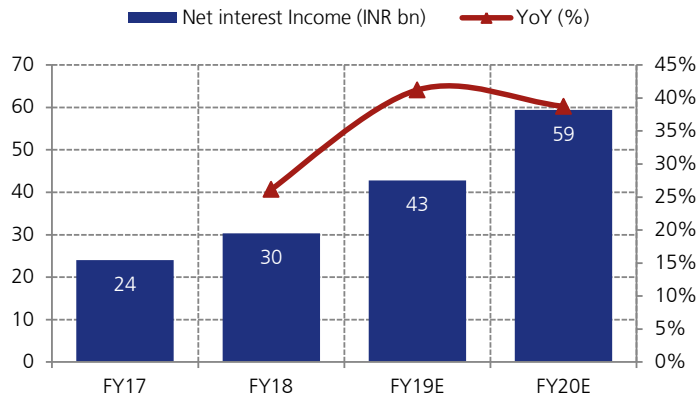
Exhibit 75. Bandhan Bank : Margin profile



Source: Company, JM Financial

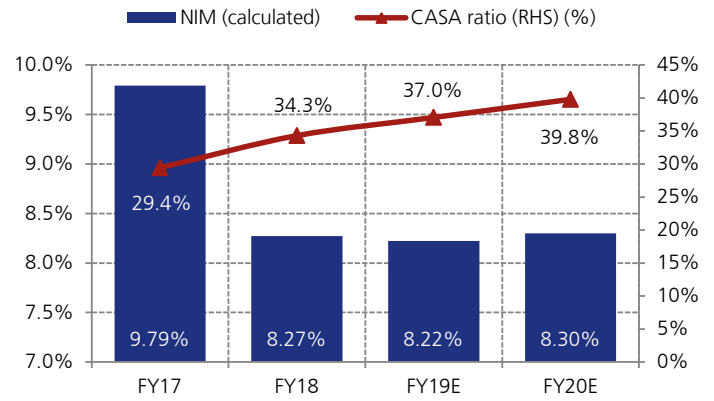
Our estimates build NII CAGR of 40% over FY18-20E for Bandhan and average NIMs of 8.26% over this period. We expect CASA ratio to touch 40% by FY20E.

Exhibit 76. Bandhan Bank : Net interest income growth



Source: Company, JM Financial

Exhibit 77. Bandhan Bank : Calculated margins and CASA



Source: Company, JM Financial

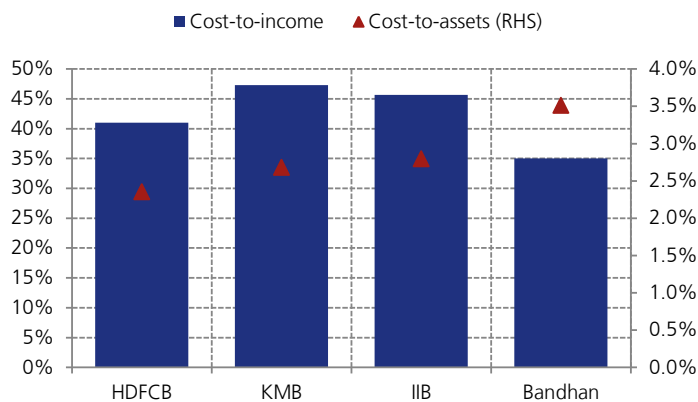
One of the leanest opex structures gives additional fillip to profitability

Bandhan boasts of one of the lower cost-income ratio among all the universal banks, given its high-yielding asset portfolio. Despite having undergone a significant transition over the last couple of years from NBFC-MFI to a universal bank, Bandhan’s opex ratios have remained rather contained.

However, we believe Bandhan’s comparison with other banks on a cost-income ratio basis may not be the right parameter. This is because Bandhan generates significantly high revenues from same proportion of assets on a comparable basis given that the asset mix consists primarily of micro loans.

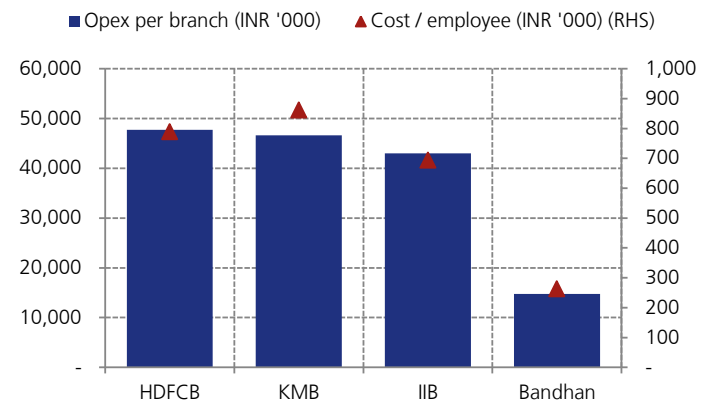
A comparison of Bandhan’s operating cost parameters (as a % of its assets) with some of the larger retail asset franchises will be more appropriate in our view. Bandhan’s cost/avg assets stands at 3.5% as against 2.4-2.8% for some of the most efficient retail private sector banks (e.g. HDFC Bank, Kotak standalone, IndusInd) as shown in exhibit 78 below.

Exhibit 78. Bandhan Bank : Cost profile vs PvB peers (FY18)



Source: Company, JM Financial

Exhibit 79. Bandhan Bank : Unit costs vs peers (FY18)

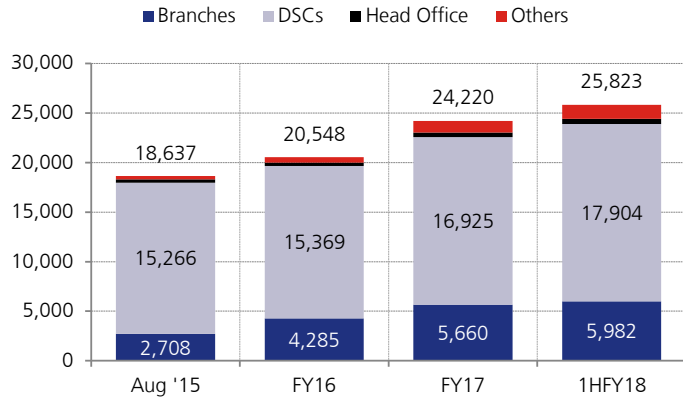


Source: Company, JM Financial

Another factor aiding Bandhan’s low opex ratios is the highly efficient group-based individual lending model. For example, a Bandhan group meeting consists of c.30 borrowers, as against ~22 for Bhafin and ~17 for Grameen Koota which also operate on weekly collection models (exhibit 38).

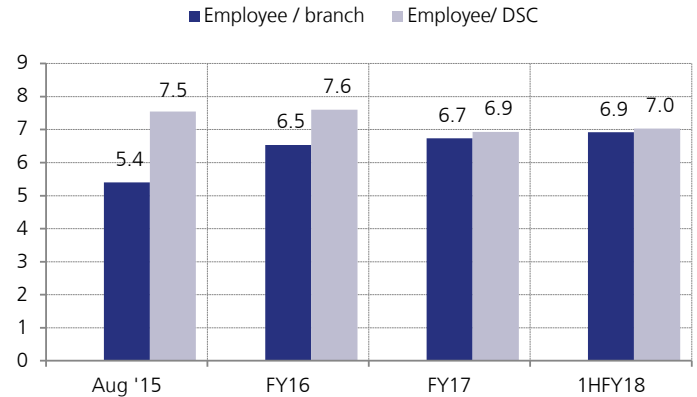
This ensures that Bandhan can generate a much larger portfolio of micro loans for a similar employee base. Moreover, Bandhan typically hires employees from villages and the locations that they serve, helping the employees relate and connect with the client base in each region of service. Employees receive initial and ongoing standardised training in order to build a platform of consistent knowledge and skills. The bank operates 8 training centres across India and the training programmes allow employees to upgrade their skills. The skill of its employees provides the bank with a deep roster of talent that can form the base of management teams in the future. Employee advancement through DSCs, branches and management teams has allowed the bank to maintain its costs as well as its core values as an organisation.

Exhibit 80. Employee split



Source: Company, JM Financial

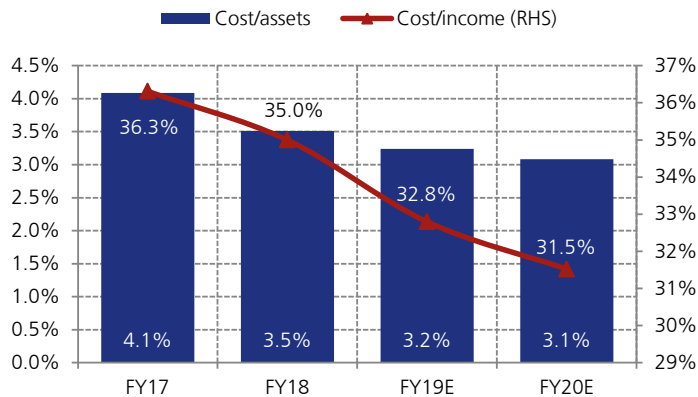
Exhibit 81. Employees per unit



Source: Company, JM Financial

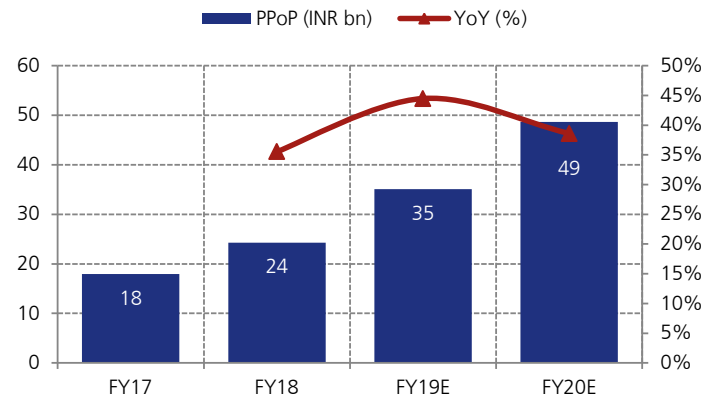
We expect Bandhan’s opex ratios to remain stable even as it expands its branch network by ~36% over the next couple of years with a corresponding 36% addition in DSC count.

Exhibit 82. Bandhan Bank : Cost profile to improve further



Source: Company, JM Financial

Exhibit 83. Bandhan Bank : Operating profit growth

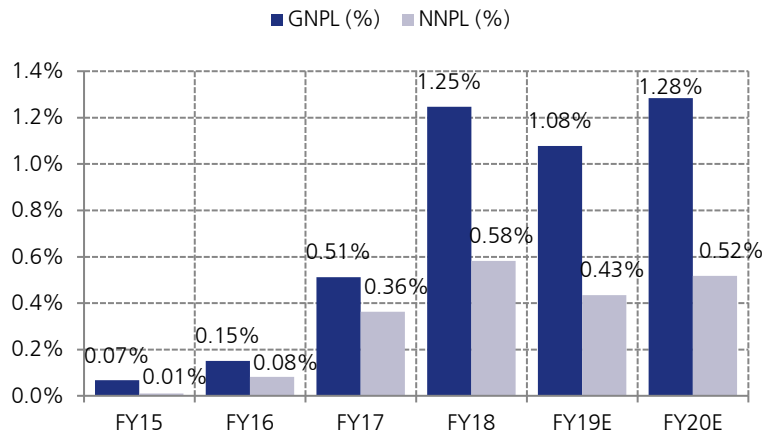


Source: Company, JM Financial

Best-in-class asset quality reflective of a strong microloan portfolio

Bandhan’s GNPLs stood at 1.25% as of Mar’18 with net NPLs of 0.58%. A comparison with other microfinance lenders indicates that Bandhan’s asset quality parameters are far superior vs. others despite 2HFY17 and FY18 being one of the toughest periods in the industry on a broader basis.

Exhibit 84. Bandhan’s asset quality was largely unaffected by Demonetization



Source: Company, JM Financial

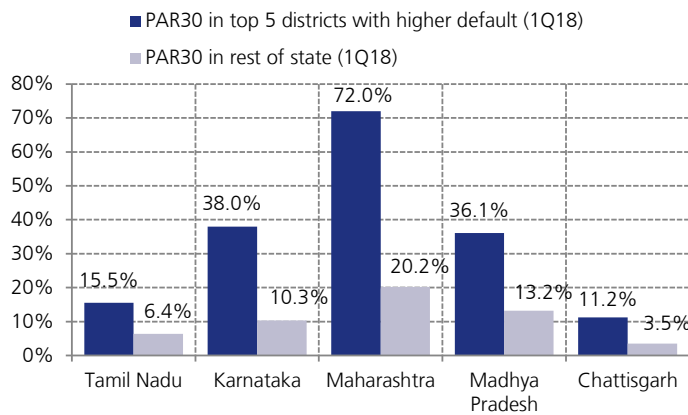
Bandhan’s superior asset quality in the micro loan portfolio is driven by its relentless focus on processes in this business. According to management, the emphasis placed on attendance at group meetings by Bandhan cannot be overstated.

Bandhan insists that borrowers attend group meetings at all points in time even if they intend to repay their dues on time by sending the cash with some other borrowers. Bandhan has continued with its weekly collection model even after having converted to a bank and intends to keep it that way in the medium term. Management believes that the weekly meetings model means the bank meets its customers more frequently, understands cash flow patterns better and receives insights into early warnings signals in smaller geographical pockets.

While Bandhan too was affected during the months after Demonetization – when its NPLs trended higher than historical averages – the impact was significantly lower than it was on other players given that Bandhan could accept the banned notes towards collections (being a universal bank) unlike other microlenders. Also, rural areas that were impacted by agri distress (and subsequent farm loan waiver announcements) have contributed relatively less to Bandhan’s micro loan portfolio.

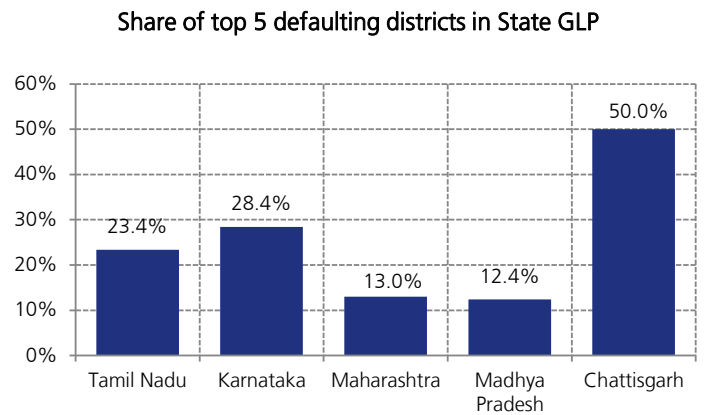
The historical track record of microfinance as a segment indicates that asset quality issues tend to be localised, except when there are nationwide systemic shocks (e.g. Demonetization). As a result, diversified presence is a key parameter to sustainable success in this business, in our view.

Exhibit 85. Asset quality pressures localised even in problematic states



Source: Equifax, CRISIL, JM Financial, # Data for NBFC-MFIs

Exhibit 86. Share of top 5 defaulting districts in State MFI GLP (1Q18)



Source: Equifax, CRISIL, JM Financial, # Data for NBFC-MFIs

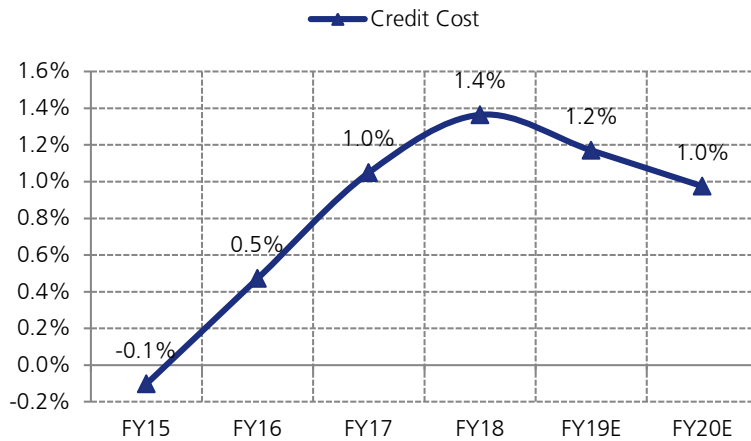
The fact that Bandhan has been able to demonstrate strong asset quality despite events that were systemic in nature with respect to impact, speaks volumes about its unique franchise.

However, we still remain watchful of Bandhan's execution skills in the non-MFI portfolio, which is gradually scaling up. Bandhan is relatively inexperienced in these products and competition in these categories remains high.

While current asset quality parameters in non-MFI portfolios are quite strong, we expect seasoning to catch up and expect some increase in NPLs for these segments closer to industry averages.

We expect Bandhan's credit costs to normalise closer to historical averages from highs witnessed in FY18. However, they will still be higher than levels seen when Bandhan was an MFI.

Exhibit 87. Bandhan Bank: Credit cost to normalise



Source: Company, JM Financial

PSLCs and third party distribution offer ample room to improve fee streams

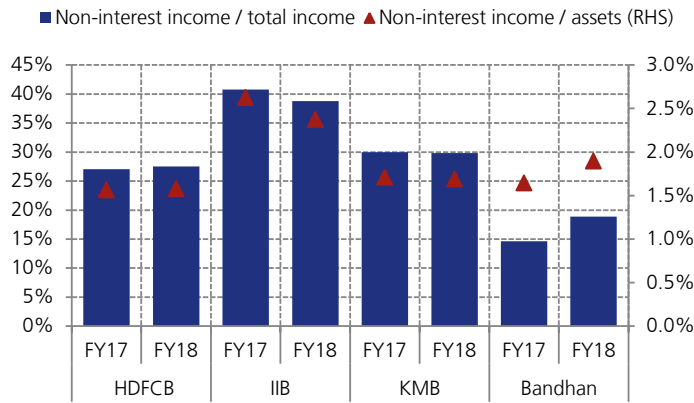
As Bandhan focuses specifically on serving under-banked customers and under-penetrated markets, 94% (prior to IBPCs/assignments and the sale of PSLCs) of Bandhan's loan portfolio was PSL compliant as of Mar'18, which provides the bank with a large volume of certificates to sell and/or IBPCs that can be undertaken. Bandhan had the second highest ratio of priority sector advances as a percentage of total advances among its peer set in FY17.

Typical yields on PSLCs generated for sale tend to be 150bps-200bps of the amount of loans sold under PSLC. Given the excess priority sector loans originated by Bandhan Bank, this can be large source of fee income for it. For FY18, 21% of Bandhan's non-interest income emanated from sale of PSLCs (INR 1.51bn). This is despite the fact that Bandhan used the IBPC route for loan sell-downs in 9MFY18 (which was booked as interest income).

Additionally, Bandhan originates fee income from processing fees charged on micro loan and other disbursements, which typically range 1-2% of disbursement.

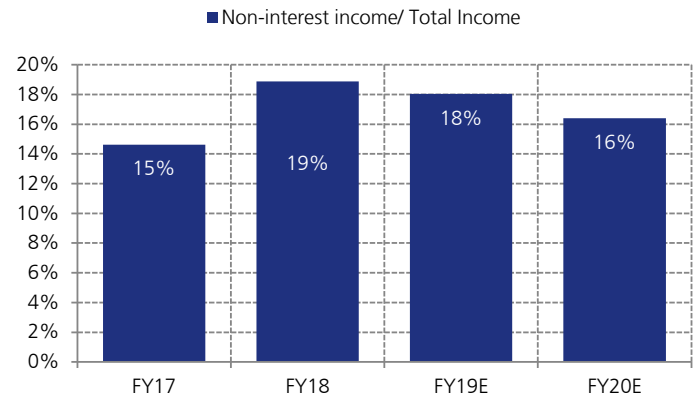
However, we believe the scale-up of third-party fees remains a large opportunity for Bandhan given its huge customer base. It has currently tied up with 4 AMCs and has begun distribution of life insurance policies only since Dec'17 and thus offers an attractive opportunity to garner fee streams.

Exhibit 88. Non-interest income profile for Bandhan vs. other PvBs



Source: Company, JM Financial

Exhibit 89. Bandhan Bank : Non-interest income



Source: Company, JM Financial

Industry leader in terms of profitability ratios, by miles

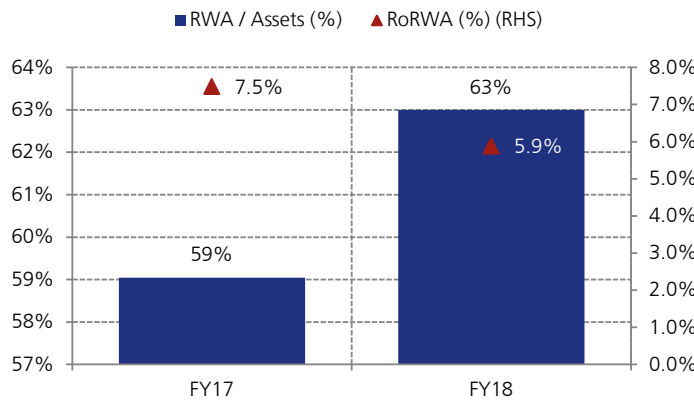
Bandhan's profitability trends are far superior to industry leaders given its strong margin profile, efficient cost structure and low credit costs. We expect these to sustain even as Bandhan's asset mix undergoes a transition towards a greater share of non-MFI loans in the portfolio.

We estimate Bandhan's RoA to average at 3.8% over the next couple of years. However, RoE is likely to be suppressed given high levels of capitalisation (FY18 Tier1 capital of 31.5%) due to the recent capital issuance; RoEs would be much lower than historical trends. However, given the bank's superior RoA profile, FY19-20E RoEs would still be much closer to those of industry leaders.

Since the RBI places lower risk weights on retail assets under a banking framework, Bandhan also benefits from having an entirely retail loan portfolio. Bandhan's RoRWA profile, thus, is far higher than that of industry leaders.

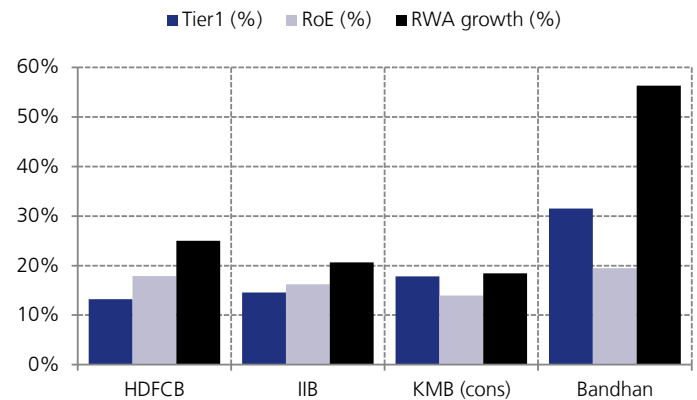
After the large equity issuance in FY18, we believe Bandhan will not need to raise capital for a considerably long period of time. On a sustainable long term basis, Bandhan may not require frequent capital raise given sustainable RoEs (>30%, refer to exhibit 97) are comparable to long term RWA growth.

Exhibit 90. Bandhan Bank : Lower risk weights resulting in higher RoRWA



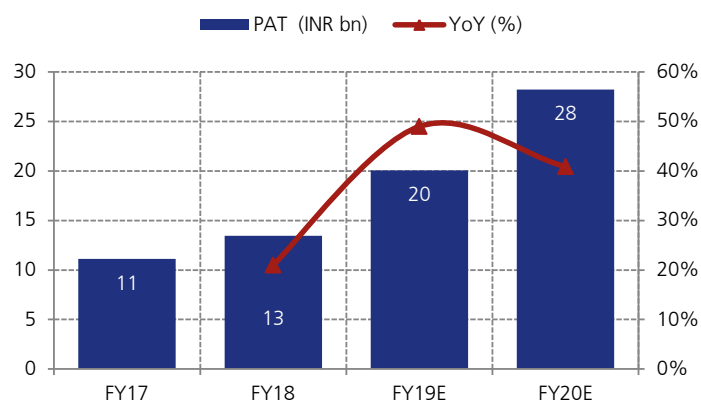
Source: Company, JM Financial

Exhibit 91. Tier 1 capital vs. RoE vs. RWA growth for PvB peers vs Bandhan (FY18)



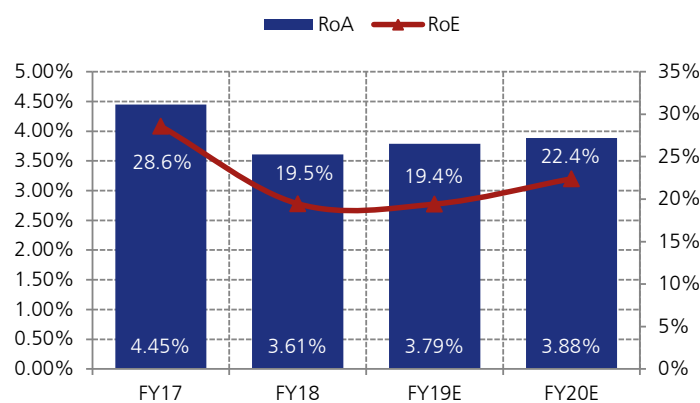
Source: Company, JM Financial

Exhibit 92. Bandhan Bank : Profit growth



Source: Company, JM Financial

Exhibit 93. Bandhan Bank : Return profile



Source: Company, JM Financial

Management profile

Exhibit 94. Bandhan Bank – Management profile

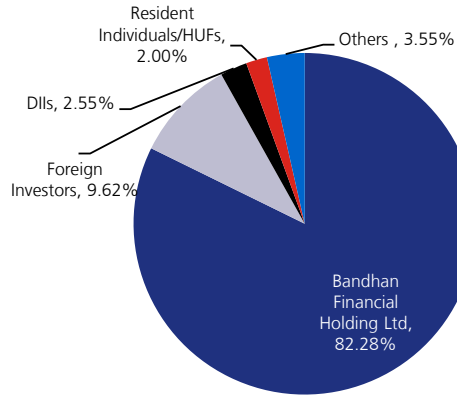
Name	Designation	Profile
Chandra Shekhar Ghosh	Managing Director and CEO	Holds a masters' degree in science (statistics) from Dhaka University. He has over 37 years of experience in the finance and microfinance sector. Previously, he has been associated as a member of National Executive Committee and Inclusive Governance Council of Federation of Indian Chambers of Commerce and Industry, President at the Bengal Chamber of Commerce and Industry, Chairman at Economic Affairs, Finance & Taxation Committee and member of various other committees of Confederation of Indian Industry.
Sunil Samdani	Chief Financial Officer	Holds a bachelors' degree in commerce (financial accounting and auditing) from Mumbai University and has completed an executive education programme in relation to the 'Role of a CFO: Integrating Strategy and Finance' organised by Indian School of Business. He has over 21 years of experience in the finance sector. He is responsible for managing the finance, accounts and investor relation related operations of the bank. Previously, he has worked with Firstsource Solutions Limited, Karvy Financial Services Limited and Bandhan Financial Services Private Limited. He has been associated with the bank since Mar'15.
Rahul Johri	Head- Retail Banking	Holds a bachelors' degree in technology from IIT, Kharagpur and a masters' degree in business management from XLRI, Jamshedpur. He has over 26 years of experience in the banking industry. He is responsible for the retail banking operations in the bank. Previously, he has worked with DBS Bank Limited. He has been associated with the bank since Mar'16.
Nand Kumar Singh	Head- Banking Operations and Customer Services	Holds a bachelors' degree in arts from Bhagalpur University, a diploma in business management from Institute of Management Technology Centre for Distance Learning, Ghaziabad and is a certified associate of the Indian Institute of Bankers. He has over 25 years of experience in the banking industry. He is responsible for banking operations and customer service relations in the bank. Previously, he has worked with Axis Bank Limited and Bandhan Financial Services Private Limited. He has been associated with the bank since Aug'15.
Biswajit Das	Chief Risk Officer	Has over 23 years of experience in the banking industry. He is responsible risk management of the Bank. Previously, he has worked with ICICI Bank and Punjab National Bank. He has been associated with the bank since Jan'16.
Nicky Sharma	Chief Strategy Officer	- 10+ years of experience in the field of technology & Finance - Previously served as Associate Director at PWC, Gurgaon
Santanu Banerjee	Head - Human Resources	- 25+ years of experience in the field of banking and finance - Previously worked as Head of HR Business Relationship at Axis Bank

Source: Company, JM Financial

Shareholding pattern

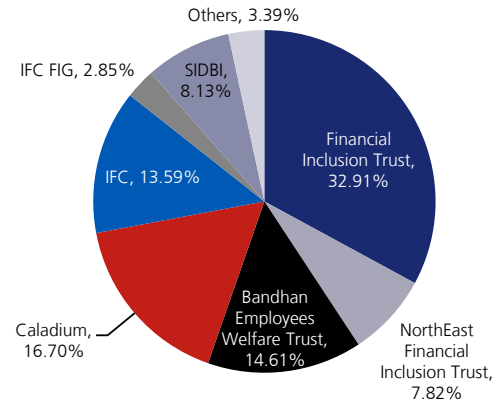
Bandhan Bank has a two-tiered holding structure, with the promoter – Bandhan Financial Holdings Ltd (BFHL) – holding 82.28% in the bank as of Mar'18. The shareholding pattern of Bandhan Bank is shown in exhibit 95 below. BFHL in turn is a wholly-owned (100%) subsidiary of Bandhan Financial Services Ltd (BFSL). The shareholding pattern of BFSL is shown in exhibit 96 below.

Exhibit 95. Bandhan Bank : Shareholding pattern



Source: Company, JM Financial

Exhibit 96. Shareholding pattern of BFSL (which owns 100% of BFHL)



Source: Company, JM Financial

Three trusts (FIT, NEFIT and BEWT) cumulatively own 55.3% in BFSL as shown in exhibit 96 above. Yogesh Chand Nanda, Vijayalakshmi Das and Jayanta Choudhary are the trustees of FIT. Amit Hazra, Sanjit Kumar Mallick, and Rajendra Kumar Ghosh are the trustees of NEFIT.

RBI's New Bank Licensing Guidelines require Bandhan Bank's promoter entity – BFHL – to reduce its shareholding in the bank to 40% within three years from the date of commencement of business as a bank (which is 23Aug'15), from current levels of 82.3% (as of Mar'18).

BFHL is also required to reduce its shareholding further to 20% and 15% within 10 years and 12 years, respectively, from the date of commencement of the business as a bank.

At the CMP, the reduction of BFHL's shareholding would entail an equity supply of INR 252.7bn and thus could be a key overhang on the stock price. Management has indicated that it continues to engage with RBI with respect to an extension of the timeline.

Valuation

Bandhan's is a unique franchise with ample growth visibility, stellar efficiency metrics and best-in-class return profile. We believe the premium valuations are justified keeping in mind that: a) Bandhan has just begun to ramp up its banking franchise and is at the beginning of its life cycle and b) under-penetration of MFI loans presents a huge growth opportunity as, unlike many other products facing competitive pressure, microfinance is still in its first phase of growth with ample space for multiple players. Also, comfort on valuation comes from the fact that Bandhan was among the very few microfinance players that managed to sustain profitability even during crisis years. On the back of an improved growth outlook, best-in-class efficiency and ramp-up of liabilities, we believe Bandhan would deliver RoAs of 3.9% and RoEs in excess of 22% in FY20E. We value Bandhan at 5.1x FY20E BVPS with a 12-month TP of INR 595/sh.

Exhibit 97. Valuation Summary and key assumptions

Initial no of years	10
Growth rate for the first 10 years (%)	17.9%
Payout ratio for the first 10 years (%)	20.0%
Perpetual growth rate (%)	4.6%
Perpetual payout ratio (%)	85.0%
K1	2.48
K2	14.72
RoE - 1st phase (1st 10 years)	22.4%
RoE (2nd phase) (perpetual)	31.0%
Fully adjusted FY19E BVPS (Rs)	116.9
Target P / Fully Adj BV (x)	5.1x
Fair value (rounded off)	595

Source: Company, JM Financial

Exhibit 98. Sensitivity analysis: Movement of FY20E EPS

EPS (INR)	Calculated NIM (%)				
	8.1%	8.2%	8.3%	8.4%	8.5%
0.4%	24.5	24.9	25.3	25.7	26.1
0.6%	24.0	24.4	24.8	25.1	25.5
Credit cost 0.8%	23.4	23.8	24.2	24.6	25.0
1.0%	22.9	23.3	23.7	24.1	24.5
(%) 1.2%	22.3	22.7	23.1	23.4	23.8
1.4%	21.6	22.0	22.4	22.8	23.2
1.6%	21.1	21.5	21.9	22.3	22.7

Source: JM Financial

Exhibit 99. Sensitivity analysis: Movement in our TP at 25x FY20E EPS

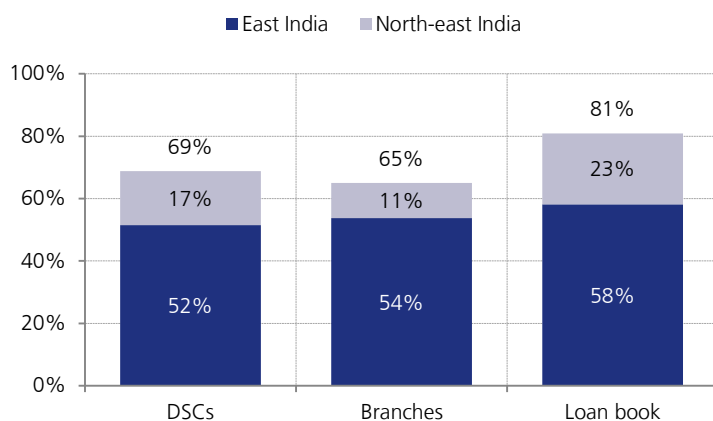
Target price (INR)	NIM (%)				
	8.1%	8.2%	8.3%	8.4%	8.5%
0.4%	616	626	636	646	656
0.6%	602	612	622	632	642
Credit cost 0.8%	588	598	608	618	628
1.0%	575	585	595	605	615
(%) 1.2%	559	569	579	589	599
1.4%	543	554	564	574	584
1.6%	530	541	551	559	569

Source: JM Financial

Key Risks

Adverse developments in India's eastern markets where the bank has high business concentration: A substantial number of Bandhan's branches and DSCs – and consequently a significant portion of its deposits and advances – is located in East and Northeast India: in particular, the states of West Bengal, Bihar and Assam. As a result of this concentration, the success and profitability of its overall operations may be disproportionately exposed to regional factors. These regional factors include, among others: (i) general economic conditions in this region, (ii) laws and regulations, (iii) increased competition specific to the geography, and (iv) other developments including political unrest, floods and other natural calamities. Adverse developments in any of the above factors would affect Bandhan more than they might affect banks with greater geographic diversity. Exhibit 100 below gives a breakdown of Bandhan's branches, DSCs and total advances in the States of West Bengal, Bihar and Assam in terms of the percentage of its entire network in India as of 30Sep'17.

Exhibit 100. Bandhan Bank: Geographical concentration risk – 9MFY18



Source: Company, JM Financial

Event risk in the Microfinance Industry, which may impact asset quality: Bandhan Bank's business performance could suffer as a result of negative events affecting the overall microfinance industry. There is limited financial information available (with respect to credit history, income profile, etc.) about the focus customer segment from the low-income group in this business. As a result, customers of microfinance operations pose a higher risk of default than borrowers with greater financial resources and more established credit histories (which to an extent is captured in the higher yields in this segment). In addition, as microloans are not generally backed by collateral, they may pose a higher degree of risk than loans secured with physical collateral.

Regulatory risk regarding margin caps on MFI lending by universal banks: Bandhan's business could be directly affected by any changes in policies for banks with respect to directed lending, reserve requirements, provisioning and other areas. The key regulatory risks include: a) the RBI could change its methods of enforcing directed lending standards so as to require more lending to certain sectors, which could require the bank to change certain aspects of its business; b) risk on margins if the RBI were to enforce a cap on either fees or interest rates chargeable to microfinance customers.

Equity Supply Risk: The RBI's New Bank Licensing Guidelines requires Bandhan Bank's promoter entity – Bandhan Financial Holdings Ltd. (BFHL) – to reduce its shareholding in the Bank to 40% within three years from the date of commencement of business as a Bank which is 23Aug'15) from current levels of 82.3% (as of Mar'18). At the CMP, the reduction of BHFL's shareholding would entail an equity supply of INR 252.7bn and thus could be a key overhang on the stock price. Management has indicated that it continues to engage with the RBI with respect to an extension of the timeline.

Key man risk: Mr. C S Ghosh is the MD & CEO of the bank and has over 37 years of experience in the finance and microfinance sector. As such, without Mr. C S Ghosh at the helm, execution risk for Bandhan will be higher and may hamper implementation of growth plans. If one or more of key personnel at Bandhan are unwilling or unable to continue in their present positions, Bandhan may not be able to replace them with persons of comparable skills and expertise and this key person risk is one of the important ones for Bandhan.

Indian Banks - valuation matrix

Exhibit 101. JMFL : Indian Banks - valuation matrix

Company	Price	Mkt Cap	P/E (x)			P/B (x)			ROE			Rec	Target	Target P/B	Upside
			(\$mn)			(INR)			FY20E (x)						
			FY18	FY19E	FY20E	FY18	FY19E	FY20E	FY18	FY19E	FY20E				
Government Banks															
Bank of Baroda	141	5,584	21.3	7.6	5.3	0.8	0.8	0.7	4.3%	10.8%	14.0%	BUY	190	0.9	35%
Punjab National Bank	92	3,793	(6.5)	(6.4)	8.4	0.5	0.6	0.6	-9.2%	-8.9%	6.9%	UR			
State Bank of India (standalone)	242	32,355	1,585.5	15.0	8.1	1.1	1.0	0.9	0.1%	7.0%	11.9%	BUY	375	1.4	55%
Canara Bank	255	2,803	19.3	7.3	4.1	0.5	0.5	0.5	3.1%	7.2%	11.8%	HOLD	390	0.7	53%
Private Banks															
Axis Bank	522	20,068	486.2	24.2	12.2	2.1	1.9	1.7	0.5%	8.4%	14.9%	HOLD	590	1.9	13%
HDFC Bank	1,986	77,200	29.5	25.3	20.5	4.8	3.7	3.2	17.9%	16.9%	16.8%	BUY	2500	4.1	26%
ICICI Bank (standalone)	285	27,449	24.1	19.2	12.5	1.8	1.7	1.5	7.6%	9.0%	12.9%	BUY	410	2.2	44%
KMB (Cons)	1,226	34,963	37.7	29.8	23.7	4.6	4.0	3.4	13.9%	14.4%	15.7%	BUY	1300	3.7	6%
Yes Bank	348	11,988	18.9	14.8	11.2	3.1	2.6	2.2	17.7%	19.2%	21.1%	BUY	450	2.8	29%
Indusind Bank	1,892	17,003	34.8	23.3	17.5	4.7	4.0	3.4	15.7%	18.6%	20.9%	BUY	2120	3.8	12%
Federal Bank	99	2,934	17.0	13.3	10.4	1.6	1.4	1.3	10.6%	11.2%	12.9%	BUY	145	1.8	46%
DCB	193	890	24.2	17.1	12.7	2.3	2.0	1.8	10.9%	12.6%	14.9%	BUY	250	2.3	30%
City Union Bank	186	1,850	20.5	17.8	15.2	3.0	2.7	2.4	15.8%	16.0%	16.6%	BUY	200	2.5	8%
Bandhan Bank	505	8,951	44.8	30.0	21.3	6.4	5.3	4.3	19.5%	19.4%	22.4%	BUY	595	5.1	19%

Source: Company, JM Financial, Prices as on 04/May/2018

Exhibit 102. JMFL : Indian Banks - valuation matrix

Company	BVPS			EPS			EPS Growth			ROA		
	FY18	FY19E	FY20E	FY18	FY19E	FY20E	FY18	FY19E	FY20E	FY18	FY19E	FY20E
Government Banks												
Bank of Baroda	166	180	200	6.6	18.7	26.6	11%	182%	43%	0.2%	0.7%	0.9%
Punjab National Bank	167	155	164	-14.2	-14.4	11.0	-328%	1%	NM	-0.5%	-0.5%	0.4%
State Bank of India (standalone)	224	237	262	0.2	16.1	29.8	-99%	NM	85%	0.0%	0.4%	0.7%
Canara Bank	466	501	564	13.2	34.9	63.0	-30%	165%	80%	0.2%	0.4%	0.6%
Private Banks												
Axis Bank	247	269	304	1.1	21.5	42.7	-93%	1905%	98%	0.0%	0.7%	1.2%
HDFC Bank	410	539	613	67.4	78.4	96.9	19%	16%	24%	1.8%	1.8%	1.9%
ICICI Bank (standalone)	160	170	186	11.8	14.9	22.9	-23%	26%	54%	0.9%	1.1%	1.4%
KMB (Cons)	265	305	355	32.5	41.1	51.8	21%	26%	26%	2.0%	2.1%	2.2%
Yes Bank	112	133	162	18.3	23.4	31.0	26%	28%	32%	1.6%	1.5%	1.6%
Indusind Bank	403	472	563	54.5	81.3	108.3	14%	49%	33%	1.8%	2.1%	2.2%
Federal Bank	64	70	79	5.8	7.5	9.6	21%	28%	28%	0.9%	0.9%	1.0%
DCB	84	95	110	8.0	11.3	15.2	14%	41%	35%	0.9%	1.0%	1.1%
City Union Bank	61	69	79	9.1	10.4	12.2	9%	15%	17%	1.6%	1.6%	1.6%
Bandhan Bank	79	94	117	11.3	16.8	23.7	11%	49%	41%	3.6%	3.8%	3.9%

Source: Company, JM Financial, Prices as on 04/May/2018

Financial Tables (Standalone)

Profit & Loss					
(INR mn)					
Y/E March	FY16A	FY17A	FY18A	FY19E	FY20E
Net Interest Income	9,328	24,035	30,322	42,821	59,404
Profit on Investments	20	217	200	200	200
Exchange Income	0	0	0	0	0
Fee & Other Income	1,479	3,897	6,862	9,225	11,461
Non-Interest Income	1,499	4,114	7,062	9,425	11,661
Total Income	10,827	28,149	37,384	52,246	71,065
Operating Expenses	6,159	10,220	13,083	17,134	22,401
Pre-provisioning Profits	4,668	17,929	24,301	35,112	48,664
Loan-Loss Provisions	533	802	3,176	4,329	5,115
Provisions on Investments	0	19	0	0	0
Others Provisions	0	64	566	150	400
Total Provisions	533	884	3,742	4,479	5,515
PBT	4,135	17,045	20,559	30,633	43,149
Tax	1,383	5,925	7,103	10,584	14,909
PAT (Pre-Extraordinaries)	2,753	11,119	13,455	20,048	28,240
Extra ordinaries (Net of Tax)	0	0	0	0	0
Reported Profits	2,753	11,119	13,455	20,048	28,240
Dividend paid	0	0	0	1,193	1,431
Retained Profits	2,753	11,119	13,455	18,856	26,809

Source: Company, JM Financial

Key Ratios					
Y/E March	FY17A	FY18A	FY19E	FY20E	
Growth (YoY) (%)					
Deposits	92.2%	45.8%	45.0%	39.0%	
Advances	35.4%	76.5%	49.0%	37.1%	
Total Assets	53.0%	46.5%	38.8%	36.5%	
NII	157.7%	26.2%	41.2%	38.7%	
Non-interest Income	174.5%	71.7%	33.5%	23.7%	
Operating Expenses	65.9%	28.0%	31.0%	30.7%	
Operating Profits	284.1%	35.5%	44.5%	38.6%	
Core Operating profit	281.1%	36.1%	44.9%	38.8%	
Provisions	65.9%	323.1%	19.7%	23.1%	
Reported PAT	304.0%	21.0%	49.0%	40.9%	
Yields / Margins (%)					
Interest Spread	8.28%	7.04%	6.98%	7.22%	
NIM	9.79%	8.27%	8.22%	8.30%	
Profitability (%)					
Non-IR to Income	14.6%	18.9%	18.0%	16.4%	
Cost to Income	36.3%	35.0%	32.8%	31.5%	
ROA	4.45%	3.61%	3.79%	3.88%	
ROE	28.6%	19.5%	19.4%	22.4%	
Assets Quality (%)					
Slippages	0.83%	2.45%	1.50%	1.40%	
Gross NPA	0.51%	1.25%	1.08%	1.28%	
Net NPAs	0.36%	0.58%	0.43%	0.52%	
Provision Coverage	29.1%	53.7%	60.0%	60.0%	
Specific LLP	0.33%	0.97%	0.84%	0.71%	
Net NPAs / Networth	1.38%	1.84%	1.71%	2.25%	
Capital Adequacy (%)					
Tier I	24.77%	31.50%	28.93%	26.05%	
CAR	26.36%	32.70%	29.66%	26.58%	

Source: Company, JM Financial

Balance Sheet					
(INR mn)					
Y/E March	FY16A	FY17A	FY18A	FY19E	FY20E
Equity Capital	10,951	10,951	11,928	11,928	11,928
Reserves & Surplus	22,394	33,513	81,891	1,00,747	1,27,556
Deposits	1,20,887	2,32,287	3,38,690	4,91,101	6,82,630
Borrowings	30,516	10,289	2,850	3,038	7,350
Other Liabilities	12,816	15,320	7,741	8,128	9,754
Total Liabilities	1,97,565	3,02,361	4,43,101	6,14,941	8,39,218
Investments	37,580	55,165	83,719	1,06,455	1,44,303
Net Advances	1,24,375	1,68,391	2,97,130	4,42,681	6,06,783
Cash & Equivalents	31,734	73,650	55,106	56,284	74,830
Fixed Assets	2,372	2,518	2,381	6,831	9,070
Other Assets	1,503	2,637	4,764	2,691	4,232
Total Assets	1,97,565	3,02,361	4,43,101	6,14,941	8,39,218

Source: Company, JM Financial

Dupont Analysis					
Y/E March	FY16A	FY17A	FY18A	FY19E	FY20E
NII / Assets	9.20%	9.62%	8.14%	8.09%	8.17%
Other Income / Assets	1.48%	1.65%	1.89%	1.78%	1.60%
Total Income / Assets	10.68%	11.26%	10.03%	9.88%	9.77%
Cost / Assets	6.07%	4.09%	3.51%	3.24%	3.08%
PBP / Assets	4.60%	7.17%	6.52%	6.64%	6.69%
Provisions / Assets	0.53%	0.35%	1.00%	0.85%	0.76%
PBT / Assets	4.08%	6.82%	5.52%	5.79%	5.93%
Tax rate	33.4%	34.8%	34.6%	34.6%	34.6%
ROA	2.71%	4.45%	3.61%	3.79%	3.88%
RoRWAs	4.64%	7.49%	5.88%	6.00%	6.12%
Leverage	5.3	6.4	5.4	5.1	5.8
ROE	14.4%	28.6%	19.5%	19.4%	22.4%

Source: Company, JM Financial

Valuations					
Y/E March	FY16A	FY17A	FY18A	FY19E	FY20E
Shares in Issue	1,095.1	1,095.1	1,192.8	1,192.8	1,192.8
EPS (INR)	2.5	10.2	11.3	16.8	23.7
EPS (YoY) (%)	NM	304.0%	11.1%	49.0%	40.9%
PER (x)	199.9	49.5	44.5	29.9	21.2
BV (INR)	30	41	79	94	117
BV (YoY) (%)	204.1%	33.3%	93.7%	20.1%	23.8%
ABV (INR)	30	41	79	94	117
ABV (YoY) (%)	NM	33.3%	93.7%	20.1%	23.8%
P/BV (x)	16.50	12.38	6.39	5.32	4.30
P/ABV (x)	16.50	12.38	6.39	5.32	4.30
DPS (INR)	0.0	0.0	0.0	1.0	1.2
Div. yield (%)	0.0%	0.0%	0.0%	0.2%	0.2%

Source: Company, JM Financial

APPENDIX I

JM Financial Institutional Securities Limited

(formerly known as JM Financial Securities Limited)

Corporate Identity Number: U67100MH2017PLC296081

Member of BSE Ltd., National Stock Exchange of India Ltd. and Metropolitan Stock Exchange of India Ltd.

SEBI Registration Nos.: Stock Broker - INZ000163434, Research Analyst – INH000000610

Registered Office: 7th Floor, Energy, Appasaheb Marathe Marg, Prabhadevi, Mumbai 400 025, India.

Board: +9122 6630 3030 | Fax: +91 22 6630 3488 | Email: jmfinancial.research@jmfl.com | www.jmfl.com

Compliance Officer: Mr. Sunny Shah | Tel: +91 22 6630 3383 | Email: sunny.shah@jmfl.com

Definition of ratings	
Rating	Meaning
Buy	Total expected returns of more than 15%. Total expected return includes dividend yields.
Hold	Price expected to move in the range of 10% downside to 15% upside from the current market price.
Sell	Price expected to move downwards by more than 10%

Research Analyst(s) Certification

The Research Analyst(s), with respect to each issuer and its securities covered by them in this research report, certify that:

All of the views expressed in this research report accurately reflect his or her or their personal views about all of the issuers and their securities; and

No part of his or her or their compensation was, is, or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

Important Disclosures

This research report has been prepared by JM Financial Institutional Securities Limited (JM Financial Institutional Securities) to provide information about the company(ies) and sector(s), if any, covered in the report and may be distributed by it and/or its associates solely for the purpose of information of the select recipient of this report. This report and/or any part thereof, may not be duplicated in any form and/or reproduced or redistributed without the prior written consent of JM Financial Institutional Securities. This report has been prepared independent of the companies covered herein.

JM Financial Institutional Securities is registered with the Securities and Exchange Board of India (SEBI) as a Research Analyst and a Stock Broker having trading memberships of the BSE Ltd. (BSE), National Stock Exchange of India Ltd. (NSE) and Metropolitan Stock Exchange of India Ltd. (MSEI). No material disciplinary action has been taken by SEBI against JM Financial Institutional Securities in the past two financial years which may impact the investment decision making of the investor.

JM Financial Institutional Securities renders stock broking services primarily to institutional investors and provides the research services to its institutional clients/investors. JM Financial Institutional Securities and its associates are part of a multi-service, integrated investment banking, investment management, brokerage and financing group. JM Financial Institutional Securities and/or its associates might have provided or may provide services in respect of managing offerings of securities, corporate finance, investment banking, mergers & acquisitions, broking, financing or any other advisory services to the company(ies) covered herein. JM Financial Institutional Securities and/or its associates might have received during the past twelve months or may receive compensation from the company(ies) mentioned in this report for rendering any of the above services.

JM Financial Institutional Securities and/or its associates, their directors and employees may; (a) from time to time, have a long or short position in, and buy or sell the securities of the company(ies) mentioned herein or (b) be engaged in any other transaction involving such securities and earn brokerage or other compensation or act as a market maker in the financial instruments of the company(ies) covered under this report or (c) act as an advisor or lender/borrower to, or may have any financial interest in, such company(ies) or (d) considering the nature of business/activities that JM Financial Institutional Securities is engaged in, it may have potential conflict of interest at the time of publication of this report on the subject company(ies).

Neither JM Financial Institutional Securities nor its associates or the Research Analyst(s) named in this report or his/her relatives individually own one per cent or more securities of the company(ies) covered under this report, at the relevant date as specified in the SEBI (Research Analysts) Regulations, 2014.

The Research Analyst(s) principally responsible for the preparation of this research report and members of their household are prohibited from buying or selling debt or equity securities, including but not limited to any option, right, warrant, future, long or short position issued by company(ies) covered under this report. The Research Analyst(s) principally responsible for the preparation of this research report or their relatives (as defined under SEBI (Research Analysts) Regulations, 2014); (a) do not have any financial interest in the company(ies) covered under this report or (b) did not receive any compensation from the company(ies) covered under this report, or from any third party, in connection with this report or (c) do not have any other material conflict of interest at the time of publication of this report. Research Analyst(s) are not serving as an officer, director or employee of the company(ies) covered under this report.

While reasonable care has been taken in the preparation of this report, it does not purport to be a complete description of the securities, markets or developments referred to herein, and JM Financial Institutional Securities does not warrant its accuracy or completeness. JM Financial Institutional Securities may not be in any way responsible for any loss or damage that may arise to any person from any inadvertent error in the information contained in this report. This report is provided for information only and is not an investment advice and must not alone be taken as the basis for an investment decision.

The investment discussed or views expressed or recommendations/opinions given herein may not be suitable for all investors. The user assumes the entire risk of any use made of this information. The information contained herein may be changed without notice and JM Financial Institutional Securities reserves the right to make modifications and alterations to this statement as they may deem fit from time to time.

This report is neither an offer nor solicitation of an offer to buy and/or sell any securities mentioned herein and/or not an official confirmation of any transaction.

This report is not directed or intended for distribution to, or use by any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction, where such distribution, publication, availability or use would be contrary to law, regulation or which would subject JM Financial Institutional Securities and/or its affiliated company(ies) to any registration or licensing requirement within such jurisdiction. The securities described herein may or may not be eligible for sale in all jurisdictions or to a certain category of investors. Persons in whose possession this report may come, are required to inform themselves of and to observe such restrictions.

Persons who receive this report from JM Financial Singapore Pte Ltd may contact Mr. Ruchir Jhunjhunwala (ruchir.jhunjhunwala@jmfl.com) on +65 6422 1888 in respect of any matters arising from, or in connection with, this report.

Additional disclosure only for U.S. persons: JM Financial Institutional Securities has entered into an agreement with JM Financial Securities, Inc. ("JM Financial Securities"), a U.S. registered broker-dealer and member of the Financial Industry Regulatory Authority ("FINRA") in order to conduct certain business in the United States in reliance on the exemption from U.S. broker-dealer registration provided by Rule 15a-6, promulgated under the U.S. Securities Exchange Act of 1934 (the "Exchange Act"), as amended, and as interpreted by the staff of the U.S. Securities and Exchange Commission ("SEC") (together "Rule 15a-6").

This research report is distributed in the United States by JM Financial Securities in compliance with Rule 15a-6, and as a "third party research report" for purposes of FINRA Rule 2241. In compliance with Rule 15a-6(a)(3) this research report is distributed only to "major U.S. institutional investors" as defined in Rule 15a-6 and is not intended for use by any person or entity that is not a major U.S. institutional investor. If you have received a copy of this research report and are not a major U.S. institutional investor, you are instructed not to read, rely on, or reproduce the contents hereof, and to destroy this research or return it to JM Financial Institutional Securities or to JM Financial Securities.

This research report is a product of JM Financial Institutional Securities, which is the employer of the research analyst(s) solely responsible for its content. The research analyst(s) preparing this research report is/are resident outside the United States and are not associated persons or employees of any U.S. registered broker-dealer. Therefore, the analyst(s) are not subject to supervision by a U.S. broker-dealer, or otherwise required to satisfy the regulatory licensing requirements of FINRA and may not be subject to the Rule 2241 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

JM Financial Institutional Securities only accepts orders from major U.S. institutional investors. Pursuant to its agreement with JM Financial Institutional Securities, JM Financial Securities effects the transactions for major U.S. institutional investors. Major U.S. institutional investors may place orders with JM Financial Institutional Securities directly, or through JM Financial Securities, in the securities discussed in this research report.

Additional disclosure only for U.K. persons: Neither JM Financial Institutional Securities nor any of its affiliates is authorised in the United Kingdom (U.K.) by the Financial Conduct Authority. As a result, this report is for distribution only to persons who (i) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Financial Promotion Order"), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the United Kingdom, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000) in connection with the matters to which this report relates may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This report is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this report relates is available only to relevant persons and will be engaged in only with relevant persons.

Additional disclosure only for Canadian persons: This report is not, and under no circumstances is to be construed as, an advertisement or a public offering of the securities described herein in Canada or any province or territory thereof. Under no circumstances is this report to be construed as an offer to sell securities or as a solicitation of an offer to buy securities in any jurisdiction of Canada. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the registration requirement in the relevant province or territory of Canada in which such offer or sale is made. This report is not, and under no circumstances is it to be construed as, a prospectus or an offering memorandum. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. If you are located in Canada, this report has been made available to you based on your representation that you are an "accredited investor" as such term is defined in National Instrument 45-106 Prospectus Exemptions and a "permitted client" as such term is defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada nor should it be construed as being tailored to the needs of the recipient. Canadian recipients are advised that JM Financial Securities, Inc., JM Financial Institutional Securities Limited, their affiliates and authorized agents are not responsible for, nor do they accept, any liability whatsoever for any direct or consequential loss arising from any use of this research report or the information contained herein.