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A NEWSLETTER OF THE FINANCE LAB

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Chief Editor

Ashok Banerjee, Professor, IIM Calcutta

Editorial Team

Partha Ray, Professor, IIM Calcutta

Diamond Harbour Road,
Joka, Kolkata - 700104
West Bengal
033 2467 8300



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Indian Institute of Management Calcutta

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Editorial

The first article is on digitalization of finance in India and there is serious government initiatives to push forward digital payments and financial inclusion. Use of technology in finance invites serious challenges to the traditional service providers and also threats to the security and safety of money. Therefore, a vibrant and reliable financial services need a responsive and fair regulatory system. The second articles looks into the “Payment and Settlement Systems in India: Vision 2019 – 2021” document released by the RBI on May 15 2019 and the author concludes that aiming at achieving a highly digital and cash-lite economy, the Vision emphasized that the RBI needs to adopt a minimalist intervention strategy without compromising on the safety and security aspects of the transactions. In the third piece, the author discusses the record high dividend announcement news of Mindtree Limited and shows that when in the context of a hostile takeover bid is added in the backdrop of such a special dividend announcement, the net impact of the dividend bonanza on the shareholder wealth of the target company is not necessarily always positive. The fourth article examines some of the unique features of corporate loans. While loans, retail and corporate, share several similar features, there are significant differences in the way corporate loans are originated, serviced and monitored. The fifth article discusses the cycle of inflation and the author uses the example of beauty contests. The last article in this issue looks on student loan and its impact on household risk preferences and wealth accumulation.

You may send your comments and feedback on this issue to ashok@iimcal.ac.in

Happy reading!

Ashok Banerjee

Digitalization of Payments in India: What has happened in the last five years?

Ashok Banerjee



Ashok Banerjee, Ph.D., is Professor, Finance and Control, Indian Institute of Management Calcutta (IIM-C). He is also the faculty in-charge of the Financial Research and Trading Lab at IIM-C. His primary research interests are in areas of Financial Time Series, News Analytics and Mergers & Acquisitions.

The International Monetary Fund (IMF) and the World Bank group launched, on October 11, 2018, the Bali Fintech Agenda- a set of twelve policy elements that would help all countries, and more particularly emerging and low-income nations, to harness the ‘benefits and opportunities of rapid advances in financial technology that are transforming the provision of banking services while at the same time managing the inherent risks’¹. One of the agenda is to promote financial inclusion through use of fintech. Fintech could play a significant role in achieving financial inclusion target of a country by leveraging technology to increase access, awareness and depth of financial services. There are an estimated 1.7 billion adults in the world without access to financial services². However, there is a silver line- it is now possible to include many people within the fold of formal financial services much faster with the use of technology. Penetration of smart phones and other mobile devices, presence of payments banks, and agents have revolutionized the notion of banking.

India has done well in the recent past in terms of providing formal access of banking services to a large section of the population. Similarly, India has the second highest fintech adoption rate in the world³. Therefore, India should be able to effectively use fintech to promote financial inclusion. India has witnessed, in the past five years, serious government initiatives to push forward digital payments and financial inclusion. Use of technology in finance invites serious challenges to the traditional service providers and also threats to the security and safety of money. Therefore, a vibrant and reliable financial services need a responsive and fair regulatory system.

Financial Inclusion and Digital Payments

Financial inclusion⁴, ever since the term was used in 2005⁴, has been a distant dream in India. The rural Indian population was heavily dependent on money lenders and other informal financial channels to meet their financial needs. The access to formal banking services was limited due to bank’s inability to reach the rural poor, and lack

¹ The Bali Fintech Agenda, IMF Policy Paper. October 2018.

² Christine Lagarde, Managing Director, IMF.

³ EY’s Fintech Adoption Index 2017

⁴ Dr. Y.V. Reddy. RBI Annual Policy Statement for the year 2005-06

of awareness. In order to bring the poor and particularly women into banking fold, the Government of India had announced a major scheme, called Pradhan Mantri Jan-Dhan Yojana (PMJDY), on 15 August 2014, as a national mission for financial inclusion. Under PMJDY, every Indian household will have at least one bank account and access to credit and other financial services. If one measures financial inclusion by access (number of bank accounts) alone, the PMJDY is a huge success. When the scheme was launched in 2014, about 53% of Indian population (above 15 years old) had formal bank account. The PMJDY brought almost 80% of population under formal banking- a significant achievement⁵. The government has used successfully the bank accounts of the poor to transfer several benefits (e.g., pension, subsidies) and this has resulted in sizable reduction in leakages. Each account holder under PMJDY gets a debit card (RuPay) as part of the deal and hence if one looks at the number of debit card issuance in India, it grew significantly post PMJDY. For example, in July 2014, the number of outstanding debit cards was 414 million In India and it crossed 500 million mark in next six months- registering a growth of 20%. The number of credit cards grew by only 4% during this period (Table 1). However, payments using plastic (debit) cards offer a mixed picture. While the total value of debit card transactions have increased significantly over the past five years, the per transaction value has actually declined during the same period (Table 1). Even the ticket size per transaction using UPI (Unified Payment Interface⁶) has declined since its launch (Table 3). But UPI total transaction volume tells a different story.

Table 1: Usage of Plastic Cards in India: Point of Sales (POS) Transactions

Month	Debit Cards				Credit Cards			
	# of Cards	Volume	Value(Rs.)	Size (Rs.)	# of Cards	Volume	Value(Rs.)	Size (Rs.)
Apr-11	230.26	22.46	37055.43	1649.73	17.78	23.23	70553.98	3037.48
Mar-14	394.42	56.98	85770.65	1505.24	19.18	46.11	145487.31	3155.54
Jul-14	413.92	64.66	99081.23	1532.27	19.61	50.92	152667.98	2998.44
Dec-14	500.08	73.62	111006.57	1507.86	20.36	56.09	171865.26	3064.00
Dec-15	643.19	108.12	145831.93	1348.82	22.75	69.37	211941.38	3055.35
Dec-16	764.43	415.46	580312.50	1396.79	28.32	116.08	311491.20	2683.35
May-17	790.36	269.85	377777.90	1399.98	30.86	115.33	361406.80	3133.66
Aug-17	810.87	267.62	356653.80	1332.67	32.65	115.33	362987.80	3147.48
Dec-17	842.47	292.39	407603.00	1394.05	35.50	123.77	418636.70	3382.40
Dec-18	958.15	386.69	530214.00	1371.17	44.21	158.34	542347.00	3425.16
Mar-19	924.63	407.57	530111.00	1300.68	47.09	162.41	576511.00	3549.70

Source: NPCI. # of cards denote cumulative number of outstanding cards. Volume and value are in million. Size refers to INR value of an average transaction.

Overall, the number of outstanding debit cards have grown four folds in the past eight years, but the number of credit cards grew by only two-and-half times during the same period. Increase in debit card numbers has been

⁵ Global Financial Inclusion Index, The World Bank

⁶ UPI is a real-time payment system for facilitating inter-bank transactions.

largely involuntary- driven by automatic issue of RuPay cards to account holders under PMJDY scheme. Credit card usage indicates voluntary digitalization of payments and that number has not increased much. It may be noted that the average usage of credit cards (denoted by size in Table 1) has marginally increased since the government's drive against cash payments. In fact, immediately after demonetization⁷, payments through credit cards had actually declined – see the December 2016 figures. Payments through debit cards did marginally increase immediately after demonetization.

However, demonetization effect can be easily seen in the ATM usage (Table 2). There was a significant fall, as expected, in the cash withdrawals in December 2016- both in terms of volume and size. Many ATM counters had gone dry after demonetization and it took several months for these outlets to restore cash availability. Use of cash, which saw a dip in December 2016, had gone up to the pre-demonetization level in six months (May 2017). While payments through cards did not significantly increase after November 2016, use of cash for meeting regular expenses bounced back within a very short time. Debit card ATM value of transactions have gone up from Rs. 0.85 trillion in December 2016 to Rs. 3.13 trillion in December 2018- almost four-folds increase in two years. An estimate shows that only 4 percent of personal consumption expenditure in India happen digitally. Therefore, if one examines the growth of digital payments via cards, it may appear that efforts of the central government to push digital payments have not produced desired results. But digital payments do not involve payments through cards alone.

Table 2: ATM Usage in India

Month	Debit Cards			Credit Cards		
	Volume	Value(Rs.)	Size (Rs.)	Volume	Value(Rs.)	Size (Rs.)
Apr-11	399.55	1061653.47	2657.10	0.17	963.72	5603.74
Mar-14	571.50	1796098.93	3142.79	0.30	1661.70	5603.48
Jul-14	583.12	1855244.74	3181.56	0.32	1729.61	5408.99
Dec-14	591.06	1897693.28	3210.68	0.44	2505.79	5720.56
Dec-15	708.00	2204614.96	3113.86	0.53	2748.53	5146.15
Dec-16	630.47	849340.90	1347.16	0.38	880.90	2343.17
May-17	655.47	2163917.80	3301.31	0.55	2609.00	4774.89
Aug-17	718.41	2352957.20	3275.23	0.66	3045.50	4619.55
Dec-17	761.93	2640389.20	3465.39	0.71	3340.60	4682.89
Dec-18	914.31	3139013.00	3433.21	0.88	4032.00	4606.79
Mar-19	891.42	2889992.00	3242.00	0.86	3983.00	4616.70

Source: NPCI. Volume and value are in million. Size refers to INR value of an average transaction.

One needs to look beyond debt and credit transaction volume to appreciate the extent and depth of digital payments in India. While, total value of monthly credit card transactions has increased eight folds (from Rs. 70554

⁷ Announced on November 8, 2016

million in April 2011 to Rs. 576511 million in March 2019) in as many years, the increase has been much larger (14 times) for value of monthly debit card transactions. But there are other two competitors to the card payments- e-wallets and UPI. The UPI helps one to instantly transfer funds between two bank accounts on a mobile platform. UPI is completely interoperable on the ‘send’ and ‘receive’ side. The transaction volume through UPI, launched in April 2016, has been growing at a phenomenal pace from a mere Rs. 69 billion in 2016-17 to a whopping Rs. 8.8 trillion in 2018-19- increase of 126 times in just two years (Table 3). UPI has launched its upgraded version (UPI 2.0) in August 2018 which would further improve peer-to-merchant transactions. In the earlier version of UPI, payments could be made only from savings bank accounts. But under UPI 2.0, merchants are allowed to withdraw money even when there is no credit balance in their account- overdraft facility. Therefore, UPI has made peer-to-merchant transactions easier which is not a good news for the other digital payment platforms.

Table 3: Usage of RuPay and UPI

Year	RuPay Cards			UPI Transactions			Cards	E-Wallets
	Volume	Value(Rs.)	Size (Rs.)	Volume	Value(Rs.)	Size (Rs.)	Value (Rs.)	Value (Rs.)
2014-15	6.09	11270.00	1850.57	0.00	0.00	0.00		
2015-16	35.64	50510.00	1417.23	0.00	0.00	0.00		
2016-17	282.78	349290.00	1235.20	17.86	69470.00	3889.70	6582890	532420
2017-18	667.66	654320.00	980.02	915.23	1098320.00	1200.05	9190350	1086750
2018-19	1127.08	1175130.00	1042.63	5353.40	8769700.00	1638.16		

Source: NPCI and RBI. Volume and value are in million. Size refers to INR value of an average transaction.

Growth in UPI indicates trouble for other digital payment methods (e-wallets, debit and credit cards). Popularity of e-wallets had gone up immediately after demonetization, but the e-wallet transaction volume dropped after launch of UPI. Customers who prefer payments through e-wallets point out that they do not want to provide direct access to their bank accounts and hence e-wallets act as an additional layer of security. But others, who use UPI for payments, mention that UPI is much hassle free and easier to operate. In 2016-17, UPI transaction value was 14 percent of e-wallets volume. But UPI has almost caught up with e-wallets in terms of value of transactions in just a year. Similarly, payments through cards (both debit and credit) was almost 100 times of UPI payments during 2016-17. The gap has significantly narrowed down to less than 10 times in 2017-18 (Table 3). If one looks at monthly data, things were more competitive. For example, while credit card transactions in April 2018 were about 1.5 times the UPI transactions, by February 2019 the value of credit card transactions were less than half of those done under UPI platform⁸.

⁸ UPI sets searing pace while e-wallets wobble. The Hindu, April 14, 2019

The Use of RuPay (debit) card has been on the rise. In 2014-15, it started with a modest value of Rs. 11.3 billion and it reached a volume of Rs. 1.2 trillion during 2018-19- a ten-fold increase in five years. Yet, the RuPay volume is about 20% of total value of debit cards transactions during 2018-19. RuPay has lot of potential to fight it out with multinational players like Visa, MasterCard.

Therefore, digitalization of finance is fast catching up in India and the real focus has shifted away from cards business to payment through mobile banking (UPI) and e-wallets. That does not mean that cash has lost its dominating position. Cash still rules in India.

Shape of Things to come in India's Payments Systems: RBI's Vision Document

Partha Ray



Partha Ray, Ph.D., is Professor, Economics, Indian Institute of Management Calcutta (IIM-C). Prior to joining IIM-C, Prof. Ray, a career central banker, was the adviser to Executive Director, International Monetary Fund, Washington D.C. during 2007-2011.

An effective payment and settlement system is one of the key elements of a well-oiled financial system. It also fosters real sector transactions effectively and is an outcome of geography, technology, social factors and politics (Carstens, 2018).⁹ Asia Pacific region is in the process to emerge as a digital giant in near future (Evans, 2019).¹⁰ It is in this context that the “Payment and Settlement Systems in India: Vision 2019 – 2021” released by the RBI on May 15 2019 assumes importance.¹¹

Aiming at empowering all citizens with access to a bouquet of e-payment options the Payment Systems Vision 2021 had the core theme of ‘Empowering Exceptional (E) payment Experience’. Five features of such a payment system have been emphasized in particular: (a) safety; (b) security, (c) convenience, (d) fast pace and (e) affordability. Earlier, the RBI constituted a High-Level Committee on "Deepening of Digital Payments" under the Chairmanship of Nandan Nilekani in January 2019. This Committee too submitted its report on May 17 2019. While it might have been appropriate that this Vision Document could have been released after the acceptance (or otherwise) of this Committee report, the RBI in a press release mentioned that it would examine the recommendations of this Committee and will dovetail the action points, wherever necessary, in its Payment Systems Vision 2021, for implementation.

What are major constituents of this Vision? Does the Vision do justice to the current scenario of payment and settlement system in India? Is it capable of catering to the needs of an ever-growing economy? This present essay attempts to look into some of these questions.

Indian Payment System: Some Indicators

⁹ Carstens, Agustín (2018): "Money and payment systems in the digital age", Speech by General Manager, Bank for International Settlements Finance and Global Economics Forum of the Americas University of Miami Business School, November 1, 2018.

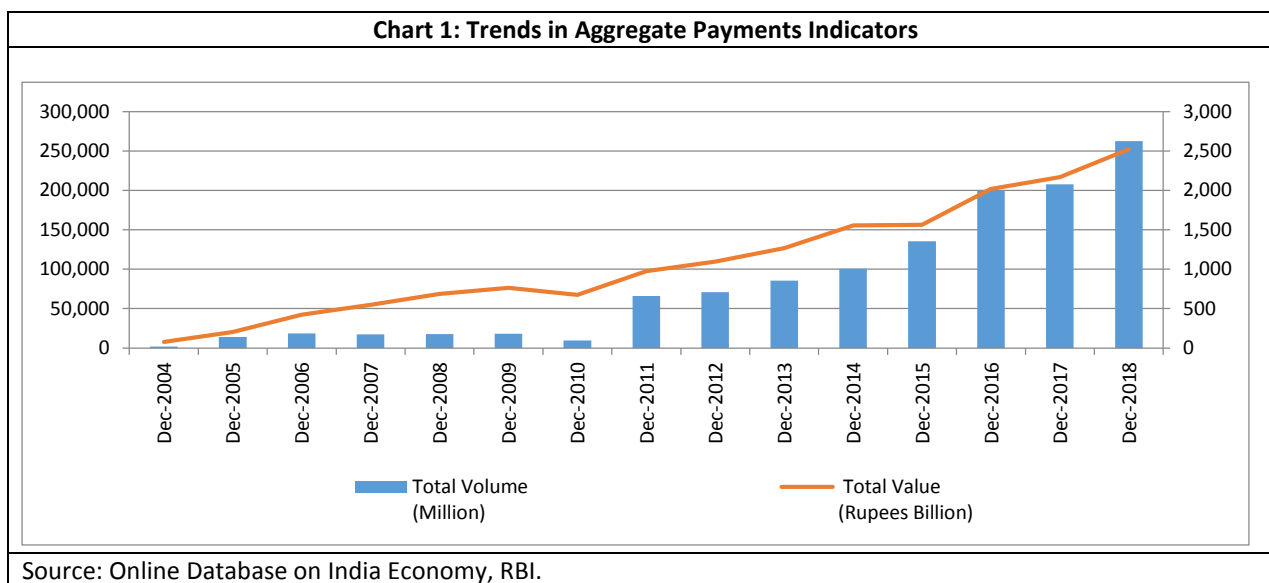
¹⁰ Evans, Michelle (2019): "Digitalisation in Asia How One Region Is Shaping Worldwide Trends", *Euro Monitor International*.

¹¹ Available at <https://rbidocs.rbi.org.in/rdocs/PublicationReport/>

To put the vision document in context, it is important to review the trends in payments system in India.

Aggregate Trends

As far as the aggregate trend in payments system related indicators are concerned, India has experienced huge growth. Digital payment transaction turnover increased from 7.1 per cent of GDP in 2016 to 8.42 in 2018. The turnover in payment transactions too increased from 14.4 per cent of GDP in 2015-16 to 15 per cent of GDP in 2017-18. Thus, the growth has taken place both in value and volume (Chart 1).



An analysis of the constituents of such digital payments reveals another interesting trend. The aggregate digital payments can be segregated in terms of the following major heads:

1. RTGS (Real time gross settlement payments system) comprising: (a) Customer Transactions; (b) Interbank Transactions; and (c) Interbank Clearing.
2. System operated by the CCIL (Clearing Corporation of India Ltd) comprising: (a) CBLO (collateralized borrowing and lending obligations); (b) Government Securities Clearing (viz., Outright, Repo and Tri-party Repo); and (c) Forex Clearing.
3. Paper clearing of cheques.
4. Retail electronic clearing (comprising (a) ECS (electronic clearing system) Debit; (b) ECS credit (including National Electronic Clearing Service or NECS); (c) EFT (Electronic Funds Transfer) / NEFT (National Electronic Funds Transfer); (d) Immediate Payment Service (IMPS); and (e) National Automated Clearing House (NACH)).
5. Cards (comprising both credit and debit cards).
6. Pre-paid payments instruments like mobile wallets.

Table 1: Different Types of Payments: Volume and Value

	Month/Year	Customer RTGS Transactions	Interbank RTGS Transactions	CCIL Operated Systems	Paper Clearing	Retail Electronic Clearing	Cards	Prepaid Payment Instruments (PPIs)	Grand Total
Volume (Million)	Dec-2004	–	–	0.1	–	4.6	14.9	–	19.6
	Dec-2005	–	–	0.1	113.5	7.3	18.7	–	139.4
	Dec-2006	0.3	0.1	0.1	113.7	34.1	36.1	–	184.3
	Dec-2007	0.4	0.1	0.1	124.3	18.5	28.3	–	171.7
	Dec-2008	1.2	0.2	0.1	117.3	21.6	34.5	–	174.9
	Dec-2009	3.0	0.2	0.1	117.7	24.8	35.9	–	181.8
	Dec-2010	3.6	0.3	0.1	119.4	34.7	44.9	–	94.9
	Dec-2011	4.7	0.4	0.2	107.1	42.0	501.9	3.1	659.3
	Dec-2012	5.6	0.4	0.2	107.8	57.5	528.0	7.2	706.8
	Dec-2013	6.6	0.4	0.2	107.1	100.1	628.6	10.8	853.8
	Dec-2014	7.8	0.4	0.3	109.6	135.7	721.2	29.0	1003.9
	Dec-2015	7.7	0.4	0.2	93.7	299.4	886.0	68.7	1356.1
	Dec-2016	8.5	0.4	0.3	138.8	428.3	1162.4	261.1	1999.8
	Dec-2017	10.6	0.3	0.3	96.4	470.0	1178.8	319.8	2076.2
Dec-2018	11.1	0.3	0.3	92.5	620.1	1460.2	441.8	2626.2	
Value (Rupees Billion)	Dec-2004	–	–	7813.2	–	78.0	28.3	–	7919.5
	Dec-2005	–	–	10382.0	9959.3	82.5	33.8	–	20457.5
	Dec-2006	7144.3	10246.9	13594.8	10061.9	1009.4	76.1	–	42133.4
	Dec-2007	14140.5	7911.0	20900.8	11494.3	316.2	65.9	–	54828.7
	Dec-2008	17339.7	10714.4	30908.3	9369.5	345.5	69.8	–	68747.3
	Dec-2009	26980.7	7764.0	32836.0	8334.9	491.9	79.4	–	76486.8
	Dec-2010	34500.1	11525.6	31450.6	8747.0	1216.5	104.5	–	67603.7
	Dec-2011	37737.4	14182.9	34175.7	8188.0	1830.9	1376.5	6.4	97497.8
	Dec-2012	44120.2	13157.7	39703.6	7914.9	2887.2	1642.9	8.2	109434.7
	Dec-2013	50502.7	13347.6	47819.0	8584.3	4308.8	1917.5	7.2	126487.2
	Dec-2014	57669.3	11074.7	70943.4	7488.3	6044.4	2285.2	22.7	155528.0
	Dec-2015	58712.6	10211.4	69114.6	6935.6	8880.0	2565.1	44.3	156463.7
	Dec-2016	72702.6	11393.9	95947.7	7289.4	12683.2	1742.0	97.7	201856.5
	Dec-2017	90557.8	10350.0	88062.7	6752.5	17464.7	3470.0	143.3	216800.9
Dec-2018	101338.6	15085.2	102273.2	6687.4	22268.7	4215.6	189.2	252057.9	

Source: Online Database on India Economy, RBI.

While the amounts are dominated by high value transactions comprising Customer RTGS Transactions, Interbank RTGS Transactions, and CCIL Operated Systems, in terms of volume, smaller transactions as captured by paper clearing of cheques, retail electronic clearing, credit and debit cards and prepaid payment instruments tended to dominate (Table 1).

Debit and Credit Cards

The situation in case of credit and debit cards is most instructive in this context. The total value of credit card and debit card transactions as of end 2018 stood at Rs. 546.4 billion and Rs. 3669.2 billion, respectively; these are merely 0.5 per cent and 3 per cent, respectively, of aggregate deposits of scheduled commercial banks (Table 2). That is to say, retail penetration of these instruments is still quite low and there is ample scope of their increasing usage.

Table 2: Usage of Credit and Debit Cards: Volume (in Million) and Value (in INR Billion)

	1. Credit Cards	1a) Usage at ATMs	1) Usage at POS	2) Debit Cards	2a) Usage at ATMs	2b) Usage at POS

	Volume (Mill)	Value (INR Billion)	Volume (Mill)	Value (INR Billion)	Volume (Mill)	Value (INR Billion)	Volume (Mill)	Value (INR Billion)	Volume (Mill)	Value (INR Billion)	Volume (Mill)	Value (INR Billion)
Dec-2004	11.3	23.8	–	–	11.3	23.8	3.5	4.6	–	–	3.5	4.6
Dec-2005	14.6	28.7	–	–	14.6	28.7	4.0	5.1	–	–	4.0	5.1
Dec-2006	15.2	38.8	–	–	15.2	38.8	20.9	37.2	–	–	20.9	37.2
Dec-2007	20.3	53.6	–	–	20.3	53.6	8.1	12.3	–	–	8.1	12.3
Dec-2008	22.6	53.1	–	–	22.6	53.1	11.9	16.7	–	–	11.9	16.7
Dec-2009	20.5	55.1	–	–	20.5	55.1	15.4	24.3	–	–	15.4	24.3
Dec-2010	23.5	68.5	–	–	23.5	68.5	21.4	36.1	–	–	21.4	36.1
Dec-2011	28.3	85.3	0.2	1.1	28.2	84.2	473.6	1,291.2	444.2	1,242.4	29.4	48.8
Dec-2012	36.3	112.6	0.2	1.2	36.1	111.3	491.7	1,530.3	448.6	1,461.2	43.1	69.1
Dec-2013	45.9	136.6	0.3	1.5	45.6	135.1	582.6	1,781.0	530.4	1,699.0	52.3	81.9
Dec-2014	56.5	174.4	0.4	2.5	56.1	171.9	664.7	2,110.8	591.1	1,999.8	73.6	111.0
Dec-2015	69.9	214.7	0.5	2.8	69.4	211.9	816.1	2,350.4	708.0	2,204.6	108.1	145.8
Dec-2016	116.5	312.4	0.4	0.9	116.1	311.5	1,045.9	1,429.7	630.5	849.3	415.5	580.3
Dec-2017	124.5	422.0	0.7	3.3	123.8	418.6	1,054.3	3,048.0	761.9	2,640.4	292.4	407.6
Dec-2018	159.2	546.4	0.9	4.0	158.3	542.3	1,301.0	3,669.2	914.3	3,139.0	386.7	530.2

RBI Vision Document

It is in this context that the RBI Vision document assumes much importance. Focusing on a two-pronged approach of (a) achieving exceptional customer experience; and (b) enabling an eco-system that will result in this customer experience, the Vision emphasized the following goals, viz., (a) enhancing the experience of Customers; (b) empowering payment System Operators and Service Providers; (c) enabling the Eco-system and Infrastructure; (d) putting in place a Forward-looking Regulation, supported by a Risk-focused Supervision. Thirty six goals posts of the Vision are grouped under the 4C's: (a) competition; (b) cost; (c) convenience; and (d) confidence (Table 3).

Table 3: Goals-Posts For Payment System Vision 2021			
Competition	Cost	Convenience	Confidence
1. Self-Regulatory Organization for all PSOs.	1. Accessible, affordable and inclusive services	1. Harmonizing TAT for resolution of customer complaints	1. Increased coverage of the Cheque Truncation System
2. Encourage and facilitate innovation in an environment of collaborative competition	2. Review of corridors and charges for inbound cross border remittances	2. Setting up a 24x7 helpline	2. Increased scope and coverage of the Trade Receivables Discounting System (TReDS)
3. Feature phone- based payment services.	3. Inter-operability and building capability to process transactions of one system in another system	3. Enhancing awareness	3. Geo-tagging of payment system touch points
4. Off-line payment solutions.		4. Conducting customer awareness surveys	4. Contact-less payments and tokenization
5. USSD-based payment services.		5. Internal ombudsman for digital payments	5. Enhanced security of mobile-based payments
6. Global outreach of payment systems.	4. Acceptance infrastructure to address supply-side issues	6. National settlement services for card schemes	

<p>7. Fostering innovation in a responsible environment through regulatory sandbox.</p> <p>8. Review of membership to centralized payment systems</p> <p>9. Inter-regulatory and intra-regulatory co-ordination</p> <p>10. Benchmarking India's Payment Systems</p>	<p>5. System capacity and scalability</p> <p>6. Increasing LEI usage for large value cross border payments</p> <p>7. Regulation of payment gateway service providers and payment aggregators</p>	<p>7. Enhanced availability of retail payment systems and a wide bouquet of offerings</p> <p>8. Widen scope / use of domestic cards</p> <p>9. Explore adoption of newer technologies including DLT for enhancement of digital payment services</p> <p>10. E-mandates / Standing Instructions for payment transactions</p>	<p>6. Oversight for maintaining integrity of payment systems</p> <p>7. Third party risk management and system wide security</p> <p>8. Framework for collection of data on frauds in payment systems</p> <p>9. Framework for testing resilience of payment systems</p>
<p>Abbreviations: PSO: Payment System Operators; USSD: unstructured supplementary service data; LEI: Legal Entity Identifier; TAT: Turn Around Time. Source: RBI</p>			

Way Ahead

The Vision document appears to be comprehensive as well as ambitious. Aiming at achieving a highly digital and cash-lite economy, the Vision perhaps emphasized that the RBI needs to adopt a minimalist intervention strategy without compromising on the safety and security aspects of the transactions. Is it too ambitious in expecting that the number of digital transactions would increase to 8,707 crore by December 2021? Will it solve the traumatic experience of getting the KYC norms fulfilled by an average e-wallet user? Are the internal trade-offs between the objectives of the 4C's get settled? Will it democratize the payments eco-system? Will the system become a hostage of a few big players in the e-payments space? Why is it silent on some of the contemporary issues like crypto-currencies? Hopefully, clarity will emerge to such questions in the days to come.

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Dividend Delight or Poison Pill? The Curious Case of Mindtree Special Dividend!

Arnab Bhattacharya



Arnab Bhattacharya is an Assistant Professor in the Finance and Control Group at IIM Calcutta. He is B.Tech. (Hons.) in Mechanical Engineering from IIT Kharagpur and MBA from IIM Ahmedabad. He has a Fellowship in Finance and Control Area from IIM Calcutta. Prior to joining IIM Calcutta, he was at IIM Indore as an Assistant Professor. Prior to joining academics, he has worked at UBS Securities as an Associate in the Investment Banking Division, and at Tata-Hitachi Construction Machinery as a Production Engineer in their Assembly Operations Unit.

On 17th April 2019, the Board of Directors of Mindtree Limited, an Indian publicly listed IT and outsourcing company, declared an interim dividend of 30% (Rs. 3 per share). The Board of Directors also announced a final dividend of 40% (Rs. 4 per share) for the financial year 2018 – 19, and a special dividend of 200% (Rs. 20 per share). Since the company had 164,214,041 shares outstanding, this meant that the company was in effect announcing to return INR 443 Crores of cash back to the shareholders. This amount was record high with respect to the recent dividend pay-out history of the company (Please see Table 1).

Table 1: Dividend Pay-out History of Mindtree Ltd.

Announcement Date	Effective Date	Dividend Type	Dividend (%)	Remarks (DPS)
09-04-2019	25-04-2019	Interim	30	Rs. 3 per share
02-01-2019	23-01-2019	Interim	30	Rs. 3 per share
03-10-2018	25-10-2018	Interim	30	Rs. 3 per share
18-04-2018	09-07-2018	Final	30	Rs. 3 per share
06-04-2018	25-04-2018	Interim	20	Rs. 2 per share
04-01-2018	24-01-2018	Interim	20	Rs. 2 per share
04-10-2017	02-11-2017	Interim	20	Rs. 2 per share
25-10-2017	02-11-2017	Special	20	Rs. 2 per share
24-04-2017	10-07-2017	Final	30	Rs. 3 per share
21-03-2017	07-04-2017	Interim	20	Rs. 2 per share
03-01-2017	25-01-2017	Interim	20	Rs. 2 per share
30-09-2016	28-10-2016	Interim	30	Rs. 3 per share
18-04-2016	08-07-2016	Final	30	Rs. 3 per share
15-03-2016	11-04-2016	Interim	20	Rs. 2 per share
31-12-2015	25-01-2016	Interim	40	Rs. 4 per share
29-09-2015	21-10-2015	Interim	40	Rs. 4 per share
02-07-2015	21-07-2015	Interim	30	Rs. 3 per share
16-04-2015	11-06-2015	Final	100	Rs. 10 per share

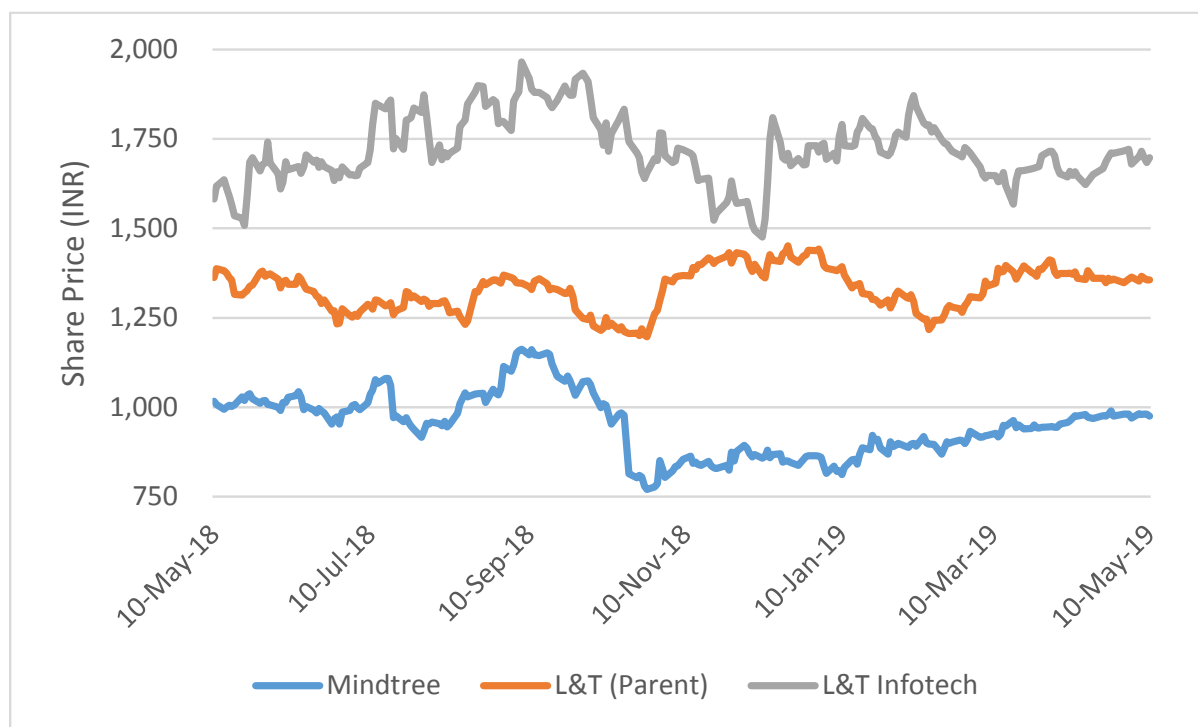
Source: Moneycontrol.

Interestingly, the share price did not move much in either direction in response to the record high dividend announcement. For example, the share price closed at INR 972.45 on 16th April, opened at INR 979 on 18th April (0.67% higher than previous close), and traded at an overall average price of INR 975.73 on that day (0.33% lower than opening price). However, the traded volume was much higher on that day (INR 2.2 Crores), almost twice the median traded volume of the stock in the last 52 weeks. So, how was the market interpreting the dividend announcement news? Was the abnormally high dividend pay-out being interpreted as a good news or a bad news for the stock?

Information Content of Dividend Announcements

A quick recap of the corporate finance textbook chapters would remind us of some of the theories related to dividend decisions, which suggest that managers usually remain reluctant to make changes in their dividend pay-out policies, which they feel might have to be reversed in the future. Usually, the managers try to ‘smoothen’ the dividend distributions, avoiding dividend cuts or unsustainable dividend increases in the process. Therefore, dividend changes usually follow shifts in long-run sustainable earnings, rather than transitory changes in earnings. As a result, there is higher information content in dividend changes, rather than dividend levels of fixed pay-out policy continuations. In other words, the signalling power of dividend changes related announcements is far stronger than dividend continuations related announcements. More specifically, markets usually interpret dividend cuts as bad news and react negatively to it, while significant dividend increases are interpreted as good news, and investors usually react favourably to such dividend increase announcements, as such dividend changes tend to indicate the investors about the managerial beliefs regarding future cash flows and earnings of the company.

Therefore, in the case of Mindtree special dividend, since the dividend amount declared was significantly larger than the historical average pay-out, ideally it should have been welcomed by the investors as a strong positive signal about the future cash flows and earnings potential of the business, leading to a significant jump in the stock price. However, we do not find any such favourable response of the capital market to the announcement of the Mindtree special dividend (Table 2). Hence, it is reasonable to be curious about the speciality (or non-speciality) of this ‘special dividend’, which did not lead to a significant share price reaction in the secondary markets (Table 3). So, are the investors interpreting the information content in the Mindtree special dividend announcement differently than any other special dividend announcements?

Table 2: LTM Share Price Performance

Source: NSE website

Why Did Mindtree Announce the Special Dividend?

Clearly, if Mindtree would have announced the 200% special dividend to signal the investors about the optimistic scenario of future cash flows and earnings potential of the company and the investors believed in the information signal, we should have expected the optimism to reflect in the share price in the form of an upward price correction. The absence of such an upward price movement tells us that either the story is different, or the listeners are not buying the story of the story-teller at its face value. In this regard, the opinion of the management of Mindtree (story-teller's version) is that the special dividend is a way to celebrate the 20th anniversary of the company, and reward the shareholders in having reached an important milestone of US\$ 1 billion in revenue in FY2019. But it is perhaps difficult to believe in this version of the story for more than one reason. And hence or otherwise, the investors and analysts have been looking out for other plausible reasons and rationale behind the generous dividend pay-out plan proposed by the management of Mindtree. We will have to wait for a while to know about the genuine motivation behind the special dividend pay-out plan, but we can certainly speculative our own versions as an outside spectator.

The Context of the L&T – Mindtree Hostile Takeover Bid

It is important to note that the special dividend announcement has been made at an important juncture, barely a month after L&T announced its plans to takeover Mindtree by acquiring 20.32% stake from Café Coffee Day founder Mr. V. G. Siddhartha, another 15% from the open market and subsequently, buying another 31%

through an open offer. At an average acquisition price of INR 1,000 per share, this translates to a financial transaction costing L&T about INR 11,000 Crores. Since this is an ‘unsolicited open offer’ bid from L&T, Mindtree promoters are clearly opposed to the proposed deal which is being viewed as hostile by the Mindtree management. If successful, L&T’s Mindtree acquisition would become the first hostile takeover in the Indian IT industry. Therefore, it is reasonable to view the Mindtree special dividend announcement as a poison-pill manoeuvre to resist the unsolicited takeover bid by L&T. Hence, let us examine further, if there is any merit in this line of argument.

Table 3: Investor Reactions around Mindtree’s Special Dividend Announcements

Company	Mindtree		L&T (Parent Co.)		L&T Infotech	
Date	Return (%)	Volume (x)	Return (%)	Volume (x)	Return (%)	Volume (x)
11-Apr-19	0.66	0.96	0.47	1.53	0.64	0.40
12-Apr-19	-0.10	0.39	-1.25	1.34	-0.76	0.83
15-Apr-19	0.41	0.68	-0.29	0.94	-1.43	3.52
16-Apr-19	-0.74	0.58	1.79	1.58	0.53	0.79
17-Apr-19	Mindtree Special Dividend Announcement					
18-Apr-19	-0.41	1.96	-1.51	1.26	1.15	1.00
22-Apr-19	0.79	0.80	-0.04	1.51	1.05	0.64
23-Apr-19	-0.08	0.41	-0.88	0.97	1.09	0.59
24-Apr-19	0.41	0.28	0.92	0.85	0.74	0.39
25-Apr-19	1.02	0.54	-0.41	1.40	0.72	1.01
26-Apr-19	-1.38	0.32	0.22	0.85	-0.05	0.95
30-Apr-19	0.55	0.60	-0.71	0.92	0.41	0.55
02-May-19	0.02	0.28	0.75	0.96	0.26	0.73
03-May-19	-1.15	0.41	0.36	0.60	-2.43	2.57
06-May-19	1.18	1.38	-0.80	0.73	1.24	0.64
07-May-19	-0.18	1.07	1.02	1.26	0.85	0.70
08-May-19	0.06	3.71	-0.46	0.78	-1.13	1.89
09-May-19	-0.01	3.26	-0.29	1.19	-0.70	1.14
10-May-19	-0.52	0.18	-0.07	0.71	0.78	0.70

Note: Volume (x) indicates multiple of the median traded volume of the stock

What is a Poison Pill Manoeuvre? Insights from the M&A and Corporate Strategy Booklet

Poison pills commonly refer to popular defence mechanisms against hostile corporate takeover attempt, whereby certain corporate actions are taken by the management of the target company with an intention to make its own stock or business relatively less attractive to the potential acquirer, so that the same acquisition price appears relatively costlier once the poison pill strategy is implemented. Academicians are divided in their assessment of the overall impact of such poison pill strategies for the shareholders. Proponents argue that poison pill strategies help the board of directors to negotiate the best control premium for their shareholders in such hostile acquisitions. However, critics argue that such strategies may eventually make the hostile takeover too costly, in the process denying the shareholders their rightful gains from these control transactions. Moreover, such poison pills are supposedly often used by the management to entrench their own personal interests in retaining

their control in the target company and maintaining their compensation benefits rather than being pursued with the genuine interest of shareholder wealth maximization. It may also be pertinent to ask if a special dividend announcement can be an effective poison pill strategy in the given context, irrespective of its net impact on the shareholder wealth.

Dividend Delight or Poison Pill? Analyzing the Specialities of Mindtree's Special Dividend

There are a number of things that we may take into consideration in evaluating the net impact of the special dividend on the shareholder wealth as well as its effectiveness in reducing the chances of success of L&T hostile acquisition. First, the total dividend announcement (including the 200% special dividend) translates to an amount of INR 440 Crores to be distributed from the cash reserves of the company back to its shareholders. It is important to consider the effect of this cash outflow on the value of the firm, given its current investment plans and future growth aspirations. The dividend policy of Mindtree clearly states that the company will endeavour to maintain consistent dividend pay-outs to reward its shareholders, keeping in consideration the profitability and future cash flow needs of the business and its future growth and profitability outlook. Moreover, the dividend policy is expected to be in line with objectives of long-term shareholder value creation and sustainable corporate growth. The management of the company will clearly need to justify to its shareholders (and to the regulator in response to their recent query to L&T) that the special dividend announcement is indeed in line with their own stated dividend policy objectives, and is not detrimental to the long-term shareholder interests and sustainable corporate growth of the company.

Second, since the promoters own 13.3% stake in the company, they are expected to receive INR 59 Crores out of this declared dividend package. Hence, the promoters are also among the beneficiaries of this generous dividend distribution plan. However, this dividend proposal needs to be approved by the shareholders in an AGM scheduled in July. Hence, it is important that the management is also able to convince its non-promoters about the merit of this special dividend. Interestingly, if L&T ends up with 66.32% stake in Mindtree after the closing of the open offer, even L&T will be eligible to receive almost two-third portion of this generous dividend pay-out amount. Theoretically, L&T can re-invest this money back in Mindtree to undo the impact of this special dividend pay-out plan, although that is likely to be highly inefficient due to tax and transaction cost related reasons, besides other regulatory requirements.

Third, assuming the purpose of the special dividend plan is to resist the hostile takeover plan of L&T by increasing the transaction cost of the acquirer, the muted response of the investors to the special dividend announcement plan has clearly not been successful in raising the acquisition price of L&T. In other words, it is plausible that the investors have perhaps been wise enough to see through the nuances of this record dividend pay-out plan, and differentiate it from the signalling effect of a typical special dividend announcement by a corporate in the absence of any hostile takeover context. Fortunately or unfortunately, the added wisdom and the

mature market response in this case is likely to improve the chances of success of the hostile takeover, depriving the Mindtree shareholders of an eventually higher capital gain resulting from the sale of shares to L&T at an even higher price in the scheduled open offer.

In summary, a special dividend announcement is often a reason for investors to cheer, when it also conveys the optimistic managerial beliefs about the future cash flows and earnings potential of the company. However, when the context of a hostile takeover bid is added in the backdrop of such a special dividend announcement, where the acquirer is trying to acquire a controlling stake in the target against the intent of the entrenched managers, the net impact of the dividend bonanza on the shareholder wealth of the target company is not necessarily always positive. The capital market regulator is fair in seeking additional clarifications from L&T regarding the policies of Mindtree, including its dividend policies, for a better understanding of the purpose of the generous dividend pay-out plan, and its eventual consequence for the Mindtree shareholders.

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ALUMNI CORNER**Corporate Lending in the Spotlight****Balachandran R**

Balachandran R is an alumnus of IIM Calcutta (1987-89) with extensive experience in corporate banking, investment banking and product management.

Non-performing assets and the consequent humongous provisions made by banks have hogged the headlines over the last 2-3 years. Corporate lending, in particular, has proved to be the nemesis for both public and private sector banks in India. News flow from the US on this front has been muted over the last few years, thanks to a resurgent economy fuelled by the Tax Cuts and Jobs Act from the Trump administration, building on the massive stimulus of the previous Obama era. Some analysts are apprehensive though, that lax lending standards and a loose covenant regime in leveraged corporate loans which have topped a trillion dollars, could lead to increase in stressed loans when the US economy inevitably slows down, or tips into a recession.

This article examines some of the unique features of corporate loans. While loans, retail and corporate, share several similar features, there are significant differences in the way corporate loans are originated, serviced and monitored.

The Relationship Manager (RM) is the face of the bank to the corporate customer. The RM pitches the bank's offerings to the prospects. Once a deal is prima facie agreed to, the RM liaises with risk management and credit approvers to get the facilities approved.

Unlike retail lending which is usually transactional in nature, corporate customers are offered a basket of facilities, funded and non-funded. Funded facilities could include overdrafts, term loans, revolving credit facilities, asset-based loans, project finance, construction loans and commercial real estate financing. Non funded facilities take the form of letters of credit, bank guarantees etc. Supply chain financing, factoring, forfaiting, supplier's credit, the infamous buyer's credit... the products are indeed myriad for corporates. While the treasury department interfaces with customers for advice and transactions in foreign exchange (FX) markets, the RM typically sets up the FX facilities like forwards and swaps. FX transactions too expose the bank to risk, though the risk exposure is calculated as a small proportion of the gross amount transacted. All funded, non-funded and FX facilities are aggregated and approval sought from the credit authorities. In addition, it is a common banking practice to aggregate all the facilities for the corporate group as a whole, while reckoning the bank's exposure. Banks have

internal exposure norms, as well as regulatory guidelines to comply with, on exposure limits as a percentage of the bank's capital, to a single borrower as well as the group as a whole.

Corporates borrow for financing working capital, equipment, projects, acquisitions, recapitalization, or "general corporate purposes". Leveraged buyouts by private equity firms is another interesting product. Retail customers have financing needs for purchasing homes, vehicles, or for general consumption.

The corporate credit underwriting process involves extensive industry, financial and management risk analysis. The process has a large element of subjectivity unlike retail loan origination, which tends to be credit score and parameter driven.

The underwriting/credit analyst team "spreads" the company financial statements, as part of financial risk analysis. Spreading involves converting the balance sheet and profit and loss statement schedules into bank specific formats. Spreadsheet software comes in handy for generation of financial ratios and cash flows. Ratios can differ from bank to bank and also vary across industries. Configuration capability of spreadsheet software is essential for banks to define their own ratios depending on their internal underwriting/credit risk assessment policy. Some typical ratios are leverage, coverage, liquidity, profitability and efficiency ratios. On the leverage front, total debt/earnings before interest, tax, depreciation and amortization (EBITDA) is an oft used indicator. The threshold value again depends on the bank's underwriting policy and within the bank, could further depend on industry.

As part of the risk assessment process, an internal risk grade/credit grade is arrived at based on financial and non-financial parameters. A whole lot of decisions including go/no go, size of exposure, tenor, pricing and collateral depend on the risk grade.

The credit proposal can wind its way from the underwriter/analyst, to the RM, risk management and on to the credit committee/approvers. There is usually a good amount of back and forth movement of the proposal between the initiating team and risk management/ approvers, as the latter seek could clarifications.

Algorithmic and volume driven loan approval process for retail loans is much simpler and less time consuming.

The entire credit assessment process and risk grading is repeated annually, with or without increase in facilities, a feature again unique to corporate customers.

Retail loan products like personal/consumer loans, auto loans and residential mortgages are standard, off the shelf products. Large and mid-level corporates can get products customized/structured to their requirements. For example, repayment/amortization schedule of term loan facilities can be customized by the lender based on specifics of the customer's borrowing needs. Interest rates and fees are negotiated and depend on the competitive scenario and risk grade. Corporate loans are repaid typically through unequal instalments (P+I), while retail loans are repaid through equal monthly instalments(P&I)

Asset based lending on a borrowing base comprising of stocks and receivables is a common product in the corporate world. The Indian equivalent is the age-old cash credit facility.

Retail loans are always bilateral in nature, an arrangement between a single lender and the borrower. Corporate lending can be bilateral or syndicated. In a syndicated facility, a group of lenders jointly finance a borrower, with the transaction structured and arranged by an Arranger, usually an investment bank. A single bank may not have the risk appetite or balance sheet size to finance a large ticket corporate loan transaction. While an arranger syndicates the loan to multiple lenders, an administrative agent steps in post syndication, to act as a single point of contact between the corporate borrower and the myriad lenders in a syndicated facility.

An active secondary market exists for “leveraged” corporate loans, governed by industry standard documents and market practice standards from the Loan Syndications and Trading Agency, New York, the Loan Market Association, London and APLMA, Hongkong. Sell down by primary lenders in the syndicate to other lenders, can take the form of assignments or participations.

Loan monitoring covenants is another unique feature of corporate loans. Covenants are terms and conditions stipulated in the loan agreement. They can be maintenance in nature or incurred covenants. The former is tested at pre agreed intervals, while the latter are tested on occurrence of certain events. Covenant lite loans are the current trend in leveraged loans.

The Basel norms for capital adequacy stipulate risk weightage for corporate loans depending on their external credit rating, in the standardized approach. For retail loans the risk weightage depends on the type of loan: residential mortgage (the lowest weightage), regulatory retail portfolio or consumer credit (highest weightage). Commercial real estate carries a significantly higher risk weight compared to residential mortgage loans.

Stressed/non-performing loans too are managed differently. The task of collecting delinquent retail loans is usually outsourced to external agencies, who may take a share of the loan amount collected. In the corporate segment, banks have specialist teams, with legal expertise, that deal with loan “workouts”. This may involve restructuring the loan by extending repayment terms, or reducing interest rates, taking a haircut, seizing security, or filing legal cases for recovery. The US bankruptcy framework follows a “debtor in possession” model while India follows the “creditor in possession” model. The corporate insolvency resolution process, which has been grabbing the headlines in India, ever since the passage of the Insolvency and Bankruptcy code, 2016, provides for a time bound resolution mechanism for stressed assets. With many cases being litigated in the bankruptcy courts and the Supreme Court, many large insolvency cases have breached the 270-day timeline specified in the Act.

To conclude, across the entire life cycle of a loan, from origination, structuring, servicing, monitoring, to workout/recovery, corporate lending is uniquely different from retail lending. That said, loans to small/tiny

businesses have more of a retail flavour, with the differences accentuated with increasing loan size, from mid-market/commercial loans to the large corporate segment.

*VOICE OF AMERICA***Beauty Contests****Ayan Bhattacharya**

Ayan Bhattacharya is Assistant Professor of Finance at The City University of New York, Baruch College. He has a PhD from Cornell University and his research focus is financial economics, especially financial market design and asset pricing.

A prominent Wall Street Journal article today talks about the dilemma facing banks when funding Softbank, the Japanese part investment-holding, part telecom giant.[1] Softbank sits on \$140 billion of debt and has a junk credit rating, red flags for any respectable lender. Yet, Masayoshi Son is also somehow these days in the middle of every big tech deal, and such deals generate big fees for the banks. No bank wants to be left out of such a party, so banks fall head over heels to lend to Softbank. In turn, Masayoshi Son gets to be in the middle of even more tech deals. John Maynard Keynes, the father of macroeconomics, named such parties beauty contests. In his opus, *The General Theory of Employment, Interest and Money* (1936), he had this to say about judging a beauty contest,

“...Newspaper competitions in which the competitors have to pick out the six prettiest faces from a hundred photographs, the prize being awarded to the competitor whose choice most nearly corresponds to the average preferences of the competitors as a whole... It is not a case of choosing those which, to the best of one's judgment, are really the prettiest, nor even those that average opinion genuinely thinks the prettiest. We have reached the third degree where we devote our intelligences to anticipating what average opinion expects the average opinion to be. And there are some, I believe, who practise the fourth, fifth and higher degrees.”

Once you put on an economists' goggles, beauty contests are ubiquitous. And much like ordinary beauty contests, when pushed beyond a point, there is very little positive that comes of them.

1. The Beast of Inflation

Four years back, Argentina elected a new president, Mauricio Macri, on a plank of economic rectitude: to re-tune the economy and bring hyperinflation under control. Yet Argentina's inflation soared to 55% earlier this year, dampening the new president's re-election chances in October. Overall, Macri's economic policies have been sensible and prudent, yet the beast of inflation in Argentina now seems just too powerful to conquer. Macri is hardly the first politician to be hobbled by this problem. To pay its massive war debt after the loss of World

War 1, Weimar republic, the precursor to modern Germany, opted to print bank notes on a large scale. This led to a state of unsustainable inflation that was impossible to control, and many historians attribute the rise of Hitler to this economic failure. USA itself faced a long period of unmanageable inflation for close to two decades, from the mid-1960s till early 1980s, and it was Governor Volcker's epic battles that finally brought the menace under control.

At its heart, the cycle of inflation is not very different from a beauty contest. My prediction for how much the prices will rise tomorrow depends on my prediction of your spending today – this in turn determines my spending today. But your spending today depends on my expected spending by a symmetrical chain of reasoning. Like the judges in a beauty contest, we are locked in a duel of expectations. Big economic actors like firms and households have to take into account the expected inflation when making their wage or pricing decisions, but these decisions, in turn, determine actual rise of prices. After a while, the feedback cycle takes a life of its own that is very hard to control. The reasoning applies equally well to price declines. Japan, for decades, has been trying to convince its citizens that prices are going to rise, yet despite the fireworks of Abenomics, the inflation number has hardly budged upwards.

2. Recessions and Bank Runs

When we teach our students the reasons for the Great Recession in 2008, we tend to emphasize factors like the housing market or unbridled growth of new, risky securities. Yet, the immediate trigger for the crisis was a freeze in the short term lending markets after the collapse of Bear Sterns and Lehmann. In the highly uncertain environment that prevailed at the time, a hypothetical Bank A would lend to a troubled firm only if it managed to secure funding from another Bank B – because that would signal asset quality of the firm. Yet, by the same reasoning, Bank B would lend only if the firm managed to secure funding from Bank A. Left in the middle of this beauty contest game among banks, firm financing started to dry up, bringing relatively healthy firms to the brink of collapse.

A similar game gets played when there are runs on the bank, or runs on a currency. An individual bank customer, or an individual currency trader, acting independently, is fended off easily. However, when traders start to play a beauty contest game, the collapse in a currency gets hard to avoid. I borrow money from the bank, not because I need it immediately, but because I expect you to borrow money and empty the bank's reserves. You do the same. Very soon, the bank actually runs out of reserves.

3. The Theater of Financial Markets

The theater that witnesses the grandest beauty contests is perhaps the financial market – one just needs to take a look at the wild swings in Tesla’s stock if one needs any convincing. Or at Uber, the darling of investors before listing, that suddenly seems out-of-favor after the IPO. For that matter, even the frequent calls to battle by powerful activist investors are, in essence, an invitation to a beauty contest. When an activist talks down a firm like Herbalife, he is hoping to trigger a selloff in the stock that is similar to a bank run. There might be a grain of truth to the charges – or not – but if a sufficiently large number of traders join the beauty contest, the prophecy becomes self-fulfilling.

In a financial market, this means that prices are seldom efficient and frequently stray from fundamentals. Note that such deviation is not driven by behavioral or irrational causes. Reasoning through the expectations of other market participants before forming my own expectation is as rational as it gets. Yet, this seemingly rational behavior can steer prices far away from fundamentals.

4. Winning Beauty Contests

What can a firm, bank, regulator, or government do to prevent beauty contests from going astray? Unfortunately, there seems to be no one-size-fits-all model that works everywhere – we only have broad principles. At their core, the message in the principles is simple: communicate the truth loudly, clearly and unambiguously, and back it up with action. Thus, the way out of a high inflation phase is usually an unambiguous stance by the Central Bank, backed up by clear structural policies and pronouncements. We witnessed such a firm and clear position against inflation during Raghuram Rajan’s tenure in the Reserve Bank, and the Indian inflation seems to have tamed down ever since.

For a banks facing a run, the strategy is to signal – as loudly as possible – the quality of its assets. At the height of the financial crisis in 2008, Goldman Sachs arranged a \$5 billion investment from the legendary Warren Buffet. The purpose was not so much to raise money, as to signal loudly and clearly that Goldman Sachs was a great bank despite the wreckage all around. When an individual firm fails to convince the beauty contest judges, bigger institutions might step in to take up the burden of convincing. At the height of the financial crisis, the US government stepped in with its troubled asset relief program to calm markets. Argentina has borrowed from the IMF to soothe the ruffled feathers of its investors, though it remains to be seen whether this will be enough. In the end, a beauty contest is a game played in the minds of judges, and it is to these minds that contestants have to appeal. The hope is, as Abraham Lincoln said,

“You can fool all the people some of the time and some of the people all the time, but you cannot fool all the people all the time.”

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VOICE OF AMERICA

The Unending Pain of Student Debt: effect of risk preferences

Birzhan Batkeyev, Debarshi Nandy, Karthik Krishnan



Birzhan Batkeyev is an Assistant Professor at the Kazakh-British Technical University.



Debarshi Nandy is a Visiting Associate Professor at the MIT Sloan School of Management and an Associate Professor at the International Business School of Brandeis University and an affiliated faculty member of the Department of Economics at Brandeis University.



Dr. Karthik Krishnan is an Associate Professor of Finance at the D'Amore-McKim School of Business at Northeastern University.

The dangerous and sometimes disastrous consequences of student loan debt are well known. We know for a fact that students with high debt levels are less likely to be entrepreneurs, less likely to own a home when they are 45, and less likely to find an ideal job. The value of a college education is therefore reduced dramatically for those who need to service the debt to pay for it.

However, until recently, few have studied the long-term effects of student debt on the net worth of families burdened by the loans. With my colleagues, Birzhan Batkeyev and Karthik Krishnan, I recently set out to address this gap—showing once again that the very loans that are supposed to help students get a leg up on their financial future, hamper them in myriad ways instead.

Our groundbreaking analyses show that student loans have a *causal* effect on personal investment portfolio composition and that, in turn, impacts household net worth dramatically. Our analysis shows that individuals who carry student loan debt are much more likely to keep their investments in lower paying and lower risk alternatives than they are to invest heavily in higher return investments such as stocks or mutual funds (risky

assets). The basic distribution of this can be seen in Fig. 1 below, which shows that the average holdings drops by 37% with student loans.

Figure 1: Percentage holding of Risky Assets by College Education & Student Loans

	Obs.	Mean	Std. Dev.	Min.	25%	Median	75%	Max.
Share of Risky Assets (no College)	14378	7%	20%	0%	0%	0%	0%	97%
Share of Risky Assets (with College and no student loans)	9915	19%	28%	0%	0%	2%	33%	97%
Share of Risky Assets (with College and student loans)	2186	12%	23%	0%	0%	0%	12%	97%

Though stocks and mutual funds provide better return in the longer term, they are also riskier in the short term. The very heavy consequences of missing a student loan debt payment or defaulting on a loan means that families burdened with student debt are often reluctant to risk the budget padding that cash on hand allows them in order to invest in high risk investments. As a result, when they are young, student debtors are not making the investments necessary to amass a nest egg, instead preferring to keep their money in less risky investments—such as bank savings accounts. This tendency can have dramatic effects on a family for generations.

For example, our research shows that student debt leads to suboptimal investments in personal financial assets. The lower investment in high-earning assets leads to missed opportunities and the lack of ability to increase one's wealth through prudent investments.

Given the recent strong performance of the stock market, this has had disastrous consequences on the net worth of families that carry student loans—consequences that will likely have generational effects—creating a vicious cycle where one generation's student loans keep another generation in debt as they have to borrow to similarly educate themselves.

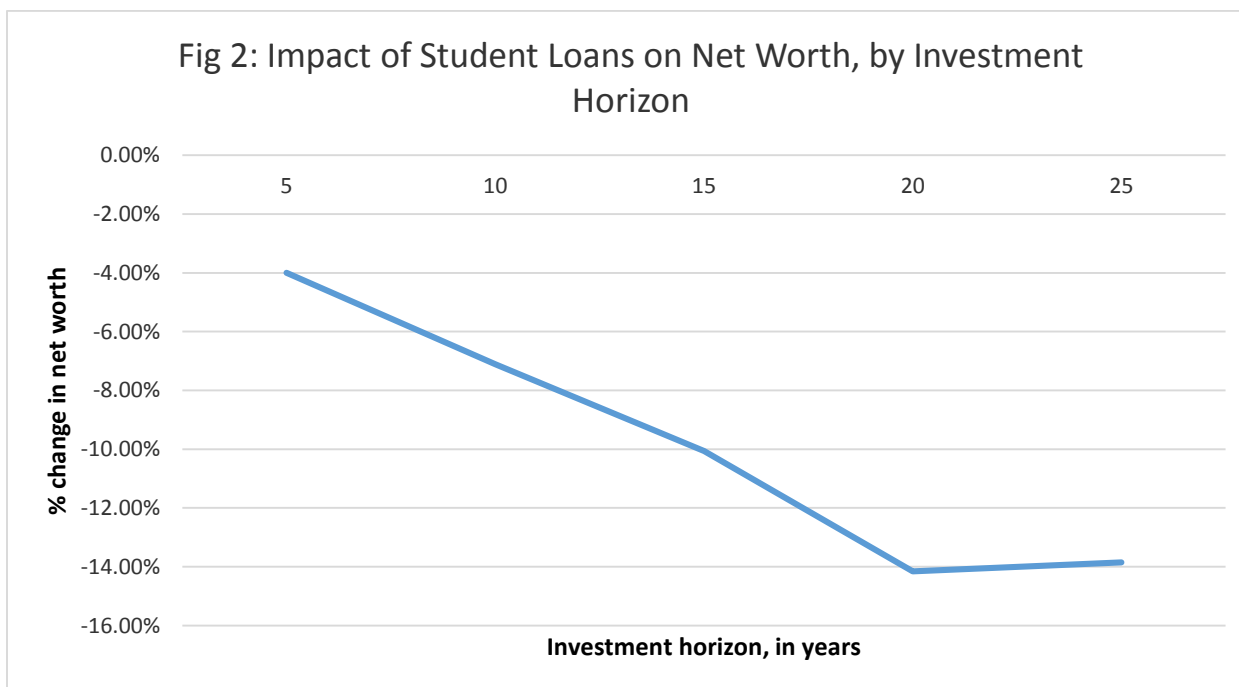
We studied students who had enrolled in college before the enactment of the 1998 Higher Education Amendments Act (HEA) to see how their subsequent portfolio allocations responded to their student debt levels.

The 1998 HEA made student debt from federal loans effectively non-dischargeable through personal bankruptcy. In our study, students with non-dischargeable loans invested less in stocks and bonds and more in low return-low

risk assets. This “natural experiment” indicates that one can get permanently saddled with student debt obligations regardless of their financial situation.

What’s more, our results illustrate that these effects of student loans of personal portfolio investment and on net worth last well beyond the typical ten-year time period that a student loan matures.

Our calculations suggest that a family without student debt, for example, who invest \$12,000 in stock and bonds each year, would have a net worth of \$831,076 by the time their children were ready for college in 20 years, whereas for the family with student debt the corresponding net worth would be \$664,860. That implies that over a 20-year-period, households with student debt would have 14 percent lower net worth than those without student debt. Figure 2 plots this decline in net worth over the investment horizon.



A similar family saddled with student debt that was unable to make a high-return allocation in their investment portfolio would find that they had significantly fewer assets to fund their retirement accounts and for the payment

of their own children's tuition. And thus, a college education which was supposed to set up an individual for upward mobility, becomes instead, a generational drag on income production.

The fix for this is issue complex and will require action at a policy level as well as more innovative solutions from the private sector. For example, recent inroads into redefining student loans as more flexible payment instruments (such as Income Share Agreements or ISAs) could potentially totally alter the huge burden of student debt. Other fixes, at least for the short to medium term, include more transparent information on career and salary outcomes after school, and clear calculation of how long one might be able to pay off their debt after graduation if they choose a particular major at a particular school. More flexibility in student loan repayment options can also help.

Clearly, this is another reason to view negatively the effects of student loans and the harsh terms under which they are granted. Fixing this problem, is doable, but it will take the concerted efforts of policy makers, students and educators alike.
