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A NEWSLETTER OF THE FINANCE LAB

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Indian Institute of Management Calcutta

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Editorial

The first article is on the recent bank merger of state-owned banks that would involve ten of them being merged to four. The author concludes that the recent merger would definitely create more systematically important banks which would not be allowed to fail during major financial crisis and offered five suggestions to improve the struggling banking sector. The second articles looks into Indian mutual fund manager turnover and its impact on fund performance and the author concludes that fund manager turnover in mutual funds is one of the factors explaining the lack of long-term persistence in mutual fund performance. In the third piece, the author discusses the Insolvency and Bankruptcy Code (IBC) rolled out in 2016 which provides a framework for time bound insolvency resolution of corporates and others. He shows that the IBC is a step in the right direction for resolving stressed assets on account of genuine business failures, but possibly not meant to address willful defaults/corporate malfeasance, and certainly not a panacea for Indian banking's burgeoning NPA's. The fourth and last article examines the portfolio and factor approach in finance. To a number of researchers in finance, the techniques that we have developed to understand and simplify the portfolio problem constitutes a fundamental contribution. And increasingly, academics in finance are venturing out beyond the narrow confines of financial markets to apply these techniques.

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

Happy reading!

Ashok Banerjee

Implications of Recent Bank Mergers

Ashok Banerjee and Akshay Narayanan*



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On 30 August 2019, the Finance Minister of India sprung a surprise by announcing a major consolidation of state-owned banks that would involve ten of them being merged to four. The mergers are expected to be completely by mid-2020. Some banks have already started the action. For example, the Board of Allahabad Bank has approved, on 16 September 2019, the merger proposal with Indian Bank. This move will reduce the number of state-owned lenders to twelve from twenty seven in 2017- a reduction of more than 50% in two years. The chairman of the largest state-owned bank in India welcomed the recent consolidation announcement and stated that ‘bigger banks have better ability to absorb shocks, reap economies of scale as well as the capacity to raise resources without depending unduly on the exchequer’¹. The Finance Minister has outlined three objectives for the recent merger: (a) to strengthen a sector struggling with poor asset quality, (b) to create banks with strong national presence, and (c) to create lenders of global scale that can support the economy’s target of \$3 trillion GDP by 2024.

The idea of bank merger is nothing new in India. In fact, the Narasimham Committee (1998)² strongly recommended merger of *larger* Indian banks to make them big enough to support international trade and operate at a global scale. The recommendations of the Committee were even more specific: (i) establishment of three large banks with global presence (ii) eventually eight to ten state-owned banks should exist, and (iii) a large number of smaller regional and local banks. Therefore, the arguments put forward by the present Finance Minister in support of the bank mergers echo the sentiments of the Narasimham Committee. India has witnessed, since 1998, a modest attempt of state-owned and private sector bank mergers (Table 1). We had twenty seven state-owned banks by the end of 2017. There was no noteworthy bank merger during UPA-II regime (2009-2014) and Modi-led NDA-I regime (2014-2019). The only exception was merger of five associates of the State Bank with the State Bank of India in 2017. In that sense, the recent announcement of the Finance Minister is a significant

¹ <https://economictimes.indiatimes.com/news/economy/policy/big-bank-mergers-government-turns-ten-psbs-into-four/articleshow/70918585.cms?from=mdr>

² Narasimham Committee II Report on Financial Sector Reform, 1998

step towards fulfilling the dreams of the Narasimham Committee. However, the Narasimham Committee had cautioned that merger should happen between banks of equivalent size and profitable banks should not be coerced to acquire loss-making banks. None of these warnings were heeded to in the recent merger announcements- Syndicate Bank (balance sheet size Rs.3.1 trillion) is merging with Canara Bank (balance sheet size Rs. 7 trillion), which is more than double its size and a loss making Allahabad Bank (net loss Rs. 83.3 billion in 2018-19) is merging with profitable Indian Bank (Net profit Rs. 3.2 billion in 2018-19).

Table 1: Bank Mergers: 1999-2017

Acquirer	Acquired	Year
Bank of Baroda	Banaras State Bank	2001
ICICI Bank	Bank of Madura	2001
Punjab National Bank	Nedungadi Bank	2003
Oriental Bank of Commerce	Global Trust Bank	2004
Centurion Bank of Punjab	Bank of Punjab AND Centurion Bank	2005
IDBI Bank	United Western Bank	2006
Indian Overseas Bank	Bharat Overseas Bank	2007
Centurion Bank of Punjab	Lord Krishna Bank	2007
HDFC Bank	Centurion Bank of Punjab	2008
State Bank of India	State Bank of Saurashtra	2008
State Bank of India	State Bank of Indore	2010
ICICI Bank	Bank of Rajasthan	2010
Federal Bank	Ganesh Bank of Kurudwad	2013
State Bank of India	State Bank of Bikaner and Jaipur AND State Bank of Hyderabad AND State Bank of Mysore AND State Bank of Patiala AND State Bank of Travancore	2017

Mergers in the Recent Past

One may wonder whether the past bank mergers have resulted in more financially sound institutions which would be able to compete at a global scale. A look at the bank mergers in the past ten years (2008-2018) reveals mixed results. During this period four bank mergers events happened- two each in the public and private sectors (Table 2). Though post-merger balance sheet size has grown, asset quality and profitability did not improve in all four cases. Take the case of Bank of Baroda, Vijaya Bank and Dena Bank merger. Asset quality of the merged entity (gross NPA) has deteriorated in three months post-merger. Similarly, the CASA has gone down- a sign of higher cost of funds. One may, however, argue that it is too premature to find any benefits of merger in this case as the effective date of merger was April 2019. This argument is not valid for the other public sector merger in 2017- State Bank of India and its five associates. In two years after merger, CASA has not improved, whereas cost-to-income ratio deteriorated with poor asset quality. Even capital adequacy was adversely affected. A higher cost-to-income ratio indicates that a bank's establishment costs (as a % of fee and net interest income) are on the rise.

Kotak Mahindra and ING Vysya Bank merger was successful by all means- with higher CASA, lower cost-to-income ratio, and similar gross NPA.

Table 2: Bank Mergers in the past ten years: Performance Analysis

Acquirer Bank	Target Bank(s)	Effective Date	Indicator	Pre-merger (acquirer)	Post-merger (2018-19)
Kotak Mahindra Bank	ING Vysya Bank	1 April 2015	Balance Sheet Size	Rs. 1 trillion (acquirer) Rs.0.6 trillion (target)	Rs. 3 trillion
			CASA(%)	36%	52.5%
			Profit per branch	Rs. 27 million	Rs. 32 million
			Net Interest Margin	4.9%	4.3%
			Cost-to-income Ratio	52%	47%
			Capital Adequacy Ratio	17.2%	17.5%
			Gross NPA	1.9%	2.1%
HDFC Bank	Centurion Bank of Punjab	1 April 2008	Balance Sheet Size	Rs. 1.33 trillion (acquirer) Rs.0.7 trillion (target)	Rs. 12.45 Trillion
			CASA(%)	54.5%	42.4%
			Profit per branch	Rs. 20.9 million	Rs. 41.3 million
			Net Interest Margin	4.35%	4.3%
			Cost-to-income Ratio	49.9%	39.7%
			Capital Adequacy Ratio	13.60%	15.78%
			Gross NPA	0.7%	1.36%
State Bank of India	Five SBI Associate Banks	1 April 2017	Balance Sheet Size	Rs. 27.1 trillion (acquirer) Rs.7.5 trillion (targets)	Rs.36.8 trillion
			CASA (%)	45.58 %	45.74%
			Profit per branch	Rs. 6.1 million	Rs. 0.4 million
			Net Interest Margin	2.84%	2.95%
			Cost-to-income Ratio	47.75%	55.7%
			Capital Adequacy Ratio	13.11%	12.72%
			Gross NPA (%)	6.90%	7.5%
Bank of Baroda	Vijaya Bank and Dena Bank	1 April 2019	Balance Sheet Size	Rs. 7.8 trillion (acquirer) Rs.3.0 trillion (targets)	Rs. 3 trillion
			CASA (%)	40.2%	36.55%
			Profit per branch	Rs 0.7 million	Rs. 3.0 Million*
			Net Interest Margin	2.72%	2.62%
			Cost-to-income Ratio	45.56%	49.17%
			Capital Adequacy Ratio	13.42%	11.5%
			Gross NPA (%)	9.61%	10.28% (June 2019)

Source: Company Annual Reports and Authors' estimates. *Adjusted for whole year

The Proposed Mergers

In this round of bank merger, ten public sector banks are merged to four. The Finance Minister, while announcing the recent bank mergers, has categorically mentioned that the merger would create stronger banks with better asset quality. While real picture would emerge only after a few years, a quick look at the financial indicators of the combined entities does not show any encouraging sign. For example, in this round weaker banks are merged to supposedly create a strong bank- a strategy strongly opposed by the Narasimham Committee. For example, Canara Bank with a meagre profit of Rs.3.5 billion during 2018-19 (it had reported a loss of Rs. 42.2 billion in the previous year) is asked to take over Syndicate Bank, which has reported a loss of Rs. 25.9 billion during 2018-19. This merger would have negligible impact on CASA, but would result in poor asset quality (gross NPA). Similarly, the profit making Indian Bank is taking over an ailing Allahabad Bank. The poor asset quality of the Allahabad Bank would significantly increase the NPA level of the combined entity. It is to be seen whether the management of Indian Bank is able to turnaround the merged bank.

Another interesting variable to note is the cost-to-income ratio. In three of the four proposed mergers, the cost-to-income ratio of the combined entity would increase resulting in weaker profit per branch. There are two principal ways to improve this ratio- (a) increase non-interest income, and (b) reduce establishment costs. Though the Finance Minister has emphatically mentioned that there won't be any job loss due the proposed mergers, it is to be seen whether the banks resort to manpower 'rationalization' in near future to reduce cost-to-income ratio.

Table 3: New Bank Mergers

Acquirer Bank	Merged Bank(s)	Effective Date	Indicator	Pre-merger (acquirer)	Post-merger (2018-19)
Canara Bank	Syndicate Bank	-	Balance Sheet Size	Rs. 7.0 trillion (acquirer) Rs.3.1 trillion (target)	Rs. 10.1 trillion
			CASA(%)	30.9%	32.6%
			Profit per branch	Rs. 0.5 million	Rs. (2.2) million
			Net Interest Margin	2.6%	2.6%
			Cost-to-income Ratio	49.7%	55.2%
			CET 1 Ratio (%)	8.31%	8.62%
			Gross NPA	8.8%	9.7%
Union Bank Of India	Corporation Bank & Andhra Bank	-	Balance Sheet Size	Rs. 4.9 trillion (acquirer) Rs.4.6 trillion (target)	Rs. 9.6 Trillion
			CASA(%)	36.1%	33.8%
			Profit per branch	Rs. (6.9) million	Rs. (12.6) million
			Net Interest Margin	2.2%	2.7%
			Cost-to-income Ratio	48.8%	46.7%
			CET 1 Ratio (%)	8.10%	8.71%
			Gross NPA	15.0%	15.4%
Punjab National Bank	United Bank & Oriental Bank Of Commerce	-	Balance Sheet Size	Rs. 7.7 trillion (acquirer) Rs.4.2 trillion (targets)	Rs. 12.0 trillion
			CASA (%)	43.5 %	41.4 %
			Profit per branch	Rs. (14.3) million	Rs. (10.7) million

			Net Interest Margin	2.4%	2.4%
			Cost-to-income Ratio	47.0%	51.0%
			CET 1 Ratio (%)	6.20%	7.46%
			Gross NPA (%)	15.5%	14.9%
Indian Bank	Allahabad Bank	-	Balance Sheet Size	Rs. 2.8 trillion (acquirer) Rs. 2.5 trillion (targets)	Rs. 5.3 trillion
			CASA (%)	35.5%	42.2%
			Profit per branch	Rs 1.1 million	Rs. (13.1) million
			Net Interest Margin	3.0%	2.8%
			Cost-to-income Ratio	45.2%	52.5%
			CET 1 Ratio (%)	11.22%	10.53%
			Gross NPA (%)	7.1%	12.0%

Source: Company Annual Reports and Authors' estimates

More Systemically Important Banks?

Will the consolidation in the banking industry witness emergence of more systematically important banks, which need to be bailed out during financial crisis? Some important lessons learnt during the global financial crisis (GFC) in the last decade is worth mentioning. A 2009 Aite study³ showed that while the largest banks saw a 3.23% decrease in lending in 2008, institutions with less than \$1 billion in assets (small community banks) experienced a 5.53% growth in net loans and leases in the same year. Community banks in the United States are one of the most important financial institutions that support rural communities. Over 2500 community banks, as of 2009, were in business for more than a century⁴ and these entities survived many economic downturn without any support of the government.

In fact, immediately after the GFC, general public in the United States had lost faith on large 'Wall Street' banks. The famous Move Your Money (MYM) movement urged people to withdraw deposits from large banks and put their money with local institutions like community banks and credit unions. Credit unions are not-for-profit cooperatives that serve the financial needs of the local community with focus on shared value rather than profit maximization. The share of commercial bank deposits (as % of total bank and credit union deposits) saw a significant drop in the United States following the GFC of 2007-08⁵.

Therefore, the recent merger would definitely create more systematically important banks (twelve large state-owned banks in place of twenty seven large-, medium-, and small-sized banks) which would not be allowed to fail during major financial crisis. This implicit bailout guarantee may make the managers of these banks 'less careful' in taking credit decisions. Such an attitude may further deteriorate the asset quality of these banks.

³ The effects of the economic crisis on community banks and credit unions in rural communities. Hearing before the Sub-committee on Financial Institutions of the Committee on Banking, Housing, and Urban Affairs, United States Senate. July 8, 2009

⁴ *ibid*

⁵ Chatterjee, Aaron K., Luo, Jiao., and Seamans, Robert C. 2017 *Banks Vs. Credit Unions After the Financial Crisis*. Academy of Management Proceedings. Vol. 2015. No. 1

What could have been done to improve the struggling banking sector? We offer five suggestions: (a) focus on improvement in asset quality with better credit approval, risk management, and lesser interference, like loan waiver/ moratorium; (b) greater use of technology to reduce cost-to-income ratio; (c) merge all loss making state-owned banks with less than Rs. 5 trillion asset into a single entity with one-time recapitalization and the merged entity would not be allowed to expand geographically; (d) rationalize manpower of loss making banks with attractive VRS, and (e) allow profitable state-owned banks to go to market to raise capital, whenever required.

Does Indian Mutual Fund Manager Turnover have an Impact on Fund Performance?

Sudhakara Reddy



Dr. Sudhakara Reddy is currently assistant professor in the Finance and Control group of IIM Calcutta. He was a visiting scholar to Whitman School of Management, Syracuse University during 2011-2012. His current areas of research are Market Microstructure, Corporate finance with an emphasis on corporate governance mechanisms, Initial public Offerings and primary capital markets, etc.

There has been a wide range of research which shows that active portfolio managers cannot produce alpha. But, if we look into the results of these studies closely, they are derived from the fund data and not on the individual fund manager's performance. This means that computing an alpha with a 10 years data based on weekly or monthly returns, say for an active fund such as *HDFC Mid-cap opportunities fund*, makes us to believe most of the times that the excess returns generated by the fund are both economically and statistically not different from zero or in fact negative. Hence, any investment made in a passive investment fund such as *HDFC Index Fund* would have generated a better return than the active fund. From the above discussion, we may conclude without any doubt that the fund manager responsible for active fund did not exhibit superior investment skills. However, over the same 10-year period, the fund would have had different managers managing the fund at different points of time. It would not be appropriate to conclude that not even one fund manager is skilful out of the several managers who managed the fund as this is an average performance of all the fund managers. But, on the face of it, this drives us to believe that no fund manager has the investment skills and is not worth paying for the skill. Alternatively, we can also argue that there are some managers with skill, but they may switch to different funds more frequently due to better pay packages and corporate positions at other fund houses. This results in a situation where the fund house loses the skill of the manager along with the manager.

Recently, there has been an increased attention and focus in the academic literature to understand more holistically the role played by investment managers at fund houses to generate superior returns to their investors. It has been shown that in most of the cases that turnover of a fund manager results in a negative performance on the fund's future performance.⁶ More precisely, it has been shown that the turnover of an existing manager from a fund results in a significantly poor performance on an average over a two year period after the exit of the manager. It

⁶ Khorana (1996) ((Khorana, A. (1996). Top management turnover: An empirical investigation of fund managers. *Journal of Financial Economics*, 40, 403-427) is the first study to look into this aspect with 339 mutual funds that experienced their fund manager turnover.

is also interesting to know that the fund's performance around the turnover date has a major influence on the fund manager's turnover. Also, this is more pronounced in the case of more inexperienced and non-performing fund managers. The existing results related to fund performance and manager turnover give us many more insights. Some of them are mentioned below. The probability that a fund replaces a manager is an increasing function of the manager's poor performance and a decreasing function of manager's association with the fund. Replacement of US mutual fund managers having higher pre-turnover performance results in a significant drop in the fund performance as measured by fund returns from 1.9% one year prior to 0.4% three years after the manager's exit. Similarly, turnover of poor fund manager results in a significant improvement in returns to the extent of 2.9% three years post-turnover.

The major findings of the research on fund manager change and fund performance before and after the change concludes that good fund managers may sometimes be replaced by less skilled managers leading to a drop in the fund returns; on the other hand those fund managers taking the positions of poor skilled managers tend to enhance the fund performance. These results corroborate the arguments that fund manager turnover in mutual funds is one of the factors explaining the lack of long-term persistence in mutual fund performance. Nevertheless, it has been found that fund performance continues for shorter periods of around three years, especially for poor performing mutual funds.

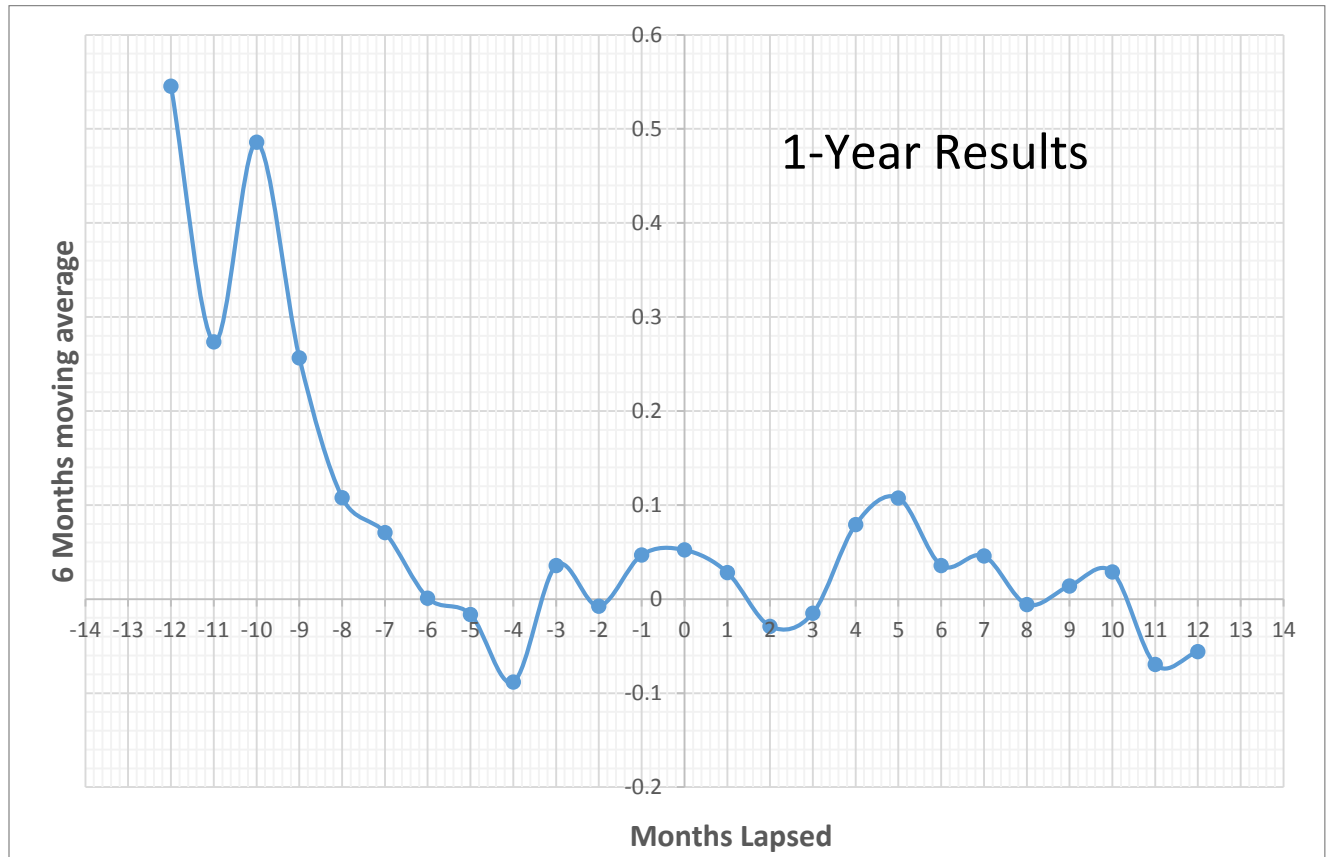
Overall, the evidence from the extant studies on manager turnover in mutual funds emphasises the fact that this has negative effect on post turnover performance, at least over a period of three years. However, most of the research is based on US mutual fund data.⁷In this context, this study examines the relationship between fund manager turnover and equity mutual fund performance for Indian funds for a period of 15 years from 2003-2019. We construct a unique sample of manager turnovers using ACE mutual funds database and match this data with Lipper mutual fund database. There are a total of 1178 mutual funds with 3563 mutual fund managers. There are many funds with multiple managers managing them. For our analysis to be robust, we need single-manager managed funds and hence take a sample of 140 open-ended actively managed equity mutual funds⁸. The total turnover events for the sample period are 446.⁹For our analysis, we consider change in the fund manager as an event. We don't use the popular daily data analysis to examine the event as it is rational to believe that fund performance due to manager change occurs over a long term horizon. We measure the performance over a period of 1-year, 2-year, and 3-year periods before and after the event.

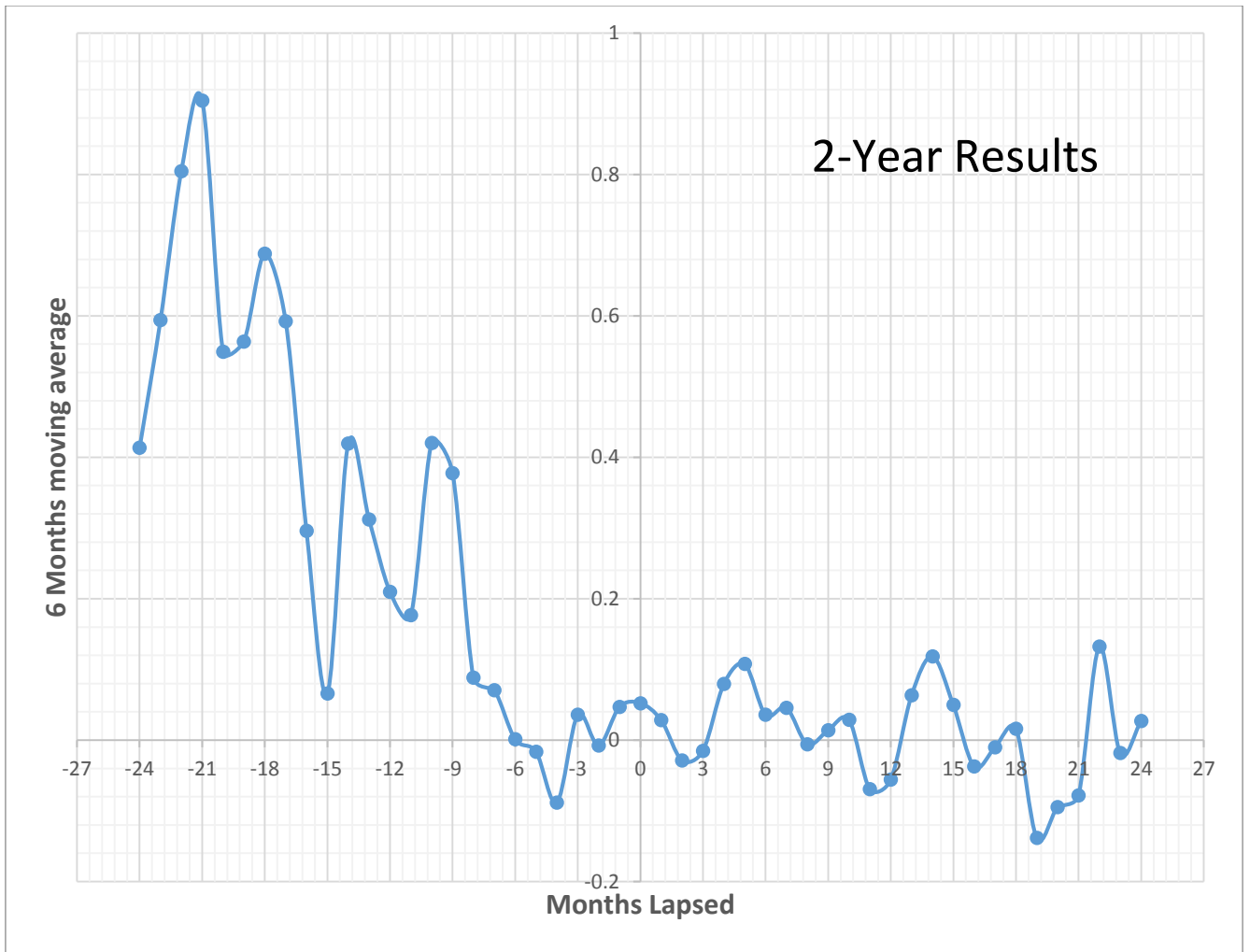
⁷ One exception to this is a prominent paper examining this phenomenon for the UK data (see, Clare et al., (2014). What impact does a change of fund manager have on mutual fund performance? *International Review of Financial Analysis*, 35, 167-177.

⁸ Only the equity funds are managed by a single manager and hence we considered them for our analysis.

⁹ We could use these 446 turnover events for conducting one year pre and post event analysis. The turnover events got reduced to 181 for 2-year pre and post analysis.

The performance of the sample funds pre and post the event date is measured using the standard benchmark adjusted model, where the benchmark is considered appropriately based on the nature of the fund. We find that similar to US mutual fund results, the 1-year pre event benchmark adjusted return of 0.17% exceeds the 1-year post event benchmark adjusted return of -0.02%. Similarly, the 2-year pre and post event benchmark adjusted return shows even stronger returns with the pre and post having a difference of 0.18% compared to 0.15% for the 1-year results. The results are depicted in the charts on the next page for 1-year as well as 2-year analysis. All our results are statistically significant and not presented here in detail.





ALUMNI CORNER

Insolvency and Bankruptcy Code, not a panacea for Non-Performing Assets

Balachandran R

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

While the financial markets saw many reforms in the last two decades, the legal framework for resolution of stressed assets did not keep pace with it.

The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act (SARFAESI), 2002 had a different purpose, providing a legal framework for securitization, establishment and regulation of asset reconstruction companies and enforcement of security held by secured creditors without intervention of the courts. The archaic Board for Industrial and Financial Reconstruction (BIFR) and the Sick Industrial Companies Act (SICA) were inadequate to address the resolution of stressed assets in the system.

The Insolvency and Bankruptcy Code (IBC) rolled out in 2016 is an important measure to address this issue. The code provides a framework for time bound insolvency resolution of corporates and others, putting the creditor in control in case of a default, through the Resolution/Insolvency Professional and the Committee of Creditors. The adjudicator is the National Company Law Tribunal (NCLT) and the appellate authority is the NCLAT. The Corporate Insolvency Resolution Process (CIRP)'s focus is on resolution as a going concern, with the objective of maximising value of the assets and not recovery through liquidation. The law mandates a timeframe of 270 days for arriving at a resolution of the stressed asset, failing which, it goes into liquidation. The short timeframe is a dream come true, in a country where cases wind through the overburdened judicial system for years, if not decades. As originally envisaged, the law was a game changer from a creditor perspective.

What wrecked the ambitious plans of the code drafters was the adjudicating tribunals/judiciary ignoring the timeframe of 270 days mandated by IBC. But from the judiciary's point of view, there is a learning curve, with IBC being a brand new law, with no precedents/case laws. Some of the cases involved thousands of crores, and it would presumably take time to navigate through the complexities of each case. Case overload and inadequate strength at the Tribunals added to the delays.

While a plan for resolving the stressed asset can theoretically be put in place and approved by the creditors within the timeframe envisaged, there have been many legal challenges to the approved plan and/or the code itself. The case of a steel company illustrates all that went wrong with the 270 day timeframe for completing the CIRP.

The first challenge came in the form of the promoters of the defaulting company, wishing to bid for the asset. This posed a “moral dilemma”. If someone in charge has failed to run a company efficiently, perhaps managing to run it into the ground (resulting in default and insolvency proceedings), should the same promoter be given another opportunity to turnaround the company. The bigger issue is that the promoter, responsible for the mess, now gets to walk away with the company, “for a song”, depending on the extent of the haircut taken by the creditors/banks.

To address this glaring lacuna, the law was amended to exclude defaulting promoters (with NPA’s) from bidding for stressed assets. To overcome this, the promoter’s bid was submitted through an apparently unconnected party, though it did not withstand scrutiny. The other bidder, unconnected to the company being resolved, was shown to be a defaulter in yet another company. This bidder then paid up the overdues, so as to be eligible for bidding. Now, the Committee of Creditors accepted its bid, involving a “reasonable” haircut, with the prospect of realizing an amount higher than what banks were hoping to get as part of the Insolvency process.

The matter did not end there. The original promoter submitted yet another proposal, which involved a full pay out for creditors and withdrawal of insolvency proceedings. Banks were astounded. If the promoter did indeed have the resources to pay off creditors, why wait all this while, dragging the company through insolvency, almost losing it to a competing tycoon, and then present a last minute bid to save its “crown jewel”. Where was its financial wherewithal to follow through on its bid, were some of the questions that arose. This last-minute bid, ultimately did not see the light of the day, after further litigation.

But then it was too early to rejoice for the banks which were hoping to reverse the provisions made for the non performing assets. The winning resolution plan cut a much larger share of the pie for financial creditors and a smaller share for “operational creditors”. The latter cried foul, and went to the Appellate Tribunal (NCLAT). In an apparent act of judicial overreach, the Tribunal dictated an equal share for both types of creditors, completely ignoring the decision of the Committee of Creditors. It did sound fair though, should not everyone get the same payout? But traditionally financial creditors (suppliers of finance) are secured, while operational creditors (suppliers of goods and services) are not. Having agreed to supply on an unsecured basis during a state of a company’s solvency, can operational creditors seek an equal standing with secured financial creditors, when the company is taken to the insolvency court?

The government stepped in to address this anomaly, by amending the IBC to give primacy to the Committee of Creditor’s decision, which comprises of Financial Creditors. Of course, the operational creditors have not taken this well, and challenged this again in the Courts. One does not know when this latest issue will be resolved, or

what next will pop up. With the legal battles continuing ad infinitum, the yet unresolved case has dragged on for more than two years, much beyond the original 270 day timeframe envisaged in the Code, with the judiciary ignoring the time bound aspect of the process.

Track record thus far

A leading light of the Insolvency infrastructure has been its regulator, the Insolvency and Bankruptcy Board of India (IBBI). It plays several crucial roles, including registration and regulation of Insolvency Professionals, and rolling out rules and regulations elaborating on the code itself.

IBBI provides some useful data on the progress of the insolvency cases. Of the 12 large accounts originally directed by RBI for resolution under IBC, six have been approved, though one is still under litigation. The realization for financial creditors has ranged between 17% and 63%. Of the 2162 cases admitted till June 2019, 445 have exceeded 270 days. Resolution plan has been approved only in 120 cases, with another 475 under liquidation. Notwithstanding this, the IBBI needs to be commended for its stellar role in evangelizing the resolution process, providing much needed data on the progress of resolutions and bringing professionalism to the whole process.

The progress of the remaining six cases from the original dozen referred by RBI and other high profile bankruptcy cases from telecom and airlines, will be keenly watched, to gauge the efficacy of IBC. But ultimately the judiciary will have a much bigger impact, on the success or otherwise of IBC and its envisaged attractive timelines.

The larger issue: why NPA's in the first place?

No bank in the world is immune from NPA's whether it is the renowned JP Morgan Chase Bank or the struggling IDBI Bank in India with gross NPA's of 29%. When banks lend, they are aware that a part of the money will not come back, on account of genuine distress, whether it's a job loss/medical bankruptcy of an individual borrower or business failure of a commercial borrower. Therefore, they make loan loss provisions on standard performing assets, currently 0.4% in India, however modest it maybe.

Sadly, a significant factor for NPA's in India is the malfeasance of promoters/owners diverting bank finance into their personal coffers through over invoicing and related party transactions, making the project/company unviable. Not a week passes, without media headlines of a major egregious case of errant promoters treating company funds as their personal entitlement.

When the promoter has no stake left in the company, ruining it in the process, banks running to the Insolvency courts will get back only a paltry amount of their original loan. The bankrupt company becomes an asset light

shell of its former self, after having been stripped of its liquid and income earning assets. There is no point in blaming the law (IBC) or the insolvency process for poor recovery, when errant promoters who caused the NPA's in the first place, have got away with the bank's money, and in many cases, fled to safe havens abroad. The CBI, SFIO and Enforcement Directorate step in after the crime has been committed and can only do a post mortem and try and recover whatever is left. Nor can we expect banks to micro manage whether the person in charge, the promoter, is using the bank's funds for personal enrichment or actually running the business.

While the current cycle of malfeasance may abate with all the investigations and with banks turning cautious, once the cycle gets back to normalcy, we may yet see a new breed of promoters finding ever devious ways to ruin banks and minority shareholders. All the stakeholders, the independent board members, credit rating agencies, auditors, bank risk managers, activist shareholders, proxy advisory firms and the media have to be ever vigilant to break the endless cycle of malfeasance, and bring normalcy back to bank balance sheets, as well as to protect the interests of the minority shareholders.

Prognosis

The recent amendment to the IBC extends the Corporate Insolvency Resolution Process timeframe to 330 days, including the time taken for legal proceedings. It remains to be seen if the adjudicating authorities and the higher courts take cognizance of this timeframe or ignore it as before. Be that as it may, the Insolvency and Bankruptcy Code is a step in the right direction for resolving stressed assets on account of genuine business failures, but possibly not meant to address wilful defaults/corporate malfeasance, and certainly not a panacea for Indian banking's burgeoning NPA's.

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VOICE OF AMERICA**Portfolios beyond Finance****Ayan Bhattacharya**

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Many researchers in finance, especially as they advance in the profession, start to wonder as to what contribution the field really makes to the broader human endeavor of knowledge. Physicists uncover the truths of the quantum and the cosmos, biologists unlock the secrets of life, computer scientists discover the secrets of artificial intelligence – but what does the finance researcher contribute, if at all? Can one really ever compare talk about ad hoc heuristics like PE or EPS or YTM with discussions about atoms and genes? Among finance academics, this is jokingly described as the mid-life crisis. Yet, many researchers take this question very seriously, and a number of efforts have been made, in recent years, to distill the essence of a “finance way of thinking.” In other words, a list of techniques that are unique to finance, which other fields can borrow from us. Presently, the technique that seems to be on top of such lists is the portfolio and factor approach in finance. In fact, academics like MIT’s Andrew Lo have started advocating such approaches to distant fields like healthcare and biomedical research.

1. Portfolios everywhere

The origins of the portfolio approach in finance go all the way back to the early 1950s when a young PhD student at Chicago by the name Harry Markowitz decided to take a fresh look at the problem of investing in the markets. Till then, the dominant archetype of investment was old-school understanding of a company’s fundamentals: find as many good, solid companies as you can, and then hold all the stocks to earn rich profits. The bible was Graham and Dodd’s ‘Security Analysis’, and most market players were strict believers. When Markowitz presented his new theory, it felt so novel at first that academics simply rejected it. The famous economist Milton Friedman dismissed the work as not real economics, and Markowitz had to spend many years on the sidelines of the profession. Yet, as the years passed, researchers began to recognize the importance of the idea, and nowadays, any basic course in asset pricing begins with the idea of a Markowitz portfolio.

A portfolio is just a collection; what a mathematician would call a non-null set. In Markowitz's case, this collection was of asset prices. Asset prices are variable in nature, so mathematically, this was a collection of random variables. Markowitz represented each random variable by two properties, its mean and standard deviation, and thus created the classical setup of academic asset pricing. How must an investor construct his portfolio so that it was efficient, Markowitz asked; that is, how should one maximize return (mean) while minimizing risk (standard deviation)? Markowitz's key insight was that what mattered was not only individual asset price means and standard deviations, but also collective co-movement among asset prices represented by covariance among the random variables. A well-constructed portfolio minimized the overall risk by looking not just at individual assets, but by choosing assets in unison, such that they did not co-move much with each other. This technique came to be known as diversification.

Later researchers like William Sharpe, Jack Treynor and Stephen Ross refined these ideas further and laid the basis of what are now called factor models, the most famous of which is the Capital Asset Pricing Model, or CAPM. The insight roughly was that even after diversifying away risks by Markowitz's procedure, in any portfolio, there should be some residual risk. These were the risks that affected the entire universe from which the assets were selected – for example, the macroeconomic underlying of a country if one were confined to a particular country's assets. Such risks earned a premium. Further refinement led to the identification of these factors with recognizable asset characteristics – for instance, the size differential of the firms in the available universe, or inherent patterns of trading in the available universe like momentum.

It is not hard to see that the abstract ideas in the portfolio and factor approach are fairly general. Instead of asset prices, the random variables could be the bio-markers produced by a drug in various parts of the body. Or it could be ecosystem signatures of various methods to combat climate change. Or, to take a topical example in the afterglow of Chandrayaan-2, it could be various high impact advanced scientific projects available to a nation. In all these cases, in the end, the decision is about choosing the most efficient portfolio – just like in financial asset pricing. Thus, to a number of researchers in finance, the techniques that we have developed to understand and simplify the portfolio problem constitutes a fundamental contribution. And increasingly, academics in finance are venturing out beyond the narrow confines of financial markets to apply these techniques.

2. The dangers

As much as we'd like to believe in the efficacy of our portfolio and factor solutions, we also have to contend with the competing opinions, put forward by finance academics themselves that point out the shaky foundations of this theory. Among the most well-known is the critique by Richard Roll in the 1970s, which broadly says that the factor models are empirically untestable because it is impossible to observe the universe of all random variables. Many new variations of the critique have been advanced in recent years; for instance, the factor zoo

critique, which says that no matter how many factors we add to a model, we can never convincingly accept or reject the model. In fact, finance academics have gradually moved away from conventional factor-based foundations for portfolio analysis to what is called a stochastic discount variable analysis. To maintain continuity, these stochastic discount variables are called stochastic discount factors or SDFs, and the SDFs may be converted to conventional factors; however, the basic approach of SDFs is different from the earlier foundations. All that is taken as given is future payoffs from an asset and current market price of asset, and from these one derives the random variables that balance payoff with price. It is these balancing random variables that then become the atoms of new portfolio theory.

Another litany of dangers in the portfolio and factors for real world approach comes from the absence of learning, in any form, in these techniques. The portfolio problem is essentially a problem of optimization. The asset characteristics are given, the constraints are given, the objective is given; and given all these givens, the approach gives a way to come up with a solution. Even with financial assets, this has been a source of controversy right from the beginning. How does one learn the return and risk characteristics of assets? Past data is the usual answer in finance, but we're never sure about how far in the past constitutes the right solution. Going too far back implies including regimes which may not be relevant for the portfolio optimization, while using only recent data might mean that one is excluding relevant regimes. In finance there is at least past data; in many real-world setups where a portfolio approach is useful, one does not have the luxury of any data at all. Before a mission like Chandrayaan is approved into a portfolio of scientific projects, how would one learn about the risks or returns of the project? When a cancer drug is the first of its kind, how should a pharma company learn its characteristics when deciding if it is a good addition to its portfolio?

3. A Field in Flux

Compared to areas like physics or biology, finance is a recent entrant to the 'serious academic discipline' club. Computers might be recent, but computer science, too, is quite ancient, if one traces the field's origins in logic. As with any impatient child waiting to grow up, finance is trying its best to punch above its weight. After all, few other fields can boast of billions and trillions of dollars as part of their argot. But finance is a field still coming to maturity, still very much in flux.

As we move towards advocating the portfolio approach outside of finance, questions like the ones raised above, have taken on a new tone of urgency. Surprisingly, the answers to such questions are often coming from researchers outside finance. For instance, in recent years, machine learning theorists have developed many new ways to analyze large portfolios. Similarly, operations theorists have developed new tools that go under names like bandit theory to address the question of learning in portfolios. As finance pushes beyond its traditional

boundaries, it is often gaining more than contributing in the new exchange of ideas. To many connoisseurs of finance, this is the greatest positive in this climate of advocacy.
