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Editorial

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Dr. Golaka C. Nath

The Advisory Board of the Finance Lab held its first meeting on 15 November 2012 followed by a two-day workshop on Financial Research. The Advisory Board is a truly independent board comprising of noted academicians from top business schools- e.g., MIT Sloan, Stern School of Business, New York University, London Business School, Columbia University, and the Anderson School, UCLA. The Advisory Board is scheduled to meet once in two years to review the activities and performance of the Finance Lab. The Board will shortly submit a report to the Director, IIM Calcutta. The Board has reviewed the performance of the Finance Lab for the last two years. The Board has highlighted the need for increasing the research output of the finance and accounting faculty of IIM Calcutta. The Board members have promised all possible help in this regard. The Board will meet again in 2014. The two-day workshop has seen presentation of four research papers. The paper presenters had come from the USA and Australia. The workshop had attracted about 40 participants (other than paper presenters and discussants) who have come from all over India. Therefore, the November 2012 events at the Finance Lab have sufficiently energized the researchers in IIM Calcutta in particular and in India in general.

The first piece in this issue examines the debate of FII flow in equity market and stock market volatility. The article fails to find any evidence of the assertion that FII participation fuels market volatility. The second article further examines the impact of global financial crisis in Indian banking industry. The author argues for a stronger financial-fiscal nexus. The third piece looks at the role of credit rating agency and the Indian debt market. While emphasizing the role of rating agencies in improving the liquidity of the debt market, the author asserts that there is a need to improve corporate governance in the rating agencies.

I hope you'll enjoy reading the newsletter. Please offer suggestions for further improvement to ashok@iimcal.ac.in

Editor

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FII Flows and Indian Stock Market

Prof. Ashok Banerjee



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The debate on whether trading by foreign institutional investor (FII) increases the risk of a stock market is still continuing. FIIs in India typically include asset management companies, pension funds, mutual funds, investment trusts, and incorporated institutional portfolio managers. There are restrictions on FII holdings in individual companies. Foreign portfolio flows are important in infusing liquidity in the market and such liquidity is particularly needed at this time when the government has lined up sale of shares of several state-owned companies. Some experts are of the opinion that foreign funds leave the shore when the market becomes too volatile. Some others opine that foreign fund flows in the stock market increase risks. A few experts, on the other hand, observed that FII participation reduces stock market volatility. So, there is room for debate on the virtue of FII flows in the capital market. Indian regulators and policy makers closely watch the activities of the FIIs on a regular basis. For example, the RBI monitors FII investment ceilings on a daily basis. FIIs enjoy some advantage over retail investors in that the former is not required to bring trade margins upfront. However, any call for regulation/control over the FIIs flows has to be handled cautiously. This article attempts to empirically examine whether FIIs participation increases market risks. FII flows have traditionally been referred to as ‘hot money’ and hence are assumed to be more volatile than any other form of capital flows. Such flows experience withdrawal syndrome at the first sign of weakness in economic fundamentals of the recipient country. An IMF working paper¹ shows that a combination of global, regional and domestic macroeconomic factors are important in determining FII flows to India. The most important factors identified in that paper are LIBOR (global factor), return on emerging market stocks (regional factor) and return on domestic market stocks, rating downgrade (domestic factors).

FII investments are largely driven by market sentiment. India opened its stock market to foreign investors in September 1992 and FII investments in the equity markets have become one of the main channels of international portfolio investment in India. FIIs have been a net buyer in India consecutively in the last four years- cumulatively to the tune of about \$4 billion. In fact, FII net flows over the last decade has been positive- Indian equity market witnessed negative flows (FII sales exceeding FII purchases) in 2002 and 2008. FII fund flows in the emerging markets depend on liquidity scenario in international markets. A sustained positive net FII flows helps India in

¹ James Gordon and Poonam Gupta, *Portfolio Flows into India: Do domestic Fundamentals Matter?*, IMF Working Paper, WP 03/20, 2003

two ways: (i) by way of improving the confidence of overseas institutional investors and (ii) by way of increasing foreign exchange reserve.

FII Flows and Stock Market Return

The study uses data of monthly FII equity flows since January 1999 till October 2012. The correlation between net FII flows in the equity market and NIFTY returns is about 0.22 over the entire sample period. If one calculates such correlation on annual basis, it goes up to 0.42. However, if one looks at the movement of correlation over different sub-sample periods, one finds an interesting trend (Table 1). The table shows that FII flows and domestic stock market returns are related. However, it is quite debatable whether FII flows influence stock market returns or the other way.

Table 1: Correlation between FII Net purchase and NIFTY returns

Period	Correlation
1999-2003	0.14
2004-2008	0.22
2009-2012	0.36

FII Flows and Stock Market Volatility

Stock market volatility is defined as square of monthly returns. The correlation between volatility of stock market (using NIFTY) and FII net flows is negative (-0.02) for the entire sample period using monthly data. The low coefficient of correlation also indicates that FII net flows have no impact on the stock market volatility. However, the relationship is quite episodic (Table 2). The table shows that the correlation between equity market volatility and FII net flows has turned negative in the last seven years. This may imply that higher FII flows would reduce market volatility. This is quite contrary to the relationship in the first seven years (1999-2005) of our sample. One may also argue that such a small change in market volatility does not explain the changing relationship between FII flows and market volatility. Hence, a further and deeper probe is necessary to establish any relationship between these two variables. We have also looked at whether FIIs are liquidating their investments when market volatility is high. We have found that the correlation between market volatility and FII flows do not change much when we consider FII purchases and sales separately.

Table 2: Correlation between stock market volatility and FII Net Flows

Period	Average Risk	Correlation
1999-2005	6.73%	0.17
2006-2012	6.87%	-0.55

In order to examine whether stock market volatility is dependent on FII participation in the equity market, an OLS regression is run using NIFTY volatility as a dependent variable and past volatility and FII participation rate (measured by natural log of FII aggregate participation in time period t over similar participation in time period $t-1$). Results are shown in Table 3. The

regression is run using annual data over a period of 13 years. Results show that FII participation rate has no influence on the market volatility.

Table 3: OLS regression results

<i>Regression Statistics</i>				
Multiple R	0.231954569			
R Square	0.053802922			
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	0.064813442	0.024089668	2.690508	0.02268
Lag NIFTY risk	0.075313421	0.326936833	0.230361	0.822456
FII participation rate	-0.008269458	0.0127666	-0.64774	0.531741

FII Flows and DII (Domestic Institutional Investor) Flows

An interesting observation is it appears that DIIs trade against FIIs. When FIIs are net sellers, DIIs are net buyers (Table 4). Table 4 shows monthly net flows of FIIs and DIIs in Indian equity markets. The correlation between these two net flows for 2011 was -0.67. Similar trend is found in other years. For example, in 2010, such correlation was -0.82. In 2010, FII was net buyer and DII net seller. The volatility (standard deviation of monthly returns) in NIFTY was higher in 2011 (6.2%) as compared to 2010(4.7%). The FIIs were net buyers in 2010 and 2011- though the overall net investment in 2011 was insignificant (₹ 224 crore). The DIIs were net sellers in 2010 and net buyer in 2011. Thus, one can say that FII sentiment has been generally positive on Indian market, while the DIIs had a negative outlook in 2010. Also, the total investment by FIIs and DIIs in 2010 was much higher than in 2011. Hence, it cannot be said that stock market volatility is caused by institutional investments.

Table 4: FII net flows and DII net flows (in ₹ Crore)

Period	FII Net Flows	DII Net Flows	Period	FII Net Flows	DII Net Flows
Jan-10	-760.6	-1311.3	Jan-11	-5009.4	590.8
Feb-10	-1714.6	-697.2	Feb-11	-6093.2	1649.8
Mar-10	16370.3	-4082.3	Mar-11	6651.5	-253.3
Apr-10	6932.3	-1410.4	Apr-11	7619.3	-463.7
May-10	-10550.4	98.6	May-11	-2233.6	434.7
Jun-10	9184.3	-1093.1	Jun-11	5007.5	823.4
Jul-10	10047.9	-4405.3	Jul-11	7652.9	652.7
Aug-10	9755.2	-3169.6	Aug-11	-10905.5	2523.9
Sep-10	23270.8	-7236.3	Sep-11	-391	-771.1
Oct-10	20733.9	-5800.8	Oct-11	1566.4	-361.7
Nov-10	9793	-100	Nov-11	-4151	809.8
Dec-10	1293.7	1376.9	Dec-11	510.2	580.1

Indian equity markets are resilient enough to absorb large equity inflows. The above empirical tests, although statistically not so rigorous, point to the fact that domestic market returns is one of the factors that influence FII flows. However, there is no conclusive evidence that FII participation in Indian stock market has caused severe market volatility. This may sound reassuring to the regulator.

Impact of the Global Financial Crisis on Indian Banking: Some More views

Prof. 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.

In September 2012 edition of *aṛṭha*, this column has looked into some of the recent research as to what has saved Indian banking during the hey-day of the financial crisis. Based on the evidence put forward by the IMF's *Global Financial Stability Report (GFSR, Oct 2012)*, it gave pointers to the claim that limited globalization of Indian banking could have been a real boon. But this is not the only view. In the spirit of the proverbial seven blind men and an elephant, the current column focuses on some other views on this issue.

In absence of a well-designed structural story, towards deciphering the impact of the global financial crisis on the Indian banking system one can undertake a before-after analysis. In this spirit, the broad features of the Indian banking (as revealed from the consolidated balance sheet of the Indian banking sector) are presented in Tables 1, which reports the year-on-year expansion / contraction of the broad heads of assets and liabilities. It is interesting to note that excepting the lower growth of bank capital and a contraction of cash and balances with the RBI, most of the items of assets / liabilities did not exhibit any abnormality in 2008-09.

Table 1: Growth of Consolidated Commercial Banks Balance Sheet (%)

Year (End-March)	Liabilities					
	Capital	Reserves and Surplus	Deposits	Borrowings	Other Liabilities and Provisions	Total
2010-11	21.8	18.1	18.2	28.4	20.6	19.2
2009-10	12.4	17.5	17.0	10.8	-4.8	15.0
2008-09	8.3	17.8	22.4	56.5	-13.9	21.1
2007-08	35.2	45.3	23.1	24.5	29.0	25.0
2006-07	17.3	20.0	24.6	19.6	28.1	24.2
Year (End-March)	Assets					
	Cash and Balances with RBI	Balances with Banks and Money at Call and Short Notice	Investments	Loans and Advances	Other Assets (incl Fixed Assets)	Total
2010-11	25.4	4.2	11.5	22.9	22.8	19.2
2009-10	23.1	-6.6	18.6	16.6	-12.1	15.0
2008-09	-8.0	80.1	23.1	21.1	23.2	21.1
2007-08	65.4	-31.1	23.8	25.0	37.7	25.0
2006-07	35.2	35.9	9.7	30.6	23.0	24.2

Source: Handbook of Statistics on the Indian Economy, RBI, 2012.

Even in terms of the composition of the balance sheet (as revealed by these major heads as a percentage of aggregate assets / liabilities), the numbers for 2008-09 seem to be in sync with the trend (Table 2). Indian banking maintained its deposit-based character and there were no blips in loans and advances and investments.

Table 2: Composition Assets / Liabilities of Indian Banking
(As % of aggregate assets and liabilities)

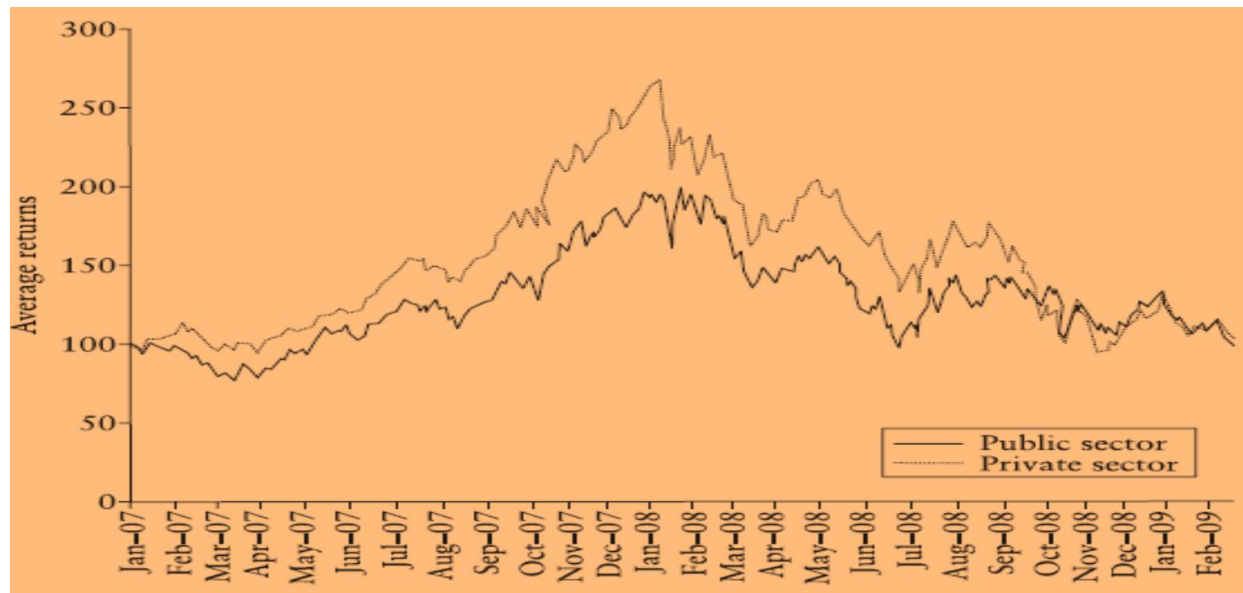
Year (End-March)	Liabilities					
	Capital	Reserves and Surplus	Deposits	Borrowings	Other Liabilities and Provisions	Total Liabilities
2010-11	0.8	6.3	78.2	9.4	5.3	100.0
2009-10	0.8	6.3	78.9	8.7	5.3	100.0
2008-09	0.8	6.2	77.6	9.0	6.4	100.0
2007-08	0.9	6.4	76.7	7.0	9.0	100.0
2006-07	0.9	5.5	77.9	7.0	8.7	100.0
Year (End-March)	Assets					
	Cash and Balances with RBI	Balances with Banks and Money at Call and Short Notice	Investments	Loans and Advances	Other Assets (incl Fixed Assets)	Total Assets
2010-11	6.4	2.7	26.7	59.8	4.4	100.0
2009-10	6.1	3.0	28.5	58.0	4.3	100.0
2008-09	5.7	3.8	27.7	57.3	5.6	100.0
2007-08	7.5	2.5	27.2	57.3	5.5	100.0
2006-07	5.6	4.6	27.5	57.3	5.0	100.0

Source: Handbook of Statistics on the Indian Economy, RBI, 2012.

This is, of course, the aggregative story. Underlying these grand trends, the story at a disaggregate level is quite different. This is precisely what has been done by Viral Acharya of the New York University, Stern School of Business.² Acharya (2012) reports three important stylized facts.

First, if one measures the dynamics of the private sector banks vis-à-vis the public sector banks by the stock price differential, then there is evidence of a substantial gains by the private banks till about January 2008. All such gains were almost entirely wiped out by February of 2009 (Chart 1).

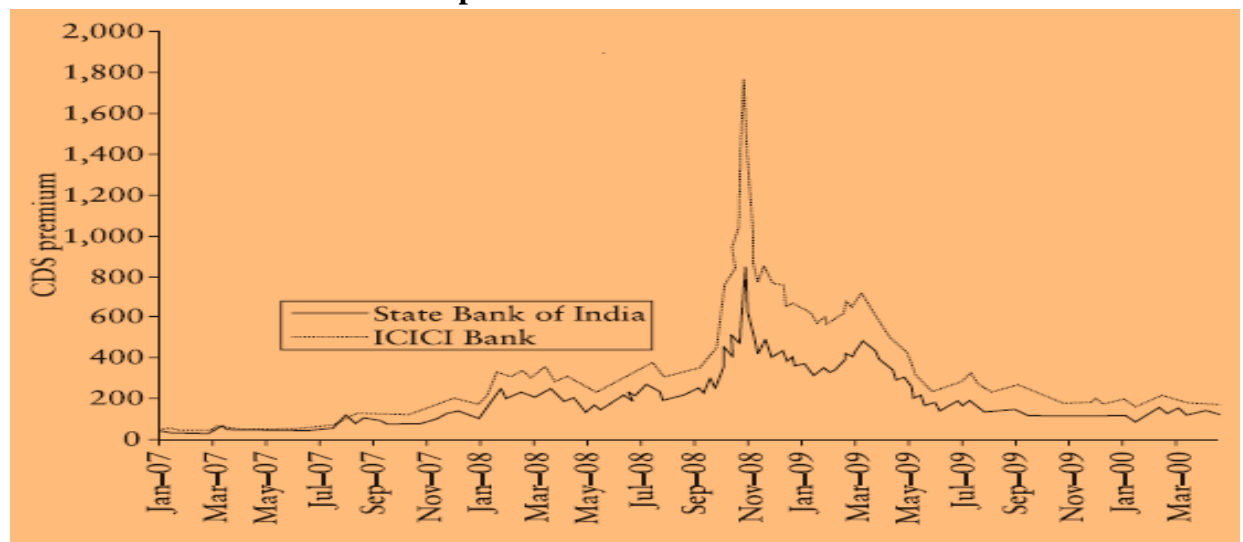
² Acharya, Viral (2012): "What Saved the Indian Banking System: State Ownership or State Guarantees?", *World Economy*, Vol 5, No. 1, pp 19-31.

Chart 1: Performance of the Private and Public Sector Banks in the Stock Market

Note: The figure shows the equally weighted average returns for public and private sector financial firms for the period from January 2007 to February 2009. The indexed value weighted returns for the private (public) sector represents the returns weighted by the market capitalization of the private (public) sector firms used in the analysis. Both series use a base value of 100 as of 2 January 2007.

Source: Acharya (2012); p. 213.

Second, the difference in market reaction between the public and private sector banks can also be gauged from the widening of credit default swap (CDS) spreads for two illustrative firms, namely, State Bank of India (SBI) and ICICI Bank during the crisis of 2008 (Chart 2).

Chart 2: Five Year CDS Spreads for the ICICI and the SBI

Source: Acharya (2012); p. 214.

Third, deposit and credit growth of the private sector and foreign banks suffered vis-à-vis those of the public sector banks.

Acharya sees such a relative underperformance of private sector banks during the crisis in terms of an implicit and explicit sovereign backing of public sector banks. He, thus, concludes, “At any rate, examining the performance of state-owned banks in a systemic crisis relative to private sector banks, that have access to a weaker set of government guarantees, is not a sound basis of assessing the overall attractiveness of state presence in the financial sector” (p. 223). This conclusion needs to be taken seriously in future banking policy discourse in India.

Much before the global financial crisis, David Moss of the Harvard Business School, wrote a book, titled, *When All Else Fails: Government as the Ultimate Risk Manager* in 2002. A basic argument put forward in the book was that extraordinary expansion of the government in the United States can be traced in government’s ability to relocate risks. This makes the financial-fiscal nexus to be increasingly strong. Going forward, such financial-fiscal linkages could dictate the shape of things to come in macroeconomic and financial sector policy regimes.

Credit Rating and Debt Market*

Dr. Golaka C. Nath



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Importance of Rating Agencies:

The role of the Credit Rating Agencies (CRA) is very important in any financial system. These agencies are an integral part of the financial market system and both issuers and investors pose their faith in the rating agency to provide guidance with respect to the relative riskiness of a financial instrument. The cost of the instrument increases with fall in credit rating. The IOSCO Report on the Activities of Credit Rating Agencies notes that CRAs assess the credit risk borrowers and issuers by analyzing relevant information available regarding the issuer or borrower, its market, and its economic circumstances. The information processed by the CRA is generally available to the public but may be costly and time-consuming to collect and analyze with limited skill set. At times, it may be required for some CRAs to obtain non-public information from borrowers and issuers as part of the rating process and use the said information while deciding on the final rating of the instrument or the borrower or the issuer. This rating information represents an opinion of the CRA with regard to the borrower or issuer in meeting its contractual, financial obligations in time and is not necessarily a recommendation to buy or sell a security. However, in reality most of the investors are guided by the Rating of the CRA while investing in the instrument or the company. Life without CRA in a financial system is unthinkable. CRAs worked for decades on designing simple and readily understandable system that would allow any investor to invest in international securities with which they were not directly familiar. The system worked very well for single name corporate and government bonds and helped investors to diversify their portfolios. The deficiency of rating as an important tool in investment decision came to light in the recent global financial crisis with respect to the rating information provided by CRAs on structured credit products. The structured credit product market rapidly developed during last one decade or so thanks to the quality assurance provided by CRAs to unsophisticated investors about inherently complex financial products. CRAs have operated as trusted gatekeepers for the investing community. However, the ratings for structured credit products turned out to be much less robust predictors of future developments than were the ratings for traditional single name securities. Financial Stability Forum 2008 concluded that the CRAs' substantial underestimation of the risk inherent in structured finance products was partly due to methodological shortcomings. The factors that led to underestimation of inherent risk are the inadequate historical data, overreliance on mathematical and statistical methodologies based on inadequate data, insufficient consideration of market and macroeconomic developments as factors influencing ratings, failure to take account of

** Personal views of the author only and not the views of his organization*

interdependencies, disregard of conflicts of interests (many rating agencies have subsidiary companies offering value added consulting services to companies), inadequate disclosure practices with regard to models and model assumptions and the fact that CRAs had not taken sufficient account of deteriorating lending standards.

Requirement of rating:

Issuers use a variety of methods to raise capital - short-term commercial paper and standard bank loans to publicly traded securities like debt and equity. The issuers raising funds through publicly traded instruments like debt seek rating from a CRA to make it more marketable. Investors also may operate under guidelines or legal requirements that prohibit the investor from holding a debt security that is not rated at or above a certain level by one or more CRAs. An issuer that chooses to have its debt securities rated will contract with a CRA for the issuance and maintenance of a credit rating typically during the life of the instrument. The relationship between issuer and the rating agencies is founded on the trust of sharing relevant information to extract the exact financial position so that the rating can direct an investor about the possible risk in the instrument.

Rating Issues in India:

India has four well established rating agencies – CRISIL (S&P has a stake of 53%), ICRA (Moody's has a stake of 28.51%), CARE (IDBI owned), India Ratings (earlier FITCH). The recent entrant to the industry is Brickwork Ratings. Typically some of these agencies are used as second raters when an issuer is required to have more than one rating from agencies. In recent times, Indian rating agencies fight the trust deficit as questions have been raised about their quality and reliability. The recent episode pertaining to Deccan Chronicles Holdings Ltd. (DCHL) has raised the reliability and accuracy of the rating assigned by the Rating agency. Instruments issued by DCHL were awarded AA (for long and medium term) and A1+ (for short term) by CARE and was only altered after the default. Combined banking exposure to DCHL amounts to `5000crores which are potentially bad loans and the banks are negotiating for restructuring. The highest rating given by the Rating agency helped the company to raise resources from the system easily at reasonable rate. Since the Indian market does not have a sound Credit Default Swap (CDS) on debt instruments, there is no mechanism to obtain protection from default. The situation brought out two important issues – the quality of balance sheet to be relied upon (poor quality of audited numbers) and the information used by rating agency to rate the debt. The issue with Rating is not new to Indian market. The major rating debacle was out in the open in 1996 when CRB group of companies went bust. CARE, a leading agency, gave 'AAA' rating at a time when the company was going down. CRB floated 133 companies to pull in funds and suck them out. CRB's meteoric rise in the early 90s coincided with the boom in the Non-Banking Finance Company (NBFC) sector. His fall in 1996 was equally fast with about `900crores lost by the Indian banking system.

Indian banks have restructured loans worth of `1.68trillion under Corporate Debt Restructuring (CDR) mechanism on cumulative basis. Bad loans of Indian banks rose 51.6% in 12 months ended June 2012 to `1.5trillion. Though credit rating is not mandatory under Basel III norms, banks prefer to have the loans rated because as it will save them capital as non-rated exposure would mean 100% capital requirement. Hence companies have a tendency to go for "rating shopping" and disclose the rating which is favorable to them. Under the existing rules, a rating agency can not disclose the rating given to a company unless the same is accepted by the company seeking rating.

More Clarity on the Roles of rating Agencies:

No debt market can develop without the assistance and active role of Credit rating Agencies. In India, CRAs are registered and regulated by Securities & Exchange Board of India (SEBI). However, it is necessary to improve corporate governance in CRAs. Function responsible for assigning initial credit rating and function responsible for subsequent monitoring should be mandatorily separate. In order to have better transparency, it is necessary to have all credit ratings once obtained must be compulsorily published by the enterprise who is the issuer and have purchased the service.
