DOWNFALL OF LEHMAN BROTHERS: IMPACT ON THE US AND INDIA

Anjala Kalsie[1]

Financial mess has been happening in the past and will surely continue in the future too, the very magnitude of Lehman's bankruptcy was unprecedented in the history of financial markets across the world. The functioning of global economy leaves no doubt that the process of financial development and globalization is susceptible to crisis. All problems in finance and financial regulation need to be addressed at a national as well as global level to ensure that the benefits of financial developments are available to everyone and can be sustained in the long term. Hence, effective and stringent regulation of the financial system is required to ensure sustained financial development with stability. Possible lessons from the crisis for India are that it should further strengthen regulation at the systemic and institutional levels and make supervision more effective. In addition, there is also a need to improve risk management skills. Finally, it is essential that India actively pursues the challenge of financial inclusion.

Keywords: *Financial Crisis, Financial Market, Regulation and Bankruptcy*

JEL classification:G10, G15, G28, G33

1. Introduction

"The policy makers left the financial industry free to innovate - and what it did was to innovate itself, and the rest of us, into a big, nasty mess."[2] The saying of the famous economist Paul Krugman could not have been more apt for the global financial crisis which hit the world in 2008. Fifth September 2008 was an important day, though for the wrong reasons, in the history of financial market, when the fourth largest investment bank Lehman Brothers in US filed for bankruptcy. It came close on the heels of the acquisition of Merrill Lynch by the Bank of America with the other giant AIG also tethering towards bankruptcy (Nocera, 2009)

Although financial mess have been happening in the past and will surely continue in the future too, the very magnitude of Lehman's bankruptcy was unprecedented in the history of financial markets across the world, because the assets of Lehman Brothers were much

---

[1]Assistant Professor, Faculty of Management Studies, University of Delhi, Delhi 110007.

[2]Paul Krugman, "Innovating Our Way to Financial Crisis", New York Times, December 3, 2007

more than those of previous bankrupt organizations of repute such as WorldCom and Enron. Lehman was the fourth largest US investment bank at the time of its collapse, employing about 25,000 persons across the world. Lehman's collapse went on to greatly intensify the 2008 crisis and was easily the main cause of losses erosion amounting to almost $10 trillion in market capitalization from global equity markets in October 2008. Never before in the history of stock markets has such a big monthly decline occurred.

Lehman Brothers, a global financial services firm, was founded in 1850. They were a front ranking firm in the field of investment banking and management, equity sales, research and trading, investment, private equity, and private banking. It was one of the main dealers in the US Treasury securities market. It had its headquarters in New York City, regional headquarters in London and Tokyo, and other offices throughout the world.

Starting in 1844, it was established over six years by three brothers, Henry Lehman, Emanuel Lehman, and Mayer Lehman. In 1850, they set up the merchant bank in New York after having been financially successful in railway bonds (Geisst, 1977).

The steady progress and growth in prosperity of the Lehman Brothers, simultaneously with the US economy growing into an international powerhouse (Sloane,1977; Wechsberg, 1966) also saw the company overcoming a whole lot of challenges over the years, like the railroad bankruptcies of the 1800s, the Great Depression of the 1930s, World War I and II, a capital shortage due to being spun off by American Express in 1994, and the huge Russian debt default of 1998. The company was able to weather all these crises and was able to successfully survive all of them. However, the collapse of the US housing market was one crisis which they could not overcome the way they had done in the past and it finally brought about the downfall of Lehman Brothers, and their decision of moving into the subprime mortgage market proved to be disastrous.

2. Cause of Downfall of Lehman Brothers

The bankruptcy of Lehman Brothers can, in short, be termed as one caused by limitless pursuit of greed and overindulgence which threw caution, conventional wisdom and respect for time tested financial regulations to the winds. The world economy remained somewhat sluggish during 2002-03 in the wake of the global slowdown of 2001. However, this sluggish phase was followed by a rapid recovery in the years 2004, 2005 and 2006, in which record growths were registered. The years preceding the crisis had seen sufficient liquidity and low interest rates, which resulted in worldwide search for yield and also led to general under-pricing of risk by investors with surplus cash. As lending standards declined

and leverage started showing increase, there was a sudden increase in the amount of lending. This period was also characterized by substantial current account surpluses in many countries, notably China, which had high saving rates. On the other hand, there was a liquidity crunch and large deficits in the US. The countries with surpluses took this opportunity to park their savings often at low yields in the US. As a result, interest rates remained low in the US. It caused the boom in credit and rise of prices of assets, in general and real estate, in particular, to impractically high and unsustainable levels.[3]

As a result of this boom, banks as well as those who bought houses in this period were convinced that the price of a real estate would only move northward and the business of financing houses came to be seen and accepted as a very safe bet. Banks in their greed to post huge profits and exploit the boom went on to lend to sub-prime borrowers who did not have the necessary collateral assets that could support their borrowings. Individuals from the lower income groups were mostly ignorant of the fact that such mortgages were absolutely risky and blindly took out risky sub-prime mortgages. As they were enthusiastic about the prospect of owning their houses and at the same time they were being offered easy loans even though that they were not in a position to refinance their mortgages if a crisis would strike. This was definitely workable if prices of houses would have continued to rise. But in 2007, as the market became uncontrollably overheated, home prices registered sharp falls, amounting to as high as 20 to 35 per cent from their peak values. Simultaneously, mortgage rates also rose and very soon there were a large number of defaulters among the sub-prime borrowers and the banks suffered huge losses as a result(Kulikowski, 2007).

The global economic crisis was not only due to sub-prime mortgage. Many other factors also led to a crisis of such an enormous magnitude. The declaration made by the G-20 member states at a special summit on the global financial crisis held on 15th November, 2008 in Washington, DC., identified the root causes of the crisis and put these in a perspective. During a period of strong global growth, growing capital flows, and prolonged stability earlier this decade, market participants sought higher yields without an adequate appreciation of the risks and failed to exercise proper due diligence. At the same time, weak underwriting standards, unsound risk management practices, increasingly complex and opaque financial products, and consequent excessive leverage combined to create vulnerabilities in the system. Policy-makers, regulators and supervisors, in some advanced countries, did not adequately appreciate and address the risks building up in financial markets, keep pace with financial innovation, or take into account the systemic ramifications

[3] "Origins of the Crisis", The Hindu (Editorial), March 11, 2009.

of domestic regulatory actions. Major underlying factors to the situation were, among others, inconsistent and insufficiently coordinated macroeconomic policies, inadequate structural reforms, which led to unsustainable global macroeconomic outcomes. These developments together contributed to excesses and ultimately resulted in severe market disruption.[4]

It was recognized by the then Prime Minister of India that "...it is a time of exceptional difficulty for the world economy. The financial crisis, which a year ago, seemed to be localized in one part of the financial system in the US, has exploded into a systemic crisis, spreading through the highly interconnected financial markets of industrialized countries, and has had its effects on other markets also. It has choked normal credit channels, triggered a worldwide collapse in stock markets around the world. The real economy is clearly affected. ...Many have called it the most serious crisis since the Great Depression."A fair share of the blame for the crisis must also fall on the US authorities. During the housing boom, most of the US authorities failed to realize that a potential crisis was on the cards and simply failed to understand the problem. Ben Bernanke, the former Chairman of the President's Council of Economic Advisers, said in 2005: "House prices have risen by nearly 25 per cent over the past two years. Although speculative activity has increased in some areas, at a national level these price increases largely reflect strong economic fundamentals, including robust growth in jobs and incomes, low mortgage rates, steady rates of household formation, and factors that limit the expansion of housing supply in some areas." Thus, it is very easy that at the very top level itself, what should have been seen as a virtual time bomb was actually being perceived as a positive sign for the national economy.

There certainly were other culprits too. The Credit-Rating Organizations also played their role in precipitating the crisis by creating an artificial sense of security by using a complex procedure of grading. Well-known credit rating agencies like Standard and Poor (S&P), Moody's, etc. used statistical models which were not properly tested and went about pronouncing positive judgments about the underlying loans.

It can be said that the background to the downfall of the giant was the looming mortgage crisis in the United States, which in turn was caused by the decline in prices of real estate from their illogical highs. As a result the housing loans made by the bank to people with little support gradually became more and more risky. When the banks decided to increase the interest rates, there were numerous repayment defaults, as these borrowers were not in a position to repay Lehman. The real estate loans which turned out to be bad debts

[4]The Statement from G-20 Summit on "Financial Markets and the World Economy" held in Washington on 15th November 2008

caused losses amounting to an astronomical $60 billion for Lehman Bros. Unfortunately, at the same time, Lehman Bros were also having poor relations with top banks of United States as the CEO of Lehman Brothers was increasingly being seen as overconfident due to the Lehman financial assets. When the Lehman asked Barclays and Bank of America for acquisition which could have helped them overcome the crisis caused by the big debts amounting to $639 billion, the offer was simply rejected by the latter(Truell, 1996).

On the part of the bank, the primary reason behind the downfall was use of excessive leverage in borrowing fund it invested. Major portion of this investing was in housing-related assets. When there was downturn in that market, bankruptcy became inevitable. In case of the Lehman Brothers, the leverage ratio (ratio of assets to owners' equity) had increased from approximately 24:1 in 2003 to 31:1 by 2007(Lehman Brothers' Annual Report, 2007). On one hand, it can be said that it definitely helped the firm make tremendous profits during the boom. But on the other hand, this vulnerable position also ensured that just a 3-4 per cent decline in the value of its assets would entirely eliminate its book value of equity and the firm was thus sitting on a virtual landmine ready to explode anytime. Thus, due to holding on to large positions in subprime and other lower-rated mortgage loans, the bank suffered in the long run. It is noteworthy that unlike other depository banks, investment banks like Lehman were not subject to the stringent regulations applied with respect to risk-taking, otherwise the story might have been different.

3. Events Leading to Bankruptcy

In February 2007, the stock of Lehman Brothers had touched a record $86.18, giving the company a market capitalization of nearly $60 billion. But in the second fiscal quarter of 2008, problems in the US housing market started surfacing and defaults on subprime mortgages rose sharply. Still the firm was sure that risks due to the defaults were well within control and would not affect the firm's earnings. But the firm ignored the possibility of problems in the subprime market spreading to the rest of the housing market or adversely affecting the overall US economy. As events later proved, the firm had grossly miscalculated and even underestimated the magnitude of the emerging crisis. Lehman's high degree of leverage and its huge portfolio of mortgage securities made it increasingly vulnerable to deteriorating market conditions. As the credit crisis erupted in August 2007 and the two Bear Stearns hedge funds failed, Lehman's stock also fell sharply. Lehman suffered losses of $2.8 billion and was forced to sell off $6 billion worth of assets. As a result of these developments, Lehman stock lost 73 per cent of its value as the credit market continued to tighten.

On August 22, 2008, there were reports that Korean Development Bank was considering buying Lehman. Buoyed by the news, shares of Lehman closed up 5per cent (16 per cent for the week). However, the deal never materialized and on September 9, 2008, Lehman's shares plunged 45 per cent to $7.79 (Anderson, 2008), as news of the state-run South Korean firm having put talks on hold for undisclosed reasons reached the market. As the concern of the investors about the security of the bank increased, the Dow Jones lost nearly 300 points the same day (Grynbaum, 2008). Adding to the problem was the fact that the US government did not come up with any announcements about plans to assist Lehman in the eventuality of any financial crisis. The announcement of $3.9 billion loss by Lehman on September 10, 2008, and the plans to sell off a majority stake in investment-management business, led to another drop of 7 per cent in the stock (Anderson *et al*.,2008 Anderson and Sorkin, 2008; White, 2008).

Barclays acquired the investment banking business of Lehman Brothers in September 2008, including the Lehman's New York headquarters and two New Jersey data centers (Cole, 2008; White and Anderson, 2008). Lehman retained $20 billion of securities assets in Lehman Brothers Inc. Lehman Brothers' franchise in the Asia Pacific region and equities businesses in Europe and the Middle East were acquired by 13 Oct 2008 by Nomura Holdings, Inc.[5]

Lehman's collapse adversely affected global financial markets for weeks due to the enormous size of the company and its status as a major player in the US and the world. Surprisingly, the US government allowed Lehman to fail, whereas it had quite tacitly supported Bear Stearns in March 2008. Lehman's bankruptcy led to more than $46 billion of its market value being wiped out. It also accelerated the purchase of Merrill Lynch by Bank of America in an emergency deal for $44 billion on September 15, 2008.

In the world financial markets, the dollar lost traction against the yen, which led to the latter's best daily performance in nearly two years. The US futures markets jumped to price in a near 80 per cent chance of a quarter point cut in US Fed interest rates.

4. Impact of Lehman's Bankruptcy on the US

The most visible effect of the crisis was that price of commercial real estate immediately depreciated. The likelihood that Lehman's $4.3 billion in mortgage securities will get liquidated caused panic sell off in the commercial mortgage-backed securities

[5] "Lehman Brothers 2007, Annual Report" http://www.lehman.com/annual/2007/div_regions/intro.htm.

(CMBS) market. There was immense additional pressure on the apartment-building investors as Lehman unloaded its debt and equity of the $22 billion purchase of Arch stone, the third-largest United States Real Estate Investment Trust (REIT), whose core business was that of ownership and management of residential apartment buildings in major metros of the US.

Many of the firms which had Exposure to Lehman Brothers also suffered losses due to the spiraling effects of the bankruptcy. Notable among such instances are given below:-

1. For the first time since 1994, a money-market fund dropped below the $1-per-share level, as the stocks of Bank of New York Mellon and the Primary Reserve Fund fell below $1 per share, as a result of losses on their holdings of Lehman assets. Several money funds and institutional cash funds had significant exposure to Lehman and these all suffered inevitable losses. About 100 hedge funds which had employed Lehman as their prime broker and heavily depended on the firm for financing also lost heavily. This was because to meet their own credit needs, Lehman Brothers International re-hypothecated the assets of these hedge funds clients in a routine manner. Out of the close to 40 billion dollars of clients' assets, 22 billion had been re-hypothecated by Lehman Brothers at the time of its filing for Chapter 11 Bankruptcy. With the filing for bankruptcy, positions held by those hedge funds at Lehman were frozen, forcing the hedge funds to de-lever and sit on large cash balances. This reduced the chances of future growth, which severely dislocated the market further and increased the overall systemic risk, and also caused a decline of $737 billion in collateral outstanding in the securities lending market.

2. Mortgage financier Freddie Mac had Lehman as a counter party in unsecured lending transactions. These transactions matured on September 15, 2008, and it lost about $1.2 billion of principal payments and also the accrued interest. It also suffered huge losses due to further potential exposure to Lehman of about $400 million in servicing of single-family home loans, within-built repurchasing obligations.

3. Constellation Energy, which had exposure to Lehman, lost 56 per cent of stock value on the first day of trading, after having had a start price of $67.87. Due to this massive drop, the New York Stock Exchange was forced to halt trade of the stocks of Constellation. The next day, the stock further crashed to as low as $13 per share and Constellation had to hire the services of Morgan Stanley and UBS for advice on "strategic alternatives". It had to ultimately give in to a buyout by MidAmerican Energy, part of Berkshire Hathaway.

4. Due to bankruptcy, the Federal Agricultural Mortgage Corporation or Farmer

Mac had to write off $48 million in Lehman debt it owned. It also failed to comply with its minimum capital requirements at the end of September.

5. Following the crisis, there was widespread panic in the stock markets in the world. The US stocks lost more than $300 billion in market value and simultaneously Stocks fell across Europe and Asia. The mighty dollar lost the most against the yen in a decade and treasuries surged. The Standard & Poor's 500 index lost 27.33 points, or 2.2 per cent on 15 September in New York. December futures on the bench mark index also fell by 4.4 per cent. The Dow Jones Industrial Average went down by 300.20 points to 11121.79. Seven in eight stocks lost value on the New York Stock Exchange. The Dow Jones closed down just over 500 points on September 15, 2008, which was the largest single day drop in points since the days following the attacks on September 11, 2001, though this drop was subsequently exceeded by an even larger plunge on September 29th, 2008.[6] The Indian stock markets also followed suit and the SENSEX fell from a high of over 21000 in Jan 2008 to less than 8000 by March 2009. It is only post Mar 2009 that the Indian stock markets have slowly recovered.

An interesting aspect of the crisis was because of the fact that the banks/ lenders or the mortgage originators who had sold sub-prime housing loans did not hold onto these mortgages for long. Instead they further sold them to other banks and investors through the process of securitization. The final problem came due to excessive leverage, because the investors had bought mortgage-backed securities by borrowing. Some Wall Street Banks had in fact gone to the extent of having borrowed 40 times more than they were worth.[7]

Politically the bankruptcy perhaps had some influence even on the 2008 United States Presidential Election, as on the day after the crisis struck, Barack Obama moved ahead of John McCain in the presidential Gallup poll, and thereafter, never again fell behind. However, this may be pure speculation and there is nothing conclusive to prove or support it.

5. Impact of Lehman Bankruptcy on India

Though India was not directly affected by the US sub-prime loan crisis, the financial turmoil there had some bearing on the Indian economy, since both Lehman Brothers and Merrill Lynch had taken large stakes in a number of Indian companies (Mohan, 2008). There was no direct impact on Indian banks, but many of them suffered marginal losses due to their exposures to the US investment bank. ICICI Bank, the biggest private bank in India, had the largest exposure, as ICICI Bank UK Plc. holds 57 million euro of senior bonds of Lehman

[6] www.moneycontrol.com

[7] Niranjan Rajadhyaksha, "Meltdown deconstructed", The Hindustan Times, 14 October, 2008

Brothers Inc. However, there was no hike in the interest rates in short-term, despite the temporary drop in inflation. The GDP growth generally remained not much below the expected rate of 7.5 to 8 per cent.

The adverse effects were mainly felt in the equity markets, due to the sudden reversal of portfolio equity flows, and also some effect of the crisis on the domestic forex market and liquidity conditions. The Indian markets experienced the ripple effects of the Lehman collapse. On 15th September, The Bombay Stock Exchange (BSE) benchmark Sensex fell by 772.62 points and the Nifty of the National Stock Exchange also dipped below 4,000-mark falling by 242.40 points. The Lehman Brothers' bankruptcy wiped off more than ₹2000 crore from the market valuation of Indian companies in which the US financial major had made equity investments. Major stocks held through participatory notes issued by Lehman Brothers Investment Management, a Securities and Exchange Board of India- registered foreign institutional investor, saw their prices nosedive. In addition to its equity holdings in listed companies, Lehman had also invested in various projects of Indian companies, especially in real estate. The investment banking major has also been involved in several Indian initial public offers.

The meltdown in the US had the most telling impact on Indian IT companies whose revenues mainly came from the US. There were serious delays in many new projects. Companies like Lehman Brothers, Merill Lynch and AIG, which had been affected by the crisis had been outsourcing work to Wipro, Tata Consultancy Services and Infosys. There was a direct impact on the revenues of these companies. Due to increased number of forced consolidations, acquisitions and mergers in the US, the number of companies that could be served by the Indian IT services companies drastically reduced. In addition, there was consolidation of the IT resources and reduction in IT spending, which also adversely affected the Indian IT companies. As a result, the IT companies had to adopt just-in-time hiring, rather than the campus recruitment which was common till then. Since almost 60 per cent of the revenue of India's software firms comes from the global financial sector, the Lehman's bankruptcy affected the Indian IT sector more than any other sector.

The crisis also affected Indian realty companies that were in the process of raising fresh funds. Many leading realtors, already facing a paucity of funds due to a slowdown or a correction in prices, found it more difficult to raise resources even at the project level. Realty companies like Ansal Housing, Anant Raj Industries, Unity Infrastructure, the Puravankara group and J Kumar Infrastructure, among others, suffered losses. The Indian companies also

found it difficult to sell newly built houses as there was a steep fall both in demand and prices. Many market observers did see this as a much awaited correction in the overheated Indian realty market.

Initially, no one was expecting that Lehman Brothers would be forced to sell itself. Therefore, the very event of the Lehman Brothers being bought off made the investors believe that financial crisis was much bigger than what was being apprehended so far. Simultaneously, the Foreign Institutional Investors (FIIs) went on a selling spree so as to book their profits and make their assets in the Indian stock markets liquid. Because of turmoil in the US financial market, dollar weakened against other main currencies like pound sterling, euro and Japanese yen. Even RBI's intervention in the market to stem the fall was not effective because of the huge demand for the dollar.

Due to the crisis in the US market, the investors rushed to safer investments like gold, whose prices climbed more than 2 per cent in London. Gold prices spurted similarly in the Indian bullion market too.

The financial crisis resulted in a slowdown of the industrial sector. The service sector led the process of slowing down, besides the transport, communication, trade and hotels and restaurants sub-sectors. In manufacturing sector also, the growth came down. Sluggish export markets also very adversely affected export-driven sectors like gems and jewellery, fabrics and leather, to name a few. Industry being a large employment intensive sector, its adverse effect on the industrial sector had a cascading effect on employment scenario. The services sector was affected since hotel and tourism have significant dependency on high-value foreign tourists. Real estate, construction and transport were also adversely affected. As per a survey conducted by the Ministry of Labour and Employment, in the last quarter of 2008, five lakh workers had lost jobs. The survey was based on a fairly large sample size across sectors such as Textiles, Automobiles, Gems andJewellery, Metals, Mining, Construction, Transport and BPO/IT sectors. Further, in the manual contract category of workers, the employment had declined in all the sectors/ industries covered in the survey. It took a considerable time for the economy to come out of the shadow of these effects and the slow recovery is certainly yet to reverse the situation back to the original state.

However, on the larger front, India, as also most of the other emerging market economies, was not very seriously affected by the resultant financial turmoil in developed economies. Even though the Indian economy has become a relatively open economy since the liberalization process was gradually introduced since 1991, a few features played an

important role in minimizing the adverse effects of the crisis.

Even though the Indian current account is fully open, a more cautious and sensible approach has been adopted as far as the opening of the capital account and the financial sector were concerned. Constant monitoring of the benefits from capital account liberalization towards economic growth led to the conclusion that the greatest gains are obtained from the opening to foreign direct investment and portfolio equity investment in that order. Simultaneously, it was also realized that domestic financial market development was necessary before external debt flows could be beneficial to the economy.

Therefore, while encouraging foreign investment flows, it was ensured that debt flows like external commercial borrowings were contained with instruments like prescribed ceilings, and certain restrictions on end-use. At the same time, the system did retain its inherent flexibility and the evolving macroeconomic and monetary conditions were constantly monitored to gradually ease the curbs on these ceilings. Portfolio investment in government securities and corporate bonds were also similarly monitored and their growth was strictly controlled to ensure they did not spiral out of control. Thus, policies to prevent excessive recourse to foreign borrowings, which could have increased the dependence of the economy on foreign currencies, were adopted. Also policies with regard to capital outflows constantly upgrade and made liberal in a systematic and graduated manner to allow the non-financial corporate sector to make investments in foreign markets and even acquire companies abroad.

Another factor which stood out as one of the saviors of the Indian economy was the banking regulations prevalent in India, particularly in terms of capital and liquidity. The stipulations laid by the Reserve Bank of India (RBI)[8] ensure reduced liquidity risks both at the systemic and the institution level. A few important measures were:-

(a) Restrictions on overnight unsecured market for funds to banks, limits on the borrowing and lending operations of banks and primary dealers in the call money market. This has resulted in greater reliance on stable sources of funding

(b) The RBI regularly monitors the incremental credit deposit ratio of banks to get an idea of the extent to which banks are funding credit with borrowings from wholesale markets.

(c) The asset liability management guidelines for dealing with overall asset-liability mismatches of the banks, which include both on and off balance sheet items.

[8]Reserve Bank of India (2008a,2008b, 2009a, 2009b)

(d) Instructions and guidelines from RBI on implementation of the Basel II framework covering all the three pillars, ensured increasing consistency and harmony with international standards.

(e) Restrictions imposed by the RBI on exposures to particular sectors, like the real estate sector, for which banks were advised to institute proper risk management system to contain the risks involved. This included policies on exposure limits, collaterals, margins, various levels at which specified amount of loans could be sanctioned, etc.

(f) The RBI has also been extremely vigilant and proactive to even the slightest indication of volatility in financial markets.

Thus, the Indian approach was mainly characterized by focus on gradual, phased and well-calculated opening of the domestic financial and external sectors, keeping in pace with reforms in the other sectors of the economy. The financial markets have also given their healthy contribution in efficiently channelizing domestic savings towards a substantial part of domestic investment and thus, have been able to support domestic growth. India's healthy state of forex reserves coverage, and its constantly strengthening economy also greatly helped in reducing the possible ill-effects of the crisis on the Indian economy.

The macro effects were less due to the overall domestic demand, sound balance sheets of Indian corporate sector, and the fact that investments in India were primarily funded by domestic financing. But even though domestic savings have contributed a lot to domestic investment, the corporate sector had also mobilized significant resources from global financial markets to fund their investment plans. Due to the crisis, there was definitely some downside impact on the Indian corporate sector's ability to raise funds from international sources, which led to some slowdown in investment growth. Simultaneously, since they had to rely more on domestic sources of financing including bank credit, there was some upward pressure on domestic interest rates.

Most of the Indian banks did not have any direct exposure to the sub-prime markets in the US or other markets. However, some Indian banks did suffer some losses on account of the mark-to-market losses caused by the widening of the credit spreads arising from the sub-prime episode on term liquidity in the market . Extensive use of varied instruments like the cash reserve ratio (CRR), statutory liquidity ratio (SLR),open market operations (OMO), etc., for liquidity management by the RBI as well as RBI operations in foreign exchange market also ensured sufficient money market liquidity. The relative stability in domestic financial markets, even while the global financial markets were experiencing severe

volatility, is a result of sound practices, growing reserves and praiseworthy growth performance in recent years.

Overall, the Indian banking system was not directly exposed to the sub-prime mortgage assets. It had very limited indirect exposure to the US mortgage market, or to the failed institutions or stressed assets. Indian banks, both in the public sector and in the private sector, remained financially sound, well-capitalized and well-regulated.

6. Conclusion

Fortunately for India, it was relatively less affected by the crisis even though there is a much increased integration of the Indian economy with the global one in recent times. Factors like structure of its economy, the cautious policies of the goverment and prudent regulation combined with effective supervision are what saved us from the adverse fallout of the crisis.

A subprime like scenario in India is somewhat unlikely due to several reasons. First and foremost, despite rapid growth in recent years, the mortgage market in India is nowhere near the levels of developed countries, such as the US or the UK. Mortgages as a percentage of GDP in India are still at a small percentage as compared with the US and the UK. Secondly, the approach of the Indian regulators has been balanced and forward-looking. Its continuous doses of monetary tightening aims to ensure that the money supply and hence inflation is kept within manageable limits.

The functioning of global economy leaves no doubt that the process of financial development and globalization is susceptible to crisis. All problems in finance and financial regulation need to be addressed at a national as well as global level to ensure that the benefits of financial developments are available to everyone and can be sustained in the long-term. Hence effective and stringent regulation of the financial system is required to ensure sustained financial development with stability.

Possible lessons from the crisis for India are that it should further strengthen regulation at the systemic and institutional levels and make supervision more effective. In addition, there is also a need to improve risk management skills. Finally, it is essential that India actively pursues the challenge of financial inclusion. On the fundamental level, there is a definite need to strengthen the system for assessment of the borrower's credit worthiness. Any lapse in this will cause repercussions in future, however robust the subsequent processes are. The banks must ensure that they do not follow imprudent and predatory

lending practices by offering far too lenient lending terms than are warranted. Banks need to make sure that they share the credit history of borrowers to better assess the credit worthiness of borrowers. Membership as well as sharing of credit information with Credit Information Bureau may be made mandatory for all financial institutions so that the comprehensive credit information pertaining to individual borrowers can be made available to all the financial institutions.

References

Anderson J., E. Dash, V. Bajaj, E. Andrews (2008), "US Gives Banks Urgent Warning to Solve Crisis", *The New York Times*, September 13.

Anderson, J. (2008), "Wall Street's Fears on Lehman Bros. Batter Markets", *The New York Times*, September 09.

Anderson, J. and E. Dash (2008), "Struggling Lehman Plans to Lay off 1,500", *The New York Times,* August 29.

Anderson, J. and Andrew Ross Sorkin (2008), "As Pressure Builds, Lehman Said to Be Looking for a Buyer", *The New York Times*, September 11.

Cole, Robert J. (2008), "Barclays Buys Core Lehman Assets", *BBC News*, September 17.

Geisst, Charles R. (1997), "*The Last Partnerships*", McGraw-Hill, pp. 49-50, 51, 285, 53,77,78 .

Government of India (2010), Ministry of Finance, Economic Survey 2009-10, New Delhi.

Grynbaum, M. (2008), "Wall St.'s Turmoil Sends Stocks Reeling", *The New York Times*, September 15.

Krugman, P. (2007), "Innovating Our Way to Financial Crisis", *TheNew York Times*, December 3.

Kulikowski, Laura (2007), "Lehman Brothers Amputates Mortgage Arm", TheStreet.com, October 22.

Mohan, Rakesh (2008), "Global Financial Crisis and Key Risks: Impact on India and Asia", http://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/87784.pdf

Moore, Heidi N. (2008), "Dick Fuld's Vendetta against Short-Sellers - and Goldman Sachs", *The Wall Street Journal*, October 07.

Niranjan Rajadhyaksha, (2008), "Meltdown Deconstructed", *The Hindustan Times*, October 14.

Nocera, Joe (2009), "Lehman Had to Die So Global Finance Could Live", *The New York Times*, September 11.

Prime Minister of India's statement at the Summit of Heads of State or Governments of the G-20 countries on "Financial Markets and the World Economy" held at Washington on November 15, 2008.

Quint, Michael (1993), "Primerica Will Buy Shearson for $1 Billion" , *The New York* Times, March 13.

Reserve Bank of India (2008a), "Handbook of Statistics on the Indian Economy", Mumbai.

Reserve Bank of India (2008b), "Macroeconomic and Monetary Developments in 2008-09", Mumbai.

Reserve Bank of India (2009a), "Handbook of Monetary Statistics of India", Mumbai.

Reserve Bank of India (2009b), "Macroeconomic and Monetary Developments - First Quarter Review 2009-10", Mumbai.

Thomas, Landon Jr. (2003), "Market Place; Lehman to Buy Neuberger Berman for $2.6 Billion", *The New York Times*, July 23.

Truell, Peter (1996), "Pettit Resigns as President of Lehman Brothers Firm", *The New York Times*, November 27.

Wechsberg, Joseph (1966), "*The Merchant Bankers*", Pocket Books, pp. 233 -235, 238, 241.

White, B. (2008), "Lehman Sees $3.9 Billion Loss and Plans to Shed Assets", *The New York Times,* September 10.

White, B. and J. Anderson (2008), "Lehman Heads Toward Brink as Barclays Ends Talks",*The New York Times*, September 14.