Financial Institutions & Capital Markets Research Paper

WHAT LED TO THE DOWNFALL OF LEHMAN BROTHERS HOLDINGS INC.

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ABSTRACT

This research paper aims to focus on Lehman Brothers Holdings Inc. which was a well branded financial firm, which stood fourth in the largest investment banks in the USA before its bankruptcy. We have analyzed the causes which lead to the downfall of such an enormous financial institution which are high leverage, liquidity and demise of asset backed securities. Along with these, we have even analyzed the subprime mortgage loans that led to the collapse.

Apart from the reasons that led to Lehman Brothers' downfall, the impact that this collapse had on the global financial system has also been studied.

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INTRODUCTION

The Lehman Brothers Holdings Inc. was founded in 1850 by two cotton brokers in Montgomery, Ala. The firm moved to New York City after the Civil War and grew into one of Wall Street's investment giants. It was a global firm offering financial services, as well as involved in investment banking, equity and fixed income sales, research and trading, investment management, private equity and banking with headquarters in New York and regional headquarters in London and Tokyo as well as offices spread out around the world. It was one of the primary dealers in U.S. Treasury securities and its major subsidiaries included Lehman Brothers Inc. Neuberger Berman Inc., Aurora Loan Services Inc., SIB mortgage corporation, Lehman Brothers Band etc. In September 2008, after losing major clientele, drastic loses in stocks and devaluation of assets, the company filed for bankruptcy, which is marked as the biggest in U.S. history.

The collapse of the Lehman Brother in September of 2008 can be attributed to a fatal combination of complex accounting rules, intricate derivatives, greed and excess leverage and also the resultant chain reaction across financial institutions which suffered panic and liquidity freeze, all of which will be discussed through the report.

METHODOLOGY

In the quest for this research topic, we have scrutinized various sources in order to gain a profound understanding underlying the downfall of Lehman Brothers Holdings Inc.

Different news articles on their respective websites deemed to be very informative such as the CNN website, CNBC website and turnstyle news etc. Apart from that, relevant interviews on YouTube helped to give a very useful insight into the demise of Lehman Brothers.

Herewith we have even come across past research papers which helped us develop a deep understanding on the concerned topic.

Together with this, we have even come across certain educational websites such as investopedia.com which enhanced our learning and made us understand the topic in depth.

By the help of all these sources, we carefully gathered relevant data and then analyzed it and came up with suitable recommendations for our research topic.

FINDINGS

Leverage:

When you are having a good time in your business, the easiest way to increase your returns is through investing in assets (which are increasing in value), by applying for loans. Through this, a business can magnify or say “leverage” their returns, especially once the interest rates have gone lower. This does not only mean that leverage increases your returns only, but also signifies that it has a similar effect on losses when prices fall.

A generally accepted level of leverage which is considered healthy for banks is, say, 12. This actually means that for every Rs. 1 of cash and other available capital, it would be able to lend Rs. 12. Now, in 2004 Lehman’s leverage reached 20 and later on hit 44 in 2007.

It was equivalent to buying a Rs. 440,000 property while earning Rs. 10,000. Even if there was a slight decrease in property prices or an increase in the interest rates, the borrower would be in a dilemma. Lehman was in a similar position due to its extremely high leverage.

Too much is not too good:

Lehman’s balance sheet had bloated by around $300 billion during the years 2004 – 2007 due to excessive purchase of securities which were financed by residential and commercial real estate loans. During the same tenure, the firm added $6 billion to its equity which made the assets 31 times of its capital. Hence, this proved that if the total value of the portfolio decreased to say even about 3%, the shareholders equity would not be able to bear the loss.

Now let’s see how this leverage was financed. Through Repo transactions (Repo 105), which were classified as sales truncations rather than financial transactions, Lehman Brother’s did not recognize their liabilities. The asset side of the balance sheet used to offset the difference through these transactions by decreasing inventory of securities and increasing the cash account when executing a repo transaction. The correct method would have been to use the financial transaction method in which one does not remove securities from the balance sheet; cash boosts assets and liabilities are recognized.

Liquidity:

The final cut off that Lehman experienced was when, its main lender and clearing agent, JPMorgan Chase & Co. shut Lehman off from funds; an instant liquidity crisis was faced. JPMorgan, one of the biggest U.S. banks by deposits, funded Lehman’s brokerage transactions giving them daily advances. For overnight loans, Lehman looked at money markets and various other short term lenders who were ready to provide overnight loans.

Due to acute cash flow problems, most businesses are likely to fail. Lehman can be considered “an upturned pyramid balanced on a small sliver of cash”. Lehman no doubt comprised of a huge asset base along with equally existent liabilities but there was a lack of liquid assets – cash and other easy to sell assets.

After banks saw that the markets are falling, they started to inspect about Lehman's finances, which seemed quite dubious. They started to make use of Lehman's lines of credits to their full advantage. This in turn made Lehman lose its liquidity even more quickly, alarming other banks that started to refuse to trade with it anymore. So it all boils down to this – if a bank loses markets confidence, it more or less loses everything. Lehman and its business became nonexistent in the eyes of other banks since it was unable to trade.

Demise of asset/mortgage backed securities:

Lehman generated a considerable amount of its revenue stream by making use of the asset and mortgage backed securities, before the collapse of the U.S subprime mortgages in 2007. Problems started to surface when the default risks on these mortgage backed securities started to rise, decreasing their demand in the market, Lehman's securities started to deplete rapidly causing loses of billions of dollars. This eventually forced it to write down and write off its assets on the balance sheet. At last the company gave up its attempts to get rid of risky assets (asset transformations) and investors on the other hand secured themselves by selling their shares thinking that Lehman did not seem to be a going concern at that point. Lack of capital made the company very vulnerable.

Lehman was one of those banks which did not have a large deposit base through which it could buy securities. It mainly used to generate cash through short term debt (which needs to be refinanced constantly). This policy is good as long as the mortgage and other similar securities are rising in value making them easy to sell. The problem occurred when the real estate was downgraded and the values of these securities declined. Lehman was left with no other option but to sell its securities at a huge loss.

Lehman also made use of the Federal Reserve' discount window for short term financing. That too could not solve their issues, since the main problem was still prevailing: nervous markets in turn affect the creditors, who stop lending.

Subprime mortgage crisis:

Since the terrorist attacks of 11 September 2001, the interest rates in US fell which lead to a rise in prices of domestic and commercial property prices for five years. In view of the fact that Lehman was the largest underwriter of property loans in 2007, it was quite exposed to the US real estate market, having $60 billion invested in the respective market and even subprime mortgages. Because of its high exposure to the real estate market, Lehman had to write off $2.5 billion. Although it was a large and complex business trading in a pool of assets, it also backed 100% mortgage loans given by specialist lenders to people with few means of repayment who were more unable to pay their monthly payments when interest rates hiked. Therefore, it incurred huge unforeseen losses because of the subprime mortgage market because of having invested in large numbers in subprime and other low credit rated mortgages while securitizing the

underlying mortgages. The reason behind this could be either due to the inability to sell the high default risk of bonds or just because of deliberately willing to hold them. Losses from mortgaged backed securities continued throughout 2008.

Lehman incurred losses of $2.8 billion in the second fiscal quarter of 2008 and therefore had to sell off $6 billion assets. Due to the high losses incurred and in order to give itself protection from its risk taking activities, Lehman raised $6 billion capital through selling of common and preferred stock. However, this could dilute the existing shares by 30 percent. Lehman had access to the Federal Reserve discount window but still the main factor that would keep it running would be if other banks traded with it. Since other banks refused to trade with it and the inability of investors to think of it as a going concern, Lehman had ultimately no business and was forced to shut down.

No one was willing to do business with Lehman Brothers or buy it once it was up for sale because of the uncertainty of the exact proportions of the rock solid assets with comparison to the toxic assets.

In the first half of 2008, Lehman stock fell by 73% of its value because the credit market tightened. This frightened Lehman because it led to a 45% fall in stock and 66% rise in credit default swaps on the company's liabilities. Its clients of the hedging derivatives began to take out their money and the short term creditors began to shorten their credit lines. On September 10, Lehman pre announced its third quarter results which was a loss of $3.9 billion, which included a write down of $5.6 billion, and even strategic restructuring of its business. This undermined the financial position of Lehman Brothers. Besides this, when Moody's reviewed Lehman Brother's credit rating, it recommended that it sells off a majority stake to a strategic partner in order to prevent a downgrade in its rating. These led to 42% fall in stock on September 11 which took away investor's confidence. (See table 1 in annexure)

On September 13, 2008, when Timothy F. Geithner, the president of the Federal Reserve Bank of New York at that time, called a meeting on the future of Lehman which contained the probability of an emergency liquidation of its assets. Lehman had been in negotiations with Bank of America and Barclays for the company's sale. However, Barclay had ended its bid to purchase all or part of Lehman and even Bank of America refused to be involved in the sale due to government not willing to be caught up in Lehman's sale. Therefore, the hope for Lehman's survival was quite murky.

ANALYSIS

The Role of Credit Agencies:

Credit ratings provide investors both individual and institutional with information that guides them in determining whether issuers of debt obligations and fixed-income securities will be able to meet their obligations with respect to those securities. Credit rating agencies provide investors with objective analyses and independent assessments of companies and countries that issue such securities. The role of credit rating agencies, specifically the three main agencies Moody's, Standard & Poor's, and Fitch Ratings is very important for our analysis because all three of them all maintained at least 'A' ratings on Lehman Brothers up-till mid-September of last year and on Sept 15 Lehman Brothers declared bankruptcy. The big three rating agencies have been criticized a lot since the 2007 collapse in the subprime home mortgage market for issuing robust ratings on a large number of securities that are now considered to be junk.[i] Some argue that credit rating agencies should have predicted the high default rates for the subprime borrowers and they should have given these loans and CDO's much lower rating than 'AAA'. If the ratings had been more accurate and close to reality fewer investors would have bought these securities and losses may not have been as bad as they were both for the bank and for the individuals who invested their life time savings in these CDO's.[ii]

We believe the business model of the credit rating agencies is flawed and it leads to a conflict of interest which was mainly responsible for the disastrous performance of credit rating agencies in assessing the risks of mortgage-backed securities. The credit rating agencies receive fee from the security creator so in order to continue receiving service fee from the underwriter and not to lose their customer to another credit rating agency sometimes rating agencies are enticed to give better ratings and ignore all the risk involved as in the case of LBI.

On the flip side credit rating agencies claim that they took several initiatives to enhance the integrity of their credit rating systems. They also claim that hefty profits of LBI were running the show and when asked why they still rated the 'AAA' when profits vanished from the books of LBI they argued that their analysis was based on a review of governmental support that had been given to Bear Stearns previously in the same year. "Frankly, an important part of our analysis was that a line had been drawn under the number five firm in the market [Bear], and that likely number four would be supported as well". Raymond W. McDaniel, Jr. of Moody's defended Moody's ratings of Lehman Brothers in a court hearing.

Role of Homebuyers:

While talking about the banks, we should also mention the home buyers. Most of them were taking a huge risk by buying houses they could barely afford. They were able to make these purchases with unconventional mortgages (such as 2/28 and interest-only mortgages) that offered low introductory rates and negligible initial costs such as "no down payment". For most of such buyers the only hope was price appreciation, which if occurred would have allowed them to

refinance their mortgage at lower rates and would have allowed them to take out the equity for their own spending. However, instead of unrelenting appreciation which was highly expected, the housing bubble burst, and prices dropped swiftly. The newer products introduced at that time also included 'Ninja' loans – short for 'no job, no income, and no assets' loans that were given to people with particularly restricted means and little chance of repaying. "The Hispanic community named them 'fecha y firma' loans, because to get one they required only a 'date and signature.' Some loans had a premium: If someone wanted a mortgage for a house which had a cost of two hundred thousand dollars, he might get twenty thousand dollars added to the loan for other spending on cars, vacations etc." Consequently, when their mortgages reset, many homeowners were unable to refinance their mortgages to lower rates, since there was no price appreciation. Eventually they were forced to reset their mortgage at higher rates, which many could not pay. Several homeowners were simply bound to default on their mortgages. Foreclosures persistently increased through 2006 and 2007.

In order to grasp more subprime borrowers, some mortgage brokers and lenders may have given the impression that there was no risk to these mortgages and that the costs weren't that high; at the end of the day, many borrowers simply bought mortgages they couldn't reasonably afford. If the borrowers had not made such aggressive decisions and performed some due diligence on their own and bought a more affordable mortgage the overall consequences of their decisions would have been controllable.

Aggravating the situation, lenders and investors of securities backed by these defaulting mortgages suffered. Lenders lost money on defaulted mortgages as they were increasingly left with collateral which was worth less than the amount originally issued as a loan. In most of the cases, the losses were big enough to result in bankruptcy.

Role of investment banks:

The popularity of the secondary mortgage market by lenders added to the number of subprime loans that lenders could issue. Instead of holding the issued mortgages on their books, lenders like Lehman brothers were able to simply sell off the mortgages in the secondary market and collect the issuing fees. This gave them more capital for more lending. Most of the demand for these mortgages originated from the creation of assets that amalgamated mortgages together into a security, and were known as collateralized debt obligation (CDO). In a CDO, investment banks would buy the mortgages from lenders and then securitize these mortgages into bonds, which are then sold to investors in the form of CDOs.

CONCLUSION

Lehman Brothers' collapse set the stage for a crippling domino effect throughout the financial system. The uncertainty regarding its transactions with banks and hedge funds aggravated the crisis which contributed to a halt in credit markets, resulting in governments around the globe to undergo measures to calm panicked markets.

The bankruptcy of Lehman had an extraordinary impact of unemployment rates. Since the U.S. financial collapse in September 2008, youth unemployment in the U.S. has increased three percent overall.[iii]

The Lehman Brothers collapse also impacted the money market mutual funds, one of the safest investment vehicles. The Reserve Primary Fund had $785 billion face value of Lehman commercial paper, and it was due to these holdings that the fund announced it had "broken the buck" for the first time in 14 years. This caused major tremors in the money market and commercial paper markets, affecting investors who rushed to convert their money market holdings, to the extent that the yield on 3-month T-bill fell to negative at one point.

RECOMMENDATIONS

- Banks' should diversify its assets in order to prevent holding too many risky assets since this would lead to high default risk.
- Credit rating agencies should be strictly regulated by the relevant regulatory authorities which in the case of LBI were Federal Reserve Bank and SEC.
- From investor point of view specifically individual investors, money should be invested in assets that are transparent and easily understandable instead of going for complex structured products like CDO's.
- Financial models that evaluate securities should be constantly tested for reliability and authenticity by professionals as they consist of intricate mathematical formulas thus a small error in it can lead to huge losses.
- Auditors should go beyond the parameters of standard audit exercises when performing their audit by taking into account the risks that organizations face, scrutinizing assumptions behind underlying business models and assessing the effect of corporate governance.
- Giant banks should not be allowed to overpower the regulator as it was in the case of LBI. They did not properly disclose their annual statements which made room for manipulation. All the banks whether a giant or a new bank should completely disclose their annual statements.

ANNEXURE

Table 1:

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