Global Financial Crisis: A Lehman Brothers Case Study

Shiqi Luo

Huaer Zizhu International College, 155, Tanjiatang Road, Minhang District, Shanghai, China, 201100

2820750284@qq.com

Keywords: Financial crisis, Global Financial Crisis (GFC), Lehman Brothers, Financial market, Bank management

Abstract: This paper investigates the famous investment bank, Lehman Brothers, during its collapse in the Global Financial Crisis (GFC). Starting from a brief history of the Lehman Brothers and stating the context and background of the GFC, the paper carefully explained the theoretical reasoning behind the GFC from macroeconomics perspectives. Then the paper investigated the unique micro-level bank management issues of the Lehman Brothers during the GFC. Next, the paper discussed the essential question of whether the government should have saved the bank in 2008. In conclusion, fundamental theories were discussed, and policy implications were identified. In this chaotic time of the Covid-19 pandemic, this paper could lend perspectives still highly relevant to today's situation.

1. Introduction: Context and the History of the Lehman Brothers

The global economy has been developing for decades since World War 2. While there were oil crises and several economic shocks, a global-level crisis like the 1930s Great Depression was not seen during the period [1]. However, a sub-prime crisis that originated from the United States property market and later spread to other sectors of the economy broke out in 2007. Before long, it has escalated to become a global-level crisis, which is generally referred to as the Global Financial Crisis (GFC). The consequences of the GFC were so severe that it had become the most extensive and sharpest decline in global economic activities of the modern era [2].

Today, due to the ongoing impacts of the Covid-19 pandemic, the economic and financial market has been involved with high risks and uncertainty. As the largest economy globally, the United States (US) faced an economic downturn of 32.9 per cent, the highest drop since the Great Depression. Furthermore, consumer expenditure reduced by 34.6 per cent this year, accounting for more than two-thirds of the US economy. This could be seen as the effective demand plunged to a crisis level [3]. More importantly, the recession in the real economy has led to severe fluctuations and risks in the stock and financial markets [4]. While the worst moment in March 2020 US stock market crash has become one of the most dramatic crises in history, the financial market is still under high levels of uncertainty [5]. Therefore, it would be vital to research the GFC, the most recent global financial crisis, as it could lend perspectives that are still relevant to today's situation.

Previous studies on GFC have adopted many perspectives. Here, it is essential to note that the worst moment of the GFC was triggered by the collapse of the Lehman Brothers in 2008 [6]. Consequently, this paper hopes to analyze the bankruptcy process of Lehman Brothers as a scope of GFC, to investigate the causes and policy implications further. In this way, we could conclude several vital implications for micro-level financial-institution management and macro-level financial market regulations.

The origin of the Lehman Brothers could be traced back to 1844. As an investment bank with a wide range of activities, Lehman Brothers transited from a commodity-trading company to a financial market giant over the years. Particularly with the financial deregulation in the US during the 1990s [7], the Lehman Brothers expanded its business further and eventually became the fourth-largest investment bank in the industry by 2007 [8].

By the time of mid-2006, while many subprime borrowers in the US had begun to default on

  DOI: 10.25236/eiemss.2021.054

their payments as property values began to decline significantly, Lehman Brothers were still boosting its engagement in the financial market. As a result, the bank had $111 billion in commercial and residential real estate-related assets and securities at the end of 2007, which is more than double the value of what it had held at the end of the previous year [9].

However, with the deterioration of the overall market environment, Lehman Brothers soon inevitably fell into a desperate situation. The GFC officially began with the collapse of Lehman Brothers in 2008 after a failed attempt in saving the bank by the Federal Reserve Board (the Feds) [10].

2. GFC Explained: A Macroeconomics Perspective

Given the close ties between the Lehman Brothers and the GFC, it would be essential to explain the economic reasoning behind the GFC first. In this way, we could interpret how the Lehman Brothers failed from a theoretical and macroeconomic perspective.

The Business Cycle of the economy:

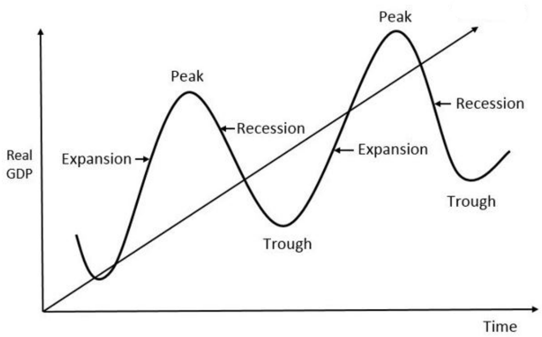

Figure 1: The business cycle [11]

As shown in Figure 1, the macroeconomics theory indicates that the economy grows steadily over time (using the indicator of real GDP). There are different phases of an economy: expansion, peak, recession, and trough.

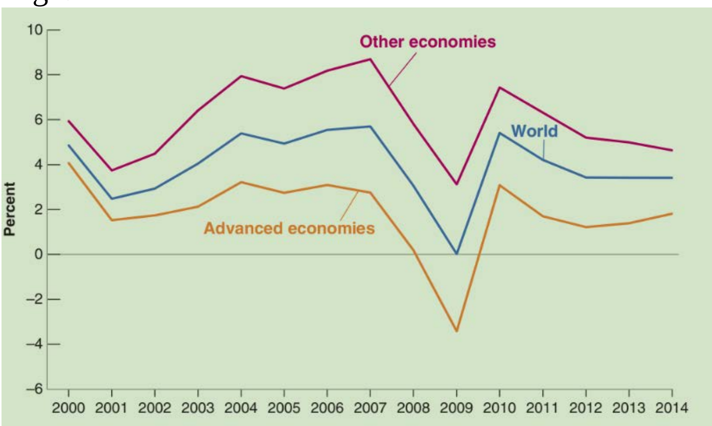

Figure 2: Output growth rate for different economies, 2000-2014 [12]

Combining the theories with the real-world data, it could be concluded from figure 2 that the global economic conditions were optimistic prior to the GFC. However, a sudden drop in growth occurred in 2007, which the GFC could be seen as a recession-trough stage in the business cycle model. As the global economy bounced back in 2010, it could be considered as the new expansion cycle has started.

- **Housing bubble: a sub-prime crisis:**

Besides the real-economy business cycle playing a role in the GFC, more importantly, what the pre-2007 boom gave to the US market was a housing bubble.

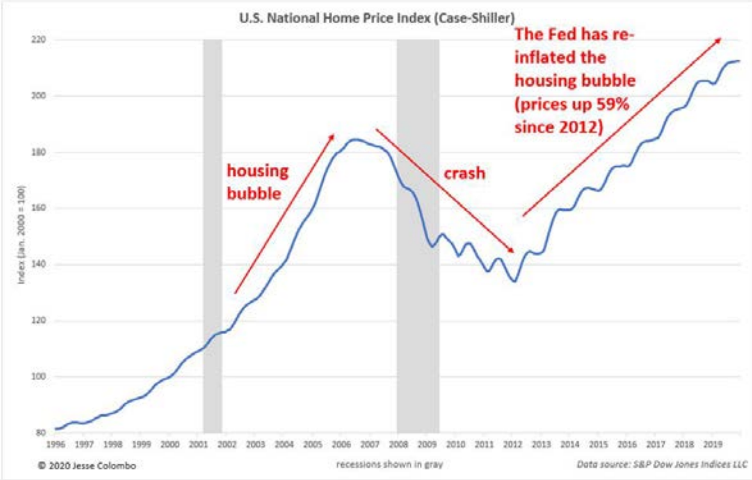

Figure 3: The housing bubble [13]

Figure 3 shows how the housing index has culminated around 2006. Notably, we could find rapid growth after the new millennium. As we mentioned earlier, the US economy in the 1990s exhibited the best performance in its past three decades, and public confidence increased [14]. Inevitably, the demand for housing has been boosted.

Demand creates supply. The financial institutions were calling for an easing of regulations by the Feds and the government in the 1990s to maximize their profits in the favourable market environment. As a result, the manipulators got what they wanted. Financial deregulation has been magnified to a new level [15]. Meanwhile, the competition between banks made the situation messier. New financial derivatives were created solely to attract more borrowers to use the banks' business while neglecting the risks behind.

Consequently, what has been called "subprime mortgage borrowers" (compared with 'prime mortgage borrowers') have obtained their housing mortgages. Unlike prime mortgage borrowers who are unlikely to default, subprime mortgage borrowers have insecure jobs and terrible credit ratings, representing much higher default risks [16].

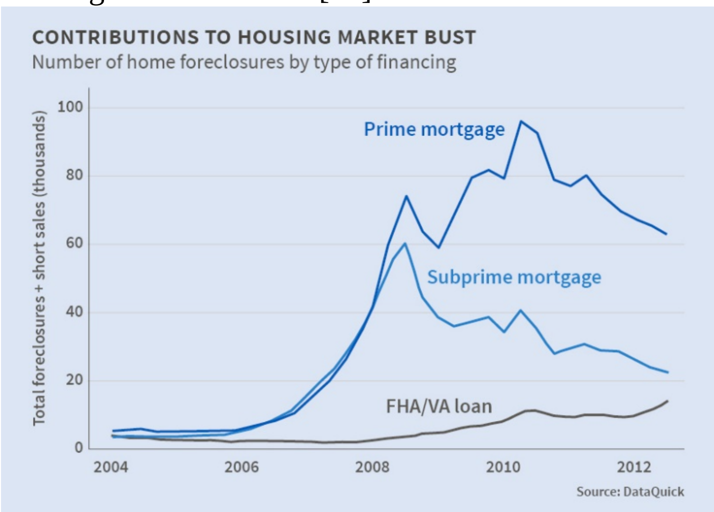

Figure 4: The housing bubble and mortgage growth [17]

As shown in Figure 4, we can see that the mortgage growth, by either prime borrowers or subprime borrowers, has been increasing vigorously. A housing bubble has emerged, and everyone was 'enjoying' it without noticing the significant risks behind it.

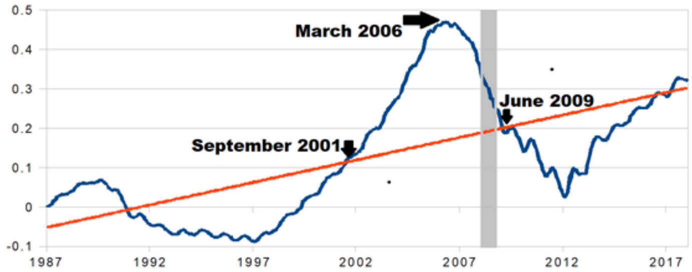

Figure 5: The US housing price bubble [18]

Unfortunately, all bubbles will burst sooner or later. Just as figure 5 shows, when people realize that the housing bubble is so ridiculous that the price is not likely to be rising anymore in 2006, the whole cycle reversed. Market confidence has plumped, housing demand fell dramatically, which led to further price drops. Moreover, with the lowered property value, mortgage borrowers found that their property value is now lower than their mortgage amount, which provided an incentive to default [12].

Following is that the banks found themselves in desperate situations. As more and more borrowers (particularly subprime borrowers) choose to default on their mortgages, the liquidity and capital chains of the banks have broken. What made things worse was the complex relationships between banks, as nearly all of them traded with each other. At this stage, the ultimate panic of the market has started [19].

Among these banks, Lehman Brothers were the worst-performing bank regarding its reliability. Soon the bank found itself desperate, and liquidation seemed unavoidable. The decision was about to take down the entire banking system and the economy without necessary government interventions [20].

- **A Minsky perspective of the GFC: the financial instability hypothesis**

As early as 1982, a post-Keynesian economist, Hyman Minsky, worried about the capitalist regime's financial market. As Minsky argued, the financial market in capitalism states is doomed to face boom-bust cycles without necessary government interventions [21].

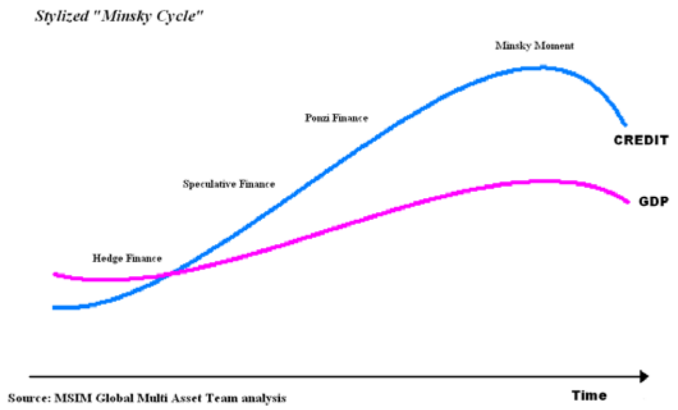

Figure 6: Minsky moment [22]

Around 30 years later, the unfavored Minsky perspectives became what has happened in GFC. Just like what Minsky has anticipated, the free market has experienced a crazy boom first with the interactions of demand and supply factors, creating a vast bubble. Then the hedge finance becomes speculative and further to Ponzi finance. Inevitably, at a particular moment, everything that happened before reversed. Moreover, this is referred to as the 'Minsky moment', shown in figure 6 above.

In summary, we have thoroughly explained the reasoning behind the GFC from a macroeconomic perspective. It could be concluded that the Lehman Brothers might be considered a 'victim' of the housing bubble that emerged before GFC. The macroeconomic background of its failure was explained.

3. Why Lehman Brothers? A Micro-level Analysis

While almost all banks engaged in hazardous investments and business before the GFC, most of them did not end up being bankrupt like the Lehman Brothers. Thus, this provides incentives to conduct a micro-level bank-management analysis to understand how the Lehman Brothers made decisions that ultimately led to their failure.

Theoretically, a failed bank usually displays these characteristics: low liquidity in terms of its ability to repay its debts in the event of an emergency or fulfil its obligations when needed, low capital reserves in terms of its financial structure, and high leverage because of over-borrowing [23]. Meanwhile, it is expected to see messy and confusing internal management of the bank, which the information asymmetry between managers and employees was significant. This would undoubtfully result in weak management and waste of resources.

In the case of Lehman Brothers, following the market trend of chasing higher profits pre-GFC, the Lehman Brothers' management board chose to ignore the long-term risks and focused mainly on short-term gains. The Lehman Brothers had overzealous lending in the housing bubble and overly engaged with the subprime market. By the time it failed, the bank had to maintain its short-term debts by borrowing millions of dollars daily, making the firm operate under a Ponzi scheme [24]. Thus, the bank was significantly over-leveraged. As shown in Figure 7 on the next page, Lehman Brothers' leverage ratio is more than 32 times its equity. With such company performance, it could be expected that the Lehman Brothers' liquidity and capital levels had deteriorated to a disastrous level.

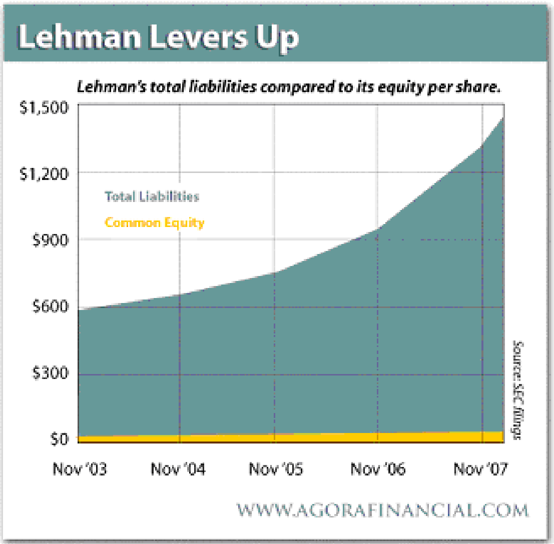

Figure 7: Lehman Brothers' leverage [25]

Besides the over-engagement in the housing bubble and the risky subprime mortgages, what made the situation worse was the failure of internal management. After its bankruptcy, it was found that the Lehman Brothers' board was unaware of its own actual bank's liquidity level [26]. This would for sure lead to misjudgment and wrong decisions. Therefore, the untransparent internal management of the bank has made the situation even worse.

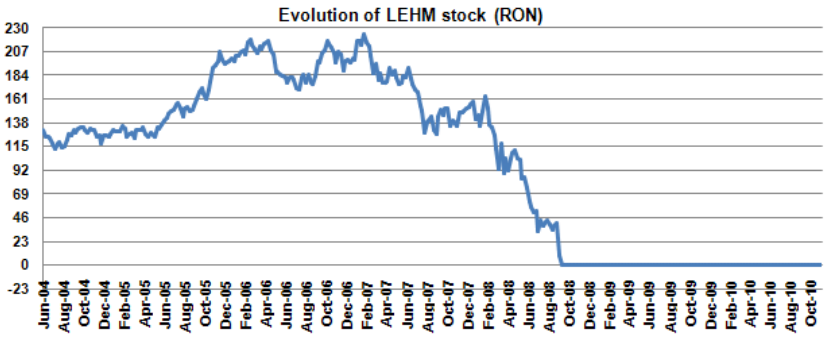

Figure 8: Stock price of the Lehman Brothers [27]

The doom is destined with the Lehman Brothers exhibiting almost all significant features for a bank to fail. As shown in figure 8 above, the stock price of the Lehman Brothers plumped dramatically during 2007, followed by its peak at the beginning of the year.

For these reasons combined, the failure of management of the bank led to the ultimate bankruptcy of the Lehman Brothers. Besides the macroeconomic impacts that all banks faced, the Lehman Brothers had unique and deadly management issues. In other words, the bank itself was fundamentally flawed, and it seemed that its failure mainly had itself to blame.

4. In the Storm Eye: Could the Government Save the Lehman Brothers in 2008?

While the failure of the Lehman Brothers seemed to be self-inflicted, as the center of the storm eye during the GFC, many people have been questioning the government's option that they seemed to have let it fail without intervention.

The Feds claimed that they could not save the Lehman Brothers, given that the bank does not have a sufficient level of collateral to be permitted for a loan by using the Fed's emergency funds [28]. Although the dilemma of 'too big to fail' was seriously considered, the Feds decided that the fundamental issues of the Lehman Brothers were so severe that they could not be saved in 2008 [29].

The intuition to save a bank by the government when the bank is facing liquidation is based on the idea of contagion. Suppose there is contagion in the financial and banking crises. In that case, the government must lend a hand at the early stages of the crisis to make sure the entire system is not brought down by several fundamental failures [30]. However, suppose there are no contagion failures in a crisis, and all the failed banks were essentially fundamental failures. In that case, the government should not intervene too much to cause moral hazard issues [31].

The problem became complicated when we examined the government's behaviors today. Indeed, even the government did not prevent the Lehman Brothers from failing, the entire system survived, though with high costs. However, it should be noted that the Feds still responded in various ways during the GFC, which prevented the further collapse of the banking system [32]. Should the Feds have acted earlier, the consequences of the GFC might have been mitigated significantly.

5. Conclusion

This paper has examined the micro-level bank-management issues and the macroeconomics-level bank regulation implications, based on a case study of the Lehman Brothers during GFC.

Starting from presenting the context and background of the GFC and the history of the Lehman Brothers, the paper then carefully examined the theoretical explanations of the GFC. Besides a real-economy business cycle perspective, the housing bubble and subprime crisis were the significant causes of the GFC, which could be explained using Minsky's theories.

Then the paper went through several details of the Lehman Brothers' micro-level management issues, concluding that the bank was fundamentally failed. Next, the problem of whether the Lehman Brothers should have been saved was discussed in the following section.

The paper has significant policy implications. For a bank's management itself, it is expected that a sustainable strategy for a bank should be made by evaluating its balance between short-term benefits and long-term development. Meanwhile, maintaining a reasonable level of liquidity, capital, and leverage is necessary to keep the bank stable and safe. Also, the institutional design of the bank should allow the managers to understand its own position in the market transparently.

At a macroeconomics level, by viewing the financial market as a whole. It is expected that the government or the central bank should be aware of the Minsky cycle and act early before the crisis happen. Deregulation should be carefully considered with necessary prudential regulations to supervise the banks. The property market should be kept stable rather than volatile and create bubbles. In a crisis, the government should intervene early to prevent the fundamental failures from contagion to the entire banking system.

While the paper is limited by its size, further detailed research could be done by expanding the topic by investigating more data and theories. Meanwhile, a comparative study between the Lehman Brothers with other failures in history or healthy banks during the GFC could improve the understanding of the crisis.

The famous German philosopher Georg Hegel had a well-known quote: "The only thing we learn from history is that we learn nothing from history [33]." At this challenging time of the Covid pandemic, it should be expected or hoped that the situation is different this time.

References

[1] Cecil Bohanon, “Economic Recovery: Lessons from the Post-World War II Period ” Mercatus center, September 10, 2012 https://www.mercatus.org/publications/economic-history/economic-recovery-lessons-post-world-war-ii-period

[2] Warwick J Mckibbin and Andrew Stoeckel, “The Global Finance Crisis: Causes and Consequences ”, Lowy Institute, November 2009 https://archive.lowyinstitute.org/sites/default/files/pubfiles/McKibbin_and_Stoeckel%2C_The_global_financial_crisis_1.pdf

[3] Derwin Tambunan, “Global Financial Crisis (GFC) and Its Implication on COVID-19 Pandemic Crisis”, International Journal of Social Science and Education Research Studies, November 2021 https://www.researchgate.net/publication/356290292_Global_Financial_Crisis_GFC_and_Its_Implication_on_COVID-19_Pandemic_Crisis

[4] “Impact of Covid-19 on the global financial markets - statistics & facts”, Statista Research Department, Aug 3, 2021 https://www.statista.com/topics/6170/impact-of-covid-19-on-the-global-financial-markets/

[5] Mieszko Mazurka, Man Dang & Miguel Vega, “Covid-19 and the march 2020 stock market crash. Evidence from S&P1500”, Finance Research Letters, July 9, 2020 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7343658/

[6] Kimberly Amaded, “Lehman Brothers Collapse ”, the balance, May 31, 2021 https://www.thebalance.com/lehman-brothers-collapse-causes-impact-4842338

[7] Matthew Sherman, “A Short History of Financial Deregulation in the United States”, CEPR , July 2009 https://www.cepr.net/documents/publications/dereg-timeline-2009-07.pdf

[8] “Leihman Brothers -A Fall from Grace”, GFI https://corporatefinanceinstitute.com/resources/knowledge/finance/lehman-brothers/

[9] Rosalind Z. Wiggins and Andrew Metrick, “The Lehman Brothers Bankruptcy H: The Global Contagion”, Yale University 2019 https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1007&context=journal-of-financial-crises

[10] Laurance M Ball, “Ten Years on, the Fed’s failing on Lehman Brothers are all too clear”, The Guardian, Sep 3 2018 https://www.theguardian.com/commentisfree/2018/sep/03/federal-reserve-lehman-brothers-collapse

[11] Doha Soliman, “Fluctuations in The Business Cycle Episode #3 of the course”, Highrow https://gohighbrow.com/fluctuations-in-the-business-cycle/

[12] Blanchard, O., 2017. Macroeconomics, Global Edition. 7th ed. Essex: Pearson Education Limited, pp24.

[13] Jesse Colombo, “Why U.S. Housing Bubble 2.0 is About to Burst”, Forbes, Mar 31, 2020 https://www.forbes.com/sites/jessecolombo/2020/03/31/why-us-housing-bubble-20-is-about-to-burst/?sh=27add9a76b76

[14] Jeffery Frankel & Peter R. Orszag, “Retrospective on American Economic Policy in the 1990’s”, Brookings, November 2, 2001 https://www.brookings.edu/research/retrospective-on-american-economic-policy-in-the-1990s/

[15] Matthew Johnston, “A Brief History of U.S. Banking Regulation”, Investopedia, October 06, 2021 https://www.investopedia.com/articles/investing/011916/brief-history-us-banking-regulation.asp#toc-1980s-deregulation-and-post-crisis-re-regulation

[16] “What is a Subprime Mortgage” MBN https://marketbusinessnews.com/financial-glossary/subprime-mortgage/

[17] “The U.S. Foreclosure Crisis was not just a Subprime Event”, National Bureau of Economic Research, August 2015 https://www.nber.org/digest/aug15/us-foreclosure-crisis-was-not-just-subprime-event

[18] Aaron Brown, “Why did the house prices fall during the Global Finance Crisis”, Quora https://www.quora.com/Why-did-the-house-prices-fall-during-the-Global-Financial-Crisis

[19] Manoj Singh, “The 2007-2008 Financial Crisis in Review”, Investopedia, November 27, 2021 https://www.investopedia.com/articles/economics/09/financial-crisis-review.asp

[20] Ben Chu, “Financial crisis 2008: How Lehman Brothers helped cause the worst financial crisis in history”, Independent, September 12, 2018 https://www.independent.co.uk/news/business/analysis-and-features/financial-crisis-2008-why-lehman-brothers-what-happened-10-years-anniversary-a8531581.html

[21] Minsky Ph D, H. P. (1982). The financial-instability hypothesis: capitalist processes and the behavior of the economy. https://digitalcommons.bard.edu/cgi/viewcontent.cgi?article=1281&context=hm_archive

[22] Wikipedia-Minsky moment https://en.wikipedia.org/wiki/Minsky_moment

[23] Alali, F., & Romero, S. (2013). Characteristics of failed US commercial banks: an exploratory study. *Accounting & Finance*, *53*(4), 1149-1174. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-629X.2012.00491.x

[24] ANNE SRADERS, “The Lehman Brothers Collapse and How It's Changed the Economy Today”, The Street, SEP 12, 2018 https://www.thestreet.com/markets/lehman-brothers-collapse-14703153

[25] “Lehman Bros. vs. Bear Stearns” Bullion Vault 5/29/2008 https://www.bullionvault.com/gold-news/lehman_bear_stearns_fed_bonds_financial_052920082

[26] Duncan Wood, “Lehman board was kept in the dark about dwindling liquidity”, Risk, 12 MAR, 2010 https://www.risk.net/risk-management/liquidity-risk/1596318/lehman-board-was-kept-in-the-dark-about-dwindling-liquidity

[27] Ciupac-Ulici Maria-Lenuta, “The impact of Lehman Brothers on Romanian banks listed on BVB”, ResearchGate, Nov 2010 https://www.researchgate.net/figure/Figure-no1-Evolution-of-Lehman-Brothers-stock-during-June-2004-October-2010_fig5_241751939

[28] David Skeel, “History credits Lehman Brothers’s collapse for the 2008 financial crisis. Here’s why that narrative is wrong”, BROOKINGS, September 20, 2018 https://www.brookings.edu/research/history-credits-lehman-brothers-collapse-for-the-2008-financial-crisis-heres-why-that-narrative-is-wrong/

[29] Cloud Y, “Why hadn’t the Federal Reserve rescued Lehman Brothers ten years ago?”, Medium, September 15, 2018 https://medium.com/econexplainer/why-hadnt-the-federal-reserve-rescued-lehman-brothers-ten-years-ago-78a1df51a751

[30] Rosalind Z. Wiggins and Andrew Metrick, “The Lehman Brothers Bankruptcy H: The Global Contagion”, Yale University 2019 https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=1007&context=journal-of-financial-crises

[31] Calomiris, C. W., & Mason, J. R. (1994). Contagion and bank failures during the Great Depression: The June 1932 Chicago banking panic. https://www.nber.org/system/files/working_papers/w4934/w4934.pdf

[32] “The Federal Reserve's response to the financial crisis and actions to foster maximum employment and price stability”, Credit and Liquidity Programs and the Balance Sheet https://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm

[33] Ashwin Sanghi, “What we learn from history is that we do not”, Opinion, March 25, 2019 https://timesofindia.indiatimes.com/blogs/chanakyas-chant/what-we-learn-from-history-is-that-we-do-not/