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Laurence M. Ball
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1 Introduction

On Monday, September 15, 2008, at 1:45 AM, Lehman Brothers Holdings Inc. filed a bankruptcy petition in the United States Bankruptcy Court for the Southern District of New York. This action was the most dramatic event of the financial crisis of 2007–2009, and many economists believe it greatly worsened the crisis and the Great Recession that followed.

Why did Lehman Brothers fail? At one level, the answer is clear. Lehman suffered large losses on real estate investments in 2007–2008, which threatened its solvency. Other financial institutions lost confidence in Lehman, precipitating a liquidity crisis: the firm could not roll over the short-term debt that funded its illiquid assets. Lehman declared bankruptcy in the early hours of September 15 because it did not have enough cash to open for business that morning and pay debts that were due immediately.

At another level the Lehman story is less clear. Lehman was the only large financial institution that had to file for bankruptcy during the financial crisis. Others, such as Bear Stearns and AIG, also experienced liquidity crises and surely *would* have gone bankrupt if not for emergency loans from the Federal Reserve. Why didn't the Fed make a loan to rescue Lehman?

This question is controversial among students of the financial crisis. Some say that Fed officials bowed to political opposition to a Lehman "bailout." Others say that policymakers were concerned about moral hazard: they feared that rescuing Lehman would encourage excessive risk-taking by other firms. Yet another factor, according to many, is that policymakers underestimated the damage that Lehman's bankruptcy would do to the financial system and economy.

Fed officials insist, however, that none of these views is correct. The people in charge in 2008, from Federal Reserve Chairman Ben Bernanke on down, have said repeatedly that they wanted to save Lehman, but could not do so because they lacked the legal authority. When the Fed lends to a financial institution, Section 13(3) of the Federal Reserve Act requires that the Fed receive "satisfactory" collateral to protect it if the borrower defaults. In a speech at the Fed's Jackson Hole conference in 2009, Bernanke said of Lehman:[1]

> [T]he company's available collateral fell well short of the amount needed to secure a Federal Reserve loan of sufficient size to meet its funding needs. As the Federal Reserve cannot make an unsecured loan . . . the firm's failure was, unfortunately, unavoidable.

Bernanke reiterated this point in 2010 in his testimony before the Congressionally appointed Financial Crisis Inquiry Commission (FCIC):[2]

> [T]he only way we could have saved Lehman would have been by breaking the law, and I'm not sure I'm willing to accept those consequences for the Federal Reserve and for our systems of laws. I just don't think that would be appropriate.

In his 2015 memoir, *The Courage to Act*, Bernanke states again that Lehman did not have "sufficient collateral to back a loan of the size needed to prevent its collapse."[3]

This book sets the record straight on why the Fed did not rescue Lehman Brothers by presenting evidence that clearly supports two related conclusions. First, Fed officials' beliefs about their legal authority were not the real reason that they chose not to rescue Lehman. Second, the Fed did, in fact, have the authority to rescue the firm.

The following findings support these conclusions:

- A substantial record of policymakers' deliberations before the Lehman bankruptcy contains no evidence that legal barriers deterred them from assisting Lehman or that they examined the adequacy of the firm's collateral.

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- Arguments about legal authority made by policymakers since the bankruptcy are unpersuasive. These arguments involve flawed interpretations of economic and legal concepts, and factual claims that are not accurate.
- From a detailed examination of Lehman's finances, it is clear that the firm had more than enough collateral to secure a loan to meet its liquidity needs. Such a loan could have prevented a disorderly and destructive bankruptcy, with negligible risk to the Fed.
- More specifically, Lehman probably could have survived by borrowing from the Fed's Primary Dealer Credit Facility on the terms offered to other investment banks. Fed officials prevented this outcome by restricting Lehman's access to the PDCF.

We will never know what Lehman Brothers' long-term fate would have been if the Fed had rescued it from its liquidity crisis. There are several possibilities: Lehman might have survived indefinitely as an independent firm; it might have been acquired by another institution; or it might have eventually been forced to wind down its business. Whichever of these outcomes occurred, however, would have been less disruptive to the financial system than the bankruptcy that actually happened.

If legal constraints do not explain why the Fed did not rescue Lehman, then what does? The available evidence supports the theories that political considerations were important, and that policymakers did not fully anticipate the damage from the bankruptcy. The record also shows that the decision to let Lehman fail was made primarily by Treasury Secretary Henry Paulson; Fed officials deferred to Paulson even though they had the sole authority to make such a decision under the Federal Reserve Act.

A PREVIEW OF THE ARGUMENT

The Lehman crisis and the Federal Reserve's response to it were complex, and this book examines the episode in considerable detail to determine, as precisely as possible, exactly what happened and why. Here is an overview of how the book proceeds.[4]

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The Financial Crisis and Lehman's Failure

Chapter 2 presents a history of the Lehman crisis and places it within the broader financial crisis that unfolded in 2008. Other landmark events include the Fed's rescues of Bear Stearns in March and AIG in September when liquidity crises threatened those firms. As many have pointed out, a satisfactory account of Fed policy must explain why Lehman was treated differently from Bear, AIG, and other companies.

During the week that began on Monday, September 8, Lehman's liquidity was wiped out by a run. Over the weekend of September 13–14, Fed and Treasury officials tried to broker the sale of Lehman to a stronger firm, and they almost succeeded, but a deal with the British bank, Barclays, fell apart on September 14. The central issue examined in this book is what the Fed could have done after the Barclays deal failed to avert Lehman's bankruptcy on September 15.

An important detail of the story – and one that is not widely appreciated – is that not all of the Lehman enterprise failed on September 15. The entity that Barclays almost purchased on the 14th, and which famously filed for bankruptcy on the 15th, was Lehman Brothers Holdings Inc. (LBHI), a corporation with many subsidiary companies. Most of these subsidiaries immediately entered bankruptcy along with LBHI, but one did not: Lehman Brothers Inc. (LBI), Lehman's broker-dealer in New York. The Fed kept LBI in business from September 15 to September 18 by lending it tens of billions of dollars. After that, Barclays purchased part of LBI and the rest was wound down by a court-appointed trustee. These events raise another important question: Why did the Fed choose to assist LBI but not its parent, LBHI?

Section 13(3) of the Federal Reserve Act

Chapter 3 explores the law that governs lending by the Federal Reserve. Normally, the Fed lends only to depository institutions (traditional discount lending). Under Section 13(3) of the Federal Reserve

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Act, however, the Fed can lend to non-depository institutions such as investment banks under "unusual and exigent circumstances." Almost everyone agrees that conditions in 2008 were unusual and exigent.

The legal controversy about Fed lending concerns the requirement under Section 13(3) that a loan be "secured to the satisfaction of the Reserve Bank" that makes the loan. Usually, security takes the form of collateral – borrower assets that the Fed can seize if the borrower defaults. Nobody has given a precise definition of "satisfactory security," but Fed officials have interpreted the concept to mean that the Fed cannot make a loan if there is a significant risk that it will lose money on the deal. In the words of the General Counsel of the Board of Governors, "You have to be pretty confident you will be repaid."

Was Lehman Solvent?

Chapter 4 analyzes LBHI's financial condition before its bankruptcy as summarized by the firm's balance sheet, and examines the controversial issue of whether Lehman was solvent. Section 13(3), as it stood in 2008, did *not* require that recipients of Fed loans be solvent by any definition. However, examining Lehman's solvency helps us to understand what assistance the firm needed to survive its liquidity crisis, and to assess its longer-term prospects.

In a financial statement for August 31, 2008, LBHI reported assets of approximately $600 billion and liabilities of $572 billion. These figures imply that the firm was solvent, with stockholder equity of $28 billion.

It is generally agreed that Lehman valued some of its assets at more than their true market values. Yet the extent of overvaluation was not as great as some commentators have suggested. About $60 billion of reported assets (primarily investments in real estate and private equity) were questionable. Other financial institutions estimated that these assets were overvalued by $15 billion to $32 billion. If we subtract that amount from Lehman's total assets,

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the firm's equity falls from the reported level of $28 billion to something between –$4 billion and +$13 billion. Thus, with realistic asset values, Lehman was near the border between solvency and insolvency.

These calculations are based on mark-to-market valuation of Lehman's assets, that is, on estimates of the prices at which Lehman could have sold the assets at the time of its crisis. In the distressed markets of September 2008, the prices of many assets had fallen below their fundamental values (as determined, for example, by likely repayment rates on loans). If Lehman was near the edge of solvency with mark-to-market valuation, then it was probably solvent based on its assets' fundamental values.

Fed officials have said repeatedly that Lehman was insolvent, but they have never supported this claim with an analysis of the firm's balance sheet. When pressed to back up the claim, officials have offered explanations with a number of flaws, including confusion between the concepts of insolvency and illiquidity and misinterpretations of statements by Lehman executives.

Lehman's Liquidity Crisis

After Bear Stearns nearly failed in March 2008, many commentators suggested that Lehman Brothers might also be in danger. Fears about Lehman grew throughout the summer of 2008 as the firm suffered losses on its real estate investments. Eventually Lehman experienced a run: a self-reinforcing cycle of decreases in its share price, downgrades of its bonds by rating agencies, and a flight of its customers and counterparties in various financial transactions.

The fatal part of this cycle was a liquidity crisis, which Chapter 5 examines in detail. This liquidity crisis involved a number of factors, the most important of which involved Lehman's repurchase agreements, or repos.

These repos were effectively short-term loans that Lehman took out using the firm's securities as collateral. In early 2008, Lehman's liabilities included more than $200 billion in repos, which it rolled over continuously. Lehman and other investment banks believed that

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repos were a stable source of funds. They were safe for lenders because the loans were secured by collateral that was worth more than the loans. In determining how much cash to provide, lenders would take off some percentage of the collateral's value, called a "haircut," to cover any costs of selling the collateral if the borrower defaulted. Investment banks believed that because lenders were protected by this over-collateralization, they would not cut off a firm's repo funding during a crisis.

A surprising aspect of the 2008 crisis was that repo funding proved *not* to be reliable. Cash lenders abruptly cut off repos with Bear Stearns in March and with Lehman in September. The reasons for these actions are not entirely clear, but whatever the reasons, the loss of repo financing was disastrous for Bear's and Lehman's liquidity.

Lehman's loss of liquidity began during July and August of 2008, and accelerated sharply during the week of September 8. On Friday, September 12, Lehman had almost no cash, and it was clear the firm would immediately default on its obligations if it opened for business on Monday, September 15.

The Fed Could Have Provided Lehman with Liquidity Support

Chapter 6 turns to the central question of this book: Could the Fed have kept Lehman in operation with a loan that was well-secured, and hence legal? This question turns on how much cash the firm needed to borrow, and how much collateral it had available. I examine this issue in three complementary ways.

A Simple Calculation On the eve of its bankruptcy, Lehman's balance sheet had two key features. First, the firm was on the borderline of solvency, which means its total assets (with reasonable valuations) and its total liabilities were approximately the same: each was about $570 billion. Second, the liabilities included $115 billion of unsecured long-term debt, meaning debt that was not due for 12 months or more. Together, these facts imply that Lehman had enough collateral for any liquidity support it might have needed.

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To see this point, consider the most severe liquidity crisis imaginable: Lehman must immediately repay *all* of its short-term liabilities, defined as its liabilities less its long-term debt. Assume also that Lehman cannot liquidate any of its assets. Short-term liabilities total $455 billion ($570 billion minus $115 billion), so Lehman must borrow that much cash. It has $570 billion of assets, which are unencumbered because its only remaining liability, long-term debt, is unsecured. Therefore, Lehman's available collateral ($570 billion) exceeds the largest loan it could possibly need ($455 billion) by $115 billion, or about 25 percent.

A Likely Scenario How much would Lehman have actually needed to borrow from the Fed to stay in operation? While the answer to this question is speculative, detailed information on the liquidity drains the firm experienced allows me to make a reasonable estimate: Lehman would have needed about $84 billion of assistance to stay in operation for a period of weeks or months.

Lehman could have borrowed this $84 billion from an existing Fed facility, the Primary Dealer Credit Facility (PDCF), because the firm had at least $114 billion of available assets that were acceptable as PDCF collateral. Thus, the Fed probably could have rescued Lehman without a new Section 13(3) authorization. Instead, Fed policymakers chose to restrict Lehman's access to the PDCF.

Comparison to Liquidity Support for LBI After the bankruptcy of its parent company (LBHI), Lehman's New York broker-dealer, LBI, was permitted to borrow daily from the Fed's PDCF in amounts ranging from $20 billion to $28 billion. These loans allowed LBI to operate from September 15 to September 18, on which date Barclays acquired most of LBI. The amounts of these loans are consistent with my estimate that $84 billion could have sustained the entire Lehman enterprise for weeks or months.

Fed Pre- and Post-Bankruptcy Discussions about Liquidity Support

As Chapter 7 describes, Fed officials discussed the possibility of liquidity support for Lehman before the bankruptcy; after the bankruptcy,

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Fed officials made many statements about why they withheld that support.

Discussions before September 15 From the Bear Stearns crisis in March 2008 to September 13, the staffs of the New York Fed and the Board of Governors extensively analyzed Lehman's liquidity risk and how the Fed might assist the firm if it experienced a crisis. The staffs reported to senior officials on several policy options, including loans from the PDCF to replace the cash that Lehman would lose if its counterparties refused to roll over repos.

These discussions do not explain why, in the end, the Fed chose not to lend to Lehman when its crisis actually occurred. In the available records, there is little discussion of Lehman's collateral, and no discussion at all of any legal issues related to Section 13(3).

Bernanke on September 23 Ben Bernanke first discussed the Lehman bankruptcy in Congressional testimony just eight days after it happened. On that occasion he said that "the Federal Reserve and the Treasury declined to commit public funds" to Lehman because "the troubles at Lehman had been well known for some time" and "we judged that investors and counterparties had had time to take precautionary measures." Bernanke did not mention concerns about collateral or legal barriers to assisting Lehman.

Bernanke later disavowed his initial testimony about Lehman. In 2010 he told the Financial Crisis Inquiry Commission, "I regret not being more straightforward there, because clearly it has supported the mistaken impression that in fact we could have done something [to save Lehman]." Bernanke makes a similar statement in his 2015 memoir.

Dubious Claims about Lehman's Collateral In a speech on October 7, 2008, Bernanke first claimed that Lehman had insufficient collateral for the loan it needed, thus making the loan illegal under Section 13(3). Since then he has repeated that position many times, as have other officials including Timothy Geithner (the New York Fed President in 2008) and the General Counsels of the Board of Governors and the New York Fed. However, nobody has ever

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presented any details about Lehman's finances to support this position.

In 2010, Bernanke testified at a public hearing of the FCIC, and several FCIC Commissioners pushed him to back up his claims about Lehman's collateral. Bernanke said that the New York Fed analyzed Lehman's finances and reported to him that "the liquidity demands on the holding company [LBHI] were much greater than the collateral that they had available to meet those demands." The FCIC sent Bernanke a follow-up letter that asked pointedly for details of the New York Fed's analysis and for "the dollar value of the shortfall of Lehman's collateral" relative to its liquidity needs. Bernanke never answered these questions.

Another witness at the 2010 FCIC hearing was Thomas Baxter, General Counsel of the New York Fed. Baxter also testified that Lehman's collateral was inadequate, but when pressed for details he deflected the question. He said that a loan to LBHI "was never seriously considered by the Federal Reserve," and that policymakers had decided before LBHI's final weekend that it must declare bankruptcy unless it was acquired by a stronger firm.

How the Fed Ensured Lehman's Bankruptcy

Fed officials did not stand by passively as Lehman failed. They took actions to force LBHI to file a bankruptcy petition, as Chapter 8 describes. On the afternoon of Sunday, September 14, after it became clear that Barclays was not going to buy LBHI, officials of the New York Fed called Lehman executives to a meeting. According to multiple accounts, General Counsel Baxter announced, "We've come to the conclusion that Lehman has to go into bankruptcy," or words to that effect. Baxter said that LBHI should file a bankruptcy petition by midnight that night.

The Fed does not have the legal authority to order a corporation to file for bankruptcy. However, officials took actions to ensure that Lehman had no good alternative. Specifically, they prevented Lehman Brothers International Europe (LBIE), the firm's London broker-dealer,