

Asset Sales or Loans: The Case of Lehman Brothers' Repo 105s

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Abstract

Lehman Brothers, Inc. was one of the very early casualties of the 2008-09 worldwide financial crisis becoming the largest bankruptcy of a U.S. financial institution. Prior to its demise, Lehman Brothers periodically employed an accounting technique known as Repo 105 for its financial reporting of certain transactions involving repurchase agreements. The Repo 105 accounting allowed Lehman to temporarily reduce its debt levels during periods that included financial statement preparation. The purpose of this case is to summarize the accounting for Lehman Brothers' Repo 105 transactions, present some classroom discussion points, and provide student review questions related to accounting and financial reporting issues underlying the Repo 105 transactions.

Background

On September 15, 2008, Lehman Brothers, a former global financial services firm, became the largest firm at the time to declare bankruptcy in United States history. In several time periods prior to the bankruptcy, Lehman employed an accounting technique euphemistically referred to as either "Repo 105" or "Repo 108." Although the role of these repurchase agreements in the bankruptcy is not completely clear, many argue that the technique enabled Lehman Brothers to hide large amounts of liabilities for the purpose of misinforming investors, business partners, and regulators. According to the Bankruptcy Examiner's Report (BER, page 172), "Lehman employed off-balance sheet devices, known within Lehman as 'Repo 105' and 'Repo 108' transactions, to temporarily remove securities inventory from its balance sheet, usually for a period of seven to ten days, and to create a materially misleading picture of the firm's financial condition in late 2007 and 2008." Although Lehman's accounting treatment of its repurchase agreements has now been specifically excluded by FASB Accounting Standards Update 2011-03, lessons for accounting educators and their students have emerged.

In this case we first review and summarize the accounting for Lehman Brothers' Repo 105 and 108¹ transactions. We then present several areas of the case that provide potential insights for students through class discussions. Finally, we provide a series of questions appropriate for an out-of-class assignment that relate to the accounting and financial reporting issues underlying the Repo transactions.

¹The numbers 105 and 108 refer to the amount of overcollateralization that accompanied a repurchase transaction. 105 percent overcollateralization was used for fixed income securities collateral and 108 percent was used for equity securities collateral. Because the accounting was the same, the remainder of the paper simply refers to Repo 105 transactions.

What are Repo 105s?

A repurchase agreement (Repo) involves a temporary transfer of assets (often fixed income or equity securities) to a counterparty for cash accompanied by a simultaneous agreement to repurchase the same (or equivalent) assets at a specified price at a later date. At the later date (often as short as a week or ten days), the transferee returns the securities to the borrower who repays the loan with interest in cash. As part of the exchange, one party receives securities as collateral for the cash loaned, while the other receives cash collateral for the securities loaned.

Repo agreements are both widely used and recognized as a legitimate means of providing financing for short-term liquidity needs. Published reports indicate that overall size of the repo market is large, estimated at close to \$12 trillion.² Banks frequently utilize Repos to borrow money from companies that have extra cash reserves. To reduce the repayment risk for the company lender, the bank transfers financial assets to the lender as collateral. The collateral protects the lender in the event that the borrower defaults on the loan. Few would argue that the bank is actually selling financial assets to the counterparty. The substance of the transaction is a short-term loan.

For the most part, Repos had been accounted for as financing transactions with the temporarily transferred assets remaining on the firm's balance sheet accompanied by a liability for the cash provided from the repurchase agreement. Lehman, however, recorded many of its Repo as sales rather than the usual treatment as a loan. By recording its Repo 105s as sales rather than financing transactions, the accompanying cash transfer (effectively, a loan) to Lehman was never recorded as a liability.

The number 105 (or in many instances 108) was appended to the term Repo to describe the amount of loan collateral and reflects the use of the transaction as a vehicle to achieve an accounting result. For example, to secure a \$100 million cash loan, a borrower would provide as collateral securities with a fair value of \$105 million. As described by Hallman (2010),

A typical Repo 105 would begin with Lehman's European unit transferring \$105 million or \$108 million worth of securities to a counterparty in exchange for \$100 million in cash. Lehman would then use the money to pay down other short-term liabilities, so that it could report quarterly leverage numbers low enough to satisfy the ratings agencies, and thus investors. A few days after the quarter ended, Lehman would repay the cash, plus interest, and get its collateral back.

Such arrangements were often characterized as "over collateralized." Moreover (and puzzling on the surface), the lender in the transaction often did not request such overcollateralization. So why did Lehman put up \$105 million of collateral for a \$100 million short-term cash loan?

Follow the Accounting

The existing accounting standards at the time allowed for two primary treatments of Repo transactions for the party borrowing cash—as a financing transaction or as a sale of securities. If the Repo was considered a financing transaction, then (1) the pledged securities remained on the borrower's balance sheet and (2) a liability for the cash received was recognized. However, if the Repo was considered a sale, then (1) the assets pledged as collateral for the cash loan were removed from the balance sheet until the repurchase took place, and (2) no liability for repayment of the "loan" was recognized.

According to SFAS 140 (paragraph 218), operative at the time of Lehman's Repo transactions,

..the transferor's right to repurchase is not assured unless it is protected by obtaining collateral sufficient to fund substantially all of the cost of purchasing identical replacement securities during

² For example, see Rapoport (March 16, 2010) and Goldstein (March 12, 2010).

the term of the contract so that it has received the means to replace the assets even if the transferee defaults.

Judgment is needed to interpret the term *substantially all* and other aspects of the criterion that the terms of a repurchase agreement do not maintain effective control³ over the transferred asset.

However, arrangements to repurchase or lend readily obtainable securities, typically with as much as 98 percent collateralization (for entities agreeing to repurchase) or as little as 102 percent overcollateralization (for securities lenders) ...typically fall clearly within that guideline. The Board believes that other collateral arrangements typically fall well outside that guideline.

Thus, Repo collateralization between 98% and 102% of the borrowed amount allows the bank to buy back the collateral, meaning the bank retains the control. In other words, the criteria listed above would not be met if the temporarily transferred asset value was set between 98% and 102% of the borrowed amount. Consequently, the transaction would be characterized as a "borrow". Given the delineation, Lehman arbitrarily decided that a 105% overcollateralization could be counted as a "sale". It is noteworthy to know that no accounting rule mentions that 105% would qualify as a "sale." However, by setting a 98% to 102% guideline for sale vs. financing treatment, the accounting rule may have acted effectively as an invitation to manipulation or window dressing.

Lehman specifically referred to SFAS 140 in its *Accounting Policy Manual* (2008) on Repo 105 and 108 as follows, "Repo 105 and Repo 108 transactions refer to repos with a counterparty in which we sell securities valued at a minimum of 105% (for fixed income securities) or 108% (for equity securities) of the cash received." These percentages appear to have been selected to fall outside of the SFAS 140 percentage range and thus, at least superficially (and perhaps even technically compliant), allowing for sale treatment. As noted in a letter from Robert H. Herz (then FASB Chairman) to the House Financial Services Committee, (Re: Discussion of Selected Accounting Guidance Relevant to Lehman Accounting Policies, April 19, 2010):

It appears that Lehman structured the transactions in an attempt to support a conclusion that there was inadequate cash collateral to ensure the repurchase of the securities in the event of a default by the counterparty, and, on that basis, Lehman determined that sale accounting was appropriate.

According to the BER (page 736), Lehman executives "felt pressure to reduce the firm's leverage for quarterly and annual reports," suggesting an ethical challenge to the executives involved in reporting the Repo transactions. Nonetheless, Lehman temporarily reduced its net balance sheet at quarter-end through its Repo 105 practice by approximately \$38.6 billion in fourth quarter 2007, \$49.1 billion in first quarter 2008, and \$50.38 billion in second quarter 2008. Those amounts would be considered as "material" under any kind of threshold.⁴ Because Lehman used the cash proceeds from its Repo 105 transactions to temporarily reduce its liabilities, its leverage ratio declined. And because the Repo was treated as a sale, the obligation to repay the cash to the counterparty was not recorded. Consequently, the sale treatment for its repos allowed Lehman to report less debt at its balance sheet date.

Lehman's leverage reduction appears to have been motivated by the desire to create an accounting outcome, rather than any business purpose. The BER (2010) argues:

While the Examiner found a large number of contemporaneous documents that talk about the use of Repo 105 transactions to manage the balance sheet and meet leverage targets, few, if any, contemporaneous documents describe any other purpose for those transactions. Repo 105

³ SFAS 140 further observes that "the transferor does not maintain effective control over the transferred assets through either (1) an agreement that entitles and obligates the transferor to repurchase or redeem them before their maturity or (2) the ability to unilaterally cause the holder to return specific assets, other than through a cleanup call."

⁴ The examiner report mentions moving net leverage by 0.1 or more (typically \$1.8 billion) as the threshold. The total assets for Lehman in its 2007 annual reports are around \$691 billion dollars.

transactions were not used for a business purpose, but instead for an accounting purpose: to reduce Lehman's publicly reported net leverage and net balance sheet. (page 746)...which...materially misrepresented Lehman's true financial condition. (page 747)

A Final Transfer to Qualify for Repo Sale Treatment

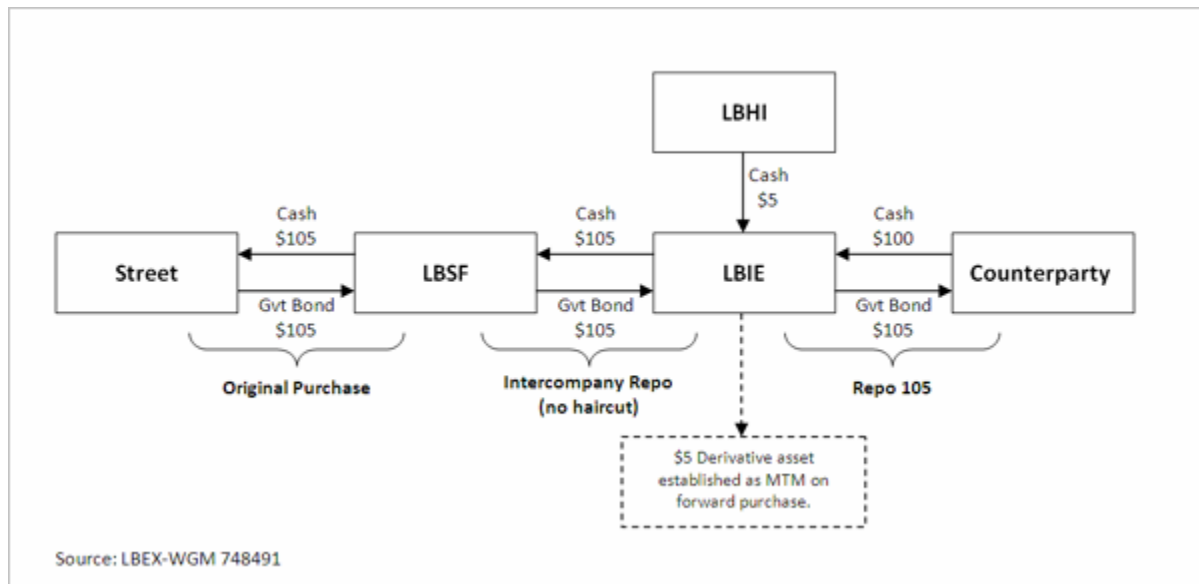
Lehman's sale treatment of its Repos actually stood in marked contrast to the financing treatment used by most US firms. As observed by FASB Chairman Robert Herz, in his letter to the United States House of Representatives, there are two key criteria that determine whether a sale has occurred in a Repo transaction:

- (1) The transferred financial assets must be legally isolated from the company.
- (2) The company that transferred the assets does not maintain effective control over those assets.

Typically, a firm will seek a legal opinion letter stating that a true sale has occurred as evidence to support its accounting treatment. However, as the BER (2010, page 740) observes:

Unable to find a United States law firm that would provide it with an opinion letter permitting the true sale accounting treatment under United States law, Lehman conducted its Repo 105 program under the aegis of an opinion letter the Linklaters law firm in London wrote for the for LBIE, Lehman's European broker-dealer in London, under English law. Accordingly, if United States entities such as LBHI and LBSF wished to engage in a Repo 105 transaction, they transferred their securities inventory to LBIE in order for LBIE to conduct the transaction on their behalf.⁵

Thus, to accomplish its desired sale treatment for its Repo 105s, Lehman needed a legal opinion that a true sale had occurred. Because such assurance was available only in the United Kingdom (U.S. law firms routinely denied such opinion letters), the securities were first transferred to Lehman's London subsidiary, and then exchanged in the Repo transaction. The diagram below from the BER shows the complexities that encompassed Lehman's efforts to report lower leverage ratios immediately prior to its financial reporting dates.



⁵LBIE (Lehman Brothers International [Europe]); LBHI (Lehman Brothers Holding Inc.); and LBSF (Lehman Brothers Special Finance).

Unfortunately, even as it expanded its use of Repo 105s in several quarters leading up to its bankruptcy, Lehman never disclosed the Repos or their treatment as sales on its financial statements.

Class Discussion Points for Lehman Brothers' Repo 105 Reporting

Several interesting accounting and reporting questions emerge from Lehman Brothers' use of Repo 105s and its choices for financial reporting. Among the many possibilities for classroom discussion, we briefly discuss the following below: principles vs. rules, the importance of disclosures, omitted effects of gains and losses from Repo 105 sales, and the treatment of subsequent events.

Principles vs. Rules

Lehman's use of the numerical rules specified in SFAS 140 provides an example of a "principles vs. rules" based comparison that is central to discussions that compare U.S. generally accepted accounting principles (GAAP) to International Financial Reporting Standards (IFRS). The Repo 105 transactions were designed to meet the GAAP provisions for financial reporting as a sale. However, as David Tweedie, former chair of the International Accounting Standards Board observed, "International Financial Reporting Standards does not provide for so-called Repo 105 transactions... We don't allow it. That's why we have principles, not rules, so you can't do it. They find ways to get around rules."⁶ In fact, FASB Update 2011-03 now specifically marks out the 98% and 102% guidelines for sale vs. financing treatment for Repo transactions. Thus the Lehman example provides insights into standard setters' difficulty in maintaining rule-based standards. SFAS 140 opened a potential loophole for removing liabilities from a firm's balance sheet, it was exploited by Lehman, and finally in 2011 the loophole was closed by the FASB.

Importance of Disclosures

Regardless of being characterized as a "sale" or "borrow", transactions occurred very close to the financial statement date, and given the size of the amounts involved, would be of interest to investors. However, according to the BER (page 973), Lehman made no disclosures in its Statement of Income, Statement of Financial Condition, Statement of Cash Flows, or MD&A sections (including its section on liquidity) from which an investor could infer that Lehman treated a certain volume of Repo transactions as sales under SFAS 140, thereby decreasing its net assets and its net leverage ratio. Even if one grants Lehman that the accounting sale treatment for its repo transactions may have technically complied with GAAP, it is difficult to understand why disclosure of such an important accounting policy was absent.

Omitted Effects of Sale Treatment for the Repo 105s

Lehman arbitrarily decided that a 105% overcollateralization could be counted as a "sale" It is noteworthy that those "sales" did not result in recognition of any losses reported in its Statement of Income. Substantial losses might have been recognized because the assets were at least 105% of the cash received in return. Instead of recording a loss on the "sale" of the transferred securities, Lehman used a future purchase commitment account to reflect the difference between the value of the assets transferred and the cash received. Thus even though Lehman treated the temporary asset transfers as sales, no losses (or gains) were recognized on its income statement from its Repo 105 transactions.

Subsequent Events

According to Accounting Standards Codification (ASC) Topic 855, subsequent events occur after a balance sheet date and before the date financial statements are issued. The type 1 events (recognized subsequent events) provide evidence about conditions that existed at the balance sheet date. At one point, Lehman moved more than \$50 billion of assets off its balance sheet at quarter-end through Repo 105 transactions and then returned these assets to the balance sheet approximately a week later (BER, page 957). Under the ASC guidance on subsequent events, given the repayment that occurred soon after the balance sheet date, it seems that the Repo transactions by Lehman should have been considered a "borrow."

⁶"Accounting Boards to Work on Repo Transactions," by Michael Cohn, *Accounting Today*, April 7, 2010.

Review Questions for an Out-of-Class Assignment

In addition to providing a basis for classroom discussion, the case can also be used as an out-of-class assignment to reinforce its main points. In our opinion, the subject matter lends itself to coverage in junior and senior level financial reporting and auditing courses.

We provided the following questions in an assignment for a junior level undergraduate Corporate Financial Reporting course during the fall 2011 semester. The questions were designed with the objective to promote critical thinking skills by asking students to clarify, frame, challenge, and synthesize ideas and information about the case.⁷ Secondary learning objectives (especially question 8 below) include problem solving, measurement, and analysis.

Other than question #8, the questions are open-ended without a right or wrong answer. Students were encouraged to express their own opinions. The suggested solution to question #8 is presented in the Appendix.

1. What was the purpose of Lehman's Repo 105 transactions?
2. In your opinion, should the Repo 105 transactions have been treated as asset sales or loans?
3. Under a Repo 105, to receive a \$100 million cash, Lehman would "give up" securities with a fair value of \$105 million. Was there an income statement effect for Lehman's Repo 105 transactions?
4. What steps did Lehman take to execute a Repo 105 transaction? What does that tell you about the importance of the financial statements?
5. What is the significance of the buy back in the subsequent-event period? How should Lehman Brothers and its auditors have accounted for the buy back?
6. U.S. generally accepted accounting principles (GAAP) are often criticized as being "rules based." Do you believe that the "principles based" International Financial Reporting Standards (IFRS) would have enhanced financial reporting in Lehman's case?
7. Do you think Lehman's Repo 105 transactions were material enough to warrant footnote disclosures on the financial statements? Why didn't the external auditor insist on such disclosures?
8. The Appendix presents an assumed balance sheet of Lehman from the BER (page 760). Also assume that Lehman executed \$50 billion of Repo 105 transactions, the transactions were characterized as sales, and \$50 billion of Financial Instruments and Collateralized Financings have been removed from the balance sheet.

Calculate the Gross Leverage, Net Leverage, and Return on Assets (as defined in the Appendix) under the following two conditions:

- a) the Repo 105 transactions were characterized as sales as Lehman did (the reported financial statement)
- b) the Repo 105 transactions were characterized as loans.

⁷ See Kimmel (1995) and Kern (2000) for additional descriptions and examples of incorporating critical thinking into accounting educational contexts.

Conclusion

Lehman Brother's bankruptcy was the largest to date for a financial institution and occurred near the beginning of a major worldwide financial crisis. The BER provides a massive (2,200 pages across 9 volumes) post-mortem that includes a highly detailed look into an accounting technique known as Repo 105 employed by Lehman. The accounting treatment afforded Repo 105s allowed Lehman to temporarily remove large amounts of debt from its balance sheet surrounding quarterly reporting dates, without the benefit of disclosure. This case describes the Repo 105 transactions, presents some class discussion points, and provides questions to help students understand both the nature of the Repo 105 transactions and the effects of alternative financial reporting choices. Hopefully, students also can benefit from understanding the issues surrounding Repo 105s as an example of both the importance of financial accounting and the difficulties faced by rule makers in providing effective guidance for complex transactions.

Appendix

Assume the following simplified “**reported**” balance sheet (in millions) and income statement information for Lehman Brothers:

Assets		Liabilities	
Cash	\$ 7,500	Short Term Borrowings	\$ 200,000
Financial Instruments	300,000	Collateralized Financings	275,000
Collateralized Agreements	350,000	Long Term Borrowings	150,000
Receivables	20,000	Payables	98,000
Other assets	<u>72,500</u>	Stockholders' Equity	<u>27,000</u>
Total	<u>\$ 750,000</u>	Total	<u>\$ 750,000</u>

Operating Income = \$6,000

Notes:

- Gross leverage, for illustrative purposes only, is calculated as total assets divided by stockholders' equity.
- Net Leverage, for illustrative purposes only, is defined as follows: net leverage = (total assets – collateralized agreements) divided by stockholders' equity.
- Return on Assets, for illustrative purposes only, is calculated as operating income divided by total assets.
- The repo transactions will not affect the three ratios if they are recorded as loans. The ratios under reported financial statements present a healthier and more profitable picture of the company.

Solution--Key Financial Reporting Ratios:

	Reported	No Repo (or Recorded as Loans)
Gross Leverage	$\frac{\$750,000}{\$27,000} = 27.78$	$\frac{\$800,000}{\$27,000} = 29.63$
Net Leverage	$\frac{\$750,000 - \$350,000}{\$27,000} = 14.81$	$\frac{\$800,000 - \$350,000}{\$27,000} = 16.67$
Return on Assets	$\frac{\$6,000}{\$750,000} = .008$	$\frac{\$6,000}{\$800,000} = .0075$

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