

Repo 105 and the Bankruptcy of Lehman Brothers

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Executive Summary

The subprime crisis has been broadly discussed throughout academic literature and newspapers. Multiple reasons for the events as they unfolded have been identified and discussed. Two major topics that were often in the focus are excessive leverage and repurchase agreements. Lehman Brothers was heavily involved in short-term refinancing and eventually became a victim of its own reliance on this type of funding. During the year 2008 various counterparties refused to roll-over their transactions with the investment bank. Therefore it was left on the dry when it came to refinancing its daily business and eventually had to file for protection under Chapter 11 on the 15th of September, 2008. As came to public knowledge in 2010, Lehman Brothers was largely involved in Repo 105 transactions. My thesis aims at investigating the precise surroundings of these transactions and gives a detailed overview on the topic, including the answer to the question if Repo 105 might have influenced the bankruptcy events of Lehman Brothers.

In order to answer my initial questions, in a first part I went through various newspaper archives. My goal was to pin down the big picture of Repo 105. The topic however seemed to be fairly unknown and available data proved to be scarce. As a starting point I therefore read Lehman's bankruptcy report, which was presented by Anton R. Valukas in the year 2010. From there on I started focusing on the various topics that I wanted to be answered in the course of my thesis. In order to support my anecdotal findings, I conducted an empirical analysis. As however only 14 data points were available to me, the explanatory power of the model is rather limited. Furthermore no other investment banks were known to be engaged in Repo-105 type transactions; at least not in the magnitude of Lehman Brothers. It would therefore not have been significant for this thesis to conduct an industry-wide investigation on the topic.

I structured the thesis into four main chapters in connection with Repo 105. In a first part I answer the question why Lehman Brothers might have started using these transactions in the first place. I then show what influence Repo 105 had on the balance sheet and what it was used for. Because the fraudulent measures by Lehman Brothers were not detected before 2010, in a third chapter I shed light on the question how it was even possible to conduct them. Finally, as the regulatory environment was largely

changed after 2008 I put Repo 105 into this new perspective to see whether its issues have been addressed properly.

My findings as well as statements by former top management have shown that Lehman Brothers' involvement in Repo 105 was positively related to leverage. After an SEC rule change allowing for thinner capitalizations in 2004, leverage ratios went up industry-wide. Parallel to this, rating agencies started to become worried about these developments; consequently, focus on net leverage was increased. Lehman Brothers, as well as other investment banks at the time, therefore tried to keep this figure low by several means. As asset sales were mostly connected with write-downs and equity issues were too expensive for this sole purpose, Repo 105-type constructions were used. These repo transactions were classified as sales and hence immediately implied a reduction in net leverage. Neither the public, nor the regulators and the rating agencies knew about these window-dressing measures; it seems however that Lehman's auditor Ernst & Young did. It however failed to pass this very fragile information on as it was considered "not in their scope". Through various loopholes in accounting standards and through a deal structure allowing for regulatory arbitrage Lehman Brothers was able to engage in Repo 105.

In a bankruptcy case of the complexity and scale of Lehman Brothers it is clearly impossible to find single causal actions which have led to its demise. Where did Repo 105 fit in? Throughout the thesis and the analysis I was not able to find clear evidence of a direct connection between Lehman Brothers' bankruptcy and the employment of Repo 105. As these transactions, at least in their magnitude, throughout the industry were one-of-a-kind there is no evidence from other researchers on this topic. Lehman finally became a victim of its large involvement in the Tri-Party repo market. As repo lines were pulled, the investment bank was left on the dry without the urgently needed volume of refinancing. Concerning the Repo 105 transactions I however think, that due to the fact that Lehman's true financial health was masked there might have been some indirect consequences. As leverage is a signal for riskiness of a firm and is therefore connected with down-ratings in case of deterioration, its manipulation only presents a distorted picture of a company but also points at a company's internal need for such actions. This need is often related to excessive risk taking. Indeed some of the rating agencies mentioned that if they had known the true state of Lehman Brothers' net leverage they

might have given a lower rating. In case of a rating down-grade stock prices tend to decline and interest expenses, due to increased credit risk, increase. Therefore knowledge about Repo 105 or at least the true state of Lehman Brothers' financial situation would have been very critical for all stakeholders and above all for stock investors. It is however not clear how this would have further influenced the health of the investment bank. I have argued that Lehman was rather able to "survive a bit longer" thanks to Repo 105. Would knowledge about Lehman's true health have been deeper, counterparties might have stopped their business (including short-term refinancing transactions) with the investment bank at an earlier stage.

As Repo 105 and its surroundings were fairly unknown in the academic world as well as the private economy I am sure that my findings will have contributed to understanding its consequences. I therefore find that Repo 105 and its (mis)use by Lehman Brothers would make an ideal example for future students and professionals to learn from, as this is also the case with broadly discussed accounting scandals, such as Enron. I therefore very much hope that my thesis will have a contribution to keeping our memory of an important aspect of the subprime credit crisis alive.