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Sectoral and industrial performance during a stock market crisis

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ABSTRACT

This paper investigates the impact of the news announcement of the Lehman Brothers' (LBs) bankruptcy on the performance of the New York Stock Exchange (NYSE) sectors and financial industries. Based on descriptive index level results, Bartram and Bodnar (2009) conclude that the reaction of all sectors and industries was homogeneous during the LBs' bankruptcy and equity investors could not benefit from diversification. Motivated by Narayan and Sharma's (2011) findings on firm and sector heterogeneity, this paper employs an event study approach to further examine the sectoral and industrial performance during the bankruptcy period. Daily data for a total of 481 firms is examined. The main contribution of this paper is that it provides evidence that sectors behave heterogeneously during a stock market crisis and the significant adverse impact from the LBs' bankruptcy is discriminatory toward the financial sector and the diversified financial industry, which were most exposed to LBs. This paper proposes for investors to short sell those sector's or industry's securities that are anticipated to be the most significantly adversely affected from a particular negative news announcement.

1. Introduction

The non-strategic bankruptcy of Lehman Brothers (LBs)[1] occurred in the United States (US) financial sector. The market considers a non-strategic bankruptcy to be bad news having an adverse

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[1] LBs was a distressed financial institution that filed for Chapter 11 bankruptcy with petition no. 308-13555 on 15 September, 2008 (see Dumontaux and Pop, 2012; Chong, 2011).

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impact on the stock market performance (Coelho and Taffler, 2008). In addition, a crisis originating from the financial sector is widely believed to be more contagious and risky than those in other sectors of the economy (Kaufman, 1994). Evidence suggests that the LBs' bankruptcy triggered incredible declines in index levels and escalated price volatility universally (Bartram and Bodnar, 2009; Chong, 2011; Eichler et al., 2011; Samarakoon, 2011). The index levels at aggregate level proxy the performance of the stock market firms and sectors. A disadvantage of examining index level performance is that all firms and sector constituents of the index are erroneously assumed to be homogeneous. Similarly, based on descriptive index level results, Bartram and Bodnar (2009) show that the LBs' bankruptcy had a homogenous impact on the performance of all sectors and industries and that equity investors could not benefit from diversification. However, a recent study by Narayan and Sharma (2011) suggests that share market firms and sectors are heterogeneous in nature, with an implication that the LBs' bankruptcy may not impose a significant adverse impact across all sectors. The question that therefore arises is: *Did the LBs' bankruptcy have a homogenous impact on the performance of all sectors or was the adverse impact heterogeneous toward the financial sector and the diversified financial industry which were most exposed to LBs?* This research question has not been addressed so far. Therefore, this study takes the initiative of using a disaggregated approach to investigate whether the financial sector and the diversified financial industry were most significantly adversely affected during the LBs' bankruptcy. This paper also highlights the economic significance of results.

This study is motivated by four pioneering studies: Raddatz (2010), Bartram and Bodnar (2009), Dumontaux and Pop (2012) and Pichardo and Bacon (2009). Bartram and Bodnar (2009) provide evidence that the index returns of all sectors and industries were adversely affected during the LBs' bankruptcy (12 September 2008–27 October 2008). However, Bartram and Bodnar (2009) provide only descriptive index level results. Therefore, no conclusions can be drawn on the significance (if any) of the impact of the LBs' bankruptcy on the sectors and industries. On the other hand, Raddatz (2010), Dumontaux and Pop (2012) and Pichardo and Bacon (2009) used event study methodologies and significance tests to examine stock price returns during the LBs' bankruptcy. Raddatz (2010) investigated the impact of the LBs' bankruptcy on stock price returns of 662 individual banks across 44 countries excluding the US. Dumontaux and Pop (2012) examined the contagion effects from the LBs' bankruptcy on the surviving large US financial institutions for the year 2008. Pichardo and Bacon (2009) examined abnormal returns of 15 investment firms, 9 of which had significant stakes in LBs, for the period between 1 September 2008 and 27 October 2008.

Although Dumontaux and Pop (2012) and Pichardo and Bacon (2009) have used significance tests to examine abnormal return performance during the LBs' bankruptcy, the investigation is conducted only on US financial firms that are large[2] and/or operating in the same industry as LBs. Likewise, Raddatz (2010) examined the performance of banks.

The absence of a thorough investigation of the impact of the LBs' bankruptcy across sectors and financial industries is a gap in the literature. A thorough investigation is important for two reasons. (1) Stronger conclusions can be drawn on the pervasiveness of the impact from the LBs' bankruptcy to ascertain better insights on whether sectors and industries behave homogeneously or heterogeneously during such volatile periods. (2) The disaggregated sectoral and industrial level analysis will enable the construction of profitable trading strategies. Consequently, this paper extends the extant literature by employing an event study methodology and thoroughly investigating the impact of the news announcement of the LBs' bankruptcy on the performance of 10 sectors and all 4 financial industries[3] from the NYSE. All financial firms (irrespective of firm size) and financial industries including real estate investment trusts (REITs) and insurances are examined. The event study analysis used in this paper is not only robust but also has strong theoretical foundations.[4]

[2] "Large" is defined as firms "that reported total assets higher than US$ 1 billion in the last audited financial report before the event date" (Dumontaux and Pop, 2012, p.8).

[3] An "industry" specifically refers to a group of firms involved in the same line of business operations, while a "sector" comprises a group of similar industries.

[4] Conversely, Bartram and Bodnar (2009) findings were only descriptive. The event study approach employed follows the theory of market efficiency and supports Pichardo and Bacon (2009) on the efficiency of the US market during the LBs' bankruptcy.