The Equity Performance of U.S. Firms Emerging from Chapter 11 Bankruptcy

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ARTICLE INFO	ABSTRACT
	The aim of this study is to explore and assess the long-run stock return performance of the firms emerging from bankruptcy under Chapter 11 of the U.S. Bankruptcy Code using event study methodology in U.S. market. The abnormal return tests are executed for the full sample period 1994-2011 as well as two sub-sample periods of 1994-2006 and 2007-2011. Findings for the full sample period as well as first sub-sample period support substantial evidence of positive abnormal returns in short term as well as in long term. Several factors such as changing industrial code, state of incorporation and state of filing etc. are found to have significant effect on positive abnormal returns in the first sub-sample period. However, the results from the second sub-sample period exhibit mixed evidence of both positive and negative abnormal returns. Surprisingly, abnormal returns around the earnings announcements are also found significantly negative. The results from the second sub-sample period and around earnings announcements contradict the findings in previous studies which have documented highly positive abnormal returns for the companies emerging from bankruptcy.

1 Introduction

Insolvent companies have two basic options to avoid liquidation(1) attempt a private restructuring, if successful, resulting in a change in debt terms and/or an exchange of equity for debt or (2) file for court-supervised proceedings. The most efficient and effective alternative of formal bankruptcy procedures is a contentious issue. From an economic viewpoint, the main purpose of bankruptcy procedure is the reallocation of control rights over corporate assets to their most efficient users. Hence, the financially distressed companies can either continue as going concerns or liquidate all of their assets based on the decision by court. And having made that decision, the court should then look for ensuring the largest possible settlements for creditors.(Eckbo,2009).

Private reorganization of financial obligation can be considered as a better option to resolve financial distress in a more efficient manner for any firm with a single lender, complete contracting, and symmetric information. However, problems can arise to reach a private settlement. Information asymmetries may exist between poorly informed outside creditors and better informed managers or insiders of the firm. Another impediment for private restructuring can be holdout problems when the firm's debt is owned by a large number of scattered creditors. So, a costless private workout is not feasible considering these disadvantages and the firm must weigh the costs and benefits of a private workout against those of a court supervised restructuring process(Hotchkiss, John, Mooradian and Thorburn, 2008).Carapeto (2004) demonstrated that informational asymmetries could lead to extended bargaining, requiring several plans of reorganization before an agreement is reached. Giammarino (1989) and Mooradian (1994) showed that poorly informed creditors may prefer a more costly bankruptcy alternative, for example, filing for bankruptcy in the court due to severe information asymmetry.

Generally, an U.S. firm may file for bankruptcy complying one the two legal procedures which are labeled as the Chapters of Bankruptcy Codes under current legal structure of United States. These are liquidation under Chapter 7 and reorganization under Chapter 11. In liquidation under Chapter 7, the defaulter firms' assets are sold and a trustee is appointed to allocate all of its assets to the firm's creditors and proprietors following the absolute priority rule (APR).(Hubbard and Stephenson, 1997).

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Conversely, in reorganization under Chapter 11, the reorganizing firm usually holds the title of the assets for itself and the bankruptcy court supervises the restructuring of a distressed firm instead of liquidating. Meanwhile, a plan for reorganization is formulated and eventually confirmed upon the creditors' consent. The formulated plan is a disclosure statement that specifies how the debtor will restructure and pay off its pre-bankruptcy claims to each class of claimants. The payments to creditors usually consist of a mix of cash, new debt securities, initial public offerings, and other ways of payments. Thus, the firm pays its debt obligations either by liquidation of the firm or disposing off a sizable portion of business assets and eventually emerges from reorganization process. (Hotchkiss et al, 2008).

Mooradian (1994)suggested that Chapter 11 bankruptcy may work as a screening device as information asymmetry deters outsiders to observe the economic efficiency of the restructuring firm. As the debtor's bargaining power and the associated preservation of equity value in Chapter 11 are advantageous for inefficient firms, they prefer filing for restructuring in court rather than following efficient firms in a private workout. As Chapter 11 may fail to resolve information asymmetries, it is possible that creditors remain uncertain about the survival characteristics of the distressed firm. As proposed by Kahl (2002), the most favorable option for creditors may be to postpone the liquidation decision with sufficient uncertainty and collect more information about the firm's viability. After resolving some information asymmetries, some inefficient firms will be allowed to emerge from Chapter 11 and, if unsuccessful post-bankruptcy, instead be liquidated later.

The stocks of firms emerging from a Chapter 11 bankruptcy were often called as "orphan" equities by finance professionals. The popular press reported about positive abnormal returns of these reorganized firms in this market (Eberhart, Aggarwal and Altman, 1999). For instance, as Sandler and Lowenstein (1991) first pointed out, a recent phenomenon is that the companies emerging from bankruptcy reorganization were performing above average returns along with initial public offerings. Investors gained profit of 50% to 100% on their money by trading the new shares of those companies which recently finished reorganization of their business. Even since researchers have been interested in investigating the overall performance of the companies emerging from bankruptcy.

As EspenEckbo(2009) argued that although Chapter 11 may provide a safeguard against excessive corporate liquidations, it may instead cause the excessive continuations. Therefore, it is important to assess the post-emergence performance of restructured companies. Scholars and practitioners have already used a number of ways to evaluate the success of reorganization under Chapter 11 bankruptcy. Primarily, successful restructuring of firms is regarded as a basic evaluator of the effectiveness of the Chapter 11 bankruptcy process. Post-emergence operating performance of the companies is a commonly used technique to appraise the success of reorganization. Besides, stock-market performance reflects investors' expectations which in turn provide evidence of successful operation of the firm. Additionally, to compare the results of the both operating and stock return performance, the performance of some other firms in the same industry can be taken as a control group or some stock market index over a period of time can be used as benchmarks. Filing another chapter 11 bankruptcy a comparatively short period of time after emergence can significantly be taken as a failure of chapter 11 bankruptcy processes. However, this study focuses only on the stock market performance of firms emerging from bankruptcy in order to investigate the effectiveness of the Chapter 11 bankruptcy process.

As stated earlier, Sandler and Lowenstein (1991) opined that general investors in the United States prefer to invest in the stocks of the companies that have emerged from the bankruptcy reorganization process. Although there have been some previous studies regarding the operating performance of companies emerging from the reorganization process, no published study has been found to examine to what extent U.S. investors accept the companies that have been coming out of financial distress for the period 1994-2011. Furthermore, the study by Eberhart et al. (1999) established a trend that investors in the United States invest significantly in companies which have previous record of financial crisis. In addition, it's important to investigate if this trend still persists especially after global financial crisis 2007-2010.Over last several years, the 2007-2010 global financial crisis has caused severe unemployment problem, decreasing production, reduced credit for consumption and investment and the growth slowdown in developed countries. Also, the rapid increase in the number of corporate bankruptcy filings (Cirmizi, Klapper and Uttamchandani, 2010) highlights the importance of further research on the efficiency of bankruptcy laws and the performance of the reorganized companies over last several years.

Therefore, the primary aim of this paper is to examine the equity performance in terms of stock return performance of the firms emerging from Chapter 11 bankruptcy between 1994 and 2011 in the U.S. market. Additionally, this study investigates short run stock return performance around earnings announcements. Finally, a cross sectional analysis is also introduced to investigate the factors behind positive or negative returns of the companies emerging from bankruptcy.

The rest of the paper is arranged as follows. In Chapter 2, literature reviews, important theories and the rationale of this study are discussed. In Chapter 3 the methodology of the research is explored and in Chapter 4 the details of the data are presented. The Chapter5presentsthe summarized results of the study for the time period 1994-2011 and the two sub-sample periods 1994-2006 and 2007-2011. Finally, the conclusion as well as limitations of this study is discussed in Chapter 6.

2 Literature review

A number of studies have been published on the evaluation of the performance of companies emerging from bankruptcy. Mixed empirical evidences on the post-bankruptcy performance of reorganized firms are found in many research journals over the years. Before the broad discussion of previous literature regarding this performance, a summary picture of the contradictions of the findings over the years is provided. Several early papers reported negative post-emergence performance and attributed this performance to high debt ratios, continued need of debt restructuring and weak accounting figures of the emerging companies(LoPucki and Whitford, 1993; Hotchkiss,1995; Gilson, 1997; Hotchkiss andMooradian, 1997).Contrarily, Mooradian (1994) showed that the process of restructuring under Chapter 11 of the U.S. Bankruptcy Codeincreases efficiency by allowing financially workable firms to renegotiate and emerge as a going concern. Furthermore, Eberhart et al (1999) reported that the cumulative abnormal return for the reorganized firm ranges from 24.6% to 138.8% for the 200 days after its emergence. Contradicting most widely accepted findings, Alderson and Betker (1999) showed that firms neither underperform nor over perform following Chapter 11 restructurings. To investigate the reasons behind the apparent difference in the findings of previous research papers, a detailed discussion of previous literature is provided below.

Hotchkiss (1995) determined the median performance of 197 firms emerging from chapter 11 bankruptcy during the period of 1979- 1988 to understand the relationship between management changes and the post-bankruptcy performance. Overall, positive median performance was found. Yet, more than 40 % of 197 the restructured public companies continued to experience operating losses in the three years following bankruptcy. She attributed these losses to the poor operating performance of the reorganized companies, high leverage ratios, declaring bankruptcy for the second time and low positive EBIT. However, Alderson and Betker (1999) and Eberhart et al. (1999) concluded otherwise. Alderson and Betker (1996)determined significantly higher total cash flow returns for the sample firms emerging from bankruptcy than the returns on the S & P 500 Index. They concluded that the operating performance of the companies emerging from Chapter 11 bankruptcy was abnormally positive. Nevertheless, in another study, Alderson and Betker (1999) concluded that the firms emerging from bankruptcy neither under- nor over-perform post restructuring. In addition to Alderson and Betker (1999),Andrade and Kaplan (1998) found that firms emerging from financial distress perform abnormally positive after emergence.

Meanwhile, Eberhart et al (1999) assessed the equity return performance by calculating abnormal return of 131 companies restructured under chapter 11 bankruptcy code. They found consistent evidence of large, positive excess returns in 200 days of stock market prices after emergence. They also found that the average and median excess returns are positive around earnings announcements of emerging companies. In a nutshell, reorganized companies show large positive and significant abnormal stock returns in the first 200 trading days post-reorganization. The results provide an interesting contrast to previous studies that has reported poor operating performance for firms emerging from Chapter 11.On the contrary, Goyal, Kahl and Torous (2003) reported contradictory evidences using different control sample for comparison. They found average abnormal returns close to zero using a value-weighted reference portfolio, but highly negative abnormal returns (-51%) using a size and book-to-market reference portfolio. Later, Kalay, Singhal and Tashjian (2007) determined that the financially distressed firms experienced significant improvements in operating performance during the bankruptcy process in absolute terms as well as compared to industry rivals by enhancing firm value.

Nevertheless, only paper of an emerging market investigating post-bankruptcy performance shows contradictory findings in case of an emerging market. Ahmad, Kadir and Hamzah (2008) examined the stock price performance of 35 Malaysian companies emerging from bankruptcy during the period 2002- 2004. Contradicting previous conclusions in USA, they determined large, negative abnormal returns in 200 days following emergence from bankruptcy. A recent study conducted by Jory and Madhura (2010) found some factors that positively affect stock price performance such as a prepackaged bankruptcy, being incorporated in the state of Delaware, the bankruptcy duration and the proportion of equity retained by the pre-Chapter 11 shareholders. However, new equity ownership and Chief Executive Officer (CEO) changes etc are not found to have positive effect on the stock price performance of firms that emerged from Chapter 11.

Hotchkiss et al (2008) provides an overall understanding of the earlier studies. They conclude that a significant portion of companies restructuring from bankruptcy tend to perform unsuccessfully based on various performance measures. Most of the large public firms tend to emerge from Chapter 11 as independent companies. On the contrary, small private firms are more likely to be liquidated in bankruptcy. Companies merging from bankruptcy frequently demonstrate poor operating performance and fail to overcome the debt burden. Nevertheless, previous researches show abnormal stock returns of emerged firms which over perform various market indexes in the first year following bankruptcy, raising the possibility that market initially undervalues some restructured companies.

In summary, different findings are accumulated in different studies regarding post restructuring performance of the companies emerging from bankruptcy. Likewise, most of the studies use different methods to examine the performance of the emerging firms, which seems incomparable. In order to understand the current performance of companies post-emergence with regard to the U.S. market and an uninvestigated period (1994-2011) in terms of stock return performance, this study adopts a similar methodology to Eberhart et al. (1999)and compares its results with previous studies.

3 Methodology

This Chapter presents the methodology for this study. To explore equity performance of the companies emerging from chapter 11 bankruptcy in terms of stock return, this paper estimates expected returns and executes the cumulative average abnormal returns (CAAR) tests, wealth relative (WR) tests and finally earnings announcement tests.

3.1 Event Study

Ball and Brown (1968) and Fama*(1969)* introduced the event study methodology that is widely used today and it has become the favorite method when measuring performance around an event. The term' event study methodology' frequently refers to different procedures for estimating abnormal returns. These events impact the value of the concerned firms, thereby reflecting on stock and other security prices, revealing the effect in excess returns. This paper chooses the event study methodology as the research approach to investigate the long run stock return as well as short run performance around earnings announcements. According to Knif, Kolari and Pynnonen, long run event studies deal usually consists of event windows of several months. They can range from one year, or 12 months, up to five years to 60 months and even more. Here this study uses 250 days of return for long run performance after emergence and 20 days of return for short run performance around earnings announcements during the 250 days post- emergence.

3.2 Estimation of Expected Returns

This study uses market adjusted returns model proposed by Brown and Warner (1980) to calculate expected return. Under this model actual return of a company's share at a certain time t is calculated as the difference in share price on security j from day t and t-1 as the following formula states:

$$R_{jt} = \frac{(P_{j,t} - P_{j, \, t-1})}{P_{j,t-1}} \qquad (1)$$

where R_{jt} is the daily stock return, $P_{j,t}$ is the adjusted closing price of the stock j on day t, and $P_{j,t-1}$ is closing price of the stock j on day t-1. Thus, ex-post abnormal return for any security j is measured by calculating the difference between its return and market return. Market return can be achieved using the formula stated below:

$$R_{m,t} = \frac{(C_{m,t} - C_{m,t-1})}{C_{m,t-1}} \qquad (2)$$

Where Rm,t is the market return on day t, $C_{m,t}$ is the market index on day t and $C_{m,t-1}$ is the market index on day t -1. Next, using market adjusted daily return and market return, the abnormal return on security j on event day t can be determined by

$$AR_{jt} = R_{jt} - R_{mt} \tag{3}$$

where R_{jt} is the daily return of security j on the event day t and R_{mt} is the return of market index on the same calendar day. This study uses market and risk adjusted model, which is an improved version of market adjusted model, proposed by Brown and Warner (1980) to conduct same calculations to check the robustness of the findings. This model assumes that the Capital Asset Pricing Model generates expected returns. Therefore, expected returns are calculated as

$$E(R_{jt}) = a_j + b_j R_{m,t} + e_{j,t} \tag{4}$$

Where, Rm,t is the return on the market portfolio on day t proxied by specific sector wise market indices, ej,t is the random error term and a_j and b_j are the market model parameters which are calculated using the ordinary least squares estimates. Then, abnormal returns were calculated for each of the days in the event window according to the equation:

$$AR_{jt} = R_{j,t} - E(R_{j,t})$$
(5)

Where $R_{j,t}$ is the daily return of security j on the event day t and $E(R_{j,t})$ is the expected return calculated using CAPM model.

3.3 Cumulative Average Abnormal Returns (CAAR) test

To estimate cross-sectional average daily abnormal returns, this paper uses the general methodology followed by Eberhart et al. (1999). $AR_{j,t}$ is averaged across sample of firms in the common event time, the average abnormal residuals (AAR_t) can be determined using the following equation:

$$AAR_t = (1/N) \sum_{j=1}^{n} AR_{j,t} \tag{6}$$

Where N is the number of companies chosen in the sample and t refers to any particular period in event time. The process is then repeated for all the dates over a specified time interval. Thus the cumulative average abnormal returns (CAARt) are obtained:

$$CAAR_t = \sum_{t=1}^{T=250} AAR_t \tag{7}$$

Afterwards, both the parametric t-test and non-parametric Wilcoxon Signed Rank are employed to obtain test-statistics to observe the significance level of average daily abnormal returns. The t-tests performed on stock prices are submitted to the same assumption in relation to the distribution of abnormal performance. The results are likely to be less powerful if these assumptions are violated. However, Wilcoxon Signed Rank test can overcome the potential problems with respect to the assumptions when a non-parametric test is performed. Therefore, Wilcoxon Signed Rank tests are run on median CAR while parametric t-tests are run on calculated CAARs.

3.4 Wealth Relative Test

This study also computes a closely related measure of abnormal performance called the wealth relative (WR) (Eberhart et al. 1999) using the following equation:

$$WR = \left(\sum_{t=1}^{N} \left(\prod_{t=1}^{250}(1 + r_{it}) \right) / \left(\prod_{t=1}^{250}(1 + E(r_{it})) \right) \right) / N \tag{8}$$

Where r_{jt} = the actual rate of return for stock j on day t, $E(r_{jt})$ = the expected rate of return for stock j on day t and N = the number of stocks. $\prod_{t=1}^{250}(1 + r_{it})$ is the compounded actual rate of return for stocks. A wealth relative greater than 1 implies that the sample firm earns abnormal profits and a WR less than 1 implies abnormal losses.

3.5 Earnings Announcement Tests

There are many firms with at least one earnings announcement during the 250 trading day period following emergence among the sample firms. For the earnings announcement tests, the CAARs are computed over the 21-day period surrounding the announcement -10 days to +10 days; where 0 is the earnings announcement date. The CAARs are computed for up to three earnings announcements over the 250 trading day period for each firm. These tests are run on the sample firms for the whole sample period as well as sub-sample periods.

3.6 Cross-Sectional Test

The following regression analysis is used to explain the cross-sectional differences in the long-run stock returns after the companies emerge from Chapter 11bankruptcy for the full sample period.

$$R_j = \beta_0 + \beta_1 E(R_j) + \beta_2 P_{j0} + \beta_3 NAICS + \beta_4 PREPACK + \beta_5 DELWARE + \beta_6 INSEQUITY + \beta_7 NAMCHNG + \beta_8 CRISIS + \varepsilon_j \qquad (9)$$

Where R_j is the compounded actual rate of return for stock $j(\prod_{t=1}^{250}(1 + r_{jt}))$. $E(R_j)$ is the compounded expected rate of return for stock i $(\prod_{t=1}^{250}\left(1 + E(r_{jt})\right) - 1)$;$P_{j0}$ is the (log of) price of stock j at the close of the first trading day upon emergence from Chapter 11 (day 0); NAICS = the dummy variable equal to one if the firm changes its six digit North American Industry Classification System (NAICS) code during the bankruptcy process, zero otherwise; PREPACK = the dummy variable equal to one if the firm's Chapter 11 filing is a prepackaged bankruptcy, zero otherwise; DELWARE = the dummy variable is equal to one if a firm is incorporated in the state of Delaware, zero otherwise; WILMINGTON = the dummy variable is equal to one if a firm files for bankruptcy with the Delaware Bankruptcy District Court. INSEQUITY = the dummy variable equal to one if institutional investors accept only equity in the emerging firm in exchange for their old claim, zero otherwise. NAMCHNG = the dummy variable equal to one if a firm emerges from bankruptcy with a new name, zero otherwise. CRISIS = the dummy variable equal to one if a firm emerges between 2007 and 2010.

However, the variable CRISIS is not been used in the cross sectional regression for the first sub-sample period (1994-2006) and the variable NAICS is also not used in the regression for the second sub sample period as there were not sufficient values found for this period.

4 Data

4.1Data Collection Procedures

The empirical framework of the study uses daily market prices for the period January 1, 1994 to December 31, 2011.As the only published previous research on the stock return performance of the companies emerging from bankruptcy by Eberhart et al (1999) covers the period up to the year 1993, this paper decides to use the data of uninvestigated time period. The data of daily trading prices is collected from the Center for Research in Security Prices (CRSP)and relisting dates after emergence were collected manually from the archives of sources such as newspapers, periodicals, dissertations, and aggregated databases etc. provided by ProQuest database and the *Dow Jones News Retrieval* through Factiva platform. 196 private limited companies and 62 public limited companies were confirmed to be emerged from bankruptcy over the period 1994 to 2011. The author admits that the actual number of emerging companies over the years can differ from sample number of companies collected. As no publicly published available information regarding the list of emerging companies over the years is found, the collected list of public limited companies emerging from bankruptcy is assumed to be sufficient for the paper.

Afterwards, 3 of the public companies were excluded because of insufficient trading days which are less than 250 trading days. Finally, 59 sample firms are chosen across varied range of industries to run the CAAR test. All the sample firms did not change their primary line of business after emergence or none of them were emerged as private and only 4 of them were acquired or merged with other companies during the process of restructuring. Additionally, S & P 500 index data is also collected for the same sample period to use as a benchmark for market return. Finally, earnings announcements dates of the companies emerging from bankruptcy were collected from Compust at database to run earnings announcement tests. Among 168 earning announcement dates, 60 and 108 earnings announcements were found consecutively for the first sub-sample period (1994-2006) and second sub-sample period (2006-2011). While selecting of the first trading day of the 250 trading days, this study carefully followed the definition of the first trading day given by Eberhart et al, (1999).

Information to run the cross-sectional regression is mostly collected from the newspaper reports regarding emergence of the sample companies especially from the "Wall street Journal" which is accessed through "ProQuest database" platform. Out of 59 sample companies only 7 companies have been found to change their North American Industry Classification System (NAICS) code and 12 companies changed their name post-emergence. Also, 18 sample companies file prepackaged bankruptcies. 25 companies were incorporated in the District of Delaware while 23 companies filed chapter 11 in the Wilmington Bankruptcy court, District of Delaware. Institutional investors accept only equity in the emerging firm in exchange

for their old claim only in case of 27 companies from all the sample companies. However, only 21 companies emerged during world financial crisis period (2007-2010). 60 and 108 earnings announcements were found consecutively for the first sub-sample period (1994-2006) and second sub-sample period (2006-2011).

This paper also investigates whether there is any effect of the global financial crisis starting in 2007 on the stock performance of the sample companies. To separate the effect of the crisis, the collected data were analyzed dividing into two sub-samples, the first sub-sample is for the period1994- 2006 and the second sub-sample is for the period 2007-2011, where 27 of the sample firms emerged from bankruptcy within the period of 1994 to 2006 and the rest of the firms relisted in the market within the period of 2007 to 2011.All the daily prices data has been censorized using trade to trade model designed by Maynes and Rumsey (1993) to eliminate the thinness of trading which can produce distorted significance from statistical tests. All the empirical investigations were executed by the statistical software Stata/SE12.0.

4.2 Descriptive Statistics
Table 1 presents summary of closing stock prices on the first day of trading of chosen 59 companies after emerging from Chapter 11 bankruptcy. The closing prices of the companies range between -28.06 and 166. Mean closing price is 20 which is higher than the median price of 15.5. However, standard deviation is 21.68 which quite high.

5 Results

5.1 Cumulative Average Abnormal Return (CAAR)
In table 2, Cumulative Average Abnormal Returns (CAAR) and median Cumulative Abnormal Returns (Median CAR) are estimated for 59 sample firms emerging from Chapter 11 Bankruptcy during the period 1994 to 2011. Median CARs are shown in parentheses below CAAR values. CAARs and median CARs are calculated using different event windows ranging from +1 days to +250 days. The estimated results show that CARRs are positive in all the cases for the whole sample period and surprisingly highly significant for both the longer and shorter term period. Noticeably, CAAR values decreases for including more of the later days in an event window. For the whole sample period, almost all the median CARs are found significantly positive.

In the first sub-sample period of 1994-2006, restructured companies demonstrate highly significant and large positive abnormal returns in almost all the event windows except the smallest event window of first 10 trading days after emergence. However, in the second sub-sample period (2007-2011) companies emerging from bankruptcy report highly significant negative cumulative returns. Although statistically significant, negative CAAR values are very low ranging from -0.58% to -0.39% with evidently lower values for the longer event windows. Surprisingly, median CARs are found very low and positive for the earlier event windows and very low and negative for the later event. Therefore, the results for the second sub-sample period can be considered mixed with very low positive and negative abnormal returns.

Along with post-emergence performance, this study investigates the efficiency of the market for stocks of the companies emerging from bankruptcy. For the whole sample period, the above mentioned findings indicate that stock price of the restructured companies seems to perform significantly higher than the market index market at the time of emergence and subsequently long period after emergence as well. Similarly, share price of companies for the first sub-sample period (1994-2006) performs higher than the market. Hence, the results for the full sample period and first sub-sample period cast doubt on the informational efficiency of the market for the firms emerging from bankruptcy. However, in the second sub-sample period (2007-2011), the share price of the companies emerging from bankruptcy demonstrates mixed performance mostly with very low negative abnormal returns. Abnormal returns are significantly negative with a very low CAAR values using parametric t-test for abnormal performance. On the other hand, Wilcoxon Signed Rank tests for median CAARs run for the second sub-sample period show mixed abnormal performance with mixed statistical significance.

The findings of the whole sample period and the first sub-sample period agree with the results presented by Eberhart et al. (1999) as they found large and positive excess returns following emergence from bankruptcy. However, the results of the second sub-sample period indirectly agree with the findings by

Hotchkiss (1995) who focused her study on post-bankruptcy from management point of view. However, the results of the parametric t-test for abnormal performance during the second sub-sample period demonstrate mixed findings. Abnormal returns are significantly positive in the shorter event windows and negative in longer event windows. Many justifications can be attributed to this slightly negative performance of the companies emerging from chapter 11. The bearish stock market during the world financial crisis may have negatively influenced abnormal returns. Another possible explanation behind this negative excess return in the second sub-sample can be that the investors translated the increasing rate of bankruptcy filings and restructuring announcements negatively.

5.2 Wealth Relatives

Table 3 reports wealth relatives for the whole sample period (1994-2011) and two sub-sample periods. For the whole sample period and the first sub-sample period (1994-2006), wealth relatives are just above the threshold 1 except for the shortest event window. This means that companies emerging from bankruptcy show little abnormal profits. The findings for the second sub-sample period (2007-2011) illustrate elow unity wealth relatives during the global financial crisis except for the longer event windows. In general, the findings suggest that stock return performance of the restructured companies over the first 250 days after emergence do not significantly differ from market return performance which contradicts any of the previous papers' conclusions about high abnormal return or losses.

5.3 Earnings Announcement Test

Table 4 demonstrates that the entire sample experienced small negative deviation from forecasted earnings in case of CAAR values. These negative CAARs for different sample periods are found to be very low and yet statistically highly significant. Surprisingly, CAAR for the first sub-sample period is found to the more negative than CAAR for the other sample periods. Therefore, it can be concluded that forecasted stock returns performed significantly lower than actual returns around earnings announcements and these findings cast doubt on the informational efficiency of the market for firms emerging from bankruptcy. The findings from this paper contradict with the results of Eberhart et al (1999) who found significantly positive abnormal returns around earnings announcements. The reason behind this contradiction can be attributed to the changes in the expectation and attitudes of investors toward the stocks of the companies emerging from bankruptcy over last two decades.

5.4 Cross-Sectional Tests

The results of cross-sectional tests are shown in table 5. Panel A shows the coefficients and p values for the variables of cross-sectional regression used to run regression on the whole sample period (1994-2011). The coefficient of the variable DELAWARE and NAICS is positive and significant consecutively at the 5% and 10% level. (consistent with Daines, 2001, Jory and Madura, 2010). The coefficient of the variable WILMINGTON is negative and significant at the 10% level which suggests that firms that filed for Chapter 11 bankruptcy with the Delaware Bankruptcy District Court underperform post-emergence (consistent with LoPucki and Kalin, 2001 and Jory and Madura, 2010). The variables PREPACK produce statistically not significant yet positive coefficients. However, NAMCHNG, CRISIS and INSEQUITY produce negative coefficients but they are statistically not significant. The variables PREPACK, INSEQUITY, NAMCHNG, CRISIS may be associated with risks and transaction costs not fully captured in expected return estimates explaining long-term excess returns.

Panel B demonstrates the coefficients and p values for the variables of cross-sectional regression for the first sub-sample period (1994-2006). Keeping consistency with the results of full-sample period the variables NAICS and WILMINGTON are found statistically significant consecutively at 1% and 10% significance level. However, no other variable is found statistically significant. Therefore, the abnormal positive returns for the first sub-sample period can be mostly attributed to the variables NAICS and WILMINGTON. Although none of the coefficients for the second sub-sample period shown in the panel statistically significant coefficient, the variable CRISIS is almost significant at 10% significance level. So, the abnormally negative long-run performance of the firm post-emergence can be attributed to the negative impact of the global financial crisis. It is noticeable that none of the coefficients is found statistically significant as CAARs for the second sub-sample period are of very small values and the evidences of median CARs mixed between positive and negative CARs. Also, wealth relatives of the second sub-sample period are just around unity for all the event windows. These evidences indicate that firms emerging from bankruptcy neither significantly underperform or over perform the market.

6 Conclusion

In this paper, four methodologies have been used to analyze the stock return performance of the companies emerging from bankruptcy. First, cumulative average abnormal returns (CAAR) test is executed to examine the share price performance of companies emerging from financially distressed condition in the United States. For the full sample period (1994-2011) and first sub sample period (1994-2006), most of the evidence of positive abnormal returns in the short term as well as in the long term is found statistically significant. However, mixed evidence of positive and negative abnormal returns is demonstrated for the second sub-sample period. Although statistically significant and very small negative abnormal returns have been found for the second sub sample period (2007-2011), some of the positive median CARs are also found to be statistically significant. Previous studies support that companies emerging from bankruptcy significantly over perform the market in the long run as well as in the short run for the period before world financial crisis. But tests on the companies emerging from bankruptcy after the beginning of world financial crisis provide the mixed evidence of positive or negative abnormal returns of the reorganized companies. Overall, test results from the first sub-sample period largely reject the possibility of market efficiency while test results from the second sub-sample period remain inconclusive.

Second, wealth relative tests are also run to investigate abnormal performance of the companies post-emergence. Although most of the test results of wealth relatives are found to exceed one, none of them significantly surpass unity. Nonetheless, wealth relatives for the sub-sample period 1994-2006 are higher than those for the sub-sample period 2007-2011. This phenomenon can be attributed to negative effects of global financial crisis 2007-2010 on investors' expectations. Third, a robustness test of CAAR is carried on considering performance of the reorganized companies around the earnings announcements within first 250 days after emergence. Surprisingly, all the CAARs for all the sample periods are found negative. However, very small positive median CARs are found statistically significant. In short, evidence is mixed regarding the performance of the restructured companies around earnings announcements. Finally, a cross-sectional analysis is executed to recognize the factors working behind the significantly high positive or negative abnormal returns. The results of cross-sectional test establish state of incorporation, state of bankruptcy filing and change in industrial codes as factors behind the positive abnormal return. Additionally, emergence of companies during world financial crisis (2007-200) is also reported as nearly significant regress or behind the negative abnormal return. Eventually, it can also be observed that the choice of the performance measurement methodology changes the results for the second sub-sample period of this study.

Overall, the findings of this paper from the first sub-sample period (1994-2006) agree with Eberhart et al. (1999)about the stock return performance of the companies. On the other hand, mixed evidences of positive and negative abnormal returns have been found for the second sub sample period (2007-2011). Goyal, Kahl and Torous (2003) also found significantly negative abnormal returns in an unpublished working paper. This paper also agrees and contradicts with the findings of some of the previous papers in terms of post-bankruptcy performance.

Although this study is restricted to only 59 companies, they are representatives of different industries. Nonetheless, a further research can be done comprehensively on all the companies that have emerged from bankruptcy as a going concern. Other possible methods used by Eberhart et al. (1999) can be applied such as matching the sample to companies with similar characteristics especially similar industry, book-to-market value, and size. Thus, the equivocality of the findings will be examined by future researchers.

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Tables
Table 1: Closing stock prices of companies emerging from Chapter 11 bankruptcy

Price Range	No. of securities
Observations	14750
Minimum	-28.06
Maximum	166
Mean	19.965
Median	15.439
Standard Deviation	21.681

Table 2: CAAR and Median CAR in Different Event Periods

Event Period	CAAR (1994 to 2011)	CAAR 1994 to 2006	CAAR 2007 to 2011
Days t = +1 to +10	0.0208** [.0011]	0.0012*** [0.0012]	-0.0039** [0.00201]*
Days t = +1 to +50	0.0216*** [0.0008]**	0.054*** [0.0009]	-0.0058*** [0.0009]***
Days t = +1 to +100	0.0209*** [0.0001]***	0.0517*** [0.00009]	-0.0055*** [0.00092]***
Days t = +1 to +150	0.0205*** [0.0004]***	.0515*** [0.003]**	-0.0052*** [0.0005]***
Days t = +1 to +200	0.0194*** [-0.0008]*	0.048*** [0.0023]**	-0.0049*** [0]**
Days t = +150 to +250	0.0116*** [-0.0013]**	0.0433*** [0.0024]**	-0.0041*** [-0.00021]
Days t = +50 to +250	0.0162*** [0.0009]*	0.0404*** [0.00266]*	-0.0046*** [-0.0021]
Days t = +1 to +250	0.0169*** [.0009]***	0.0432*** [0.0024]***	-0.0044*** [-.0014]

***, *, and * indicate significant difference from zero at the 1-, 5-, and 10-percent levels, respectively.

Table 3: Wealth Relatives in different event periods

Event Period	WR (1994 to 2011)	WR (1994 to 2006)	WR (2007 to 2011)
Days t = +1 to +10	0.998	0.9996	0.997
Days t = +1 to +50	1.004	1.0046	0.9997
Days t = +1 to +100	1.002	1.0032	0.9999
Days t = +1 to +150	1.0026	1.0037	1.0001
Days t = +1 to +200	1.002	1.0029	1.00013
Days t= +1 to +250	1.002	1.00258	1.0006
Days t= +51 to + 251	1.002	1.0032	1.00056
Days t= +151 to + 251	1.002	1.003	1.00089

Table 4: CAARs around Earnings Announcements

Sample Companies	CAAR	Median CAR
Companies (1994-2011)	-0.0044***	0.0006 ***
	(-8.54)	(-5.251)
Companies (1994-2006)	-0.0092***	0.0037***
	(-8.83)	(-4.905)
Companies (2007-2011)	-0.0038***	-0.0029
	(-7.11)	(-1.319)

***, *, and * indicate significant difference from zero at the 1-, 5-, and 10-percent levels, respectively.

Table 5: Cross-Sectional Tests

Variables	Panel A (1994 to 2011)	Panel B (1994 to 2006)	Panel C (2007 to 2011)
Intercept	0.085*	0.085*	-0.0067
	(0.010)	(0.056)	(0.483)
E(R)	8.662***	16.756***	1.476***
	(0.010)	(0.000)	(0.005)
P_0	-0.00061	-0.0003	0.00025
	(0.518)	(0.850)	(0.511)
NAICS	0.2286*	0.3346***	
	(0.063)	(0.001)	
PREPACK	-0.0140	0.0314	-0.0026
	(0.687)	(0.600)	(0.813)
WILMINGTON	-0.0674*	-0.123*	-0.0052
	(0.061)	(0.098)	(0.683)
DELAWARE	0.073**	0.052	-0.0055
	(0.038)	(0.260)	(0.663)
INSEQUITY	0.028	0.020	-0.0050
	(0.349)	(0.747)	(0.731)
NAMCHNG	-0.019	-0.080	-0.009
	(0.549)	(0.211)	(0.473)
CRISIS	-0.021		-0.0067
	(0.496)		(0.114)
N	59	27	32
R^2	0.49	0.76	0.37
F value	0.49	8.62	1.71
Probability > F	0.5083	0.0001	.1491