Bankruptcy resolution: An empirical investigation of debtor-in-possession financing, exit financing and corporate governance.

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Abstract

This dissertation investigates the impact of debtor-in-possession (DIP) financing and exit financing on the resolution of corporate bankruptcy. In order to accomplish the objective this study uses a large sample of bankrupt firms that filed for chapter 11 in the United States over the period 1998-2009.

The analysis shows that the presence of post-petition financing is associated with an improvement of the odds of reorganization, with successful emergence from bankruptcy and an increase of the time spent in bankruptcy, effectively buying time to negotiate a successful restructuring. It also studies the effect on corporate governance by investigating top management turnover.

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I also want to thank UCLA's Prof. Lynn M. LoPucki for making his Bankruptcy research database available to me. Thanks are in order also to Dr. Nuno Fonte and Dr. João Neves for their help.

My motivation for this study stems from my interest in takeovers, restructuring in bankruptcy and corporate governance, subjects that I found most fascinating during my Master in Finance at the Católica Lisbon School of Business and Economics.

Bankruptcy is particularly topical at the moment and I expect this work to be the first of a series of papers in this subject area that will allow me to pursue doctoral studies at a top university in the near future.

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1. Introduction

In the United States of America, when financially distressed companies go bankrupt, they can either be liquidated, under Chapter 7 of the bankruptcy code (and the cash generated by the sale of its assets used to pay the creditors' claims), or a petition to reorganize under Chapter 11 of the bankruptcy code can be filed either by the company or by the creditors on whose debt it defaulted.

In order to keep operating as a going concern and to be able to successfully reorganize a firm needs money. To have money, a firm can either sell assets or borrow money. Selling assets may not be a viable option so a firm needs a means to secure credit in order to survive, but who would lend to a bankrupt firm?

The set of laws that regulates bankruptcies in the United States, the bankruptcy code, has an answer to this question, the so called Debtor-in-possession financing, which has its origins in a device created by courts, called "receiver's certificate". These certificates gave a special priority, sometimes over senior claimants, to investors who granted fresh loans to distressed companies. It was widely used to reorganize distressed railroad companies in the XIX century. This enabled the railroad companies to raise money for operating expenses during the reorganization process.

Debtor-in-possession (DIP) financing is therefore a unique form of financing that is available to financially distressed firms filling a petition to reorganize under Chapter 11 of the US Bankruptcy code. The legal provisions confer superior seniority on this financing and enhanced security to the DIP creditor as an incentive to lend to a firm that otherwise would not be able to attract financing, due to its distressed situation.

The DIP financing is subject to formal court approval and is governed by section 364 of the Bankruptcy Code.

Exit financing is another form of post petition financing, that is granted to the bankrupt firm to ease its way out of bankruptcy, usually to provide working capital and funds, either to replace the existing DIP financing, pay creditor's claims under

the plan or to fund their ongoing operations after bankruptcy while the firm does not achieve “cruising speed”. The availability of adequate exit financing is often a condition to the confirmation of a plan of reorganization.

Once the plan of reorganization is approved by the bankruptcy court, the firm is allowed to emerge from bankruptcy.

Several research and papers have been written covering bankruptcy and default. Some papers describe the process and analyze the probability of a healthy firm defaulting, like Merton (1974) where the credit risk of a company is calculated by characterizing the company's equity as a call option on its assets. Put-call parity is then used to price the value of a put and this is treated as an analogous representation of the firm's credit risk. Altman (1968) calculates the probability of a firm defaulting by observing a mix of ratios and market value, computing the so-called Z-score. Several papers have also been written covering the subject of DIP financing and its relevance in the bankruptcy process, Chaterjee, Dhillon and Ramirez (2004) perform event studies, analyzing the impact of DIP financing in the firm’s stock and bond prices. Other researchers, like Dahiya, John, Puri and Ramirez (2003) and Carapeto (2003), investigate the impact of DIP financing in APD[1] and stock and bond holders recovery rates.

The original contribution of this work is threefold, the time period analyzed, the methodology employed and the original research questions answered. Furthermore, it is one of the few that analyzes exit financing as well as DIP financing,

This work is much in line with Carapeto (2008), as the research started out as a joint paper with Prof. Carapeto, being afterwards finished with the present layout, research questions and methodology.

The main purpose of this dissertation is to investigate the impact of debtor-in-possession (DIP) financing and exit financing on the resolution of corporate

[1]Absolute Priority Deviations (APD) refers to deviations from the Absolute Priority Rule. In the liquidation of a company, the absolute priority rule states that holders of secured debt must be paid before holders of unsecured debt. Holders of unsecured debt have precedence over preferred shareholders, and, finally, preferred shareholders must be satisfied before common shareholders.

bankruptcy. In order to accomplish this objective the study will use a large sample of bankrupt firms that filed for Chapter 11 in the US over the period 1998-2009.

The most relevant issues dealt with in this thesis have to do with post-petition financing (DIP and exit) and its relationship with the bankruptcy outcome, with corporate governance, classification of DIP financing according to its purpose, i.e. “Loan-oriented” DIP financing or “Loan-and-control” DIP financing as argued by Skeel (2004) and the contribution of post-petition financing to the bankruptcy process efficiency.

The research questions are as follows:

Does the presence of DIP financing and/or exit financing,

- Improve the chances of successful reorganisation?
- Improve corporate governance by prompting top management turnover?
- Promote efficiency by quickly reorganizing firms with their independence preserved or facilitating acquisitions?
- Do the identities of the DIP/EXIT financers make a difference on any of these dimensions?

The initial sample comprised 1,876 publicly traded companies with total assets of over $ 100 million (the database does not cover smaller firms) that were in bankruptcy proceedings between the 1st January 1998 and the 31st December 2009. Subsequently, companies that have failed to complete their bankruptcy process by the end of the sample period were excluded from the initial sample, as well as banks, insurance companies, companies whose financial data could not be confirmed and asbestos related bankruptcy filings, which are very specific and used by firms to go through the payment of large compensations. Major outliers were also removed for statistical robustness sake. The final sample is composed of 174 companies.

This thesis is organized as follows. In section 2 a review of the existing research covering this subjects is presented, in section 3 I describe the data, its

sources and the methodology employed, section 4 comprehends the empirical analysis, in section 5 the relationship between post-petition financing and value creation to the stakeholders is debated and in the section 6, the conclusions are presented. Section 7 is a small annex explaining the United States bankruptcy codes' main definitions and section 8 contains a large table describing the correlations between all the variables involved in the univariate and multivariate analysis. Finally, in section 9 there are the detailed references of the works mentioned in this thesis.

2. Literature review

In this section I go through the major existing research about the subjects covered in this thesis.

The dynamics of bankruptcy procedures are very interesting for there are several stakeholders, with different, often colliding motivations.

Here one can see agency costs[2] taking effect in the conflict between management, shareholders and bondholders, on the event of a Chapter 11 filing.

The bondholders, banks and other creditors want to prevent the erosion of the firm's assets value, and liquidate as soon as possible, if that enables them to receive the most of their investment back.

The shareholders want to maximize the firm's value, on the hope of receiving something as otherwise, if the firm is liquidated, they are the last ones on the pecking order of the claims hierarchy, according to Absolute Priority Rules, and usually receive nothing. The managers want to keep their jobs, so do the employees, as they fare better off if the firm is not liquidated. So in spite of the erosion of the firm's assets value they usually stand for non liquidating solutions.

The major questions concerning DIP financing are:

[2] Agency costs can be defined as the typical problems that arise from conflicting motivations between management, shareholders and bondholders or other firm agents The information asymmetry that exists between shareholders and the CEO is generally considered to be a classic example of a principal–agent problem. The agent (the manager) is working on behalf of the principal (the shareholders), who does not observe the actions, or many of the actions, or is not aware of the repercussions of many of the actions of the agent.

- Does DIP financing create or destroy value?
- Does DIP financing lead to systematic overinvestment?
- Does DIP financing lead to higher absolute priority deviations?
- Does DIP financing improve corporate governance?
- Does DIP loan size matter?
- Does DIP financing add efficiency in the restructuring process?
- Is DIP financing used by creditors to improve their pré-petition claims, or as a "step in the door" way to end up acquiring the bankrupt's firm assets at a cheap price?

To a secured creditor, on the event of bankruptcy, quick liquidation of the debtor's assets would seem to be the way to go to maximize his claims fulfillment, before the assets become too burdened and little value remains to split between all the secured claimants.

On the other hand, if the debtor is allowed to continue as a going concern and invest in positive NPV projects, successful emergence and escape from financial distress would allow for integral fulfillment of the creditors' claims.

This tradeoff is the dilemma creditor's face, with yet another detail: if they lend more money to the bankrupt firm, they might be able to improve their pre-petition claims as often courts allow for priming liens[3]and increased seniority of pre-petition loans to DIP or exit lenders.

Thus it is not clear that DIP financing leads to value creation. Carapeto (2003), who has done seminal work in this area, argues that DIP financing adds value, by concluding that DIP loans are associated with a greater probability of successful reorganizations. This conclusion is derived on the results of two logistic models that access the probability of a firm successfully emerging from bankruptcy. Carapeto (1998) also concludes that the size of the new loan matters since the relative size of the DIP loan is shown to have a positive impact on recovery rates.

[3] Lien priming is when a DIP lender is put ahead or at the same level of a preexisting lien.

Bharath, Panchapegesan and Werner (2010), identify the increasing importance of DIP financing and KERP [4] (Key employee retention plans) in bankruptcies, as the major drivers in the decline of APD (Absolute priority deviations) and time spent in bankruptcy, in a before 1990 versus 1991-2005 period analysis. On this study they conclude that the U.S. bankruptcy system, that has long been viewed as debtor friendly, with frequent deviations of absolute priority in favor of the equity holders, has increasingly become creditor friendly, over the years, with less absolute priority deviations.

It is argued that DIP financing leads to excessive investment in risky, (even negative net present value) projects, as management assumes an "all in, do or die" attitude, to maintain their jobs and avoid liquidation. Pomykala (1997) argues that bankrupt firms' management tends to embark on inefficient investment decisions, on behalf of the shareholders, who usually do not receive anything for their claims, on the event of liquidation, therefore eroding the overall value of the bankrupt firm assets.

Cornell, Longstaf and Schwartz (1996) support the idea that DIP financing destroys value, in a distressed real estate context and that mortgage lenders, can be worse off, if the owner has access to new financing and continues to meet the debt service. Wruck (1990) notes that earlier default preserves value when the alternative is persistent erosion of worth.

On the other hand, other researchers argue that DIP financing creates value, allowing for the survival of positive NPV pursuing firms. Dahiya, John, Puri and Ramirez (2003) make an empirical analysis and find that DIP financing does not lead to systematic overinvestment. Firms receiving DIP financing are more likely to emerge successfully and on average, spend a shorter time in bankruptcy reorganization than the firms that do not receive such financing. Therefore they

[4] Key Employee Retention Plan (KERP) refers to a benefit plan employed by a debtor company in bankruptcy cases as incentives to upper management to continue working for the company throughout the bankruptcy. The purpose of this KERP is to aid in the retention of certain key qualified and competent executives of the company and its subsidiaries, by providing a retention bonus for such employees in consideration of their continued employment pending the restructuring of the company in bankruptcy.

conclude DIP financing has a positive role, which is strengthened when there is a prior lending relationship between the creditor and the debtor.

To reach these conclusions they first note that previous lenders differ from new lenders on two counts: Previous lenders are more prone to be in the possession of private information about the firm and previous lenders already have an outstanding debt claim with the firm. They examined the implication of these features by estimating two probit regressions using a dummy variable equal to one if the company obtained a DIP loan from one of its prior lenders and 0 otherwise as well as variables for size, leverage and industry sector. To sum up, they concluded that smaller firms tend to obtain DIP financing from their previous lenders. This being consistent with the view that the competitive advantage pre-petition lenders have due to private information in their possession gives them a comparative advantage in providing DIP financing to smaller, more information sensitive firms.

In addition Dahiya, John, Puri and Ramirez (2003) also argue that access to DIP financing is an important factor in successful reorganization. The availability of DIP financing is particularly important to firms in desperate need of fresh working capital, such as retailers whose suppliers might otherwise discontinue business. They show that the probability of emerging as a reorganized entity is higher for firms receiving DIP financing.

The benefits of DIP financing are further documented by Chaterjee, Dhillon and Ramirez (2004), who report abnormal stock and bond returns at the announcement of DIP loans.

Similar event studies on stock price reactions to DIP announcements were performed by other researchers like Dhillon, Noe, and Ramírez (1996), and Elayan and Meyer (2001) the results being that markets tend to react positively.

Concerning corporate governance in bankrupt firms, Gilson (1989) concludes that bank financers are frequently responsible for management changes and Skeel (2004) states that DIP lenders have been using their leverage to promote changes in management: “when there is management turnover shortly before a company files for bankruptcy, this is often because the lenders have been pulling their strings.” Carapeto (2008) reaches the conclusion that DIP firms show

higher CEO turnover: “The paper finds evidence of larger management turnover in DIP firms. Moreover, changes in top management are shown to have a positive impact on secured creditors’ recovery rates.”

The use of DIP financing as a means to improve pre-petition loans, increase seniority and take control of a firm bypassing pre-Chapter 11 more senior claimants and thus getting the firm’s assets at a cheaper price is debated by Skeel (2004) and Glaun (2007). Skeel (2004) argues that through the use of covenants in the DIP loan agreement, like including one or more affirmative covenants with explicit drop dead dates “…When FAO Schwarz filed for bankruptcy in 2002, one of the covenants authorized the lenders to insist that the toy chain be liquidated unless it either sold all of its assets or confirmed a reorganization plan by April 4, 2002. In effect, the loan agreement served as a guillotine, giving the debtor’s managers one limited chance to restructure the company.”

Skeel (2004) and Carapeto (2008) point out that acquisition in bankruptcy is especially common in DIP firms, being a better alternative, in terms of value creation, for the stakeholders, than liquidation for it often leads to better recovery rates and less absolute priority deviations.

To sum up, there is more to DIP financing than meets the eye. In many cases, the DIP lender is doing much more than simply providing financing. The loan agreements may double up as a mechanism for transferring control, usually to the DIP lender itself, like Skeel (2004) illustrates in the following passage “…When TWA filed for bankruptcy for the last time, American Airline provided financing under a DIP loan agreement that required an auction of TWA’s assets with American Airlines as the expected buyer. The buyer effectively was determined before the debtor ever filed for bankruptcy. The principal purpose of the bankruptcy in TWA, as with many asset sales, was to ensure that American Airlines could purchase the assets free and clear of any existing or future claims, and to eliminate the claims of TWA’s unsecured creditors.”

When it comes to efficiency Bharath, Panchapegesan and Werner (2010) also conclude that DIP financing gives a positive contribution to efficient restructuring with less Absolute Priority Deviations.

In what concerns exit financing and its influence in bankruptcy resolution few research can be found, apart from Skeel's (2004) work.

3. Data and methodology

This section presents the data and methodology and provides some data analysis of the samples used in this study.

Values are always in millions of United States Dollars, unless otherwise specified.

3.1. Data sources

Data was obtained from various sources, namely Bankruptcy.com database, Thomson Reuters Westlaw, Bloomberg and financial fillings (8-K, 10-K, 10-Q and Chapter 11 filings.), using the following procedure:

Firstly a list of United States incorporated publicly traded companies, with assets over 100 billion dollars, that filled chapter 11, from 01/01/1998 until 31/12/2009, was obtained from the bankruptcy.com site free database. This sample comprised 1876 companies.

Secondly, using Thomson Reuters Westlaw database whose access was kindly provided by Católica Lisbon School of Business and Economics, a search was performed by company name, to locate chapter 11 filing documents, financials, news and court decision documents. Some companies were eliminated from the list due to their specific cases, lack of data and industry sector. The remaining sample comprised 331 companies

Thirdly, using Bloomberg and the available S.E.C. fillings, the companies missing financials could be obtained for 208 firms. This sample was further reduced to 174 firms due to the removal of above percentile 95 and below percentile 5 outliers, for statistical robustness sake. Firms belonging to state regulated industrial sectors, like financial companies and utilities, were removed as well.

The DIP and exit loan amounts and bankruptcy outcomes were obtained from Thomson Westlaw, Bloomberg news and online financial press.

Finally, Professor Lynn M. Lopuski's database[5] was used to cross reference and validate the final figures. Professor Lopuski is a notorious American Law & Economics researcher and maintains a very extensive online database on American bankruptcies and freely provides it to academic researchers.

3.2. Methodology

In order to investigate the answers to the research questions, collected data from the companies was sorted and submitted to univariate and multivariate analysis.

The former analysis consists in calculating the most relevant statistics and investigating the relationships between them, namely the means and median of the several ratios and financials involved so that some comparative analysis could be performed, some outliers identified and preliminary conclusions could be obtained.

A correlation table[6] was also made to investigate the relationship between the variables and identify eventual multicolinearity issues that could arise in the regression analysis to follow.

The multivariate analysis consists of 4 linear regressions that investigate the influence of several specific variables deemed relevant in the research on the time spent in bankruptcy and 8 binomial models that are estimated in an attempt to explain the influence of the several variables in the probability of successful emergence, probability of being merged or acquired while in bankruptcy and last, but not least, the odds of management restructuring.

All the statistical work was performed using Microsoft Excel and Cram's R.

4. Empirical analysis

In this section, data is detailed and the results are presented.

[5] http://lopucki.law.ucla.edu
[6] See annex II

4.1 Univariate analysis

Bankruptcy outcomes were classified in three classes: firms that successfully reorganize with their Independence preserved are classified as *Reorganized,* firms that are acquired or merged, are classified as *Acquired/Merged* and firms that end up being liquidated in Chapter 11 or converted into Chapter 7 liquidations are classified as *Liquidated*.

Table I describes the time-series distribution of bankruptcies by filling date for the sample of 174 Chapter 11s over the period January 1998 to December 2009. The sample comprises 174 companies classified by type of bankruptcy outcome Reorganized, Merged/acquired in bankruptcy and Liquidated in bankruptcy. The table also shows the average number of months spent in bankruptcy by firms filing for Chapter 11, in each year.

Table I: Bankruptcy outcomes per year

Year	# companies	Reorganized	Merged/ Acquired	Liquidated	Total filings	Average time (in months)
1998	13	10	2	1	109	22
1999	30	18	8	4	151	16
2000	31	27	2	2	232	17
2001	37	31	6	0	384	15
2002	15	9	4	2	293	13
2003	13	9	3	1	210	23
2004	7	7	0	0	114	17
2005	13	12	1	0	100	15
2006	9	7	2	0	78	10
2007	3	3	0	0	100	6
2008	2	2	0	0	238	4
2009	1	0	1	0	256	8
Total	174	135	29	10	2265	16

The average time spent in bankruptcy has been diminishing, over the years. This conclusion is in line with Bharath, Panshapegesan and Werner (2010) who attribute this increase in the efficiency of the process to the increasing importance of DIP financing and KERP, over the years, in the bankruptcy process.

Table II compares the average time spent in bankruptcy and the median number of months, according to the outcome.

Table II: Time spent in Chapter 11 (months)

Outcome	#firms	%	Mean	Median
Reorganized	135	78%	14	11
Merged/Acquired	29	17%	22	17
Liquidated	10	6%	19	13
Total	174	100%	16	12

Firms that end up being merged or acquired, on average spent more time in bankruptcy (22 months), which is consistent with the fact that longer negotiation processes may be required until emergence. Whereas firms that successfully reorganize spent on average 14 months in bankruptcy and finally firms that ended up being liquidated spent on average 19 months in bankruptcy.

Table III compares the average time spent in bankruptcy, according to the outcome and the fact that there was DIP or exit finance, against the time spent by the firms where there was none of these financings.

Table III: Average time(months)

	DIP	Exit	DIP/EXIT	Others
Reorganized	14	11	14	12
Merger/Acquired	26	25	24	11
Liquidated	21	0	21	16

Surprisingly, firms with post-petition financing (Dip or exit financing) on average spent more time in bankruptcy, regardless of the outcome, which differs from the conclusions reached by Bharath, Panchapegesan and Werner (2010). The reason behind this may be the extra time needed to reach a consensus between all the claimants and ensure the court's approval for the new loan.

Table IV shows that firms with DIP and/or EXIT financing are more prone to promote CEO turnover, perfectly corroborating Skeel (2004) and Carapeto (2008) conclusions. Of all CEO turnover cases, 90% were from firms that either had DIP

or exit financing, with only 10% being from firms that received neither of these financings.

Table IV:	DIP	EXIT	DIP OR EXIT	non DIP	neither DIP nor EXIT
CEO turnover	75%	67%	90%	25%	10%

Table V, analyses some characteristics of Chapter 11 outcomes. We can see that the presence of DIP or exit financing does not seem to be a relevant factor in what concerns mergers and acquisitions, as the percentage of firms that receive these post-petition financings and are subsequently merged or acquired does not differ much from the ones that are merged or acquired without receiving this financings, contrary to what Skeel (2004) and Carapeto (2008) argue.

Table V: Chapter 11 outcomes

Caracteristics	M&A	Liquidation	Reorganized
DIP	16.2%	5.4%	78.5%
EXIT	17%	0%	83%
DIP or EXIT	16%	5%	79%
non DIP	18%	7%	75%
neither DIP nor EXIT	19%	14%	67%

Clearly, successful reorganization is achieved by a larger percentage of firms when they are granted DIP or exit financing, and a smaller percentage of them end up being liquidated, as opposed to the higher percentage of liquidations found when the firms do not receive either of these financings.

Other interesting fact observed and detailed in table VI is that of the firms that received DIP financing, 43% of them received it from previous pre-petition lenders. Moreover 67% of the firms that received DIP financing managed to receive exit financing afterwards and 40% of these firms received the exit loans from former DIP lenders. In turn, the percentage of EXIT loans that were granted by previous pre-petition lenders was 30%.

Table VI: Relathionship between previous and post-petition lenders

	EXIT	EXIT from DIP lenders	Previous lender
DIP	67%	40%	43%
EXIT			30%

These figures validate the "Loan-oriented" argument that pre-petition lenders have an incentive to grant DIP financing, to maintain or improve their overall claims over the firm´s assets and that the exit financing follows similar dynamics.

Finally, on table VII, the firm´s sample is characterized by their industry sector and the main statistics of their financial ratios, namely the mean and median so that we can see broadly how the sample is composed.

Table VII: Firms caracteristics

Financial ratios	Mean	Median	Industry sector (Bloomberg ICS)	# Firms	%
Total liabilities	951.92	555.88	Basic materials	13	7%
Total Assets	1031.09	544.49	Industrial	26	15%
Income (operating)	-19.43	-5.53	Communications	36	21%
Income/Total Assets	-0.03	-0.01	Consumer, Cyclical	53	30%
Current Ratio	1.20	1.03	Consumer, Non-Cyclical	36	21%
Net Debt	551.17	334.35	Financial	0	0%
DIP amount	99.68	41.00	Technology	5	3%
EXIT amount	124.10	35.00	Utilities	0	0%
Net-income	-110.08	-25.99	Energy	5	3%
(in millions of USD, where aplicable)				174	100%

4.2. Multivariate analysis

The multivariate analysis is based in a battery of regressions that can be separated in two large groups.

In the first group, we run regressions with the natural logarithm of the time spent in bankruptcy as the explained variable and the financial ratios and relevant dummy variables as explanatory variables.

In the second group binomial models are estimated in an attempt to explain the influence of the several variables in the probability of successful emergence, probability of being merged or acquired while in bankruptcy, and last the odds of management restructuring.

The variables are as follows:

- **Time** = Natural logarithm of the number of days spent in bankruptcy. The logarithm was used to smooth the data and normalize the residuals.

- **Plans** = Number of plans submitted to the bankruptcy court is supposed to proxy the overall degree of disagreement amongst all classes of claimants at the negotiation table (see Carapeto, [2005]). This coefficient should be positively related with time and negatively related with successful bankruptcy outcomes.

- **Prepackaged** = A dummy variable that takes the value of one if the plan of emergence was pre-packaged o otherwise as in Carapeto (2005), is used to see if it matters. A pre-packaged bankruptcy is when a reorganization plan has already been negotiated with the creditors before filing for bankruptcy.

- **Size** = Natural logarithm of total liabilities will be used as a proxy for firm size. The coefficient is expected to have a positive sign as the complexity of the bargaining increases with the firm size (see Weiss [1990], Franks and Torous [1994] and Carapeto [1998]).

- **CEO Turnover** = A dummy variable that takes the value of 1 in case of Chief Executive Officer turnover after filing for Chapter 11 and 0 otherwise. Should have a positive coefficient. Gilson (1989) argues that bank lenders frequently try to force management changes in financially distressed companies[7]. The management turnover is expected to have a positive impact.

- **Economic distress**= Degree of Economic Distress: Andrade and Kaplan (1998), Carapeto (1998) and Chatterjee, Dhillon, and Ramírez (1996) use profit margin as a measure of economic strength of a firm. While firms with negative operating income (EBITDA) may be both economically and financially distressed, hence with less wealth to distribute to all claimants, firms without negative economic shocks should have suffered much lower value depletion and so they should be in better shape. This fact suggests that the Income-to-Assets ratio measured at year-end prior to filing for bankruptcy should be negatively related to the time spent in bankruptcy and positively related to the odds of successful outcomes.

- **DIP** = A dummy variable that takes the value of one if there was DIP financing and 0 otherwise is used to see if its presence matters, as in Carapeto (1998)

- **EXIT** = A dummy variable that takes the value of one if there was exit financing and 0 otherwise is used to see if its presence is relevant.

- **DIP/Liabilities** = The size of DIP financing matters since small loans would not make much of a difference (see Adams [1995] and Carapeto [1998]). In this way the DIP financing-to-liabilities ratio should have a negative effect on the time spent in bankruptcy and a positive effect on the odds of successful emergence/reorganization.

[7] Earlier this year, Portuguese newspaper Público published that Pescanova's creditor banks were available to discuss the company's debt restructuring as long as the company´s CEO resigned.

- **EXIT/Liabilities** = Exit financing-to-liabilities ratio is expected to have an effect, in line with the DIP/Liabilities variable.

- **Liquidity** = The current ratio (current assets/current liabilities) will be used as a proxy for liquidity, since more liquid firms should have lower uncertainty surrounding the valuation of their assets, thus giving stakeholders better prospects of fulfilling their claims. So the current ratio measured at year-end prior to filing for bankruptcy should have a negative association with the time spent in bankruptcy and a positive association with the odds of successful emergence/reorganization.

- **Financial distress**= Degree of Financial Distress and Insolvency. The Liabilities-to-assets ratio measured at year-end prior to filing for bankruptcy is used to assess the degree of financial distress and solvency as in Chatterjee, Dhillon and Ramírez (1996) and Carapeto (2003). It is expected that the higher the leverage the smaller the assets to distribute to everyone, hence, more time spent before emergence.

- **DIP previous lender** = A dummy variable that takes the value of one if at least one of the DIP financers is a previous lender of the firm and 0 otherwise. Is used to see if its presence is relevant.

- **EXIT previous lender**= A dummy variable that takes the value of one if at least one of the exit financers is a previous lender of the firm and 0 otherwise. Is used to see if its presence is relevant.

- **PostPetition =** A dummy variable that takes the value of one if there was either DIP or exit financing and 0 otherwise is used to see if the presence of post-petition financing presence matters.
- **Post/Liabilities =** The ratio between the post-petition financing amount and total liabilities. In line with DIP/Liabilities and EXIT/Liabilities.

Merger or acquisition of a firm is a good value preservation alternative to liquidation for it often leads to better recovery rates and less absolute priority deviations. This is pointed out by Skeel (2004) and Carapeto (2008), as they observe that acquisition in bankruptcy is especially common in DIP firms and usually it is a better alternative, in terms of value creation, for all the stakeholders, since it leads to the continuation of the firms going concern.

Keeping this in mind, a fourth class of outcome from bankruptcy was computed, the Successful emergence. It encompasses the Reorganized and Merged/Acquired results so that a larger spectrum of tests could be performed within the regressions,

There was a need to run three different linear regressions, one to test the influence of the simultaneous presence of DIP and exit financing and their amounts, another to test the sole presence of DIP financing and finally one isolating the influence of exit financing. The other changes in variables between linear models I, II and III has to do with preventing the simultaneous presence of variables with a significant degree of correlation, in order to eliminate multicolinearity since some of the independent variables have a high degree of correlation between them. Nevertheless, we wished to test the effect of all the variables on the dependent variable.

The models are statistically robust and were tested for autocorrelation using Durbin-Watson's test and for heteroskedasticity, using the "Studentized" Breusch-Pagan's test. The tests results can be seen below each regression, respectively.

Linear Model I

Independent variables	Dependent variable: **TIME** (p-values in brackets)
Constant intercept	5.76651
	(< 2e-16) ***
Plans	0.13956
	(0.00360)**
Prepackaged	-0.21045
	(0.00621)**
Size	0.02054
	(0.70113)
CEO Turnover	-0.39208
	(0.00843)**
Economic distress	-0.11854
	(0.82051)
DIP	0.18337
	(0.02824)*
EXIT	0.14752
	(0.34795)
DIP/Liabilities	-0.05857
	(0.70885)
EXIT/Liabilities	-0.13839
	(0.34900)
Liquidity	-0.01601
	(0.82787)
Financial distress	-0.13300
	(0.06123) .
R-Squared / Adjusted R-Squared	0.1623 0.1055
Sample size	174

F-statistic: 2.854, p-value: 0.001913

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Breusch-Pagan test	Durbin-Watson test
BP = 1.8853, df = 1, p-value = 0.1697	DW = 2.0986, p-value = 0.7458

In this first linear model, I investigate the impact of the before mentioned variables on the time spent in bankruptcy. The F-Snedecor test indicates that the overall adherence of the model is good and that it has a high degree of significance. However the determination coefficient (R-squared) says the model only accounts for 16.23% of the variance in the dependent variable. As for the independent variables, besides the constant intercept, three of them are highly

significant and another one is significant with a 0.05 degree of confidence, as can be observed by their respective p-values. The coefficients signs are in line with what was expected.

Since the dependent variable is the natural logarithm of the number of days spent in bankruptcy, the independent variables coefficient represent the marginal percentage change in the number of days. Using the number of plans as an example, for each additional plan the time spent in bankruptcy increases by 13.9% more days, “ceteris paribus”. Naturally multiplicity of plans means there are disagreements between the claimants, and more time is needed to reach an agreement.

The prepackaged dummy variable is also highly significant and has a negative coefficient, which is as expected, for prepackaged deals are negotiated outside the court and usually the major stakeholders have already reached an agreement even before the chapter 11 filing, therefore reducing the overall time needed to emerge from bankruptcy.

CEO.Turnover dummy variable is also statistically significant and its sign is negative, which means that its presence has a negative effect on the time spent in bankruptcy by the firms. This can be interpreted as the new management being especially diligent and dynamic in negotiating a way out of bankruptcy, in opposition to an entrenched previous management.

The DIP financing dummy independent variable is also significant, although to a minor degree of confidence, and its sign is positive, which means it matters and its presence increases the time spent before emergence. This can be interpreted as more time being spent in negotiations. This result is in line with Bharath, Panchapegesan and Werner (2010), the coefficient assuming the same sign as in their OLS regression.

The financial distress variable is significant with a lesser degree of confidence and its negative sign implying that more financially distressed firms spent less time in bankruptcy, which is contradictory to what was expected. However, it can be so due to the fact that more distressed firms have less time available to spend before managing to reach an agreement and a restructuring

plan, if they want to survive. Time is money and to them, since they have less money, time is of the essence.

Size, economic distress, exit financing dummy variable, DIP/Liabilities, Exit/Liabilities and Liquidity, have no individual statistical significance, what was expected was that larger firms, with CEO turnover, with bigger exit loan needs and more liquidity, spend more time in bankruptcy, and firms that manage to get large DIP loans, during bankruptcy, speed up the process.

In linear model II, a different set of variables is used. This time I exclude the variables concerning DIP financing while maintaining all the others.

Linear Model II

Independent variables	Dependent variable: **TIME** (p-values in brackets)
Constant intercept	5.76781
	(< 2e-16) ***
Plans	0.13659
	(0.00227) **
Prepackaged	-0.20618
	(0.00623) **
Size	0.03929
	(0.53482)
CEO Turnover	-0.38286
	(0.00808) **
Economic distress	-0.08303
	(0.87275)
EXIT	0.17294
	(0.19938)
EXIT/Liabilities	-0.16330
	(0.30541)
Liquidity	-0.01619
	(0.77669)
Financial distress	-0.13809
	(0.05123) .
R-Squared / Adjusted R-Squared	0.1538 0.1074
Sample size	174

F-statistic: 3.312, p-value: 0.0009685

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Breusch-Pagan test	Durbin-Watson test
BP = 0.7549, df = 1, p-value = 0.3849	DW = 2.0965, p-value = 0.7383

The results obtained, are very similar to the ones obtained in the linear model I. The number of plans, prepackaged and CEO turnover are highly significant. The signs of the associated coefficients are consistent with the ones obtained in model I. The financial distress variable is significant to a lesser degree of confidence, the size, economic distress,, dummy exit, exit/liabilities and liquidity independent variables are not statistically significant and exit finance, does not seem to matter in this case also.

In the linear model III, I exclude the exit financing related independent variables and maintain all the others.

Linear Model III

Independent variables	Dependent variable: **TIME** (p-values in brackets)
Constant intercept	5.74242
	(2e-16) ***
Plans	0.13960
	(0.00180) ***
Prepackaged	-0.20175
	(0.00714) **
Size	0.03039
	(0.62971)
CEO.Turnover	-0.37893
	(0.0094) **
Economic distress	-0.05785
	(0.91079)
DIP	0.21331
	(0.13339)
DIP/Liabilities	-0.04905
	(0.75217)
Liquidity	-0.02592
	(0.67629)
Financial distress	-0.13354
	(0.05916) .
R-Squared / Adjusted R-Squared	0.1554 0.109
Sample size	174

F-statistic: 3.352, p-value: 0.0008596

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Breusch-Pagan test	Durbin-Watson test
BP = 2.4237, df = 1, p-value = 0.1195	DW = 2.0749, p-value = 0.6918

The results for most control variables are in line with the previous models,even though DIP related variables fail to be statistically significant.

In the linear model IV the two previous lender dummy variables are added.

Linear Model IV

Independent variables	Dependent variable: **TIME** (p-values in brackets)
Constant intercept	5.81664
	(< 2e-16) ***
Plans	0.14314
	(0.00154) **
Prepackaged	-0.21076
	(0.00545) **
Size	0.01079
	(0.87092)
CEO Turnover	-0.37538
	(0.01237) *
Economic distress	-0.13596
	(0.79542)
DIP	0.13692
	(0.03288) *
EXIT	0.11057
	(0.45094)
DIP/Liabilities	-0.07407
	(0.63772)
EXIT/Liabilities	-0.13069
	(0.41938)
Liquidity	-0.02373
	(0.70965)
Financial distress	-0.13167
	(0.06530) .
DIP previous lender	-0.11456
	(0.40226)
EXIT previous lender	0.09786
	(0.53673)
R-Squared / Adjusted R-Squared	0.1679 0.1003
Sample size	174

F-statistic: 2.483, p-value: 0.004131

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Breusch-Pagan test	Durbin-Watson test
BP = 1.638, df = 1, p-value = 0.2006	DW = 2.0908, p-value = 0.7245

DIP previous lender and EXIT previous lender dummy variables.

Their purpose is to investigate if the identities of the DIP and exit financers make any difference that is if the fact that they were previous lenders of the bankrupt firms has any impact on the time spent in bankruptcy.

The results are similar to the ones obtained in the linear model I, with no relevant explanatory value added by the new variables.

To sum up, considering all four linear models, one can conclude that overall, the regressions confirm that DIP finance is relevant to the time spent in bankruptcy, having a positive effect on it, as well as the multiplicity of plans. The event of prepackaged deals is confirmed to reduce the time spent in bankruptcy, as well as the CEO turnover. The presence of previous lenders as DIP or exit financers was not proved to have any influence in the time companies spent in bankruptcy.

Eight binomial models are estimated in an attempt to explain the influence of the several variables in the probability of successful emergence, probability of being merged or acquired while in bankruptcy, and last, but not least, the odds of liquidation.

The results are presented in the following tables:

Logit Models

Independent variables	Dependent variables (p-values in brackets)			
	Model I Successful emergence	**Model II** Successful emergence	**Model III** Acquired/ Merged	**Model IV** Liquidated
Constant intercept	-1.5907	-1.7394	-1.49133	-0.42568
	(0.4920)	(0.4453)	(0.3702)	(0.870)
Size	0.4106	0.4455	-0.09778	-0.09756
	(0.2297)	(0.1795)	(0.6830)	(0.787)
Liquidity	0.2702	0.2240	-0.07307	-0.21720
	(0.4478)	(0.5239)	(0.7467)	(0.612)
Findistress	0.2125	0.1891	0.56412	-0.49654
	(0.6671)	(0.6875)	(0.0609) .	(0.525)
PostPetition	1.3604	1.2560	-0.33187	-1.12383
	(0.0546) .	(0.0599) .	(0.5996)	(0.171)
Post/Liabilities	-0.2326		0.44036	-0.19381
	(0.6452)		(0.1799)	(0.834)
Pseudo R-Squared / AIC	0.08 / AIC: 98.536	0.07 / AIC: 96.726	0.08 / AIC:159.6	0.05 / AIC: 85.315
Sample size	174	174	174	174

Null deviance: 92.450 on 173 degrees of freedom

Residual deviance: 86.536 on 168 degrees of freedom

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

In the Logistic regressions, two new variables are used, PostPetition, that is a dummy variable, assuming the value of 1 if there is DIP or exit financing and zero otherwise and Post/Liabilities which is the ratio between the post petition financing amount and total liabilities. This transformation has the purpose of increasing the robustness of the logit models. After running the logit models I to IV, using the former variables DIP, Exit, DIP/Liabilities, Exit/Liabilities and running them again using the new PostPetition and Post/Liabilities variables it was acknowledged that the later models present better adherence to reality and better significance scores,

the result being better and less bulky models with no significant loss due to the transformation. Hence this variable structure was preferred in these cases, since the purpose was to research the impact of post-petition financing as a whole on the odds of successful emergence, being acquired or merged and being liquidated, whereas on the linear models before, the purpose was to study the individual contribution of each variable on the time spent in bankruptcy.

Besides, linear models using the PostPetition and Post/Liabilities variables, with the specifications described above, were tested, reaching no better results than the ones presented, using DIP and exit independently.

The PostPetition dummy variable has a significant positive effect on the odds of successful emergence and it is the only statistically significant variable in the first two logit models. These results confirm the conclusions reached in the univariate analysis.

What distinguishes model I from model II is that in model II I excluded the Post/Liabilities variable, to see if there was a relevant change in the results.

Logit model III has the purpose of investigating the factors influencing the merging or acquisition of a bankrupt firm. In this model, the only statistically significant variable is the financial distress one. It seems that the more financially distressed a firm is, greater are the odds of being subject to a merger or being acquired. The Size variable is not statistically significant, if it were, it's negative coefficient makes all the sense, and could be interpreted as some firms being "too big to be acquired". The same could be expected for the Liquidity variable, since more liquid firms restructure more easily for there is more money available to pay claims and buy time, although firms with a lot of available cash are appetizing targets for takeovers. Those were the expected results, but since the mentioned variables are not statistically significant, those deductions cannot be proved.

In the logit IV model, we see that none of the independent variables is statistically significant. What was expected was that Post-Petition, Liquidity and Financial distress would be negatively correlated with the odds of a firm being liquidated. Size, on the other hand, was expected to have a positive effect on the odds of liquidation, possibly indicating that a firm with high liabilities and assets is

more prone to liquidation. Other variable specifications were tested, with no additional success. In spite of the results, this model was maintained to show the results and because it ended up being the best one available.

A fifth model was built, logit model V, using the original DIP and exit variables instead of the PostPetition and Post/Liabilities variables used in logit models I to IV, to see if the results differed. In the table below we can see that they are very similar to the ones obtained in the logit models I and II..

Logit Model V

Independent variables	Dependent variable (p-values in brackets)
	Successeful emergence
Constant intercept	-2.6352
	(0.25500)
Size	0.5935
	(0.10119)
Economic distress	-2.4323
	(0.39835)
DIP	-0.3260
	(0.64135)
EXIT	3.4280
	(0.00134) **
Liquidity	0.3691
	(0.33916)
Financial distress	0.0591
	(0.90165)
Pseudo R-Squared / AIC	0.30 / AIC: 82.736
Sample size	174

Null deviance: 92.450 on 173 degrees of freedom

Residual deviance: 68.736 on 167 degrees of freedom

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

In this model the only statistically significant variable is the exit dummy variable, its presence having a positive effect on the odds of successful emergence from bankruptcy as was expected, and in line with the results where post-petition transformed variables were used instead. There is also an increase in this model's global adherence.

A sixth model, with CEO turnover as explained variable, logit model VI was also estimated to investigate the influence of the variables on the odds of existing CEO turnover in the bankrupt firms, after Chapter 11 filing. The only statistically significant variables are Financial distress and the exit financing dummy. Financial distress seems to have a negative influence on the odds of CEO turnover and the presence of exit finance seems to have a positive influence on the odds of CEO turnover. This confirms the evidence found in the univariate analysis that the presence of exit financing is related to increased CEO turnover, proving that the exit lenders may be using their influence to "pull the strings" in their favor. The model is as follows

Logit Model VI

Independent variables	Dependent variable (p-values in brackets)
	CEO Turnover
Constant intercept	0.16967
	(0.9040)
Size	0.18462
	(0.3614)
Economic distress	0.72509
	(0.6250)
DIP	-0.18743
	(0.6724)
EXIT	0.7681
	(0.0467) *
Liquidity	0.07181
	(0.7163)
Financial distress	-0.41906
	(0.0998) .
Pseudo R-Squared / AIC	0.08 / AIC: 191.59
Sample size	174

Null deviance: 187.62 on 173 degrees of freedom
Residual deviance: 177.59 on 167 degrees of freedom
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

The DIP dummy variable was also expected to have a positive effect on the odds of CEO turnover, but turned out not being statistically significant in this model.

In the last two logit models, model VII and VIII. I extend the previous analysis adding the previous lenders variables, DIP previous lender and EXIT previous lender in order to test if they have any effect on the odds of successful emergence and CEO turnover.

	Logit Model VII	**Logit Model VIII**
Independent variables	Dependent variable (p-values in brackets) Successeful emergence	Dependent variable (p-values in brackets) CEO Turnover
Constant intercept	-1.8629	0.54337
	(0.4195)	(0696)
Size	0.5178	0.15410
	(0.1286)	(0.436)
Economic distress	-0.5886	1.13874
	(0.8259)	(0.435)
Liquidity	0.3723	0.06419
	(0.3020)	(0.740)
Financial distress	0.2702	-0.41545
	(0.5741)	(0.123)
DIP previous lender	1.9698	0.47037
	(0.0641) .	(0.259)
EXIT previous lender	0.2548	0.02133
	(0.7541)	(0.965)
Pseudo R-Squared / AIC	0.11 / AIC: 98.03	0.06 / AIC: 194.22
Sample size	174	174
Null deviance / degrees of freedom	92.45 on 173	187.62 on 173
Residual deviance / degrees of freedom	84.03 on 167	180.22 on 167

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

In logit model VII, DIP previous lender is statistically significant suggesting that if the DIP lender is a pre-petition previous creditor it may increase the odds of successful emergence.

In logit model VIII, the DIP previous lender and exit previous lender variables do not add explanatory power to the regression, since neither one is statistically significant.

5. Limitations and further research

It can be argued that the survival and reorganization of bankrupt firms allows for less value depletion than its liquidation, taking into account not only the creditors and shareholders, but also all the other stakeholders, like employees, clients, suppliers and even the communities where the firm is present.

It is not clear that the DIP and exit lenders provide a selection of the bankrupt firms, only lending to those that are viable as a going concern, thus providing an unaccounted screening and monitoring role, for their motivations may also include the acquisition of the firm's assets at cheaper prices, the improvement of pre-petition claims and managing to take control of the bankrupt firms.

Often post-petition lenders also promote CEO turnover, leading to more sound governance.

As mentioned in the literature review, some researchers argue that fast liquidation is a better option. By liquidating, assets and resources can be more efficiently employed elsewhere. The measurement of this tradeoff is out of the scope of this dissertation.

An interesting set of questions arose from this study that I would like very much to investigate next. In the Portuguese context, although the legislation being very different, that is the following: Post petition financing allows for the survival of otherwise non viable firms. Is it worth it? That is, firms can fail because they do not have access to good financing, despite having good projects, business models and competent management or they fail in spite of the good models and financing because they have incompetent management. If the latter is correct, post-petition financing that prompts management turnover may solve the matter. Is the problem of access to credit, lack of positive NPV projects or incumbent management? I would like to study a sample of Portuguese insolvent firms and research the "day after" bankruptcy, what happened next to the firm, to the managers, and to the business model, analyzing also its peers. Regarding the previous managers, were they successful afterwards in other firms?

The final objective of this research will be to assess what led to the insolvency of Portuguese firms. Can we isolate major drivers? Is it the economic

context? Lacking positive NPV projects? Is it good credit availability? Is it the management? Is it the legislation? (Portuguese bankruptcy code) or is it the inefficient judicial system?

With some streamlining, this can be the seed of my doctoral research.

6. Conclusion

Although I wish the regressions were more affirmative, some broad conclusions can be taken allowing for some answers to the research questions to be reached.

The results from the multivariate analysis when coupled with the univariate analysis findings and keeping in sight the previous academic research mentioned in the literature review leads to the conclusion that debtor-in-possession financing and exit financing have come to play an important role on American bankruptcies, a role that is positive and enhances value.

This work shows that post-petition financing contributes positively to the successful emergence of bankrupt firms and is connected to a higher degree of CEO turnover, therefore contributing to better corporate governance.

Post-petition financing, by improving a bankrupt firm's chances of successful emergence, promotes certification, by correctly choosing firms with better prospects. One could argue that post-petition financing can allow for the survival of inefficient firms, distorting the efficiency of the free market. I do not believe this to be the case since bankruptcy is a lengthy, court regulated process and there are no free lunches, i.e. the post-petition financers usually do not grant loans to non-viable firms. That would be bad business and in the financial markets, the first law is the survival of the fittest.

A high percentage of exit financing is granted by DIP lenders and the percentage of DIP and exit lenders, that are previous creditors is also high, thus validating the Pre-petition loan claims improvement argument.

Contrary to previous research, post-petition financing seems to be related with increased time spent in bankruptcy, effectively buying the firm time to reach successful reorganization.

Overall the presence of post-petition financing has a positive contribution to value creation as it is associated with a higher degree of successful emergence of bankrupt firms, with improved governance.

7. Annex I

This explanatory annex was extracted from http\\www.uscourts.gov and explains the bankruptcy process in the United States and is intended to give an overview to the readers not familiarized with it.

“Bankruptcy in the United States of America

Bankruptcy in the United States is governed under the United States Constitution (Article 1, Section 8, Clause 4) which authorizes Congress to enact "uniform Laws on the subject of Bankruptcies throughout the United States." Congress has exercised this authority several times since 1801, most recently by adopting the Bankruptcy Reform Act of 1978, as amended, codified in Title 11 of the United States Code and commonly referred to as the "Bankruptcy Code" ("Code"). The Code has been amended several times since, with the most significant recent changes enacted in 2005 through the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (BAPCPA).

Corporate Bankruptcy

Federal bankruptcy laws govern how companies go out of business or recover from crippling debt. A bankrupt company, the "debtor," might use Chapter 11 of the Bankruptcy Code to "reorganize" its business and try to become profitable again. Management continues to run the day-to-day business operations but all significant business decisions must be approved by a bankruptcy court.

Under Chapter 7, the company stops all operations and goes completely out of business. A trustee is appointed to "liquidate" (sell) the company's assets and the money is used to pay off the debt, which may include debts to creditors and investors.

The investors who take the least risk are paid first. For example, secured creditors take less risk because the credit that they extend is usually backed by collateral, such as a mortgage or other assets of the company. They know they will get paid first if the company declares bankruptcy.

Bondholders have a greater potential for recovering their losses than stockholders, because bonds represent the debt of the company and the company has agreed to pay bondholders interest and to return their principal. Stockholders own the company, and take greater risk. They could make more money if the company does well, but they could lose money if the company does poorly. The owners are last in line to be repaid if the company fails. Bankruptcy laws determine the order of payment.

A company's securities may continue to trade even after the company has filed for bankruptcy under Chapter 11. In most instances, companies that file under Chapter 11 of the Bankruptcy Code are generally unable to meet the listing standards to continue to trade on Nasdaq or the New York Stock Exchange. However, even when a company is delisted from one of these major stock exchanges, their shares may continue to trade on either the OTCBB (Over the counter bulletin board) or the Pink Sheets (A daily publication compiled by the National Quotation Bureau with bid and ask prices of over-the-counter (OTC) stocks, including the market makers who trade them). There is no federal law that prohibits trading of securities of companies in bankruptcy.

During bankruptcy, bondholders will stop receiving interest and principal payments, and stockholders will stop receiving dividends. The reorganization plan will dictate what will happen to investor’s stakes.

The bankruptcy court may determine that stockholders don't get anything because the debtor is insolvent. (A debtor's solvency is determined by the difference between the value of its assets and its liabilities).

Chapter 11

Most publicly-held companies will file under Chapter 11 rather than Chapter 7 because they can still run their business and control the bankruptcy process.

Chapter 11 provides a process for rehabilitating the company's faltering business. Sometimes the company successfully works out a plan to return to profitability; sometimes, in the end, it liquidates. Under Chapter 11 reorganization, a company usually keeps doing business and its stock and bonds may continue to trade in securities markets. Since they still trade, the company must continue to file SEC reports with information about significant developments. For example, when a company declares bankruptcy, or has other significant corporate changes, they must report it within 15 days on the SEC's Form 8-K.

The Automatic Stay

The automatic stay provides a period of time in which all judgments, collection activities, foreclosures, and repossessions of property are suspended and may not be pursued by the creditors on any debt or claim that arose before the filing of the bankruptcy petition. As with cases under other chapters of the Bankruptcy Code, a stay of creditor actions against the chapter 11 debtor automatically goes into effect when the bankruptcy petition is filed. The filing of a petition, however, does not operate as a stay for certain types of actions listed under chapter 11, section 362. The stay provides a breathing spell for the debtor, during which negotiations can take place to try to resolve the difficulties in the debtor's financial situation.

Under specific circumstances, the secured creditor can obtain an order from the court granting relief from the automatic stay. For example, when the debtor has no equity in the property and the property is not necessary for an effective reorganization, the secured creditor can seek an order of the court lifting the stay to permit the creditor to foreclose on the property, sell it, and apply the proceeds to the debt.

Pre-packaged Bankruptcy Plans

Sometimes companies prepare a reorganization plan that is negotiated and voted on by creditors and stockholders before they actually file for bankruptcy. This shortens and simplifies the process, saving the company money. For example,

Resorts International and TWA used this method. Under the Bankruptcy Code, two-thirds of the stockholders who vote must accept the plan before it can be implemented, and dissenters will have to go along with the majority.

Chapter 11 procedures

The U.S. Trustee, the bankruptcy arm of the Justice Department, will appoint one or more committees to represent the interests of creditors and stockholders in working with the company to develop a plan of reorganization to get out of debt. The plan must be accepted by the creditors, bondholders, and stockholders, and confirmed by the court. However, even if creditors or stockholders vote to reject the plan, the court can disregard the vote and still confirm the plan if it finds that the plan treats creditors and stockholders fairly. Once the plan is confirmed, another more detailed report must be filed with the SEC on Form 8-K. This report must contain a summary of the plan, but sometimes a copy of the complete plan is attached.

The Reorganization Plan

The debtor has a 120-day period during which it has an exclusive right to file a plan. This exclusivity period may be extended or reduced by the court. But in no event may the exclusivity period, including all extensions, be longer than 18 months. After the exclusivity period has expired, a creditor or the case trustee may file a competing plan. The U.S. trustee may not file a plan.

A chapter 11 case may continue for many years unless the court, the U.S. trustee, the committee, or another party in interest acts to ensure the case's timely resolution. The creditors' right to file a competing plan provides incentive for the debtor to file a plan within the exclusivity period and acts as a check on excessive delay in the case.

Committees of creditors and stockholders negotiate a plan with the company to relieve the company from repaying part of its debt so that the company can try to get back on its feet.

One committee that must be formed is called the "official committee of unsecured creditors." They represent all unsecured creditors, including bondholders. The "indenture trustee," often a bank hired by the company when it originally issued a bond, may sit on the committee.

An additional official committee may sometimes be appointed to represent stockholders.

The U.S. Trustee may appoint another committee to represent a distinct class of creditors, such as secured creditors, employees or subordinated bondholders.

After the committees work with the company to develop a plan, the bankruptcy court must find that it legally complies with the Bankruptcy Code before the plan can be implemented. This process is known as plan confirmation and is usually completed in a few months.

When a chapter 11 debtor needs operating capital, it may be able to obtain it from a lender by giving the lender a court-approved "superpriority" over other unsecured creditors or a lien on property of the estate, the so called Debtor in possession (DIP) financing.

Steps in Development of the Plan:

- The debtor company develops a plan with committees.
- Company prepares a disclosure statement and reorganization plan and files it with the court.
- SEC reviews the disclosure statement to be sure it's complete.
- Creditors (and sometimes the stockholders) vote on the plan.
- Court confirms the plan, and
- Company carries out the plan by distributing the securities or payments called for by the plan.

U.S. Securities & Exchange Commission role in Chapter 11 Bankruptcies

Generally, the SEC's role is limited. The SEC will review the disclosure document to determine if the company is telling investors and creditors the

important information they need to know; and ensure that stockholders are represented by an official committee, if appropriate.

Although the SEC does not negotiate the economic terms of reorganization plans, it may take a position on important legal issues that will affect the rights of public investors in other bankruptcy cases as well. For example, the SEC may step in if it believes that the company's officers and directors are using the bankruptcy laws to shield themselves from lawsuits for securities fraud.

Chapter 7 Bankruptcy

Some companies are so far in debt or have other problems so serious that they can't continue their business operations. They are likely to "liquidate" and file under Chapter 7. Their assets are sold for cash by a court appointed trustee. Administrative and legal expenses are paid first, and the remainder goes to creditors. Secured creditors will have their collateral returned to them. If the value of the collateral is not sufficient to repay them in full, they will be grouped with other unsecured creditors for the rest of their claim. Bondholders, and other unsecured creditors, will be notified of the Chapter 7, and should file a claim in case there's money left for them to receive a payment.

Stockholders do not have to be notified of the Chapter 7 case because they generally don't receive anything in return for their investment. But, in the unlikely event that creditors are paid in full, stockholders will be notified and given an opportunity to file claims.

Securities and Exchange Commission most important fillings

10-Q - This is a company's quarterly report. As a general rule, the 10-Q is less detailed than the annual report. Companies are required to file their 10-Q within 35 days of the end of their quarter. The financial statements that are included in a quarterly report are generally unaudited.

10-K - The annual report that is filed (yearly) by a company. This is an extremely in-depth document that contains everything relevant about the company; Executive

compensation, audited financial statements, organization structure, etc. **8-K** - A form that is filed by companies to inform their shareholders of "unscheduled material events that are important to shareholders"; CFO leaves, SEC is launching an investigation, the company announces a new business deal, delisting notice, shutting down a plant, layoffs, bankruptcy, etc. These are all material events that would require an 8-K to be filed. The 8-K is extremely common, and many companies will file a number of 8-K's throughout the course of a quarter."

8. Annex II

Correlation table

	A_M	CEO.T	DIP	DIP_PL	DL	Eco.Dis	EL	EXIT	EXIT_PL	Fi.Dis.	Lq.ed	Liqdty	Plans	Post.L	PostP.	Prep.	REORG.	Size	S.Em.	TIME
A_M	1.00	-0.82	-0.02	-0.01	0.17	-0.09	-0.02	0.02	0.02	0.22	-0.11	-0.04	0.12	0.11	-0.02	0.00	-0.83	-0.07	-0.05	0.18
CEO.T	-0.82	1.00	0.03	0.08	-0.18	0.08	0.09	0.15	0.02	-0.18	-0.45	0.06	-0.13	-0.07	0.09	0.03	0.98	0.06	0.52	-0.20
DIP	-0.02	0.03	1.00	0.34	0.21	0.07	-0.12	0.13	0.05	-0.13	-0.03	0.13	-0.05	0.07	0.64	0.05	0.04	0.19	0.04	0.10
DIP_PL	-0.01	0.08	0.34	1.00	-0.01	-0.01	-0.01	0.02	0.01	-0.03	-0.12	-0.09	0.02	-0.02	0.18	0.03	0.08	-0.04	0.15	-0.03
DL	0.17	-0.18	0.21	-0.01	1.00	-0.07	0.04	0.07	0.03	-0.11	0.06	0.42	0.01	0.73	0.13	-0.03	-0.19	-0.20	-0.09	0.04
Eco.Dis	-0.09	0.08	0.07	-0.01	-0.07	1.00	0.02	0.13	0.08	-0.07	0.00	0.08	-0.09	-0.03	0.09	0.02	0.08	0.09	-0.01	-0.03
EL	-0.02	0.09	-0.12	-0.01	0.04	0.02	1.00	0.41	0.09	0.05	-0.13	0.08	0.03	0.71	0.20	-0.04	0.09	-0.28	0.09	-0.07
EXIT	0.02	0.15	0.13	0.02	0.07	0.13	0.41	1.00	0.34	0.02	-0.32	-0.03	0.01	0.32	0.49	0.08	0.16	-0.04	0.33	0.02
EXIT_PL	0.02	0.02	0.05	0.01	0.03	0.08	0.09	0.34	1.00	-0.06	-0.06	-0.01	-0.03	0.08	0.13	0.04	0.01	0.02	0.03	0.06
Fi.Dis.	0.22	-0.18	-0.13	-0.03	-0.11	-0.07	0.05	0.02	-0.06	1.00	-0.03	-0.30	0.14	-0.05	-0.02	-0.01	-0.18	-0.03	0.01	-0.08
Lq.ed	-0.11	-0.45	-0.03	-0.12	0.06	0.00	-0.13	-0.32	-0.06	-0.03	1.00	-0.04	0.04	-0.05	-0.14	-0.05	-0.46	-0.01	-0.87	0.07
Liqdty	-0.04	0.06	0.13	-0.09	0.42	0.08	0.08	-0.03	-0.01	-0.30	-0.04	1.00	-0.01	0.35	0.13	-0.03	0.06	-0.15	0.04	0.00
Plans	0.12	-0.13	-0.05	0.02	0.01	-0.09	0.03	0.01	-0.03	0.14	0.04	-0.01	1.00	0.03	0.02	0.04	-0.13	0.06	-0.05	0.23
Post.L	0.11	-0.07	0.07	-0.02	0.73	-0.03	0.71	0.32	0.08	-0.05	-0.05	0.35	0.03	1.00	0.23	-0.05	-0.07	-0.33	0.00	-0.02
PostP.	-0.02	0.09	0.64	0.18	0.13	0.09	0.20	0.49	0.13	-0.02	-0.14	0.13	0.02	0.23	1.00	0.04	0.10	0.02	0.16	0.07
Prep.	0.00	0.03	0.05	0.03	-0.03	0.02	-0.04	0.08	0.04	-0.01	-0.05	-0.03	0.04	-0.05	0.04	1.00	0.03	0.00	0.07	-0.19
REORG.	-0.83	0.98	0.04	0.08	-0.19	0.08	0.09	0.16	0.01	-0.18	-0.46	0.06	-0.13	-0.07	0.10	0.03	1.00	0.07	0.53	-0.20
Size	-0.07	0.06	0.19	-0.04	-0.20	0.09	-0.28	-0.04	0.02	-0.03	-0.01	-0.15	0.06	-0.33	0.02	0.00	0.07	1.00	0.10	0.08
S.Em.	-0.05	0.52	0.04	0.15	-0.09	-0.01	0.09	0.33	0.03	0.01	-0.87	0.04	-0.05	0.00	0.16	0.07	0.53	0.10	1.00	-0.14
TIME	0.18	-0.20	0.10	-0.03	0.04	-0.03	-0.07	0.02	0.06	-0.08	0.07	0.00	0.23	-0.02	0.07	-0.19	-0.20	0.08	-0.14	1.00

Note: Correlations above 0.50 in absolute value are highlighted in light blue

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