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CREDITOR COMMITTEE COMPOSITION IN BANKRUPTCY COURT: AN EMPIRICAL STUDY

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CREDITOR COMMITTEE COMPOSITION IN BANKRUPTCY COURT:
AN EMPIRICAL STUDY

by

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Dedication

To Maria

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Creditor committees have been characterized as the "watchdogs" of the bankruptcy reorganization process of large companies. Not only do creditor committees have broad statutory powers to oversee the debtor and its management, but they also play a key role in preventing abuses by professionals and other participants in the often complex corporate bankruptcy process. Furthermore, recent research has provided evidence of abusive fee practices in large corporate bankruptcy cases which point to failures in the oversight mechanisms of the process. This dissertation examines the role of creditor committees in the bankruptcy process and in selected outcomes of this process, with a focus on fees paid to bankruptcy professionals. Based on a unique data set comprised of 1,037 bankruptcy cases over the period 1999-2008, the research first examines committee characteristics along three separate dimensions of analysis: individual characteristics of members serving on committees; changes of committee composition over the life of the committees; and social characteristics of committee interlocks. The Calpine bankruptcy case is used throughout this dissertation to illustrate

the research. This research finds a dense network of interlocks that dominates large cases, with financial industry members being significantly more likely to serve on multiple committees than non-financial industry members. Analysis of the data shows that over 50% of creditor committees are never amended and there are no systematic recompositions of the remaining committees. A test of small-world topology in the member creditor committee network fails to show a strong small-world structure in the member social network once it is corrected for imposed network topology. This dissertation then employs econometric models to evaluate whether creditor committee variables help explain professional fees in large bankruptcy cases. It finds a statistically significant and positive relationship between the social centrality measure of the creditor committee case and the professional fees paid. This finding points to potential conflicts of interest among the repeat creditor committee players and their constituents. The research fails to find a significant relationship between the presence of financial firms in creditors' committees and professional fees paid in the case. The dissertation concludes with policy recommendations and suggestions for further research.

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Chapter 1: Introduction

Economic distress and business failures are common events in our economic system. Even though most economically distressed businesses do not seek legal protection from their creditors, over 100,000 businesses file for bankruptcy protection every year.[1] The economic ramifications of these failures are enormous: an estimated 2 million workers are employed by businesses filing for bankruptcy every year. Business failure is not unique to small or privately held firms. From 2000 to 2009, over 1,500 public companies listing over 2.8 trillion dollars assets filed for bankruptcy protection.[2] Like most other modern nations, the United States provides a legal framework to deal with the orderly reorganization and/or liquidation of failed companies and the distribution of value among those holding claims against the firms' assets. Unlike most other economic events affecting the firm's assets, bankruptcy reorganizations are not guided by market mechanisms, but by the administrative rules and procedures legislated by Congress and administered by federal courts. The current form of corporate bankruptcy legislation, or Bankruptcy Code, is the product of the Bankruptcy Reform Act of 1978 and it is part of Title 11 of the United States Code. Despite numerous revisions and changes over the last 30 years, the substantive part of the code dealing with corporate bankruptcy remains unchanged.

The Bankruptcy Code includes a number of oversight mechanisms of the reorganization process in order to help insure the preservation of the bankruptcy

[1] The actual number of business bankruptcies varies dramatically depending on how they are counted. For a discussion on the number of bankruptcies being filed see R. M. Lawless and E. Warren, "The Myth of the Disappearing Business Bankruptcy," *California Law Review* 93, no. 5 (2005).
[2] *The 2010 Bankruptcy Yearbook & Almanac*, (New Generation Research).

estate and the fair and equitable distribution of value among claimants. These oversight mechanisms also seek to prevent abuses by professionals and other parties involved in the reorganization process. Generally speaking there are three parties with a direct statutory oversight of the bankruptcy process of large corporations: the bankruptcy court handling the case; the U.S. Trustee, an employee of the U.S. Department of Justice, and; the officially appointed committees representing unsecured creditors. Yet, despite these multiple oversight mechanisms, there are considerable indications of mounting professional costs in the reorganization of large companies, and recent literature has provided convincing evidence of systematic overcharging by professionals in those cases.[3] Such overcharging involves the simultaneous failure by the courts, the U.S. Trustee, and the creditor committees in fulfilling their oversight duties over large bankruptcy cases.

The Bankruptcy Code provides official creditor committees with substantial powers to perform their duties. First, creditor committees can hire counsel, financial advisers, industry experts, and other professionals at the expense of the bankruptcy estate to pursue their obligations. Committees also have the statutory powers to "investigate the acts, conducts, assets, liabilities, and the financial viability of the debtor"[4] and have ample access to non-public information and to the debtor's management. They also have the power to request the appointment of a trustee or an examiner and effectively ask the court to remove management. The committees also perform critical duties in the management of the case, and their representatives

[3] See L.M. LoPucki and J.W. Doherty, "Professional Overcharging in Large Bankruptcy Reorganization Cases," *Journal of Empirical Legal Studies* 5, no. 4 (2008). , L.M. LoPucki and J.W. Doherty, "Routine Illegality in Bankruptcy Court, Big-Case Fee Practices," *American Bankruptcy Law Journal* 83(2009)., L.M. LoPucki and J.W. Doherty, "Routine Illegality Redux," *American Bankruptcy Law Journal* 85(2011).

[4] See section 1103 of the Bankruptcy Code.

typically sit on the fee committees that, along with representatives from the U.S. Trustee's office and the Court, are often created to review fee applications by professionals serving on bankruptcy cases. Even when no fee committee is appointed, or whenever the creditor committee disagrees with the Court's decision to approve a fee application, creditor committees have the power to challenge such professional fees payments using counsel and professionals paid by the bankruptcy estate.

Unsecured creditor committees, as representatives of the economic beneficiaries of the residual value of the firm, are critical in insuring the value of the estate is maximized and in preventing abuses by professionals. As fiduciaries, for the unsecured creditors, creditor committee members ultimately protect the economic interest of smaller unsecured claimants in the case. Not surprisingly unsecured creditor committees have been called the "watchdogs"[5] of the corporate bankruptcy system.

It is important to recognize the U.S. Trustee does not have discretion in appointing members to the creditor committees. In fact, the selection process of individual members serving on the committee is purely mechanical; appointments are largely the result of self-selection. In order to serve on a creditor committee, a creditor must be ranked among the largest holders of unsecured claims against the company and express willingness and readiness to serve. In cases where an organizational meeting is held, large creditors wishing to be part of the committee must attend the meeting and ask the U.S. Trustee to appoint them. Furthermore there are significant costs, in terms of time and monetary expenses, associated with

[5] The term "watchdog" has been used to describe creditor's committees functions, see M. G. Andrews, "The Chapter 11 Creditors' Committee: Statutory Watchdog," *Emory Bankruptcy Developments Journal* 2(1985).

committee service. This is because typical committee service in a single case lasts over one and a half years on average, service is unpaid, and courts only allow for the reimbursement of direct out-of-pocket expenses related to committee service. Many costs associated with service, which can include the set up and maintenance of trading screens, personnel costs, etc., are not reimbursed by the bankruptcy estate. It should also be added that claims against large bankrupt companies can usually be traded and often change hands after bankruptcy. This means investors can increase their holdings of unsecured claims even after the bankruptcy filing in order to insure appointment to the creditors committee. In fact there are significant numbers of investors who specialize in claims issued by deeply distressed and bankrupt firms.[6] It is not rare to find these distressed securities investors serving on unsecured creditor committees in bankruptcy court.

Previous research on committees has focused on broad legal questions of representation,[7] function,[8] and liability.[9] Of these only one journal article has

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[6] These distressed securities investors are often called vulture investors.

[7] See C. J. Cuevas, "Due Process and Adequate Representation in a Chapter 11 Case: The Appointment and Removal of Members of a Creditors' Committee in a Corporate Reorganization," *New England Law Review* 24(1989)., K. F. Gwynne, "Intra-Committee Conflicts, Multiple Creditors' Committees, Altering Committee Membership and Other Alternatives for Ensuring Adequate Representation under Section 1102 of the Bankruptcy Code," *American Bankruptcy Institute Law Review* 14(2006)., and sections on committee formation and representation in K.N Klee and K.J. Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code," *South Carolina Law Review* 44(1993)., and A. DeNatale, "The Creditors'committee under the Bankruptcy Code--a Primer," *American Bankruptcy Law Journal* 55(1981).

[8] See D. J. Bussel, "Coalition-Building through Bankruptcy Creditors' Committees," *UCLA Law Review* 43(1996)., D. J. Bussel, "Creditors'committees as Estate Representatives in Bankruptcy Litigation," *Stanford Journal of Law, Business, and Finance* 10(2005)., A. Yerramalli, "Deciphering the Statutory Language of 11 Usc Section 1002 (B)(3): Information Disclosure Requirements Imposed Upon Creditors' Committees," *American Bankruptcy Institute Law Review* 15(2007). plus relevant sections in Klee and Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code.", and DeNatale, "The Creditors'committee under the Bankruptcy Code--a Primer."

[9] See J. Gadsden, "Liabilities of Creditors' Committees and Their Members, The," *Commercial Law Journal* 101(1996). and R. S. Blanc, "Putting a Limit on Unlimited Creditors' Committee Liability," *Emory Bankruptcy Developments Journal* 13(1996).

collected empirical data on committees.[10] This research consisted of a three case studies each providing different insights into creditor committee composition, processes, and dynamics. The author concludes creditor committees are somewhat chaotic battlegrounds with individual committee members battling each other for their own self interests. Also, in the cases studied, banks and distressed securities investors played critical roles in the functioning of the committees. Finally, one of the case studies in the paper provides a clear example of how unsecured creditor committee members behave as the de facto owners of the firms and the committee simply becomes the arena where the new owners of the company jockey for control. Outside the legal literature, creditor committee composition has been acknowledged as being relevant in the bankruptcy process,[11] but there has been no systematic study of creditor committee composition. In one particularly relevant study, Hotchkiss et al. (2000) provide convincing evidence of how the presence of distressed securities investors in creditor committees affect the way bankrupt firms are valued, thus having a direct and measurable effect on the outcome of the bankruptcy process. Furthermore, the empirical observation of dense social links (also referred to as social interconnectedness or social embededness in the literature) among individual creditor committee members is important as social links have proven to have significant effects on processes and outcomes of similar groups such as board of directors. However, there is no empirical study examining this issue in the context of creditor committees and the effect that the social interconnectedness (a concept explained in some depth in this dissertation) of committee members, as well as other

[10] Bussel, "Coalition-Building through Bankruptcy Creditors' Committees." This article presents 3 short case studies.

[11] For example vulture fund presence in junior creditor committees has been found to be relevant to the enterprise valuation in bankruptcy court, see S. C. Gilson, E. S. Hotchkiss, and R. S. Ruback, "Valuation of Bankrupt Firms," *Review of Financial Studies* 13, no. 1 (2000).

characteristics of creditor committees, on the bankruptcy process as well as its outcomes. Additionally, there is no study examining the effect of creditor committee composition and other characteristics of these committees on professional fees. A detailed review of the relevant literature is provided on Chapter 3 of this dissertation.

The purpose of this research is to examine membership of creditor committees in large bankruptcy cases and study potential conflicts of interest that might prevent them from providing an effective oversight of the reorganization process. Creditor committees are studied along three dimensions of analysis likely to pinpoint conflicts of interests: individual characteristics of the members serving on the committees; the changes of committee membership over the life of the committee, and; the social links among cases created by individual member service in creditor committees in more than one case.

The proxy for individual characteristics of members used in this dissertation is whether the member is a financial or a non-financial firm. This is because, unlike other creditors, financial firms have complex balance sheets, ongoing trading operations, and often provide investment banking services to companies under bankruptcy protection. They are more likely to be routinely involved in bankruptcy cases and have greater experience in the complex reorganization of large companies. Most of them also engage in risk management strategies that affect their net exposure to the debtor's unsecured claims and, many of them, utilize investment strategies that diversify their investment across the capital structure of the bankrupt firm. Finally, the rapid consolidation of the financial industry over the last 15 years, as well as the increased use of derivative contracts by financial companies, have amplified the potential for conflicts of interests faced by financial firms as they serve on creditor committees.

The second dimension of analysis is the study of the changes in committee membership over time. This research specifically investigates two different patterns of committee changes over time: early exit and late joining of members serving on creditor committees. A pattern of early exit might provide evidence of committee membership being used as a vehicle for obtaining non-public information from which individual members can profit by trading claims against the debtor. Also, systematic patterns of late joining might point to the use of creditor committee appointment rules as a tool for investors to alter the ongoing committee workings for individual gain. This is a particular concern in cases where large sales of assets take place late in the reorganization process.[12] In either case, such patterns of changes in committee membership also provide evidence as to the motivation of committee service and point to additional conflicts of interest that are likely to interfere with committee duties.

Finally, the social analysis of committee membership is particularly relevant to creditor committees provided the considerable anecdotal evidence of repeated committee service of a small number of "elite" players in large cases. This observation reminds us individuals serving on creditor committees do not act in a social vacuum and their behavior in each of these committees is likely to be influenced by their social environment and history. In fact the social embeddedness of committee service creates both opportunities to access resources outside of a specific case as well as constraints that limit individual member behavior. Social links to the outside add social capital to a committee and, as Robert Putnam puts it in his seminal work on social capital, "social networks have value…. like a screwdriver

[12] Significant asset sales during the reorganization are typically implemented under Section 363 of the Bankruptcy Code. These are discussed in more detail on Chapter 2.

or a university degree… social contacts affect the productivity of individuals and groups."[13] Yet, by the same token, social linkages also impose constraints that might prevent the optimal performance of the committees in pursuing the interests of their constituents. This is because not only the social capital created by the inter-committee linkages can be used by individuals to further their own individual goals but it can also enforce norms of behavior that affect individual actions.

Furthermore, the study of social embeddedness has proven relevant in the study of similar social networks where some individuals serve in more than one group or team. These include boards of directors, casts of motion movie actors, Broadway musical production teams, academic collaboration teams, patent co-authorship, and even hip-hop music collaborations. The literature on boards of directors' interlocks is particularly relevant as there is considerable evidence that interactions of individual members across multiple boards help explain director behavior and board policies.

Using social network analysis tools, this research maps interlocks among individual cases and measures the degree centrality of individual cases. Additionally, the research attempts to confirm the anecdotal evidence of "elite" members repeatedly serving in large cases. It then identifies these "stars" among both individual cases as well as among the individual members serving on committees. Also of interest is to determine whether there is a significant presence of interconnected packs. That is, the occurrence of groups of individuals serving together across different cases in groups that are interconnected among themselves.

[13] See p. R.D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (Simon and Schuster, 2001).

Such social network structure is known as a "small world"[14] and has proven critical in the study of social groups similar to creditor committees—such as boards of directors and Broadway musical production teams. In the study of conflicts of interest in creditor committees, the presence of a small world structure would impose significant social constraints to creditor committee behavior that are likely to interfere with optimal committee performance.

Last, this research tests whether differences in creditor committee composition that are likely to create conflicts of interest have an effect on fee practices that have been shown to be the result of a breakdown of the oversight mechanisms of the reorganization process. In other words, can differences in creditor committee composition help explain the failure of creditor committee oversight duties as they relate to fee practices in large cases?

Using social networks analysis, this research finds a dense network of interlocks that dominates larger cases with financial industry members being significantly more likely to serve on multiple committees than non-financial industry members. Furthermore, analysis of the data finds over 50% of creditor committees are never amended and finds no systematic changes in the remaining committees. A test of small-world topology in the member creditor committee network fails to find a strong small-world structure in the member social network once it is corrected for imposed network topology. The results of the regression analysis evaluating whether creditor committee variables help explain professional fees in large bankruptcy cases find a statistically significant and positive relationship between the social centrality measure of the creditor committee case and the professional fees paid. In other

[14] The term "small world" refers to a social network typology where individuals in large social groups are connected by counter-intuitively short paths (or degrees of separation). A detailed discussion of small worlds is provided on Chapter 3.

words, this research finds that fees in cases for in which creditor committee members have previously served in multiple cases are likely to have higher professional fees even after controlling for size and complexity of the case. This finding provides evidence of the existence of conflicts of interest between the repeat creditor committee players and their constituents. This research theorizes the reason for this positive effect of the creditor committee degree centrality measure on professional fees is that highly connected creditor committees are less willing to oppose fees payments to professionals in effort to not antagonize other players they are likely to work with in the future. This research also fails to find a significant relationship between the presence of financial firms in creditors' committees and the professional fees paid in the case.

This research makes several original contributions to the literature. First, from a methodological perspective, by acknowledging the social interconnectedness among individual committee members this dissertation contributes to the growing body of literature incorporating the social dimension of economic behavior in policy analyses. Such literature includes, for example, social network studies on networks of innovation in shaping local economic development policy[15] and the use of social network analysis tools in financial regulation.[16] More specifically, this research tests social network structure for small world characteristics and identifies the "star" players in the structure (both at a case and at an individual member levels). From a policy perspective, this study provides a better understanding of the current bankruptcy code, offers insights on how it is being implemented, and provides

[15] P. Cooke and L. Lazzeretti, *Creative Cities, Cultural Clusters and Local Economic Development* (Edward Elgar Publishing, 2008).
[16] D. Christopoulos and L. Quaglia, "Network Constraints in Eu Banking Regulation: The Capital Requirements Directive," *Journal of Public Policy* 29, no. 02 (2009).

guidance for future code reforms. It also adds to the understanding of the current literature and academic debate on fee practices in bankruptcy court and the effectiveness of oversight mechanisms in the process.

Finally, this research also compiles a unique database of bankruptcy variables from the primary source, particularly those concerning creditor committees, complementing data currently available in other databases.[17] The primary source for committee membership information was PACER (Public Access to Court Electronic Records) available online from the Administrative Office of the United States Courts.[18]

This study begins with short overview of corporate bankruptcy in the United States. It includes a short summary of the process, roles different actors play in it, and the theoretical structures that help us understand it. Next, this research presents a background summary of creditor committees. This includes a discussion of how these committees are formed and altered, the powers and liabilities of their members, and the role committee professionals play. The following chapter presents the theoretical mechanisms that provide a basis for analysis and offer hypotheses on how creditor committees' compositions affect the reorganization process. This addresses the standards of fiduciary duty and principal-agent problems that shape behavior of creditor committee members, as well as the social network theory considerations that frame the social embeddedness of their actions. This chapter also includes a summary of relevant previous work in the literature.

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[17] The two databases most frequently used in empirical bankruptcy research include New Generation Research's proprietary database (www.bankruptcydata.com) and the Bankruptcy Research Database (BRD) maintained by Prof. LoPucki (http://lopucki.law.ucla.edu/)

[18] See the Administrative Office of the United States Courts website at (http://pacer.psc.uscourts.gov/).

The analytical framework that is used to study creditor committees and their role in the bankruptcy process is presented in Chapter 4. It includes the enumeration of the research questions and sub-questions and presents a description of the sources of data and working datasets, including their collection and analysis. Next, Chapter 5 provides a detailed analysis of the committee characteristics along the three aforementioned dimensions: individual characteristics; changes of committee membership over time, and; social characteristics. This chapter also presents the social network analysis of the datasets. Chapter 6 presents an econometric model explaining professional fees in bankruptcy cases. This model is used to examine whether creditor committee characteristics explain professional fee practices in large cases as well as the direction of this relationship. The concluding chapter, Chapter 7, provides a review of findings and conclusions and offers a list of policy implications and recommendations along with a summary of contributions of this research to the field of public policy. This Chapter also outlines directions of future research related to the questions addressed in this study.

Chapter 2: Background

In order to better understand creditor committees in bankruptcy court, one must first review the basics of the corporate bankruptcy process and see how these committees fit in it. The purpose of this chapter is to provide a brief overview of corporate bankruptcy, explain the roles different actors play in it, and summarize the theoretical structures that help us understand it. This chapter also presents a background summary of creditor committees, including a discussion of how these committees are formed and altered, the powers and liabilities of their members, and the role professionals play in their operations. This understanding of corporate bankruptcy and creditor committees lays out the foundation to study conflicts of interest inherent in creditor committee service.

2.1. Brief Overview of Corporate Bankruptcy

The United States Constitution (Article 1, Section 8, Clause 4) provides the U.S. Congress with the authority to enact "uniform laws on the subject of bankruptcies throughout the United States." Thus Congress has the authority, yet not the obligation, to provide a bankruptcy code under the jurisdiction of federal courts. Congress has exercised this authority several times, although not continuously, by enacting a diversity of bankruptcy codes over the years. The current form of corporate bankruptcy legislation is the product of the Bankruptcy Reform Act of 1978. It is part of the United States Code Title 11. Despite numerous revisions and changes over the last 30 years, the substantive part of the code remains unchanged.[19]

[19] For a detailed reference of the history of the code see C. J. Tabb, "The History of the Bankruptcy Laws in the United States," *American Bankruptcy Institute Law Review* 3(1995).

Bankruptcy protection is set in motion with a bankruptcy petition before a federal bankruptcy court. This petition is usually filed by the firm. In some instances creditors can also file a petition to force the firm into involuntary bankruptcy. Bankruptcy filings can be made under either Chapter 7 (liquidation) or Chapter 11 (reorganization). With few exceptions, firms initially file for Chapter 11 protection. Chapter 11 reorganizations, however, can be converted into Chapter 7 liquidations after the original petition is made. Firms are also allowed to file prepackaged Chapter 11 petitions (prepacks). These petitions include a plan of reorganization that has already been negotiated between the firm and its creditors.

Chapter 7 liquidations focus on the disposition and distribution of assets. In these cases, an interim trustee is appointed immediately following the petition. Once appointed, this trustee proceeds to liquidate all of the firm's assets and distribute the proceeds among claimants according to their statutory priorities. Chapter 11 reorganizations, on the other hand, seek to preserve the ongoing business of the firm. More generally, Chapter 11 has three purposes: to provide a space for the firm to reorganize, to allow an equitable distribution of the firm's assets among claimants, and to let the firm continue operating while under bankruptcy protection. Continued business operation is the essential mechanism used to preserve the ongoing concern value of the firm. This is the value above and beyond that of the individual assets of the firm. Some of the key features of traditional Chapter 11 reorganizations include: creditor protection, debtor in possession, disclosure statement, plan of reorganization, exclusivity, solicitation, plan approval, plan confirmation, and emergence.

The creditor protection feature provides a stay on all collection efforts from creditors. Creditor protection provides the breathing room for the company to

continue operating its business without the burden of creditor litigation by consolidating all proceedings into a single, organized process managed by the bankruptcy court.

The second key characteristic of the current code is debtor in possession which provides for incumbent management to continue operating the firm's assets.[20] The bankruptcy filing in effect creates a bankruptcy estate which generally includes all assets owned by the firm. This estate is overseen by the court but the firm's day-to-day ordinary course operations remain under management's control. This means that unless there is cause on the part of the current board of directors and their appointed managers—i.e. fraud, misconduct, gross negligence, etc…—, incumbent management continues running the business. This is in contrast to a significant number of bankruptcy systems around the world where a trustee is appointed to run the business during the reorganization process.[21]

Prior to the presentation of a plan of reorganization, management must prepare a disclosure statement containing a detailed valuation of all of the firm's assets as well financial projections for the business. This disclosure statement is significant because it provides the basic elements to value the bankruptcy estate and at the end of the day shape the plan of how assets are distributed among claimants. Business valuation is one of the most problematic features of the current corporate bankruptcy system as both creditors and the courts must rely on financial projections and expert testimony to value the estate.[22] Such valuation is heavily dependent on

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20 The term "debtor" refers to the firm and its management.

21 For a broad comparison of bankruptcy systems around the world see Ziad R. Azar, *Bankruptcy Policy: A Review and Critique of Bankruptcy Statutes and Practices in Fifty Countries Worldwide* (SSRN, 2007).

22 For a more detailed discussion of court valuation of bankrupt firms in Chapter 11 see Gilson, Hotchkiss, and Ruback, "Valuation of Bankrupt Firms."

assumptions that are ultimately somewhat subjective. The information contained on the disclosure statement often times provides the base valuation for the firm and sets the stage for negotiations among creditors. Thus, even if the debtor's plan of reorganization fails to be approved by creditors or confirmed by the court, the financial projections management develops are likely to shape plans of reorganization presented by other parties. Thus current management not only continues operating the business on a day to day basis but also plays the central role of valuing the firm.

A plan of reorganization is the document detailing the distribution of assets among claimants in the case. More specifically, this document enumerates and classifies all claims, shows the treatment for each claim, states which creditors classes are impaired by the plan, and provides the details on how the plan is to be implemented.[23] Impairment is defined as the loss of any right regarding the claim a creditor has against the firm.[24] A plan or reorganization can only be filed by the debtor during the exclusivity period. This exclusivity period originally lasts 120 days but can be, and usually is, extended by the court. After exclusivity, any party of interest may file a plan of reorganization.[25]

The plan is then be submitted to impaired creditors for a vote before it can be confirmed by the court. The debtor is required to provide all claimants with both the disclosure statement and the proposed plan of reorganization.[26] A two thirds majority vote in dollar amount and a one half plus one majority vote in number of creditors from each class of creditors are required for approval by the class. Creditor classes

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[23] See 11 U.S.C. Section 1123 for more detail on plan of reorganization content.

[24] See 11 U.S.C. Section 1124 for more detail on impairment.

[25] There are additional instances that allow a party of interest to file a plan of reorganization. See 11 U.S.C. 1121 for more details on who may file a plan of reorganization.

[26] See 11 U.S.C. Section 1125 for additional information on post-petition disclosure and solicitation.

that receive no distribution under the terms of the plan are deemed to reject the plan and do not vote on the plan.

Once the plan has been voted by eligible creditors, the court must confirm it in order for the plan to take effect.[27] In principle, courts will allow the confirmation of plans of reorganization following whatever distribution creditors agree upon that is deemed fair and equitable. This means the specifics of the plan of reorganization are usually not imposed by the court but negotiated by creditors. The corporate bankruptcy code relies on consensus as the mechanism to develop the plan of reorganization that is ultimately confirmed. This is one of the more distinguishing characteristics of the American reorganization process. Moreover, a consensual plan does not need to abide by the absolute priority rule (APR).[28] APR is the principle that no payments can be made to junior creditor until senior creditors are paid in full. Plans of reorganization can also provide for a distribution in the reorganized firm to incumbent management as a mean to provide incentives for managers and other employees. A plan of reorganization must, however, meet the "best interest of creditors" test. This test demonstrates the plan provides creditors not voting or voting against the plan at least as much as they would have received had the firm been liquidated. Furthermore, courts have the ability to force a minority of holdout creditors to accept a plan of reorganization. Finally, under certain circumstances, the court can approve a plan of reorganization even when creditors have voted down the plan or have been deemed to reject it. This "cramdown" aspect of the bankruptcy code allows firms to reorganize even when not all creditors agree on the terms of the plan. Once a plan is confirmed a date is set for emergence from bankruptcy

[27] 11 U.S.C. Section 1129 provides the details on plan confirmation.

[28] A plan that is not consensual must, in the majority of cases, abide by the APR.

protection. This is the point where the plan becomes effective and creditors receive the distributions stipulated by the plan.

There are additional important elements of Chapter 11 that should be mentioned. The first one is the right to reject contracts as part of the reorganization process. In essence, bankrupt companies have the option to reject almost any contract they choose. In practical terms this feature of the code results in a significant part of the reorganization process is spent reviewing contracts and rejecting those that management determines represent liabilities or generally unfavorable to the bankruptcy estate. All counterparties to those rejected contracts can then file a claim against the firm's estate in court and abide by the creditor seniority determined by the court. The second element is the claims filing and review process. This process takes a significant amount of time and effort as the court sets deadlines to submit claims against the firm which are then individually reviewed. Often claims are challenged by the debtor or creditor committees. The burden to the debtor, both in time and expense, is significant in the claims review process. Another element often present in Chapter 11 reorganizations is the approval of a key employee retention plan (KERP).[29] KERPs provide bonuses to key employees that remain with the firm during the reorganization process. These payments are justified on the grounds of preservation of the ongoing concern value of the firm despite the fact they are often made to the same managers that led the company into the bankruptcy filing. A final element is the financing of the firm both during bankruptcy (DIP, or debtor in possession, financing) as well as part of the implementation of a plan of reorganization (exit financing). These financing events

[29] See p.74-89 in G. W. Kuney, "Hijacking Chapter 11," *Emory Bankruptcy Developments Journal* 21(2004).

are critical to both the continued operation of the business—conserving the ongoing concern value of the estate—as well as the success of a plan of reorganization.

Compared to previous versions of the U.S. bankruptcy code, the current code is clearly debtor oriented. This means there is an assumption the firm—through its management—is the party best suited to manage the firm and produce a plan of reorganization, at least during the exclusivity period. Thus, it is management who knows best how to run the business and maximize its value. This managerial discretion allows current management to continue running the business without interference from creditors or the court. Management is also believed to be the best party to come up with an impartial plan of reorganization that satisfies all creditors. In other words, the current code sees bankruptcy as an exogenous event imposed on the firm and its management. The role of the code is to help the firm and management deal with creditors in an orderly fashion and assists management in continuing to maximize the firm's value.

In addition to the debtor, there are other important players in the corporate bankruptcy process. These include the judge presiding over the case, the U.S. Trustee, the creditor and equity committees, and the different professionals—attorneys, financial advisors, and other consultants—hired by the debtor and committees to assist them through the bankruptcy process.

The judge presiding over the case is one of the star players in the process.[30] This is because of the significant amount of discretionary power the court has over the case. In fact, the court hears all litigation regarding the case and the judge's

[30] For more detail on the role of the judge in Chapter 11 reorganizations see H. R. Miller, "The Changing Face of Chapter 11: A Reemergence of the Bankruptcy Judge as Producer, Director, and Sometimes Star of the Reorganization Passion Play," *American Bankruptcy Law Journal* 69(1995).

rulings can be crucial in determining the course of a case.[31] In addition to the judge, the United States Trustee, an employee of the Justice Department, serves as an overseer of the estate, the debtor, and those appointed to represent creditor's interests in court. In practice, however, the Trustee's role is typically limited to appointing creditor and equity committees and investigating negligence or fraud by the debtor or the committees.

Creditor and equity committees are appointed to oversee Chapter 11 reorganizations on behalf of unsecured creditors and equity holders. A case might have more than one creditor committee and might not have an equity committee. Committees play the role of "watchdogs"[32] of the reorganization process and help negotiate the plan. The next section of this chapter will look at these committees in more detail.

Finally, because of the inherent complexity of corporate bankruptcy, professionals retained by the debtor and the committees are decisive in determining the course of the process. Debtors usually have little or no experience with bankruptcy and experts play crucial roles in minimizing business disruptions and managing the reorganization process.[33] The debtor's counsel, in particular, is a central protagonist of the process as it guides the debtor through the case. Other professionals retained by the debtor, such as financial advisors as well as

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[31] There is a significant amount of literature on competition among different judicial districts to attract bankruptcy cases and how differences among courts might entice firms to file in specific venues. For additional detail see, for example, L. M. LoPucki, *Courting Failure: How Competition for Big Cases Is Corrupting the Bankruptcy Courts* (University of Michigan Press, 2006). and K. Ayotte and D. Skeel, "Why Do Distressed Companies Choose Delaware? An Empirical Analysis of Venue Choice in Bankruptcy," *University of Pennsylvania, Institute for Law and Economics Research Paper* (2004).

[32] The term "watchdog" has often been used to describe creditor's committees functions, see Andrews, "The Chapter 11 Creditors' Committee: Statutory Watchdog."

[33] Sometimes experts are hired to actually run the company during bankruptcy protection.

management consultants specialized in bankruptcy, can also have a deep impact of the process through the design of debtor in possession financing, key employee retention programs, business plan, asset valuation, plan of reorganization, etc. Professionals hired by creditor committees also play important roles throughout the reorganization process as they provide direction and decision advice for committee members.

Also relevant in this analysis is the existence of adhoc creditor committees. These unofficial creditor committees are created by groups of individual creditors who hire their own professionals and participate in the case. They are typically formed by groups of creditors dissatisfied with committee structure or wishing to enhance their influence in the process. [34] These committees might seek reimbursement for expenses only to the extent to which they make a substantial contribution to the case. These committees are not appointed by the U.S. Trustee and their membership is generally not filed with the court. They might also be short lived and can disband themselves at any time. Few cases, however, appear have ad hoc committees, and these committees do not enjoy the statutory powers and privileges official committees do.

The following section provides more detail on the official creditor committees.

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[34] See p. 1032 in Klee and Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code."

2.2. CREDITOR COMMITTEES[35]

2.2.1. Introduction

As mentioned in the previous section, creditor and equity committees are appointed to serve as overseers of the Chapter 11 process and to help negotiate the plan of reorganization. Creditors' committees have their origins in the early days of the Bankruptcy Act of 1898. Even though Congress did not expressly mention them in the law, such committees emerged in an informal basis in corporate bankruptcy cases. The 1933 amendment of the Bankruptcy Act finally recognized committees by providing them with "supervisory and other control over the debtor's business."[36] The Bankruptcy Reform Act of 1978 further elevated the role of creditors' committees as "Congress envisioned that committees of unsecured creditors would serve as 'bankruptcy watchdogs' on behalf of the larger groups of creditors they represent."[37] In fact, under the new code only creditor committees have the statutory powers to closely monitor the firm and its management during the reorganization process.

2.2.2. Appointment and Removal

The United States Code Title 11 Section 1102 outlines the creation of the creditor and equity committees. The text of this section of the code is reproduced in Appendix A. Creditor committees are appointed to represent different classes of

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35 For more complete background information on creditor committees see: DeNatale, "The Creditors'committee under the Bankruptcy Code--a Primer."; Klee and Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code."; Andrews, "The Chapter 11 Creditors' Committee: Statutory Watchdog."

36 For a detailed discussion of the powers, obligation, and duties of creditor committees prior to the Bankruptcy Reform Act of 1978 see at C. H. Levy, "Creditors'committees and Their Responsibilities," *Commercial Law Journal* 74(1969).

37 P. 247 in Andrews, "The Chapter 11 Creditors' Committee: Statutory Watchdog."

creditors in the reorganization process. An equity committee can also be appointed by the U.S. Trustee based on the expectation of whether there might be residual value for shareholders who are, in fact, simply the most junior of unsecured creditors. Most large Chapter 11 reorganizations have one creditor committee but individual capital structures of the bankrupt business might dictate whether the U.S. Trustee appoints additional creditor committees representing additional creditor classes.[38] The court can also order the appointment of additional committees by the U.S. Trustee. Chapter 11 cases filed by small companies might not have any committees appointed when there is cause.

Creditor committee appointment is largely a mechanical process. Either creditors can request the appointment of the committees or the U.S. Trustee can initiate the appointment on its own. The process starts with a letter soliciting interest among the debtor's largest unsecured creditors to serve in the committee. This letter is sent out by the U.S. Trustee and typically goes to the 20 largest holders of record of claims. The letter is sometimes accompanied by a "Creditor Committee Acceptance Form." This acceptance forms asks for the creditor's contact information, amount type of unsecured claim against the debtor, inquires about creditor's possession of debtor's property, whether the creditor is an insider or the claim is related to an insider (i.e. officer of the company or other type of insider), and finally asks whether the creditor is bound by a lock-up agreement.[39] The form also informs potential members of the creditor's committee about the prohibition to

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[38] For more detail on multiple committees see p. 1024-1030 in Klee and Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code." and Gwynne, "Intra-Committee Conflicts, Multiple Creditors' Committees, Altering Committee Membership and Other Alternatives for Ensuring Adequate Representation under Section 1102 of the Bankruptcy Code."

[39] Lock-up agreements are contracts between debtors and creditors that pre-negotiate the outcome of the case

trade claims against the debtor as long as they serve on the committee. Appendix C includes a copy of the “Creditor’s Committee Acceptance Form” used by the office of the U.S. trustee for the Southern District of New York. If there are sufficient responses to the letter the U.S. Trustee then appoints the creditors with the largest claims to the committee. In select cases, the U.S. Trustee conducts an organizational meeting where the presence of the creditors—or their authorized agents—seeking to participate in the creditor’s committee is required. At the meeting the U.S. Trustee then appoints to the creditors committee the largest holders of claims present at the meeting.

Committees are appointed among the largest holders of each claim by class willing and ready to serve. Initial committees usually include seven members, but the actual number of individual members might be larger or smaller. It is up to the U.S. Trustee to decide whether to appoint fewer than seven members fewer than seven volunteers express an interest to serve on the committee or to appoint more than seven members if the U.S. Trustee believes there is a valid need to include the additional members. These additional members must, however, be entitled to service because of their rank in holdings of claims against the debtor. Individual members can resign from committees at any time. The U.S. Trustee can adjust committee composition in order to maintain adequate representation.[40] This adjustment includes the appointment of additional members to the committee to replace holders of larger claims leaving the committee or to increase the size of the committee over the 7 creditors typically appointed. Again, such appointment as an adjustment to the composition of the committee is always done in order of holdings of their individual

[40] For a more complete discussion on the maintenance of adequate representation in creditor committees see Cuevas, "Due Process and Adequate Representation in a Chapter 11 Case: The Appointment and Removal of Members of a Creditors' Committee in a Corporate Reorganization."

claims and after having expressed their interest to serve to the U.S. Trustee. After the U.S. Trustee appoints a committee, a Notice of the Appointment of a Creditors Committee is filed with the court and notice is provided to the debtor's counsel and the appointed creditors. This notice is then made publicly available via PACER. Amendments to the committees are also filed with the court and available via PACER.

It is also important to acknowledge that claims against large debtors typically continue trading after the bankruptcy filing. Thus, many creditors have the opportunity to increase or decrease their holdings prior to the appointment of the committee. Furthermore, in most large cases all of the seven largest unsecured creditors in a case have a guaranteed spot in the creditor's committee should they chose to serve on it. At the same time, committee service is entirely voluntary and those who chose to serve can resign at any time.

Creditor committee service requires members to hold sizeable holdings of claims against the debtor, and actively seek their appointment to the committee. Furthermore, service is unpaid and it often times involves significant unreimbursed expenses to their members. This is particularly true to firms who engage professionals—or even employees—to represent them individually in the committee as committee service typically involves a one- to two- years of commitment. Last, committee service requires most members to restrain from trading the debtor's securities or to create elaborate trading screen to separate committee service from the rest of the activities of the individual committee member. The bankruptcy estate does not reimburse committee members for any of these costs. Consequently, committee members tacitly agree to bear significant costs in terms of time and money as they seek their appointment to the committee.

In conclusion, appointment to a creditors' committee follows mechanical rules, requires individual members to actively seek their appointment, and implies significant costs to those who get appointed. Furthermore, committee members is voluntary and they can resign at any time.

2.2.3. Powers

The power and responsibilities of committees are outlined in the United States Code Title 11 Section 1203 (shown in Appendix B). As mentioned in the previous section, committee service is unpaid but the estate does reimburse committee members for any out of pocket expenses related to the case. Each committee can hire a legal counsel as well as other advisors to help them represent their creditor class in court. These advisors often include financial experts, accountants, industry experts, and other professionals and are paid by the bankruptcy estate. In practice, committees act as a board of directors overseeing their team of legal counsel and advisors. Furthermore, committees are allowed to "investigate the acts, conducts, assets, liabilities, and the financial condition of the debtor, the operation of the debtor's business and the desirability of the continuance of such business, and any other matter relevant to the case or to the formulation of a plan."[41] This authority gives committee members ample access to non-public information about the firm. This is particularly important given the fact that public companies operating under bankruptcy protection typically provide very little information to public markets. An amendment, however, made by Congress to the code through the Bankruptcy Abuse Prevention and Protection of 2005 enlarged the duties of the

41 11 USC 1102(b)

committees to provide certain non-committee members with access to information. To date the implementation of this amendment is, at best, troublesome as issues surrounding securities laws and attorney-client privilege and confidentiality issues are worked out.[42] Finally, committees have the power to request the appointment of a trustee or an examiner in case of mismanagement on the part of the debtor. A trustee in effect replaces management in the day to day administration of the bankruptcy estate. An examiner conducts an investigation of "any allegations of fraud, dishonesty, incompetence, misconduct, mismanagement, or irregularity in the management of the affairs of the debtor of or by current or former management of the debtor."[43] Finally, creditor committees also have the power to prosecute certain estate causes of action. This means creditor committees can litigate on behalf of the estate recognizing that "in most bankruptcy cases, creditors, rather than equity holders or corporate management or a trustee, are the real parties in economic interest in such litigation".[44]

In addition to the statutory powers, as likely equity owners of the reorganized firm, creditor committees have the potential to exert exceptional levels of influence over incumbent managers.[45] This is because a considerable number of reorganizations of large companies result in unsecured creditors receiving a significant portion, if not all, of the corporation's equity. These creditors then have the power to decide on compensation packages, remove incumbent managers, and

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[42] For a more complete discussion of the issues see Yerramalli, "Deciphering the Statutory Language of 11 Usc Section 1002 (B)(3): Information Disclosure Requirements Imposed Upon Creditors' Committees."

[43] 11 USC 1104(c)

[44] P. 30 in Bussel, "Creditors'committees as Estate Representatives in Bankruptcy Litigation."

[45] There is a substantial body of literature on lender control in Chapter 11. See for example: E. Warren and J. L. Westbrook, "Secured Party in Possession," *American Bankruptcy Institute Journal* 12(2003)., Kuney, "Hijacking Chapter 11.", and H. R. Miller and S. Y. Waisman, "The Creditor in Possession: Creditor Control of Chapter 11 Reorganization Cases," *Bankruptcy Strategist* 2(2003).

even sell assets—or the company itself—to third parties. Section 363 sales, which allow the sale of all or substantially all of the firm's assets before a plan is negotiated or confirmed, are particularly threatening elements for management. Furthermore, a significant portion of plans of reorganization include equity grants to company managers. This means incumbent managers that stay with the company can end up receiving a payment from the new equity owners of the firm.[46] Even those managers that leave the company after emergence from bankruptcy can benefit from key employee retention plans (KERPs) usually approved by the court with creditor committees' support.[47] Furthermore, managers can negotiate the issuance of liability releases from the court as part of the plan of reorganization.

2.2.4. Liability

Courts provide committee members with qualified immunity in relation to their committee service. Such immunity provides protection against litigation arising from acts within the scope of committee service and performed in good faith. Furthermore, many plans of reorganization include a release of liability in connection to committee service. Thus, "recognizing the risk of frivolous claims, such qualified immunity and economic self-interest should be sufficient incentive to induce continued service by creditors holding significant claims on committees."[48] Committee members, however, do not enjoy total immunity. They can still be sued

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[46] For a discussion on payments made as bonuses to managers see Kuney, "Hijacking Chapter 11."

[47] For more detail of employee retention programs see A. M. Dickerson, "Approving Employee Retention and Severance Programs Judicial Discretion Run Amuck," *American Bankruptcy Institute Law Review* 11(2003). and Kuney, "Hijacking Chapter 11."

[48] P. 25 in Gadsden, "Liabilities of Creditors' Committees and Their Members, The."

for actions outside the scope of duty of the committee or the product of willful misconduct.[49]

2.2.5. Role of Creditor Committee Professionals

Committees have the power to employ counsel, financial advisors, and other experts and consultants at the estate's expense. Committee's counsel is usually hired during the first meeting of the committee and plays a dual role of advocate and advisor. The advisor role is critical as it is assumed "the committee is a client, often with little experience in reorganization matters, and as such is in need of, and entitled to, the confidential and competent advice of counsel." [50] Counsel is a critical player in designing the committee's negotiation strategy. The attorney's client is the committee, not the creditor class. The code further imposes a requirement of "disinterestedness" with respect to other professionals employed by the committee. This means, professionals must have not have a financial interest in, or other predisposition toward, a particular resolution of the case. Among other professionals retained by the committee, financial advisors often provide key analysis on the valuation of the enterprise. They might also provide expert testimony in litigation on behalf of the committee. Many cases require the employment of additional experts, including industry specialists and accountants, on behalf of the committee.

The preceding review of corporate bankruptcy and creditor committees is not complete without a brief overview of the competing bankruptcy theories. These

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[49] Some debate still exists as to the limits of liability for committee members. For a discussion of a standard of "limited liability" see Blanc, "Putting a Limit on Unlimited Creditors' Committee Liability."

[50] P. 1616 in Bussel, "Coalition-Building through Bankruptcy Creditors' Committees."

provide the intellectual framework that allows us to understand the basic nature of bankruptcy and assess the efficiency and fairness of the current code.

2.3. CORPORATE BANKRUPTCY THEORY

Broadly speaking, theories of bankruptcy can be grouped in two separate camps: contractarian theories and traditionalist theories.[51] The common thread among contractarian theories is that "parties should be free to bargain in advance for a set of rules that will govern their rights in the event of bankruptcy. Their bargains should be permitted to override the rules of bankruptcy, presumably rendering the bankruptcy system applicable only as a default arrangement for those who make no private bargains."[52] In other words: "Mandatory regulation is bad; freedom of contract is good."[53]

The currently prevailing contractarian theory of bankruptcy is the Creditor's Bargain theory.[54] It only recognizes legally enforceable contracts as valid claims in the bankruptcy process. Distributions should follow the priorities stated on individual claims and any distribution to anyone without a legally enforceable

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51 For more detail on the ongoing debate between contractarians and traditionalists see, for example, D. G. Baird and R. K. Rasmussen, "The End of Bankruptcy," *Stanford Law Review* 55(2002). and L. M. Lopucki, "The Nature of the Bankrupt Firm: A Response to Baird and Rasmussen's: The End of Bankruptcy," *Stanford Law Review* 56, no. 3 (2003).

52 P. 1204 in E. Warren and J. L. Westbrook, "Contracting out of Bankruptcy: An Empirical Intervention," *Harvard Law Review* 118, no. 4 (2005).

53 C. J. Tabb, "Of Contractarians and Bankruptcy Reform: A Skeptical View," *American Bankruptcy Institute Law Review* 12(2004).

54 The Creditor's Bargain Theory of Bankruptcy was originally postulated by Thomas Jackson in T. H. Jackson, "Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors' Bargain," *Yale Law Journal* 91, no. 5 (1982). and later developed in a series of articles with Baird and Scott (for further detail and a short summary on the development of the theory see see p.4-9 in L. M. LoPucki, "A Team Production Theory of Bankruptcy Reorganization," *UCLA Law School, Law and Econ Research Paper* (2003).

contract amounts to "theft."[55] The adherence to the priority ranking of claims (also known as the Absolute Priority Rule, or APR) is paramount: not only because any deviation from it amounts to stealing but also because such deviations cause contracting distortions throughout the economy. From this perspective, the current bankruptcy process is unduly complex and inefficient. Some supporters of this theory have proposed drastically different bankruptcy processes, the most extreme of which calls for a quick auction of the firm's assets followed by a rapid distribution among claimholders. Despite its powerful theoretical appeal, the Creditor's Bargain Theory of bankruptcy seems incapable of explaining bankruptcy entitlements. These are payments that commonly take place during bankruptcy proceedings that violate both the APR or the requirement of a legally enforceable contract. Most of these entitlements appear to be independent of the administrative bankruptcy process as higher ranking creditors appear quite willing to make these payments.

An emerging contractarian theory of bankruptcy, the team production theory of bankruptcy,[56] seems to be able to explain observed behavior much more accurately. This theory also sees the firm as a nexus of contracts but recognizes that legally enforceable contracts among parties interacting with the firm do not reflect the actual relationships of those parties with the firm. Moreover, the firm's capacity to produce requires inputs that are not always explicitly spelled out in those contracts and the distribution of the firm's rents are also not explicitly detailed on those contracts. In other words, in an uncertain environment—such as everyday business—it is impossible to determine the exact inputs required from individual "team members" as well as the rents available to distribute among them. The firm's

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55 See C. W. Mooney Jr, "A Normative Theory of Bankruptcy Law: Bankruptcy as (Is) Civil Procedure," *Scholarship at Penn Law* Paper 18(2005).

56 See LoPucki, "A Team Production Theory of Bankruptcy Reorganization."

capacity to produce is thus dependent on fair distributions to team members whose inputs are required to maintain the firm in business even when they do not hold legally enforceable claims. Stakeholders in the firm delegate to the board of directors the power to distribute the firms' rents even in the absence of legally enforceable contracts. This theory helps us explain why skilled personnel, for example, might get significant distributions ahead of full payment to all holders of senior claims even when they do not hold enforceable senior contracts against the bankrupt firm. Thus payments that would otherwise be seen as bankruptcy entitlements are actually payments to team members that are needed to maintain the firm's capacity to produce. Furthermore, other features of the code, such as debtor in possession and the role of the board of directors in the formulation of the plan of reorganization are all comfortably explained by this theory.[57] Despite its ability to better describe observed behavior, its reliance on unquantifiable team production commitments and its reliance on board of directors to pursue the "right thing"[58] makes it troublesome to many bankruptcy theorists.

In contrast to contractarian scholars, traditionalist theorists argue that market frictions and inefficiency considerations ultimately dominate the contractual nature of the firm as well as the reorganization process.[59] These inefficiencies prevent a wide array of claims and obligations to be reflected on legally enforceable contracts and also prevent pure market mechanisms to rule the bankruptcy process. Thus, there are stakeholders entitled to distributions of assets from the failed firm who might not hold legally enforceable written contracts or who might not be members of the

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57 Ibid. p. 44

58 Ibid. p. 43

59 For representative positions on the traditionalist camp see: Lopucki, "The Nature of the Bankrupt Firm: A Response to Baird and Rasmussen's: The End of Bankruptcy.", Warren and Westbrook, "Contracting out of Bankruptcy: An Empirical Intervention."

production team. These theorists argue that a narrowly constructed bankruptcy code might allow some claimholders—particularly banks and bondholders—to unjustly appropriate the share of assets from others claimants. The practical implications of this traditionalist view make bankruptcy a complicated affair. One theorist compares it to a divorce:[60] there are long lists of written and unwritten commitments that must be sorted through in order to determine the actual liabilities of the firm. At the end, only a consensus-building negotiation can properly resolve issues among claimants. The current bankruptcy code is somewhat more closely aligned with this view of bankruptcy than with contractarian theories.

More recent traditionalist theoretical views of bankruptcy recognize not only the inefficiencies in properly accounting for liabilities in bankrupt companies, but also the difficulties in accounting for the assets available for distribution to claimants. Thus, for example, recent research has framed bankruptcy as the battle for corporate control.[61] Corporate control is a highly valuable asset that is difficult to assess and has been often ignored by both theorists and policy makers. Perhaps, more importantly, the struggle for corporate control might help explain creditor and debtor behavior during bankruptcy proceedings and explain some of its complexity.

In summary, and despite the profound differences about the essential understanding of the firm and bankruptcy reorganization, theories of bankruptcy provide valuable frameworks for examining the current code, previous academic research on bankruptcy, and the role and behavior of creditor committees.

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60 J. L. Westbrook, "The Control of Wealth in Bankruptcy," *Texas Law Review* 82, no. 4 (2004).
61 Ibid

2.4. CONCLUSION

This chapter provided a brief summary of the corporate bankruptcy process, definition and role of creditor committees in this process, and corporate bankruptcy theories. The most critical points to take away from the chapter include the inherent complexity of the bankruptcy process in court, the mechanical character of the appointment mechanisms of creditor committees—which essentially is a self-selection process—, the unpaid nature of committee service, and the significant powers given to the committees by the Bankruptcy Code. This understanding on the nature of corporate bankruptcy and creditor committee service further motivates the need to research potential conflicts of interest that can affect creditor committee service.

The next chapter in this dissertation provides a theoretical framework or understanding the nature and role of creditor committees and review of previous empirical work examining the role of creditor committees on bankruptcy outcomes that will help elucidate the relevant research questions and methods of analysis used in this study.

Chapter 3: Examining the Role of Creditor Committees on Bankruptcy

3.1. INTRODUCTION

Why should we expect creditor committee composition to have an effect on the Chapter 11 reorganization process? The first part of the answer lies on the inherent complexity of the process and the value of previous experience that individual committee members bring to committee service.[62] The second part of the answer lies in the problematic nature of the fiduciary relationship that defines committee service and the mechanisms in place to police conflicts of interest related to committee service. In fact, committee members serve dual roles: a fiduciary role towards their constituents and a role as individual claimants seeking to protect their own individual interests in the reorganization proceedings. These roles have both been recognized by the courts. Not only are committee members faced with potentially conflicting loyalties, but the Code lacks the appropriate contracting mechanisms to customize the terms of committee service in this principal-agent setting. Furthermore, the systems in place to manage not only this inherent conflict of interest—which include committee self-policing and ultimately court supervision—might be inadequate to actually prevent this conflict from affecting committee performance. Section 3.2 of this chapter will look into the theory and literature of fiduciary role as it relates to creditor committee service.

The other body of literature relevant to this analysis is that related to the social embeddedness of committee service. This is because as we seek to determine

62 The question of experience and committee membership has already been brought up in the literature. See Bussel, "Coalition-Building through Bankruptcy Creditors' Committees."

creditor committee characteristics that are theoretically relevant in committee behavior and performance, the social dimension clearly becomes a key aspect of the analysis. Social embeddedness analysis has proven to be a significant aspect in explaining the performance of other similar complex group efforts such as corporate board of directors, Broadway productions, movies, academic collaboration networks, patent collaborations, and even in the production of hip-hop music. This theoretical observation appears to be confirmed by the empirical observation of the prevalence of repeated committee service and the existence of an "elite" of repeat committee members. Section 3.4 will address the theoretical aspects of the social embeddedness of committee service. This section will further address small world network structures and the board of directors interlocks literature[63] and it provides a summary of previous research involving corporate boards of director interlocks as well as studies of small world social networks structures. The chapter continues with a review of key bankruptcy outcomes and previous empirical research examining factors that affect these outcomes. Finally, section 3.5 presents previous empirical work on committee characteristics.

3.2. FIDUCIARY DUTY OF COMMITTEE SERVICE

A principal-agent or fiduciary role defines the character of creditor committee service. Committee members are agents acting on behalf of their constituents who are their principals. The standard of behavior of creditor committee members is dictated by the fiduciary duty relationship they owe to their respective

63 The phenomenon of corporate board members serving in different boards at the same time is known as "board interlocks."

constituents. This fiduciary duty can be interpreted in legal terms using the legal literature or in economic terms using principal-agent theory.

3.2.1. Legal Perspective[64]

From a legal perspective, the definition of fiduciary duty imposes a standard of conduct that tolerates no conflicts of interests:

> …many forms of conduct permissible in a workaday world for those acting at arm's length, are forbidden to those bound by fiduciary ties. A trustee is held to something stricter than the morals of the market place. Not honesty alone, but the punctillio of an honor the most sensitive, is then the standard of behavior. As to this there has developed a tradition that is unbending and inveterate. Uncompromising rigidity has been the attitude of courts of equity when petitioned to undermine the rule of undivided loyalty by the 'disintegrating erosion' of particular exceptions. Only thus has the level of conduct for fiduciaries been kept at a level higher than that trodden by the crowd. It will not consciously be lowered by any judgment of this court.[65]

In theory the application of the legal standard of fiduciary duty to creditor committee members is clear: the interests of their respective constituencies must be pursued and protected even at the expense of their own interests. This would be an ideal standard of care of committee members towards their constituents. In practice,

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64 The fiduciary role of committee members is addressed in detail in Klee and Shaffer, "Creditor's Committees under Chapter 11 of the Bankruptcy Code."; C. A. Eklund and L. W. Roberts, "Problem with Creditors' Committees in Chapter 11: How to Manage the Inherent Conflicts without Loss of Function, The," *American Bankruptcy Institute Law Review* 5(1997); Andrews, "The Chapter 11 Creditors' Committee: Statutory Watchdog.", and Gwynne, "Intra-Committee Conflicts, Multiple Creditors' Committees, Altering Committee Membership and Other Alternatives for Ensuring Adequate Representation under Section 1102 of the Bankruptcy Code."

65 Chief Judge Cardozo, in Meinhard v. Salmon, 164 NE 545 at 546, (NY 1928). A more general and through analysis of fiduciary duties in bankruptcy courts can be found at A. D. Shaffer, "Corporate Fiduciary-Insolvent: The Fiduciary Relationship Your Corporate Law Professor (Should Have) Warned You About," *American Bankruptcy Institute Law Review* 8(2000).

however, courts recognize individual committee members do have an additional relationship with the bankruptcy estate—that of an individual creditor—and thus the right to represent their own rights in the bankruptcy case. After all committee members are not independent third parties in the cases. Even beyond the individual creditor relationship, there are more complex relationships with the debtor, for example that of being a key customer for a trade creditor, that further complicates the fiduciary relationship. The fact committee members are also allowed to protect their own self-interest while serving on a committee is particularly problematic given the fact that creditors are many times competing in the distribution of an "insufficient pie".[66] Thus, creditors are in fact often times in competition with each other. Further exacerbating problematic nature of the fiduciary role for individual committee members is the complexity of committees—which are likely to include different types of creditors in the same committee—and the existence, in some cases, of multiple committees. If courts were to strictly follow the longstanding standard of conduct expected from the agent, creditor committees would simply not be functional. In order to make the relationship operational, courts have creditor committees deal with their inherent conflicts of interest through their own self-policing measures and, as a last resort, through the court.[67]

3.2.2. Principal-Agent Theory

In economics, the principal-agent problem arises when a principal hires an agent to perform in accordance to the principal's interests and in detriment of the

66 See p. 130 in Eklund and Roberts, "Problem with Creditors' Committees in Chapter 11: How to Manage the Inherent Conflicts without Loss of Function, The.". He argues creditors are in fact in competition with each other.

67 Ibid.

agent's self-interests in an environment of incomplete or asymmetrical information. Under this scenario, the agent will fail to act in the principal's best interests. The principal-agent problem creates the need to align the agent's self-interests with the principal's or to increase oversight. In their seminal research on the principal-agent problem, Milgrom and Roberts provide the four basic principles of contract design in order to minimize principal-agent problems: informativeness, incentive-intensity, monitoring intensity, and equal compensation.[68] The informativeness principle states that compensation to the agent should be dependent on a measure of performance that reveals information about the level of effort of the agent in pursuing the principal's objective. The incentive-intensity principle dictates that incentives to the agent to perform should be commensurate to the principal's marginal profits, the agent's level of risk aversion, the agent's level of response to the incentives, and how accurately the agent's behavior can be assessed. The monitoring intensity principle relates the level of monitoring with the level of incentives. Finally, the equal compensation principle dictates that all of the agent's tasks must be rewarded at the same rate even if their level of monitoring is low or non-existent.

In the case of creditor committees some of these contracting principles to minimize principal-agent problems are clearly present. This is mainly because committee members are also creditors in the class they represent. This makes their compensation commensurate to that of their principal's rate of recovery in their creditor class. Thus the informativeness and incentive-intensity principles are present. But it is not a perfect relationship. Many investors, particularly financial firms are typically invested across the capital structure of the bankrupt firm. Such

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68 Milgrom et al 1992 P Milgrom and J Roberts, *Economics, Organization and Management* (London: Prentice-Hall, 1992).

investment strategy diversifies the creditor's exposure in the firm and minimizes risk from an uncertain valuation of the reorganized entity. This might create conflicts of interests between creditor committee members the debtors, other creditors and/or other committees. Perhaps the biggest problem is that the principal agent contract between the committee member and the constituents of the creditor class cannot be customized in order to maximize the four contracting principles. Thus, it is difficult to minimize principal-agent problems in the contract between creditor committee members and their principals.

3.2.3. Conflicts of Interest

The resulting conflicts of interest can be classified in two categories: those that do not affect the timing and contents of the plan of reorganization and those that do.[69] The first type of conflicts includes the trading of claims against the debtor both during committee service as well as after resignation from the committee. The mechanisms that allow current committee members to continue trading in claims against the debtor are information screens or "Chinese Walls" arrangements.[70] These information walls are used for "controlling access to material, non-public information within multi-service financial firms".[71] These barriers are designed to keep insider information away from the reach of those actively trading in the claims

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69 See the two "particular abuses" delineated by the United States Supreme Court (Wolf vs. Weinstein) as described on p. 753 in R. C. Pozen and J. K. Mencher, "Chinese Walls for Creditors' Committees," *Business Lawyer (ABA)* 48(1992).

70 Other terms such as "firewall" have also been used to describe these arrangements. The American Bar Association's Model Rules of Professional Ethics establish the term "screen" as the preferred word to describe this arrangement. The term "Chinese Wall", however, has been the traditional term used and is widely used in both banking and law.

71 See Gadsden, "Liabilities of Creditors' Committees and Their Members, The."; Pozen and Mencher, "Chinese Walls for Creditors' Committees."

against the debtor. A more complex problem, and one that is not addressed in the literature, is that of trading in claims after resignation from committee service. There is clearly a motivation for individuals to join committees in order to gain non-public information from which they can profit after resigning from the committee. This type of conflict of interest highlights the importance of the dynamic characteristics of committee membership: the changes of committee membership over time. This research will explore whether individuals joining and quitting committee early in the bankruptcy reorganization process is a prevalent phenomenon across the sample as a test of the prevalence of this dynamic feature.

The second type of conflicts of interests, those that affect the timing and contents of the plan of reorganization, includes those induced by committee members with interests in other classes of claims against the debtor and trade creditors with wider trade relationships with the debtor. This type of conflicts of interests also includes committee members joining late in the process. These members might not only disrupt the consensus building process in the reorganization, but they might also bring specific reorganization objectives not necessarily in line with those of other committee members.[72] This type of conflict of interest further highlights the need to investigate the changes of committee membership over time.

Other specific instances of conflicts of interest might include the presence of the debtor's trade creditors in the committees. For these creditors the trade relationship might play an important role in the relationship with debtors. For these creditors, a prompt normalization of the trade relationship might be an important

[72] These might include buyers of claims seeking an asset sale, for example.

goal.[73] To some types of financial firms, their reputation for toughness is an important asset.[74] Thus, this type of investors might be more willing to engage in adversarial, alienating strategies than a trade creditor, for example, would. To other type of financial investors, particularly those offering investment banking services, potential fees from debtor-in-possession financing facilities as well as exit financing structures might provide additional incentives not shared by other creditors.

3.3. SOCIAL EMBEDDEDNESS OF COMMITTEE SERVICE

3.3.1. Introduction

In addition to conflicts of interest affecting creditor committee behavior, we need to consider the fact creditor committee economic behavior is embedded within a social environment. This social environment provides both opportunities as well as constraints on individual behavior and has the potential to affect committee operations and, ultimately, case outcomes. But, what is the social network structure that emerges from the repeated interaction among creditor committee members serving in separate cases? How would such structure affect creditor committee performance?

First, a web of interlocks emerges among different cases that share individual committee members. This case network provides pathways for knowledge to travel from case to case. These connections have proven relevant in other situations where access to knowledge facilitates the execution of complex tasks. In fact, access to

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[73] See Eklund and Roberts, "Problem with Creditors' Committees in Chapter 11: How to Manage the Inherent Conflicts without Loss of Function, The."

[74] This point has been argued when discussed vulture funds are present in committees. See T. Noe and M. Rebello, "Reputation and the Market for Distressed Firm Debt," *Journal of Financial and Quantitative Analysis* 38(2003).

such knowledge provides a measure of social capital of individual cases that might have an effect on the course of the bankruptcy case itself.

Second, the inter-committee network that emerges from individual member service in creditor committees is an affiliation network that should provide some measure of the roles played by individual members. Other examples of this type of network include board of director networks, academic publishing co-authorship networks, and Broadway musical collaboration networks. [75] This network is composed of individual nodes, one for each individual who has served in any committee in the sample, tied to other nodes through joint committee service. Thus each committee is a small cluster (or event) and each instance of multiple memberships provides a connection between clusters. These co-memberships create interlocking committees. Events in affiliation networks bring individuals together which increases the probability of formation of pairwise ties (i.e. a tie between the two individuals independent from their joint membership in a single committee). Pairwise ties increase the probability of collaboration and sharing of resources while interlocks provide paths for the transfer of knowledge among clusters. Furthermore, network centrality in these networks provides a proxy for social capital, as it provides access to the information that flows through the network.[76] In order to better understand network wide effects of the potential for transfer of knowledge and collaboration across networks, one must turn to small world theory. From a practical point of view, small world analysis allows us to investigate whether creditor committee member create “packs” as they serve on committees.

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[75] See a more detailed overview of affiliation networks in Uzzi et al (2005) B. Uzzi and J. Spiro, "Collaboration and Creativity: The Small World Problem," *American Journal of Sociology* 111, no. 2 (2005).

[76] G. F. Davis, "Agents without Principles? The Spread of the Poison Pill through the Intercorporate Network," *Administrative Science Quarterly* 36, no. 4 (1991).

3.3.2. The Small World Structure

Stanley Milgram's seminal work on the small world phenomenon[77] provides a basis to analyze a sparse network populated by clusters, much like the social network expected to emerge from the creditor committee interlocks. The study of the small world phenomenon has demonstrated even small numbers of ties connecting clusters in a large network provide connecting paths between any two members in the network[78] that are counterintuitively short. Watts and Strogatz operationalized Milgram's concept by providing an analytical model to study small world networks.[79] In his model Watts specified four explicit preconditions for a small world network: the network is large, each node on the network is connected to a relatively small number of different nodes, there are no central nodes, and there is local clustering of nodes. These preconditions appear to hold in the creditor committee network. First, the network is large with large numbers of individual members serving on committees where members appear to have a few ties to other members. Also, there are no central individual members in a large number of these committees. Finally, by definition, each committee is a local cluster of individual members serving on it. Yet, there is strong anecdotal evidence there are at least some links connecting some clusters to others. These links are likely to be provided by individual members serving on multiple committees. Confirmation of small world social network architecture among creditor committee members could have significant theoretical implications on committee behavior and outcomes. This is because small world network characteristics provide the connectivity that facilitates

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77 S. Milgram, "The Small World," *Psychology Today* 2(1967).

78 It is assumed every member of the network is connected to every other member of the network.

79 Duncan Watts, "Collective Dynamics of 'Small-World' Networks," *Nature* 393(1999).

knowledge to travel across the network. Such sharing of knowledge assists collaboration and the execution of complex tasks. Given the inherent complexity of the bankruptcy and reorganization process, the presence of a small world structure in creditor committees would facilitate interlocked committees' tasks and improve their performance. Small world network architecture has been shown to have successfully used to study in other affiliation networks such as the one created by corporate boards of directors of corporations.

It is essential to note most analyses of small world social constructs turn to Granovetter's theory of weak ties[80] for a framework of analysis. This theory emphasizes the role that weak ties play in connecting separate clusters of nodes and provide critical paths of communication across large portions of social networks. Granovetter defines strength as "a combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie." Weak ties theory has been used extensively in the analysis of networks of creative production and innovation. Similarly, Burton theory of structural holes[81] emphasizes the value of brokerage in connecting separate clusters independently of the strength of the ties. Under both theories, individual players gain importance and social capital by providing critical connecting paths bridging separate clusters of nodes in a network. Thus, importance of individual nodes under both weak ties and structural holes frameworks of analysis is defined by the positioning of nodes as brokers or critical paths among clusters. Such positioning can be measured by betweenness centrality.[82] Betweenness centrality measures the

[80] M.S. Granovetter, "The Strength of Weak Ties," *The American Journal of Sociology* 78, no. 6 (1973).
[81] See R.S. Burt, "Structural Holes and Good Ideas," *American Journal of Sociology* (2004).
[82] For further discussion on betweenness centrality see L.C. Freeman, "Centrality in Social Networks Conceptual Clarification," *Social Networks* 1, no. 3 (1979).

appearance of the node in the shortest path connecting other nodes in the network. It provides a measure of the ability of a network to connect other nodes and its ability to broker flow among them.

In studying the social networks created by creditor committee service, however, social capital of individual cases should not viewed using either weak ties or structural holes theories. Bankruptcy cases are often not contemporaneous and their ties are directed (i.e., new cases cannot have an effect on older cases, while old cases do have an effect on new cases).[83] Furthermore, the fundamental issue facing creditor committees is that of complexity of bankruptcy reorganization procedure and not the need for innovative creations derived from access to outside resources. Thus social capital of individual cases appears to be related to previous experience in bankruptcy proceedings and not for the ability to bridge separate clusters in the network. Thus degree centrality, or number of ties to other nodes, is a much better measure of social capital of individual nodes in the creditor committee network than betweenness centrality. Degree centrality, in this case the number of other cases individual members has served on within the tie decay provides in effect a measure of the accumulated experienced gained by individual members on the committees of the case.

The next section in this chapter describes the empirical methods used to measure the degree of small world structure present in social network.

[83] An older case can only have an effect on a newer case only if it lies within the tie decay period defined for the network. Chapter 5 of this dissertation discusses tie decay in more detail.

3.3.3. Measuring Small World Topology

3.3.3.1. Small World Test: General

Watts and Strogatz provide the model that allows the quantification of small world structure using conventional network measures.[84] Perhaps more importantly, their model generalized small worlds as a class of networks that have both high clustering and small connecting paths connecting individual clusters. Such a structure provides clusters of cohesive nodes while allowing flow to travel efficiently among the different clusters. There are two key parameters that need to be defined in order to characterize the small world phenomenon: the clustering coefficient and the characteristic path length[85]. A network's clustering coefficient (C) is defined as the degree to which a node's directly connected nodes are also connected with each other. This coefficient provides a measure for connectedness among neighbors of pairs of nodes that are already connected. The characteristic path length (L) is defined as the average number of links in the shortest path between two nodes for all pairs of nodes. In other words, it provides a measure for the average shortest path connecting any two nodes on the network. The test for evidence of small world phenomena in a network is performed by comparing the actual clustering coefficient of the network, as well as its characteristic path length, to that of a random network. This comparison is achieved by the calculation of a small world coefficient (Q) that is defined as:

$$Q = \frac{\frac{C_{Actual}}{C_{Random}}}{\frac{L_{Actual}}{L_{Random}}}$$

where C_{Actual} is the clustering coefficient of the actual network, C_{Random} is the clustering coefficient of a random network, L_{Actual} is the characteristic path

[84] D.J. Watts and S.H. Strogatz, "Collective Dynamics of 'Small-World' Networks," *Nature* 393, no. 6684 (1998).

[85] For a more complete description of the methodology to compute small world coefficients see ibid. and D.J. Watts, "Networks, Dynamics, and the Small-World Phenomenon," *American Journal of Sociology* (1999).

length of the actual network, and L_{Random} is the characteristic path length of the random network.

A small world network structure has been defined as a network structure with Q value "significantly higher than one."[86] In practice, Q values are compared to those of found in similar and comparable networks.

By definition, small worlds require networks to be fully connected. This means all nodes can be reached from any other node in the network. When dealing with networks that are not fully connected, individual network components are examined (i.e., portions of the network that are fully connected) for evidence of small world phenomenon in that component. Also, small world analysis requires networks with directional ties to be symmetrized prior to analysis.[87] In other words, a one way directional tie connecting node A to node B, for example, needs to be replaced with a non-directional tie connecting both nodes.

The actual clustering coefficient for the networks is calculated as the percentage of triads (i.e. groups of three nodes with at least 2 ties connecting them) that are closed. The Watts-Strogatz model derives the formula to calculate the clustering coefficient for a random network with n nodes and k average connection per node as:

$$C_{random} \sim \frac{k}{n}$$

[86] There is no hard definition for "significantly higher than one." See B. Uzzi, L.A.N. Amaral, and F. Reed-Tsochas, "Small-World Networks and Management Science Research: A Review," *European Management Review* 4, no. 2 (2007). for a literature review of empirical research of small worlds and ranges of typical small world coefficients in different fields and G. F. Davis, M. Yoo, and W. E. Baker, "The Small World of the American Corporate Elite, 1982-2001," *Strategic Organization* 1, no. 3 (2003).

[87] For an example of symmetrization of directed ties prior small world analysis see the study of the small world phenomena in Canadian investments banks in J.A.C. Baum, T.J. Rowley, and A.V. Shipilov, "The Small World of Canadian Capital Markets: Statistical Mechanics of Investment Bank Syndicate Networks, 1952–1989," *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration* 21, no. 4 (2004).

The characteristic path length for a random network with n nodes and k number of links can be calculated using the following formula also provided by Watts and Strogatz:

$$L_{Random} \sim {\ln(n)}/{\ln(k)}$$

3.3.3.2. Small World Test: Bipartite Networks

Recent literature, however, has demonstrated that the methodology presented in the previous section overestimates the clustering coefficients in bipartite, or affiliation, networks.[88] This is because bipartite networks are defined by nodes having at least one obligatory tie to a specific event or group. Examples of this type of network include: actors (actors working together in movies/plays), legislative committees (legislators working in jointly in committees), court justices making decisions, etc. In each of these examples, rules of participation in the network force individual members to be affiliated with at least one of the clusters in the network. More relevant to the discussion in this research is the bipartite network created by board of directors interlocks. In this network all individual board members (i.e., nodes) are affiliated with at least one board of a company (i.e., event), and thus each board is a cluster of board members. Board members cannot serve in isolation as they each must be affiliated with at least one board. Such network topology, in turn, artificially increases the clustering coefficient of the network and distorts the characteristic path length calculation when compared to a random network where

[88] See for example: M.E.J. Newman, S.H. Strogatz, and D.J. Watts, "Random Graphs with Arbitrary Degree Distributions and Their Applications," *Physical Review E* 64, no. 2 (2001)., Uzzi and Spiro, "Collaboration and Creativity: The Small World Problem.", Uzzi, Amaral, and Reed-Tsochas, "Small-World Networks and Management Science Research: A Review.", and D.J. Watts, "The "New" Science of Networks," *Annual Review of Sociology* 30(2004).

nodes are not forced to be part of an event. Thus a small world analysis of bipartite networks should include a corrective calculation to remove this artificially imposed topology on the data. Newman et al (2001)[89] provide us with the appropriate mechanisms to deal with these cases.

The procedure to correct for overestimation of clustering on bipartite networks, first involves the identification of the discrete probability distribution of the frequency of the number of connections per node. This is the probability p_j that a member appears on j cases. In the case of the board of directors' interlocks network, this is the probability distribution of a specific number of instances of board service for each individual members serving on boards of directors (or said another way, the distribution created by the number of boards each member serves on). Second, the discrete probability distribution of the number of nodes per cluster on the bivariate structure node needs to be evaluated (i.e. the probability q_k that a case has k members). In the case of boards of directors, this is the distribution created by the frequency of board sizes.

These discrete probability functions are then used to create the generating functions:

$$f_o(x) = \sum_j p_j \, x^j$$

and

$$g_o(x) = \sum_k q_k \, x^k$$

These can then be used in generating the function $G_0(x)$ which is defined as the probability distribution of first neighbors on the unipartite graph of nodes. Thus,

[89] Newman, Strogatz, and Watts, "Random Graphs with Arbitrary Degree Distributions and Their Applications."

$$G_0(x) = f_o\big(g_1(x)\big)$$

Newman et al (2001) derives the corrected formulas for characteristic path length for bipartite networks as:

$$l = \frac{\log[(N-1)(z_2 - z_1) + z_1^2] - \log z_1^2}{\log(z_2/z_1)}$$

where

$$z_1 = f_0'(1)g_1'(1)$$
$$z_2 = f_0'(1)f_1'(1)[g_1'(1)]^2$$

and the corrected formula for clustering coefficient as

$$C = \frac{M}{N}\frac{g_0'''(1)}{G_0''(1)}$$

where N is the number of nodes on the network and M is the number of events on the bipartite network. It is worth noting that while Newman et al (2001) provide the elaboration of the concept, the derivation of the formulas, and an empirical example, Seaton et al (2004) offer a much more practical and approachable illustration of the technique using the networks created by Boston and Vienna subway systems.[90]

[90] K.A. Seaton and L.M. Hackett, "Stations, Trains and Small-World Networks," *Physica A: Statistical Mechanics and its Applications* 339, no. 3-4 (2004).

3.3.4. Interlocks: Board of Directors and Others

The previous section used board of directors' interlocks to illustrate an instance of bipartite network. A more detailed review of board of directors' interlocks literature follows as they have been widely studied[91] and their structure is very similar to that created by creditor committee interlocks. Recent studies have focused on the mechanisms of knowledge dispersion through the social network formed by interlocks. Particularly relevant were the findings that board interlocks help explain the diffusion of adoption of board policies regarding anti-takeover corporate measures.[92] That research specifically shows how board interlocks help predict the adoption of measures that specifically challenged the fiduciary responsibility of the directors.

The author of that article, Gerard Davis, also published a time series study on the structure of the social network formed by board interlocks.[93] He tested the network for small world architecture and found that one existed and was relatively stable. This small world network architecture further reinforces the mechanisms through which knowledge dispersion takes place among boards.[94]

Another significant recent paper explores the architecture of a similar affiliation network, this time Broadway productions, and tests it for small world

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91 For a broad overview of this literature see M. S. Mizruchi, "What Do Interlocks Do? An Analysis, Critique, and Assessment of Research on Interlocking Directorates," *Annual Review of Sociology* 22, no. 1 (1996)..

92 Davis, "Agents without Principles? The Spread of the Poison Pill through the Intercorporate Network."

93 Davis, Yoo, and Baker, "The Small World of the American Corporate Elite, 1982-2001."

94 There is additional literature on the small world characteristics of board of directors. See M. J. Conyon and M. R. Muldoon, "The Small World of Corporate Boards," *Journal of Business Finance and Accounting* 33(2006)., and B. Kogut and G. Walker, "The Small World of Germany and the Durability of National Networks," *American Sociological Review* 66, no. 3 (2001). This last paper uses data from German companies.

structure.[95] The findings of the paper are compelling: network interlocks help explain Broadway show success via collaboration. The small world structure further explains the mechanisms for collaboration among different production teams.

In more general terms, there is significant empirical evidence that board interlocks as well as small world topology help explain the outcomes of the processes in which these social networks are embedded. This literature review will next provide a brief overview of key bankruptcy outcomes.

3.4. KEY BANKRUPTCY VARIABLES

A significant portion of the empirical literature on bankruptcy variables has focused on bankruptcy costs.[96] Branch provides a summary of previous work in the bankruptcy cost question and provides a model explaining bankruptcy costs.[97] In general, bankruptcy costs can be grouped into four separate categories: (1) real costs borne directly by the firm, (2) real costs borne by the claimants, (3) losses to the firm that are offset by gains to other entities—i.e. indirect costs due to loss of market share, short run focus—, and (4) real costs borne by parties other than the bankrupt firm and/or its claimants. Under category (1), real costs borne by the firm, the variables looked at include professional fees and internal staff resources. Category

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95 Uzzi and Spiro, "Collaboration and Creativity: The Small World Problem."

96 See for example: J. R. Franks and W. N. Torous, "An Empirical Investigation of Us Firms in Reorganization," *The Journal of Finance* 44, no. 3 (1989).,E. I. Altman, "A Further Empirical Investigation of the Bankruptcy Cost Question," *The Journal of Finance* 39, no. 4 (1984)., J. S. Ang, J. H. Chua, and J. J. McConnell, "The Administrative Costs of Corporate Bankruptcy: A Note," *Journal of Finance* 37, no. 1 (1982)., S. J. Lubben, "Direct Costs of Corporate Reorganization: An Empirical Examination of Professional Fees in Large Chapter 11 Cases, The," *American Bankruptcy Law Journal* 74(2000)., M. J. White, "The Costs of Corporate Bankruptcy: A Us-European Comparison," *Corporate Bankruptcy: Economic and Legal Perspectives* (1996).

97 B. Branch, "The Costs of Bankruptcy a Review," *International Review of Financial Analysis* 11, no. 1 (2002).

(2) includes professional fees—this time those borne individually by claimants-, internal staff resources, and reduced marketability of claims. Branch estimates total costs for category (1) to be 4.45% to 6.35% of the pre-distressed value of the firm, category (2) 3.25% to 4.15%, and category (3) is estimated to be about 5%-10%. Using estimates in the literature, Branch estimates the total loss due to bankruptcy to cost about 28% of the pre-distressed value, while the cost of pre-bankruptcy distress averages 16%, for a total cost estimate of 44% of pre-distressed value.[98] For methodological purposes, two variables have emerged in the literature as the leading indicators of direct costs of bankruptcy to the firm. The first one is professional fees. This is the most obvious and available measure of direct costs. The second one is time spent under bankruptcy protection. Time under bankruptcy has been argued to be a noisy proxy for indirect costs.[99]

In addition to costs, the absolute priority rule (APR) has also been studied repeatedly in the literature. This variable is of great interest to researchers in the field of finance.[100] The absolute priority rule (APR) is the theoretical standard by which financial contracts are resolved when a debtor is insolvent.[101] Furthermore, uncertainty about adherence of APR in bankruptcy court introduces a series of contracting distortions that must be priced in throughout the economy at great cost to society. Furthermore, APR adherence is a key assumption in some of the most

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[98] Financial distress usually starts imposing costs on the firm well before a bankruptcy filing.

[99] Franks and Torous, "An Empirical Investigation of Us Firms in Reorganization."; A. Bris, I. Welch, and N. Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization," *Journal of Finance* 61, no. 3 (2006).

[100] See A. C. Eberhart and L. A. Weiss, "The Importance of Deviations from the Absolute Priority Rule in Chapter 11 Bankruptcy Proceedings," *Financial Management* 27, no. 4 (1998). In this paper the authors enumerate a series of seminal finance articles – including Black Scholes, Merton, and Meyers – where APR adherence is a key assumption.

[101] S. D. Longhofer, "Absolute Priority Rule Violations, Credit Rationing, and Efficiency," *Journal of Financial Intermediation* 6, no. 3 (1997).

fundamental models widely used in financial economics (including the Black-Scholes model).[102]

Among recent empirical studies Bris et al [103] is significant. Using the most comprehensive dataset to date (thanks to the recent availability of PACER data), they investigate determinants for time in bankruptcy, APR violations, creditor's recovery rates, and bankruptcy expenses.

3.4.1. Time

Despite the theoretical importance of time in bankruptcy—typically defined as the time from the bankruptcy filing to the time of plan confirmation—as a proxy for indirect costs few articles have used it as a dependent variable. Franks and Torous 1989 article published in the *Journal of Finance* was the first significant empirical study of Chapter 11 reorganizations since the passage of the 1978 Bankruptcy Act.[104] Even though their focus was an investigation of deviations from APR, they collected and published data concerning time spent under bankruptcy. In his sample of 31 companies he found a mean of 3.67 years spent under bankruptcy protection with a standard deviation of 2.88 years. In similar studies Weiss and Gilson et al, find means 2.5 and 2.4 years, respectively, of time spent under bankruptcy protection.

In a much more recent study, Bris et al[105] do look at time as a dependent variable in their investigation of bankruptcy costs. In their sample of 257 companies

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[102] Ibid.

[103] Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."

[104] See Franks and Torous, "An Empirical Investigation of Us Firms in Reorganization."

[105] Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."

they found a mean of 2.27 years spent under bankruptcy protection (with a standard deviation of 1.07 years). They found that the number of creditors as well as the existence of creditor committees had statistically significant effects on the duration of the submission to confirmation phase of the bankruptcy. The fact that the existence of creditor committee did matter to the case is a particularly relevant finding to the present study. Table 1 summarizes these findings.

Author	Estimates	Sample Size
Franks et al (1989)	3.7	31
Weiss (1990)	2.5	37
Gilson et al (1990)	2.4	89
Bris et al (2006)	2.3	257

Table 1: Previous Literature on Time Spent in Bankruptcy

3.4.2. Absolute Priority Rule

Longhofer et al[106] provide a detailed review of empirical studies of APR violations in the literature up to 1996. It finds APR is violated in a large portion of cases: Franks et al (1989) 66.67% cases violate APR (n=30), LoPucki et al (1990) 48.84% (n=43), Eberhart et al (1990) 76.67% (n=30), Weiss (1990) 72.97% (n=37), Tashjian (1996), 72.92% (n=48), and Betker (1995) 72% (n=75). Again there is

106 S. D. Longhofer and C. T. Carlstrom, "Absolute Priority Rule Violations in Bankruptcy," *Economic Review* 31, no. 4 (1995).

concern about the consistency of the characteristics of the sample of firms (size, district, etc.).

It is important to note the problematic nature of APR violation measurement. This is because pricing of all securities distributed among claimants is required in order to compute whether any junior creditors receive a distribution ahead of senior creditors. Timing of the pricing of the distribution (some price it at emergence, some at a predetermined period of time after emergence) ultimately determines whether APR is violated or not.

Bris (2006)[107] is one of the most comprehensive studies of empirical APR violation data. It finds that firm size, the presence of a creditor's committee, presence of a bank among unsecured creditors, number of unsecured creditors, corporate leverage, and unsecured expenses to pre-bankruptcy assets are statistically significant in explaining the probability of an APR violation. It finds APR violations in 38% of cases, with a sample of 157 cases. The model uses a probit regression and only data through 2001 is used.

A recent working paper by Bharat (2010)[108] uses a much larger sample of 626 cases, and concludes APR violation is in rapid decline as only 22% for cases filed from 1991 to 2005. The most recent data used in this paper is from 2005. It must be noted, however, a significant portion of the sample used was collection of data used in previous studies by other authors.

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[107] Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."

[108] S.T. Bharath, V. Panchapegesan, and I. Werner, "The Changing Nature of Chapter 11," *Fisher College of Business Working Paper No. 2008-03-003* 1001(2008).

Author	Estimates	Sample Size
Franks et al (1989)	66.7%	30
LoPucki et al (1990)	48.8%	43
Eberhart (1990)	76.7%	30
Weiss (1990)	74.0%	37
Tashjian et al (1996)	72.9%	48
Betker (1995)	72.0%	75
Bris et al (2006)	38.0%	157
Bharat (2010)	22.0%	626

Table 2: Previous Literature on Proportion of Cases with APR Violations

3.4.3. Professional Fees

Professional fees have been studied often times in the past. In one of the earliest studies, Altman[109] calculates professional fees to total 7.5% of the firm's assets. Other studies, as compiled by Branch, include Warner (1977) 4% (n=11), McConnell (1982) 7.5%, (n=105), Weiss (1990), Betker (1995), Tashjian et al (1996) similar results, Lubben (2000) 1.8% (n=22), Lopucki et al (2004) 1.8% (n=48), Lopucki et al (2008) 3.5% (n=74). A fundamental issue with these studies is the widely different samples they used (venue, firm size). There is no consensus as to what is "large" or "small" for professional fees. This literature is summarized on Table 2.

[109] Altman, "A Further Empirical Investigation of the Bankruptcy Cost Question."

Author	Estimates	Sample Size
McConnell (1982)	7.5%	105
Weiss (1990)	2.8%	37
Betker (1995)	3.9%	75
Tashjian et al (1996)	1.8%	49
Lubben (2000)	1.8%	22
LoPucki et al (2004)	1.8%	48
LoPucki et al (2008)	3.5%	74

Table 3: Literature on Professional Fees as a Proportion of Total Assets

The Lopucki et al (2008)[110] is a particularly important paper. Like his 2004 fee study, Prof. Lopucki expands the use of the Bankruptcy Research Database which is becoming the standard dataset for empirical bankruptcy studies (sample size, consistency of data, and consistency of firm characteristics). The results of this paper are consistent with his previous research. His findings indicate that asset size, case duration, and number of professional firms working on the case account for 87% of the case to case variance of fees. Also, this paper finds important scale effects of fees, which make the reporting of fees as a percentage of total assets misleading. Furthermore, this research finds evidence of a "billing opportunity" to overcharge in cases of large public companies. This is a critical finding as it points at failure of the process oversight mechanisms—in which creditor committees are

110 LoPucki and Doherty, "Professional Overcharging in Large Bankruptcy Reorganization Cases."

included–. Finally, this paper compares fees gathered from both the SEC as well as that gathered from fee filings with the court (PACER) and finds that, while the SEC numbers are on average 58% higher, both sources of fee information are highly correlated and provide almost identical results even with a substantially smaller sample.

3.5. Previous Empirical Literature on Creditor Committee Composition

There is no systematic study assessing the effect of creditor committee composition on bankruptcy variables in the literature. There is a single article, Bussel,[111]that provides empirical data with insights into committee composition and committee processes. This study provides three separate case studies of creditor committees: Maxicare, Leisure Tech, and Smith International. In the Maxicare reorganization banks emerged successful in a difficult battle for representation in the two committees appointed in the case. The Leisure Tech study tells us how a single claimholder, a buyer of distressed assets and owner of the majority of senior claims against the company, considered itself as the de facto owner of the company. The presence of this creditor in the committee led to a long and expensive clash with other creditors that considered their interests were not aligned with those of the largest creditor. The plan of reorganization ultimately approved was negotiated by the large creditor. The Smith International case shows how banks were able to reduce the size of the committee and effectively remove the largest creditor from the committee. There are several insights that can be drawn from these case studies. First, committees can be somewhat chaotic scenarios where different creditors battle

111 Bussel, "Coalition-Building through Bankruptcy Creditors' Committees."

for their own self-interests. Second, banks have a powerful presence in creditor committees which are likely to have an effect on the functioning of these committees. Finally, other financial players, particularly distressed securities investors, also appear to have a commanding presence in committees.

3.6. CONCLUSIONS

This chapter offered an overview of the theoretical framework necessary to examine creditor committee service and provided a summary of relevant literature. In this theoretical framework, the conflicts of interest inherent to creditor committee service emerge as the key dimension of analysis. This is because the creditor committee members must serve as both fiduciaries for an entire creditor class, while at the same time they are allowed, and expected, to protect their own self-interests. Not only is creditor committee service inescapably defined by these conflicts of interests, but the social embeddedness of committee service is also bound to have an effect on the behavior of individuals and institutions in them. These effects of social embeddedness can provide desirable contributions to the social capital of the case as resources from outside the case are brought in by these social connections. But these effects of social embeddedness are also likely to create additional conflicts of interest that ultimately have a negative affect the outcomes of the reorganization process. The rest of this research will focus on the examination of whether the creditor committee characteristics are likely to create conflict of interest. It will then look at professional fees as a distinctive test of creditor committee variables' effects on bankruptcy outcomes.

This dissertation builds directly upon on two bodies of literature: theoretical research on the different aspects of creditor committee service (powers, duties,

representation, liabilities, conflicts of interest, and other aspects of committee service), as well as the very limited previous empirical research on creditor committee service. Furthermore, this dissertation contributes to other significant clusters of research. These include theory of principal-agent relationships, research on corporate interlocks and other bipartite social networks, theory and empirical literature on the small world phenomenon, and empirical literature on bankruptcy costs and other outcomes. It also contributes to the body of literature focused on bankruptcy fees and, and more precisely, the question of professional fees. More specifically, this research builds on the recent debate of overcharging of professional fees in large cases and will shed some light on the causes that enable such fee abusive practices to take place.

The next chapter enumerates the research questions for this dissertation and lays out a basic framework of analysis for dealing with them. It also provides a description of the datasets, their design, and data collection methods.

Chapter 4: Analytical Framework and Datasets

The literature review presented in previous chapters reveals several important gaps in previous research. First, despite the critical role committees play in the corporate bankruptcy process, no significant dataset of creditor committee membership has ever been systematically collected, coded, and analyzed. Second, previous literature has failed to examine the social embeddedness dimension of creditor committee service. This social analysis has proven useful in explaining outcomes in processes where individual members serve repeatedly in groups similar to creditor committees. Third, no empirical study has attempted to establish whether creditor committee characteristics have an effect on case outcomes. More specifically, no previous study has attempted to examine whether conflicts of interest indicated by the discussion in previous chapters have an effect on key bankruptcy variables. The purpose of this research is to fill those gaps by examining membership of creditor committees in large bankruptcy cases and studying potential conflicts of interest that might prevent them from providing an effective oversight of the reorganization process. It also seeks to test whether creditor committee characteristics have an effect on key bankruptcy variables, and more specifically, on professional fees.

The first section of this chapter lays out the research questions explored in this dissertation and outlines a basic research framework. The first set of research questions raised in this research pertains to the characteristics of creditor committee membership. It postulates various types of committee characteristics—individual characteristics, changes over time, and social characteristics—as well as how these characteristics are to be examined in this research. A second set of research

questions are about the effect of creditor committee characteristics on the bankruptcy reorganization outcomes. It postulates various research hypotheses about the relationship between professional fees in bankruptcy and factors affecting them. It starts by studying the characteristics of creditor committee membership and then lays out a series of sub questions. The second part of this section, main research question 2, investigates whether creditor committee characteristics affect bankruptcy reorganization outcomes. It also outlines the basic model used in investigating the effect of creditor committee characteristics on professional fees. As the questions are presented, this research theorizes about the expected findings for each one of them.

The second section of this chapter discusses data sources, the documents examined and the process followed in the research, including data collection, compilation, and a brief discussion on sample size and sampling methods. These datasets contain all data used in the empirical analyzes presented in Chapters 5 and 6.

4.1. Research Questions and Analytical Framework

4.1.1. Main Research Question 1

What Are the Characteristics of Creditor Committee?

The first step in this research is to collect creditor committee membership information and analyze this membership data along relevant dimensions of analysis. Based on the literature reviewed in the previous chapter three separate dimensions of analysis are postulated in this research: individual member characteristics, dynamic

characteristics of committee membership, and the social characteristics of committee service.

4.1.1.1. Individual Member Characteristics

Individual characteristics of creditor committee members provide us with information about individual traits of committee members that affect committee performance. Relevant characteristics include previous experience with reorganizations and the likelihood of conflicts of interest with the committee's goals. This likelihood of conflicts of interest can also be described as the degree of commitment towards committee service. Previous experience with reorganizations is likely be an important attribute given the complexity of the process. Other characteristics, such as demographic variables of individual members do not appear to be relevant in affecting committee performance. Since there is no data indicating either previous experience with reorganizations or the degree of commitment towards committee service, member affiliation data can be used as a proxy for both. Member affiliation tells us whether the individual member represents a financial firm or a non-financial firm or individual and such affiliation should be highly correlated with experience. This is because one can expect banks and other financial institutions to be more experienced with the process than non-financial institutions. Member affiliation should also provide information about commitment towards committee service. Here, again, one can expect the degree of commitment of financial institutions towards committee service to be different from that of trade creditors. Previous research appears to support the use of this proxy. A study on bankruptcy valuation of firms[112] showed, for example, that vulture fund presence in

[112] Gilson, Hotchkiss, and Ruback, "Valuation of Bankrupt Firms."

creditor committees representing junior creditors does have a measurable impact on firm valuation. Furthermore, bank presence might have an effect of committee performance as suggested by the literature on lender control[113] and Bussel's case study on creditor committees.[114] Finally, the discussion of conflicts of interests inherent to committee service is particularly relevant to financial firms. This is because of recent changes in the financial industry that have not only resulted in a dramatic consolidation and concentration among firms, but also in the use on hedging techniques and derivative instruments that have added significant levels of complexity to their balance sheets. These changes have resulted in widespread regulatory reviews of the industry.

4.1.1.2. Dynamic Characteristics of Committees

Dynamic characteristics of creditor committees are also likely to have an impact on committee performance and provide further insight on individual motivation to serve. They might also point at breaches of fiduciary duty and defective features of the creditor committee system itself—i.e. self-policing and regulatory mechanism failures—. This analysis of dynamic characteristics will study both timing of members joining committees as well as length of service on the committee. It will then focus on the anecdotal evidence of committee members appointed early in the cases, who quit well before the confirmation of the plan of reorganization. This type of service might point at members using committees to gain non-public information. Finally, this research will look for evidence of

[113] See for example K.M. Ayotte and E.R. Morrison, "Creditor Control and Conflict in Chapter 11," *Journal of Legal Studies* 1(2009).
[114] Bussel, "Coalition-Building through Bankruptcy Creditors' Committees."

committee members joining late in the process. These late entrants to committees might derail the consensus building process on which the plan of reorganization is built upon or act as stabilizing factors in the operation of the committee.

4.1.1.3. Social Characteristics

The third dimension of analysis of creditor committees takes into account the social embeddedness of committee service. This dimension of analysis appears critical given the anecdotal evidence individual creditor committee members serving in multiple committees in different cases. This is because large financial institutions are often times involved with more than one bankrupt firm and because of the presence of investors specialized in claims against distressed and bankrupt firms. These investors, often called vulture investors, typically hold diversified portfolios of claims in multiple bankrupt firms and end up serving in multiple committees. This repeated interaction among committee members, as suggested by empirical observations, highlights the social embeddedness of committee service. Ultimately these individuals do not act in a social vacuum; their economic behavior in each of these committees is likely to be influenced by their social environment and history. As the literature on board of directors' interlocks has demonstrated, interactions in multiple boards partly explain director behavior and board policies. By the same token, linkages among creditor committees might play a role in the reorganization process and have an effect on observable bankruptcy variables. As explained on Chapter 3, the number of committee interlocks provides the chosen measure for social network centrality.

Research Question 1 can then be broken down into three sub-questions, each with its own set of sub-questions. The research questions addressed by this research are as follows:

Research Question 1.1

What are the individual characteristics of committee members?

Sub-Question 1.1.1.

What is their affiliation?

Research Question 1.2

What are the dynamic characteristics of creditor committees?

Sub-Question 1.2.1

Is there a group of individuals who quit the committee early?

Sub-Question 1.2.2

What are the characteristics of early committee quitters?

Sub-Question 1.2.3

Is there a group of individuals who join the committees late in the process?

Sub-Question 1.2.4

What are the characteristics of late committee joiners?

Research Question 1.3

What is the social structure of inter-committee links?

Sub-Question 1.3.1

How many interlocks does each committee have?

Sub-Question 1.3.2

Who are the lynchpins of the creditor committee network?

Sub-Question 1.3.3

Is there a Small World structure?

4.1.2. Main Research Question 2

Do Creditor Committee Characteristics Have An Effect On Professional Fees?

In order to address this question a basic model is introduced here. This model will be elaborated and detailed hypotheses pertaining to the relationships between variables postulated and explained in Chapter 6..

$$Key\ Bankruptcy\ Outcomes = f(Creditor\ Committee\ Variables, Control\ Variables) + \epsilon$$

From the previous section Creditor Committee Variables will include three separate components: individual characteristics, dynamic characteristics, and social characteristics. The model then becomes:

$$Key\ Bankruptcy\ Outcomes = f\left(\begin{matrix} Creditor\ Committee\ Individual\ Variables, \\ Creditor\ Committee\ Dynamic\ Variables, \\ Creditor\ Committee\ Social\ Variables, \\ Control\ Variables \end{matrix}\right) + \epsilon$$

This research will focus on professional fees as the key bankruptcy variable of interest in the empirical analysis of whether creditor committee variables affect bankruptcy outcomes. Professional fees were selected for several reasons. First, professional fees address the question of direct costs of bankruptcy. Furthermore, its denominator—dollars—makes it easy to understand. Second, from theoretical perspective, creditor committees have powerful incentives to minimize professional fees in bankruptcy as these costs ultimately come out of their distributions in the bankruptcy estate. Furthermore, creditor committees are given operational mechanisms through the Bankruptcy Code to challenge professional fee applications and, many times, serve on the fee committees that oversee the approval of professional fee payments. Thus creditor committees have the power to affect the levels of professional fees paid in individual cases. Third, the direction of the effect of conflicts of interest in creditors' committees is unambiguous when it comes to professional fees: lack of conflicts of interests in creditors' committees should manifest itself in lower fees, while conflicts of interest should manifest themselves as higher professional fees. Finally, recent evidence of abusive professional fee practices in large corporate bankruptcy cases makes this focus on fees more relevant and current to the ongoing academic debate on fees and bankruptcy reform. This fact is compounded by the nominal amount of these fees which can easily reach hundreds of millions of dollars in a single large bankruptcy case.

While the focus of this research is professional fees, the effects of creditor committee characteristics on the other two key variables mentioned in Chapter 3—time and APR—are studied in more detail in Appendix G.

With this basic model we can then postulate the following sub-questions:

Sub-Question 2.1

Do creditor committee individual variables have an effect on professional fees?

Sub-Question 2.2

Do creditor committee dynamic variables have an effect on professional fees?

Sub-Question 2.3

Do creditor committee social variables have an effect on professional fees?

4.2. DATASETS

4.2.1. Overview

In order to address the questions posed in this research, this dissertation presents two basic working collections of data, the Bankruptcy Case Database and the Creditor Committee Participation Dataset, from multiple sources of data. The Bankruptcy Case Database is a comprehensive compilation of reference information available on large corporate bankruptcy cases. The Creditor Committee Participation Dataset includes recorded participations of individuals and organizations as

members of a creditor committee in a bankruptcy case. These basic datasets were then used to create the social network matrices required in the social network analyses and a Case Outcome Dataset which combines the Bankruptcy Case Database with data from both the Creditor Committee Participation Dataset as well as social network variables calculated in the social network analysis portion of this research. Figure 1, Dataset Design Framework, shows a diagram of the relationships among the different sources of data and their analysis. A more detailed explanation of each source of data, datasets, and their manipulation follow in the following sections.

4.2.2. Sources of Data

4.2.2.1. PACER

The primary sources of information for bankruptcy creditor committee composition for individual bankruptcy cases are the court filings made by the United States Trustees. These filings are made at the federal bankruptcy court handling the case following the format requirements of the individual judicial districts. Court clerks at each of the 94 federal judicial districts maintain their own records. These filings can be accessed either in person at the clerk's office of individual districts or via PACER (Public Access to Electronic Court Records). PACER is an electronic public service that allows access to case and docket documents via the Internet. It is a service of the United States Judiciary and run by the Administrative Office of the United States Courts.

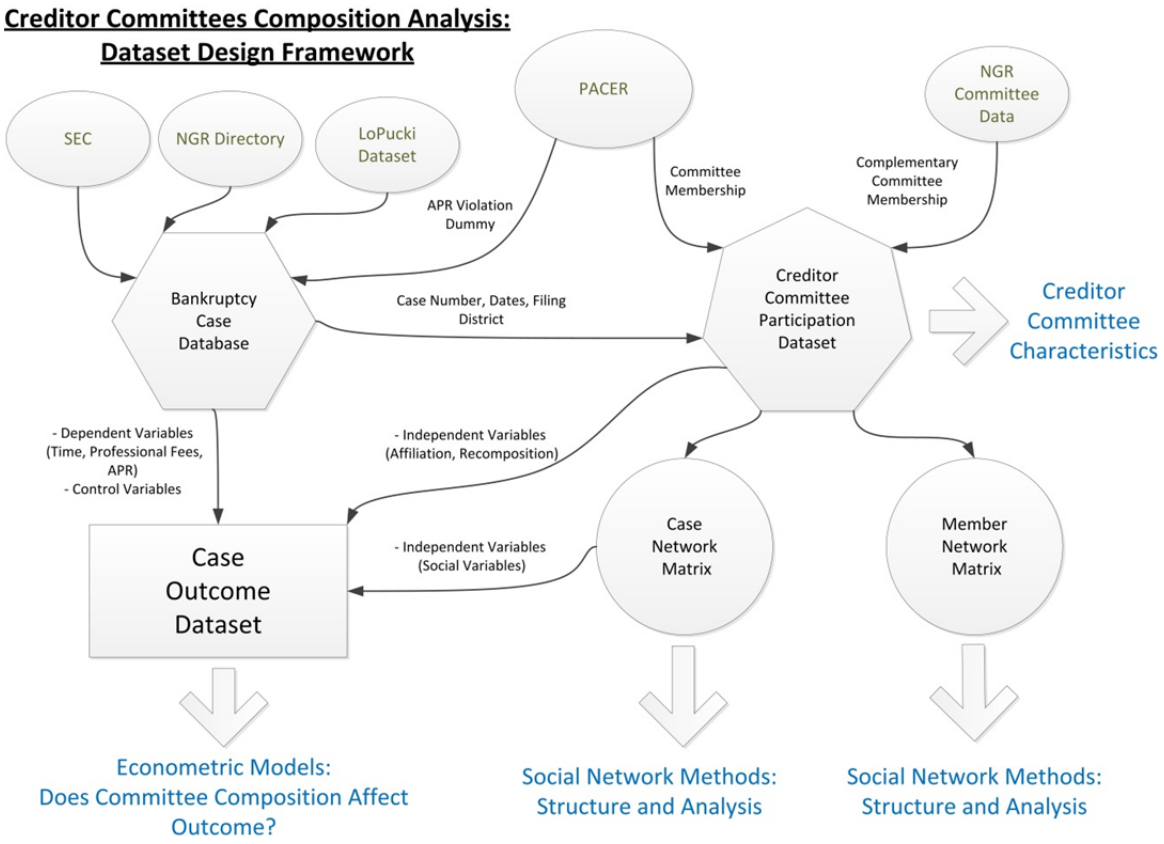

Figure 1: Dataset Design Framework

PACER began keeping electronic records of a limited amount of court information in 1988 and is accessible via Internet since 2001. Despite its longevity, the service has faced much criticism over its relatively slow implementation, the limited historical coverage of its archives, the difficulty in finding and accessing documents, and the overall deficiencies of the service. As articulated by the New York Times:

> "… the government-run Public Access to Court Electronic Records system designed in the bygone days of screechy telephone modems… cumbersome, arcane and not free…'the system is 15 to 20 years out of date'…"[115]

115 John Schwartz, *New York Times*, 2/13/2009, page A-13.

In fact, a search interface was not partially implemented on the PACER website until 2010. Despite all of its limitations, PACER is the only comprehensive tool to access the hundreds of millions of documents filed in federal courts.

The United States Congress has given the Judicial Conference of the United States, the judicial governing body of the United States Federal Courts, authority to charge PACER users for access. Internet access to PACER incurs a charge of $0.08 per page. A waiver of the access fee can be requested from individual judicial districts. The process of such waiver varies from district to district but usually requires the filing of a motion before the court to request such waiver. The waiver must be filed using local district rules and then approved by the district's judge. The court then issues an order authorizing the waiver. This waiver only applies to documents filed before the individual district and such fee waivers appear to be rare. All the searches that are required to find the document, however, are not exempt from the fee waiver.

The author of this dissertation determined only to pursue waivers from the New York Southern District and the Delaware District as trying to obtain other fee waivers proved to be too cumbersome[116] to justify the relatively few committee data outside those jurisdictions. In collecting data for this dissertation a waiver of fees was obtained from Federal Bankruptcy Chief Judge Stuart Bernstein at the New York Southern District (see Appendix E). The author, however, was unable to obtain such waiver from the Delaware District. All information retrieved from jurisdictions outside of the New York Southern District was paid.

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116 Filing such motions might require at the very least samples of similar successful request for each individual court and, in some cases, the engagement of local counsel.

The search for committee related documents was particularly exhaustive in the New York Southern District for the 12 year period from 1999 to 2009. The fee waiver allowed the author to cross search committee related filings that would have been prohibitively expensive in other districts. It also allowed the author to download complete case listings for all filings made in the district.

In the collection of files available through PACER, the author also used RECAP during the last stages of data gathering.[117] RECAP is a public repository database of PACER files and its goal is to make its documents more accessible, searchable, and free of charge. The ultimate goal of the project is to make the federal court system more transparent and accessible. The author donated all of the paid documents to RECAP retrieved after December 31, 2009. No documents accessed under the fee waiver were donated to the RECAP project, as such donation would have violated the terms imposed by the Court on the fee waiver granted to the author.

The committee data obtained from PACER is in the form of document court filings that were downloaded as PDF files (see Appendix D for Calpine's filings as an example of the documents downloaded from PACER). The downloading of each file required a case search within the court where the bankruptcy was filed, determination of the consolidated case number,[118] a filer search within the documents, a visual scan for committee related documents, and the manual

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117 RECAP is a project of the Center for Information Policy Center at Princeton University. More information at www.recapthelaw.com.

118 Large bankruptcy cases usually involve multiple bankruptcy filings by affiliated firms. Very large cases can included literally dozens of simultaneous bankruptcy filings by firms with similar names. These multiple filings are then consolidated by the court into a single large case where all documents are filed. One of the problems in PACER is the inability to easily determine the identifying information of the consolidated case. The author used a third party directory (New Generation's BankruptcyData.Com service) to locate the consolidated case number.

download of each document. Thus the author searched for documents filed by the local United States Trustee office and then visually scanned them for committee information which was then downloaded. Since the United States Trustee is the party that files all committee formation and amendment documents, all committee documents should have been found using this method. It must be noted, however, that different local United States Trustees use different document formats in their filings. Furthermore, the author noticed a significant number of errors in filer headings and document titles within the PACER system. Reported "quirks" with PACER's document search tool were evident and it is likely a number of creditor committee filings of interest that should have been available for this research could not be located. This failure to locate documents introduces a source of error in this methodology. Since the error appears to be inconsistent across districts, and even through the time span of the filings, measurement of this source of error is not practical. Such error, however, appears to be small compared to the overall amount of data available and should not affect the results of the analysis in this dissertation. Given the exhaustive nature of the document search for cases filed in the New York Southern District this error should be particularly small in those cases.

Also, the quality of the PDF file varied greatly, particularly for the older documents on PACER. Some of these older committee data included faxed and/or scanned printed pages while most of the new files were cleanly formatted PDF files. The composition and format of each document varied. These files had to be transformed into text files using OCR recognition software. Each text file with committee membership information was then manually coded with basic case identification. These raw text files was then parsed using software specially written for this research by the author. A copy of the code used is shown in Appendix F.

Both the OCR recognition, the manual coding, and the automated data parsing could all introduce small sources of error. After careful checks of the dataset against the original PACER documents this error, however, does not appear to be significant and should not undermine of the analysis and the conclusions in this research.[119]

PACER was also used to collect plans of reorganization to determine whether the absolute priority rule was violated in individual cases filed in the New York Southern District. This variable is used in the econometric analysis in Appendix G. In each one of the cases, the author downloaded the approved plan of reorganization (often including several amendments), analyzed the section describing the treatment of individual asset classes, and manually coded the variable with a dummy variable of whether the absolute priority ruled was violated (1=violation; 0= no violation). In the case of Calpine, for example, the author located the sixth amended plan of reorganization within PACER and looked for the section of the plan describing treatment—i.e. distributions per the plan—for all 5 creditor classes and 20 subclasses on pages 32-43.[120] After examining the distributions, the author coded the variable as 1 (violation of APR) for Calpine as the plan included a distribution to subordinated debt holders—Class D—ahead of full payment to senior note claims—Class C1—. It must be noted, however, this variable is a proxy for APR violation given the fact that actual APR violation can only be computed after all distributions have been made and market values for securities are known.[121] Also, this research differs with most APR literature as other studies also

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119 For a description typical coding of PACER documents for research purposes see L.M. LoPucki, "Court-System Transparency," *Iowa L. Rev.* 94(2008).

120 See Calpine's "Debtor's Sixth Amended Joint Plan of Reorganization Pursuant to Chapter 11 of the United States Bankruptcy Code" filed with the U.S. Bankruptcy Court Southern New York District on December 19, 2007.

121 Despite the fact most studies go to great length to compute the degree of APR violation, the most studied variable is the dummy of whether APR was violated or not.

measures the degree of APR violation which also requires the pricing data of securities post emergence using securities pricing datasets. Collecting securities pricing data post emergence and computing post emergence values of distributions is, however, beyond the scope of this dissertation. The proxy used for APR violation, however, provides an accurate measure of expectation of APR violation at the time the plan is agreed upon by creditors.

4.2.2.3. New Generation Research Databases

New Generation Research is a private company that has compiled one of the most comprehensive sets of data related to corporate bankruptcies. The company publishes the annual Bankruptcy Yearbook and maintains the online database BankruptcyData.com. This online service compiles descriptive information on all large corporate bankruptcies and provides search tools not available anywhere else. In recent years, the company has also significantly increased the collection of creditor committee memberships. This committee data, however, appears to be far from comprehensive, it is not indexed, aggregated, and only available by searching a limited amount of information for individual cases. .

4.2.2.3.1. New Generation Case Information Database

This database contains 56 fields of information related to the case, including: name of debtor, type of filing, date of filing, district of filing, court number of the filing, EIN of debtor, assets, number of employees, plus descriptive information about the debtor. Not all information is available for every case, but the most basic information is available for most large cases. This directory can only be accessed

one case at a time and the information cannot be downloaded from the site: it can only display on the screen in a highly formatted basis. The company does not even allow for paid queries of their database that yield a significant percentage of the dataset. The online utility does allow for queries that show lists of cases sorted by date, assets at the time of filing, and district where the bankruptcy was filed. The author used New Generation's Research list of "Public and Major Company Database"[122] as the base list of cases that could potentially be of interest in this research. Included in this database are public company filings and selected private company filings with public debt or that we have deemed significant and newsworthy. The oldest bankruptcy reported in the dataset was filed in 1978, but the majority of the entries in the dataset (over 80%) are post 1995. The next step was to capture case specific information for each of those cases using the case directory.

In order to capture the data in the database, the author had to manually display individual directory pages for each case, capture the text on the screen, and save a raw text file with the information. This raw data was then parsed using software written by the author. Appendix F shows the code written to parse this information. The end result was a raw database that somewhat mirrored the New Generation Research's Case Information Database but that could be queried as needed. Information for 3108 cases is included in this database. No entries for bankruptcies filed after 12/31/2009 were collected.

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[122] Included in this database are public company filings and selected private company filings with public debt or that we have deemed significant and newsworthy. The oldest bankruptcy reported in the dataset was filed in 1978, but the vast majority of the entries in the dataset (over 80%) are post 1995.

4.2.2.3.2. New Generation Creditor Committee Database

This is a premium database from New Generation Research that contains documents filed in court related to the appointment and amended appointments to creditor committees. The format of the documents closely resembles those on PACER (i.e., document with an unformatted list of committee members), but while Pacer delivers the actual document on a PDF file, New Generation Research delivers a text version of the document on the screen. The scope of this database seems to have grown significantly over the last 2 years but it still appears to be severely limited, particularly as related to cases filed over 5 years ago.

Like the PACER documents, the author manually displayed and captured all committee documents available on the database for the cases screened from the Case Information Database. These captured raw files were transformed into a text file which were then coded and parsed using custom software written by the author. See Appendix F for the code used in parsing this information.

4.2.2.4. The Bankruptcy Research Database

Prof. Lynn LoPucki's Bankruptcy Research Database (BRD) is one of the most often used sources of data in empirical studies of bankruptcy. This is the most comprehensive dataset in terms of depth of information per case. The scope of the dataset, however, is limited to very large cases. This dataset has been thoroughly studied and several peer reviewed papers researching key bankruptcy variables have used it (including some investigating the same dependent variables in this dissertation). As of December 3, 2009, the BRD contained information on 869 cases. The BRD is accessible online.[123] The BRD has 123 data fields and a total of 563

[123] http://lopucki.law.ucla.edu/bankruptcy_research.asp

cases for the period of interest (1999-2009). This online version allows a diverse, yet limited, number of queries. After contacting Prof. LoPucki, the author of this dissertation obtained a full copy of the database in Excel format free of charge.

Furthermore, the author obtained a separate detailed cost dataset used in Lopucki et al (2008). This dataset contain fees paid in 74 cases across several districts. This dataset collects professional fee information from publicly available 10-K filings with the U.S. Securities and Exchange Commission (SEC), as well as information from fee reimbursement motions filed with the bankruptcy courts. Court information is, however, much more detailed and is available for every case; while 10-K information is not detailed and is only available for companies that emerge as public corporations.

4.2.2.5. Professional Fees Information

Professional fees information was collected from annual reports (10-K forms) filed with the Securities and Exchange Commission (SEC) by public companies after emerging from bankruptcy. These forms can be accessed online via the SEC's website. Data collection for professional fees from 10-K is consistent with the methodology used by others in the literature.

4.2.3. Working Datasets

4.2.3.1. The Bankruptcy Case Dataset

The Bankruptcy Case Dataset was created by combining the raw database extracted from the New Generation Creditor Case Information Database, Prof. LoPucki's Bankruptcy Research Database, PACER information of APR violation,

and professional fees data collected individually from 10-K filings with the SEC. This dataset includes the following fields:

CaseCode: A unique case code was assigned to each individual bankruptcy case. This was necessary because case numbers are given at the district level and different cases filed at different districts can have identical case numbers. Also, several companies have filed for bankruptcy protection more than once and thus names as well as employer identification numbers (EINs) might be involved in more than one bankruptcy case.

CaseName: Name of the company filing for bankruptcy.

CaseEIN: Employer Identification Number

CaseNumber: Case number assigned at the local district.

District: Judicial district where the bankruptcy was filed

DateFiling: Date on which the petition for bankruptcy protection was filed with the court.

DateConfirm: Date on which a plan of reorganization was confirmed

NumberEmployees: Number of employees

Assets: Assets stated on the bankruptcy protection petition

SICCode: SIC Code

ProfFees: Professional fees (10K)

APRViolationDummy: APR Violation

In addition to the foregoing fields the author collected over 100 additional fields specific to each case to be used in future research. These fields includes a list

of professionals participating in the case, a list of public securities outstanding at the time of the bankruptcy filing

This dataset contains information on all 3,108 cases appearing on NGR's Public and Major Bankruptcy List. Of these cases, however, only 1887 cases were filed within the period of interest (January 1, 1999 through December 31, 2008). Also, APR violation and 10-K professional fee information was only collected for cases that emerged as public companies and for which data was located in SEC filings within the period of interest and for which record of official committee formation had been found.

4.2.3.2 Creditor Committee Participation Dataset

The Creditor Committee Participation Dataset was created by combining committee participation data extracted from PACER, committee participation data extracted from New Generation Creditor Committee Document Database, and case information from the Bankruptcy Case Database, coding individual entries and adding a field for creditor committee classification. This resulting dataset contains 9,401 instances of participation in creditor committees.

Once the raw version of the Creditor Committee Participation Dataset had been assembled, individuals and organizations serving in different instances of the dataset had to be coded. Coding large numbers of text data instances from different sources is challenging.[124] This dataset proved to be particularly difficult because not

[124] One of the most salient examples of difficulties in coding names in large sets of data in the social network literature is presented by Smith (2006) in his study of the rap music collaboration network. This network contained 6,500 rappers whose names not only use very unique spellings (including wide variations of spellings for the same name), but they often use pseudonyms. Smith used a fuzzy logic algorithm to group names with similar phonetics and then manually coded each artist using his own knowledge of the industry and Internet searches.

only are there multiple variations of the spelling and abbreviations used in the dataset, but also organizations used different names in different instances of participation. Thus, for example, Capital Research Management Group—an investment management company in Los Angeles, California- appeared in 14 different instances of committee participation using 11 different names, spelling of the names, and abbreviations of the names. They also appeared using completely unrelated names—i.e. specific fund names—that were linked back to the company by matching contact information on the filings (address, phone number, and individual contact).

After reviewing several automated methodologies in the literature,[125] the author decided to code the committee members manually. An exhaustive matching of the members (including matches of address, telephone numbers, and individuals within the organization in the contact information on the filing) was needed to properly code individual members and institutions. Despite the care taken by the author in this process, there are likely to be a number of instances of incorrect coding. The author found no practical way to measure such error. The coding was implemented by assigning a numerical code to each member. This coding yielded 5,269 individuals and organizations that have served in committees during the period of interest.

Individual members were manually classified into "Financial Creditors" and "Other Creditors".[126] A finer classification of financial creditors, including,

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[125] See Wise (Python/Agrepy methodology) for example.

[126] In general, but not always, members whose names included at least one instance of the following were classified as "Financial Creditors": advisors, capital, bank, credit, financial, fund, insurance, investment, leasing, and trust. Final classification considered alternative spelling and wordings in participation of the same member in different cases. Furthermore, the author used personal knowledge and performed Internet searches to determine the classification.

categories for large banks, small-regional banks, hedge funds, fund companies, insurance companies etc., was attempted but proved to be impractical as changes in the financial industry over the last 15 years have created financial companies with broad and diverse activities in the industry that many times defy such classification. Furthermore, the large number of individuals and organizations further complicated such finer classification. Thus, methodologies previously used in the literature, which typically included matching names to published directories, were not practical or would produce misleading results in this research.

The final version of this dataset included the following fields:

CaseCode: Unique number for the bankruptcy case previously assigned in the the Bankruptcy Case Dataset.

CaseName: Name of the debtor company

District: District where petition was filed

DateFiling: Date on which bankruptcy petition was filed

CommitteeNumber: Unique number assigned to each committee

CommitteeMemberName1: Name appearing on the appointment motion in court

CommitteeMemberName2: Common name of committee member

CommitteeMemberCode: Unique code assigned to each individual/organization serving on committees

CommitteeMemberClassification: Either "Financial Creditor" or "Other Creditor"

In addition to the foregoing fields, the author collected additional fields with member contact information (which includes address, telephone numbers, and—many times—person within the organization in charge of participation on the

committee). All of this information was parsed from the committee appointment order on PACER.

4.2.4. Notes on Data Completeness

Even though the total number of business bankruptcies in the United States surpasses 100,000 cases every year, most of those cases are not relevant to this study. First, a large number of business bankruptcies are filed by individuals operating small businesses, and another large percentage of cases are dismissed, transferred, or consolidated.[127] Of the remaining bankruptcy filings only a small fraction of those can be expected to have creditor committees appointed by the court. Creditor committees significantly increase the cost of reorganization and their appointment is only considered in large cases. Even then, not all large cases have creditor committees. No list of cases with committees is known to exist. In order of find cases with committees, the author first compiled a list of cases that would be likely to have committees and then searched for committees for each one of the cases individually. The first screen of cases of interest included all cases on NRG's Public and Major Company Database (3,108 cases). The author found creditor committee information for 1,037 of those cases (both via PACER and NRG's Creditor Committee Document Database). Data completeness for these cases is, however, suspect given the lack of free and unrestricted access to PACER. Exhaustive PACER searches were only performed on cases filed with the United States Bankruptcy Court - Southern District of New York. As discussed previously, the author only had free access to cases filed in that district. Data completeness on these cases is likely to

[127] For a detailed example of how only tens of thousands of bankruptcy filings are reduced to a net 214 usable cases in a bankruptcy empirical study see Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."

be very high. Among those cases, a group of 110 cases was identified as having creditor committees appointed to them in the period 1999 through 2008. Furthermore 14 of those cases were dropped because the firms had not emerged from bankruptcy at the time data was collected. Thus only 96 cases remained for which data was collected. This group of cases is considered to have complete committee membership records and was used in the analysis of dynamic characteristics of the committees. This is because dynamic committee analysis is highly sensitive to missing data.

The period 1999 through 2008 was chosen as the focus period. A ten year period was selected as the tie decay function required in the generation of the case network data needed 5-7 years of historical information, and cases need 2-3 years, on average, to emerge from bankruptcy and thus be able to collect case outcome information. Thus, a 7-10 year data window was required for this dissertation. Furthermore PACER coverage prior to 1999 is likely to be spotty and expected to be missing a significant number of filings. That is not to say PACER coverage after 1999 is complete. As a matter of fact the author found many instances of documents filed after 1999 that could not be located on PACER.

Individual methodologies in this dissertation utilized different ranges of data available in the datasets. In the analysis of static characteristics only cases in the same focus period—1999 through 2008—were considered (but filed in any district). In building the committee social networks committee membership information was included from all 1037 cases, as a population census is required in this analysis. The fact some of those cases fell well outside of the focus period is not problematic as the networks designs (which included tie decay function features) ignore data from cases outside the decay period. Depending of the actual setting of the decay function,

different numbers of cases were included in the network analysis. Sample size in the fee regression analysis was constrained by the fact 10K fees data can only be collected for companies that emerged a s public firms and for which 10K SEC filings were located. The sample size of the fee regression analysis is 69 cases.

4.3. CONCLUSIONS

The first section of chapter laid out the basic analytical framework of this dissertation. This basic framework guided the design of the working datasets and the data collection processes and criteria. Overall, it determined the need for a broad collection of data required for the social network analysis (which demands a census of the data), as well as the need for a sub-sample of data that minimized the potential for missing observations (required for the dynamic analysis which is highly sensitive to missing observations). The period of interest includes cases filed from 1999 through 2008, but additional data was collected prior and posterior to the period of interest. The sample has a bias towards large corporate bankruptcy cases as these are the cases with creditors' committees appointed. The resulting datasets include the Bankruptcy Case Dataset and the Creditor Committee Participation Datasets (both of which include sub-samples of Southern District of New York cases for which data is likely to be complete).

The following two chapters describe the methods, analysis, and results: Chapter 5 deals with the questions of creditor committee characteristics and Chapter 6 with the investigation on how creditor committee characteristics are reflected on professional fees.

Chapter 5: Committee and Committee Member Characteristics

5.1 Overview

The data collected in this research provides the basis for a systematic large scale analysis of creditor committee membership. In this chapter of this dissertation, committee data is studied following the basic research framework. It begins by looking at creditor committee characteristics and how those change over time. Furthermore, by analyzing the links among different committees, this study maps the social network of creditor committee interlocks. This social network provides a more profound understanding of not only the committees but the individual members themselves. This chapter begins with a descriptive summary of the cases for which committee information was collected. The rest of this chapter is divided in three parts each dedicated to a different dimension of committee and member participation: static, dynamic, and social characteristics. The social characteristics section includes the small world phenomenon testing and analysis.

5.2. Descriptive Summary of the Cases

5.2.1. Sample Period of Interest

Figure 2 shows the number of cases with committees collected per year during the period of interest. Business bankruptcy filings tend to be cyclical, with significantly more filings taking place during recessions, periods characterized by a

relative lack of credit, or industry specific events.[128] Furthermore, rates of bankruptcy filing among large business can be considerably different than those of small businesses. This cyclicality of the case filings numbers needs to be kept in perspective as committee composition is analyzed in the following sections.

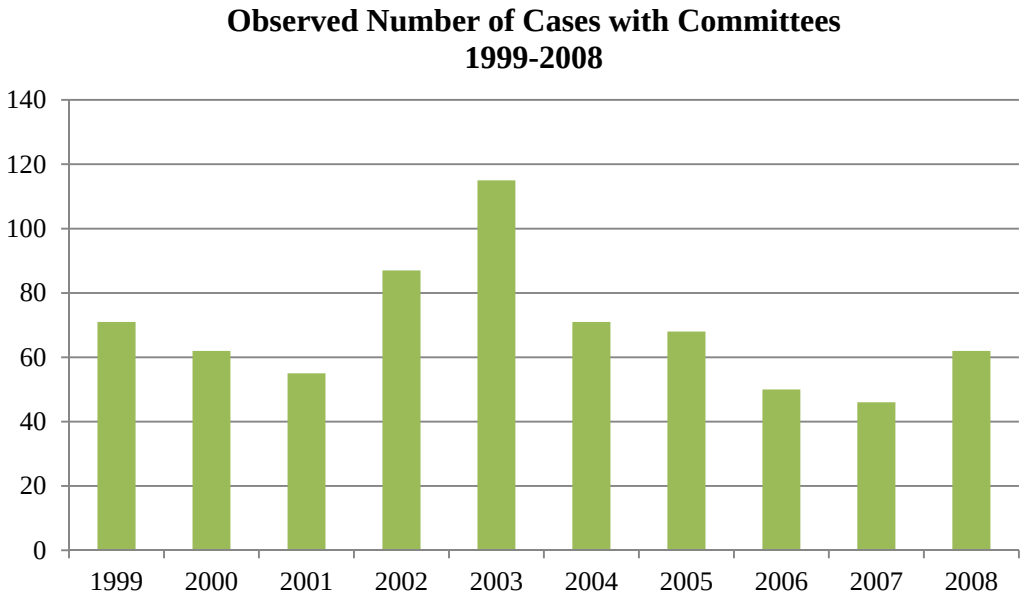

Figure 2: Observed Number of Cases with Committees 1999-2008

The Table 4 shows the summary statistics of bankruptcy cases during the period of interest (1999-2008) in all districts for which committee information was collected. A total of 1,887 cases were included in the dataset of large and public companies. Out of these, committees were located for 687 cases. These cases were located on PACER, on the NGR Committee Data sample, and, for many, on both. A

[128] Rates of business bankruptcies might also be affected by major changes in the bankruptcy code, as was observed in the rates of personal bankruptcy filings prior to the implementation of the 2005 Bankruptcy Abuse and Credit Protection Act.

total of 739 committees were identified. Only one committee was identified in 545 cases, while 142 cases had two or more committees. Thus, the average number of committees per case was 1.08, and the average number of filings per case was 1.45. Also, the average assets listed with the bankruptcy filing were 1.53 billion while the median assets listed at filing for the sample was 106 million. It should be noted that the average assets listed at filing was significantly affected by a small number of large bankruptcies (particularly Lehman and Washington Mutual, with listed assets of 693 and 328 billion, respectively).

All Districts: Collected Data Summary	
Cases on Dataset 99-08	1887
Cases With Committees	687
% Cases with Committees	36.4%
Committees	739
Cases with One committee	545
Cases with Multiple Committees	142
Average Committees per Case	1.08
Average Filings per Case with Committees	1.45
Average Assets Listed At Filing	1.53 billion
Median Assets Listed on Filing	106 million

Table 4: Data Summary of All Districts Collected

The cases for which committees were identified were filed in a total of 64 districts. The distribution for the cases among the different bankruptcy districts for which committee information was collected is shown on Table 5. This table shows that 361 out of 687 cases for which committee data was collected were filed in either Delaware or the Southern District of New York. Thus over one half of these filings

took place in these two districts. The high concentration of cases with committees is not limited to Delaware and the Southern District of New York.

District Distribution	
District	**Count**
Delaware	251
New York - Southern	110
Texas - Southern	24
California - Central	24
Texas - Northern	19
Illinois - Northern	19
New Jersey	16
Nevada	13
Massachusetts	13
Virginia - Eastern	12
California - Northern	12
Indiana - Southern	9
Georgia - Northern	9
Washington - Western	7
Texas - Western	7
Michigan - Eastern	7
Florida - Southern	7
Florida - Middle	7
Arizona	7
Ohio - Southern	6
Ohio - Northern	6
Connecticut	6
New York - Eastern	5
Maryland	5
California - Southern	5
Other (less than 4 filings each)	81
Total	687

Table 5: Cases with Committees by District

In fact, the nine largest districts in Texas, California, Illinois, New Jersey, Nevada, Massachusetts, and Virginia handled 152 cases, or 22% of the total, during the period of interest. The other 53 districts (83% of the total) handled only 174 of the bankruptcy cases with committees during the period of interest (1999-2008). No committees were identified in 30 bankruptcy districts during the period of interest.

5.2.2. Southern District of New York Sample

As discussed in Chapter 5, an exhaustive document search was performed for cases filed with the U.S. Bankruptcy Court Southern District of New York. Table 6 shows summary statistics for these cases.

U.S. Bankruptcy Court- Southern District of New York Collected Data Summary	
Cases on Dataset 99-08	269
Cases With Committees	110
% Cases with Committees	35.2%
Committees	128
Cases with One committee	94
Cases with Multiple Committees	16
Average Committees per Case	1.16
Average Filings per Case with Committees	2.2
Average Assets Listed At Filing	11.53 billion
Median Assets Listed on Filing	488 million

Table 6: Southern District of NY: Collected Data Summary

Comparing Tables 4 and 6, the percentage of cases with committees in the larger sample is in line with those in the Southern District of New York. This

provides a good indication that the method used to collect committee data from the larger sample was likely to have been successful in identifying at least one filing for each committee (which reveals the existence of committees in the case). On the other hand, a much higher percentage of cases with committees in the Southern District of New York would have likely indicated a systematic failure in the collection of at least one committee filing per case. This indication is, however, no absolute proof that no error was present. This is because there are particular aspects of the Southern District of New York might make it more or less likely to have committees appointed to the cases filed there. Since the larger mean assets of the filings in Southern District of New York make it more likely for cases there to have committees appointed, such error of false negative in finding at least one committee in cases in the large sample is likely to be small. As a result of the previous analysis, it was concluded the large data sample to be satisfactory for the construction of the social networks which require a long term census of the network.

The comparison between the two sets of data also reveals the number of filings per case to be significantly lower for the larger sample of cases (2.2 filings per case in the Southern District of New York vs. 1.45 filings per case in the larger dataset). Also, the average number of committees per case is smaller in the larger dataset (1.06 vs. 1.16). This indicates a possible systematic error in collecting filings amending committees and appointing additional committees in cases on the larger dataset. This error, however, is likely to be moderated by the fact cases in the Southern District of New York are significantly larger—i.e. more likely to have more than one committee- and also due to the presence of outliers.[129] To minimize

[129] In the Southern District of New York three cases had more than 9 filings each. Without those outliers, the number of filings per case would have been 1.9.

the impact of the potential effects of missing data in the analysis, the author decided to use only the Southern District of New York data in the analyses that did not require a census of the population of cases.

5.2.3. Description of the Calpine Data

In order to illustrate the credit committee data and findings, this research will take a closer look at Calpine's bankruptcy and its creditor committees. The Calpine Corporation was founded in 1984 in San Jose, California, and quickly became one of the country's largest independent electrical power producers[130]. Much of the company's growth was due to the rapid deregulation of power markets in the nation and the booming power trading business of the 1990's. By the end on 2005, the company ran a fleet of 73 modern clean burning natural gas fired power plants and 19 geothermal power plants with an aggregate capacity of almost 26.5 MW of electricity. The company also ran an active trading desk for electricity, natural gas, and other commodities. The collapse of energy markets following the downfall of the largest player in that industry—Enron—and the California power crisis of 2000-2001 not only significantly cut into Calpine's trading earnings, but also dramatically increased its borrowing cost on its highly leveraged balance sheet. These conditions eventually led Calpine to voluntarily file a petition for Chapter 11 bankruptcy protection on December 20, 2005 with the U.S. Bankruptcy Court Southern District of New York. The bankruptcy filing included 254 direct or indirectly wholly owned subsidiaries in the U.S. Total assets listed on the bankruptcy petition totaled over 27 billion dollars and, at the time, was ranked the 9th largest bankruptcy petition ever

[130] More detailed description of the Calpine's past and current operations can be found on its 10K filings with the SEC.

filed in the country. Judge Stuart Berstein[131] presided over the Calpine bankruptcy case. Calpine's plan of reorganization was approved by the court almost exactly two years after its bankruptcy filing on December 19, 2007. The company emerged from bankruptcy protection on January 31, 2008, as a public company, with essentially all of assets intact, and trading on the New York stock exchange under the symbol CPN. The company spent over 474 million dollars in professional fees related to its bankruptcy restructuring. The company moved its headquarters to Houston, TX in 2009. For the fiscal year 2009 and 2010 the company had adjusted earnings before interests taxes depreciation and amortization expenses (EBITDA) of around 1.75 billion dollars. The company currently employs over 2,100 full time workers and expects to continue expanding its fleet of power plants in 2011.

A total of four committee filings were located on PACER for this case (see Appendix D). The first one of these filings is the January 9, 2006, appointment of the Official Committee of Unsecured Creditors. This filing was made three days after the January 6, 2006, meeting of creditors at New York's Grand Hyatt Hotel organized by the U.S. Trustee Deidre Martini and referenced in the opening quote on Chapter 1. The meeting was attended by over 250 people, from which the seven members of the unsecured creditor's committee were selected.[132]

The second filing is a first amendment to the composition of this committee filed on January 27, 2006. The third filing is the appointment of an Official Committee of Equity Holders to the case on May 9, 2006. The last filing was made on January 11, 2007 providing a second amendment to the composition of the Official Committee of Unsecured Creditors. Both committees appear to have been

[131] This is the same judge that approved the fee waiver used in collecting data for this dissertation
[132] More detailed description of the meeting can be found at Lattman (2006).

disbanded as the company emerged from bankruptcy protection in early 2008. Table 7 provides a summary of Calpine's Case Data.

Calpine Corp.: Data Summary	
Date Bankruptcy Filing	Dec. 20, 2005
Date Plan of Reorganization Confirmed	Dec. 19, 2007
Date Emergence	Jan. 31, 2008
Number of Filings	4
Number of Committees	2
Assets Listed on Petition	27.5 billion

Table 7: Calpine Corp.: Data Summary

5.3. STATIC CHARACTERISTICS

Table 8 shows the basic statistics of the individuals and organizations serving on the creditor committees during the period of interest (1999-2009). It also addresses the first sub-question posed in this study (Sub-Question 1.1.1. *What are the committee members' affiliations?).*

Creditor Committee Member Service	
Individuals/organizations serving on committees	3025
Members Finance	518
Members Non-Finance	2507
Number of service instances	4382
Instances Finance	1457
Instances non-finance	2925
Avg. Number of Cases for Finance Members	2.81
Avg. Number of Cases for Other	1.17

Table 8: Summary of Creditor Committee Member Service

The data shows that even though committee members identified as financial companies represent only 17.1% of all individual members, they account for 33.2% of all individual participations in creditor committees. By the same token, non-financial firms and individuals account for 82.9% of all individual members, yet they account for only 66.8% of participations. Thus financial firms serve a on a mean number of 2.81 committees while non-financial firms serve on 1.17 of cases.

Table 9 presents the 25 members identified as finance companies that served most often in creditor committees. The table includes the number of times participation in a committee was observed. Table 10 lists the top 30 members identified as non-financial individuals and institutions.

List of Financial Institutions with Most Instances of Creditor Committee Service 1999-2008

Rank	Classification	Name	Number
1	Finance	Bank of New York	88
2	Finance	HSBC Bank USA	58
3	Finance	U.S. Bank Trust National Association	56
4	Finance	Wilmington Trust Company	36
5	Finance	Pension Benefit Guaranty Corp.	34
6	Finance	Wells Fargo Bank Minnesota, NA	30
7	Finance	JP Morgan Chase Bank	30
8	Finance	State Street Bank and Trust Co.	28
9	Finance	Credit Suisse First Boston Corporation	22
10	Finance	Deutsche Bank, AG	21
11	Finance	Oaktree Capital Management, LLC	20
12	Finance	Bank One	18
13	Finance	Prudential.	17
14	Finance	U.S. Trust	17
15	Finance	Merrill Lynch, Inc.	15
16	Finance	Franklin	13
17	Finance	AIG	12
18	Finance	Morgan Stanley	12
19	Finance	Wachovia Bank, N.A.	12
20	Finance	American Express Financial Advisers	11
21	Finance	Capital Group Companies, Inc.	11
22	Finance	Fidelity Management & Research Co.	11
23	Finance	Law Debenture Trust Company of New York	11
24	Finance	Lehman Brothers	10
25	Finance	TIAA	10
26	Finance	Alliance Capital Management L.P.	9
27	Finance	Conseco Capital Management, Inc.	9
28	Finance	Highland Capital Management	9
29	Finance	Cerberus Capital Management, L.P.	8
30	Finance	CIT	8

Table 9: Financial Institution Creditor Committee Service

List of Non-Financial Institutions and Individuals with the Most Instances of Creditor Committee Service
1999-2008

Rank	Classification	Name	Number
1	Non-Financial	Simon Property Group LP	28
2	Non-Financial	United Steel Workers of America	18
3	Non-Financial	Coca-Cola Company	16
4	Non-Financial	AT&T	13
5	Non-Financial	Air Line Pilots Association	10
6	Non-Financial	American Greetings	10
7	Non-Financial	General Growth Properties	10
8	Non-Financial	International Union, UAW	8
9	Non-Financial	Verizon Communications, Inc.	8
10	Non-Financial	Association of Flight Attendants	7
11	Non-Financial	United Parcel Service	7
12	Non-Financial	BP Amoco Chemical Co.	6
13	Non-Financial	Intl Assoc. of Machinists and Aer. Workers	6
14	Non-Financial	Lucent Technologies, Inc.	6
15	Non-Financial	Parkdale Mills, Inc.	6
16	Non-Financial	BASF Corporation	5
17	Non-Financial	Bennett Management Corp.	5
18	Non-Financial	Bowne & Co., Inc.	5
19	Non-Financial	E.I DuPont De Nemours & Co.	5
20	Non-Financial	Mattel, Inc.	5
21	Non-Financial	Tyco Electronics Corporation	5
22	Non-Financial	U.S. Foodservice, Inc.	5
23	Non-Financial	Walt Disney Co.	5
24	Non-Financial	Alcoa	4
25	Non-Financial	AmeriSource Corp.	4
26	Non-Financial	Avnet Electronics Marketing	4
27	Non-Financial	Cummins Inc.	4
28	Non-Financial	Delphi Automotive Systems Corporation.	4
29	Non-Financial	Electronic Data Systems Corp.	4
30	Non-Financial	Equistar Chemicals, LP	4

Table 10: Non-Financial Institution Creditor Committee Service

It is important to note the classification of both the Pension Benefit Guarantee Corporation (PBGC) and the TIAA-CREF as financial firms. The PBGC is an independent agency of the U.S. government created to provide pension insurance to private pension plans. It currently covers pension plans with over 44 million beneficiaries. The agency also takes over failed plans and provides direct pension benefits to those covered under those plans. The agency currently provides direct pension benefits to over 1.4 million people. The agency is funded primarily by collecting insurance premiums from privately run plans and from an investment portfolio of over 60 billion it manages directly. For practical purposes, the PBGC operates as an investment manager and a financial firm. The TIAA-CREF provides retirement benefits to employees of non-profit education and research institutions. This firm is itself a non-profit and currently manages assets in excess of 400 billion dollars. The TIAA-CREF is registered as an investment company with the SEC and was also classified as a financial firm.

5.3.1. Concentration of Committee Service

A closer look at the data on tables 8-10, further reveals a high the level of concentration of instances of committee service among the financial institutions serving the most often: the top 30 financial firms (around 1% of the total number of firms/individuals serving on committees) account for 14.7% of all instances of committee service. The top 30 non-financial firms and individuals account for only 5.3% of total instances of committee service. Overall, the top 1% of institutions and individuals account for 15.5% instances of committee service.

Not only committee service is highly concentrated among those serving the most often: this concentration of service is further focused among the bankruptcies with the most assets. The top 1% of the firms that serve most often on committees can be found on 70.6% of the top 10% of cases ranked by assets, while serving on

just 1.4% of the bottom 10% of cases ranked by assets. Moreover, the top 1% of the firms that serve the most on creditor committees can be found on 64.8% of the largest 20% of cases, while serving in less than 3.6% of the smallest 20% of cases with committees.

5.3.2. Calpine's Committee Member Affiliation

Calpine's two official committees had a total of 13 members. Nine of those members served on the unsecured creditors committee, and five on the equity holders committee. A list of these members, and their affiliation, is presented on Table 11.

Calpine Corp.

Creditor Committee Member Affiliation

Name	Affiliation
Acadia Power	Non-Financial
Amerada Hess Corp.	Non-Financial
John Thomas Dolan	Non-Financial
Dominion Resources	Non-Financial
Franklin Advisers	Financial
HSBC	Financial
Alan Ku	Non-Financial
Paul Likert	Non-Financial
SPO Partners	Financial
Steelhead Partners	Financial
TransCanada Pipelines	Non-Financial
Michael Willingham	Non-Financial
Wilmington Trust	Financial

Table 11: Calpine Corp.: Creditor Committee Member Affiliation

Members of the unsecured creditors committee include the Wilmington Trust, a Delaware firm that provides banking, investments, and trust services to both individuals and firms. It currently has close to $150 billion in assets under management.[133] It also includes HSBC a global financial firm offering a wide array of banking and financial services—including trust services- with over 2.4 trillion dollars in assets.[134] Franklin Advisers, a member of the Franklin Templeton group of companies. The Franklin Templeton group of companies also provides a wide array of banking and investment services and manages assets of over 640 billion dollars.[135] Membership of the unsecured creditor committee also included SPO Partners, a well-known private investment firm based in San Francisco, California. These four creditor committee members were classified as financial firms.

Amerada Hess, TransCanada Pipelines, Acadia Power, and Dominion Resources rounded up the membership of this committee. Amerada Hess is an integrated oil and gas energy company, TransCanada Pipelines provides transmission of natural gas via its extensive network of pipelines, Acadia Power is a Louisiana-based power company, and Dominion Resources is a power and energy company based in Virginia. These four committee members were classified as non-financial firms.

The official committee of equity holders included one financial firm, Steelhead Partners, and four individual shareholders: Mr. Likert, Mr. Ku, Mr. Thomas, and Mr. Willingham. Steelhead is an investment management firm base in Belleview, Washington.

Next this research will look into the changes of the committees over time.

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[133] From Wilmington Trust's 2010 10K filing.
[134] From HSBC's 2010 Annual Review.
[135] See Franklin Resources Inc. 2010 10K filing (Franklin Resources is the listed holding company for the Franklin Templeton group of companies).

5.4. DYNAMIC CHARACTERISTICS

In order to address research question 1.2 (*What are the dynamic characteristics of creditor committees?)* and its sub-questions, committee amendments—i.e. PACER filings amending committee composition—throughout the life of the committees for bankruptcy cases.

The low number of filings per case (1.45) in the sample, means only approximately 3 filings appointing or amending committees for every two cases with committees were found for cases during the period of interest. This number was unexpectedly low based on the a priori examinations of motivations for individual committee members to join and leave committees during the course of the restructuring. The author then decided to perform an in depth search for committee filings on a smaller sample of cases with committees filed with the U.S. Bankruptcy Court Southern District of New York to verify whether the unexpected low frequency of filings was due to errors in collection of data in the larger sample or whether the number of filings per case is in fact unexpectedly small. Examining each document is, however, an expensive task in terms of time and money. Performing such in depth analysis of all cases in the sample would have been both onerous and unnecessary. Onerous because of both the time required to search through thousands of dockets to find mislabeled documents as well as the expense incurred in PACER fees for pulling each document. Such in-depth analysis of the large sample was also unnecessary because an in-depth search of a smaller sample would provide an estimation of the data collection errors for the whole sample. This in depth search included an examination of all filings made by the U.S. Trustee in each case as titles of documents on PACER are often times non-descriptive. A broader examination of folders likely to contain committee filings in error was also performed as filers are on occasion mistakenly classified, labeled, or duplicated on PACER. Table 12 and 13 shows the results of this in depth search.

These tables revealed a higher frequency of filings per case, but still much lower than anticipated. These results reveal committee reconstitutions are not the

norm as over 50% of the committees are never amended. They also show that when committee membership is amended, they tend to be amended only once. As a matter of fact, the average number of filings per case in this sample was significantly affected by the Adelphia, Dana, Galey & Lord, and Solutia cases. These cases had 9 to 21 filings each.[136] Without these, the average number of filings per case would have been 1.94 filings per case. Thus, there is no evidence of significant numbers of committee members systematically joining and/or leaving in between the formation and the dismissal of the committees.

Federal Bankruptcy Court Southern District of New York **Creditor Committee Filings Summary: 1999-2008**	
Number of Cases Examined	269
Number of Cases with Committees[137]	96
Total Filings	228
Avg. Number of Filings per Case	2.38
Avg. Number of Filings per Case (no outliers)	1.93
Total Committees	114
Avg. Committees	1.1875
Avg. Filings per Committee	2
Number of Committees per Case	
1 Count	80
2 Count	14
3 Count	2

Table 12: Creditor Committee Filings Sample NY So District.

[136] The dynamics of the committee amendments for these four cases, as well as their effect of the outcomes of each case, deserve to be studied individually and in detail. Such study is, however, outside the scope of the present research.

[137] A total of 14 cases with committees were not included in the in depth portion of this analysis because the cases had not ended at the time the analysis was done.

Equity Committees	
Count Equity Committees	11
American Banknote, Oneida, Impath, Kasper, Footstar, Loral, Calpine, Delphi, Solutia, Dana, Adelphia	
Retiree Committees	
Count Retiree Committees	3
Northwest, Delphi, Dana	
Other Committees	
Ephedra Committee (Twin Labs)	
Second Unsecured Committee (Global Crossing)	

Table 13: Sample NY So District Other Committees

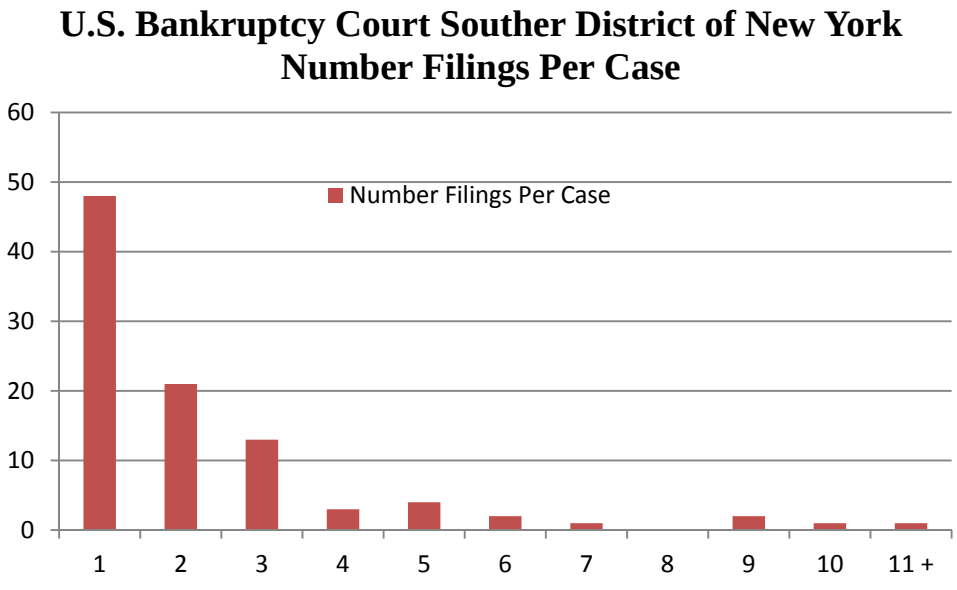

Figure 3: Number of Filings Per Case: Southern District of New York

Furthermore, Table 14 shows the correlations among total filings and days from filing to emergence. It shows a strong correlation between the length of time

under restructuring and the number of filings creating and amending creditor committees. It thus appears the number committee filings and amendments are associated by length of the duration of the case. This was expected result as some individuals and firms serving on committees are likely to leave or join committees as the time for the firm to leave bankruptcy protection increases. These findings provide further evidence that committee amendments, whenever present, do not appear to be driven by a systematic joining and leaving committees but rather by duration of committee service. Cases with large numbers of filings need to be looked on a case by case basis in order to determine the drivers for such unusual number of filings.[138] Such study is beyond the scope of this research.

Correlations Committees Filings

		DaysIn
TotalFilings	Pearson Correlation	.656**

** Correlation is significantly different from zero at the 0.01 level (2-tailed).

Table 14: Correlations Committees Filings vs. Case Duration

5.4.1. Calpine Dynamic Characteristics

The official unsecured creditors committee in Calpine's bankruptcy was amended twice. The first amendment, dated January 27 2006, Acadia Power was replaced by Dominion Resources. Thus Acadia Power served for only 18 days on the committee. It should be noted that Acadia Power was 50% owned by Calpine (the other 50% of Acadia was owned by power company CLECO) and had sold the

[138] The case with the most filings was Adelphia Communications with a total of 21 filings. The Adelphia bankruptcy case was dominated by the fraud allegations against the company officers and extensive disputes among its creditors.

totality of its power output to Calpine through a 20-year contract. Even though the reasons for Acadia Power's departure from the committee cannot be known from PACER filings, the close relationship between the debtor and Acadia is likely to have had an impact on the short duration of Acadia's service. Also, it is improbable that Acadia had much access to non-public information over this short period of time. More importantly, given Acadia's close relationship with Calpine, one could argue Acadia had few incentives to join the committee with the goal of obtaining non-public information. In the second amendment to the unsecured creditors committee, dated January 11, 2007, Dominion Resources dropped out of the membership roster. The reasons for Dominion's departure are not known, but one can expect some turnover of membership after one year of service on the committees. Furthermore, the nature of Dominion—one of the largest power and energy companies in the country—make it an unlikely candidate to motivate its membership with the goal of obtaining non-public information. There were no amendments to Calpine's committee of equity holders throughout the life of the committee.

Calpine's analysis of changes in its creditor's committees is consistent with those of the larger sample: committee recompositions are rare and changes in membership appear to be related to long committee service. No systematic abuse of committees with the purpose of obtaining non-public information is observed.

The next section of this dissertation will address the question of social characteristics of committee service.

5.5. SOCIAL NETWORK CHARACTERISTICS

Service in multiple creditor committees by individuals and institutions creates interlocks among the committees that in turn generate a social network connecting bankruptcy cases to one another. The social network created by service in creditor committees is by definition an affiliation, or bipartite, network. Affiliation networks are defined by the existence of events—in this case bankruptcy filings—, each connecting a number of individuals associated with that specific event—in this case individuals and institutions serving on the creditor committees related to that case—. In addition to the clusters of individuals around each event there a potential for interconnection among events created by instances of service across different cases. These interconnections form the case interlocks that connect individual events.

The overall design of the social network analysis is best summarized by Watts[139] in his review of social network analysis methods in the Annual Review of Sociology (2004). The section of affiliation networks (pages 248-250) describes the rational to separate the analysis of these types of networks into two separate networks: an event network and a participant network (in this research the case network and member network). Watts also provides a significant number of examples of the use of the techniques in the literature. A more approachable explanation on the rational to create two separate types of is provided by Davis et al (2003) on (page 315) in his discussion of corporate boards:

[139] Watts, "The "New" Science of Networks."

> Overlapping groups such as boards of directors form a two-mode membership network in which one can conceive of directors as nodes connected by a tie of common board membership, or boards as nodes connected by a tie of one or more shared directors (Breiger, 1974). Thus, when we say that the corporate elite is more or less well-connected, we may mean that large companies are well connected (Mintz and Schwartz, 1985), or that individual directors are well-connected (e.g., Useem, 1984). Hence, upon collecting and cleaning board membership data, we created for each year two matrices: a director-by-director matrix and a company-by-company matrix. We refer to the first network as the director network and the second as the board network.[140]

Thus, the social network characteristics of affiliation networks are evaluated on two separate dimensions of analysis: an event network and an individual network. The event network examines how events are related to each other and provides information about social characteristics of individual events. The individual network provides information on the role individuals play in the network. The following sections of this chapter will look in more detail at the event, or case, network and the individual, or member, network. A test for small world structure is performed on both the event and the individual networks.

5.5.1. The Case Network

The case network is defined in Figure 4. This network represents the membership interlocks among different cases and allows us to determine how individual cases are connected to each other. This network has a single mode (only membership in creditor committee service interlocks are considered in connecting cases),[141] connections are non-weighted (all ties are considered equal), and ties are directed (only cases concurrent or previous create a tie, a future interlock does not create a tie). Also, ties do not persist indefinitely. Ties decay after a period of time as one cannot expect interactions from too far in the past to affect present events.

[140] Davis, Yoo, and Baker, "The Small World of the American Corporate Elite, 1982-2001."
[141] Other criteria could be used to connect cases to one another. One could, for example, employ shared used of professionals as a criteria to connect different cases.

Determining the exact shape of the tie decay function is complex, but the literature has consistently used step decay functions with 5 to 7 years as triggers for the step. A 5-year step decay function in defining ties is likely to be more appropriate to this network given the nature and intensity of the interaction among committee members. In other words, the part time, business interaction characteristic of committee membership appears to fall in the low end of the scale of interaction intensity used other studies such as the one, for example, of a producer and a director working together on a Broadway musical.[142] An analysis using a 7-year decay step function, however, was also performed in order to gain a better perspective of the sensitivity of this assumption.

The networks were generated by using code written by the author of this dissertation for this purpose. The code was written using Microsoft Visual Studio and is attached in Appendix F. The code generated a text file in DL format that was then analyzed using social network analysis software UCINET. Graphs were generated using NetView.

In generating the network all case membership data available was used (including data collected for cases prior to the period of interest). The reason for including data outside of the period of interest was to improve the network characterization of cases filed within the first five years of the period of interest. This is because network characterization for individual cases requires historical data within the decay function of ties (i.e. in the case of the network with a 5 year decay function, network characterization requires 5 year historical network information). In fact, unless one were to collect all case membership information for every single case since the first committee was ever appointed in a U.S. Bankruptcy court, any delimitation on time for data collection produces a series of cases at the beginning of the period with incomplete data, which in turn creates an underestimation of ties. Any such underestimation of ties only affects those cases within the initial tie decay

[142] Uzzy et al use a 7-year step decay function in their characterization of Broadway musicals social networks.

period. Thus, to minimize such errors for cases filed during the period 99-02, data from cases filed in years prior to that were included. Underestimation of ties, however, only reflects missing data from the collected information, and it becomes less severe as case is filed later into the period of interest. This way, for example, if 20% of committee memberships in 1997 were missing from the data, ties for cases filed in 2002 could be underestimated by 4%.[143] Error in the early years of the interest period is likely to be higher. Despite the inability to measure it, such error appears to be, however, acceptable for the purposes of analysis in this section.

Case Network
1-Mode; Non-weighted,
Directed Ties

Network Definitions:

- Nodes:
Corporate bankruptcy cases in Bankruptcy Case Database where committees were identified

- Ties:
Sender of a tie has committee member who concurrently serves in a committee in the case that receives the tie or has a committee member who previously served in a committee in the case that receives the tie within N years before the filing of the sender's case

Example:

Committee Membership

Case I (Jan/01 – Dec/02): A, B, E

Case II (Jan/03 – Dec/04): B, C

Case III (Jan/03 – Dec/05): C, D

Case IV (Jan/08 – Dec/09): A,C, F

Time Decay = N (5 years)

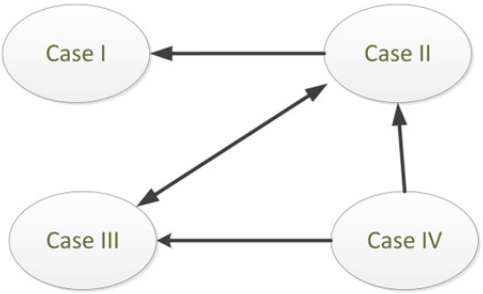

Figure 4. Case Network Definition

[143] This calculation assumes a 5-year decay function and no cyclicality in bankruptcy filings - meaning contributions to the historical network characterization for a case are equally weighted over the five years prior to the filing of the case-.

The resulting case network has only four components with at least two nodes, and the largest component has 808 nodes (out of 1,037 Nodes). In other words, there is a single large dominant component that interconnects almost 78% of the cases, while the rest of the cases are in effect isolates (there were only three additional components with exactly 2 nodes while the rest were isolates). Care must be taken when looking at this network as it contains every single case for which committee data was collected, including sparse regions of data well outside of the period of interest. Thus, other typical descriptive network measures (such as network density) are likely to be misleading and thus not reported in this research.

Degree centrality, which is equivalent to the number of interlocks for each node, for each case was measured and recorded. Table 15 shows the cases with the highest measures of degree centrality. No cases outside of the period of interest are reported on this table. As discussed earlier, errors in degree centrality measures for cases within the period of interest (1999-2008) should be small. Measurements of degree centrality for cases outside the period of interest as computed in the network above are likely to not be as accurate given the historical regions where sparse data was available. The measures of degree centrality during the period of interest ranged from 0, for isolates, to 116 for Dura Automotive. This means the members of all creditor committees serving on the Dura Automotive case served on a total of 116 different cases during the five years prior to Dura Automotive's bankruptcy filing. As discussed on Chapter 3, this measure of centrality provides a proxy for the social capital of the case's creditor committee

Case Network: Cases with Highest Measures of Degree Centrality		
Case Name	**Filing Date**	**Degree Centrality**
Dura Automotive Systems, Inc.	10/30/2006	116
MTS, Inc. (Tower Records, Inc.)	2/9/2004	110
Delta Air Lines, Inc.	9/14/2005	107
Tower Automotive, Inc.	2/2/2005	101
UAL Corporation	12/9/2002	96
Trenwick Group Ltd.	8/20/2003	88
FLAG Telecom Holdings, Ltd.	4/12/2002	87
NTL Incorporated	5/8/2002	85
Alterra Healthcare Corp.	1/22/2003	83
Collins & Aikman Corporation	5/17/2005	82
National Equipment Services, Inc.	6/27/2003	81
Northwestern Corporation	9/14/2003	80
Metromedia Fiber Network, Inc.	5/20/2002	78
Navigator Gas Transport PLC	1/27/2003	78
AMERCO	6/20/2003	75
Northwest Airlines Corporation	9/14/2005	75
Romacorp, Inc.	11/6/2005	75
Exide Technologies, Inc.	4/14/2002	75
Global Crossing, Ltd.	1/28/2002	75
Key3Media Group, Inc.	2/3/2003	74
ITC-DeltaCom, Inc.	6/25/2002	73
Nutritional Sourcing Corporation	9/4/2002	73

Table 15: Case Network, Cases with Most Degree Centrality

Since case size, as measured by assets listed at the time of filing, is the most significant determinant of other bankruptcy variables, an analysis of case size with respect to degree centrality is warranted. The average degree centrality was 17.1, while the mean degree centrality was 9. There were a total of 17,747 ties in this network. The top 25 ranked by degree centrality have average assets of 5.8 billion, while average assets for the top 50% of cases is 4.7 billion. Average assets for the bottom half of cases when ranked by degree centrality is only 495 million. Moreover, the average assets of non-isolate cases is 3.5 billion while the average

assets of isolate cases is 373 million. Figure 5 plots degree centrality vs. the log of assets.

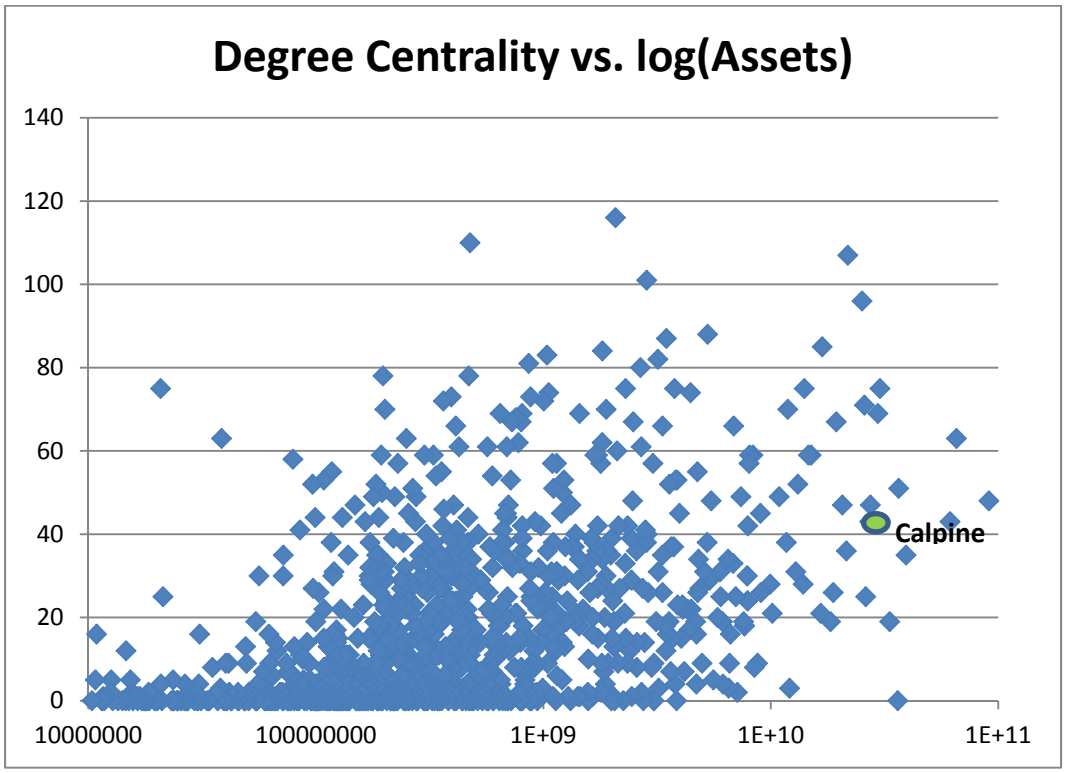

Figure 5: Plot of Degree Centrality vs. Assets

5.5.1.1. Decay Function Sensitivity Analysis

The previous results used a 5 year step decay function in the generation of the network. In order to test the sensitivity of the results to a different step decay function this section uses a 7-year step decay function and compares the results to those in the previous section. Figure 6 shows the resulting case network. It has 216 components, with a dominating component with 818 nodes (79% of nodes). There were only 4 additional components with 2 nodes. There were a total of 22,310 ties in this network. Table 16 shows the list of case with the highest measures of degree centrality. The average degree centrality for this network is 21.5, and the median is 12.

The resulting network has, as expected, a higher density of connections and higher overall levels of degree centrality. The findings are, however, consistent with those obtained using the 5 year decay function. The rest of this research will use the 5 year decay step function in its definition of network ties.

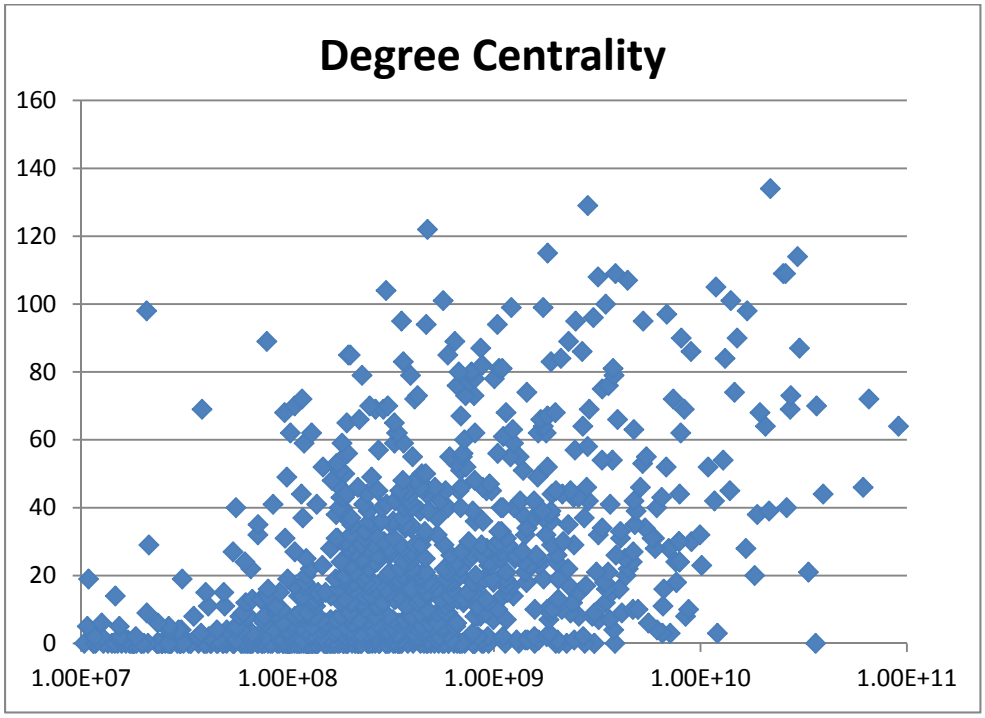

Figure 6: Plot of Degree Centrality vs. Assets (7-Year Decay)

Case Network: Cases with Highest Measures of Degree Centrality 7 yr		
Case Name	**Filing Date**	**Degree Centrality**
Dura Automotive Systems, Inc.	10/30/06	150
Delta Air Lines, Inc.	09/14/05	134
Lehman Brothers Holdings Inc.	09/15/08	132
Tower Automotive, Inc.	02/02/05	129
MTS, Inc. (Tower Records, Inc.) (2004)	02/09/04	122
Cooper-Standard Holdings, Inc.	08/03/09	115
General Growth Properties, Inc.	04/16/09	114
UAL Corporation	12/09/02	109
Pilgrim's Pride Corporation	12/01/08	109
Colonial BancGroup, Inc., The	08/25/09	109
Collins & Aikman Corporation	05/17/05	108
Imperial Capital Bancorp, Inc.	12/18/09	107
Washington Mutual, Inc.	09/26/08	106
R.H. Donnelley Corporation	05/28/09	105
Dayton Superior Corporation	04/19/09	104
Northwest Airlines Corporation	09/14/05	101
Finlay Enterprises, Inc.	08/05/09	101
FLAG Telecom Holdings, Ltd.	04/12/02	100
Chesapeake Corporation	12/29/08	99
Quebecor World (USA), Inc.	01/21/08	99
NTL Incorporated	05/08/02	98
Romacorp, Inc.	11/06/05	98
Lear Corporation	07/07/09	97

Table 16: Case Network, Cases with Most Degree Centrality

5.5.1.2. Small World Test

Next, the case network data was tested to determine whether the small world structure was present. As discussed in Chapter 3, small worlds are characterized by a high degree of clustering and short path length between any two nodes. A network's clustering coefficient (C) is defined as the degree to which a node's directly connected nodes are also connected with each other. This coefficient provides a measure for connectedness among neighbors of pairs of nodes that are already

connected. The characteristic path length (L) is defined as the average number of links in the shortest path between two nodes for all pairs of nodes. Also, from Chapter 3, the small world coefficient (Q) that is defined as:

$$Q = \frac{\frac{C_{Actual}}{C_{Random}}}{\frac{L_{Actual}}{L_{Random}}}$$

where $C_{Actual}$is the clustering coefficient of the actual network, C_{Random} is the clustering coefficient of a random network, L_{Actual} is the characteristic path length of the actual network, and L_{Random} is the characteristic path length of the random network.

By definition small worlds require networks to be fully connected. This means all nodes can be reached from any other node in the network. Since the case network is not fully connected, we can only test individual network components (i.e., portions of the network that are fully connected) for evidence of small world phenomenon. Thus, only the largest network component is included in the analysis. Fortunately the creditor committee case network, the largest component connects over 80% of all nodes. Also, the case network directional ties to be which, as explained in Chapter 3, had to be symmetrized prior to analysis. This is because non-directionality of ties is one of the key assumptions of the Watts-Strogartz model. The symmetrization procedure was performed using UCINET. Finally, the fact the case network is not a bipartite network means no correction is needed for imposed clustering topology.

The results of the small world test, using the formulas presented on Chapter 3 for the case network are presented on Table 17. Table 18 compares the results to other analyses of small world phenomena.

Case Network	
Small World Analysis	
Number of Nodes (*n*)	808
Number of Links	17,743
Average Degree (*k*)	21.96
ln(n)	6.69
ln(k)	3.09
C_{Actual}	0.57
C_{Random}	0.03
L_{Actual}	2.83
L_{Random}	2.17
C_{Actual}/C_{Random}	20.97
L_{Actual}/L_{Random}	1.31
Small World Coefficient: *Q*	16.06

Table 17: Case Network Small World Analysis

Case Network		
Small World Analysis		
Author	**Network**	**Q**
Kogut et al. (2001)	German Firms	20.38
Baum et al. (2003)	Canadian Invest. Banks '85-'90	10.78
Davis et al (2001)	Corporate Interlocks '99	4.54
This study	Creditor Committees	16.06

Table 18: Comparison of Small World Analyses

The case network shows evidence of the small world phenomenon. This means that when compared to a random network, the case network's exhibits a higher clustering coefficient in relation to its shortest average path connecting individual nodes. In practice, this small world characterization of the network topology tells us cases tend to cluster in groups and cases are interconnected by surprisingly short connections.

This result is intuitive, as one can expect clusters of cases around specific individual organizations serving on creditor committees in certain industries or types of companies. Thus, for example, one can expect a cluster of airline bankruptcies to emerge around committee service by the Airline Pilots Association and the Association of Flight Attendants. The same could be said about clusters of cases around committee service by the United Steel Workers of America or even the Simon Group—one of the largest lessors of commercial space to retail companies—. Yet these clusters are not isolated from one another. There are links that connect them. These ties are likely to be provided by financial firms, either investment companies with cross investments in multiple industries or trust companies providing trust services for publicly traded securities. An in depth analysis of cliques and subgroups in the network would help better elucidate the internal dynamics of the clusters. Such analysis is, however, beyond the scope of this dissertation.

In interpreting these results it is critical, however, to keep in mind the network tested for small world phenomena is not exactly the same as the case network defined in Figure 3. This is because of the symmetrization procedure required to perform the analysis. The symmetrized network has no directional ties and thus more recent cases are connected to older cases in an identical manner as an older case is connected to a more recent case. In this symmetrized network the interpretation of degree centrality, for example, would be very different from that of the original network, as it would no longer represent the accumulated social capital for the case but rather a measure of uniqueness of the case.[144]

[144] The degree centrality is likely to be an inverse measure of "uniqueness" of the case, meaning a low degree centrality would mean a highly unique case that shares very few creditor committee members with others.

5.5.2. Case Network Analysis: Calpine

A closer examination of Calpine's case helps to illustrate the network analysis of the case network. Calpine scored a degree centrality of 43. This indicates the 13 organizations and individuals who serve on Calpine's two creditors' committees served on an aggregate 43 other cases within the five years immediately previous to Calpine's bankruptcy filing. As defined on the case network, all committee interlocks for a case are aggregated, thus both interlocks for Calpine's unsecured creditors committee as well as those for the committee of equity holders are aggregated in its measure of degree centrality. Not only Calpine has 43 direct connections to other cases, but those many of those cases have direct connections among themselves. These connections can be visualized on Calpine's ego network (1-degree) on Figure 7.

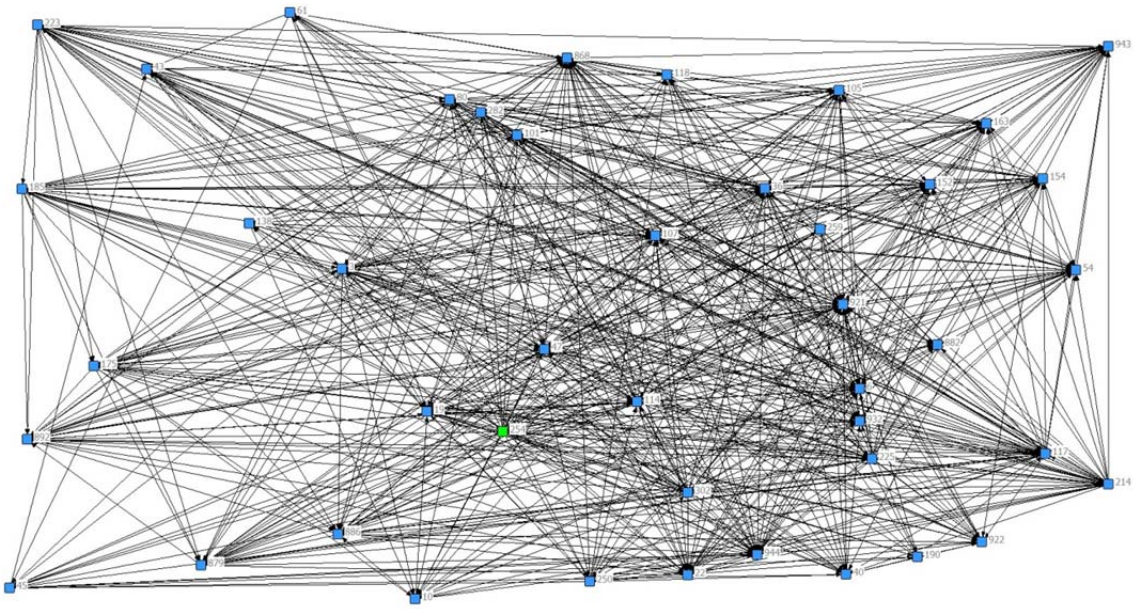

Figure 7: Calpine's Ego Network (1-Degree)

The ego network is defined as the network made out of all nodes directly connected to the ego (i.e. alters) plus all direct ties among those nodes. Analysis of the ego network reveals a highly dense network structure (size=43, ties=565, pairs=1806, density=31.28). Table 19 shows all cases with direct ties to the Calpine case on the case network (5 yr decay function). The average assets of Calpine's alters is 7.2 billion

Case Network: Calpine Alters		
Name	**Filing Date**	**Assets**
Calpine	12/20/05	27,216
Delphi Corporation	10/08/05	16,593
Northwest Airlines Corporation	09/14/05	14,042
ASARCO LLC	08/09/05	1,108
Tower Automotive, Inc.	02/02/05	2,846
Pegasus Satellite Communications, Inc.	06/02/04	1,814
RCN Corporation	05/27/04	2,346
Dan River, Inc. (2004)	03/31/04	466
FiberMark, Inc.	03/30/04	400
MTS, Inc. (Tower Records, Inc.)	02/09/04	476
ATX Communications, Inc.	01/15/04	179
Solutia Inc.	12/17/03	3,342
Aurora Foods Inc.	12/08/03	1,251
Northwestern Corporation	09/14/03	2,673
DVI, Inc.	08/25/03	1,672
Trenwick Group Ltd.	08/20/03	5,278
Loral Space & Communications Ltd.	07/15/03	2,693
Mirant Corporation	07/14/03	19,415
Top-Flite Golf Company, The	06/30/03	394
Westpoint Stevens, Inc. (2003)	06/01/03	1,369
NRG Energy, Inc.	05/14/03	10,884
Magellan Health Services, Inc. (2003)	03/11/03	1,004
Key3Media Group, Inc.	02/03/03	1,057
Alterra Healthcare Corp.	01/22/03	1,038
UAL Corporation	12/09/02	25,197
Case Network: Calpine Alters (cont.)		

US Airways Group, Inc. (2002)	08/11/02	8,025
Budget Group, Inc.	07/29/02	4,470
WorldCom, Inc.	07/21/02	103,914
ITC-DeltaCom, Inc.	06/25/02	878
Adelphia Communications Corp.	06/25/02	21,499
XO Communications, Inc.	06/17/02	7,930
Metromedia Fiber Network, Inc.	05/20/02	470
NTL Incorporated	05/08/02	16,834
Williams Communications Group, Inc.	04/22/02	5,992
Exide Technologies, Inc.	04/14/02	2,299
FLAG Telecom Holdings, Ltd.	04/12/02	3,477
Orbital Imaging Corp.	04/05/02	360
Adelphia Business Solutions, Inc.	03/27/02	1,889
Kellstrom Industries, Inc.	02/20/02	573
Hayes Lemmerz International, Inc.	12/05/01	2,811
Bethlehem Steel Corporation	10/15/01	5,467
Exodus Communications, Inc.	09/26/01	3,894
Loews Cineplex Entertainment	02/15/01	1,907
First Wave Marine, Inc.	02/05/01	123

Table 19: Calpine Alters in Case Network

The second part of the social network analysis of creditor committees in bankruptcy court involves the network created by individuals and organizations serving on these committees.

5.5.2. The Member Network

The member network is defined in Figure 8. This network represents the social ties among different committee members and allows us to determine the social characteristics of individual members. Unlike the case network, which included all cases in the dataset, the member network takes a snapshot of individual members serving in committees on a specific year and builds the social network for those

members using instances of committee service going back up to N years (where N is the defined by the tie decay function).

Thus, this network has a single mode (only creditor committee service interlocks are considered in connecting cases), connections are non-weighted (all ties are considered equal), and ties are non-directed (a tie affects both sending and receiving nodes equally). Provided the results from the sensitivity analysis in the previous section, the ties decay function was assumed to have a 5-year step function shape. No additional sensitivity analysis for tie decay was performed on the member networks. Like the case network on the previous section, member networks were generated by using code written for this purpose (see Appendix F) and analyzed using UCINET and NetView.

Since the member network only captures a snapshot of the data at a specific point in time a separate networks each year from 2004 to 2008 was generated. These five separate analyses should help determine the stability of the data through the period of interest. This is because social characteristics of individual members change over time as they serve in more cases or ties to older cases decay. The social characteristics of cases in the case network, on the other hand, do not change once all committees for that case have been appointed and all amendments, if any, have been filed.

Also, unlike the case network, generation of the member networks only uses data from the period of interest as historical data required for all the networks, including the 2004 member network, only goes back to 1999 when using a 5-year decay step function. Table 20 shows the summary statistics of the 2004- 2008 member networks.

In order to find out individual members with the most social capital in the member networks for the period 2004-2008, degree centrality was measured and recorded for each individual member for every year during that period of time. Table 20 shows the individual members with the highest degree centrality scores during that time period.

Member Network
1-Mode; Non-weighted,
Non-Directed Ties

Network Definitions:

- Nodes:
Individual and institutional members serving in creditor committees

- Ties:
Sender of a tie is a committee member who serves in a case with the member of the tie or has served in a case with the receiver of the tie within N years from a pre-determined date

Example:

Committee Membership

Case I (Jan/02 – Dec/03): A, B, E

Case II (Jan/05 – Dec/06): B, C

Case III (Jan/06 – Dec/08): C, D

Case IV (Jan/08 – Dec/09): A,C, F

Tie Decay = N years (5 years)

Network as of Dec.09

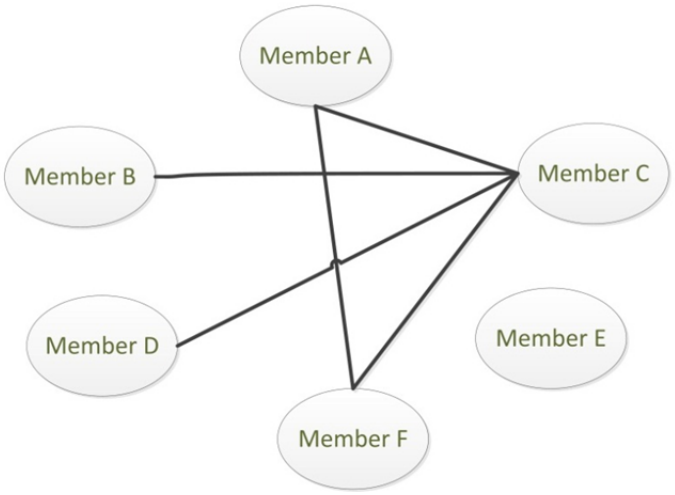

Figure 8: Member Network Definition

Member Network: Members with Highest Degree Centrality					
	2004	**2005**	**2006**	**2007**	**2008**
Bank of New York	326	265	282	188	183
HSBC	327	167	141	100	136
U.S. Bank N.A.	221	219	225	181	196
PBGC	144	186	188	135	147
Wilmington Trust	89	121	136	111	146
Wells Fargo	116	128	107	87	77
Simon Property	125	83	82	79	93
JP Morgan Chase	109	114	97	88	35
Deutsche Bank	109	109	94	80	78
United Steelworkers	102	102	71	43	43
Wachovia	84	84	69	55	55
Merrill Lynch	78	74	59	45	31

Table 20: Organizations with Highest Degree Centrality Member Network

5.5.2.1. Small World Test

Next, the member networks were tested for evidence of small world structure. Like the case network, the procedure for small world testing entails comparing the clustering coefficient and characteristic path length of the actual networks to those of random networks. Unlike the case network, however, the member networks have bipartite structures which overestimate the clustering coefficients. The procedure discussed in Chapter 3 was used to correct for bipartite structure. MAPLE[145] was used to execute the calculations. Table 21 provides a summary of the results of the small world test for the member networks uncorrected for its bipartite structure, while Table 22 provides the results for the corrected analysis..

[145] Mathematical software by MAPLESOFT.

	2004	**2005**	**2006**	**2007**	**2008**
Number of Nodes (*n*)	1133	1044	902	837	917
Number of Links	7096	6578	4742	3904	4828
Average Degree (*k*)	6.26	6.30	5.26	4.66	5.26
ln(n)	7.03	6.95	6.80	6.73	6.82
ln(k)	1.83	1.84	1.66	1.54	1.66
C_{Actual}	0.89	0.91	0.91	0.90	0.88
C_{Random}	0.0055	0.0060	0.0058	0.0056	0.0057
L_{Actual}	3.04	3.05	2.96	3.16	3.18
L_{Random}	3.83	3.78	4.10	4.37	4.11
C_{Actual}/C_{Random}	160.10	150.12	155.62	160.61	153.97
L_{Actual}/L_{Random}	0.79	0.81	0.72	0.72	0.78
Small World Coefficient: *Q*	201.61	185.86	215.63	222.05	198.57

Table 21: Summary Small World Tests for Member Networks Uncorrected

	2004	**2005**	**2006**	**2007**	**2008**
Number of Nodes (n)	1133	1044	902	837	917
Number of Cases (M)	71	68	50	46	62
Number of Links Actual	7096	6578	4742	3904	4828
Average Degree Actual	6.26	6.30	5.26	4.66	5.26
Cactual	0.89	0.91	0.91	0.90	0.88
Crandom	0.45	0.43	0.47	0.44	0.41
Lactual	3.04	3.05	2.96	3.16	3.18
Lrandom	3.14	3.41	3.18	3.22	3.32
cactual/crandom	1.97	2.11	1.93	2.03	2.16
lractual/crandom	0.97	0.89	0.93	0.98	0.96
Small World Coefficient: Q	2.03	2.36	2.07	2.07	2.25

Table 22: Summary Small World Tests for Member Networks Corrected

These results show that, as expected, the member networks do exhibit a strong small world phenomenon when uncorrected for their bipartite nature. This means the member networks do contain the combination of clustering—from due to the inherent structure of committees- as well as the existence of ties providing shorts

paths of communication among the different clusters. Once the analysis is corrected for the bipartite nature of the networks, the results fail to show a strong small world topology of the corrected network. This is because even though the characteristic paths of the corrected networks are short, clustering coefficients of the corrected networks are small.

These findings tell us that even though committee service does take place in the form of clusters (i.e., committees are by definition composed of clusters of individual members), there is no evidence individual members tend to consistently group themselves in teams that serve in different cases.

5.6. Summary of Findings: Creditor Committee Characteristics

This chapter presents the analysis of a large dataset of creditor committee participation observations. The first significant finding is the prominent role financial institutions play in creditor committees. Perhaps most importantly, this research reveals the high frequency of committee service for a relatively small number of individuals and institutions serving on creditor committees. The top 1% of these committee member account for over 15% of instances of committee service. Furthermore, repeat service in creditor committees is concentrated on cases with the most assets. Thus, over 70% of the bankruptcy cases in the top decile of cases, ranked by assets, had at least one of the top 1% individuals and institutions that served most often in creditor committees.

The analysis of the dynamic characteristics of the creditor committees revealed a significant amount of stability in the membership of creditor committees, with over half of all committees remaining unaltered throughout the life of the committees. A small number of outlier committees with significant instability in

their memberships, however, were observed. These cases of instability appear to be motivated by case specific drivers and thus need to be studied in detail in case studies.

The social network analysis of creditor committee data was divided in two: the study of the case network and the study of the member networks. The case network analysis revealed larger cases, as measured by assets at the time of bankruptcy, tended to have significant higher levels of degree centralities than smaller cases. The small world topology analysis of this network revealed the presence of small world phenomenon. Care should be taken in the interpretation of the small world phenomenon results as the network had to be modified in order to test it.

The analysis of the member networks helped identify the particular members that are most central, as measured by degree centrality, to the creditor committee social networks. By repeating the analysis for 5 separate years (2002-2008), this research further investigates the stability of the network and its key players. A small world test of these networks failed to find evidence of the strong presence of small world phenomena once the analysis was adjusted for the bipartite nature of the networks.

The following chapter in this dissertation investigates whether creditor committee variables have an effect on professional fees through the use of econometric models.

Chapter 6: Effects of Committee Variables on Professional Fees

6.1. INTRODUCTION

The previous chapter provided a descriptive analysis of creditor committees and computed social network characteristics of individual creditor committees. This chapter investigates whether those characteristics help explain professional fees in bankruptcy cases. As discussed on Chapter 3, professional fees provide a direct measure of cost of bankruptcy. Since the unit of measure of this variable is in dollars, it provides a clear and understandable measure of the costs of reorganization to firms. Furthermore, the sheer magnitude of professional fees—Calpine's professional fees, for example, exceeded 474 million dollars in that case alone—and the facility for the public to grasp those numbers makes it a commonly used metric in the bankruptcy policy debate. Recent evidence of abusive fee practices in large bankruptcy cases has also motivated an increased interest in the professional bankruptcy fees and the variables that drive them. This chapter presents econometric models of professional fees in which creditor committee appear as explanatory variables. It then uses linear regressions and the datasets presented on Chapter 4 to find out whether these variables help explain professional in large corporate bankruptcy cases.

This chapter begins with a section that will introduce the models used in the regressions. It is followed by a section discussion of the data used in this chapter. This discussion focuses in particular on the sample selection which has proven to be problematic in the literature of empirical bankruptcy studies. Next, the results of the regressions of the models are presented. Last, a short conclusion presents a brief discussion of the results.

6.2. METHODS

The basic model introduced in Chapter 4 is:

$$Key\ Bankruptcy\ Outcomes = f\left(\begin{array}{c} Creditor\ Committee\ Static\ Variables, \\ Creditor\ Committee\ Dynamic\ Variables, \\ Creditor\ Committee\ Social\ Variables, \\ Control\ Variables \end{array}\right) + \epsilon \quad (6.1)$$

The dependent variable in this model is professional fees incurred throughout the bankruptcy reorganization period as reported on 10K filings retrieved from the SEC website. As other empirical studies have consistently done,[146] the natural log of fees is used in the models.

The variables of interest are the creditor committee variables. A dummy variable DummyFin=1 if a financial firm is present on the case creditor committee of a case and DummyFin=0 otherwise. This dummy variable serves as a proxy for the static committee characteristics of the case. As discussed previously in this research, financial firms introduce a set of intrinsic committee characteristics—which include the likely presence of complex conflicts of interest—that differ significantly from most non-financial firm creditors.

After examining the creditor committee dynamic characteristics, i.e. observed changes of committees over time in the previous chapter there is sufficient evidence to show that most creditor committees are never amended. Further, those

[146] See for example Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."

committees that are amended are highly correlated to time of service—mostly members resigning after long periods of service- or to particular events in the case that drives the number of amendments (i.e., outliers). Therefore, including this variable in the model is likely to be problematic and add little to the analysis and understanding of creditor committees.

Finally, degree centrality on the case network is used as a proxy for the social variables of the case's committee. Degree centrality of a case provides a measure of social capital available to the case in the form of interlocks to other committees. These interlocks can be interpreted as a measure of the collective experience and access to outside resources accumulated by individual committee members through service, on previous and concurrent committees, in other cases. More importantly, for purposes of this research, degree centrality of an individual case provides a measure of the social liabilities individual committee members have and serve as a proxy for conflicts of interest that are likely to have an effect on professional fees. In other words, social embeddedness of repeat players causes conflict of interests that is theorized to results in higher fees in the case. The natural log of degree centrality is included in the model explaining professional fees.

The control variables included in the model seek to capture both "inherent case complexity"[147] as well as case specific variables. Many different variables have been used to provide a proxy for a case's inherent complexity. These include case size, as measured by the firm's assets listed on the bankruptcy filing, as well as measurements of the complexity of the firm's financial and operational structure. Some of the variables used in previous research include the ratio of debt to assets,

[147] For an in depth discussion of inherent case complexity see LoPucki and Doherty, "Professional Overcharging in Large Bankruptcy Reorganization Cases."

the ratio of secured debt to assets, and a variety of other financial measures. Employee count at the time of the bankruptcy filing has also been used as proxy for overall complexity as it is typically highly correlated to both financial and operational complexity of the firm. This study will use total number of employees as a proxy for financial and operational complexity of the firm. Therefore both total assets and number of employees at the time of the bankruptcy filing are used in this study as proxies for "inherent case complexity" and are thus included as control variables. The natural logs of both assets and employees are used in the regression equations.

It is important to recognize that most econometric studies of bankruptcy also control for the bankruptcy district where the case is filed. This is because different court venues have consistently been shown to affect case proceedings and outcomes. It should be noted that while recognizing the importance of controlling for filing district, most studies in the literature group vast numbers of districts in regressions studies. This is due to the fact many of these empirical investigations lack sufficient data points for districts other than Delaware and the Southern District of New York, and introducing control variables for other districts is impractical. In order to deal with districts with low numbers of filings, most researchers either severely constrain the number of districts from which observations are collected or simply group all data from districts different from Delaware and the Southern District of New York. This research will use the later technique, using two dummy variables one for cases filed in Delaware and another one for those cases filed in the Southern District of New York.

Forum shopping is another variable often times used as a control variable in professional fee regressions. Forum shopping, or venue shopping, is the

phenomenon of a case being filed in a different geographic region from the firm's headquarters, typically due to perceived benefits a different judicial district might provide the debtor.[148] Forum shopping has been found to be highly correlated with district of filing and thus appears to be an acceptable proxy for district.[149] By the same token, filing district is an acceptable proxy for forum shopping. Since the models in this dissertation already control for filing district, however, forum shopping variables are not included.

Finally, the model will include a trend variable that accounts for fee inflation during the period of interest.[150] The variable is coded as follows: cases filed in 1999 have a trend variable with a value of zero, cases filed in the year 2000 a value of 1, cases filed in 2001 a value of 2, and so on.

Including the committee characteristics and control variables discussed above, the model can be stated as follows:

$$Professional\ Fees = f\begin{pmatrix} Presence\ of\ Financial\ Firms\ Dummy, \\ Degree\ Centrality\ Measure, \\ Assets, Time, Number\ of\ Employees \\ District\ Dummies, Trend \end{pmatrix} + \epsilon \tag{6.2}$$

[148] There is substantial evidence that forum shopping is a common occurrence among large bankruptcy cases. For an extensive discussion of forum shopping see LoPucki, *Courting Failure: How Competition for Big Cases Is Corrupting the Bankruptcy Courts.*

[149] For a discussion of the relationship between the forum shopping and filing district variables see L.M. LoPucki and J.W. Doherty, "Delaware Bankruptcy: Failure in the Ascendancy," *The University of Chicago Law Review* 73, no. 4 (2006).

[150] This fee inflation accounts for prices increases in the provision of professional services which are likely to be different from the rate of inflation of the CPI. The model does assume, however, the rate of increases of professional fees rates is constant throughout the period of analysis.

Furthermore, previous literature has consistently modeled the natural log of fees as a linear function of the dependent variables. Therefore the model can be expressed as:

$$Professional\ Fees_i = \beta_0 + \beta_1\ PresenceFinancialFirms + \beta_2\ DegreeCentrality + \beta_3\ Assets + \beta_4\ \text{Time} + \beta_5\ \text{Employees} + \beta_6\ \text{DelawareDummy} + \beta_7\ \text{SoNYDummy} + \beta_8\ \text{Trend} + \mu_i \quad (6.2)$$

In addition to this model, regressions were also performed on a base model which does not include the variables of interest (Model I), and one that only included the variable of interest DegreeCentrality (Model II). The complete model on equation 6.2 is presented as Model III in the results.

6.3. DATA

Sample selection in bankruptcy outcome regressions has proven problematic in other studies in the literature. Each bankruptcy is unique and cases can take many different paths that make them difficult to compare to each other. Thus, for example, bankruptcy filings filed as under Chapter 11 cannot readily be compared to cases filed under Chapter 7 as the two processes are inherently different. Not only that, but cases originally filed as Chapter 11 and later converted to Chapter 7 are onto themselves basically different from cases originally filed under Chapter 7. Also, cases with occurrences of 363 section asset sales behave much differently than those without. Furthermore, prepackaged bankruptcies—i.e., where a plan of reorganization is negotiated prior to the filing—also exhibit dramatically different

outcome metrics. And then, there are specific characteristics of the case that can significantly affect outcome variables, such as the presence of mass tort issues (such as asbestos liabilities, presence of fraud as a contributing cause of the firm failure, and other tort causes), and even industry specific conditions that also have significant effects on outcome variables. Last, but not least, there is the issue of forum shopping and court specific effects that in most instances must to be controlled for. Not surprisingly some of the most cited studies in empirical bankruptcy use small and carefully constructed samples. Next two examples of data samples used in widely cited bankruptcy econometric studies will be examined in more detail.

The first data sample example is Bris et al (2006). In this study, the authors limits their sample to two judicial districts (Southern District of New York and Arizona) and examine over 10,000 business bankruptcies filed in those two districts over the period of 1995 through 2001. About half of those cases are subsequently dismissed or transferred to other district and are therefore dropped from the samples. Another 2,000 of the remaining cases are also deleted as they are consolidated into larger cases. Also, all prepackaged bankruptcies are eliminated. After all eliminations and consolidations, only 225 Chapter 11 cases remain (117 in Southern District of New York, and 108 cases in Arizona). The authors drop from their sample an additional 11 cases that had still not emerged from bankruptcy protection by the time their research was undertaken. The overall sample (214 Chapter 11 cases) is considered one of the largest samples of data—if not the largest- used in an empirical bankruptcy study. The actual number of observations used in the different models estimated was, however, smaller depending on the case information available for each model. Furthermore, this sample did not explicitly exclude observations

often discarded in other studies because of the issues previously identified in the literature (for example asbestos liabilities/fraud/other tort and Chapter 11 to Chapter 7 conversions). The models, however, do account for Chapter 11 to Chapter 7 conversions and the fact cases had been filed in two separate districts by using dummy variables for districts of filing in the models estimated.

The second example of sample selection is LoPucki et al. (2004) and LoPucki et al. (2008). Both of these data samples are used for estimating regression models explaining professional fees in bankruptcy of large public companies. Sample selection starts with a screening of Lopucki's Bankruptcy Research Database discussed in Chapter 5 from which 48 and 74 cases are used for the 2004 and the 2008 studies respectively. The sampling, however, was not random. It was limited to companies for which information was available and filed in a select number of districts. Though, not explicitly explained in the papers, the samples also appear to have been screened for Chapter 11 to 7 conversions, mass tort cases, and significant section 363 asset sales.[151]

The sample of cases selected for the regressions in this dissertation only includes cases that emerged as public companies and for which post-bankruptcy 10K reports were located on the SEC website. This screen in effect removed all Chapter 11 cases that were converted to Chapter 7, and cases with significant 363 section asset sales. Also, mass tort cases were also removed from the sample. The resulting sample has a total of 69 cases filed. Data collection was explained in detail in Chapter 4.

[151] Section 363 assets sales allow the debtor to sell assets held by the bankruptcy estate free and clear of any liabilities. These sales must be approved by the court, and can involve a substantial portion of the assets owned by the firm prior to the bankruptcy filing.

6.4. RESULTS

6.4.1. Descriptive Statistics

Table 23 presents the descriptive statistics for the variables used in the analysis. This table is important because it allows us to confirm that compared to the large universe of corporate bankruptcies and the relative small size of the sample used in the regressions, the observations appear to have a significant amount of variability as represented by the standard deviations of the individual variables, with the exception of the variable accounting for the participation of financial institutions in the creditor's committee. This means most of the observations have a value of one and therefore this variable might be problematic in the regression analysis.

Descriptive Statistics

	Mean	Std. Dev.	N
lnFees (Fees)	3.69	1.39	69
lnAssets (Assets)	7.37	1.95	69
lnTime (Time)	5.80	.89	69
lnEmp (Employees)	8.63	1.79	69
Trend	3.87	2.20	69
DEDistrict (dummy Delaware)	.35	.48	69
SoNYDistrict (Dummy So. NY)	.38	.49	69
lnCentr (Degree Centrality)	3.33	1.19	69
DummyFin (Dummy Participation of Financial Member in Cred. Comm.)	.88	.32	69

Table 23: Regression Variables Descriptive Statistics

Correlations

	lnFees	lnAssets	lntime	lnEmp	DEDistrict	SoNYDistrict	Trend	lnCentr	DummyFin
lnFees	1	.867**	.570**	.691**	-.093	-.158	-.202	.590**	.525**
lnAssets	.867**	1	.301*	.708**	-.206	-.103	-.206	.644**	.495**
lntime	.570**	.301*	1	.390**	.239*	-.200	-.272*	.074	.269*
lnEmp	.691**	.708**	.390**	1	.051	-.164	-.232	.440**	.427**
DEDistrict	-.093	-.206	.239*	.051	1	-.568**	-.347**	-.159	-.021
SoNYDistrict	-.158	-.103	-.200	-.164	-.568**	1	.184	-.095	-.185
Trend	-.202	-.206	-.272*	-.232	-.347**	.184	1	-.026	-.022
lnConn	.590**	.644**	.074	.440**	-.159	-.095	-.026	1	.519**
DummyFin	.525**	.495**	.269*	.427**	-.021	-.185	-.022	.519**	1

** Correlation is significantly different from zero at the 0.01 level (2-tailed).

* Correlation is significantly different from zero at the 0.05 level (2-tailed).

Table 24: Correlation Matrix of the Regression Variables

A summary of the correlations among all variables is shown on Table 24. Examination of this table reveals a significant correlation of two of our variables of interest, number of financial institutions present in the case's creditor committees (DummyFin) and the case's degree centrality (lnCentr), to the assets of the case (lnAssets).

These results are consistent with the observations on Chapter 5. First, the significant correlation among asset size (lnAssets), degree centrality of the case (lnConn), and the number of financial institutions serving on the case (DummyFin) is consistent with previous observations as large cases are more likely to include the institutions that most often serve in creditor committees and these tend to be financial institutions. Another significant correlation is that between the financial firms serving on committees and the natural log of the total number of employees employed by the debtor when the case is filed. This correlation is intuitive as employees is a proxy for the financial complexity of the firm and one can expect that more financially complex firms will have more complex relationships with financial firms and investors. In contrast, a firm with a simpler financial structure is more likely to have a higher proportion of its creditors be trade creditors instead of financial firms.

Among the variables of interest, the significant positive correlation between time (lnTime) and number of employees (lnEmp) was also expected. Again, as a proxy for financial and operational complexity, cases with a larger number of employees are intuitively more come complex and they should take longer to reorganize. Also, professional fees (lnFees) are directly related to case size and thus the strong correlation between the two is not surprising.

6.4.2. Regression Results

Determinants of 10-K Fees in Large Public Company Bankruptcies

	I		II		III	
lnAssets	0.521	***	0.462	***	0.458	***
lnTime	0.542	***	0.566	***	0.558	***
lnEmp	0.035		0.034		0.031	
DEDistrict	-0.075		-0.081		-0.081	
SoNYDistrict	-0.086		-0.066		0.057	
Trend	0.032		0.024		0.022	
lnCentr			0.140	^	0.127	^
DummyFin					0.138	
Constant	-3.659	***	-3.791	***	-3.768	***
R^2	0.861		0.869		0.870	
N	69		69		69	

*** p<0.001, **p<0.01, *p<0.05, ^p<0.10

Key variables are highlighted

Table 25: Models Summary

The first model (model I) is the base model, containing only control variables. As expected, assets and time explain a large amount of the variation in

the model. The R^2 of 0.861 is consistent with previous results in the literature.[152] None of the other control variables was found to be significant. Model II adds one of the variables of interest: the case degree centrality. As theorized, degree centrality has a positive and significant coefficient on the regression results (p=0.056). It should be acknowledged, however, that despite the statistical significance of the coefficient of degree centrality its impact in the model's ability to explain variance in the dependent variable is quite modest. Model III adds the dummy variable that accounts for participation of one or more financial institution on the case's creditor committee. After adding the new variable to the model degree centrality remains significant—barely—with a p of 0.10. The dummy of financial institution participation does have a positive coefficient but it is not significant. Given the problematic nature of the values of this variable in the sample, no conclusion can be drawn from this regression concerning the effect of participation of financial companies on professional fees.

Given the significant correlation coefficients on Table 24 between the variables of interest and some of the control variables it is important to investigate whether collinearity is an issue with the model. Table 26 presents the variance inflator factors (VIF) for all variables in all three models. From this table it becomes clear that collinearity is not a problem with the models.

[152] For example, LoPucki and Doherty (2008) found R^2 in their models of 0.80 to 0.88 with samples of similar size.

Collinearity Statistics: VIF Table

	I	II	III
lnAssets	2.549	3.403	3.441
lnTime	1.287	1.316	1.357
lnEmp	2.268	2.268	2.286
DEDistrict	1.282	1.300	1.318
SoNYDistrict	2.124	2.125	2.125
Trend	1.619	1.625	1.642
lnCentr		1.791	1.988
DummyFin			1.579

Table 26: Collinearity Statistics

6.5 CONCLUSIONS

This chapter presents a set of econometric models that investigate the effect of creditor committee variables on professional fees in large corporate bankruptcy cases. The models use professional fees reported on 10K filings to the SEC as the dependent variable the regression analyses that included a sample of 69 cases. The results confirm previous findings that size and time are dominant factors in explaining variance in professional fee models in corporate

bankruptcy[153]. They also confirm the high level of explanatory power of the models postulated in this chapter (over 88%). More importantly, the models confirm the theorized hypothesis that creditor committee variables have an effect on professional fees as this analysis provides evidence degree centrality of creditor committees in a bankruptcy case has a positive and significant effect on the professional fees in a bankruptcy case. Controlling for various dimensions of case complexity and overall size of the case, cases where committee members have dense links to other cases are more likely to pay higher professional fees than those that do not. These results are not surprising given previous empirical research results from LoPucki and Doherty that showed fee overpayment in large cases and the theoretical logic for highly connected cases to have conflicts of interest that allow such overpayments to take place. One plausible explanation for this is that as individual committee members have increasing numbers of social connections within the bankruptcy network, they are less likely to challenge fee applications from professionals they are likely to encounter in the future and avoid confrontational situations with judges and other repeat players that might tacitly benefit from large cases being brought to their districts.

It must be noted, however, that the effect of degree centrality only very modestly improves the models' ability to explain variation in the dependent variable. Furthermore, the models failed to show any effect of the participation of financial firms on professional fees. Given the issues noted with the variable's values in the observations used in the analysis the sample size could be enlarged and this strategy might provide more definitive conclusions.

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[153] Bris, Welch, and Zhu, "The Costs of Bankruptcy: Chapter 7 Liquidation Versus Chapter 11 Reorganization."; LoPucki and Doherty, "Professional Overcharging in Large Bankruptcy Reorganization Cases."

Chapter 7: Conclusions and Policy Implications

7.1. INTRODUCTION

In large corporate bankruptcy cases the Bankruptcy Code entrusts creditors' committees with a unique set of tools to help oversee the bankruptcy process. These committees, made out of the largest unsecured creditors in a case, have both statutory powers and the financials means to pursue this role. The rational is simple: no other party has as clear incentives as unsecured creditor committees to ensure the debtor, other creditors, professionals, and even the courts handle the case with fairness and efficiency. The purpose of this research is to determine the characteristics of those serving in creditors' committees and to find out whether differences in those characteristics help explain outcomes in the bankruptcy reorganization processes. This research specifically tests whether creditor committee variables have an effect on professional fees. This research generates in the literature that systematically collects a large sample of creditor committee participation observations and then analyses them.

This research focuses on the problematic nature of the fiduciary relationship between creditor committee members and the rest of creditors they represent. This is because committee members serve dual roles: a fiduciary responsibility towards other creditors and that of an individual claimant seeking to protect its own specific interests. The conflicts of interest that emerge from these competing roles of creditor committee members are likely to affect creditor committee performance and their ability to provide an effective oversight of the case. Recent has provided evidence of abusive fee practices in large corporate

bankruptcy cases which point at malfunctions in the oversight mechanisms of the process and, by extension, to failures of creditor committees' role.

Committee membership data was studied along three separate dimensions of analysis that are likely to point at conflicts of interest that interfere with the oversight functions of the committees. These are: individual characteristics of members serving on committees, changes of committees' composition over the life of the committees, and social characteristics of committees' interlocks. The dissertation then performed small world analysis on the social networks created by the creditor committee service interlock. Chapter 6 of this research offers a model for professional fees and tests whether creditor committee characteristics help explain differences in professional fees in the models. The Calpine Corporation bankruptcy case was used throughout the research to help illustrate the analysis.

This chapter first presents a list of findings followed by policy implications derived from those. The chapter ends with a short section of suggested further research.

7.2. FINDINGS

This dissertation finds that creditor committee service is highly concentrated among those serving the most often in bankruptcy cases with the most assets in large bankruptcy cases. In fact, the top one percent of the committee members that serves most often in creditors' committees account for almost 16% of all instances of committee services. More importantly, over 70% of cases in the top decile of the cases (ranked by assets) included at least one of these top 1% members in their committees. Thus, in practice, Congress has

entrusted a significant portion of the supervision of large corporate bankruptcy cases to a fairly small number of institutions that frequently serve in creditor committees in multiple bankruptcy cases. Several of these firms serving on large creditor committees served in dozens of cases during the period of study. Creditor committees in smaller cases, on the other hand, are dominated by firms and individuals that tend to serve in only one case. While not surprising, these findings, however, had not been documented in earlier research.

This research also finds that committee members identified as financial companies represent only 17.1% of all individual members, yet they account for 33.2% of all individual participations in creditor committees. Furthermore, the majority of repeat players are financial firms and they are almost always present is committees of large cases. Thus, large cases not only tend to have creditor committees with concentration of repeat players, but these tend to be financial firms. By the same token smaller cases tend to be dominated by non-financial firms and individuals.

Analysis of the data also reveals that over 50% of creditor committees are never amended and finds no systematic recompositions of the remaining committees. Thus, there is no evidence of significant numbers of committee members systematically joining and/or leaving in between the formation and the dismissal of the committees. These findings are counter intuitive as one would expect to observe a number of creditor committee members to drop in and out of committees as result of the inherent conflict of interest of committee service.

In the social network analysis, the creditor committee network was separated into two separate networks (case network and member network). The case network shows evidence of the small world phenomenon. This result was

expected as cases are likely to cluster around specific individual organizations serving on creditor committees in certain industries or types of companies. Thus, as explained in Chapter 5, one can expect a cluster of airline bankruptcies to emerge around committee service by the Airline Pilots Association and the Association of Flight Attendants. Yet these clusters are not isolated from one another. There are links that connect them. These ties are likely to be provided by financial firms, either investment companies with cross investments in multiple industries or trust companies providing trust services for publicly traded securities. An in depth analysis of cliques and subgroups in the network would help better explain the dynamics across the different clusters.

A test of small-world topology in the member creditor committee network found a strong small-world structure in the member social network but once the calculation for imposed network topology this dissertation failed to find strong small-world structure. These findings tell us that even though committee service does take place in the form of clusters (i.e. committees are by definition composed of clusters of individual members), there is no evidence individual members tend to consistently group themselves in teams that serve in different cases.

This dissertation develops a reduced form regression model for examining the relationship between bankruptcy professional fees and various factors explaining this including various creditor committee characteristics. Ordinary least squares method was used to test the statistical significance and direction of the relationship between professional fees and its determinants. The results of this analysis were consistent with previous findings in the literature, with case size and time from filing to confirmation as significant variables explaining a sizeable

variation of the dependent variable. The analysis also found a statistically significant and positive relationship between the social centrality measure of the creditor committee case and the professional fees paid. This finding points at conflicts of interest among the repeat creditor committee players and their constituents. This research, however, fails to find a significant relationship between the presence of financial firms in creditors' committees and professional fees paid in the case.

Aside from these findings, this research compiled a unique dataset on creditor committees and other bankruptcy variables with significant potential for future research.

Several weaknesses in this research must be acknowledged. First, this dissertation's focus on creditors' committee left out other key players in the bankruptcy process that are likely to have large impacts on the performance of creditors' committees and outcomes of the process. Second, while the dataset is the largest of its kind, the completeness of data outside of the Southern District of New York is questionable. Thus, this research's findings could be strengthened with more data. Third, limiting the fee analysis to firms with 10K fee data severely reduced the sample available for analysis and introduced biases proper to the sample. This is because 10K information is only available for cases that emerge as public companies, which tend to be larger firms and with characteristic that are likely to be different from those that do not emerge as public corporations. Fee data collected from court records would provide a much wider data sample and reduce these biases. Fourth, the regression models in Chapter 6 might benefit not only from a larger sample, but also from the introduction of control variables not available in the current dataset and used in fee models used

by other researchers. Research agenda proposed next addresses some of these weaknesses while proposing further projects that extend beyond the scope of this dissertation.

7.3. FURTHER RESEARCH

There are several research projects that emerge from this research. The first undertaking could involve a broader sociological study of bankruptcy that includes all the relevant parties involved the reorganization process. Once all the components of the bankruptcy reorganization are taken into account—committee members, attorneys, financial advisors, and even judges—one can expect to find a social network that is highly dense and very likely to have an effect on bankruptcy outcomes. This new social network could also be tested for small world phenomenon, which could in turn better explain how both professionals and committee members interact and influence outcomes of different cases. This research would be comparable to similar studies done in the film industry and Broadway musicals productions that include not just actors or directors, but all other parties involved in the production of the films and musicals (including actors, directors, producers, and other relevant players). Such research would not only provide a much better understanding of the bankruptcy reorganization of large corporations, but also contribute to the current academic debate on professional fees and venue shopping. All the data necessary for that study has already been collected, and the methods used are very similar to the ones used in this research.

Another study that could follow this research is a focused study on the role of creditor committees in cases resulting in significant asset sales (363 sales). This study would involve the selection of relevant cases, the collection of relevant empirical case data for those cases (most of which has already been collected in this dissertation), and the qualitative information relating to the conditions of the sale.

Also, case studies should be conducted on bankruptcy cases with very high frequency of creditor committee amendments. Such study would help understand the circumstances involved in these committees' recompositions and shed light in the overall functioning of creditor committees. A sample of 3-5 cases can be easily selected using the data collected in this dissertation.

A fourth research project that emerges from this research, is to explore the role unions play in bankruptcy proceedings via their participation in creditor committees. As noted earlier in this research, as a group labor unions are the most frequent non-financial participants in creditor committees. Most of the empirical data needed for that study has also already been collected in this research.

A fifth project involves a clique and subgroup analysis in the case network, as such analysis is likely to reveal further insights into the internal dynamics and network topology of bankruptcy cases.

A final research project that emerges from this dissertation is a focused look at the ad-hoc creditor committees, their influence of case outcomes, their effect on fees (both directly and indirectly), and their membership.

While a rich research agenda arises from this dissertation, there are also specific policy recommendations that emerge. The next section of this chapter lists these policy recommendations.

7.4. POLICY RECOMMENDATIONS

The first policy recommendation addresses the data collection process that was required in this research. This is because despite the fact most court filings in bankruptcy cases are public and scanned in an electronic format, their practical availability remains problematic. The electronic court filing system (PACER) is cumbersome, outdated, and expensive. More importantly, the system lacks a modern search engine that would make all the information contained in its files readily accessible. Shortcomings of the system pose grave limitations on the information available to the public and researchers. PACER inadequacies are not the result of insurmountable technological limitations but rather it is a policy choice. In addition to greater transparency from PACER, the U.S. Trustee should compile and make publicly available all creditor committee information it handles. At the very least, U.S. Trustee offices around the country should make an effort to standardize the formatting of the documents they file with individual bankruptcy districts, as permitted by local rules.

The second policy recommendation addresses the finding that Congress has entrusted a significant portion of the supervision of large corporate bankruptcy cases to a fairly small number of institutions that frequently serve in creditor committees in multiple bankruptcy cases.

Moreover, many of these repeat members in creditors' committees are financial institutions serving as indenture trustees of publicly traded unsecured notes. In other words, these institutions are often not the beneficial owners of the claims against the bankrupt company but rather serve as administrative trustees of notes owned by third parties. Thus, as trustees, their motivation is driven by the

contractual trust obligation to the beneficial owners and not by any financial incentives directly derived from the actual outcomes of the cases. What is more, the contractual terms of the trustee obligation often make it difficult and/or impractical for minority beneficial owners to have much leverage over how these trustees work on their behalf in bankruptcy cases. Perhaps more importantly, the large scale consolidation of financial firms in the United States over the last 20 years has merged some of the most active debenture trustees into large diversified financial conglomerates. This ownership structure poses important questions as the inherent conflicts of interest debentures trustees face in the absence of effective governance mechanisms by beneficial owners.

Even when not serving as indenture trustees, financial firms holding claims against bankrupt firms often have to deal with other conflicts of interests that undermine their role in committees. First, in financial firms the net risk exposure to a bankrupt firm is often different from that derived solely from ownership of direct claims against the debtor. This is because of the pervasive availability of third party derivative contracts and active firm-wide risk management in most modern financial firms. Thus, the largest holders of claims against a firm, which is the metric used for selection for committee service, might actually have much smaller—and even negative—net exposures to the debtor.

Second, consolidated financial firms often offer services that inherently conflict with their roles as committee members. Thus, for example, many firms serving on committees often continue trading claims against the debtor throughout the reorganization process. Perhaps as importantly, these financials firms often have competing fiduciary responsibilities with other parties with financials stakes in the case. Some of these conflicts of interest might affect the outcome of the

case but many of these impose can costs on the debtor, other stakeholders, and even third parties. Some of these conflicts of interest, particularly those that arise from access to non-public information through committee membership, are mitigated with the use of internal information screens that separate committee service from the rest of the firm. These screens, however, have limited outside supervision and no reporting requirements.

Finally, the use of hedging investment strategies, now common not just among specialized hedge funds but also among large financial institutions, involves a significant diversification of investments across the capital structure of the firms. This means financial firms serving on creditor committees because of their holdings of unsecured claims might also hold significant claims in different class from that represented by the committee. Any holdings of either more senior, or less senior, claims against the assets of the debtor create a direct conflict of interest that is usually ignored by the courts and the U.S. Trustee.

Despite the fact the results of the empirical test on Chapter 6 proved inconclusive in determining whether the presence of financials firms has an effect on professional fees, there appears to be enough theoretical logic to further study the effect of such presence in corporate bankruptcy cases.

Last, repeated committee service across different cases with the same players, including other committee members, as well as judges and professionals, introduce social constrains of behavior. Thus, for example, a financial firm routinely serving on committees might choose not to antagonize a judge or a professional that it is likely to encounter in the future case. Repeated committee service introduces a kind of conflict of interests that information screens cannot address.

The data also reveals the low frequency of amendments to committees after they are formed. Thus, there is no evidence of systematic abuse of committee membership by members who join committees in order to gain inside information and then leave to trade claims on the debtor. Even though this finding appears to reassure concerns about the trading of claims based on inside information after committee service, it might also be point at potential failures of information screens. This is because, given the possibility of abuses of information screens, members would not have to leave committees in order to profit from inside information.

One could argue the current bankruptcy code is somewhat naïve in its handling of creditor committee selection. This is particularly true of large cases. First, creditor committee member are first and foremost representatives of a whole class of creditors and thus their incentives should be as clearly aligned as possible with those of the rest class. For practical purposes this means creditor committee member should be selected not on the basis of gross holdings of claims in the creditor class, but rather based on the net holdings in the creditor class. These net holdings calculations should take into account any offsetting assets or contracts they have with third parties. Second, members of the creditors' committees should disclose all their holdings across the capital structure of the debtor to insure there are no blatant conflicts of interests with other classes of creditors. Third, the U.S. Trustee should only appoint beneficial owners of securities willing and ready to serve and avoid indenture trustees representing large numbers of note holders. The reason for this recommendation is that financial firms serving on creditor committees often serve not as beneficial owners of the claims but as indenture trustees for claims against the bankrupt firm. The reasoning behind this

recommendation is that indenture trustee contracts appear not to include the proper governance oversight of these trustees. Alternatively, indenture trustee contracts should include governance provisions that would insure effective oversight by principals during bankruptcy proceedings. Furthermore, the court should require a full disclosure of all potential conflicts of interest a potential committee member might have with respect to the case and actively investigate any disclosure.

The net effect of these suggestions would be to improve the monitoring of repeat players in the committees and research whether replacing them with more independent members whose interests are better aligned with those who comprise the rest of unsecured creditors. These committees would have fewer inherent conflicts of interest and be much more likely to protect minority holders of unsecured claims. A significant number of smaller—yet representative—holders of claims in the committees would also help protect the case from potential hijacking of the case by a few large holders of unsecured claims. Such hijackings often end in large asset sales or plans of reorganizations that might allow these large holders to appropriate value from other claimants. By emphasizing the concept of “representative membership” of committees, versus one based solely based on the size of claim holdings, creditor committees would be more likely to have incentives better aligned with those of the rest of creditors in their class. Creditor committees would then be more likely to play the role of “bankruptcy watchdog”, as originally envisioned on the Bankruptcy Code.

Appendices

APPENDIX A: U.S. CODE TITLE 11 CHAPTER 11 SECTION 1102

United States Code Title 11 Chapter 11 Section 1102

TITLE 11--BANKRUPTCY

CHAPTER 11--REORGANIZATION

SUBCHAPTER I--OFFICERS AND ADMINISTRATION

Sec. 1102. Creditors' and equity security holders' committees

(a)(1) Except as provided in paragraph (3), as soon as practicable after the order for relief under chapter 11 of this title, the United States trustee shall appoint a committee of creditors holding unsecured claims and may appoint additional committees of creditors or of equity security holders as the United States trustee deems appropriate.

(2) On request of a party in interest, the court may order the appointment of additional committees of creditors or of equity security holders if necessary to assure adequate representation of creditors or of equity security holders. The United States trustee shall appoint any such committee.

(3) On request of a party in interest in a case in which the debtor is a small business debtor and for cause, the court may order that a committee of creditors not be appointed.

(4) On request of a party in interest and after notice and a hearing, the court may order the United States trustee to change the membership of a committee appointed under this subsection, if the court determines that the change is necessary to ensure adequate representation of creditors or equity security holders. The court may order the United States trustee to increase the number of members of a committee to include a creditor that is a small business concern (as described in section 3(a)(1) of the Small Business Act), if the court determines that the creditor holds claims (of the kind represented by the committee) the aggregate amount of which, in comparison to the annual gross revenue of that creditor, is disproportionately large.

(b)(1) A committee of creditors appointed under subsection (a) of this section shall ordinarily consist of the persons, willing to serve, that hold the seven largest claims against the debtor of the kinds represented on such committee, or of the members of a committee organized by creditors before the commencement of the case under this chapter, if such committee was fairly chosen and is representative of the different kinds of claims to be represented.

(2) A committee of equity security holders appointed under subsection (a)(2) of this section shall ordinarily consist of the persons, willing to serve, that hold the

seven largest amounts of equity securities of the debtor of the kinds represented on such committee.

(3) A committee appointed under subsection (a) shall--

(A) provide access to information for creditors who--

(i) hold claims of the kind represented by that committee; and

(ii) are not appointed to the committee;

(B) solicit and receive comments from the creditors described in subparagraph (A); and

(C) be subject to a court order that compels any additional report or disclosure to be made to the creditors described in subparagraph (A).

(Pub. L. 95-598, Nov. 6, 1978, 92 Stat. 2626; Pub. L. 98-353, title III, Sec. 499, July 10, 1984, 98 Stat. 384; Pub. L. 99-554, title II, Sec. 221, Oct. 27, 1986, 100 Stat. 3101; Pub. L. 103-394, title II, Sec. 217(b), Oct. 22, 1994, 108 Stat. 4127; Pub. L. 109-8, title IV, Secs. 405, 432(b), Apr. 20, 2005, 119 Stat. 105, 110.)

Historical and Revision Notes

legislative statements

Section 1102(a) of the House amendment adopts a compromise between the House bill and Senate amendment requiring appointment of a committee of creditors holding unsecured claims by the court; the alternative of creditor committee election is rejected.

Section 1102(b) of the House amendment represents a compromise between the House bill and the Senate amendment by preventing the appointment of creditors who are unwilling to serve on a creditors committee.

senate report no. 95-989

This section provides for the election and appointment of committees. Subsection (c) provides that this section does not apply in case of a public company, as to which a trustee, appointed under section 1104(a) will have responsibility to administer the estate and to formulate a plan as provided in section 1106(a).

There is no need for the election or appointment of committees for which the appointment of a trustee is mandatory. In the case of a public company there are likely to be several committees, each representing a different class of security holders and seeking authority to retain accountants, lawyers, and other experts,

who will expect to be paid. If in the case of a public company creditors or stockholders wish to organize committees, they may do so, as authorized under section 1109(a). Compensation and reimbursement will be allowed for contributions to the reorganization pursuant to section 503(b) (3) and (4).

house report no. 95-595

This section provides for the appointment of creditors' and equity security holders' committees, which will be the primary negotiating bodies for the formulation of the plan of reorganization. They will represent the various classes of creditors and equity security holders from which they are selected. They will also provide supervision of the debtor in possession and of the trustee, and will protect their constituents' interests.

Subsection (a) requires the court to appoint at least one committee. That committee is to be composed of creditors holding unsecured claims. The court is authorized to appoint such additional committees as are necessary to assure adequate representation of creditors and equity security holders. The provision will be relied upon in cases in which the debtor proposes to affect several classes of debt or equity holders under the plan, and in which they need representation.

Subsection (b) contains precatory language directing the court to appoint the persons holding the seven largest claims against the debtor of the kinds represented on a creditors' committee, or the members of a prepetition committee organized by creditors before the order for relief under chapter 11. The court may continue prepetition committee members only if the committee was fairly chosen and is representative of the different kinds of claims to be represented. The court is restricted to the appointment of persons in order to exclude governmental holders of claims or interests.

Paragraph (2) of subsection (b) requires similar treatment for equity security holders' committees. The seven largest holders are normally to be appointed, but the language is only precatory.

Subsection (c) authorizes the court, on request of a party in interest, to change the size or the membership of a creditors' or equity security holders' committee if the membership of the committee is not representative of the different kinds of claims or interests to be represented. This subsection is intended, along with the nonbinding nature of subsection (b), to afford the court latitude in appointing a committee that is manageable and representative in light of the circumstances of the case.

References in Text

Section 3(a)(1) of the Small Business Act, referred to in subsec. (a)(4), is classified to section 632(a)(1) of Title 15, Commerce and
Trade.

Amendments

2005--Subsec. (a)(3). Pub. L. 109-8, Sec. 432(b), inserted ``debtor'' after ``small business''.

Subsec. (a)(4). Pub. L. 109-8, Sec. 405(a), added par. (4).

Subsec. (b)(3). Pub. L. 109-8, Sec. 405(b), added par. (3).

1994--Subsec. (a). Pub. L. 103-394 substituted ``Except as provided in paragraph (3), as'' for ``As'' in par. (1) and added par. (3).

1986--Subsec. (a). Pub. L. 99-554, Sec. 221(1), amended subsec. (a) generally, substituting ``chapter 11 of this title, the United States trustee shall appoint a committee of creditors holding unsecured claims and may appoint additional committees of creditors or of equity security holders as the United States trustee deems appropriate'' for ``this chapter, the court shall appoint a committee of creditors holding unsecured claims'' in par. (1) and ``United States trustee'' for ``court'' in par. (2).

Subsec. (c). Pub. L. 99-554, Sec. 221(2), struck out subsec. (c) which read as follows: ``On request of a party in interest and after notice and a hearing, the court may change the membership or the size of a committee appointed under subsection (a) of this section if the membership of such committee is not representative of the different kinds of claims or interests to be represented.''

1984--Subsec. (b)(1). Pub. L. 98-353 substituted ``commencement of the case'' for ``order for relief''.

Effective Date of 2005 Amendment

Amendment by Pub. L. 109-8 effective 180 days after Apr. 20, 2005, and not applicable with respect to cases commenced under this title before such effective date, except as otherwise provided, see section 1501 of Pub. L. 109-8, set out as a note under section 101 of this title.

Effective Date of 1994 Amendment

Amendment by Pub. L. 103-394 effective Oct. 22, 1994, and not applicable with respect to cases commenced under this title before Oct. 22, 1994, see section 702 of Pub. L. 103-394, set out as a note under section 101 of this title.

Effective Date of 1986 Amendment

Effective date and applicability of amendment by Pub. L. 99-554 dependent upon the judicial district involved, see section 302(d), (e) of Pub. L. 99-554, set out as a note under section 581 of Title 28, Judiciary and Judicial Procedure.

Effective Date of 1984 Amendment

Amendment by Pub. L. 98-353 effective with respect to cases filed 90 days after July 10, 1984, see section 552(a) of Pub. L. 98-353, set out as a note under section 101 of this title.

APPENDIX B: U.S. CODE TITLE 11 SECTION 103

United States Code Title 11 Chapter 11 Section 1103

TITLE 11--BANKRUPTCY

CHAPTER 11--REORGANIZATION

SUBCHAPTER I--OFFICERS AND ADMINISTRATION

Sec. 1103. Powers and duties of committees

(a) At a scheduled meeting of a committee appointed under section 1102 of this title, at which a majority of the members of such committee are present, and with the court's approval, such committee may select and authorize the employment by such committee of one or more attorneys, accountants, or other agents, to represent or perform services for such committee.

(b) An attorney or accountant employed to represent a committee appointed under section 1102 of this title may not, while employed by such committee, represent any other entity having an adverse interest in connection with the case. Representation of one or more creditors of the same class as represented by the committee shall not per se constitute the representation of an adverse interest.

(c) A committee appointed under section 1102 of this title may--

(1) consult with the trustee or debtor in possession concerning the administration of the case;

(2) investigate the acts, conduct, assets, liabilities, and financial condition of the debtor, the operation of the debtor's business and the desirability of the continuance of such business, and any other matter relevant to the case or to the formulation of a plan;

(3) participate in the formulation of a plan, advise those represented by such committee of such committee's determinations as to any plan formulated, and collect and file with the court acceptances or rejections of a plan;

(4) request the appointment of a trustee or examiner under section 1104 of this title; and

(5) perform such other services as are in the interest of those represented.

(d) As soon as practicable after the appointment of a committee under section 1102 of this title, the trustee shall meet with such committee to transact such business as may be necessary and proper.

(Pub. L. 95-598, Nov. 6, 1978, 92 Stat. 2627; Pub. L. 98-353, title III, Secs. 324, 500, July 10, 1984, 98 Stat. 358, 384.)

Historical and Revision Notes

senate report no. 95-989

This section defines the powers and duties of a committee elected or appointed under section 1102.

Under subsection (a) the committee may, if authorized by the court, employ one or more attorneys, accountants, or other agents to represent or perform services for the committee. Normally one attorney should suffice; more than one may be authorized for good cause. The same considerations apply to the services of others, if the need for any at all is demonstrated.

Under subsections (c) and (d) the committee, like any party in interest, may confer with the trustee or debtor regarding the administration of the estate; may advise the court on the need for a trustee under section 1104(b). The committee may investigate matters specified in paragraph (2) of subsection (c), but only if authorized by the court and if no trustee or examiner is appointed.

house report no. 95-595

Subsection (a) of this section authorizes a committee appointed under section 1102 to select and authorize the employment of counsel, accountants, or other agents, to represent or perform services for the committee. The committee's selection and authorization is subject to the court's approval, and may only be done at a meeting of the committee at which a majority of its members are present. The subsection provides for the employment of more than one attorney. However, this will be the exception, and not the rule; cause must be shown to depart from the normal standard.

Subsection (b) requires a committee's counsel to cease representation of any other entity in connection with the case after he begins to represent the committee. This will prevent the potential of severe conflicts of interest.

Subsection (c) lists a committee's functions in a chapter 11 case. The committee may consult with the trustee or debtor in possession concerning the administration of the case, may investigate the acts, conduct, assets, liabilities and financial condition of the debtor, the operation of the debtor's business, and the desirability of the continuance of the business, and any other matter relevant to the case or to the formulation of a plan. The committee may participate in the formulation of a plan, advise those it represents of the committee's recommendation with respect to any plan formulated, and collect and file acceptances. These will be its most important functions. The committee may also determine the need for the appointment of a trustee, if one has not previously been appointed, and perform such other services as are in the interest of those represented.

Subsection (d) requires the trustee and each committee to meet as soon as practicable after their appointments to transact such business as may be necessary and proper.

Amendments

1984--Subsec. (b). Pub. L. 98-353, Secs. 324, 500(a), substituted ``An attorney or accountant'' for ``A person'', substituted ``entity having an adverse interest'' for ``entity'', and inserted provision that representation of one or more creditors of the same class as represented by the committee shall not per se constitute the representation of an adverse interest.

Subsec. (c)(3). Pub. L. 98-353, Sec. 500(b)(1), substituted ``determinations'' for ``recommendations'', and ``acceptances or rejections'' for ``acceptances''.

Subsec. (c)(4). Pub. L. 98-353, Sec. 500(b)(2), struck out ``if a trustee or examiner, as the case may be, has not previously been appointed under this chapter in the case'' after ``section 1104 of this title''.

Effective Date of 1984 Amendment

Amendment by Pub. L. 98-353 effective with respect to cases filed 90 days after July 10, 1984, see section 552(a) of Pub. L. 98-353, set out as a note under section 101 of this title.

APPENDIX C: CREDITOR COMMITTEE ACCEPTANCE FORM

OFFICE OF THE UNITED STATES TRUSTEE FOR THE
SOUTHERN DISTRICT OF NEW YORK
33 WHITEHALL STREET, 21ST FLOOR
NEW YORK, NEW YORK 10004
Tel. No. (212) 510-0500
Telecopy No. (212) 668-2255

CREDITORS' COMMITTEE ACCEPTANCE FORM

Re: **NAME OF DEBTOR(S)**
Case Nos.
(Jointly Administered)

PLEASE TYPE OR PRINT CLEARLY

A. UNSECURED CREDITOR'S NAME, ADDRESS AND TELEPHONE NUMBER:

_____

_____

_____

B. NAME OF REPRESENTATIVE FOR A; ADDRESS AND TELEPHONE NUMBER, IF DIFFERENT:

_____

_____

_____

C. AMOUNT OF UNSECURED CLAIM: _____

1. **IDENTIFY THE SPECIFIC DEBTOR(S) AGAINST WHICH THE CLAIM IS ASSERTED: FAILURE TO IDENTIFY THE DEBTOR(S) MAY REDUCE THE LIKELIHOOD OF APPOINTMENT**

_____

D. TYPE OF CLAIM (i.e., Trade (Specify Type), Bank, Institutional, Note, etc. Noteholders wishing to serve as fiduciaries on any statutory committee are advised that they may not trade while they are committee members. By submitting this form, noteholders are agreeing to this prohibition):

_____

E. IF CREDITOR HAS PROPERTY OF THE DEBTOR IN ITS POSSESSION, HAS A SECURED CLAIM, OR HAS MADE A UCC 2-702 RECLAMATION, PLEASE STATE:

_____

F. IF HOLDER OF CLAIM IS AN INSIDER, e.g. PARTNER, SHAREHOLDER, OFFICER OR DIRECTOR OF THE DEBTOR, OR A PERSON IN CONTROL OF THE DEBTOR, STATE POSITION:

_____

G. IF HOLDER OF CLAIM IS RELATED TO AN INSIDER, e.g. PARTNER, SHAREHOLDER, OFFICER OR DIRECTOR OF THE DEBTOR, OR A PERSON IN CONTROL OF THE DEBTOR, STATE RELATIONSHIP:

_____

H. IF CREDITOR IS BOUND BY A "LOCKUP" AGREEMENT, PLEASE ATTACH A COPY OF THE AGREEMENT.

DATED: _____
SIGNATURE _____

KINDLY ANSWER ALL QUESTIONS SO THAT THIS FORM CAN BE PROCESSED PROPERLY WITHOUT DELAY. PLEASE **TYPE OR PRINT** CLEARLY AND RETURN TO THE REPRESENTATIVE OF THE UNITED STATES TRUSTEE AT THE ORGANIZATIONAL MEETING. **THIS IS NOT A PROOF OF CLAIM FORM. PROOFS OF CLAIM ARE FILED WITH THE CLERK OF THE BANKRUPTCY COURT, NOT WITH THE UNITED STATES TRUSTEE.**

APPENDIX D: CALPINE PACER COMMITTEE FILINGS

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re	:	
	:	
	:	
CALPINE CORPORATION, et. al.,	:	Case No. 05 - 60200 (BRL)
	:	
	:	
	:	
Debtor.	:	
		(Chapter 11)

(Jointly Administered)

APPOINTMENT OF COMMITTEE OF UNSECURED CREDITORS

Pursuant to Section 1102(a) and 1102(b) of the Bankruptcy Code, the following creditors of the above-captioned debtors being among the largest unsecured claimants who are willing to serve are appointed to the committee of unsecured creditors:

1. Wilmington Trust Co.
   520 Madison Avenue
   New York, NY 10022
   Attn: James McGinley
   Tel. No. (212) 415-0522

2. HSBC Bank USA, National Association
   10 East 40th Street
   New York, NY 10016-0200
   Attn: Sandra E. Horwitz
   Tel. No. (212) 525-1300

3. Franklin Advisers, Inc.
   One Franklin Parkway
   San Mateo, CA 94403
   Attn: Richard Kuersteiner
   Tel. No. (650) 312-4525

4. SPO Partners & Co.
591 Redwood Highway, Suite 3215
Mill Valley, CA 94941
Attn: William J. Patterson
Tel. No. (415) 383-6600

5. Amerada Hess Corporation
1185 Avenue of the Americas
New York, NY 10036
Attn: Jonathan C. Stein & Charles F. Cerria
Tel. No. (212) 536-8252

6. TransCanada Pipelines Limited,
TransCanada Pipelines Tower
450 First Street, S.W.
Calgary, Alberta
Canada
T2P 5H1
Attn: Garry Lamb
Tel. No. (403) 920-2727

7. Acadia Power Partners, LLC
2030 Donahue Ferry Road
Pineville, LA 71360
Attn: S. H. Chariton, III
Tel. No. (318) 484-7729

Dated: New York, New York
January 9, 2006

DEIRDRE A. MARTINI
UNITED STATES TRUSTEE

By: /s/ Paul Schwartzberg
PAUL SCHWARTZBERG (PKS 9129)

33 Whitehall Street, 21st Floor
New York, New York 10004
Tel. No. (212) 510-0500

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re	:	
CALPINE CORPORATION, et. al.,	:	Case No. 05 - 60200 (BRL)
Debtor.	:	(Chapter 11)

(Jointly Administered)

AMENDED APPOINTMENT OF COMMITTEE OF UNSECURED CREDITORS

Pursuant to Section 1102(a) and 1102(b) of the Bankruptcy Code, the following creditors of the above-captioned debtors being among the largest unsecured claimants who are willing to serve are appointed to the committee of unsecured creditors:

1. Wilmington Trust Co.
   520 Madison Avenue
   New York, NY 10022
   Attn: James McGinley
   Tel. No. (212) 415-0522

2. HSBC Bank USA, National Association
   10 East 40th Street
   New York, NY 10016-0200
   Attn: Sandra E. Horwitz
   Tel. No. (212) 525-1300

3. Franklin Advisers, Inc.
   One Franklin Parkway
   San Mateo, CA 94403
   Attn: Richard Kuersteiner
   Tel. No. (650) 312-4525

4. SPO Partners & Co.
591 Redwood Highway, Suite 3215
Mill Valley, CA 94941
Attn: William J. Patterson
Tel. No. (415) 383-6600

5. Amerada Hess Corporation
1185 Avenue of the Americas
New York, NY 10036
Attn: Jonathan C. Stein & Charles F. Cerria
Tel. No. (212) 536-8252

6. TransCanada Pipelines Limited,
TransCanada Pipelines Tower
450 First Street, S.W.
Calgary, Alberta
Canada
T2P 5H1
Attn: Garry Lamb
Tel. No. (403) 920-2727

7. Dominion Cogen, Inc.
c/o Dominion Resources Services, Inc.
120 Tredegar Street
Richmond, VA 23219
Attn: Denis R. Vermette, Director Portfolio Management
Tel. No. (804) 787-5905

Dated: New York, New York
January 27, 2006

DEIRDRE A. MARTINI
UNITED STATES TRUSTEE

By: /s/ Paul Schwartzberg
PAUL SCHWARTZBERG (PKS 9129)

33 Whitehall Street, 21st Floor
New York, New York 10004
Tel. No. (212) 510-0500

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re	:	
CALPINE CORPORATION, et. al.,	:	Case No. 05 - 60200 (BRL)
Debtor.	:	(Chapter 11)

(Jointly Administered)

SECOND AMENDED APPOINTMENT OF COMMITTEE OF UNSECURED CREDITORS

Pursuant to Section 1102(a) and 1102(b) of the Bankruptcy Code, the following creditors of the above-captioned debtors being among the largest unsecured claimants who are willing to serve are appointed to the committee of unsecured creditors:

1. Wilmington Trust Co.
   520 Madison Avenue
   New York, NY 10022
   Attn: James McGinley
   Tel. No. (212) 415-0522

2. HSBC Bank USA, National Association
   10 East 40th Street
   New York, NY 10016-0200
   Attn: Sandra E. Horwitz
   Tel. No. (212) 525-1300

3. Franklin Advisers, Inc.
   One Franklin Parkway
   San Mateo, CA 94403
   Attn: Richard Kuersteiner
   Tel. No. (650) 312-4525

4. SPO Partners & Co.
591 Redwood Highway, Suite 3215
Mill Valley, CA 94941
Attn: William J. Patterson
Tel. No. (415) 383-6600

5. Amerada Hess Corporation
1185 Avenue of the Americas
New York, NY 10036
Attn: Jonathan C. Stein & Charles F. Cerria
Tel. No. (212) 536-8252

6. TransCanada Pipelines Limited,
TransCanada Pipelines Tower
450 First Street, S.W.
Calgary, Alberta
Canada
T2P 5H1
Attn: Garry Lamb
Tel. No. (403) 920-2727

Dated: New York, New York
January 11, 2007

DIANA G. ADAMS
ACTING UNITED STATES TRUSTEE

By: /s/ Paul Schwartzberg
PAUL SCHWARTZBERG (PKS 9129)

33 Whitehall Street, 21st Floor
New York, New York 10004
Tel. No. (212) 510-0500

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In re	:	Case No. 05-60200 (BRL)
	:	
CALPINE CORPORATION, et al.,	:	
	:	
	:	Chapter 11
	:	
Debtor.	:	Jointly Administered
	:	

APPOINTMENT OF COMMITTEE OF EQUITY SECURITY HOLDERS

Pursuant to Section 1102 of the Bankruptcy Code, the following equity security holders of the above-captioned debtors being among the largest equity security holders who are willing to serve are appointed to the committee of equity security holders:

1. Steelhead Partners, LLC
   PO Box 21749
   Seattle, WA 98111
   Attn: J.D. Kritser
   (206) 689-2436

2. Paul Leikert
   1535 SW 6th Ter
   Boca Raton, Fla. 33486

3. John Thomas Dolan, III
   6500 Shenandoah Drive
   Lincoln, Nebraska 68510-5159

4. Alan Ku
   2470 Holly Oak
   Danville, CA 94506

5. Michael Willingham
9202 Meaux Dr.
Houston, TX 77031

Dated: New York, New York
May 9, 2006

DIANA G. ADAMS
ACTING UNITED STATES TRUSTEE

By: /s/ Paul Schwartzberg
PAUL SCHWARTZBERG (PKS 9129)
33 Whitehall Street, 21st Floor
New York, New York 10004
Tel. No. (212) 510-0500

APPENDIX E: FEE WAIVER ORDER SOUTHERN DISTRICT OF NEW YORK

UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

In Re:	:	
	:	
Application for Exemption from the Electronic Public Access Fees by Andres Forero.	:	General Order M-358

This matter is before the Court upon the application and request by Andres Forero (the "Applicant") for exemption from the fees imposed by the Electronic Public Access Fee Schedule adopted by the Judicial Conference of the United States Courts.

The Court finds, based upon the attached letter and application from the Applicant, each dated September 22, 2008, that the Applicant has demonstrated that an exemption is necessary in order to avoid unreasonable burdens and to promote public access to information.

Accordingly, the Applicant shall be exempt from the payment of fees for access via PACER to the electronic case files maintained in this Court, to the extent such use is incurred in connection with the project described in the attached letter. The Applicant shall not be exempt from the payment of fees incurred in connection with other uses of the PACER system in this Court.

Additionally, the following limitations apply:

1. This fee exemption applies only to the Applicant, and is valid only for the purposes stated above.
2. This fee exemption applies only to the electronic case files of this Court that are available through the PACER system;
3. By accepting this exemption, the Applicant agrees not to sell for profit any data obtained as a result of receiving this exemption.
4. This exemption is valid from the date of this order through January 31, 2010.

This exemption may be revoked at the discretion of the Court at any time. A copy of this Order shall be sent to the PACER Service Center.

Dated: New York, New York
October 16, 2008

/s/ *Stuart M. Bernstein*
STUART M. BERNSTEIN
Chief United States Bankruptcy Judge

Andres Forero
705 East 43rd Street
Austin, Texas 78751
aforero@mail.utexas.edu
(512) 587-0989

September 22, 2008

Kathleen Farrell-Willoughby
Clerk of Court
United States Bankruptcy Court
Alexander Hamilton Custom House
One Bowling Green
New York, NY 10004-1408

Ms. Farrell-Willoughby:

I am a PhD candidate at the University of Texas at Austin. My doctoral dissertation studies creditor committee composition in bankruptcy court and I am seeking an exemption from PACER access fees. I am enclosing two documents in support of my application:

1) My application for exemption from PACER fees for accessing Southern District of New York bankruptcy files. My application explains why I seek the exemption and demonstrates how exemption from fees will "avoid unreasonable burdens" and "promote public access."
2) A letter from my dissertation chair verifying that I seek PACER access for the purpose of my dissertation

Please contact me with any questions. I will be happy to provide additional information in support of my application.

Sincerely,

Andres Forero
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Austin, Texas, 78751
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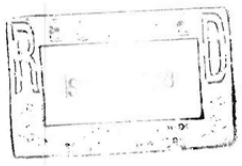


UNITED STATES BANKRUPTCY COURT
SOUTHERN DISTRICT OF NEW YORK

APPLICATION FOR EXEMPTION OF PACER ACCESS FEES

TO THE HONORABLE UNITED STATES BANKRUPTCY JUDGE:

Andres Forero respectfully files and submits this motion as follows:

BACKGROUND

1. Andres Forero is a PhD Candidate studying Public Policy at the LBJ School of Public Affairs at the University of Texas at Austin. Andres seeks affordable access to information available through PACER in support of dissertation research concerning creditor committees in bankruptcy court. Andres seeks information concerning, among other things, creditor committee composition, changes to committees during the case, length of service of individual committee members in the committees, and reorganization plans.The information accessed thorugh PACER will be used exclusively for academic purposes.

FEE WAIVER REQUESTED

2. Andres Forero requests that the Court grant Andres Forero an exemption from the fee for access to files available through PACER through January 2010. Section 303 of Pub. L. 102-140, set out as a note under section 1913 of 28 U.S.C. §1913, concerning "fees… for access to information available through automatic data processing" states, "These fees… shall provide for exempting persons or classes of persons from the fees, in order to avoid unreasonable burdens and to promote public access to such information.

GROUNDS FOR FEE WAIVER

3. Unreasonable burden: At a cost of $0.08 per page for information accessed through PACER, the cost of information required is prohibited. Andres's sample includes 450 corporations. One expects searching tens or hundreds of pages per sample bankruptcy firm. Assuming an average of 100 pages per sample bankruptcy firm, the PACER cost would amount to about $3600. A cost of this magnitude is prohibitive given Andres's funding as a PhD student.

4. Promotion of public access: The information will contribute to dissertation research and possibly publication in an academic journal. The research supports public understanding of the bankruptcy process and is intended to be of an academic rather than professional nature. Andres has not received funding for bankruptcy research. An academic paper by professors Arturo Bris, Ivo Welch, and Ning Zhu of Yale, Brown, and UC-Davis, respectively, has demonstrated the public utility of PACER access by academic researchers. Their paper, "The Costs of Bankruptcy: Chapter 7 liquidation vs. Chapter 11 Reorganization Bankruptcy," relies on data collected through PACER and was published in the Journal of Finance (June 2006).

Andres Forero respectfully requests that the Court enter an order granting a waiver of PACER access fees through January 2010.

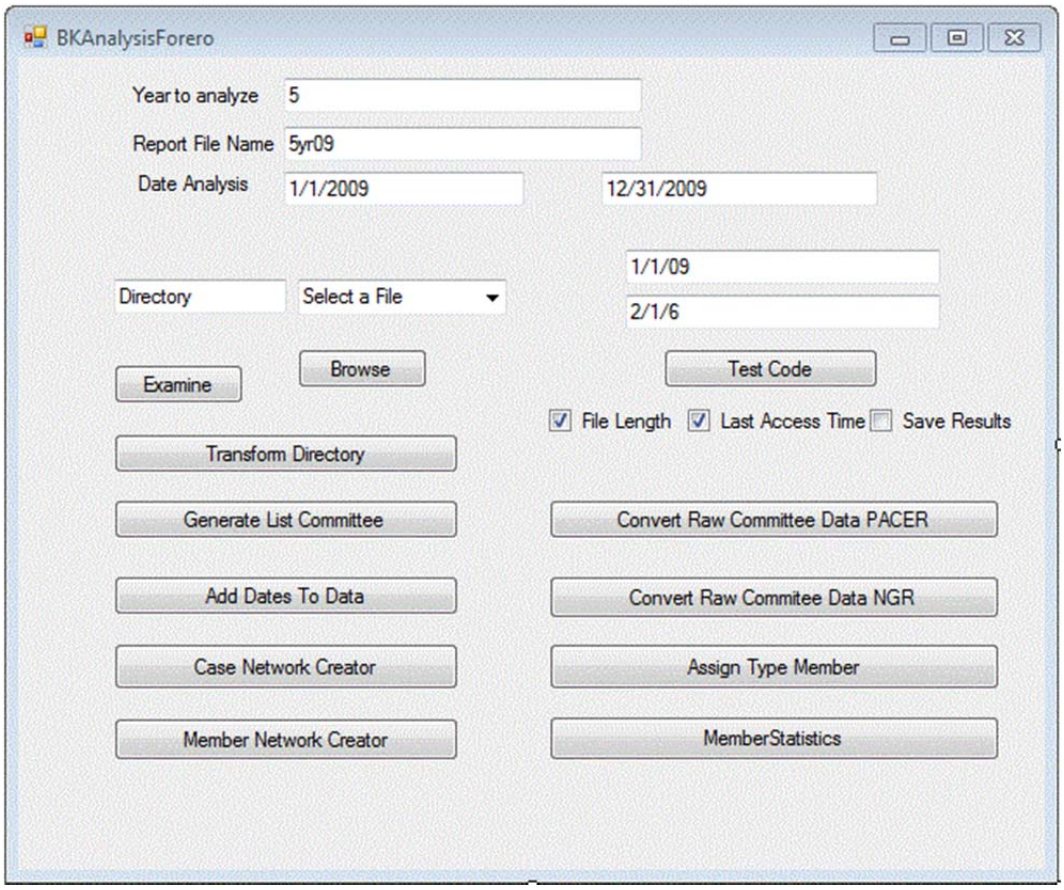
Dated: Austin, Texas
September 22, 2008

Respectfully submitted,

By: _____

Andres Forero
705 East 43rd Street
Austin, Texas 78751
(512) 587-0989

APPENDIX F: COMPUTER CODE


BKAnalysisForero
Year to analyze
5
Report File Name
5yr09
Date Analysis
1/1/2009
12/31/2009
1/1/09
2/1/6
Directory
Select a File
Examine
Browse
Test Code
File Length
Last Access Time
Save Results
Transform Directory
Generate List Committee
Convert Raw Committee Data PACER
Add Dates To Data
Convert Raw Commitee Data NGR
Case Network Creator
Assign Type Member
Member Network Creator
MemberStatistics

```
Public Class Form1
    Dim CoName As String = ""
    Dim CoBusiness As String = ""
    Dim CoAddress1 As String = ""
    Dim CoAddress2 As String = ""
    Dim CoAddress3 As String = ""
    Dim CoCity As String = ""
    Dim CoState As String = ""
    Dim CoZip As String = ""
    Dim CoPhone As String = ""
    Dim CoContactName As String = ""
    Dim CoEmployees As String = ""
    Dim CoAssets As String = ""
    Dim CoEIN As String = ""
    Dim CoSIC As String = ""
    Dim CoAuditor As String = ""
    Dim BKFilingDate As String = ""
    Dim BKCaseNumber As String = ""
    Dim BKType As String = ""
    Dim BKDistrict As String = ""
    Dim BKFilingCity As String = ""
    Dim BKJudge As String = ""
    Dim DCounselFirm As String = ""
    Dim DCounselName As String = ""
    Dim DCounselAddr1 As String = ""
    Dim DCounselAddr2 As String = ""
    Dim DCounselAddr3 As String = ""
    Dim DCounselCity As String = ""
    Dim dCounselState As String = ""
    Dim DCounselZip As String = ""
    Dim DCounselPhone As String = ""
    Dim ConfDate As String = ""
    Dim EffectiveDate As String = ""
    Dim Outcome As String = ""
    Dim CoOfficers1 As String = ""
    Dim CoOfficers2 As String = ""
    Dim CoOfficers3 As String = ""
    Dim CoOfficers4 As String = ""
    Dim CoOfficers5 As String = ""
    Dim CoDescription As String = ""
    Dim CoSecurities1 As String = ""
    Dim CoSecurities2 As String = ""
    Dim CoSecurities3 As String = ""
    Dim CoSecurities4 As String = ""
    Dim CoSecurities5 As String = ""
    Dim CoSecurities6 As String = ""
    Dim CoSecurities7 As String = ""
    Dim CoSecurities8 As String = ""
    Dim Exchange As String = ""
    Dim Ticker As String = ""
    Dim SharesOut As String = ""
    Dim SharesOutDate As String = ""
    Dim ShareholdersDate As String = ""
    Dim Shareholders As String = ""
    Dim ReportFileName As String = "C:\Users\Andres\Documents\Dissertation\VB Test\BKTransformed2.txt"

    Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
        DirectoryTextBox.Text = My.Computer.FileSystem.CurrentDirectory
        FolderBrowserDialog1.SelectedPath = DirectoryTextBox.Text
    End Sub

    Private Sub BrowseButton_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
BrowseButton.Click
        If FolderBrowserDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
            DirectoryTextBox.Text = FolderBrowserDialog1.SelectedPath
            My.Computer.FileSystem.CurrentDirectory = DirectoryTextBox.Text
        End If
        FilePickComboBox.DataSource = _
    My.Computer.FileSystem.GetDirectoryInfo( _
    My.Computer.FileSystem.CurrentDirectory).GetFiles("*.txt")
        FilePickComboBox.DisplayMember = "Name"
        FilePickComboBox.ValueMember = "FullName"
    End Sub

    Private Sub TransformButton_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
TransformButton.Click
        Using MyReader As New  _
Microsoft.VisualBasic.FileIO.TextFieldParser(CStr("C:\Users\Andres\Documents\Dissertation\VB Test\Summariesv2b.txt"))
            MyReader.TextFieldType = FileIO.FieldType.Delimited
            MyReader.SetDelimiters("`")
            Dim bkdata(900000) As String
            Dim bkcase(5000) As String
            Dim n As Integer = 0
            Dim m As Integer = 0
            Dim i As Integer = 0
            Dim TotalNumberofLines As Integer = 0
            Dim currentcase As Integer = 0
```

```
 ' Varaibles for each case
 Dim currentRow As String()
Dim txt As String = ""
 If My.Computer.FileSystem.FileExists(ReportFileName) Then
     My.Computer.FileSystem.DeleteFile(ReportFileName)
 End If

 Call writeheadings()

 ' Read txt data file
 While Not MyReader.EndOfData
     Try
         currentRow = MyReader.ReadFields()
         Dim currentField As String
         For Each currentField In currentRow
             n = n + 1
             bkdata(n) = currentField
         Next
     Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
         MsgBox("Line " & ex.Message & _
         "is not valid and will be skipped." & vbCrLf & _
         "Previous lines :" & vbCrLf & _
         bkdata(n - 3) & vbCrLf & _
                 bkdata(n - 2) & vbCrLf & _
                         bkdata(n - 1) & vbCrLf & _
                         bkdata(n))
     End Try
 End While

 TotalNumberofLines = n


 For n = 1 To TotalNumberofLines

     ' check if new case

     If Strings.Left(bkdata(n + 1), 10) = "Business :" Then
         If n > 5 Then
             Call RecordLine()
         End If
         CoName = ""
         CoBusiness = ""
         CoAddress1 = ""
         CoAddress2 = ""
         CoAddress3 = ""
         CoCity = ""
         CoState = ""
         CoZip = ""
         CoPhone = ""
         CoContactName = ""
         CoEmployees = ""
         CoAssets = ""
         CoEIN = ""
         CoSIC = ""
         CoAuditor = ""
         BKFilingDate = ""
         BKCaseNumber = ""
         BKType = ""
         BKDistrict = ""
         BKFilingCity = ""
         BKJudge = ""
         DCounselFirm = ""
         DCounselName = ""
         DCounselAddr1 = ""
         DCounselAddr2 = ""
         DCounselAddr3 = ""
         DCounselCity = ""
         dCounselState = ""
         DCounselZip = ""
         DCounselPhone = ""
         ConfDate = ""
         EffectiveDate = ""
         Outcome = ""
         CoOfficers1 = ""
         CoOfficers2 = ""
         CoOfficers3 = ""
         CoOfficers4 = ""
         CoOfficers5 = ""
         CoDescription = ""
         CoSecurities1 = ""
         CoSecurities2 = ""
         CoSecurities3 = ""
         CoSecurities4 = ""
         CoSecurities5 = ""
         CoSecurities6 = ""
         CoSecurities7 = ""
         CoSecurities8 = ""
```

```
    Exchange = ""
    Ticker = ""
    SharesOut = ""
    SharesOutDate = ""
    ShareholdersDate = ""
    Shareholders = ""

    currentcase = currentcase + 1
    CoName = bkdata(n)
    If CoName = "&" Then
        Stop
    End If
    CoBusiness = Strings.Right(bkdata(n + 1), Len(bkdata(n + 1)) - 11)
    GoTo NextDataLine

End If

txt = "Address:"
If Trim(bkdata(n)) = txt Then
    If bkdata(n + 1) = "Foreign Address" Then
        CoAddress1 = bkdata(n + 1)
        CoAddress2 = bkdata(n + 2)
        CoAddress3 = bkdata(n + 3)
        n = n + 3
        GoTo NextDataLine
    End If

    If Strings.Left(bkdata(n + 1), 3) = "C/o" Or _
        Strings.Left(bkdata(n + 1), 3) = "c/o" Or _
        Strings.Left(bkdata(n + 1), 3) = "C/O" Or _
        Strings.Left(bkdata(n + 1), 5) = "Bldg." Or _
        Strings.Left(bkdata(n + 1), 4) = "Ste." Or _
        Strings.Left(bkdata(n + 1), 6) = "Suite " Or _
        (Strings.Left(bkdata(n + 1), 4) = "P.O." And Strings.InStr(bkdata(n + 2), ",") = 0) Then
        bkdata(n + 2) = bkdata(n + 2) & " " & bkdata(n + 1)
        n = n + 1
    End If
    CoAddress1 = bkdata(n + 1)

    If Strings.InStr(bkdata(n + 2), "Suite") Or _
        Strings.InStr(bkdata(n + 2), "suite") Or _
        Strings.InStr(bkdata(n + 2), "Building") Or _
        Strings.InStr(bkdata(n + 2), "building") Or _
        Strings.InStr(bkdata(n + 2), "Floor") Or _
        Strings.InStr(bkdata(n + 2), "floor") Or _
        Strings.InStr(bkdata(n + 2), ",") = 0 Then

        CoAddress2 = bkdata(n + 2)
        n = n + 1
    End If

    CoCity = Strings.Left(bkdata(n + 2), Strings.InStr(bkdata(n + 2), ",") - 1)
    CoState = Strings.Mid(bkdata(n + 2), Strings.InStr(bkdata(n + 2), ",") + 3, 2)
    CoZip = Strings.Mid(bkdata(n + 2), Strings.InStr(bkdata(n + 2), ",") + 7, 5)
    CoPhone = bkdata(n + 3)
    n = n + 3
    GoTo NextDataLine
End If


txt = "Contact: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoContactName = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Employees: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoEmployees = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Assets: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoAssets = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "EIN: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoEIN = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "SIC Codes: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoSIC = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
```

```
    GoTo NextDataLine
End If

txt = "Auditor: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    CoAuditor = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Bankruptcy Date: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKFilingDate = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Case Number: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKCaseNumber = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Action Type: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKType = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "District: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKDistrict = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Filing City: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKFilingCity = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Judge: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    BKJudge = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Confirmation Date: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    ConfDate = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Effective Date: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    EffectiveDate = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Outcome: "
If Strings.Left(bkdata(n), Len(txt)) = txt Then
    Outcome = Strings.Right(bkdata(n), Len(bkdata(n)) - Len(txt))
    GoTo NextDataLine
End If

txt = "Counsel for Debtor"
If Strings.Trim(bkdata(n)) = txt Then
    DCounselFirm = bkdata(n + 1)
    DCounselName = bkdata(n + 2)
    n = n + 2
    If Strings.Trim(bkdata(n + 1)) <> "Outcome Summary" Then
        DCounselAddr1 = bkdata(n + 1)
        n = n + 1
    End If
    If Strings.Trim(bkdata(n + 1)) <> "Outcome Summary" Then
        DCounselAddr2 = bkdata(n + 1)
        n = n + 1
    End If
    If Strings.Trim(bkdata(n + 1)) <> "Outcome Summary" Then
        DCounselAddr3 = bkdata(n + 1)
        n = n + 1
    End If
    If Strings.Trim(bkdata(n + 1)) <> "Outcome Summary" Then
        DCounselCity = bkdata(n + 1)
        n = n + 1
    End If
    GoTo NextDataLine
End If
```

```
                txt = "Company Officers"
                If Strings.Trim(bkdata(n)) = txt Then
                    If Strings.Trim(bkdata(n + 1)) <> "Company Description" Then
                        CoOfficers1 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "Company Description" Then
                        CoOfficers2 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "Company Description" Then
                        CoOfficers3 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "Company Description" Then
                        CoOfficers4 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "Company Description" Then
                        CoOfficers5 = bkdata(n + 1)
                        n = n + 1
                    End If
                    GoTo NextDataLine
                End If

                txt = "Company Description"
                If Strings.Trim(bkdata(n)) = txt Then
                    If Strings.Trim(bkdata(n + 1)) <> "Company Securities" Then
                        CoDescription = bkdata(n + 1)
                        n = n + 1
                    End If
                    GoTo NextDataLine
                End If

                txt = "Company Securities"
                If Strings.Trim(bkdata(n)) = txt Then

                    If Strings.Trim(bkdata(n + 1)) <> "" And Strings.Left(bkdata(n + 1), 11) <> "Historical" And
Strings.Left(bkdata(n + 1), 12) <> "Common Stock" Then
                        CoSecurities1 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "" And Strings.Left(bkdata(n + 1), 11) <> "Historical" And
Strings.Left(bkdata(n + 1), 12) <> "Common Stock" Then
                        CoSecurities2 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "" And Strings.Left(bkdata(n + 1), 11) <> "Historical" And
Strings.Left(bkdata(n + 1), 12) <> "Common Stock" Then
                        CoSecurities3 = bkdata(n + 1)
                        n = n + 1
                    End If
                    If Strings.Trim(bkdata(n + 1)) <> "" And Strings.Left(bkdata(n + 1), 11) <> "Historical" And
Strings.Left(bkdata(n + 1), 12) <> "Common Stock" Then
                        CoSecurities4 = bkdata(n + 1)
                        n = n + 1
                    End If
                    GoTo NextDataLine
                End If

                txt = "Common Stock"
                If Strings.Left(bkdata(n), Len(txt)) = txt Then
                    Exchange = bkdata(n)
                    Ticker = bkdata(n + 1)
                    GoTo NextDataLine
                End If

                txt = "Shareholders"
                If Strings.Trim(bkdata(n)) = txt Then
                    Shareholders = bkdata(n + 1)
                    n = n + 1
                    GoTo NextDataLine
                End If
NextDataLine:
            Next

            Call RecordLine()
        End Using
    End Sub
    Sub RecordLine()
        Dim CompletedLine As String = ""
        Dim separator As String = "`"
        CompletedLine = CoName & separator & _
        CoBusiness & separator & _
        CoAddress1 & separator & _
        CoAddress2 & separator & _
        CoAddress3 & separator & _
```

```
        CoCity & separator & _
        CoState & separator & _
        CoZip & separator & _
        CoPhone & separator & _
        CoContactName & separator & _
        CoEmployees & separator & _
        CoAssets & separator & _
        CoEIN & separator & _
        CoSIC & separator & _
        CoAuditor & separator & _
        BKFilingDate & separator & _
        BKCaseNumber & separator & _
        BKType & separator & _
        BKDistrict & separator & _
        BKFilingCity & separator & _
        BKJudge & separator & _
        DCounselFirm & separator & _
        DCounselName & separator & _
        DCounselAddr1 & separator & _
        DCounselAddr2 & separator & _
        DCounselAddr3 & separator & _
        DCounselCity & separator & _
        dCounselState & separator & _
        DCounselZip & separator & _
        DCounselPhone & separator & _
        ConfDate & separator & _
        EffectiveDate & separator & _
        Outcome & separator & _
        CoOfficers1 & separator & _
        CoOfficers2 & separator & _
        CoOfficers3 & separator & _
        CoOfficers4 & separator & _
        CoOfficers5 & separator & _
        CoDescription & separator & _
        CoSecurities1 & separator & _
        CoSecurities2 & separator & _
        CoSecurities3 & separator & _
        CoSecurities4 & separator & _
        CoSecurities5 & separator & _
        CoSecurities6 & separator & _
        CoSecurities7 & separator & _
        CoSecurities8 & separator & _
        Exchange & separator & _
        Ticker & separator & _
        SharesOut & separator & _
        SharesOutDate & separator & _
        ShareholdersDate & separator & _
        Shareholders & vbCrLf
        My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
    End Sub
    Sub writeheadings()
        Dim CompletedLine As String = ""
        Dim separator As String = "`"
        CompletedLine = "CoName" & separator & _
        "CoBusiness" & separator & _
        "CoAddress1" & separator & _
        "CoAddress2" & separator & _
        "CoAddress3" & separator & _
        "CoCity" & separator & _
        "CoState" & separator & _
        "CoZip" & separator & _
        "CoPhone" & separator & _
        "CoContactName" & separator & _
        "CoEmployees" & separator & _
        "CoAssets" & separator & _
        "CoEIN" & separator & _
        "CoSIC" & separator & _
        "CoAuditor" & separator & _
        "BKFilingDate" & separator & _
        "BKCaseNumber" & separator & _
        "BKType" & separator & _
        "BKDistrict" & separator & _
        "BKFilingCity" & separator & _
        "BKJudge" & separator & _
        "DCounselFirm" & separator & _
        "DCounselName" & separator & _
        "DCounselAddr1" & separator & _
        "DCounselAddr2" & separator & _
        "DCounselAddr3" & separator & _
        "DCounselCity" & separator & _
        "DCounselState" & separator & _
        "DCounselZip" & separator & _
        "DCounselPhone" & separator & _
        "ConfDate" & separator & _
        "EffectiveDate" & separator & _
        "Outcome" & separator & _
        "CoOfficers1" & separator & _
```

```
        "CoOfficers2" & separator & _
        "CoOfficers3" & separator & _
        "CoOfficers4" & separator & _
        "CoOfficers5" & separator & _
        "CoDescription" & separator & _
        "CoSecurities1" & separator & _
        "CoSecurities2" & separator & _
        "CoSecurities3" & separator & _
        "CoSecurities4" & separator & _
        "CoSecurities5" & separator & _
        "CoSecurities6" & separator & _
        "CoSecurities7" & separator & _
        "CoSecurities8" & separator & _
        "Exchange" & separator & _
        "Ticker" & separator & _
        "SharesOut" & separator & _
        "SharesOutDate" & separator & _
        "ShareholdersDate" & separator & _
        "Shareholders" & vbCrLf
        'MsgBox(CompletedLine)
        My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
    End Sub
    Private Sub Label1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Label1.Click
    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button2.Click
        Using MyReader As New
Microsoft.VisualBasic.FileIO.TextFieldParser(CStr("C:\Users\Andres\Documents\Dissertation\VB Test\nrgreportlist.txt"))
            MyReader.TextFieldType = FileIO.FieldType.Delimited
            MyReader.SetDelimiters("`")
            Dim bkdata(200000) As String
            Dim bkname As String = ""
            Dim bkconfirm As String = ""
            Dim n As Integer = 0
            Dim TotalNumberofLines As Integer = 0
            Dim currentcase As Integer = 0
            Dim currentRow As String()
            Dim CompletedLine As String = ""
            Dim separator As String = "`"
            Dim txt As String = ""
            ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\BkGenerated.txt"
            'check if file exists and delete it
            If My.Computer.FileSystem.FileExists(ReportFileName) Then
                My.Computer.FileSystem.DeleteFile(ReportFileName)
            End If
            ' Read txt data file
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    Dim currentField As String
                    For Each currentField In currentRow
                        n = n + 1
                        bkdata(n) = currentField
                        'MsgBox(bkdata(n))
                    Next
                Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                    MsgBox("Line " & ex.Message & _
                    "is not valid and will be skipped." & vbCrLf & _
                    "Previous lines :" & vbCrLf & _
                    bkdata(n - 3) & vbCrLf & _
                            bkdata(n - 2) & vbCrLf & _
                                    bkdata(n - 1) & vbCrLf & _
                                    bkdata(n))
                End Try
            End While
            TotalNumberofLines = n
            For n = 1 To TotalNumberofLines
                txt = "BankruptcyData.com Reports"
                If Strings.Left(bkdata(n), Len(txt)) = txt Then
                    If n > 3 Then
                        CompletedLine = bkname & separator & bkconfirm & vbCrLf
                        My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
                    End If
                    bkname = Trim(bkdata(n + 1))
                    bkconfirm = ""
                End If
                If Strings.InStr(bkdata(n), "Creditor's Committees Report") > 0 Then
                    bkconfirm = "NRGCommittees"
                End If
                If n = TotalNumberofLines Then
                    CompletedLine = bkname & separator & bkconfirm & vbCrLf
                    My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
                End If
            Next
        End Using
        MsgBox("End Generate")
    End Sub
```

```
Private Sub DataButton_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles DataButton.Click

    Dim lineNumber(10000) As Integer
    Dim ID(10000) As Integer
    Dim BkNamea(10000) As String
    Dim Employees(10000) As Integer
    Dim Assets(10000) As String
    Dim EIN(10000) As String
    Dim BkCase(10000) As String
    Dim CommCode(10000) As String
    Dim Committee(10000) As String
    Dim Name(10000) As String
    Dim MemberCode(10000) As String
    Dim MemberName(10000) As String
    Dim Address1(10000) As String
    Dim Address2(10000) As String
    Dim Address3(10000) As String
    Dim Address4(10000) As String
    Dim Address5(10000) As String
    Dim Address6(10000) As String
    Dim BKFilingDate(10000) As Date
    Dim ConfDate(10000) As Date
    Dim EffectiveDate(10000) As Date
    Dim bkdata(10000) As String
    Dim bkconfirm As String = ""
    Dim n As Integer = 0
    Dim i As Integer = 0
    Dim j As Integer = 0
    Dim TotalNumberofLines As Integer = 0
    Dim currentcase As Integer = 0
    Dim currentRow As String()
    Dim CompletedLine As String = ""
    Dim separator As String = "`"
    Dim txt As String = ""
    Dim bkname As String = ""
    Dim bkcrossdata As String = ""
    Dim adjdate As Date
    Dim counter As Integer = 0
    Dim counter2 As Integer = 0
    Dim counter3 As Integer = 0
    Dim matches(300) As Integer
    Dim ReportFileName As String
    Dim DataFileName As String
    Dim currentcommittee As String = ""
    DataFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\NRGCommdate8.txt"
    ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\nw" & TxtBoxReportFileName.Text & ".txt"
    'check if file exists and delete it
    If My.Computer.FileSystem.FileExists(ReportFileName) Then
        My.Computer.FileSystem.DeleteFile(ReportFileName)
    End If
    Using MyReader As New Microsoft.VisualBasic.FileIO.TextFieldParser(CStr(DataFileName))
        MyReader.TextFieldType = FileIO.FieldType.Delimited
        MyReader.SetDelimiters("`")
        currentRow = MyReader.ReadFields()
        ' Read txt data file
        While Not MyReader.EndOfData
            Try
                currentRow = MyReader.ReadFields()
                n = n + 1
                lineNumber(n) = currentRow(0)
                ID(n) = currentRow(1)
                BkNamea(n) = currentRow(2)
                Employees(n) = currentRow(3)
                Assets(n) = currentRow(4)
                EIN(n) = currentRow(5)
                BkCase(n) = currentRow(6)
                CommCode(n) = currentRow(7)
                Committee(n) = currentRow(8)
                MemberCode(n) = currentRow(9)
                Name(n) = currentRow(10)
                MemberName(n) = currentRow(11)
                Address1(n) = currentRow(12)
                Address2(n) = currentRow(13)
                Address3(n) = currentRow(14)
                Address4(n) = currentRow(15)
                Address5(n) = currentRow(16)
                ' Address6(n) = currentRow(17)
                BKFilingDate(n) = currentRow(17)
                ConfDate(n) = currentRow(18)
                'EffectiveDate(n) = currentRow(20)
            Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                MsgBox("Line " & ex.Message & _
                "is not valid and will be skipped." & vbCrLf & _
                "Previous lines :" & vbCrLf & _
                bkdata(n - 3) & vbCrLf & _
                        bkdata(n - 2) & vbCrLf & _
```

```
                                bkdata(n - 1) & vbCrLf & _
                                bkdata(n))
                End Try
            End While
            TotalNumberofLines = n
            n = 0
            counter = 0
            bkcrossdata = ""
            CompletedLine = "BkNamea" & separator & "BKFilingDate" & separator & "Assets" & separator & "EIN" &
separator & "ConfDate" & separator & "BkCase" & separator & vbCrLf
            My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
            For n = 1 To TotalNumberofLines
                If BkCase(n) <> BkCase(n - 1) And n > 1 Then
                    bkcrossdata = ""
                    '  MsgBox("counter: " & counter)
                    For counter2 = 1 To counter
                        If bkcrossdata = "" Then
                            bkcrossdata = matches(counter2)
                        Else
                            For counter3 = 1 To counter2 - 1
                                ' Stop
                                If matches(counter2) = matches(counter3) Then
                                    'Stop
                                    GoTo labeljump
                                End If
                            Next
                            bkcrossdata = bkcrossdata & separator & matches(counter2)
                        End If

labeljump:
                    Next
                    CompletedLine = BkNamea(n - 1) & separator & BKFilingDate(n - 1) & separator & Assets(n - 1) &
separator & EIN(n - 1) & separator & ConfDate(n - 1) & separator & BkCase(n - 1) & separator & bkcrossdata & vbCrLf
                    My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
                    bkcrossdata = ""
                    For counter2 = 1 To counter
                        matches(counter2) = 0
                    Next
                    counter = 0
                End If
                For i = 1 To TotalNumberofLines

                    adjdate = BKFilingDate(i).AddYears(TextYear.Text)
                    If MemberCode(n) = MemberCode(i) And BkCase(n) <> BkCase(i) And (DateDiff("s", BKFilingDate(n),
BKFilingDate(i)) <= 0) And (DateDiff("s", adjdate, BKFilingDate(n)) <= 0) Then
                        counter = counter + 1
                        matches(counter) = BkCase(i)
                    End If
                Next
            Next
            bkcrossdata = ""
            For counter2 = 1 To counter
                If bkcrossdata = "" Then
                    bkcrossdata = matches(counter2)
                Else
                    For counter3 = 1 To counter2 - 1
                        ' Stop
                        If matches(counter2) = matches(counter3) Then
                            ' Stop
                            GoTo labeljump2
                        End If
                    Next
                    bkcrossdata = bkcrossdata & separator & matches(counter2)
                End If

labeljump2:
            Next
            CompletedLine = BkNamea(n - 1) & separator & BKFilingDate(n - 1) & separator & Assets(n - 1) & separator &
EIN(n - 1) & separator & ConfDate(n - 1) & separator & BkCase(n - 1) & separator & bkcrossdata & vbCrLf
            My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
            bkcrossdata = ""
            For counter2 = 1 To counter
                matches(counter2) = 0
            Next
            counter = 0
        End Using
    End Sub

    Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles adderbutton.Click
        Dim CoLineNumber(4000) As String
        Dim CoNameb(4000) As String
        Dim CoBusinessb(4000) As String
        Dim CoAddress1b(4000) As String
        Dim CoAddress2b(4000) As String
        Dim CoAddress3b(4000) As String
        Dim CoCityb(4000) As String
        Dim CoStateb(4000) As String
```

```
Dim CoZipb(4000) As String
Dim CoPhoneb(4000) As String
Dim CoContactNameb(4000) As String
Dim CoEmployeesb(4000) As String
Dim CoAssetsb(4000) As String
Dim CoEINb(4000) As String
Dim CoSICb(4000) As String
Dim CoAuditorb(4000) As String
Dim BKFilingDateb(4000) As String
Dim BKCaseNumberb(4000) As String
Dim BKTypeb(4000) As String
Dim BKDistrictb(4000) As String
Dim BKFilingCityb(4000) As String
Dim BKJudgeb(4000) As String
Dim DCounselFirmb(4000) As String
Dim DCounselNameb(4000) As String
Dim DCounselAddr1b(4000) As String
Dim DCounselAddr2b(4000) As String
Dim DCounselAddr3b(4000) As String
Dim DCounselCityb(4000) As String
Dim dCounselStateb(4000) As String
Dim DCounselZipb(4000) As String
Dim DCounselPhoneb(4000) As String
Dim ConfDateb(4000) As String
Dim EffectiveDateb(4000) As String
Dim Outcomeb(4000) As String
Dim CoOfficers1b(4000) As String
Dim CoOfficers2b(4000) As String
Dim CoOfficers3b(4000) As String
Dim CoOfficers4b(4000) As String
Dim CoOfficers5b(4000) As String
Dim CoDescriptionb(4000) As String
Dim CoSecurities1b(4000) As String
Dim CoSecurities2b(4000) As String
Dim CoSecurities3b(4000) As String
Dim CoSecurities4b(4000) As String
Dim CoSecurities5b(4000) As String
Dim CoSecurities6b(4000) As String
Dim CoSecurities7b(4000) As String
Dim CoSecurities8b(4000) As String
Dim Exchangeb(4000) As String
Dim Tickerb(4000) As String
Dim SharesOutb(4000) As String
Dim SharesOutDateb(4000) As String
Dim ShareholdersDateb(4000) As String
Dim Shareholdersb(4000) As String
Dim lineNumber(10000) As Integer
Dim ID(10000) As Integer
Dim BkNamea(10000) As String
Dim Employees(10000) As Integer
Dim Assets(10000) As String
Dim EIN(10000) As String
Dim BkCase(10000) As String
Dim CommCode(10000) As String
Dim Committee(10000) As String
Dim Name(10000) As String
Dim MemberCode(10000) As String
Dim MemberName(10000) As String
Dim MemberName2(10000) As String
Dim Address1(10000) As String
Dim Address2(10000) As String
Dim Address3(10000) As String
Dim Address4(10000) As String
Dim Address5(10000) As String
Dim Address6(10000) As String
Dim foundflag As Boolean = False
Dim n As Integer = 0
Dim i As Integer = 0
Dim DataFileName As String
Dim TotalNumberofLines As Integer = 0
Dim currentcase As Integer = 0
Dim currentRow As String()
Dim completedline As String
Dim separator As String = "`"
Dim notfoundcounter As Integer = 0
Dim assetscounter As Integer = 0
Dim eincounter As Integer = 0
Dim einyesassetnocounter As Integer = 0
Dim einnoassetyescounter As Integer = 0
Dim bothcounter As Integer = 0
Dim namecounter As Integer = 0

DataFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\FinalBKDatabase5.txt"
Using MyReader As New Microsoft.VisualBasic.FileIO.TextFieldParser(CStr(DataFileName))
    MyReader.TextFieldType = FileIO.FieldType.Delimited
    MyReader.SetDelimiters(",")
    currentRow = MyReader.ReadFields()
```

```
            ' Read txt data file
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    n = n + 1
                    CoLineNumber(n) = currentRow(0)
                    CoNameb(n) = currentRow(1)
                    CoEmployeesb(n) = currentRow(12)
                    CoAssetsb(n) = currentRow(13)
                    CoEINb(n) = currentRow(14)
                    CoSICb(n) = currentRow(15)
                    CoAuditorb(n) = currentRow(16)
                    BKFilingDateb(n) = currentRow(17)
                    BKCaseNumberb(n) = currentRow(18)
                    BKTypeb(n) = currentRow(19)
                    BKDistrictb(n) = currentRow(20)
                    ConfDateb(n) = currentRow(32)
                    EffectiveDateb(n) = currentRow(33)
                    If Trim(ConfDateb(n)) = "" Then ConfDateb(n) = BKFilingDateb(n)
                    If Trim(EffectiveDateb(n)) = "" Then EffectiveDateb(n) = BKFilingDateb(n)
                Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                    MsgBox("Line " & ex.Message & _
                    "is not valid and will be skipped.")
                End Try
            End While
        End Using
        Dim TotalNumberofCases As Integer = n
        n = 0
        ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\NRGCommDate11.txt"
        If My.Computer.FileSystem.FileExists(ReportFileName) Then
            My.Computer.FileSystem.DeleteFile(ReportFileName)
        End If

        Using MyReader As New
Microsoft.VisualBasic.FileIO.TextFieldParser(CStr("C:\Users\Andres\Documents\Dissertation\VB
Test\AllCommittee19text.txt"))
            MyReader.TextFieldType = FileIO.FieldType.Delimited
            MyReader.SetDelimiters(",")
            currentRow = MyReader.ReadFields()
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    n = n + 1
                    foundflag = False
                    lineNumber(n) = currentRow(0)
                    ID(n) = currentRow(1)
                    BkNamea(n) = currentRow(2)
                    Employees(n) = currentRow(3)
                    Assets(n) = currentRow(4)
                    EIN(n) = currentRow(5)
                    BkCase(n) = currentRow(6)
                    CommCode(n) = currentRow(7)
                    Committee(n) = currentRow(8)
                    Name(n) = currentRow(9)
                    MemberCode(n) = currentRow(10)
                    MemberName(n) = currentRow(11)
                    MemberName2(n) = currentRow(12)
                    Address1(n) = currentRow(13)
                    Address2(n) = currentRow(14)
                    Address3(n) = currentRow(15)
                    Address4(n) = currentRow(16)
                    Address5(n) = currentRow(17)
                    ' Address6(n) = currentRow(17)
                    completedline = ""

                    For i = 1 To TotalNumberofCases
                        If Val(Trim(EIN(n))) = Val(Trim(CoEINb(i))) And Val(Trim(EIN(n))) <> 0 Then
                            eincounter = eincounter + 1
                        End If

                        If Assets(n) = CoAssetsb(i) Then
                            assetscounter = assetscounter + 1
                        End If
                        If Val(EIN(n)) = Val(CoEINb(i)) And Assets(n) <> CoAssetsb(i) Then
                            einyesassetnocounter = einyesassetnocounter + 1
                        End If

                        If Val(EIN(n)) <> Val(CoEINb(i)) And Assets(n) = CoAssetsb(i) Then
                            einnoassetyescounter = einnoassetyescounter + 1
                        End If
                        If BkNamea(n) = CoNameb(i) Then
                            namecounter = namecounter + 1
                        End If

                        If Val(EIN(n)) = Val(CoEINb(i)) And Assets(n) = CoAssetsb(i) And foundflag = False Then
                            bothcounter = bothcounter + 1
                            completedline = lineNumber(n) & separator & _
```

```
                        ID(n) & separator & _
                        BkNamea(n) & separator & _
                        Employees(n) & separator & _
                         Assets(n) & separator & _
                        EIN(n) & separator & _
                        BkCase(n) & separator & _
                        CommCode(n) & separator & _
                        Committee(n) & separator & _
                        Name(n) & separator & _
                        MemberCode(n) & separator & _
                        MemberName(n) & separator & _
                        Address1(n) & separator & _
                        Address2(n) & separator & _
                        Address3(n) & separator & _
                        Address4(n) & separator & _
                        Address5(n) & separator & _
                        BKFilingDateb(i) & separator & _
                        ConfDateb(i) & separator & _
                        BKDistrictb(i) & separator & _
                        EffectiveDateb(i) & vbCrLf
                        My.Computer.FileSystem.WriteAllText(ReportFileName, completedline, True)
                        foundflag = True
                    End If
                Next i

                If foundflag = False Then
                    completedline = lineNumber(n) & separator & _
                    ID(n) & separator & _
                    BkNamea(n) & separator & _
                    Employees(n) & separator & _
                    EIN(n) & separator & _
                    Assets(n) & separator & _
                    BkCase(n) & separator & _
                    CommCode(n) & separator & _
                    Committee(n) & separator & _
                    Name(n) & separator & _
                    MemberCode(n) & separator & _
                    MemberName(n) & separator & _
                    Address1(n) & separator & _
                    Address2(n) & separator & _
                    Address3(n) & separator & _
                    Address4(n) & separator & _
                    Address5(n) & separator & _
                    "Not Found" & separator & _
                    "Not Found" & separator & _
                    "Not Found" & vbCrLf
                    'My.Computer.FileSystem.WriteAllText(ReportFileName, completedline, True)
                    notfoundcounter = notfoundcounter + 1
                End If

            Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                MsgBox("Line " & ex.Message & _
                "is not valid and will be skipped.")
            End Try
        End While
    End Using

    ' Stop

    MsgBox("files not found: " & Str(notfoundcounter) & " out of " & Str(n))

End Sub

Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click

    Using MyReader As New  _
Microsoft.VisualBasic.FileIO.TextFieldParser(CStr("C:\Users\Andres\Documents\Dissertation\VB Test\RawCommittee3.txt"))
        MyReader.TextFieldType = FileIO.FieldType.Delimited
        MyReader.SetDelimiters("`")
        Dim bkdata(900000) As String
        Dim bkcase(5000) As String
        Dim reportfilename2 As String = "C:\Users\Andres\Documents\Dissertation\VB Test\AllCommitteeb.txt"
        Dim separator As String = "`"
        Dim n As Integer = 0
        Dim m As Integer = 0
        Dim i As Integer = 0
        Dim TotalNumberofLines As Integer = 0
        Dim currentcase As Integer = 0
        Dim newcase As Boolean = False
        Dim currentRow As String()
        Dim txt As String = ""
        Dim conameRawData As String = ""
        Dim coemployeesRawData As String = ""
        Dim coassetsRawData As String = ""
        Dim coeidRawData As String = ""
        Dim cocasenumberRawData As Integer = 0
        Dim commnumberRawData As Integer = 0
```

```
            Dim commnameRawData As String = ""
            Dim commmembercodeRawData As Integer = 0
            Dim commmembernameRawData As String = ""
            Dim commmemberaddress1RawData As String = ""
            Dim commmemberaddress2RawData As String = ""
            Dim commmemberaddress3RawData As String = ""
            Dim commmemberaddress4RawData As String = ""
            Dim commmemberaddress5RawData As String = ""
            Dim commmemberaddress6RawData As String = ""
            Dim CoAddressFlag As Boolean = False
            Dim credcommflag As Boolean = False
            Dim commmemberareaflag As Boolean = False
            Dim commemberindex As Integer = 0
            Dim completedline As String = ""
            Dim linenumber As Integer = 0
            Dim caseidlabel As Boolean = False
            Dim credmemberflag As Boolean = False
            Dim commmemberareaflag1 As Boolean = False
            Dim endmemberareaflag As Boolean = False

            If My.Computer.FileSystem.FileExists(reportfilename2) Then
                My.Computer.FileSystem.DeleteFile(reportfilename2)
            End If
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    Dim currentField As String
                    For Each currentField In currentRow
                        currentField = Strings.Trim(currentField)

                        n = n + 1

                        'MsgBox("*" & currentField & "*")
                        If currentField = "All rights reserved. Copyright 1999-2010 by New Generation Research Inc. "
Then

                            GoTo Placetojump
                        End If

                        If Strings.Left(currentField, 22) = "If the information you" Then
                            GoTo Placetojump
                        End If

                        If Strings.Mid(currentField, 2, 20) = "Subscriber Home Page" Then
                            GoTo Placetojump
                        End If

                        If Strings.Left(currentField, 22) = "Send mail to Webmaster" Then
                            GoTo Placetojump
                        End If

                        If Strings.Left(currentField, 9) = "Copyright" Then
                            GoTo Placetojump
                        End If

                        If Strings.Trim(currentField) = "All rights reserved. Copyright 1999-2010 by New Generation
Research Inc." Then
                            GoTo Placetojump
                        End If

                        If Strings.Trim(currentField) = "This information may not be reproduced in whole or part without
permission." Then
                            newcase = True
                            credmemberflag = False
                            commmemberareaflag = False
                            endmemberareaflag = False
                            commemberindex = 0
                            cocasenumberRawData = cocasenumberRawData + 1
                            conameRawData = ""
                            coemployeesRawData = ""
                            coassetsRawData = ""
                            coeidRawData = ""
                            GoTo Placetojump
                        End If

                        If newcase = True And Strings.Trim(currentField) = "~" Then
                            GoTo Placetojump
                        End If

                        If newcase = True Then
                            conameRawData = currentField
                            ' MsgBox(conameRawData)
                            newcase = False
                            caseidlabel = True
                            GoTo Placetojump
                        End If
```

```
If caseidlabel = True And Strings.Left(currentField, 10) = "Business :" Then
    GoTo Placetojump
End If

If caseidlabel = True And Strings.Left(currentField, 8) = "Address:" Then
    CoAddressFlag = True
    GoTo Placetojump
End If

If CoAddressFlag = True And Strings.Trim(currentField) = "~" Then
    CoAddressFlag = False
    GoTo Placetojump
End If

If caseidlabel = True And Strings.Left(currentField, 8) = "Contact:" Then
    CoAddressFlag = False
    GoTo Placetojump
End If

If caseidlabel = True And Strings.Left(currentField, 10) = "Employees:" Then
    CoAddressFlag = False
    coemployeesRawData = Strings.Right(currentField, Strings.Len(currentField) - 11)
    ' MsgBox("employees: " & coemployeesRawData)
    GoTo Placetojump
End If

If caseidlabel = True And Strings.Left(currentField, 7) = "Assets:" Then
    CoAddressFlag = False
    coassetsRawData = Strings.Right(currentField, Strings.Len(currentField) - 7)
    GoTo Placetojump
End If

If caseidlabel = True And Strings.Left(currentField, 4) = "EIN:" Then
    CoAddressFlag = False
    coeidRawData = Strings.Right(currentField, Strings.Len(currentField) - 4)
    GoTo Placetojump
End If

If CoAddressFlag = True And Strings.Trim(currentField) <> "~" Then
    GoTo Placetojump
End If

' MsgBox(Strings.Trim(currentField))
If caseidlabel = True And Strings.Trim(currentField) = "Creditors Committees:" Then
    credcommflag = True
    caseidlabel = False
    ' MsgBox("end headings")
    GoTo Placetojump
End If

If credcommflag = True And Strings.Trim(currentField) = "~" Then
    credcommflag = False
    credmemberflag = True
    GoTo Placetojump
End If

If credmemberflag = True And Strings.Trim(currentField) <> "~" Then
    commnumberRawData = commnumberRawData + 1
    credmemberflag = False
    commmemberareaflag1 = True
    commnameRawData = Strings.Trim(currentField)
    GoTo Placetojump
End If

If commmemberareaflag1 = True And Strings.Trim(currentField) = "~" Then
    commmemberareaflag1 = False
    commmemberareaflag = True
    GoTo Placetojump
End If

If commmemberareaflag = True And Strings.Trim(currentField) = "~" And endmemberareaflag = False
Then

    linenumber = linenumber + 1

    completedline = linenumber & separator & _
    linenumber & separator & _
    conameRawData & separator & _
    coemployeesRawData & separator & _
    coassetsRawData & separator & _
    coeidRawData & separator & _
    cocasenumberRawData & separator & _
    commnumberRawData & separator & _
    commnameRawData & separator & _
    commmembercodeRawData & separator & _
    commmembernameRawData & separator & _
    commmemberaddress1RawData & separator & _
    commmemberaddress2RawData & separator & _
```

```
                                commmmemberaddress3RawData & separator & _
                                commmmemberaddress4RawData & separator & _
                                commmmemberaddress5RawData & separator & _
                                commmmemberaddress6RawData & vbCrLf
                                My.Computer.FileSystem.WriteAllText(reportfilename2, completedline, True)
                                completedline = ""
                                commmembernameRawData = ""
                                commmemberaddress1RawData = ""
                                commmemberaddress2RawData = ""
                                commmemberaddress3RawData = ""
                                commmemberaddress4RawData = ""
                                commmemberaddress5RawData = ""
                                commmemberaddress6RawData = ""
                                commemberindex = 0
                                GoTo Placetojump
                            End If

                            If Strings.Left(currentField, 21) = "Would you like to See" Then
                                endmemberareaflag = True

                                GoTo Placetojump
                            End If

                            If Strings.InStr(currentField, "ommittee") > 1 Then
                                commnumberRawData = commnumberRawData + 1
                                commnameRawData = currentField
                                GoTo Placetojump
                            End If

                            commemberindex = commemberindex + 1

                            Select Case commemberindex
                                Case 1
                                    commmembernameRawData = currentField
                                    GoTo Placetojump
                                Case 2
                                    commmemberaddress1RawData = currentField
                                    GoTo Placetojump
                                Case 3
                                    commmemberaddress2RawData = currentField
                                    GoTo Placetojump
                                Case 4
                                    commmemberaddress3RawData = currentField
                                    GoTo Placetojump
                                Case 5
                                    commmemberaddress4RawData = currentField
                                    GoTo Placetojump
                                Case 6
                                    commmemberaddress5RawData = currentField
                                    GoTo Placetojump
                                Case 7
                                    commmemberaddress6RawData = currentField
                                    GoTo Placetojump
                            End Select

Placetojump:
                        Next
                    Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                        MsgBox("Line " & ex.Message & _
                       "is not valid and will be skipped." & vbCrLf & conameRawData & vbCrLf & _
                      "Previous lines :" & vbCrLf)
                    End Try
                End While
            End Using

            MsgBox("end")

        End Sub

        Private Sub TextYear_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
TextYear.TextChanged
            TxtBoxReportFileName.Text = TextYear.Text
        End Sub

        Private Sub Label3_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Label3.Click

        End Sub

        Private Sub Button5_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button5.Click

            Dim bkfilingdate1 As Date = TextBox1.Text
            Dim bkfilingdate2 As Date = TextBox2.Text
            Dim adjdate1 As Date

            adjdate1 = bkfilingdate2.AddYears(TextYear.Text)

            If DateDiff("s", bkfilingdate1, bkfilingdate2) <= 0 Then
```

```
            MsgBox("date 1 is after date 2: Yes" & "  Member Service Date: " & bkfilingdate1 & "   Case Compared to
date: " & bkfilingdate2 & " adj date: " & adjdate1)
        Else
            MsgBox("date 1 is after date 2: No" & "  Member Service Date: " & bkfilingdate1 & "   Case Compared to date:
" & bkfilingdate2 & " adj date: " & adjdate1)
        End If

        If DateDiff("s", adjdate1, bkfilingdate1) <= 0 Then
            MsgBox("Yes" & "  Member Service Date:" & bkfilingdate1 & "   Case Compared to date: " & bkfilingdate2 & "
adj date: " & adjdate1)
        Else
            MsgBox("No" & "  Member Service Date:" & bkfilingdate1 & "   Case Compared to date: " & bkfilingdate2 & "
adj date: " & adjdate1)
        End If
    End Sub

    Private Sub Button4_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button4.Click

        Dim lineNumber(10000) As Integer
        Dim ID(10000) As Integer
        Dim BkNamea(10000) As String
        Dim Employees(10000) As Integer
        Dim Assets(10000) As String
        Dim EIN(10000) As String
        Dim BkCase(10000) As String
        Dim CommCode(10000) As String
        Dim Committee(10000) As String
        Dim Name(10000) As String
        Dim MemberCode(10000) As String
        Dim MemberName(10000) As String
        Dim Address1(10000) As String
        Dim Address2(10000) As String
        Dim Address3(10000) As String
        Dim Address4(10000) As String
        Dim Address5(10000) As String
        Dim Address6(10000) As String
        Dim BKFilingDate(10000) As Date
        Dim ConfDate(10000) As Date
        Dim EffectiveDate(10000) As Date
        Dim bkdata(10000) As String
        Dim bkconfirm As String = ""
        Dim n As Integer = 0
        Dim i As Integer = 0
        Dim j As Integer = 0
        Dim k As Integer = 0
        Dim m As Integer = 0
        Dim p As Integer = 0
        Dim q As Integer = 0
        Dim counter2 As Integer
        Dim TotalNumberofLines As Integer = 0
        Dim currentcase As Integer = 0
        Dim currentRow As String()
        Dim CompletedLine As String = ""
        Dim separator As String = "`"
        Dim txt As String = ""
        Dim bkname As String = ""
        Dim bkcrossdata As String = ""
        Dim adjdate As Date
        Dim adjdate2 As Date
        Dim adjdate3 As Date
        Dim counter(6000) As Integer
        Dim casematches(6000, 6000) As Integer
        Dim casecounter(6000) As Integer
        Dim membercounter(6000)
        Dim membermatches(6000, 5000)
        Dim matches(6000, 6000) As Integer
        Dim memberfound(6000) As String
        Dim okmatches(6000) As Integer
        Dim membernamec(6000) As String
        Dim membercasecounter(6000) As Integer
        Dim okmatches2(6000) As Integer
        Dim TotalNumberofMembers As Integer
        Dim ReportFileName As String
        Dim DataFileName As String
        Dim currentcommittee As String = ""
        Dim currentmember As Integer
        Dim ReportFileName2 As String

        DataFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\NRGCommdate11.txt"

        ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\nwbmem" & TxtBoxReportFileName.Text & ".txt"
        ReportFileName2 = "C:\Users\Andres\Documents\Dissertation\VB Test\nwbmemcase" & TxtBoxReportFileName.Text &
".txt"

        TotalNumberofMembers = 5288

        'check if file exists and delete it
```

```
        If My.Computer.FileSystem.FileExists(ReportFileName) Then
            My.Computer.FileSystem.DeleteFile(ReportFileName)
        End If
        If My.Computer.FileSystem.FileExists(ReportFileName2) Then
            My.Computer.FileSystem.DeleteFile(ReportFileName2)
        End If
        Using MyReader As New Microsoft.VisualBasic.FileIO.TextFieldParser(CStr(DataFileName))
            MyReader.TextFieldType = FileIO.FieldType.Delimited
            MyReader.SetDelimiters("`")
            currentRow = MyReader.ReadFields()
            ' Read txt data file
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    n = n + 1
                    lineNumber(n) = currentRow(0)
                    ID(n) = currentRow(1)
                    BkNamea(n) = currentRow(2)
                    Employees(n) = currentRow(3)
                    Assets(n) = currentRow(4)
                    EIN(n) = currentRow(5)
                    BkCase(n) = currentRow(6)
                    CommCode(n) = currentRow(7)
                    Committee(n) = currentRow(8)
                    MemberCode(n) = currentRow(9)
                    Name(n) = currentRow(10)
                    MemberName(n) = currentRow(11)
                    Address1(n) = currentRow(12)
                    Address2(n) = currentRow(13)
                    Address3(n) = currentRow(14)
                    Address4(n) = currentRow(15)
                    Address5(n) = currentRow(16)
                    ' Address6(n) = currentRow(17)
                    BKFilingDate(n) = currentRow(17)
                    ConfDate(n) = currentRow(18)
                    'EffectiveDate(n) = currentRow(20)
                Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                    MsgBox("Line " & ex.Message & _
                    "is not valid and will be skipped." & vbCrLf & _
                    "Previous lines :" & vbCrLf & _
                    bkdata(n - 3) & vbCrLf & _
                            bkdata(n - 2) & vbCrLf & _
                                    bkdata(n - 1) & vbCrLf & _
                                    bkdata(n))
                End Try
            End While
            TotalNumberofLines = n
            n = 0
            bkcrossdata = ""
            CompletedLine = "Member Name" & separator & " # Member Ties" & separator & "Member Codes" & vbCrLf
            My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
            CompletedLine = "Member Name" & separator & "Cases Served" & separator & "Cases Served" & vbCrLf
            My.Computer.FileSystem.WriteAllText(ReportFileName2, CompletedLine, True)
            adjdate2 = Convert.ToDateTime(TxtDateAnalysis.Text)
            adjdate3 = Convert.ToDateTime(txtDateAnalysis2.Text)
            For n = 1 To TotalNumberofLines
                If (DateDiff("s", BKFilingDate(n), adjdate2) < 0) Or (DateDiff("s", BKFilingDate(n), adjdate3) > 0) Then
                    ' MsgBox(BKFilingDate(n) & " is not in the range " & adjdate3 & " - " & adjdate2)
                    GoTo labeljump3
                End If
                For i = 1 To TotalNumberofLines
                    adjdate = BKFilingDate(i).AddYears(TextYear.Text)
                    If MemberCode(n) = MemberCode(i) And BkCase(n) = BkCase(i) Then
                        memberfound(MemberCode(n)) = "yes"
                        membernamec(MemberCode(n)) = MemberName(n)
                    End If
                    If MemberCode(n) = MemberCode(i) And (DateDiff("s", BKFilingDate(n), BKFilingDate(i)) <= 0) And
(DateDiff("s", adjdate, BKFilingDate(n)) <= 0) Then
                        For p = 1 To casecounter(MemberCode(n))
                            If casematches(MemberCode(n), p) = BkCase(i) Then
                                GoTo jumplabelww
                            End If
                        Next p
                        casecounter(MemberCode(n)) = casecounter(MemberCode(n)) + 1
                        casematches(MemberCode(n), casecounter(MemberCode(n))) = BkCase(i)
jumplabelww:
                    End If
                Next
                For i = 1 To TotalNumberofLines
                    For p = 1 To casecounter(MemberCode(n))
                        If BkCase(i) = casematches(MemberCode(n), p) Then
                            For q = 1 To membercounter(MemberCode(n))
                                If MemberCode(i) = membermatches(MemberCode(n), q) Then
                                    GoTo jumplabelxx
                                End If
                            Next
                            If MemberCode(i) <> MemberCode(n) Then
```

```
                            membercounter(MemberCode(n)) = membercounter(MemberCode(n)) + 1
                            membermatches(MemberCode(n), membercounter(MemberCode(n))) = MemberCode(i)
                        End If
jumplabelxx:
                    End If
                Next p
            Next i
labeljump3:
        Next n
        bkcrossdata = ""
        For j = 1 To TotalNumberofMembers
            If memberfound(j) = "yes" And j <> 2 And j <> 3 Then
                counter2 = 0
                currentmember = j
                bkcrossdata = currentmember
                For k = 1 To casecounter(j)
                    bkcrossdata = bkcrossdata & separator & casematches(j, k)
                Next k
                CompletedLine = membernamec(j) & separator & casecounter(j) & separator & bkcrossdata & vbCrLf
                My.Computer.FileSystem.WriteAllText(ReportFileName2, CompletedLine, True)
                bkcrossdata = ""
                counter2 = 0
                bkcrossdata = currentmember
                For k = 1 To membercounter(j)
                    bkcrossdata = bkcrossdata & separator & membermatches(j, k)
                Next k
                CompletedLine = membernamec(j) & separator & membercounter(j) & separator & bkcrossdata & vbCrLf
                My.Computer.FileSystem.WriteAllText(ReportFileName, CompletedLine, True)
                bkcrossdata = ""
            End If
        Next j
    End Using
    MsgBox("End Create")
End Sub
Private Sub TxtBoxReportFileName_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
TxtBoxReportFileName.TextChanged
End Sub
Private Sub Button6_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button6.Click
    Dim LineNumber(10000) As String
    Dim membercode(10000) As String
    Dim memberclass1(10000) As String
    Dim memberclass2(10000) As String
    Dim membername1(10000) As String
    Dim membername2(10000) As String
    Dim genclass1(6000) As String
    Dim genclass2(6000) As String
    Dim foundflag As Boolean = False
    Dim n As Integer = 0
    Dim i As Integer = 0
    Dim DataFileName As String
    Dim TotalNumberofCases As Integer = n
    Dim TotalNumberofLines As Integer = 0
    Dim currentcase As Integer = 0
    Dim currentRow As String()
    Dim separator As String = "`"
    Dim notfoundcounter As Integer = 0
    Dim assetscounter As Integer = 0
    Dim eincounter As Integer = 0
    Dim einyesassetnocounter As Integer = 0
    Dim einnoassetyescounter As Integer = 0
    Dim bothcounter As Integer = 0
    Dim namecounter As Integer = 0
    Dim completedline As String
    n = 0
    DataFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\listofmembers.txt"
    Using MyReader As New Microsoft.VisualBasic.FileIO.TextFieldParser(CStr(DataFileName))
        MyReader.TextFieldType = FileIO.FieldType.Delimited
        MyReader.SetDelimiters(",")
        currentRow = MyReader.ReadFields()
        ' Read txt data file
        While Not MyReader.EndOfData
            Try
                currentRow = MyReader.ReadFields()
                n = n + 1
                LineNumber(n) = currentRow(0)
                membercode(n) = currentRow(1)
                membername1(n) = currentRow(3)
                membername2(n) = currentRow(4)
            Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                MsgBox("Line " & ex.Message & _
                "is not valid and will be skipped.")
            End Try
        End While
    End Using
    TotalNumberofLines = n
    n = 0
    ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\membersclass1.txt"
```

```
        If My.Computer.FileSystem.FileExists(ReportFileName) Then
            My.Computer.FileSystem.DeleteFile(ReportFileName)
        End If
        For i = 1 To TotalNumberofLines
            If InStr(membername1(i), "Credit") > 0 Or InStr(membername1(i), "credit") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Credit"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Financial") > 0 Or InStr(membername1(i), "financial") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Financial"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Leasing") > 0 Or InStr(membername1(i), "leasing") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Leasing"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Insurance") > 0 Or InStr(membername1(i), "insurance") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Insurance"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Capital") > 0 Or InStr(membername1(i), "capital") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Capital"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Invest") > 0 Or InStr(membername1(i), "invest") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Investments"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Fund") > 0 Or InStr(membername1(i), "fund") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Fund"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Advisors") > 0 Or InStr(membername1(i), "advisors") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Advisors"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Insurance") > 0 Or InStr(membername1(i), "insurance") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Insurance"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Bank") > 0 Or InStr(membername1(i), "bank") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Bank"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername1(i), "Trust") > 0 Or InStr(membername1(i), "trust") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Or
genclass1(membercode(i)) = "Bank" Then
                    genclass1(membercode(i)) = "Trust"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If

            If InStr(membername2(i), "Credit") > 0 Or InStr(membername2(i), "credit") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Credit"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername2(i), "Financial") > 0 Or InStr(membername2(i), "financial") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Financial"
                    genclass2(membercode(i)) = "Finance"
                End If
            End If
            If InStr(membername2(i), "Leasing") > 0 Or InStr(membername2(i), "leasing") > 0 Then
                If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                    genclass1(membercode(i)) = "Leasing"
```

```
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Insurance") > 0 Or InStr(membername2(i), "insurance") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Insurance"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Capital") > 0 Or InStr(membername2(i), "capital") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Capital"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Invest") > 0 Or InStr(membername2(i), "invest") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Investments"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Fund") > 0 Or InStr(membername2(i), "fund") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Fund"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Advisors") > 0 Or InStr(membername2(i), "advisors") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Advisors"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Insurance") > 0 Or InStr(membername2(i), "insurance") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Insurance"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Bank") > 0 Or InStr(membername2(i), "bank") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Then
                genclass1(membercode(i)) = "Bank"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If InStr(membername2(i), "Trust") > 0 Or InStr(membername2(i), "trust") > 0 Then
            If genclass1(membercode(i)) = "" Or genclass1(membercode(i)) = "General Creditor" Or
genclass1(membercode(i)) = "Bank" Then
                genclass1(membercode(i)) = "Trust"
                genclass2(membercode(i)) = "Finance"
            End If
        End If
        If genclass1(membercode(i)) = "" Then
            genclass1(membercode(i)) = "General Creditor"
            genclass2(membercode(i)) = "General Creditor"
        End If
    Next i
    For i = 1 To TotalNumberofLines
        memberclass1(i) = genclass1(membercode(i))
        memberclass2(i) = genclass2(membercode(i))
        completedline = LineNumber(i) & separator & _
                        membercode(i) & separator & _
                        memberclass1(i) & separator & _
                        memberclass2(i) & separator & _
                        membername1(i) & separator & _
                        membername2(i) & vbCrLf
        My.Computer.FileSystem.WriteAllText(ReportFileName, completedline, True)
    Next
    MsgBox("Done")
End Sub

Private Sub Button7_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MemberStatistics.Click
    Dim LineNumber(10000) As String
    Dim membercode(10000) As String
    Dim memberclass1(10000) As String
    Dim memberclass2(10000) As String
    Dim membername1(10000) As String
    Dim membername2(10000) As String
    Dim genclass1(6000) As String
    Dim genclass2(6000) As String
    Dim genclassname(6000) As String
    Dim foundflag As Boolean = False
    Dim n As Integer = 0
    Dim i As Integer = 0
    Dim DataFileName As String
    Dim TotalNumberofCases As Integer = n
    Dim TotalNumberofLines As Integer = 0
```

```
        Dim currentcase As Integer = 0
        Dim currentRow As String()
        Dim separator As String = "`"
        Dim notfoundcounter As Integer = 0
        Dim assetscounter As Integer = 0
        Dim eincounter As Integer = 0
        Dim einyesassetnocounter As Integer = 0
        Dim einnoassetyescounter As Integer = 0
        Dim bothcounter As Integer = 0
        Dim namecounter As Integer = 0
        Dim completedline As String
        Dim maxmembercode As Integer = 0
        n = 0

        DataFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\membersclass3.txt"

        Using MyReader As New Microsoft.VisualBasic.FileIO.TextFieldParser(CStr(DataFileName))

            MyReader.TextFieldType = FileIO.FieldType.Delimited
            MyReader.SetDelimiters(",")
            currentRow = MyReader.ReadFields()
            While Not MyReader.EndOfData
                Try
                    currentRow = MyReader.ReadFields()
                    n = n + 1
                    LineNumber(n) = currentRow(0)
                    membercode(n) = currentRow(1)
                    memberclass2(n) = currentRow(3)
                    membername1(n) = currentRow(4)
                    membername2(n) = currentRow(5)
                    If Val(membercode(n)) > maxmembercode Then maxmembercode = Val(membercode(n))
                Catch ex As Microsoft.VisualBasic.FileIO.MalformedLineException
                    MsgBox("Line " & ex.Message & _
                    "is not valid and will be skipped.")
                End Try
            End While
        End Using

        TotalNumberofLines = n

        n = 0
        ReportFileName = "C:\Users\Andres\Documents\Dissertation\VB Test\membersstats2.txt"

        'check if file exists and delete it
        If My.Computer.FileSystem.FileExists(ReportFileName) Then
            My.Computer.FileSystem.DeleteFile(ReportFileName)
        End If

        For i = 1 To TotalNumberofLines
            genclassname(membercode(i)) = membername1(i)
            genclass1(membercode(i)) = genclass1(membercode(i)) + 1
            If memberclass2(i) = "Finance" Then
                genclass2(membercode(i)) = "Finance"
            Else
                genclass2(membercode(i)) = "Other"
            End If
        Next i

        For i = 1 To maxmembercode
            completedline = i & separator & _
                            genclassname(i) & separator & _
                            genclass1(i) & separator & _
                            genclass2(i) & vbCrLf

            My.Computer.FileSystem.WriteAllText(ReportFileName, completedline, True)
        Next
        MsgBox("Done")
    End Sub
End Class
```

APPENDIX G: CREDITOR COMMITTEE EFFECTS ON TIME AND APR

Appendix G: Creditor Committee Composition Effects on Time and APR

G.1. Introduction

This Appendix examines the role of creditor committee characteristics in explaining outcomes of the bankruptcy cases, as measured by two commonly studied variables in empirical bankruptcy studies: time from bankruptcy protection filing to confirmation and APR violations. The purpose of this chapter is to test the hypothesis that models, explaining time and APR violations, including creditor committee variables provide statistically superior predictive functions than basic regression models not including them.

As discussed on Chapter 3, the span of time a firm stays under bankruptcy protection is considered a noisy proxy for the measurement of indirect costs. This is because operation of the firm under the shadow of bankruptcy reorganization increases uncertainties that can negatively affect the firms' relationships with others. Thus, operating under bankruptcy protection might hurt market share, lower employee morale, recruitment and retention, increase operating costs, distract management from operating the business, and induce a short term focus in the operation of the firm. These costs can be substantial as typical bankruptcy reorganizations usually take almost two years to resolve, and even much longer in a significant number of cases (Calpine's bankruptcy reorganization, for example, lasted 772 days, a little over 2 years). Thus, time is considered a key metric of the process as it is thought to be one of principal proxies of efficiency. And bankruptcy efficiency is at the core of the calls for corporate bankruptcy reform. Not surprisingly, debates over bankruptcy code reform policy routinely point at long lags between bankruptcy filing and the firm's reorganization as an indication

of failure of the current code. This raises the question whether it is possible for Congress to come up with a faster mechanism to deal with corporate failures.

Also, as discussed in Chapter 3, measures of APR violations are commonly used to measure the outcomes of the bankruptcy reorganization process. This is because APR violations are often seen as aberrations of the corporate bankruptcy system and ones that potentially introduce profound distortions to the whole economic system as contracts throughout the economy price in the uncertainty of creditor priority. Thus, for example, Calpine's distribution to subordinated note holders -Class D creditors- ahead of an explicit full payment to senior note claims -Class C1- on the plan of reorganization, provides a strong indication of an APR violation and, for many, a disturbing sign of a failure of the current system. APR violations has also been the focus of discussion in the bankruptcy policy debate, as it might point at the wider implications for the economy of the current corporate bankruptcy code and how it potentially affects almost every single contract negotiated by firms.

This Appendix begins with a section that will introduce the models used in the regressions. It is followed by a section discussing of the data used in this Appendix. This discussion focuses in particular on the sample selection which has proven to be problematic in empirical bankruptcy studies. Next, the results of the correlations analysis and the regressions are presented. Last, a short section presents a brief discussion of the results.

G.2. Methods

The basic model explaining bankruptcy outcomes introduced in Chapter 4 is used here:

$$Key\ Bankruptcy\ Outcomes = f(Creditor\ Committee\ Variables, Control\ Variables) + \epsilon$$

where the variables of interest are the creditor committee variables. Including the three creditor committee dimensions of analysis investigated in the previous chapter the model then becomes:

$$Key\ Bankruptcy\ Outcomes = f\begin{pmatrix} Creditor\ Committee\ Individual\ Variables, \\ Creditor\ Committee\ Dynamic\ Variables, \\ Creditor\ Committee\ Social\ Variables, \\ Control\ Variables \end{pmatrix} + \epsilon$$

For the dependent variable, $Time$, is the number of days the firm *i* remains under bankruptcy protection (from day the bankruptcy petition is filed to the day of emergence), this equation becomes:

$$Time = f\begin{pmatrix} Number\ of\ Financial\ Firms, \\ Number\ of\ Filings\ Per\ Committee, \\ Degree\ Centrality\ Measure, \\ Assets, Number\ of\ Employees \end{pmatrix} + u$$

Furthermore, previous literature has consistently modeled time as a linear function of the natural logs of the control variables used here. Therefore the model can be expressed as:

$$Time_i = \beta_0 + \beta_1\, NumFinancialFirms + \beta_2\, FilingsPerCommittee + \beta_3\, DegreeCentrality + \beta_4 \ln(Assets) + \beta_5 \ln(Employees) + u_i$$

Finally, for the equation explaining APR variable, the basic model becomes:

$$APR = f\begin{pmatrix} Number\ of\ Financial\ Firms, \\ Number\ of\ Filings\ Per\ Committee, \\ Degree\ Centrality\ Measure, \\ Assets, Number\ of\ Employees \end{pmatrix} + \epsilon$$

Where the dependent variable,APR, is the dummy variable coded as 1 when a violation of the APR is expected from the analysis of the approved plan of reorganization filed with PACER and coded 0 (zero) when no APR violation is expected after the analysis of the plan of reorganization. This function can be fitted with the following logistic function:

$$APR = \frac{e^z}{e^z + 1} + \epsilon = \frac{1}{1 + e^{-z}} + \epsilon$$

where

$$z = \beta_0 + \beta_1\, NumFinancialFirms + \beta_2\, FilingsPerCommittee + \beta_3\, DegreeCentrality + \beta_4 \ln(Assets) + \beta_5 \ln(Employees)$$

G.3. Data

The sample selected for the regressions in this Appendix only includes large cases filed in the Southern District of New York with committees and for which an in depth search of court records was performed. Further, only cases that had emerged as independent operating companies were considered. This screen in

effect removed all Chapter 11 cases that were converted to Chapter 7, and cases with significant 363 section asset sales. Also, mass tort cases were also removed from the sample. The resulting sample has a total of 36 cases filed. Only 20 of these cases emerged as public companies and thus there were only cases for which 10K fees were available.

G.4. Results

G.4.1. Descriptive Statistics

Table F1 presents the descriptive statistics for the variables used in the regressions. This table is important because it allows us to confirm that despite the relative small size of the sample used in the regressions, the observations appear to have a significant amount of variability as represented by the standard deviations of the individual variables.

Descriptive Statistics

	Mean	Std. Deviation	N
CaseAssets	5.29E9	7.993E9	36
LnAssets	7.45	1.58	36
CaseEmp	14500.11	32615.37	36
LnEmp	8.40	1.567	36
NumFinancial	4.33	2.70	36
FilingsPerComm	1.95	1.61	36
Connections	39.83	28.92	36
TimeDays	520.17	387.16	36
Fees10K	1.25E8	1.213E8	20
APRViol	.42	.50	36

Table G1: Regression Variables Descriptive Statistics

A summary of the correlations among all variables is shown on Table G2. Examination of this table reveals a significant correlation of two of our variables of interest, number of financial institutions present in the case's creditor committees (NumFinancial) and the case's degree centrality (Connections), to the assets of the case (CaseAssets).

These results are consistent with the observations on Chapter 6. First, the significant correlation among asset size (CaseAssets), degree centrality of the case (Connections), and the number of financial institutions serving on the case (NumFinancial) is consistent with previous observations as large cases are more likely to include the institutions that most often serve in creditor committees and these tend to be financial institutions. Another significant correlation is that between the number of financial firms serving on committees and the natural log of the total number of employees employed by the debtor when the case is filed. This correlation is intuitive as employees is a proxy for the financial complexity of the firm and one can expect that more financially complex firms will have more complex relationships with financial firms and investors. In contrast, a firm with a simpler financial structure is more likely to have a higher proportion of its creditors be trade creditors instead of financial firms.

		CaseAssets	LnAssets	CaseEmp	LnEmp	NumFinancial	FilingsPerComm	Connections	TimeDays	Fees10K	APRViol
CaseAssets	Pearson Correlation	1	.850**	.430**	.506**	.460**	.172	.439**	.205	.723**	-.093
	Sig. (2-tailed)		.000	.009	.002	.005	.315	.007	.230	.000	.589
	N	36	36	36	36	36	36	36	36	20	36
LnAssets	Pearson Correlation	.850**	1	.453**	.630**	.572**	.146	.476**	.232	.647**	-.063
	Sig. (2-tailed)	.000		.006	.000	.000	.397	.003	.173	.002	.714
	N	36	36	36	36	36	36	36	36	20	36
CaseEmp	Pearson Correlation	.430**	.453**	1	.675**	.118	.152	.075	.452**	.334	-.233
	Sig. (2-tailed)	.009	.006		.000	.493	.375	.662	.006	.150	.172
	N	36	36	36	36	36	36	36	36	20	36
LnEmp	Pearson Correlation	.506**	.630**	.675**	1	.330*	.308	.268	.420*	.306	-.175
	Sig. (2-tailed)	.002	.000	.000		.050	.067	.115	.011	.190	.309
	N	36	36	36	36	36	36	36	36	20	36
NumFinancial	Pearson Correlation	.460**	.572**	.118	.330*	1	.110	.468**	.022	.106	.085
	Sig. (2-tailed)	.005	.000	.493	.050		.522	.004	.898	.658	.623
	N	36	36	36	36	36	36	36	36	20	36
FilingsPerComm	Pearson Correlation	.172	.146	.152	.308	.110	1	.065	.374*	.555*	.027
	Sig. (2-tailed)	.315	.397	.375	.067	.522		.705	.025	.011	.875
	N	36	36	36	36	36	36	36	36	20	36
Connections	Pearson Correlation	.439**	.476**	.075	.268	.468**	.065	1	-.114	.097	-.189
	Sig. (2-tailed)	.007	.003	.662	.115	.004	.705		.510	.684	.270
	N	36	36	36	36	36	36	36	36	20	36
TimeDays	Pearson Correlation	.205	.232	.452**	.420*	.022	.374*	-.114	1	.514*	-.047
	Sig. (2-tailed)	.230	.173	.006	.011	.898	.025	.510		.020	.783
	N	36	36	36	36	36	36	36	36	20	36
Fees10K	Pearson Correlation	.723**	.647**	.334	.306	.106	.555*	.097	.514*	1	.301
	Sig. (2-tailed)	.000	.002	.150	.190	.658	.011	.684	.020		.198
	N	20	20	20	20	20	20	20	20	20	20
APRViol	Pearson Correlation	-.093	-.063	-.233	-.175	.085	.027	-.189	-.047	.301	1
	Sig. (2-tailed)	.589	.714	.172	.309	.623	.875	.270	.783	.198	
	N	36	36	36	36	36	36	36	36	20	36

** Correlation is significantly different from zero at the 0.01 level (2-tailed).

* Correlation is significantly different from zero at the 0.05 level (2-tailed).

Table G2: Matrix of the Correlation of Regression Variables

Among the outcome variables, the significant positive correlation between time (TimeDays) and number of employees (CaseEmp) was also expected. Again, as a proxy for financial and operational complexity, cases with a larger number of employees are intuitively more come complex and they should take longer to reorganize. Also, professional fees (Fees10K) are directly related to case size and thus the strong correlation between the two is not surprising. Furthermore, fees are also significantly and positively correlated with the number of filings per committee (FilingsPerComm). The last correlation is also intuitive as the number of filings per committee is correlated to time, which has been found in the literature to be a significant determinant of fees.

Next individual estimated models incorporating creditor committee variables and other control variables are presented.

G.4.2. Time

The first dependent variable analyzed is time (TimeDays).Two models are compared: Model 1 and Model 2. Model 1 is the control model with three predictors: Constant, LnEmp, and LnAssets. Model 2 adds the three creditor committee variables: FilingsPerComm, Connections, and NumFinancial. The summary of the results are presented on the following table:

Time to Reorganize in Large Corporate Bankruptcies

	I		II
lnAssets	-13.165		36.481
lnEmp	113.031	*	84.127
NumFinancial			-12.481
FilingsPerComm			65.814
Connections			-3.377
Constant	-331.393		-397.997
R^2	0.179		0.306
N	36		36

*** p<0.001, **p<0.01, *p<0.05, ^p<0.10

Key variables are highlighted

Table G3: Time Models Regression Summary

	Change Statistics				
Model	R Square Change	F Change	df1	df2	Sig. F Change
1	.179	3.586	2	33	.039
2	.128	1.838	3	30	.162

Table G4: Time Models Change Statistics

These results tell us the control model (Model1) explains around 18% of variation and is a better predictor than an intercept only model at a 0.05 significance. The model including the committee variables explains around 30%

of variation and is also a better predictor than an intercept only model at a 0.05 significance. The change in the F test from Model 1 to Model 2 is, however, not significant. This means the improvement of the predictive power of Model 2 over Model 1 is not significant and thus Model 2 is not statistically better than Model 1.

The regression coefficients only reveal one significant coefficient at a 0.05 significance level: the natural log of the number of employees in Model 1. The coefficient is, however, suspect given the high level of correlation between assets and the number of employees on Table 26.

G.4.4. APR Violations

The dependent variable for APR violations is the dummy variable coded as 1 when a violation of the APR is expected from the analysis of the approved plan of reorganization filed with PACER and coded 0 (zero) when no APR violation is expected after the analysis of the plan of reorganization. A logistic function in this regression . The analysis of APR violations compares three separate models: a starting model with no predictor variables (block 0), an intermediate model that only includes the control variables (block 1), and a complete model that includes both control as well as study variables—i.e., creditor committee characteristics—on block 2. Tables G5, G6, and G7 present the results of the logistic regressions for each one of the blocks.

Block 0: No Predictor Variables

Classification Table[a,b]

Observed			Predicted		
			APRViol		Percentage Correct
			0	1	
Step 0	APRViol	0	21	0	100.0
		1	15	0	.0
	Overall Percentage				58.3

a. Constant is included in the model.

b. The cut value is .500, n=36

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.336	.338	.991	1	.320	.714

Table G5: APR Model Block 0

It is important to notice that the results from the starting model, with no predictor variables, results in the correct prediction of 58% of the observations. As a matter of fact, the average model with no predictor variables and random samples should correctly predict 50% of observations. The next block introduces the control variables LnAssets, LnEmp, and TimeDays.

Block 1: Only Control Variables Included

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	1.245	2	.537
	Block	1.245	2	.537
	Model	1.245	2	.537

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	47.657[a]	.034	.046

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.052	7	.328

Contingency Table for Hosmer and Lemeshow Test

		APRViol = 0		APRViol = 1		
		Observed	Expected	Observed	Expected	Total
Step 1	1	4	2.910	0	1.090	4
	2	3	2.685	1	1.315	4
	3	1	2.540	3	1.460	4
	4	1	2.468	3	1.532	4
	5	2	2.341	2	1.659	4
	6	3	2.211	1	1.789	4
	7	3	2.146	1	1.854	4
	8	2	2.037	2	1.963	4
	9	2	1.661	2	2.339	4

Classification Table[a]

			Predicted		
			APRViol		Percentage
	Observed		0	1	Correct
Step 1	APRViol	0	19	2	90.5
		1	12	3	20.0
	Overall Percentage				61.1

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	LnAssets	.102	.283	.129	1	.720	1.107
	LnEmp	-.304	.296	1.052	1	.305	.738
	Constant	1.451	2.044	.504	1	.478	4.267

a. Variable(s) entered on step 1: LnAssets, LnEmp.

b. N=36

Table G6: APR Model Block 1

This model correctly predicts 61% of observations. Furthermore, the Hosmer and Lemeshow goodness-of-fit test, tells us that we fail to reject the hypothesis that there is no difference between the observed and the predicted values of the model. This means the variance explained by the model is explained in a significant degree. But the model only explains a small amount of the variance (Cox & Snell R Square = 0.076 and Nagelkerke R Square = 0.116). Moreover, the chi-square goodness-of-fit test rejects the null hypothesis. Thus, the model including the control variables is no better than the constant-only model. The next block introduces the study variables: number of financial firms serving in the committees, the number of filings per committee, and degree centrality.

Block 2: Control Variables and Variables of Interest Included

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	3.386	3	.336
	Block	3.386	3	.336
	Model	4.631	5	.463

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	44.271[a]	.121	.162

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	15.857	7	.026

Contingency Table for Hosmer and Lemeshow Test

		APRViol = 0		APRViol = 1		
		Observed	Expected	Observed	Expected	Total
Step 1	1	4	3.540	0	.460	4
	2	3	3.001	1	.999	4
	3	0	2.753	4	1.247	4
	4	4	2.532	0	1.468	4
	5	3	2.270	1	1.730	4
	6	2	2.115	2	1.885	4
	7	2	1.916	2	2.084	4
	8	3	1.653	1	2.347	4
	9	0	1.221	4	2.779	4

Classification Table[a]

			Predicted		
			APRViol		Percentage
	Observed		0	1	Correct
Step 1	APRViol	0	17	4	81.0
		1	8	7	46.7
	Overall Percentage				66.7

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	LnAssets	.115	.355	.105	1	.746	1.121
	LnEmp	-.411	.332	1.533	1	.216	.663
	NumFinancial	.234	.185	1.608	1	.205	1.264
	FilingsPerComm	.119	.245	.236	1	.627	1.126
	Connections	-.024	.017	2.114	1	.146	.976
	Constant	1.914	2.269	.711	1	.399	6.778

a. Variable(s) entered on step 1: NumFinancial, FilingsPerComm, Connections.

Table G7: APR Model Block 2

This model correctly predicts almost 67% of observations. The Hosmer and Lemeshow goodness-of-fit test, however, tells us that we can reject the hypothesis that there is no difference between the observed and the predicted values of the model. This means the variance explained by the model is not explained in a significant degree. Furthermore, the model only explains a small amount of the variance (Cox & Snell R Square = 0.121 and Nagelkerke R Square = 0.162). Moreover, the chi-square goodness-of-fit test rejects the null hypothesis this step is justified. Thus, the model including the study variables is no better than the constant-only model.

G.5 Conclusions

Most of the bankruptcy outcome variables failed to confirm the hypotheses that base models are statistically different to those including the creditor's committee descriptive variables. However, this should not detract from the fact creditor committee variables do provide valuable information about each case. As a matter of fact, creditor committee variables can be used as noisy proxies for some of the basic case metrics such as case assets and case duration given their significant correlations levels.

Furthermore, both the samples used in the modeling and well as the models themselves could be enlarged and improved in order to enhance the predictive power of the models. Thus, for example, the sample could be expanded to include another district of filing by using the case database created in this dissertation and then collecting data from pre-determined targeted cases. Also, the

models could be greatly improved by including a wider number of control variables.

Perhaps more importantly, creditor committee variables could be enhanced by including broader measures of the bankruptcy “ecosystem”, meaning the inclusion of information of case key participants, such as professionals working for the debtor and the committees. In other words, looking at just creditor committee membership misses other important aspects of the bankruptcy players that are likely to have an effect on key bankruptcy variables.

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