Chapter 11 of Family-Owned Firms

Friederike Meyer [1]

Abstract

We study the period prior to chapter 11 bankruptcy as well as the process and outcomes of chapter 11 for family-owned firms. Our sample includes 230 chapter 11 filings of S&P 1500 publicly listed US companies from 1996 to 2021. 11 percent of those chapter 11 cases were filed by family-owned firms. Family owners were still actively involved prior to chapter 11, with 72 percent of family-owned firms having a family member in the position of CEO or Chairman and an average equity stake of 21 percent. Our results show that family-owned firms are associated with a higher stock issuance prior to Chapter 11. The results further show that family-owned firms are more likely to engage in forum shopping, the practise of filing chapter 11 in a different district to that of the head office.

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[1] University of St. Gallen; friederike.meyer@unisg.ch

1 Introduction

Prior research shows that the types of shareholders and creditors involved in chapter 11 can impact the process and outcomes of chapter 11 (Ivashina et al., 2016; Jiang et al., 2012). Shareholders can have a significant influence in the negotiations of the reorganization plan and are sometimes even able to keep a share of the value of the reorganized firm even when creditors are not fully repaid (Bebchuk, 2002). Amongst the various shareholder groups, family owners are common even amongst publicly listed firms (Anderson & Reeb, 2003) and have distinct characteristics and motivations (Villalonga & Amit, 2020). Yet, existing research on chapter 11 has focused on the impact of ownership and creditor structure in the form of hedge fund involvement and creditor involvement on the process and outcomes of the chapter 11 proceedings (Ivashina et al., 2016; Jiang et al., 2012).

In contrast to other types of shareholder and creditor groups, family owners do not only have to consider economic wealth trade-offs with regard to their concentrated equity stake, but also need to evaluate trade-offs related to their socioemotional wealth (Gomez-Mejia et al., 2007; Berrone et al., 2012). A family owner's socioemotional endowment in the family-owned firm often stems from, amongst other elements, their reputation within society as business owners, their emotions towards the family legacy and their power as key decision-makers in the firm (Berrone et al., 2012). Bankruptcy could potentially result in a complete loss of both their equity stake and their socioemotional endowment. In addition, family owners often fulfil a dual role by also holding positions in the management (Berrone et al., 2012) and therefore, are likely able to steer the decision-making of the firm prior to and during chapter 11. Given those unique trade-offs, gaining an understanding of how family-owned firms navigate chapter 11 can be interesting for the various classes of creditors, as well as employees, suppliers and customers which can be severely impacted by the chapter 11 bankruptcy process. Furthermore, the topic may also be relevant to advisors, lawyers, and policymakers specializing in bankruptcy and reorganization to understand the impact of varying shareholder structures.

As part of the US bankruptcy code, Chapter 11 reorganization offers the last opportunity to restructure the business to maintain the family legacy. As part of this process family owners are likely exposed to multi-dimensional trade-offs. Firstly, family owners need to weigh decisions along economic wealth preservation and socioemotional wealth preservation (Gomez-Mejia et al., 2007; Berrone et al., 2012). Secondly, for family owners involved in the management or board, family managers need to also context switch between their role as stewards of the firm in the form of their management responsibilities and their role as shareholders representing a key creditor group during the chapter 11 negotiations. Family owners may impact chapter 11 in two main ways. Firstly, as one of the classes of creditors, shareholders have negotiation power prior to and during chapter 11 since they may be able to delay the negotiations of the reorganization plan. A delay in the negotiations can reduce the value of the firm that is available to creditors due to the extensive legal and advisory costs associated with the chapter 11 process (Bebchuk, 2002). Due to this negotiation power of shareholders, debtholders may agree to requests from shareholders, even if this would violate the absolute priority, in order to speed up the chapter 11 process (Bebchuk, 2002; Weiss, 1990). Secondly, if they hold a position in management, family owners will actively manage the going concern operations of the firm and suggest the proposal of the reorganization plan.

This paper examines the process and outcomes of chapter 11 as well as the period prior to filing for publicly listed family-owned firms. Our sample includes all 230 chapter 11 cases of S&P 1500 companies that were filed from 1996 to 2021, consisting of 25 family-owned firm and 205 non-family-owned cases. We examine both the firm characteristics before chapter 11 and the process and outcome of chapter 11 for family-owned firms. Firstly, we run various linear regression analyses to examine the financial performance in the three years prior to Chapter 11 to examine the impact of family ownership on the circumstances of chapter 11. Secondly, we run various logit and linear regression analyses to examine the impact of family ownership on the process and outcome of chapter 11.

Our descriptive findings show that 11 percent of all chapter 11 filings of S&P 1500 firms from 1996 to 2021 were filed by family-owned firms. Family owners are still committed and actively involved in the family-owned firm prior to chapter 11 filing. The average equity stake of family members in the family-owned firm is 21 percent in the year prior to Chapter 11. Of the family-owned subsample, ca. 72 percent have a family member in the position of CEO or chairman in the year prior to chapter 11. At the time of filing of chapter 11, 40 percent of the CEOs of family-owned firms are a member of the family. However, for 80 percent of the chapter 11 cases the family CEO at filing is exchanged during the chapter 11 process. Moreover, the descriptive statistics of the family subsample indicate that there are differences within the family-owned subsample. In particular, the univariate statistics show that 40 percent of chapter 11 cases with a family member as CEO at the time of filing pre-packaged or pre-negotiate the case, compared to only 11 percent of those for other types of family-owned firms. This indicates that 40 percent of family-owned firms run by a family CEO bring together the various creditor groups before even filing for chapter 11 in order to negotiate the reorganization plan beforehand, which can bring more certainty for the chapter 11 reorganization process.

Our regression results show that family-owned firms issue more equity in the year prior to chapter 11, which indicates that family-owned firms may have more equity support before ultimately ending up in chapter 11. Regarding the process of Chapter 11, we find that family-owned firms are more likely to do forum shopping, to file their case in a different district compared to their head office, which is frequently done to optimize the conditions around the chapter 11 process. In terms of outcomes, family-owned firms are more likely to refile again after emerging from chapter 11 (albeit at the 10 percent confidence level).

When examining the firm characteristics prior to chapter 11, we find that family-owned firms rapidly scale their revenues and total assets in the 3 years prior to chapter 11 compared to non-family-owned firms (albeit at the 10 percent confidence level) and are associated with significantly higher growth in outstanding receivables. Our results indicate that the circumstances around chapter 11 filings of family-owned firms may be related to unsustainable firm growth.

This paper contributes to various research streams at the intersection of management, finance and law. Firstly, we contribute to the family firm literature (Villalonga et al., 2015; Villalonga et al., 2020) by extending the research of family-owned firms to the context of chapter 11 reorganization. Chapter 11 puts the family owners in an extreme situation where their entire economic and socioemotional wealth is at stake. Secondly, we add to the existing finance and law literature on chapter 11 (Franks & Torous, 1989; Bebchuk, 2002; Kalay et al., 2007) by examining the distinct shareholder group of family owners. Studying family-owned firms in chapter 11 is interesting since family-owned firms pose a unique case where the management role and shareholder role may overlap during the chapter 11 process.

2 Theoretical Background

2.1 Background on chapter 11 bankruptcy

The US Bankruptcy Act is based on the US Bankruptcy Reform Act, which was enacted in 1978. When a firm is not able to meet its obligations, either the management of the firm or its creditors can file for bankruptcy under the US Bankruptcy Code. While filing for chapter 7 results in the appointment of a trustee and the immediate liquidation of the firm, filing for chapter 11 sets out the procedure for reorganization to restructure operations and debt obligations (Bris et al., 2006). The petition for chapter 11 is a voluntary proceeding if chapter 11 is filed by the management of the company, and it is considered an involuntary proceeding if creditors initiate the filing. Firms will often first try to negotiate an out-of-court restructuring with their creditors in order to avoid the formal chapter 11 bankruptcy process (Gilson et al., 1990).

Under chapter 11 the management and board of directors continue to manage the business in an ordinary manner with the aim to maintain the long-term value of the firm (Bebchuk & Chang, 1992). Since interruptions of the operations of the firm would be very costly, the existing management and board may continue to run the business (Hotchkiss, 1995). However, the CEO or other key personnel may also get replaced during the chapter 11 process (Gilson & Vetsuypens, 1993). Importantly, the management and board of directors have an obligation to represent the interests of all creditors (including debtholders and shareholders) (Bebchuk & Chang, 1992).

The chapter 11 process is initiated with the filing of a bankruptcy petition at a bankruptcy court. The district of the court is usually where the company is headquartered, however, large chapter 11 cases frequently file at a court in a different district, which is often referred to as forum shopping. The decision in which district to file is often based on assessment where the company expects go get the most favourable proceedings (Bebchuk, 2002). From the filing date, chapter 11 protects the firm from legal action and claims of creditors until the reorganization of the firm. It imposes an automatic stay, which prohibits creditors to collect debts or seize pledged assets of the company (Casey, 2020). The company under chapter 11 protection is called debtor in possession (DIP) (Dahiya et al., 2003). During the process, shareholders and creditors often form shareholder and creditor committees to represent their group's interests in the negotiations (Bebchuk & Chang, 1992). In order to bridge the liquidity gap firms may receive funding in the form of a DIP loan during the chapter 11 process.

Within the first 120 days of filing, the firm's management is allowed to propose a reorganization plan, which determines the split of firm value amongst the creditors. All types of classes of creditors, including shareholders, need to approve the reorganization plan (Bebchuk, 2002). If the reorganization plan gets rejected, then creditors get the opportunity to propose an alternative reorganization plan. Ultimately, if no agreement between creditors can be found, the chapter 11 reorganization is converted to a chapter 7 liquidation (Bris et al., 2006). However, the court can also use a cramdown to approve a reorganization plan even if certain creditor groups object if certain legal criteria and fairness criteria are fulfilled.

During the negotiation process for the reorganization plan, the firm's value is impacted by direct costs, which include costly advisory and legal fees, and indirect costs, which relate to the potentially deteriorating performance of the firm during the bankruptcy process (Kalay et al., 2007). A deteriorating performance during the bankruptcy process can be due to a wide variety of factors ranging from deteriorating sales due to switching customers to the firm's distorted capital structure during the bankruptcy process (Kalay et al., 2007). Therefore, a longer bankruptcy process usually involves higher costs associated with chapter 11 (Kalay et al., 2007).

In contrast to a freefall process, a chapter 11 process can also be pre-packaged or pre-negotiated. A prepacked process means that the firm already negotiated the reorganization plan and already has the approval of all creditor groups at the time the chapter 11 petition is filed (Tashjian et al., 1996). A pre-negotiated process refers to a situation where the company already negotiated the restructuring plan but requests the votes on the plan after the filing of chapter 11. Both types speed up the chapter 11 process and bring more certainty to creditor groups. Some firms are even able to circumvent chapter 11 altogether by negotiating an out-of-court reorganization of their obligations (Gilson & Lang., 1990; Hotchkiss et al., 2023).

Prior research has shown that equity holders often receive a share of the company even if creditors are not fully repaid (Franks & Torous, 1989; Bebchuk, 2002). However, this violates the absolute priority of the claims of creditors, according to which shareholders would only receive a share of the company after both secured and unsecured creditors have been fully repaid (Bebchuk, 2002; Eberhart et al., 1990; Merton & Thakor, 2022). Ivashina et al. (2016) show that in 15.5 percent of the chapter 11 outcomes the controlling equity stake (more than 50% of the total equity) is held by the original shareholders. The firm's shareholders can impact the chapter 11 process in two main ways (Bebchuk & Chang, 1992; Bebchuk, 2002). Firstly, equity holders represent one class of creditors in the negotiation process and need to give consent to the reorganization plan. Therefore, they have negotiation power as they can delay the costly negotiations for the reorganization plan at the expense of creditors (Bebchuk, 2002). Ultimately, they could also reject the reorganizational plan, leading to a chapter 7 liquidation.

Debtholders know that this ability of shareholders to delay or refuse the reorganization plan can reduce the firm value significantly up to even the liquidation value in case of conversion to chapter 7 (Bebchuk, 2002). Therefore, debtholders may be willing to share a part of the firm's value with shareholders to align their incentives (Bebchuk, 2002). Secondly, by owning an equity stake, shareholders have an option in the firm value, which would increase in value in case the firm's operations would improve in the future. Therefore, shareholders are only willing to give up their option if they receive compensation from the debtholders (Bebchuk, 2002).

In terms of outcomes, the firm either emerges from bankruptcy or is sold in a 363 sale, which refers to a situation where substantially all assets or all equity of the company is sold. Unfortunately, some firms refile for chapter 11 again after emergence from chapter 11 (Bebchuk, 2002).

2.2 Background on Family Firms

Research on blockholders, including family ownership, in the context of bankruptcy, is scarce (Mitter et al., 2021; Jiang et al., 2012). In the context of chapter 11 proceedings, Jiang et al. (2012) investigate the impact of hedge fund involvement on the process and outcome of chapter 11 proceedings. Their findings suggest that hedge fund ownership is associated with better payoffs for junior creditors, a higher probability of emergence, more frequent key employee retention plans, and a higher CEO turnover. In the family firm context, Mitter et. al. (2021) investigate the reasons for corporate bankruptcies of Austrian privately held family-owned SMEs. Their results indicate that family failure is more likely due to bad debt or an economic slowdown and less likely due to poor competence or unqualified management (Mitter et al., 2021). Their argumentation is based on socio-emotional wealth (SEW) theory.

Family owners have characteristics that differ from other types of shareholder groups (Bertrand & Schoar, 2002; Gomez-Mejia et al., 2007, Villalonga et al., 2020; Michiels & Molly, 2017). In the context of bankruptcy, family owners are likely exposed to multi-dimensional trade-offs as both family owners and as family managers. Firstly, family owners often don't have a diversified portfolio, but rather have a large proportion of their wealth concentrated in the equity stake of their family-owned firm (Anderson et al., 2003). The key members of the family also often receive financial compensation for their position in the management or board, which can be a source of liquidity for family members. As such, family owners are more exposed to the firm's economic performance than other types of shareholders, for whom the firm's equity stake only constitutes a small part of a diversified investment portfolio (Anderson et al., 2003). Chapter 11 threatens the total amount of the equity stake of the family owners and, therefore, may have harsh consequences for the private wealth of family members.

However, Chapter 11 also exposes the founding family to a potential loss of their entire socioemotional wealth in the family firm. The socioemotional wealth consists of, amongst other elements, the feelings associated with the firm, the influence as family owners, the associated reputation of the brand, and the position in the management or board (Gomez-Mejia et al., 2007; Swab et al., 2020). In contrast to other types of shareholders, family owners frequently have a multi-generational time horizon to secure their family legacy (Gomez-Mejia, 2007). Chapter 11 severely endangers the family legacy since the firm may be sold or even liquidated if no agreement can be found amongst creditors during the chapter 11 process. The family owners' decisions prior to and during chapter 11 are likely a function of multiple potentially competing trade-offs to save parts of their economic and socioemotional wealth.

Unlike other shareholder groups, family owners are usually part of the firm's management or board (Bertrand & Schoar, 2008; Villalonga &Amit, 2006; Burkart et al., 2003). This results in a dual role of family members as family owners and family managers, where the family members have direct influence over the operational management of the firm (Bertrand & Schoar, 2008). Family members benefit emotionally from this position of power within the firm (Berrone et al., 2012). Moreover, due to their long-term role as both shareholders and managers, family owners often develop deep relationships with employees, suppliers, customers, advisors, and creditors (Berrone et al., 2012).

Family owners may be able to impact the chapter 11 proceeding as one of the classes of creditor groups, which has voting power on the reorganization plan. As described in the prior section 2.1, shareholders often hold negotiation power in the process due to their ability to delay the negotiations (Bebchuk, 2002). For family owners with an active management position, family managers may also be able to steer the direction of the chapter 11 process in several ways. Firstly, the management may conduct discussions prior to chapter 11 to negotiate a prepackaged or prenegotiated process. Secondly, the management proposes the first version of the reorganization plan at the beginning of the chapter 11 process. Thirdly, the management manages the going concern operations of the firm during the chapter 11 process (Bebchuk, 2002). In this dual role, family managers may have conflicting interests since on one hand they have a duty to represent the interest of all stakeholder groups and on the other hand, they also represent the interests of their shareholder group. Overall, the combination of economic dependency, emotional attachment and operational involvement of family owners, may impact the process and outcome of Chapter 11. In addition, the varying incentives of family owners may also impact the period prior to chapter 11 in terms of firm performance and capital support.

Against this backdrop, this paper examines the chapter 11 reorganization proceedings for publicly listed family-owned firms. We contribute to two main streams of existing academic literature. Firstly, we add the family firm literature (Villalonga et al., 2015) by extending the research to the particular context of chapter 11, which represents a situation that threatens the entire economic and socioemotional wealth of family owners. Secondly, we extend the research on bankruptcy and chapter 11 (Bebchuk & Chang, 1995; Bebchuk, 2002) to the unique context of family ownership. We add to this literature stream by examining whether the circumstances, process or outcomes of chapter 11 are different when family owners are involved.

3 Sample Construction and Methodology

3.1 Sample

The sample includes all chapter 11 filings of US publicly listed companies that were part of the S&P 1500[2] at any time from 1996 to 2021. We exclude utilities with SIC Codes 4812, 4813, 4911 to 4991 and financial firms with SIC codes 6020 to 6799 since those industries have unique regulatory and governance characteristics. The dataset of chapter 11 cases is based on the Florida-UCLA-LoPucki Bankruptcy Research Database (BRD)[3], which contains information on the chapter 11 filings of large stock-listed firms from 1980 to 2022 with information on case characteristics, and case outcomes.

The data on financial firm variables is collected from WRDS research database for the three years prior to the chapter 11 filing. Our sample period starts in 1996, since the data availability in the Florida-UCLA-LoPucki Bankruptcy Research database only includes data for all our variables from that year onwards. We only include filed cases with case disposition since pending cases don't have the complete, representative case outcome data. The final sample includes 230 chapter 11 filings from 1996 to 2021.

[2] The S&P 1500 was launched in 1995 and contains the constituents of the S&P 500, S&P Mid-Cap 400 and S&P Small-Cap 600. We use the S&P 1500 to form our sample in order to ensure that the data availability is consistent for all sample chapter 11 cases.
[3] The database is a project of the University of Florida Levin College of Law. The database treats a company as publicly listed if the company made a 10-k annual report filing in any of the three years prior to chapter 11.

We hand-collect our data on family ownership from the last published proxy statement in the SEC Edgar database of the S&P 1500 companies prior to chapter 11 filing. We define a family-owned firm as a company in which a founding family owns an equity stake of at least 5% (Anderson et al., 2003). This definition is in line with previous research of publicly listed family firms (Villalonga et al., 2020; Anderson et al., 2003) For the identification of the founding family, we also complement the information from the proxy statements with other digital sources on corporate history (Factiva, FundingUniverse.com, LexisNexis, and individual firm websites). We also cross-check the information from the various sources to ensure robustness.

The ownership stake is defined as the total number of shares that are owned by members of the founding family, divided by the total number of all outstanding shares (Villalonga & Amit, 2006). We combine the percentage of all classes of shares whenever the firm has a dual class share structure (Villalonga & Amit, 2006). We also hand-collect information on whether a family member held the position of CEO or chairman of the board in the year prior to chapter 11 filing and at the time of the chapter 11 petition.

3.2 Methodology

We study the impact of family ownership on the firm characteristics prior to chapter 11 as well as the process and outcomes of the chapter 11 proceedings. We perform several independent cross-sectional logit and linear regression analyses to test the impact on various firm and process variables prior to and during the chapter 11 proceedings. The analyses in table 8 examines the period prior to chapter 11.

Our analysis starts with cross-sectional linear regression models to test whether family ownership has an impact on (i) revenue growth (ii) total assets growth (iii) Ebitda growth (iv) receivables growth and (v) stock issuance prior to chapter 11. Revenue growth is measured as the revenues in the year prior to chapter 11 minus the revenues three years prior divided by the revenues three years prior. Total assets growth, Ebitda growth and receivables growth is calculated accordingly. Stock issuance is calculated as the ratio of stock issuance relative to total equity in the year prior to chapter 11. All firm variables are winsorized at the 0.5 percent level.

$$Rev\_Growth_{i,t} = a + \beta_1(FamFirm_{i,t}) + \beta_2(Total\ Assets_{i,t}) + \beta_3(PPENT_{i,t}) + \beta_4(Ebit\_Pos_{i,t}) + \beta_5(Industry_{i,t}) + \varepsilon \quad (1)$$

The explanatory variable is a family firm dummy variable that gets the value of 1 if the founding family had an equity stake of more than 5% during the most recent proxy statement before chapter 11 filing. Based on previous papers, we also include various independent variables to control for firm characteristics (Jiang et al., 2012). We include the variables of total assets as a proxy for firm size (total assets), tangible assets ratio calculated as net property plant and equipment divided by total assets (PPENT), and a positive ebit dummy (ebit_pos) to proxy for the size and structure of the firm. The variables are based on the last available annual report prior to the chapter 11 filing and described in detail in appendix 1A and 1B.

The analyses in table 8 and table 9 cover the cross-sectional linear and logit regression analyses of the impact of family ownership on the process and outcome of Chapter 11. The dependent variables include (i) emergence (ii) refile (iii) sale363, (iv) forum shopping, (v) ceodaysbefore, (vi) ceodaysafter and (vii) ceoturnover. Emergence, refile, sale363 and forum shopping are dummy variables that takes the value of 1 if the company emerged from chapter 11, refiled after chapter 11 emergence, ended up in a 363sale, or conducted forum shopping during the process, respectively. The variables ceodaysbefore and ceodaysafter are continuous variables that measure the number of days the CEO was in the position prior to chapter 11 filing and the number of days the CEO remained in the position after the chapter 11 filing, respectively. Ceoturnover is a dummy variable that takes the value of 1 if the CEO was replaced during the chapter 11 process. All variables are explained in detailed in appendix 1A and 1B.

4 Results

4.1 Descriptive Statistics

Table 1 displays the distribution of chapter 11 cases of S&P 1500 companies from 1996 to 2021 with regard to the year the chapter 11 was filed. Out of the overall sample of 230 chapter 11 filings, the largest number of S&P 1500 companies filed for chapter 11 in 2020 after the outbreak of the Covid pandemic (30 filings), followed by 2009 during the great financial crisis (23 filings), and 2001 during the dotcom bubble (22 filings). In contrast to non-family-owned firms, 47% of the chapter 11 filings of family-owned firms were filed around the dotcom bubble from 2000 to 2003, and only few Chapter 11 filings occurred during the great financial crisis and none during the covid pandemic years.

[Insert Table 1 here]

Table 2 displays the distribution of chapter 11 cases of S&P 1500 companies with regard to industry and company size. Out of the total sample of 230 chapter 11 filings, 20 percent (47 cases) were filed by companies in the SP500, and 80% by firms in the SP600 and SP400. Although according to prior research family firms represent 30 to 50 percent of all S&P 1500 companies (Villalonga et al., 2020), only 11% of chapter 11 filings of S&P 1500 firms were filed by family-owned firms, indicating that it may be less common for family-owned firms to file for chapter 11. This is amplified for the S&P500 for which only 2 percent of cases (1 case in total) were filed by family-owned firms. The majority of chapter 11 filers of the overall sample were manufacturing companies (42% of total sample), followed by retail trade companies (17% of total sample). In contrast, the majority of chapter 11 of family-owned firms was filed by services companies (46% of subsample) and manufacturing (23% of subsample) companies.

[Insert Table 2 here]

Table 3 displays the descriptive statistics of the entire sample in terms of case characteristics. For the full sample, 72 percent of S&P 1500 companies emerged from chapter 11 restructuring, whereas 28% were sold in a 363 sale during the chapter 11 process. Only 22 percent of chapter 11 filings intended for a partial or full sale of the company, whereas ca. 64 percent of companies were sold partially or fully during chapter 11 proceedings. The average time in chapter 11 was 520 days. Around 10 percent of companies refiled again for chapter 11 after emerging. 76 percent of companies engaged in forum shopping. Around half of the chapter 11 filings occurred during Dotcom, Great Financial Crisis or Covid period. Only 19% of companies had an equity committee whereas 86 percent had a credit committee during the process. On average 84 percent of companies were able to secure a DIP loan. The chapter 11 was already prenegotiated or prepackaged for on average 33 percent of the companies. Around 10 percent of companies refiled again for chapter 11 after emerging.

[Insert Table 3 here]

Panel A in table 4 shows the descriptive statistics of the entire sample in terms of firm characteristics. The metrics are taken from the annual report in the last financial year prior to chapter 11 (t-1) and the delta growth metrics cover the growth from financial year t-3 to t-1. For the full sample, companies on average scaled the number of employees and their revenues in the 3 years prior to chapter 11 but on average had declining profitability in terms of EBITDA. Only 48 percent of companies had positive EBIT in the year prior to chapter 11. The year prior to chapter 11 is characterized by high leverage (total debt to total assets) of 0.96, an increase in total debt as well as negative return on assets (ebit to total assets) and interest coverage ratios (ebit to interest).

Panel B in table 4 entails the family firm characteristics of the family-owned subsample. With regard to the family involvement, in 72% of family-owned firms a family member still held the position of CEO or Chairman in the prior reporting year before chapter 11. Furthermore, in 52% of the family-owned firms the founder was still involved as CEO or chairman in the prior year. Upon filing of chapter 11, family-owned firms were still led by 40% family members in the role of CEO. The family stake in the family firm was on average 21.29 percent prior to filing with the highest equity stake being 50.7 percent. The average firm age of the family-owned firms was 39 years with the minimum of 18 years and the maximum of 49 years, which indicates that all chapter 11 of family-owned firms were mature firms in terms of firm age.

[Insert Table 4 here]

Table 5 shows the univariate statistics of chapter 11 cases for family owned and non-family-owned chapter 11 filings. For family-owned firms ca. 64 percent emerged from chapter 11, which is a smaller percentage compared to 73 percent of non-family-owned firms. Furthermore, 32 percent of family-owned chapter 11 ended in a Sale363 compared to 27 percent for non-family-owned cases. The average number of process days is shorter for family-owned firms with 467 days compared to non-family-owned firms of 527 days. After emergence from chapter 11, ca 20 percent refiled again for chapter 11 compared to only 9 percent for non-family-owned firms.

In terms of CEO turnover, 83 percent of family-owned firms changed the CEO during the chapter 11 process compared to only 68 percent for non-family-owned firms. With regard to court district, 88 percent of family-owned firms filed in Delaware compared to 70 percent of non-family-owned firms. Furthermore, 96 percent of family-owned firms engaged in forum shopping compared to 73 percent of non-family-owned firms. Moreover, 48 percent of chapter 11 filings of family-owned firms occurred during the dotcom crisis as compared to 20 percent of non-family-owned firms. Only 24 percent of chapter 11 of family-owned firms are prepackaged or pre-negotiated as compared to 35 percent of non-family-owned firms.

[Insert Table 5 here]

Table 6 has the univariate statistics of firm characteristics prior to chapter 11 for family-owned and non-family-owned chapter 11 filings. Family-owned firms are on average much smaller compared to non-family-owned firms in terms of both revenues and total assets. The average revenues and total assets of family-owned firms in the year prior to chapter 11 are 1.5bn USD and 2.4bn, which are much lower than the average of 3.9bn USD and 5.4bn for non-family-owned firms, respectively. In the three years prior to chapter 11, family-owned firms on average grew faster in terms of employees, revenues and total assets, whereas their Ebitda profitability on average remained flat. Family-owned firms have a higher receivables to total assets ratio of 16 percent (12 percent for non-family-owned firms) and the average receivables also increased significantly for family-owned firms in the three years prior. Family-owned firms on average issued 15 percent of common and preferred stock in the year prior to chapter 11. Family-owned firms are less leveraged prior to chapter 11 with an average leverage ratio of 0.83 as compared to 0.98 of non-family-owned firms. Both family-owned and non-family-owned firms have negative return on assets and interest coverage ratio in the year prior to chapter 11.

[Insert Table 6 here]

Table 7 shows the univariate statistics of the family-owned firm sample. The subsample is divided into two subsamples based on whether the position of CEO at the time of filing of chapter 11 was held by a family member or an external professional. The family firm sample consists of 25 chapter 11 cases, which consist of 10 companies that were run by a family CEO and 15 by a professional CEO. There are several observable differences in the two subsamples. Family-run firms emerge from chapter 11 in 70 percent of the cases compared to 60 percent for non-family-run firms. Notably, in 0 percent of the cases of family-run firms a sale of assets was intended at the time of filing of chapter 11 which is in contrast to 43 percent for non-family-run firms. Interestingly, for both family-run and non-family run firms in 60 percent of the cases a sale of assets takes place during chapter 11. A 363 sale takes place in only 20 percent of family-run cases compared to 40 percent of non-family-run cases.

A change of the CEO during the chapter 11 case is common for both family-run and non-family run firms with 80 percent and 86 percent of the cases, respectively. When the company is run by a family member, 0 percent of the chapter 11 cases have an equity committee, whereas 33 percent of cases of family firms run by an external CEO nominate an equity committee. Moreover, only 75 percent of family-run family-owned firms receive a DIP loan during chapter 11 in contrast to 91 percent of externally run family firms. In terms of negotiations prior to Chapter 11, 40 percent of chapter 11 of family-run firms are pre-packaged or pre-negotiated in contrast to only 13 percent by externally run firms. This means that family-run family-owned firms frequently negotiate a reorganization plan already prior to chapter 11 filing.

[Insert Table 7 here]

4.2 Regression Results

We start the regressions analyses by examining the impact of family-ownership on the firm characteristics prior to chapter 11. Table 8 includes the results of four cross-sectional regressions analyses, each with the family dummy variable as the explanatory variable. Our dependent variables are stock issuance in the year prior to chapter 11, as well as revenue growth, total assets growth, Ebitda growth and receivables growth in the 3 years prior to chapter 11. Column 2 and Column 3 show that family-ownership is associated with faster growth rate of revenues and total assets in the three years prior to chapter 11, albeit at the 10 percent confidence level. At the same time, column 4 indicates there is no statistically significant difference in the growth of Ebitda between family-owned and non-family-owned firms. However, column 5 shows that family firms tend to have significant growth in outstanding receivables compared to non-family-owned firms. Our results indicate that family-owned firms that end up in chapter 11 have a faster growth rate prior to chapter 11. The growth may be unsustainable given that the firms ultimately file for bankruptcy protection. Finally, column 1 shows that family-ownership is positively associated with stock issuance prior to chapter 11 at the 1 percent confidence level. Family-owned firms issue 2 percentage points more stock as a percentage of their total equity prior to chapter 11. Our results suggest that family-owned firms secure more equity support prior to chapter 11.

[Insert Table 8 here]

Table 9 shows the cross-sectional logit regression analyses of the impact of family ownership on the process and outcome of chapter 11. The four dependent variables are dummy variables that indicate whether a company emerged from chapter 11 (emerge), whether it refiled chapter 11 after having emerged (refile), whether it was sold in a 363 sale, which is a mechanism under chapter 11 where substantially all assets or all equity is sold (363 sale), and whether a firm engaged in forum shopping (forum shopping), a practise to file for chapter 11 in a different district as the headquarter. The main explanatory variable is our family firm dummy variable. Although our results in Table 8 indicate that family-owned firms are associated with higher stock issuance prior to chapter 11, Column 1 of Table 9 indicates that there is no statistically significant difference in the likelihood of emergence from chapter 11. However, as shown in column 3, family-owned firms are more likely to refile for chapter 11 after emergence at the 10 percent significance level. Refiling refers to the situation where a firm successfully emerges from chapter 11 and operates for various years, but ultimately, files for chapter 11 again. In addition, our results in column 4 also show that family-owned firms are more likely to do forum shopping, to file their case in a different district compared to their head office. Forum shopping is typically associated with picking a court that is perceived as the most favourable for the process.

[Insert Table 9 here]

Lastly, table 10 shows the results of the cross-sectional regression of the effect of family-ownership on CEO turnover and duration during chapter 11. The three dependent variables are the number of days the CEO held the position prior to chapter 11 (CEO daysbefore), and after the chapter 11 filing date (CEO daysafter), as well as a dummy variable whether the CEO was exchanged during the chapter 11 process. Column 1 shows that family-owned firms are associated with a longer tenor of the CEO prior to chapter 11 (albeit only at the 10 percent level). This is in line with the descriptive statistics showing that 72 percent of family-owned firms were run by a family member prior to chapter 11. However, column 2 and 3 show no significant effect in terms of CEO tenor after chapter 11 filing and CEO turnover during chapter 11 for family-owned firms compared to non-family-owned firms.

[Insert Table 10 here]

6 Conclusion

In the case a firm is not able to meet its payment obligations, the firm's management or its creditors can file for chapter 11 bankruptcy, which sets the process for firm reorganization (Bris et al., 2006). Our paper examines family ownership in the context of chapter 11 by studying 230 chapter 11 proceedings of 25 family-owned and 205 non-family-owned S&P 1500 companies from 1996 to 2021. We study the firm characteristics prior to chapter 11 filing as well as the process and outcomes of the chapter 11 proceedings.

Firstly, the descriptive findings show that even in the extreme situation of chapter 11 family owners are still actively involved in the family-owned firm. In particular, family owners hold an average 21 percent equity position in the firm in the year before filing. Moreover, family members still hold a management position as CEO or chairman in 72 percent of family-owned firms in the year before chapter 11. Our regression analyses also indicate that family-owned firms issue more equity in the year before filing for chapter 11. Our finding suggests that family-owned firms receive more equity support before ultimately filing for chapter 11 bankruptcy.

Secondly, in terms of firm characteristics prior to chapter 11, our results show that family-owned firms appear to be associated with higher revenue growth, total assets growth and receivables growth in the 3 years before chapter 11. Thirdly, in terms of process, the regressions show that family-owned firms are associated with a higher likelihood of forum shopping, a practice to file in a bankruptcy court in a different district compared to the firm's office location. In terms of outcomes, the results indicate that family-owned firms appear to be more likely to refile again for Chapter 11 after emergence. Lastly, the family-owned subsample shows indications of variations in terms of chapter 11 characteristics. This may pose an area for future research into the family firm heterogeneity in the context of chapter 11 bankruptcy.

Our paper contributes to both the family firm (Villalonga et al., 2015; Villalonga et al., 2020) and chapter 11 bankruptcy literature (Franks & Torous, 1989; Bebchuk, 2002; Kalay et al., 2007) at the intersection of three literature streams of management, finance, and law. From a family firm perspective, studying chapter 11 reorganization of family-owned firms poses a unique situation where the entire economic and socioemotional wealth of the family owners is at stake. In addition, from a bankruptcy perspective, family owners often display a unique dual role representing both their shareholder group as well as acting as managers steering the going concern operations.

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Table 1

Sample Distribution Per Year

This graph displays the distribution of chapter 11 filings per year for S&P 1500 companies from 1996 to 2021.

	Full Sample		Family Firms		Non-Family Firms	
	N	%	N	%	N	%
1996	1	0.43	0	0.00	1	0.49
1997	3	1.30	0	0.00	3	1.46
1998	5	2.17	0	0.00	5	2.44
1999	12	5.22	1	4.00	11	5.37
2000	19	8.26	6	24.00	13	6.34
2001	22	9.57	5	20.00	17	8.29
2002	11	4.78	1	4.00	10	4.88
2003	12	5.22	1	4.00	11	5.37
2004	7	3.04	0	0.00	7	3.41
2005	6	2.61	2	8.00	4	1.95
2006	3	1.30	0	0.00	3	1.46
2007	4	1.74	1	4.00	3	1.46
2008	10	4.35	0	0.00	10	4.88
2009	23	10.00	1	4.00	22	10.73
2010	3	1.30	0	0.00	3	1.46
2011	6	2.61	1	4.00	5	2.44
2012	4	1.74	1	4.00	3	1.46
2013	4	1.74	0	0.00	4	1.95
2014	3	1.30	2	8.00	1	0.49
2015	8	3.48	1	4.00	7	3.41
2016	10	4.35	0	0.00	10	4.88
2017	10	4.35	2	8.00	8	3.90
2018	5	2.17	0	0.00	5	2.44
2019	8	3.48	0	0.00	8	3.90
2020	30	13.04	0	0.00	30	14.63
2021	1	0.43	0	0.00	1	0.49
Total	**230**		**25**		**205**	

Table 2

Sample Distribution Per Industry

This graph displays the distribution of chapter 11 filings per year for S&P 1500 companies from 1996 to 2021 as per the SIC code industry classification.

	Full Sample		Family Firms		Non-Family Firms	
Type	N	%	N	%	N	%
Agriculture	1	0.43	0	0.00	1	0.49
Mining, Oil & Gas	33	14.35	1	4.00	32	15.61
Construction	3	1.30	1	4.00	2	0.98
Manufacturing	97	42.17	5	20.00	92	44.88
Transportation	16	6.96	1	4.00	15	7.32
Wholesale Trade	10	4.35	1	4.00	9	4.39
Retail Trade	39	16.96	4	16.00	35	17.07
Finance, Insurance, RE	3	1.30	0	0.00	3	1.46
Services	28	12.17	12	48.00	16	7.80
Total	**230**		**25**		**205**	

Table 3

Descriptive Statistics – Chapter 11 Characteristics

This table displays the descriptive statistics of the chapter 11 case characteristics. The sample includes 230 chapter 11 cases of S&P 1500 companies from 1996 to 2021, consisting of 25 family-owned and 205 non-family-owned cases. All case variables are binary variables except for the variable process days. The variables are described in detail in Appendix 1.

	N	Mean	SD	Median	P25	P75	Min	Max
Emergence	229	0.72	0.45	1.00	0.00	1.00	0.00	1.00
Emerge 10k filing	199	0.47	0.50	0.00	0.00	1.00	0.00	1.00
Sale Intended	216	0.22	0.42	0.00	0.00	0.00	0.00	1.00
Sale	228	0.64	0.48	1.00	0.00	1.00	0.00	1.00
Sale363	230	0.28	0.45	0.00	0.00	1.00	0.00	1.00
Process Days	164	520.85	610.30	345.50	151.00	645.00	4.00	4,468.00
Refile	230	0.10	0.31	0.00	0.00	0.00	0.00	1.00
CEO Turnover	216	0.70	0.46	1.00	0.00	1.00	0.00	1.00
Delaware Incorporated	230	0.72	0.45	1.00	0.00	1.00	0.00	1.00
Forum shopping	230	0.76	0.43	1.00	1.00	1.00	0.00	1.00
Crisis Years	230	0.52	0.50	1.00	0.00	1.00	0.00	1.00
Dotcom Years	230	0.23	0.42	0.00	0.00	0.00	0.00	1.00
Equity Committee	206	0.19	0.39	0.00	0.00	0.00	0.00	1.00
Creditor Committee	229	0.86	0.35	1.00	1.00	1.00	0.00	1.00
Retiree Committee	230	0.09	0.28	0.00	0.00	0.00	0.00	1.00
DIP	170	0.84	0.37	1.00	1.00	1.00	0.00	1.00
Involuntary	230	0.01	0.09	0.00	0.00	0.00	0.00	1.00
Prepackaged/Prenegotiated	230	0.33	0.47	0.00	0.00	1.00	0.00	1.00
Prepackaged	230	0.10	0.29	0.00	0.00	0.00	0.00	1.00
Tort	230	0.07	0.26	0.00	0.00	0.00	0.00	1.00
Fraud	230	0.03	0.18	0.00	0.00	0.00	0.00	1.00

Table 4

Descriptive Statistics – Firm Characteristics

This table displays the descriptive statistics of firm characteristics prior to Chapter 11 (Panel A) as well as the family firm characteristics of the family-owned subsample (Panel B). The sample includes 230 chapter 11 cases of S&P 1500 companies from 1996 to 2021, consisting of 25 family-owned and 205 non-family-owned cases. The firm characteristics are winsorized at the 0.5% level. The variables are described in detail in Appendix 1.

	N	Mean	SD	Median	P25	P75	Min	Max
Panel A: Chapter 11 Firm Characteristics								
Employees	225	15.63	29.80	5.65	2.30	16.30	0.04	234
Δ Employees	221	0.15	1.98	-0.13	-0.25	0	-0.77	19.65
Revenues	227	3,666.89	10,243.99	1,267.68	575.792	2,688.01	123.72	100,789.00
Δ Revenues	209	11.22	20.49	4.90	1.10	10.96	-0.59	130.45
EBITDA	222	137.19	528.46	45.73	-3.74	160.57	-1,674.00	2808.00
Δ EBITDA	215	-1.02	6.18	-0.66	-1.03	-0.11	-60.83	10.95
Positive EBIT	230	0.48	0.50	0.00	0.00	1.00	0.00	1.00
Total Assets	230	5,071.68	11,654.97	1,676.50	841.00	4,658.00	355.00	110,023.00
Δ Total Assets	224	0.02	0.64	-0.12	-0.32	0.10	-0.70	3.70
PPENT	202	0.40	0.26	0.34	0.19	0.57	0.01	0.96
Total Debt/Total Assets	182	0.51	0.34	0.46	0.29	0.66	0.00	1.92
Δ Total Debt	149	0.30	1.26	0.00	-0.17	0.19	-1.00	7.80
Stock Issuance	226	0.04	0.38	0.00	0.00	0.00	-0.38	3.92
Receivables/Total Assets	223	0.12	0.10	0.10	0.04	0.18	0.00	0.43
Δ Receivables	212	0.06	0.72	-0.11	-0.35	0.15	-0.95	3.24
Leverage	230	0.96	0.43	0.88	0.74	1.10	0.24	4.08
ROA	230	-0.05	0.20	0.00	-0.07	0.05	-1.56	0.20
ICR	221	-1.06	4.99	-0.16	-1.83	0.85	-21.71	15.68
Panel B: Family Heterogeneity for Family-Owned Subsample								
Filing CEO Family	25	0.40	0.50	0.00	0.00	1.00	0.00	1.00
CEO/Chairman Family	25	0.72	0.46	1.00	0.00	1.00	0.00	1.00
CEO/Chairman Founder	25	0.52	0.51	0.50	0.00	1.00	0.00	1.00
Family Stake	25	21.29	13.62	19.80	8.80	29.13	5.10	50.70
Firm Age	25	38.92	24.59	32.00	18.00	49.00	8.00	105.00

Table 5

Univariate Statistics – Chapter 11 Characteristics

This table displays the univariate statistics of chapter 11 case characteristics for 230 chapter 11 cases of S&P 1500 companies from 1996 to 2021, consisting of 25 family-owned and 205 non-family-owned cases. Statistical significance at the 10%, 5% and 1% levels is indicated as *,**, and ***, respectively. The variables are described in detail in Appendix 1.

		Entire Sample			Family-Owned Firms			Non-Family-Owned Firms			Difference of Mean	
	N	Mean	SD	Median	Mean (1)	SD	Median	Mean (2)	SD	Median	[(1)-(2)]	t-statistic
Emergence	229	0.72	0.45	1.00	0.64	0.49	1.00	0.73	0.45	1.00	-0.09	-0.89
Emerge 10k filing	199	0.47	0.50	0.00	0.34	0.49	0.00	0.49	0.50	0.00	-0.14	-1.27
Sale Intended	216	0.22	0.42	0.00	0.25	0.44	0.00	0.22	0.41	0.00	0.03	0.35
Sale	228	0.64	0.48	1.00	0.60	0.50	0.00	0.64	0.48	1.00	-0.04	-0.40
Sale363	230	0.28	0.45	0.00	0.32	0.48	0.00	0.27	0.45	0.00	0.05	0.49
Process Days	230	520.85	610.30	345.50	467.44	356.00	429.00	527.36	634.67	338.00	-59.92	-0.46
Refile	230	0.10	0.31	0.00	0.20	0.41	0.00	0.09	0.29	0.00	0.11	1.66*
CEO Turnover	216	0.70	0.46	1.00	0.83	0.38	1.00	0.68	0.47	1.00	0.15	1.52
Delaware Incorporated	230	0.72	0.45	1.00	0.88	0.33	1.00	0.70	0.46	1.00	0.18	1.88*
Forum Shopping	230	0.76	0.43	1.00	0.96	0.20	1.00	0.73	0.44	1.00	0.23	2.54**
Crisis Years	230	0.52	0.50	1.00	0.56	0.51	1.00	0.52	0.50	1.00	0.04	0.4
Dotcom Years	230	0.23	0.42	0.00	0.48	0.51	0.00	0.20	0.40	0.00	0.28	3.28***
Equity Committee	206	0.19	0.39	0.00	0.20	0.84	0.00	0.19	0.40	0.00	0.01	0.15
Creditor Committee	229	0.86	0.35	1.00	0.84	0.37	1.00	0.86	0.34	1.00	-0.02	-0.31
Retiree Committee	230	0.09	0.28	0.00	0.00	0.00	0.00	0.10	0.30	0.00	-0.10	1.64
DIP	170	0.84	0.37	1.00	0.87	0.35	1.00	0.84	0.37	1.00	0.03	0.28
Involuntary	230	0.01	0.09	0.00	0.00	0.00	0.00	0.01	0.10	0.00	-0.01	-0.49
Prepackaged/Prenegotiated	230	0.33	0.47	0.00	0.24	0.44	0.00	0.35	0.48	0.00	-0.11	-1.06
Prepackaged	230	0.10	0.29	0.00	0.12	0.33	0.00	0.09	0.29	0.00	0.02	0.44
Tort	230	0.07	0.26	0.00	0.04	0.20	0.00	0.08	0.26	0.00	-0.04	-0.68
Fraud	230	0.03	0.18	0.00	0.04	0.20	0.00	0.03	0.18	0.00	0.01	0.15

Table 6

Univariate Statistics – Firm Characteristics

This table displays the univariate statistics of firm characteristics prior to Chapter 11 for 230 firms in the S&P1500 which filed for chapter 11 from 1996 to 2021, consisting of 25 family-owned and 205 non-family-owned cases. Statistical significance at the 10%, 5% and 1% levels is indicated as *,**, and ***, respectively. The firm characteristics are winsorized at the 0.5% level. The variables are described in detail in Appendix 1.

	N	Entire Sample			Family-Owned Firms			Non-Family-Owned Firms			Difference of Mean	
		Mean	SD	Median	Mean (1)	SD	Median	Mean (2)	SD	Median	[(1)-(2)]	t-statistic
Employees	225	15.63	29.80	5.65	14.16	22.52	5.61	15.81	30.63	5.73	-1.64	-0.26
Δ Employees	221	0.15	1.98	-0.13	0.99	3.98	-0.11	0.05	1.55	0.13	0.95	2.25**
Revenues	227	3,666.89	10,243.99	1,267.68	1,470.32	2,164.29	712.86	3,938.74	10,805.45	1,329.02	-2,468.42	1.14
Δ Revenues	209	11.22	20.49	4.90	19.18	32.36	3.35	10.26	18.46	5.00	8.91	1.98*
EBITDA	222	137.19	528.46	45.73	62.34	127.79	26.57	146.26	557.34	49.66	-83	-0.73
Δ EBITDA	215	-1.02	6.18	-0.66	0.00	2.78	-0.58	-1.14	6.46	-0.67	1.15	0.84
Positive EBIT	230	0.48	0.50	0.00	0.56	0.51	1.00	0.47	0.50	0.00	0.09	0.86
Total Assets	230	5,071.68	11,654.97	1,676.50	2,358.52	3,074.85	961.00	5,402.56	12,262.16	1,735.00	-3,044.04	-1.23
Δ Total Assets	224	0.02	0.64	-0.12	0.42	0.99	-0.01	-0.03	0.57	-0.13	0.45	3.35***
PPENT	202	0.40	0.26	0.34	0.34	0.07	-0.01	0.40	0.05	-0.06	-0.06	-1.09
Total Debt/Total Assets	182	0.51	0.34	0.46	0.46	0.40	0.38	0.51	0.34	0.46	-0.04	-0.57
Δ Total Debt	149	0.30	1.26	0.00	0.50	1.33	0.16	0.28	1.26	0.00	0.21	0.56
Stock Issuance	226	0.04	0.38	0.00	0.15	0.79	0.00	0.03	0.29	0.00	0.03	3.50***
Receivables/Total Assets	223	0.12	0.10	0.10	0.16	0.12	0.16	0.12	0.09	0.10	0.04	1.90*
Δ Receivables	212	0.06	0.72	-0.11	0.71	1.16	0.07	-0.02	0.61	-0.14	0.74	4.85***
Leverage	230	0.96	0.43	0.88	0.83	0.38	0.83	0.98	0.44	0.89	-0.15	-1.6*
ROA	230	-0.05	0.20	0.00	-0.01	0.08	0.01	-0.05	0.21	0.00	0.04	1.07
ICR	221	-1.06	4.99	-0.16	-0.92	6.24	-0.10	-1.08	4.83	-0.19	0.16	1.12

Table 7

Univariate Statistics – Family Firm Subsample – Chapter 11 characteristics

This table displays the univariate statistics of the Chapter 11 characteristics for the subsample of the 25 family-owned firms. The subsample is subdivided into two subsamples depending on whether the CEO at the time of filing is a family member (n=10) or an externally hired CEO (n=15). The variables are described in detail in Appendix 1.

	N	Family-Owned Firms			Family CEO at Filing (n=10)			Non-Family CEO at Filing (n=15)		
		Mean	SD	Median	Mean (1)	SD	Median	Mean (2)	SD	Median
Emergence	25	0.64	0.49	1.00	0.70	0.48	1.00	0.60	0.51	1.00
Emerge 10k filing	25	0.34	0.49	0.00	0.44	0.53	0.00	0.28	0.47	0.00
Sale Intended	25	0.25	0.44	0.00	0.00	0.00	0.00	0.43	0.51	0.00
Sale	25	0.60	0.50	0.00	0.60	0.52	1.00	0.60	0.51	1.00
Sale 363	25	0.32	0.48	0.00	0.20	0.42	0.00	0.40	0.51	0.00
Process Days	25	467.44	356.00	429.00	458.90	409.49	356.00	473.13	330.74	523.00
Refile	25	0.20	0.41	0.00	0.10	0.32	0.00	0.27	0.46	0.00
CEO Turnover	25	0.83	0.38	1.00	0.80	0.42	1.00	0.86	0.36	1.00
Delaware Incorporated	25	0.88	0.33	1.00	0.90	0.32	1.00	0.87	0.35	1.00
Forum Shopping	25	0.96	0.20	1.00	1.00	0.00	1.00	0.93	0.26	1.00
Crisis Years	25	0.56	0.51	1.00	0.60	0.52	1.00	0.53	0.52	1.00
Dotcom Years	25	0.48	0.51	0.00	0.50	0.53	0.50	0.47	0.52	0.00
Equity Committee	25	0.20	0.84	0.00	0.00	0.00	0.00	0.33	0.49	0.00
Creditor Committee	25	0.84	0.37	1.00	0.80	0.42	1.00	0.87	0.35	1.00
Retiree Committee	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DIP	25	0.87	0.35	1.00	0.75	0.50	1.00	0.91	0.30	1.00
Involuntary	25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prepackaged/Prenegotiated	25	0.24	0.44	0.00	0.40	0.52	0.00	0.13	0.35	0.00
Prepackaged	25	0.12	0.33	0.00	0.20	0.42	0.00	0.07	0.26	0.00
Tort	25	0.04	0.20	0.00	0.10	0.32	0.00	0.00	0.00	0.00
Fraud	25	0.04	0.20	0.00	0.10	0.32	0.00	0.00	0.00	0.00

Table 8

Impact of Family Ownership on Firm Characteristics

This table presents the cross-sectional linear regression results of the effect of founding family ownership on chapter 11 firm characteristics. The sample comprises 230 chapter 11 filings of S&P 1500 firms from 1996 to 2021. Stock issuance is the ratio of stock issuance to total equity in the year before chapter 11. Revenue growth is calculated as the revenues in the year before chapter 11 minus the revenues three years before divided by the revenues three years before. The calculation of total assets growth, ebitda growth and receivables growth follows the same logic. The firm variables are winsorized at the 0.5% level. Statistical significance at the 10%, 5% and 1% levels is indicated as *,**, and ***, respectively. The variables are described in detail in Appendix 1.

	Stock Issuance	3-year Revenue Growth	3-year Total Assets Growth	3-year Ebitda Growth	3-year Receivables Growth
	(1)	(2)	(3)	(4)	(5)
FamFirm	0.02***	7.84*	0.27*	1.72	0.56***
	(2.81)	(1.82)	(1.89)	(1.16)	(3.63)
Total Assets	-0.00	0.13		0.45	0.06
	(-1.09)	(0.12)	-0.02	(1.18)	(1.59)
PPENT	-0.03**	4.81	(-0.09)	0.73	-0.04
	(-2.02)	(0.69)			(-0.16)
Revenues			0.00		
			(0.24)		
Ebit_Pos	-0.00	-1.30	0.08	1.28	0.02
	(-0.02)	(-0.49)	(0.88)	(1.38)	(0.26)
Intercept	0.02	4.50	0.23	-4.77	-0.60*
	(1.25)	(0.47)	(1.14)	(-1.45)	(-1.78)
Industry FE	Yes	Yes	Yes	Yes	Yes
# observations	226	214	224	215	212
R-squared	0.093	0.259	0.141	0.032	0.247

Table 9

Impact of Family Ownership on Chapter 11 Process and Outcomes

This table presents the cross-sectional logit regression results of the effect of founding family ownership on chapter 11 outcomes. The sample comprises chapter 11 filings of S&P 1500 firms from 1996 to 2021. The dependent variables emergence, refile, sale363 and forum shopping are all binary variables that have the value of 1 if the company emerged from chapter 11, refiled after chapter 11 emergence, ended up in a 363sale, or conducted forum shopping during the process, respectively. The firm variables are winsorized at the 0.5% level. Statistical significance at the 10%, 5% and 1% levels indicated as *,**, and ***, respectively. The variables are described in detail in Appendix 1.

	Emergence		Refile		Sale363		Forum Shopping	
	(1)		(2)		(3)		(4)	
	Coef.	Odds Ratio	Coef.	Odds Ratio	Coef.	Odds Ratio	Coef.	Odds Ratio
FamFirm	-0.48	0.62	1.22*	3.38*	0.49	1.64	2.38**	10.78**
	(-0.91)		(1.87)		(0.94)		(2.25)	
Total Assets	0.00		-0.00		0.00		0.00	
	(1.42)		(-1.47)		(0.03)		(1.21)	
PPENT	0.08		0.93		-2.39**		0.16	
	(0.09)		(0.78)		(-2.55)		(0.17)	
Leverage	-0.14		-0.12		0.14		0.14	
	(-1.11)		(-0.45)		(1.26)		(1.09)	
Ebit_Pos	0.73**		0.58		-0.39		0.14	
	(2.07)		(1.09)		(-1.13)		(0.39)	
Prime Rate	0.06		-0.13		-0.03		-0.19**	
	(0.72)		(-1.02)		(-0.38)		(-2.11)	
Intercept	0.25		-2.20**		-0.38		1.79**	
	(0.36)		(-2.10)		(-0.56)		(2.28)	
Industry FE	Yes		Yes		Yes		Yes	
Observations	203		204		204		204	

Table 10

Impact of Family Ownership on CEO Turnover and Duration

This table presents the cross-sectional linear and logit regression results of the effect of founding family ownership on chapter 11 CEO turnover and CEO duration. The sample comprises the chapter 11 filings of S&P 1500 firms from 1996 to 2021. The variables CEO daysbefore and CEO daysafter are continuous variables which represent the number of days the CEO held the position before to chapter 11 and the number of days the CEO stayed in the position after the chapter 11 filing, respectively. CEO turnover is a binary variable that is 1 if the CEO was exchanged during the chapter 11 process The firm variables are winsorized at the 0.5% level. Statistical significance at the 10%, 5% and 1% levels indicated as *,**, and ***, respectively. The variables are described in detail in Appendix 1.

	CEO Daysbefore	CEO Daysafter	CEO Turnover
	(1)	(2)	(3)
FamFirm	811.39*	113.39	0.14
	(1.87)	(0.56)	(1.18)
Total Assets	-0.07**	0.01	-0.00
	(-2.56)	(1.15)	(-0.32)
PPENT	1,157.65*	615.38*	-0.26
	(1.66)	(1.86)	(-1.40)
EBITDA	0.31	-0.19	-0.00
	(1.01)	(-1.34)	(-0.07)
Leverage	134.34	-22.16	0.02
	(1.61)	(-0.58)	(0.96)
Ebit_Pos	387.29	79.54	0.08
	(1.36)	(0.59)	(1.06)
Intercept	823.85	232.97	0.63***
	(1.34)	(0.75)	(3.59)
Industry FE	Yes	Yes	Yes
# of observations	203	190	190
R-squared	0.131	0.070	0.088

Appendix 1A

Variable Definitions

This table displays the definitions of the variables that are used in this paper.

Variable	Description
3-year EBITDA growth (Δ EBITDA)	The ratio of the difference between Ebitda 1 year and 3 years before chapter 11 divided by Ebitda 3 years before chapter 11
3-year employee growth (Δ Employees)	The ratio of the difference between employees 1 year and 3 years before chapter 11 divided by employees 3 years before chapter 11
3-year receivables growth (Δ Receivables)	The ratio of the difference between receivables 1 year and 3 years before chapter 11 divided by receivables 3 years before chapter 11
3-year revenue growth (Δ Revenues)	The ratio of the difference between revenues 1 year and 3 years before chapter 11 divided by revenues 3 years before chapter 11
3-year total assets growth (Δ Total Assets)	The ratio of the difference between total assets 1 year and 3 years before chapter 11 divided by total assets 3 years before chapter 11
3-year total debt growth (Δ Total Debt)	The ratio of the difference between total debt 1 year and 3 years before chapter 11 divided by total debt 3 years before chapter 11
CEO Turnover	Dummy variable that takes the value of 1 if there was a CEO change during the chapter 11 process
CEO/Chairman Family	Dummy variable that takes the value of 1 if a family member is the CEO or Chairman of the family firm as per the proxy statement prior to chapter 11
CEO/Chairman Founder	Dummy variable that takes the value of 1 if the founder is the CEO or Chairman of the family firm as per the proxy statement prior to chapter 11
Creditor Committee	Dummy variable that takes the value of 1 if there is an creditors committee during chapter 11 process
Crisis Years	Dummy variable that takes the value of 1 if the chapter 11 is filed during the Dotcom, GFC or Covid Crisis Years
Delaware Incorporated	Dummy variable that takes the value of 1 if the firm is incorporated in Delaware
DIP	Dummy variable that takes the value of 1 if the firm received debtor in possession financing during the chapter 11 process
Dotcom Years	Dummy variable that takes the value of 1 if the chapter 11 is filed during the Dotcom Crisis
EBITDA	Ebitda in the year prior to chapter 11
Emergence	Dummy variable that takes the value of 1 if the firm emerges from chapter 11
Emergence 10k	Dummy variable that takes the value of 1 if the firm emerges from chapter 11 and files a 10k after emergence
Employees	Employees in the year prior to chapter 11 in thousands
Equity Committee	Dummy variable that takes the value of 1 if there is an equity committee during chapter 11 process
FamFirm	Dummy variable that takes the value of 1 if the founding family (including descendants) owns at least 5% of the firm's equity, 0 otherwise
Family Stake	Aggregate percentage of beneficial ownership of the founding family in the family-owned firm
Filing CEO Family	Dummy variable that takes the value of 1 if a family member is the CEO of the family firm at the time of chapter 11 filing
Firm Age	Age in years at the time of filing of chapter 11
Prime Rate	Prime rate two years prior to chapter 11
Forum shopping	Dummy variable that takes the value of 1 if the chapter 11 proceedings take place in a different district than the headquarters
Fraud	Dummy variable that takes the value of 1 if the chapter 11 is due to fraud

Appendix 1B

Variable Definitions

This table displays the definitions of the variables that are used in this paper.

Variable	Description
CEO daysbefore	Number of days that the CEO held the position prior to filing for chapter 11
ICR	Ratio of EBIT to interest prior to chapter 11
Involuntary	Dummy variable that takes the value of 1 if the chapter 11 was filed involuntary
Leverage	Ratio of total debt divided by the sum of total debt and equity in the year prior to chapter 11
Ebit_Pos	Dummy variable that takes the value of 1 if the Ebit was positive in the year prior to chapter 11
PPENT	Ratio of net property, plant & equipment to total assets prior to chapter 11
Prepackaged	Dummy variable that takes the value of 1 if the chapter 11 process was prepackaged
Prepackaged/Prenegotiated	Dummy variable that takes the value of 1 if the chapter 11 process was prepackaged or prenegotiated
Process Days	Number of days from the filing until reorganization plan confirmation
Receivables/Total Assets	Ratio of receivables to total assets in the year prior to chapter 11
Refile	Dummy variable that takes the value of 1 if the firm refiles chapter 11 in the future after emerging from chapter 11
Retiree Committee	Dummy variable that takes the value of 1 if there is a retiree committee during chapter 11 process
Revenues	Revenues in the year prior to chapter 11
ROA	Ratio of EBIT to total assets prior to chapter 11
Sale	Dummy variable that takes the value of 1 if the company is sold during chapter 11
Sale Intended	Dummy variable that takes the value of 1 if the company intends to be sold during chapter 11
Sale363	Dummy variable that takes the value of 1 if the firm is sold in a 363sale
Stock Issuance	Ratio of stock issuance of common and preferred stock to total equity in the year prior to chapter 11
Tort	Dummy variable that takes the value of 1 if the reason was chapter 11 is tort
Total Assets	Total assets in the year prior to chapter 11
Total Debt/Total Assets	Ratio of total debt to total assets in the year prior to chapter 11