The Determinants of Goodwill Impairment Write-offs under FASB ASC Topic 350 (formerly known as SFAS 142) in Family Firms vs. Non-Family Firms: Evidence from the S&P 500

by

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Abstract

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Adviser: Steven Lilien, Ph.D., CPA

FASB ASC Topic 350 (SAFS 142) prescribes a new treatment for goodwill. Goodwill is no longer treated as an asset whose value declines simply by the passage of time, but instead requires testing for the impairment of goodwill at least annually. This testing process requires managers to use unverifiable estimates of the value of reporting units in order to determine whether the value of goodwill assigned to a reporting unit has been impaired and must be written down. Standard setters (FASB) contend that managers will use this unverifiable discretion to convey private information, while agency theory predicts that this unverifiable discretion will be used opportunistically.

Prior literature has argued that family firms are run in a different manner than non-family firms. Results of studies have shown evidence that family firms have better operating and stock-return results, lower cost of debt and lower incidence of abnormal accruals. This supports the argument that these family firms have interests that are aligned with those of other shareholders, rather than being entrenched, as agency theory suggests as a possibility.

Using a sample taken from the S&P 500 for 2003 and separating this sample into family firms and non-family firms, I look at the possible determinants of goodwill impairment write-offs to see if these differ between family and non-family firms. I further segregate this sample into those firms where there is a clear indication that the market has impounded impairment into the stock price (market-to-book<1) and those firms without this constraint to see if the results will hold for both groups.

Contrary to initial conjecture and the findings suggested by prior literature, debt covenant concerns, agency issues, and the unverifiable discretion afforded managers under FASB ASC Topic 350 (SFAS 142) appear to be significant factors influencing both the incidence of goodwill impairment write-offs and the magnitude of the write-off. This provides support for the agency theory view that managers are using the unverifiable discretion opportunistically, rather than standard setters' argument that the unverifiable discretion will be used to convey private information. This seems to hold for both sub-samples (MTB<1 and MTB>1) although to different extents.

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This work is dedicated to my family and to Brandi, who is once again running free.

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1. Introduction

Financial Accounting Standards Board ASC Topic 350 (SFAS 142) prescribed a new treatment for goodwill. Prior to FASB ASC Topic 350 (SFAS 142) goodwill was amortized over an arbitrary period not to exceed 40 years. The revised treatment requires testing for goodwill impairment at the reporting unit level using a two-step process. Thus, goodwill was no longer considered an asset whose value diminished solely due to the passage of time, but maintains the value originally assigned to it unless impairment testing indicates otherwise. This procedure requires managers to use unverifiable estimates of the value of reporting units in order to determine whether the value of goodwill assigned to that reporting unit has been impaired and thus must be written down.

Goodwill arises as a result of the acquisition of a business using the purchase method or acquisition method. This intangible asset arises from a premium paid for the target's reputation, technology, brand names, or other attributes that enable it to earn an excess return on investment, justifying the premium paid. Since goodwill arises indirectly, as a residual after allocation of the purchase price to other identifiable assets, it cannot be directly measured. The value can be appraised only by measuring the excess return earned by the business to which it is attributed. Such a measurement and appraisal requires many assumptions to be made, all of which could be subject to rebuttal, making any appraisal of the value of goodwill potentially controversial.

Prior research has provided evidence consistent with family firms being an efficient, profitable ownership structure. Villalonga and Amit (2004) argue that family ownership creates value when the founder serves as CEO or Chairman with an outside

CEO. Anderson and Reeb (2003, 2004) and Anderson, Mansi and Reeb (2003) provide evidence that family firms perform better than their non-family counterparts as measured by both accounting and market measures, and enjoy a lower cost of debt. Wang (2006) follows with evidence that family firms have better earnings quality and lower abnormal accruals.

Agency theory establishes that, in a relationship where one party (the principal), has engaged another party (the agent), to perform some service or function on his behalf, conflicts can arise because of the differing interests of the parties involved in the contract (Jensen and Meckling, 1976). One of the characteristics of publicly traded corporations is the separation of ownership and control that can give rise to these agency conflicts (Jensen and Meckling, 1976; Demsetz and Lehn, 1985; Shleifer and Vishny, 1986).

Founding family ownership presents a special case of concentrated ownership. Founding families tend to have poorly diversified portfolios (with the majority of the family wealth concentrated in the family firm), have longer term investment horizons than the typical manager (they view their stake in the firm as a legacy to be passed to future generations, as opposed to wealth to be spent in their lifetime), and often control senior management positions. As such, founding families, as influential shareholders, are in a position to exert substantial control and influence over the firm.

Ramanna and Watts (2008) use a sample of firms with market indications of impairment (MTB<1) and examine the firm characteristics and agency-based motives that may be related to the decision to take a goodwill impairment write-off. They find

that, contrary to standard setters' suggestion that managers would use the unverifiable discretion given under FASB ASC Topic 350 (SFAS 142) to convey private information to the market, that the decision to impair is used in a manner consistent with agency-based predictions.

Using a sample of S&P 500 firms, and dividing this sample into family firms and non-family firms, I test Ramanna & Watts (2008) hypothesis with respect to these family firms. If the family firm structure transcends agency issues, as predicted by prior family firm literature, then the decision to impair goodwill should be unrelated to agency-based variables. If on the other hand, the entrenchment theory set forth by Wang (2006) holds true, then the goodwill impairment decision will be unrelated to the family firm structure.

The rest of the paper is organized as follows: Section 2 provides background and related literature on FASB ASC Topic 350 (SFAS 142), goodwill and goodwill impairment, family ownership and family firms and agency. Section 3 develops the hypothesis. Section 4 describes firm financial characteristics that facilitate unverifiable discretion under FASB ASC Topic 350 (SFAS 142). Section 5 describes agency-based motives that may affect the impairment decision. Section 6 covers economic fundamental variables. Section 7 describes family firm variables that are used in this study. Section 8 describes the research design. Section 9 provides information on the sample and data selection. Section 10 analyzes the results of testing.

2. Background and Related Literature

2.1 FASB Accounting Standards Codification (ASC) Topic 350[1]

FASB ASC Topic 350 (Goodwill and Other Intangible Assets, formerly SFAS 142 (FASB, 2001), which superseded APB 17 (AICPA, 1970) and SFAS 121 (FASB, 1995)) governs the accounting treatment of acquired goodwill[2]. Under standards in effect prior to the promulgation of SFAS 142, goodwill was subject to periodic amortization over some arbitrarily determined period, not to exceed 40 years. Goodwill was also subject to impairment, but only when certain associated long-lived assets were also impaired. FASB ASC Topic 350 (SFAS 142) eliminated goodwill amortization and replaces it with an impairment-only approach to goodwill. Thus, goodwill was no longer considered an asset whose value diminishes solely due to the passage of time but rather, maintains the value assigned to it as originally determined unless impairment testing indicates otherwise. In addition, FASB ASC Topic 350 (SFAS 142) no longer ties the decision to record a goodwill impairment loss to the impairment of other long-lived assets. Rather, goodwill is now tested for impairment based on a comparison of an estimate of the fair value of goodwill with the book value of goodwill.

FASB ASC Topic 350 (SFAS 142) sets forth a two-step procedure to be followed in determining whether goodwill has been impaired. This testing is done at the "reporting

[1] FASB Accounting Standards Codification (ASC) became the single source of authoritative nongovernmental U.S. generally accepted accounting principles (GAAP) effective for interim and annual periods ending after September 15, 2009. All previous level (a)-(d) US GAAP (as per SFAS 162) is superseded. Because of the recent nature of the change, superseded accounting standards are noted parenthetically.

[2] FASB ASC Topic 350 covers the treatment of goodwill and other intangible assets. The focus of this paper is the treatment of goodwill.

unit" level. All acquired goodwill is initially assigned to one or more reporting units as of the date of acquisition. The assignment is based on an assessment of the reporting units that are expected to benefit from the synergies of the combination. There is no requirement that other assets and liabilities acquired in the business combination be assigned to the same reporting unit as the goodwill, and the acquired goodwill may be divided among a number of reporting units.

Generally, a reporting unit is an operating segment, or one level below an operating segment (referred to as a component), if that segment (or component) constitutes a business for which discrete financial information is available and management regularly reviews the operating results of the segment (component). Goodwill is tested for impairment at this reporting unit level, using a two-step process described in FASB ASC 350-20-35-4 through FASB ASC 350-20-35-19 (paragraphs 19-22 of SFAS 142).

Step 1: This step, which is used to identify potential impairment, compares the value of a reporting unit with its book value, including goodwill. Fair value is determined pursuant to FASB ASC 350-20-35-22 (paragraphs 23-25 of SFAS 142) as "the amount at which the unit as a whole could be bought or sold in a current transaction between willing parties". If the fair value of a reporting unit exceeds its carrying amount (book value), goodwill of the reporting unit is deemed not impaired, and step 2 becomes unnecessary. If the book value of the reporting unit exceeds its fair value, the second step of the goodwill impairment test is performed to determine the amount of the impairment loss.

Step 2: In this step, the implied amount of goodwill is computed. This implied value is determined in the same manner as the amount of goodwill recognized in a

business combination is determined. That is, an entity shall allocate the fair value of a reporting unit to all of the assets and liabilities of that unit, including any unrecognized intangible assets, as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the amounts assigned to its assets and liabilities is the implied fair value of the goodwill. The fair value of goodwill is then compared to the book value of goodwill. Any excess of the goodwill's book value over its fair value is recorded as the reporting unit's impairment loss and is reported as a separate above-the-line deduction in the income statement[3].

2.2 Goodwill and Goodwill Impairment

In most cases, goodwill arises as a result of a purchase method acquisition. Goodwill is the residual portion of the purchase price that cannot be allocated to other tangible and intangible assets. This intangible asset arises from a premium paid for the target's reputation, technology, brand names, or other attributes that enable it to earn excess return on investment, justifying the premium paid.

Since goodwill arises indirectly, as a residual after allocation of the purchase price to other identifiable assets, it cannot be directly measured. The value can be appraised only by measuring the excess return earned by the business to which it is attributed. Such a measurement and appraisal requires many assumptions to be made, all of which could

[3] SFAS 142 (Now FASB ASC Topic 350) became effective for fiscal years beginning after December 15, 2001. Impairment losses for the first year of implementation are considered "transitional goodwill impairment" and can be accounted for as an accounting change (below-the-line). Because of this disparate treatment, 2002 is considered a transitional year and is excluded from consideration in this paper.

be subject to rebuttal, making any appraisal of the value of goodwill potentially controversial.

Beginning June 1, 2001 FASB ASC Topic 805 (formerly SFAS 141, which amended APB Opinion No. 16), prohibited the pooling method in all business combinations. Since this leaves only the purchase method, goodwill will be recognized in all business combinations where the purchase price does not equal the fair value of net assets acquired (virtually all business combinations). Goodwill recognized as a result of a business combination accounted for under the purchase method is the excess of the purchase price paid over the fair value of net assets acquired.

The valuation of goodwill is an important issue, as it is an important input into the assessment of the level and uncertainty of future cash flows of the firm. The ability to make an independent determination of goodwill's value, apart from that provided by management, is important for investors, auditors and regulators. Such a determination allows investors to make inferences about management's reporting quality. An auditor would be interested in the valuation and in a determination of any situations where goodwill is likely to be impaired as part of their analytical review. The valuation and potential impairment of goodwill could be of value to the SEC in screening financial reports for possible review. Because of the importance of the valuation of goodwill to parties outside the firm, the FASB has an interest in ensuring that financial disclosures provide sufficient information to enable users to determine if the reported goodwill has become impaired. FASB also has an obligation to provide financial statement preparers with guidance to assist them in the valuation process.

However, both the allocation of goodwill to reporting units and the subsequent valuation of the reporting unit as specified above are subject to the discretion of management and this discretion is unverifiable. Standard setters (FASB) contend that this discretion will be used to convey management's private information on future cash flows[4], while agency theory predicts that this discretion will be used opportunistically.

Hayn and Hughes (2005) examine whether FASB ASC Topic 350 (SFAS 142) improved the financial disclosures on acquired entities, and whether the disclosures required under FASB ASC Topic 350 (SFAS 142) improve investors' ability to predict goodwill impairment. The authors track the performance of acquired companies through time from the year of acquisition using performance measures of the operating segment (operating income-to-identifiable assets, ROA, change in ROA from one year to the next, operating losses, the percentage change in sales from one year to the next), and characteristics of the original acquisition (payment of a significant premium, presence of multiple bidders, a significant amount of goodwill relative to the purchase price, and use of the acquiring firm's stock as the primary mode of consideration). They find that available disclosures did not provide adequate information to financial statement users to predict goodwill impairment write-offs and that the characteristics of the original acquisition are more powerful predictors of eventual goodwill write-offs than the required segment disclosures. Further, they found that goodwill write-offs lag behind the economic impairment of goodwill by an average of three to four years and in some cases, as much as ten years.

[4] Chen, Kohlbeck, and Warfield (2004) find evidence of this for transition year (2002) goodwill impairment write-offs.

Li, Shroff and Venkataraman (2006) look at impairment losses taken during the transition period 2002 and 2003.[5] For the sample of firms announcing impairment losses during 2002 and 2003, Li et al. (2006) find that the impairment loss serves as a leading indicator of a decline in subsequent performance, both in sales and operating margins. They also find that for a control sample of acquirers, firms announcing impairments were more likely to have overpaid for the target in acquisitions made during the prior five years. This appears to be an indication that the value of the goodwill may have been impaired at the time of acquisition. [6]

Guler (2007) studies the roles of managers' stock option holdings and corporate governance on managers' choice to recognize goodwill impairment losses in years subsequent to the adoption of FASB ASC Topic 350 (SFAS 142). She finds that the likelihood of the recognition of a goodwill impairment write-off is significantly negatively related to manager's in-the-money stock options. Conversely, she finds that the likelihood of recognizing an impairment write-off is significantly increased when firms have strong corporate governance, as measured by percentage of outside directors, percentage of outside directors' stock ownership, number of busy directors, and the separation of CEO and Chair positions.

Ramanna and Watts (2008) use a sample of firms with market indications of goodwill impairment (market-to-book ratios<1). Using variables to proxy for favorable private information (positive net share repurchase activity), agency-based motives (CEO

[5] SFAS 142 (Now FASB ASC Topic 350) was effective for periods beginning after December 15, 2001. For the initial year of adoption, goodwill impairment losses were allowed to be taken as a deduction below-the-line (as a charge to equity) rather than above-the –line (as a charge to earnings).

[6] Li et al. (2006) also find that investors and analysts revised their expectations downward (significantly related to the magnitude of the loss) and that the impairment loss was negatively correlated with return performance during the prior two years.

compensation concerns, CEO reputation concerns, exchange-delisting considerations, and debt-covenant considerations), and firm characteristics which may afford management the flexibility under FASB ASC Topic 350 (SFAS 142) to facilitate discretionary non-impairment (number and size of a firm's business units and the proportion of a firm's net assets that are unverifiable). Their results suggest that managers use the unverifiable discretion allowed by FASB ASC Topic 350 (SFAS 142) to avoid timely goodwill write-offs in cases where they have the agency-based motives to do so (Ramanna, 2008). Their results are not consistent with standard setters' argument that managers will use the unverifiable discretion allowed by FASB ASC Topic 350 (SFAS 142) to convey private information on future cash flows.[7]

2.3 Family Ownership

A discussion of family ownership of publicly-held corporations is inseparable from the ongoing agency debate regarding the issue of the separation of ownership and control. While this section is to be devoted to the subject of family ownership and the related literature, a consideration of the background, insights, and models of the literature concerning the effects of the separation of ownership and control is an integral part of the discussion. While the agency issues are covered in detail in another section, some repetition here is required for a complete understanding of the family firm literature.

[7] There is also a substantial body of research that looks at market reactions around the announcement of goodwill impairment write-offs. Hershey and Richardson (2002, 2003) found a -2-3% adverse stock price reaction to goodwill write-off announcements, as well as substantial negative stock price reactions for long-window pre- and post-announcement periods. Ahmed and Guler (2007) find that stock prices are more strongly associated with stock returns and stock prices after FASB ASC Topic 350 (SFAS 142) than before FASB ASC Topic 350 (SFAS 142). Bens, Heltzer and Segal (2007) document a significant and negative stock price reaction to unexpected goodwill write-offs.

Early literature seems to view family ownership as a less efficient, less profitable form of ownership, while this notion is disputed in later models.

Agency theory literature traces its roots back to Berle and Means (1932), and the ideas set forth in their publication of *The Modern Corporation and Private Property.* The authors began by arguing that capital in the U.S. had become heavily concentrated during the early decades of the 20th century, and that this vested a relatively small number of companies with a disproportionate amount of power. These firms all started as family owned firms, with trusts formed by financiers (Morgan, Rockefeller, and others) that were made up of combinations of a large number of smaller firms. Power was vested in these concentrated owners, until they used the emerging financial market of the Wall Street stock exchange to cash in some of their holdings, and ownership became dispersed among atomistic shareholders. Berle and Means argued that the consequence of this dispersal was seizure, by default, of power by the firms' managers, who ran the day-to-day operations of the firms. These managers were seen as having interests that were not necessarily in line with those of stockholders. Owners would prefer that profits be returned to them in the form of dividends. Berle and Means (1932) suggested that managers preferences would be to reinvest the profits, or, in a less-than-flattering interpretation, to further their own interests, in the form of higher salaries or perquisites.

In an examination of the 200 largest U.S. non-financial corporations in 1929, Berle and Means found that 44 percent of them had no individual ownership interest with as much as 20 percent of the stock, a share they viewed as an approximate minimum necessary for control. These 88 firms, which accounted for 58 percent of the total assets among these top 200 firms, were classified as management controlled. In only 11 percent

of the firms did the largest owner hold a majority of the firm's shares. This underscored Berle and Means concern about the lack of accountability of managers to the dispersed owners of the firm.

After Berle and Means, family firm research appeared to lay dormant for several decades. Beginning with Jensen and Meckling (1976), models of ownership and control began to emerge suggesting that combining ownership and control allows concentrated owners to exchange profits or investment opportunities for private rents. Admittedly, this stream of research was not specifically directed at family firms, but considering family ownership as a specialized form of ownership and control, these arguments could be easily applied in cases of family firms.

Jensen and Meckling (1976) acknowledge that managers might have different motives than those of the owners, and concentrate their analysis on the methods of monitoring managers under conditions of wide stock dispersal. The issue is to create an alignment of incentives between the owners and the managers, so that managers' interests will correspond with those of the owners. One monitoring mechanism proposed by the authors is the provision of equity interests to management. The argument was that, when managers own stock in the firm, they share interests in the performance of the firm with the remaining equity holders.

Fama and Jensen (1983) characterize an organization's decision process as two distinct, yet related functions; the function of decision management and that of decision control. Their analysis of these functions produces two complementary hypotheses about the relation between decision-making functions and residual claims: (1) separation of residual risk bearing from decision management leads to decision systems that separate

decision management from decision control, and (2) combination of decision management and decision control in a few agents leads to residual claims that are largely restricted to these agents. Thus, there are offsetting costs of significant management ownership. When a manager owns only a small stake, market discipline, the managerial labor market, the product market, and the market for corporate control may still force the manager toward value maximization. In contrast, a manager who controls a substantial fraction of the firm's equity may have enough voting power or influence more generally to guarantee his employment with the firm at an attractive salary.

Demsetz (1983) notes that various standards have been used in studies of the degree of ownership concentration, from the ownership of the largest single ownership unit, the five largest, the ten largest, and so on among the standards used to define significant versus minority ownership interests, while 5, 10, and 20 percent of outstanding shares are among the standards used to identify the ownership significance of these interests. Demsetz (1983) states the obvious fact that, the number of firms identified as owner controlled will vary inversely with the stringency of the criteria adopted. He further argues that these studies underestimate the degree of ownership representation because they generally ignore the fact that corporate executives, while not often among the largest concentrated shareholders, receive incomes that are often highly correlated with stock performance. This correlation, Demsetz notes, derives not only from bonuses, but from managers' ownership of stock, resulting in a lack of separation of ownership and control that is more frequent and widespread than literature previously had acknowledged. Demsetz and Lehn (1985) illustrates this by looking at the level of stock ownership of Fortune 500 firms by directors and management for the period 1973-1982.

They find that, with the exception of the ten largest firms, where the average was just over 2 percent over the ten-year period, the average ownership by directors and management in the middle ten and last ten on the Fortune 500 list rose to approximately 20 percent. And, for ten firms too small to make the Fortune 500 list for 1975, the percentage rose to 32.5 percent.

While not specifically looking at family ownership, but rather large shareholders, Shleifer and Vishny (1986) develop a model which can be applied in the family ownership context. The authors specify a model where management acts to maximize profit, but does so imperfectly. A large shareholder has a large enough stake that it pays for him to monitor the incumbent management. If higher profits justify a change in management, the large shareholder will try to implement this change (Burkart, Panunzi, Shleifer, 2003). Though all shareholders benefit from any gains, the large shareholder's gains cover only his monitoring and takeover costs. Thus, there is too little monitoring and takeover activity. As the holdings of the firm's large shareholder increases, the model shows that a takeover becomes more likely. As evidence of the accuracy of their model Shleifer and Vishny (1986) cite 456 of the Fortune 500 firms in 1980, where 354 have at least one shareholder that owns at least 5% of the firm, and in only 15 of these firms does the largest shareholder own less than 3%. The average shareholding of their sample of 456 firms is 15.4%, and the average holding of the five largest shareholders is 28.8%. These large shareholders are families represented on the boards of directors (149 firms), families and family holding companies who do not have board seats (100 firms), pension and profit-sharing plans (90 firms), and financial firms such as banks, insurance

companies, or investment funds (117 firms). Of these 456 firms, 52 merged or were taken private by management.

James (1999) shows how this takeover pressure may not exist in family firms. Takeover pressure can be damaging because it leads managers to sacrifice long-term interests in order to boost current profits. The extended investment horizon characteristic of family firms may provide the necessary incentive for decision makers to invest according to the market rule while limiting agency costs that arise when ownership and control are separated. He models how family ties, loyalty, and stability all serve to be effective in lengthening the horizons of managers and provide the incentives to make efficient investments in the family firm. Stein (1988, 1989) shows how the presence of these shareholders with longer investment horizons can mitigate myopic investment decisions by managers.

Empirical research in the 1980's was not specifically focused on family firms, but nonetheless analyzed issues which were modeled in earlier research and were important to later family firm research. DeAngelo and DeAngelo (1985) studied 45 publicly held firms with dual classes of stock. In this sample, management's common stock holdings are tilted toward security with superior voting rights, and in over half the sample firms, majority control is held by corporate officers and their families. In their typical sample firm, managers hold a minority interest in common stock cash flows, yet they own a majority of the voting rights. In many of these dual class firms, the authors observe substantial family ownership in that two or more related parties hold top management positions for several generations. DeAngelo and DeAngelo (1985) do not focus on this family ownership, but simply on the existence of the dual class structure and

the differences between cash flow rights and voting rights. They also document 4 cases of negotiated acquisitions in which controlling shareholders of dual class firms receive explicit premiums for their superior voting rights. This would appear to provide evidence that controlling shareholders seek to extract private rents at the expense of atomistic shareholders[8].

Morck, Shleifer, and Vishny (1988) investigate the relationship between management ownership and market valuations, as measured by Tobin's q. In a 1980 cross-section of 371 Fortune 500 firms, they find that as ownership by members of the board of directors increases, q increases to the 10% ownership level, then decreases to approximately the 25% level, then once again increases. In one of the first acknowledgements in empirical literature of possible differences due to family ownership, Morck et al. (1988) provide evidence that for older firms, q is lower when the firm is run by a member of the founding family than when it is run by an officer unrelated to the founder. Their explanation is that the increases in q with increases in percentage of ownership reflects the convergence of interests between managers and shareholders while the declines reflects the entrenchment of the management team.

Barclay and Holderness (1989) analyze the pricing of 63 block trades between 1978 and 1982 involving at least 5% of the common stock of NYSE or AMEX corporations and find that they are priced at substantial premiums to the exchange price. Barclay and Holderness' (1989) analysis indicates that the dollar value of the premium paid by both individual and corporate block purchasers increases at a increasing rate with the fraction of the firm's outstanding stock transferred in the block. This appears to agree

[8] Evidence consistent with this view was provided by the negative shareholder reaction to a recapitalization by Ford in 2000 which reduced the Ford family's ownership from 6% to 4.5% yet allowed them to maintain 40% voting control of the company through a dual-class structure (Schack, 2001).

with the findings of DeAngelo and DeAngelo (1985) that managers who own large blocks of stock receive corporate benefits disproportionate to their fractional ownership.

Founding family research seems to have begun in earnest in the late 1990's. McConaughy, Walker, Henderson, and Mishra (1998) examine firms that are run (CEO's) by a founder. Using the BusinessWeek CEO 1000 from October 1998, they were able to identify 219 firms whose CEOs were either the founder or were related to the founder. The title assigned to these firms was founding family controlled firms (FFCFs). They argue that the close relationship between founders (and their families) and the firms they own improves monitoring and reduces inefficiencies attributable to agency conflicts. The analysis uses market data performance measures (market-to-book equity ratio and market returns) and accounting data operating efficiency measures (sales growth, sales per employee, cash flow per employee, gross margin, net margin, total asset turnover). The authors suggest that the improved monitoring and reduced agency conflicts should manifest themselves in higher firm values, higher returns, and greater operating efficiency. They find that FFCFs are more efficient and more valuable than non-FFCFs that are similar with respect to industry, size and managerial ownership. They also observe that descendant-controlled firms are more efficient than founder-controlled firms, and that younger founder-controlled firms are more efficient than older ones. The results are consistent with the notion that managerial ownership is endogenous to the firm and that family relationships improve monitoring while providing incentives that are associated with better firm performance.

Palia and Ravid (2002) also look at firm value, and the results partially conflict with those of McConaughy et al (1998). Palia and Ravid (2002) extend Shleifer and

Vishny's (1989) manager-specific investments model, and present a model in which founders work harder, become endogenously entrenched, and are not responsive to increases in pay-performance sensitivity. The authors argue that founders are naturally entrenched due to their superior firm-specific abilities, but they work harder, and their firms are more profitable. This model is tested using a sample of 298 firms, 13 years of data (1981-1993), in which 49 of these firms are led by founders, 21 of whom are original founders. Similar to McConaughy et al (1998), Palia and Ravid (2002) find that firms led by original owners have higher market values than similar firm not led by founders. However, in contrast to McConaughy et al (1998), the results suggest that firms led by family members of original owners have lower market values. With regards to pay-performance sensitivity, the findings indicate that founder-led firms have no statistically significant relationship between their CEO's pay-performance sensitivity and firm value, while non-founder-led firms show a positive and significant relation.

Villalonga and Amit (2004) also look at firm value as it relates to the CEO (founder, family, or hired) and the structure of ownership interests held by founders. Using proxy data on all Fortune 500 firms during 1994-2000, the authors find that family ownership creates value only when the founder serves as the CEO or as its Chairman with a hired CEO. Dual class shares, pyramid ownership structures, and voting agreements reduce the premium in firm value attributable to the founder. When descendants serve as CEOs, firm value is destroyed. Villalonga and Amit (2004) explain the results as suggesting that the classic owner-manager conflict in non-family firms is more costly than the conflict between family and non-family shareholders in founder-CEO firms. However, the conflict between family and non-family shareholders in

descendant-CEO firms is more costly than the owner-manager conflict in non-family firms.

DeAngelo and DeAngelo (2000) examine controlling shareholders and corporate dividend policy. This paper is a specific case study of The Times Mirror Company, a publicly held Fortune 500 firm that has been controlled for 100 years by the Chandler family. After a long period of poor operating performance and poor stock price performance, an industry outsider was hired as CEO in 1995. Prior to this hiring the firm was run by non-family management for an extended period. The non-family management was not the focus of this study, but rather the difference in dividend policy for family shareholders versus non-family shareholders. In 1994, old management agreed to sell Times Mirror cable business and invest the proceeds in new technology while maintaining the Chandler family's dividends and radically cutting those of minority shareholders. The market reacted favorably to the sale of the cable unit, but punished the stock price when details of the dividend policy were discovered. The CEO hired in 1995 sought to increase shareholder value by getting rid of low return investments and distributing free cash flow. DeAngelo and DeAngelo (2000) argued that, while pressure to pay dividends and monitoring by large block shareholders ultimately improved performance, the process was a slow one, suggesting that the disciplinary forces of large shareholders and dividend payout policy were weaker than theory implies.

Anderson and Reeb (2003) investigate the relationship between founding family ownership and firm performance. The authors note that founding families tend to maintain a long-term presence in their firms. As such, families potentially have longer term investment horizons than other shareholders. This could suggest a willingness to

invest in longer-term projects that would benefit the firm in terms of future value-maximization, as opposed to shorter-term managerial horizons. This view follows from the theoretical discussions of Stein (1988, 1989) and James (1999) as noted earlier. Anderson and Reeb (2003) note that families are present in one-third of the S&P 500. Contrary to the initial conjecture of Anderson and Reeb (2003), they find that family firms perform better than non-family firms as measured by both accounting and market-based measures. They also find, similar to Morck, Shleifer, and Vishny (1988), that the relation between family holdings and firm performance is non-linear. Further, they find that when family members serve as CEOs, performance is better than with outside CEOs. The authors note that the results appear to be inconsistent with the hypothesis that minority shareholders are adversely affected by family ownership.

Anderson, Mansi, and Reeb (2003) investigate the impact of founding family ownership on the agency cost of debt. Jensen and Meckling (1976) observe that diversified shareholders have incentives to expropriate bondholder wealth by investing in risky projects. Bondholders, anticipating such incentives, demand higher rents, resulting in a higher cost of capital. However, equity holders with large, undiversified ownership stakes may have different incentive structures relative to atomistic shareholders. Since firms regularly reenter debt markets for financing, these concentrated equity holders, who are typically long-term investors with substantial wealth at risk, potentially have a strong incentive to mitigate agency conflicts with bondholders. Anderson et al. (2003) posit that, because families' wealth is closely related to firm value, and because of the family's sustained presence in the firm, the family faces reputation concerns that managers with short-term concerns might not consider. The long-term nature of founding family

ownership suggests that suppliers and providers of capital are likely dealing with the same governing bodies over extended periods of time, where management in non-family firms might be changing on a more frequent basis. According, the family's reputation is more likely to create longer-lasting economic consequences relative to non-family firms. Using a sample of S&P 500 firms, Anderson et al. (2003) find evidence that family ownership is associated with a lower agency cost of debt.

In a follow-up paper, Anderson and Reeb (2004) look at founding family firms and corporate governance. The question approached in this paper is that of who monitors the family to alleviate the agency conflict between founding family shareholders and more diverse, atomistic shareholders. In particular, since the sample family firms generally have boards with fewer independent directors than non-family firms, family members hold 20% of all board seats, a family member is CEO in 46% of the sample firms, there are fewer unaffiliated blockholders, and less incentive-based pay, why the previous finding that family firms outperform those with more dispersed ownership structures. Using Tobin's q as a measure of firm value, Anderson and Reeb (2004) find that value is 12% higher for firms with independent versus insider-dominated boards, but that independent director influence is not associated with firm performance. Conversely, firm value is 12.8% lower when family control of the board exceeds independent director control. Non-family CEOs result in higher firm value, but a family member CEO has no effect, possibly indicating that family member CEOs do not further intensify shareholder-shareholder conflicts. Anderson and Reeb (2004) offer two possible explanations: (1) that outside shareholders seek to place independent directors on the board to control family

opportunism, and (2) families place independent directors on the board in an effort to commit to outside investors not to expropriate firm resources.

Anderson, Mansi, and Reeb (2004) also follow up on their 2003 paper by looking at board characteristics as they are related to the cost of debt. Despite the evidence in their 2003 paper that founding family ownership was associated with a lower cost of debt, they extend their testing to determine whether board structure has any effect, as creditors may rely on the board of directors as a monitoring device on the integrity of financial accounting reports, to mitigate the stringency of accounting-based debt covenants. The evidence suggests that the cost of debt is inversely related to board independence and board size. An additional finding is that a fully independent audit committee is associated with a significantly lower cost of debt financing. The results yield conclusions similar in nature to those of the Anderson and Reeb (2004) follow-up paper, that while founding family ownership is deemed beneficial, equity investor and debtholders look to the monitoring influence of an independent board of directors to mitigate potential agency conflicts.

Founding family research continues with Wang (2006) investigating the relation between founding family ownership and earnings quality. Wang (2006) provides two competing theories on the effect of founding family ownership on the demand and supply of earnings quality: the entrenchment effect and the alignment effect. The entrenchment effect predicts that concentrated shareholders, in this case family shareholders, may try to expropriate wealth from other shareholders. In contrast to the entrenchment effect, the alignment effect predicts that, as ownership increases, managers' incentives will align with those of more atomistic shareholders. Using a sample of S&P 500 firms, the

empirical results show that, on average, founding family ownership is associated with higher earnings quality. In particular, Wang (2006) finds consistent evidence that founding family ownership is associated with lower abnormal accruals, greater earnings informativeness, and less persistence of transitory loss components in earnings. Wang (2006) also notes that the results are non-linear. Wang (2006) explains his findings as indicating that founding family ownership enhances the communication between insiders and users of financial statements through higher quality accounting earnings. He suggests that the results could have one of two meanings: (1) better alignment of interests between family members and other shareholders, or (2) greater demand for earnings quality by financial statement users.

Ali, Chen, and Radhakrishnan (2007) investigate the agency problems faced by family firms and the relation to disclosure practices. They argue that family firms face less severe agency problems due to the separation of ownership and management, but more severe agency problems that arise between controlling and non-controlling shareholders, and this will affect the level of disclosure. For S&P 500 firms, their evidence suggests that family firms report better earnings quality, are more likely to warn for a given magnitude of bad news, but make fewer disclosures about their corporate governance practices. Consistent with family firms making better disclosures, they find that family firms have a larger analyst following, more informative analysts' forecast, and smaller bid-ask spreads.

Chen, Chen, Cheng, and Shevlin (2009) examine the tax aggressiveness of family firms versus non-family firms. Using four tax aggressiveness measures, they find that family firms are less tax aggressive than their non-family counterparts. The interpretation

they provide is that the results are consistent with family owners' willingness to forego tax benefits in order to avoid the perception of family entrenchment and the associated price discount by non-family minority shareholders. They further document that family firms without long-term institutional investors (as outside monitors) and family firms expecting to raise external capital exhibit even lower tax aggressiveness, consistent with family owners' stronger incentive to reduce the perception of family entrenchment.

In another disclosure paper, Chen, Chen, and Cheng (2008) investigate the voluntary disclosure practices of family firms. The findings indicate that family firms, in contrast to non-family firms, provide fewer earnings forecasts and conference calls, but more earnings warnings. This seems to be consistent with the findings of Ali et al. (2007). The authors explain the results as consistent with family owners having a longer investment horizon, better monitoring of management, and lower information asymmetry between owners and managers, and the higher likelihood of earnings warnings as being consistent with family owners having greater litigation and reputation concerns. They also document that family ownership dominates non-family insider ownership and concentrated institutional ownership in explaining the likelihood of voluntary disclosure.

Although much of the recent literature concerning family firms seems to find evidence consistent with the view that family ownership is indeed an efficient, profitable form of business ownership, each individual paper has touched on only one or two specific topics; James (1999) agues that family ties and loyalty are effective in lengthening managers' investment horizons, McConaughy et al. (1998) find that founding family controlled firms are more efficient than non-founding family controlled firms, Villalonga and Amit (2004) find evidence that suggests that family ownership creates

value when the founder serves as CEO, Anderson and Reeb (2003) conclude that family firms perform better than non-family firms as measured by both accounting and market-based measures, Anderson, Mansi, and Reeb (2003) find evidence consistent with a lower cost of debt for family firms, and in a follow-up paper (2004) find that the cost of debt is inversely related to board independence, Anderson and Reeb (2004) argue that family shareholders use independent directors to commit to outside investors that they will not expropriate firm resources, Wang (2006) finds that family ownership is associated with lower abnormal accruals, greater earnings informativeness, and less persistence of transitory loss components in earnings, Ali, et al. (2007) investigate the disclosure practices of family firms and find that, consistent with family firms making better disclosures, family firms have a larger analyst following, more informative analysts' forecasts, and smaller bid-ask spreads, Chen, et al. (2009) find that family firms are less tax-aggressive than their non-family counterparts. All of these results show important facets of family ownership. But, is there a common thread, other than the family ownership?

In his recent book, *Family Capitalism*, Harold James brings together many of the salient points raised by the academic research. He treats the family firm topic as a history of three European families over a period of two hundred years, and reinforces the notion that family ownership can be a viable and profitable form of structuring a business. The unifying premise is that family enterprise is particularly conducive to managing risk during periods of uncertainty. All of the literature summarized in this section seems to indicate that family-influenced firms manage risk in concert with the needs of shareholders rather than the needs of management. Accordingly, the types of decisions

that are undertaken optimize shareholders' wealth in the long run. Whereas typical agency research focuses on the private benefits that managements' extract they appear to miss the larger picture related to the cost of making ill advised risky decisions that may improve short-term reported results on which management's compensation is based – cash and options. These decisions can provide managers with financial, psychic, and reputational benefits at the eventual cost of wealth to the shareholders.

James (2006) states:

> Family capitalism has thus been particularly important in countries and societies experiencing profound shocks and discontinuities. It is a way of managing risk in a high-risk environment. They can generate better access to market capital because they create a degree of trust that offers a response to markets failure. They provide a higher degree of human or social capital….

James (2006) makes the observations that seem to bring all of the family firm research together. Families provide a long-term outlook. Family ownership has the advantage of being visible and identifiable, in contrast to "the anonymous capitalism of large numbers of individual investors or the facelessness of institutional investors". This visibility and long-term outlook foster transparency in financial reporting and in the method of dealing with outside parties.

In order to study the differences in the risk-taking profiles of family firms versus non-family firms, it is necessary to look at the decisions made by these two opposing types of firms, the results of those decisions, and the capital market perception of the decisions. Goodwill impairment write-offs may be a way of understanding this issue.

2.4 Agency

This issue concerns all firms, not just family firms, and appears to increase with the size of the firm. Generally speaking, the principal-agent issue deals with whether business owners can trust their managers and whether there are mechanisms in place to ensure that management does not promote its interests at the expense of owners. A high dependence on managers may promote growth at the expense of profitability, as the managers benefit from increased activity that make their functions more important. Having managers who are also owners may remove this problem to some extent, but at the price of depriving the firm of access to the best skills and qualifications for management.

Agency theory establishes that, in a relationship where one party (the principal), has engaged another party (the agent), to perform some service or function on his behalf, conflicts can arise because of the differing interests of the parties involved in the contract (Jensen and Meckling, 1976). One of the characteristics of publicly traded corporations is the separation of ownership and control that can give rise to these agency conflicts (Jensen and Meckling, 1976; Demsetz and Lehn, 1985; Shleifer and Vishny, 1986).

Agency theory literature traces its roots back to Berle and Means (1932), and the ideas set forth in their publication of *The Modern Corporation and Private Property.* The authors began by arguing that capital in the U.S. had become heavily concentrated during the early decades of the 20th century, and that this vested a relatively small number of companies with a disproportionate amount of power. These firms all started as family owned firms, with trusts formed by financiers (Morgan, Rockefeller, and others) that were made up of combinations of a large number of smaller firms. Power was vested in

these concentrated owners, until they used the emerging financial market of the Wall Street stock exchange to cash in some of their holdings, and ownership became dispersed among atomistic shareholders. Berle and Means argued that the consequence of this dispersal was seizure, by default, of power by the firms' managers, who ran the day-to-day operations of the firms. These managers were seen as having interests that were not necessarily in line with those of stockholders. Owners would prefer that profits be returned to them in the form of dividends. Berle and Means (1932) suggested that managers preferences would be to reinvest the profits, or, in a less-than-flattering interpretation, to further their own interests, in the form of higher salaries or perquisites.

In an examination of the 200 largest U.S. non-financial corporations in 1929, Berle and Means found that 44 percent of them had no individual ownership interest with as much as 20 percent of the stock, a share they viewed as an approximate minimum necessary for control. These 88 firms, which accounted for 58 percent of the total assets among these top 200 firms, were classified as management controlled. In only 11 percent of the firms did the largest owner hold a majority of the firms' shares. This underscored Berle and Means concern about the lack of accountability of managers to the dispersed owners of the firm.

This early literature (Berle and Means, 1932) suggests that this separation of ownership and control in large corporations, where managers hold little equity in the firm and shareholders are too dispersed to enforce value maximization, may lead to a situation where corporate assets may be used to benefit managers at the expense of shareholders.

Beginning with Jensen and Meckling (1976), models of ownership and control began to emerge suggesting that combining ownership and control allows concentrated

owners to exchange profits or investment opportunities for private rents. Jensen and Meckling (1976) acknowledge that managers might have different motives than those of the owners, and concentrate their analysis on the methods of monitoring managers under conditions of wide stock dispersal. The issue is to create an alignment of incentives between the owners and the managers, so that managers' interests will correspond with those of the owners. One monitoring mechanism proposed by the authors is the provision of equity interests to management. The argument was that, when managers own stock in the firm, they share interests in the performance of the firm with the remaining equity holders.

Fama and Jensen (1983) characterize an organization's decision process as two distinct, yet related, functions; the function of decision management and that of decision control. Their analysis of these functions produces two complementary hypotheses about the relation between decision-making functions and residual claims: (1) separation of residual risk bearing from decision management leads to decision systems that separate decision management from decision control, and (2) combination of decision management and decision control in a few agents leads to residual claims that are largely restricted to these agents. Thus, there are offsetting costs of significant management ownership. When a manager owns only a small stake, market discipline, the managerial labor market, the product market, and the market for corporate control may still force the manager toward value maximization. In contrast, a manager who controls a substantial fraction of the firm's equity may have enough voting power or influence more generally to guarantee his employment with the firm at an attractive salary.

Demsetz (1983) notes that various standards have been used in studies of the degree of ownership concentration, from the ownership of the largest single ownership unit, the five largest, the ten largest, and so on among the standards used to define significant versus minority ownership interests, while 5, 10, and 20 percent of outstanding shares are among the standards used to identify the ownership significance of these interests. Demsetz (1983) states the obvious fact that, the number of firms identified as owner controlled will vary inversely with the stringency of the criteria adopted. He further argues that these studies underestimate the degree of ownership representation because they generally ignore the fact that corporate executives, while not often among the largest concentrated shareholders, receive incomes that are often highly correlated with stock performance. This correlation, Demsetz notes, derives not only from bonuses, but from managers' ownership of stock, resulting in a lack of separation of ownership and control that is more frequent and widespread than literature previously had acknowledged.

Demsetz and Lehn (1985) illustrates this by looking at the level of stock ownership of Fortune 500 firms by directors and management for the period 1973-1982. They find that, with the exception of the ten largest firms, where the average was just over 2 percent over the ten-year period, the average ownership by directors and management in the middle ten and last ten on the Fortune 500 list rose to approximately 20 percent. And, for ten firms too small to make the Fortune 500 list for 1975, the percentage rose to 32.5 percent.

While not specifically looking at family ownership, but rather large shareholders, Shleifer and Vishny (1986) develop a model which can be applied in the family

ownership context. The authors specify a model where management acts to maximize profit, but does so imperfectly. A large shareholder has a large enough stake that it pays for him to monitor the incumbent management. If higher profits justify a change in management, the large shareholder will try to implement this change. Though all shareholders benefit from any gains, the large shareholder's gains cover only his monitoring and takeover costs. Thus, there is too little monitoring and takeover activity. As the holdings of the firm's large shareholder increases, the model shows that a takeover becomes more likely. As evidence of the accuracy of their model Shleifer and Vishny (1986) cite 456 of the Fortune 500 firms in 1980, where 354 have at least one shareholder that owns at least 5% of the firm, and in only 15 of these firms does the largest shareholder own less than 3%. The average shareholding of their sample of 456 firms is 15.4%, and the average holding of the five largest shareholders is 28.8%. These large shareholders are families represented on the boards of directors (149 firms), families and family holding companies who do not have board seats (100 firms), pension and profit-sharing plans (90 firms), and financial firms such as banks, insurance companies, or investment funds (117 firms). Of these 456 firms, 52 merged or were taken private by management.

James (1999) shows how this takeover pressure may not exist in family firms. Takeover pressure can be damaging because it leads managers to sacrifice long-term interests in order to boost current profits. The extended investment horizon characteristic of family firms may provide the necessary incentive for decision makers to invest according to the market rule while limiting agency costs that arise when ownership and control are separated. He models how family ties, loyalty, and stability all serve to be

effective in lengthening the horizons of managers and provide the incentives to make efficient investments in the family firm. Stein (1988, 1989) shows how the presence of these shareholders with longer investment horizons can mitigate myopic investment decisions by managers.

Founding family ownership presents a special case of concentrated ownership. Founding families tend to have poorly diversified portfolios (with the majority of the family wealth concentrated in the family firm), have longer term investment horizons than the typical manager (they view their stake in the firm as a legacy to be passed to future generations, as opposed to wealth to be spent in their lifetime), and often control senior management positions. As such, founding families, as influential shareholders, are in a position to exert substantial control and influence over the firm.

Wang (2006) describes two competing theories of the effect of family ownership as it relates to the agency effects on the demand and supply of earnings quality: the entrenchment effect and the alignment effect. The entrenchment effect is based on the argument that concentrated ownership creates incentives for controlling shareholders to expropriate wealth from other shareholders. In family firms, the entrenchment effect would imply that family members, as controlling shareholders, would seek to extract private benefits from the firm at the expense of minority shareholders. In contrast to the entrenchment effect, the alignment effect predicts that, as ownership increases, managers' incentives will align with those of more atomistic shareholders.

DeAngelo and DeAngelo (2000) document that the management team of Times Mirror Company in 1994 dramatically cut dividends to minority shareholders, while maintaining a special dividend for the Chandler family. Thus, the entrenchment effect

would predict that the earnings quality of family firms would be lower than that of non-family firms because family firms may have greater incentives to manage earnings for their private benefit.

In additional to academic studies, there is anecdotal evidence from the popular press of family relationships creating agency conflicts consistent with the entrenchment theory. In June 2002, the Securities and Exchange Commission filed charges against the former CEO of Rite Aid Corp., the son of its founder, and other top management for overstating pretax income by $2.3 billion from 1997 to 1999 in order to artificially inflate annual bonuses. Campbell Soup Co., a firm with founding family ownership (the Dorrance family), was charged with artificially boosting profits during the 1990s by using fraudulent shipment records. John Rigas, founder of Adelphia Communications Corp., was indicted in September 2002 on charges of bank, wire, and securities fraud along with his sons, who were executives of Adelphia. The Rigas family (acting as executives of Adelphia) were found to have hidden $2.3 billion in liabilities from Adelphia investors, and to have used the company to pay personal expenses and liabilities. After the company files for bankruptcy protection, it was acknowledged that the Rigas family had been given $3.1 billion in off-balance-sheet loans.

In contrast to the entrenchment effect, the alignment effect predicts that the interests of founding families are better aligned with atomistic shareholders because of the large blocks of stock owned by family members and by their long-term presence. Therefore, the alignment effect would have founding families less likely to expropriate wealth from other shareholders. There are a number of academic studies that provide evidence consistent with the alignment effect (Ang, Cole, and Lin, 2000), as well as

anecdotal accounts. James (2006) discusses this in terms of the contribution of families to the proper functioning of the markets, due to their long-term outlook. He also discusses the agency issue directly, by stating:

> ….(Another) comparative issue is one that is raised by any firm, and increases with the size of the firm. It is now generally discussed as the principal-agent issue, but businessmen were clearly aware of the issue of whether they could trust their managers well before the term was introduced. Are there mechanisms to ensure that the management does not promote its interests at the expense of the owners? A high dependence on managers may promote growth at the expense of profitability, as the managers benefit from increased activity that makes their functions more important. Having managers that come from the owning firm removes this problem to some extent, but at the price of depriving the firm of access to the best skills and qualifications for management…

Because the wealth of founding families is closely tied to firm value, families have strong incentives to monitor employees (Anderson and Reeb, 2003) and to create long-term loyalty in employees (Weber, Lavelle, Lowry, Zellner and Barrent 2003). In addition, long-term orientation and reputation protection discourage family members from opportunistically managing earnings, because earnings management activities are more likely to be short-term oriented and perhaps even detrimental to long-term firm performance. Stronger monitoring mechanisms are observed in the boards of directors of founding family firms (Anderson and Reeb, 2004). In turn, the strong monitoring mechanisms motivate family members to communicate more effectively through higher quality accounting information with other shareholders and creditors, thereby reducing the cost of debt (Anderson, et al., 2003). Consistent with the alignment effect, founding family firms seem to perform better and have stronger corporate governance. Anderson and Reeb (2003) find evidence that founding family firms are better performers than non-family firms, as measured by accounting performance (return on assets) and market

measures (Tobin's Q). In addition, Anderson, et al. (2003) find evidence that firms controlled by founding families are associated with a lower cost of debt.

Anecdotal evidence of the alignment effect is also evident in the popular press. Weber et al. (2003) notes that William Wrigley, Jr., the great-grandson of the founder of the firm that bears their name, regards his position (CEO) as "more than just a job, because the family name is on the door". Wal-Mart Chairman S. Robson Walton, son of the late founder, insists that his family doesn't think in terms of how much cash Wal-Mart throws off for them each quarter. Instead, the Walton's take on the role of "patient capital", making sure that growth will come over time. "We view it as more of a trust, or as a legacy that we're responsible for, rather than something we own", states Walton in an interview in BusinessWeek (Weber, et al., 2003). This was most evident in the 1990s, when Wal-Mart stock price was punished by the capital market for spending heavily on opening their (then) new supercenters. With the family's backing, management stayed the course and felt less motivated to succumb to market forces. Alberto-Culver CEO Howard B. Bernick, son-in-law of patriarch Leonard Lavin (Chairman), states matter-of-factly that the family's nearly $700 million stake in the firm represents the "vast majority" of its wealth (Weber, et al., 2003). Bernick says that the stock holdings represent a huge responsibility, one that weighs on every decision he makes. In the interest of not appearing to disregard corporate governance concerns, he has recently added two independent board members. He has been known to renegotiate terms of acquisitions when circumstances warrant it, a position he suspects would not be taken by a non-family CEO, who might be less diligent. He sums up his view by stating, "I don't consider it company money, I feel that I'm playing with my own money". A final example of the

potential of the alignment effect is from the founders of Google, who matter-of-factly stated to potential investors when the firm was planning their initial public offering, "if earnings are lumpy from quarter-to-quarter, then that is what the market will see. We will not manage earnings to market expectations, or to make them smoother".

Ali, et al. (2007) divide the agency issue into two separate problems. The first agency issue arises from the separation of ownership and management, and is labeled a Type I agency problem by the authors. This agency problem can lead to managers not acting in the best interest of the shareholders. The second type of agency problem explored by Ali et al. (2007) arises from the conflict between controlling and non-controlling shareholders, and is denoted as a Type II agency problem, and may cause controlling shareholders to seek private benefits at the expense of non-controlling shareholders. Their explanation and discussion of the two types of agency problems across family and non-family firms is similar in many respects and covers much of the same literature as the discussion by Wang (2006) in his discussion of entrenchment and alignment.

Ali et al. (2007) argue that there are characteristics of family firms that may reduce the likelihood of managers not acting in the best interests of shareholders (Type I agency problems). First, families tend to hold undiversified and concentrated equity positions in their firms. This would tend to mitigate the freerider problem inherent with small atomistic shareholders, as families have strong incentives to monitor managers (Demsetz and Lehn, 1985). Second, families have detailed knowledge of their firms' activities, which enables them to provide superior monitoring of managers (Anderson and Reeb, 2003). Third, families tend to have much longer investment horizons as compared

to that of other shareholders. Therefore, family ownership would tend to help mitigate myopic investment decisions by managers (James, 1999; Stein, 1988, 1989). When comparing family firms to non-family firms, these factors tend to indicate that family firms face less severe hidden-action and information asymmetry problems due to the separation of ownership and management.

However, there are factors which would contribute toward mitigating these Type I agency problems in non-family firms. Compensating managers based on observable performance measures, managers concern about their reputation in the managerial labor market, and the threat of lawsuits by shareholders against managers would help align the interests of managers and stockholders in non-family firms.

With regard to the conflict between controlling and non-controlling shareholders (Type II agency problems), Ali et al. (2007) point out that founding families may enjoy substantial control as a result of their concentrated equity positions. In certain cases, families voting rights exceed their cash flow rights, and family members dominate the boards of directors. This control has the potential to give the family shareholders power to seek private benefits at the expense of other shareholders by engaging in related-party transactions, by receiving preferential treatment (as in the Times Mirror Company case), and through managerial entrenchment.

As with Type I agency problems, there are factors which may contribute toward the mitigation of the difference between family and non-family firms in the Type II agency problems. When family owners engage in private rent-seeking, their activities may get revealed to the market and they may incur substantial cost in the form of lower equity value. Since families tend to have their wealth concentrated in their equity

ownership in the firm, and also tend to hold their equity positions for extended periods spanning several generations, this is a major concern. In addition, in a venue that affords non-controlling shareholders significant legal protections against controlling shareholders, family owners have an additional incentive not to seek private benefits from the firm. Examples of these protections might include: proxy by mail, making it easier for minority shareholders to cast their votes and more power to potentially put a representative on the board of directors; class action/derivative lawsuits, enabling minority shareholders to challenge directors' decisions in court and force the company to repurchase shares of minority shareholders who object to certain corporate actions.

In summary, agency issues affect all firms, not just family firms. Family firms, however, have unique agency issues that must be addressed.

3. Hypothesis Development

FASB ASC Topic 350 (SFAS 142, Goodwill and Intangible Assets) requires firms to use unverifiable fair-value estimates to determine goodwill impairments. Goodwill generated in a business combination is allocated to "reporting units" of a firm, and is tested for impairment at this reporting unit level by a comparison of a fair-value estimate of goodwill with the book value of goodwill. If the estimated fair value of the reporting unit is less than its book value, then goodwill must be estimated to determine whether an impairment loss must be recorded. The fair value of the reporting unit's goodwill is estimated as the difference between the unit's total fair value and the sum of the fair value of the unit's non-goodwill assets. The resulting fair value of the reporting unit's goodwill is compared to the book value of goodwill, and the excess of book value over fair value is recorded as the unit's impairment loss.

Standard setters argue that managers will use the discretion given by such estimates to convey private information on future cash flows, while agency theory predicts that managers will use the discretion opportunistically. Guler (2007) finds that managers that have in-the-money stock options are less likely to take a goodwill impairment write-off, supporting the agency argument. Evidence supporting the conveyance of private information is found in firms that have stronger corporate governance. Ramanna and Watts (2008) find evidence that goodwill non-impairment increases in firm characteristics predicted to be associated with greater managerial discretion, and that this discretion is used in a manner that is consistent with agency-based predictions. Their evidence is not consistent with standard setters' arguments that

the managerial discretion inherent in the requirements of FASB ASC Topic 350 (SFAS 142) is used to convey private information.

Family firm research suggests that family firm ownership is an efficient structure which mitigates the usual agency concerns that come with concentrated ownership stakes combined with representation in a management position. Results of research has argued that family firms perform better than their non-family counterparts as measured by both accounting- and market-based measures, have a lower cost of debt, higher earnings quality, lower abnormal accruals, greater earnings informativeness, and less persistence of transitory loss components in earnings.

Faced with the potential conflict between the results of Guler (2007) and Ramanna and Watts (2008) that goodwill impairment write-offs are driven by agency-based concerns and the findings of family firm research that suggests that, despite the possibility of agency-based conflicts in family firms, these firms overcome this potential, this study will look at goodwill impairments (and non-impairments) to determine if the results in Ramanna and Watts (2008) hold up for family firms, and if family ownership has any affect on the incidence or amount of goodwill impairment and non-impairment. I also extend the Ramanna and Watts study to firms with market-to-book ratios greater than one to see if the results hold for these firms as well.

Ramanna and Watts (2008) use a sample that only includes firms that have a market indication of goodwill impairment (market-to-book ratio < 1). This study looks at firms included in the S&P 500 index in 2003, divided into firms that are considered family firms and all others. Considering the evidence of family firm research suggesting

that family firms are managed in a manner consistent with managers' interests being aligned with the interests of shareholders leads to the first hypothesis:

H1: Family firms will not be represented in the market-to-book <1 sample.

In the context of goodwill impairments in family firms versus non-family firms, the Ramanna and Watts (2008) sample could be viewed as an extreme example of agency conflict, with managers using the discretion in FASB ASC Topic 350 (SFAS 142) to avoid recording impairment losses, and a logical follow-up to the first hypothesis would be:

H2: In a sample that includes all goodwill impairments, the market-to-book ratio of family firms will be higher than that of non-family firms.

Ramanna and Watts (2008) use several firm characteristics, agency-based motives to manage goodwill impairment losses, and economic fundamental variables to describe firms that are likely to manage impairment losses. In addition to the variables identified, this study adds variables which are associated with family ownership. A discussion of each group of characteristics and variables follows.

4. Financial characteristics that facilitate unverifiable discretion under SFAS 142

4.1 The number and size of reporting units

When a firm recognizes goodwill in an acquisition, FASB ASC Topic 350 (SFAS 142) requires the firm allocate that goodwill among the reporting units that benefit from the acquisition. The allocation decision is arbitrary and left to the discretion of management. If a firm has a greater number of reporting units and those reporting units are larger in size relative to the acquired goodwill, greater flexibility is afforded in allocating the acquired goodwill. This flexibility in the initial allocation of goodwill potentially provides the opportunity to later avoid or accelerate the recording of impairment losses. Goodwill can be allocated to units that have internally generated growth prospects, and thus have unrecorded goodwill. Allocating goodwill in this manner can "hide" subsequent impairment. Alternatively, managers can allocate goodwill to low growth units to accelerate impairment (i.e. – big bath). The greater the number of reporting units within a firm, and the larger each of those units, the greater is management's flexibility in allocating goodwill, and the greater is the potential for managing future impairment losses.

The empirical proxies for number and size of reporting units are:

A) LogSeg*LogSales: Empirical data specifying the number and size of reporting units is not available. However, business segment data is required to be disclosed under FASB ASC Topic 280 (SFAS 131). The number of business segments is used as a proxy for the number of reporting units and individual segment sales as the proxy for the size of the reporting units. The total of the sales for the individual segments equal the sales of the firm. One variable is used to represent

the flexibility given by the number and size of the reporting units. The variable is computed as the product of the natural logs of the number of segments and segment sales data (LogSeg*LogSales). Holding the number of segments constant, increasing total sales increases the average segment size (and thus, the potential ability to allocate goodwill to a segment where possible impairment can be masked). Conversely, holding total sales constant, increasing the number of segments increases the probability of finding reporting units with high fair-to-book value ratios (if this ratio is >1, then no impairment charge needs to be recorded).

B) LogSeg: An alternate proxy for the number and size of the reporting units is simply the number of segments. There is the possibility that LogSeg*LogSales is capturing only the size of the firm, rather than the size and complexity of the firm structure. LogSeg captures the complexity of the firm structure, and reduces the possibility that the results from the first proxy are driven solely by firm size. Although the number of reporting units can certainly exceed the number of segments, the use of segments as proxies will potentially understate the number of reporting units, which in turn leads to a bias against finding the predicted relation between impairment losses (or delays) and the number of reporting units.

C) NumSICcodes: The number of distinct SIC codes that a firm operates in can also be used as a proxy for the number of reporting units. If lines of business (represented by SIC codes) are organized into different reporting units, then it follows that the number of reporting units increases with the number of SIC codes. Firms operating across a greater number of SIC codes are likely to have a

more diverse set of cash flow streams among those codes. If goodwill is indeed allocated in a manner that will facilitate future impairment choices, then managers can choose from business segments that have greater cash flows in order to allow this possibility. A more diverse set of cash flows will increase the possibility of finding such a segment, where an economic or business shock that impairs goodwill will not affect the unit as a whole. This proxy is computed as the natural log of the number of distinct SIC codes.

D) HHI: Ramanna and Watts (2008) also use a variation of the Herfindahl-Hirshman index (HHI) (Rhoades, 1993) as an additional proxy for the number and size of reporting units. The calculation of HHI is: $HHI = \sum^{n}_{t=1}(s^2_i)$,

where n is the number of business segments in the firm and s_i is the ratio of the i^{th} business-segments sales to total firm sales. In this manner, HHI creates an index of segment concentration within a firm. HHI will range from zero to one. If a firm has only one segment, the resulting HHI would be one. As the number of segments increases and the segments become closer in size to each other, the HHI moves closer to zero. In other words, an HHI close to zero is an indication of a firm with several equally sized segments, while an HHI close to one is an indication that a firm has unequally-sized segments. In relation to our impairment discussion, a firm with low HHI (segments that are more equal in size) offers greater flexibility in the form of larger reporting units, while a high HHI (unequally-sized segments) offers less flexibility. I expect HHI to be negatively related to LogSeg*LogSales, LogSeg, and NumSICcodes.

The discussion above regarding the number and size of the reporting units results in the next hypothesis:

H3: The number and size of business segments within a firm should be negatively related to the decision to impair goodwill.

4.2 Unverifiable net assets:

If a reporting unit fails step 1 of the FASB ASC Topic 350 (SFAS 142) impairment test (fair value is less than book value), then the implied amount of goodwill must be computed in step 2[9]. This is computed in the same manner as the computation of goodwill recognized in a business combination. A fair value must be assigned and allocated to all assets and liabilities of that unit as if the reporting unit had been acquired in a business combination and the fair value of the reporting unit was the price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the amounts assigned to its assets and liabilities is the implied value of goodwill.

In order to accomplish step 2, management must obtain fair value estimates of all of the unit's assets and liabilities. It follows that if a reporting unit has a greater proportion of net assets without verifiable market values, there would be greater discretion on the part of managers to be able to manage impairment losses.

The empirical proxies for unverifiable net assets are computed following Ramanna and Watts (2008):

[9] The amount by which book value is less than fair value determined in step 1 will most likely be different than the amount of goodwill deemed impaired in step 2.

A) UNVA1: Uses the ratio of (Cash + Short Term Investments – Debt – Preferred Equity) to (Assets – Liabilities). The denominator is total net assets, while the numerator is intended to proxy for the component of net assets whose fair value can most likely be verified (Richardson et al., 2005). Therefore, the ratio as computed is intended to represent verifiable net assets. Fair- value estimates of items excluded from the numerator are less likely to have readily observable market values. To turn this into a measure that will capture unverifiable net assets, the ratio computed is multiplied by –1. As this ratio increases (comes closer to 0), this measure proxies for an increase in the subjectivity of estimating the fair value of goodwill.

B) UNVA2, UNVA3, and UNVA4: Each if these additional measures of unverifiable net assets increases the assumption of the range of assets for which verifiable market values may exist. This availability of observable market values for the various asset ranges will probably vary across industries. These three incremental variables allow for expanded definitions of the range of verifiable net assets. UNVA2 includes (Cash + All Investments and Advances – Debt – Preferred Equity) divided by (Net Assets), multiplied by –1. UNVA2 adds additional balance sheet items and is computed as (Cash + All Investments and Advances + Receivables – Payables - Debt – Preferred Equity) scaled by (Net Assets), multiplied by –1. UNVA3 is the most comprehensive and includes all of the balance sheet items in UNVA2, plus inventories. The expectation is that the level of unverifiable net assets will be negatively related to impairment write-offs. That is, the higher the level of

unverifiable net assets (and thus, more discretion), the less likely an impairment write-off will be.

C) IndLev: Ramanna and Watts (2008) point out that a potential problem with the various definitions of unverifiable net assets is the fact that the same definitions are used across all industries. In an attempt to mitigate this issue, the firm's industry average debt-to-assets ratio is used as an additional proxy for the unverifiability of a firm's net assets.

Prior literature (Myers, 1977; Smith and Watts, 1992) have suggested that leverage can be a good proxy for non-firm-specific assets. This type of asset is more likely to have a verifiable fair-value. Since leverage proxies for distress as well as assets-in-place at the firm level, it is a noisy measure. Using industry mean leverage should mitigate the firm-specific distress component. This results in a proxy for assets-in-place. The higher a particular industry's average leverage, the more likely the nature of assets is such that they can be reliably valued (and by extension, the lower the unverifiablility of net assets. Industry is defined using a two-digit SIC code. The expectation is that IndLev will be negatively related to impairment write-offs.

The discussion regarding unverifiable net assets leads to the next hypothesis:

H4: The frequency of goodwill impairment write-offs will be negatively related to the level of unverifiable net assets.

5. Agency-based motives to manage goodwill impairment losses

In addition to having the ability to manage impairment losses (the focus of the prior section), firms must also have the motives to do so. The likelihood of recording impairment losses is expected to be related to both the ability and motivation to do so.

Standard setters anticipate that managers will use the discretion allowed under FASB ASC Topic 350 (SFAS 142) to convey private information on future cash flows. If this is indeed the case, then any failure on the part of managers to impair goodwill could be attributed to information asymmetries between managers and shareholders. A failure to impair would seem to suggest that managers have private information that the market is undervaluing the firm. The proxy used to identify firms whose managers may have this specific belief are firms that have positive net share repurchase activity. This variable is an indicator variable (Repurch) coded as 1 if a firm has positive net share repurchase activity in a particular year, and zero otherwise.

Agency theory predicts that managers will use the unverifiable discretion in FASB ASC Topic 350 (SFAS 142) to opportunistically manage reported numbers in financial reports (Watts, 2003; Ramanna, 2008). Beatty and Weber (2006) examine agency-based motives to delay goodwill impairment losses during the SFAS 142 transition period. Based on prior literature, they argue that the decision to delay goodwill impairment losses is based on debt and compensation contracts (Watts and Zimmerman, 1986) and management reputation (Francis, Hanna, and Vincent, 1996). In empirical tests, support is found for all of these motives. In this study, testing will include variables to proxy for agency-based predictions, in order to test whether goodwill impairment

decisions vary with characteristics that allow for discretion. Each of these variables is expected to be negatively related to the incidence of goodwill impairment write-offs.

A) For firms with debt contracts with covenants written on accounting numbers, the greater the leverage, the more costly violating a covenant will be. The proxy for the cost of violating a debt covenant is the ratio of current period debt to prior period assets (CovDebt).[10]

B) Manager's accounting-based compensation: Murphy (1999) finds that accounting-based compensation is usually paid out as a bonus and that accounting-based compensation contracts are usually written on net income, and therefore include the effects of goodwill impairment write-offs. The proxy for manager's accounting-based compensation concerns is an indicator variable coded 1 if the firm's CEO received a cash bonus during the year in question, zero otherwise (Bonus).

C) Manager's reputation concerns: Beatty and Weber (2006) argue that CEOs with longer tenures are more likely to have been involved in the business combinations that generated goodwill, and to avoid reputation costs, may be less likely to take goodwill impairment write-offs. CEO tenure is measured as the number of years the incumbent CEO has held office (tenure).

D) Firms that are listed on NASDAQ and AMEX are subject to accounting-based delisting requirements. These accounting-based delisting requirements include the effect of goodwill impairment write-offs (Beatty and Weber, 2006). OTC firms do

[10] Dichev and Skinner (2002) argue that leverage is a relatively noisy proxy for the probability of debt covenant violation. However, leverage is likely a good proxy for the cost of debt covenant violation. That is, the more leverage a firm has, the more costly it will be once the covenants are violated. At least in the MTB<1 sample, I would expect the probability of debt covenant violation to be relatively high.

not have such delisting requirements, and NYSE firms face delisting on other subjective criteria. To proxy for delisting concerns, an indicator variable is used, coded as 1 if the firm trades on NASDAQ or AMEX, zero otherwise (delist).

6. Economic fundamental variables

Following Ramanna and Watts (2008), the economic fundamental variables used in the regressions in this study are:

A) Size: the natural log of beginning-of-period assets.

B) PropGW: The ratio of beginning-of-period goodwill to prior year assets.

C) BHRet: the buy-and-hold return for year t.

Consideration was given to including the number of acquisitions engaged in by each firm in the sample. It would seem intuitive that goodwill impairment write-offs would be positively associated with the frequency of acquisitions completed by a sample firm. There were several reasons why a variable representing this fundamental was excluded.

First, the information was not readily available on any of the databases used in this study (COMPUSTAT, CRSP, Execucomp).

Second, although disclosures are required at the level of the reporting unit to which the goodwill relates, there is still a great deal of difficulty in tracing goodwill to specific segments of the business so that subsequent changes in value can be assessed. Although FASB ASC Topic 350 (SFAS 142) introduced additional disclosure requirements designed to help financial statement users link the goodwill originating from a specific acquisition with the performance of the acquired entity subsequent to its acquisition. This entails the assignment of all assets and liabilities of the acquired entity to such a unit, or units, at the time of acquisition. FASB ASC Topic 350 (SFAS 142) specifies that a reporting unit can be an operating segment as defined in FASB ASC Topic 280 (SFAS 131, Disclosures about Segments of an Enterprise), or a component of

an operating segment if it constitutes a business with discrete financial information, has dissimilar economic characteristics, or is regularly reviewed by management.

In some cases, the reporting unit may represent a component of a larger unit, in which case the disclosures at the reporting unit level are generally of lower quality than those provided at the firm level and of limited informativeness with respect to the valuation of goodwill pertaining to a particular acquisition. In other cases, the acquired entity is absorbed by more than one of the existing reporting units. When goodwill is allocated among reporting units, the subsequent performance of each distinct acquired entity can no longer be traced. In addition, the reporting unit may not belong to any of the reportable segments defined by FASB ASC Topic 280 (SFAS 131) or there may be more reporting units than segments. In these cases, the reporting units' results are buried in the segment disclosures. As such, information on a particular unit's operating performance, and by extension, the valuation of its related goodwill, is unavailable.

Hayn and Hughes (2005) note these difficulties and their effects become apparent when the explanation of the sample selection in their paper is discussed. Although they start with a sample of 3, 428 acquisitions over an 11 year period, they are only able to trace 180 observations through to an eventual impairment write-off because of the "reporting unit/disclosure" issue.

The problem is exacerbated when one tries to trace a goodwill impairment write-off back to the original acquisition than initiated the goodwill. The disclosures required are not adequate to allow a financial statement user to determine whether the entire amount of goodwill originating from a particular acquisition transaction was assigned to the reporting unit taking the impairment write-off, or in some cases even which

acquisition the goodwill impairment write-off relates to. Discussions and correspondence with colleagues that have attempted this confirms the extreme difficulty of the task.

Finally, even though it may seem intuitive that goodwill impairment write-offs would be positively related to the number of acquisitions a firm engages in, actually the number of acquisitions completed in the year of the acquisition that the goodwill impairment write-off is taken would be the more appropriate measure. However, because of the difficulties discussed above, this is not possible.

7. Family firm variables

Prior literature seems to argue that family ownership and management mitigates agency concerns and is an efficient, profitable form of ownership. This study seeks to ascertain whether family firms continue in this vein with regard to goodwill impairment write-offs. The question is whether family firm managers provide better, more timely information, or are there agency-based concerns with these firms as well. As such, the relation of family firm ownership to the incidence of goodwill impairment write-offs is undetermined.

A) Family_ownership: reflects the percentage of voting stock controlled by family members.

B) Founder_CEO: an indicator variable coded as 1 if the CEO is the firm founder, 0 otherwise.

C) Descendant_CEO: an indicator variable coded 1 if the CEO is a descendant of the firm founder, 0 otherwise.

8. Research Design

To study the factors that may determine the incidence and magnitude of goodwill impairment write-offs (or non-impairment decisions), the following regression is used:

$$\textit{Goodwill Impairment} = \beta_0 + \beta_1(\text{Economic fundamentals}) + \beta_2(\text{Repurch}) + \beta_3(\text{Agency-based motives}) + \beta_5(\text{Number and size of reporting units}) + \beta_6(\text{Unverifiable discretion}) + \beta_7(\text{year dummy}) + \varepsilon$$

The dependent variable (Goodwill Impairment) is represented in two different ways. In the first set of regressions, goodwill impairment is represented by an indicator variable, set to 1 if a firm records an impairment loss in year t, zero otherwise. In the second set of regressions, goodwill impairment is the dollar amount of goodwill impairment write-off in year t, scaled by beginning-of-period goodwill[11].

The rest of the variables are fully described in the previous section, and are summarized in Table 2. To recap, the variables are:

Economic Fundamentals: A) Size
B) PropGW
C) BHRet

Agency-based motives: A) CovDebt
B) Indlev
C) Bonus
D) Delist

Unverifiable discretion: IndLev, UNVA1, UNVA2, UNVA3, UNVA4

Family firm variables: A) Founder_CEO

[11] Because of a concern that the proportion of goodwill impaired might not be normally distributed, the regressions were also run using the natural log of the proportion of goodwill impaired. The results were consistent with the results of the regression using the proportion of goodwill impaired.

B) Family_ownership

C) Descendant_CEO

Unless otherwise stated, all variables are measured at the end of year t. See Table 2 for a description of the computation of each variable. Coefficient estimates in the multivariate regression are computed using ordinary least squares for the regressions with the dependent variable based on financial data (propgwimp) and by using a logistic regression for the regressions where the dependent variable is an indicator variable (gdwlip_d) and standard errors are adjusted for heteroskedasticity as suggested by White (1980).

9. Sample Description and Data Selection

The empirical analysis is performed on firms that were listed in the S&P 500 index on December 31, 2003. Firms in regulated industries (utilities and financial firms) are excluded. After deleting firms in regulated industries (125) and firms that were taken private or were acquired (6), 369 unique firms were identified. Following Anderson and Reeb (2003), I examine proxy statements (SEC, EDGAR database) and corporate histories (Hoovers, annual reports, and individual corporate websites) to identify family firms. Of the remaining 369 firms, 144 (39%) are identified as family firms.

Observations for the years 2003-2008 were used. 369 unique firms, using 6 years of data results in 2,214 possible firm-year observations. After deleting firm-year observations without the appropriate data on COMPUSTAT, CRSP, or Execucomp, the final sample includes 1,854 firm-year observations.

In addition to identifying firms as family firms, the following additional information is obtained from individual firm proxy statements: CEO attributes, and percentage of voting stock owned by family members.

All financial variables were obtained from the Compustat database. Executive bonus information from the Compustat Executive compensation database, and stock price information (for Buy-and-hold return) comes from CRSP.

10. Results

10.1 – Market-to-book < 1 sample

10.1.1 – Univariate analysis

Table 3 provides limited support for hypothesis 1 (family firms will be underrepresented in the MTB<1 sample). Panel B indicates that, in the entire sample, family firms with MTB<1 make up 5.22% of the family sample, while non-family firms with MTB<1 comprise 7.85% of the non-family observations[12]. Panel A suggests that within the MTB<1 sample alone, family firms impair goodwill with greater frequency than non-family firms, with 53.85% of family firms not impairing goodwill and 72.53% of non-family firms avoiding goodwill impairment. Taking these results together, the implication seems to be that once the capital market has discounted the value of a firm, family firms appear to be more likely to impair goodwill than non-family firms. Of course, these results should be interpreted carefully because of the limited sample size of the MTB<1 sample (130 firm-year observations), and also because there could be factors other than goodwill that are being considered by the market in discounting these firms.

Table 4 summarizes the descriptive statistics for the MTB<1 sample, divided into family and non-family sub-categories. In general, family firms and non-family firms within this group are similar in size, but family firms appear to impair a significantly lower percentage of goodwill balances than non-family firms (Propgwimp). One possible explanation for this difference might be that family firms make better acquisitions, paying less of a premium for the firms that they acquire. This explanation seems to be

[12] Because of concern that pooled data was skewing the results, percentages were also computed using the number of family firms and non-family firms in the MTB<1 sample. This showed that 22 family firms were represented in this sub-sample (15.28%) and 53 non-family firms (23.55%). The difference in the percentages is not statistically significant.

supported by the proportion of goodwill as a percentage of net assets (PropGW). In family firms, the mean goodwill balance is 11.3% of net assets, while for their non-family counterparts, the mean increases to 19.6%. Family firms have fewer segments than non-family firms and operate in slightly less SIC codes, though this difference is not statistically significant. The mean market-to-book ratio of family firms is much more negative than those of non-family firms, meaning that hypothesis 2 is not supported. This could suggest that although the market has the expectation of some kind of write-off from both subsets of firms, the stock price of family firms is punished more severely than the stock price of non-family firms. The buy-and-hold return appears to contradict this, with the mean one-year buy-and-hold return for family firms being -78.1%, while the return for the non-family group is -152.8% for the one-year period. An alternative explanation for this difference in the one year buy-and-hold return is that the market discounted the family firms prior to this one year period. This would imply that the market has been expecting some sort of write-off from the family firms for longer than just the previous year, and the extension to this implication would be that family firms write down impaired goodwill on a less timely basis than non-family firms. Finally, the estimated unverifiable net assets of family firms are significantly greater than those of their non-family counterparts. This lends little credence to the possible explanation set forth above about family firms impairing a lower proportion of their goodwill balances because they make better acquisitions (pay a lower premium for the target). Instead, the significant difference in the estimated unverifiable net assets suggests that family firms are simply more reluctant to write-down goodwill balances that the market has deemed to be impaired. Again, caution should be used, as only goodwill is considered in this paper,

where these firms could have other unverifiable net asset balances that the market has deemed to be impaired.

Table 5 reports the correlations of the independent variables with the dependent variable PROPGWIMP and with each other. Panel A includes the economic fundamental variables size, buy-and-hold return, and proportion of goodwill as a percentage of net assets. None of these economic fundamental independent variables are significantly correlated with the dependent variable or with each other, making then all viable candidates for inclusion in the multivariate regressions. Panel B shows that the variables used to estimate the number and size of reporting units are highly correlated with each other, but not with the dependent variable. Thus, the decision to include only one of these variables in each regression appears to be appropriate. The variables used to estimate the level of unverifiable net assets appear in Panel C. As with Panel B, these variables are highly correlated with one another, but not with the dependent variable. Once again it appears appropriate to include only one of these unverifiable discretion variables in each regression.

10.1.2 – Multivariate analysis

Tables 6 and 7 report the results of regression run on the MTB<1 family firm and non-family firm sub-samples. Table 6 shows the results for the regression run on the family firm sub-sample, with Panel A using the indicator variable GDWLIP_D (coded 1 if a firm takes a goodwill impairment write-off in year t, zero otherwise), and Panel B using the proportion of goodwill impaired (PROPGWIMP) as the dependent variable. Table 7 does the same for non-family firms.

In Panel A of Table 6 (family firms), several versions of the regression suggest that a founder CEO or a descendant CEO is significantly less likely than an outside CEO to take a goodwill impairment write-off. In the regression specifications that use the log of the number of segments (logseg) and the log of the number of segments times the log of sales, and also use the specification UNVA1 for the estimate of unverifiable net assets (a more firm-specific variable than industry leverage), the regression results for the agency-based variables TENURE and DELIST are either significant or marginally significant, suggesting that longer-tenured CEOs and delisting concerns are significant factors in determining whether a goodwill impairment write-off will be taken in a given period. The tenure coefficient, although marginally significant, along with the negative coefficients on Founder_CEO and Descendant_CEO seem to complement each other, with the founding family members less likely to take a write-off and the outside CEO more willing to do so, especially given a longer tenure that would make him more secure in his job. In another specification of the regression, the number of SIC codes is a significant factor in determining the incidence of goodwill impairment write-offs.

Taken together, the results in Panel A of Table 6 seem to contradict initial conjecture and prior literature and suggest that family firms might have some of the same agency-based issues that appear to exist in the Ramanna and Watts' (2008) sample. The results obtained by Ramanna and Watts (2008) were somewhat more significant for the agency-based variables, but their sample was also more restrictive. They require that a firm have MTB<1 for two consecutive years while I did not, and my sample was also divided further along the family/non-family lines.

The year dummy was dropped in the regression for the MTB<1 sample because of the small sample size. When the year dummy was included, the model was no longer full rank and the coefficients were deemed biased.

In Panel B of Table 6, the regressions use the proportion of goodwill impaired (PROPGWIMP) as the dependent variable. Once again, the year dummy is excluded for the reason set forth above. Once again, in all specifications of the regression that use the more firm-specific UNVA1 as a proxy for unverifiable net assets as opposed to the more general industry leverage proxy (Indlev), both the Founder_CEO and Descendant_CEO variable coefficients are negative and highly significant. Taken with the results summarized in Panel A, this implies that a founding family member is not only less likely to write down goodwill, but will write down a smaller proportion when they do so. In the regressions that use UNVA1 as the proxy for unverifiable net assets, several agency-based variables become either significant or marginally so. Once again, TENURE and DELIST are important considerations in determining the amount of goodwill impaired, but now BONUS becomes marginally important in one specification, while COVDEBT becomes marginally important in two others. And, the number and size of reporting units become important as well, but in the opposite direction.

In summary, family status appears important in determining both the incidence and amount of a goodwill impairment. Agency-based motives appear to play an important role in this impairment decision, but the ability to potentially "hide" the goodwill in the reporting units of a firm are not a significant factor.

The MTB<1 non-family firm sample is used in the regressions in Table 7. Once again the dependent variable in Panel A is the indicator variable GDWLIP_D. In all

specifications of these regressions the number and size of reporting units are significant. The implication here is that the ability to use the greater number of reporting units and their greater relative size is an important factor in the decision to take a goodwill impairment write-off. As with the family firm sample, DELIST is a marginally significant agency-based factor in the determination to take am impairment write-off, but unlike the family firm sample BONUS and TENURE are insignificant. COVDEBT becomes either significant or marginally so in these regressions, suggesting that as these non-family firms get closer to potentially violating debt covenants, they are less likely to write off impaired goodwill.

In Panel B of Table 7, PROPGWIMP becomes the dependent variable. As with the regressions in Panel A, the number and size of reporting units is a significant factor in the size of the goodwill impairment write-off. Similar to the MTB<1 family firm sample, the agency-based variables TENURE and DELIST are significant factors. And, for this sub-sample, the information asymmetry variable REPURCH is either significant or marginally so in all specifications of these regressions, with the coefficients suggesting that firms that have had positive share repurchase activity are likely to take a lower impairment write-off than those firms without such repurchase activity.

In both Table 6 and Table 7, the results for regressions run using UNVA2, UNVA3, and UNVA4 were similar to the results for the regressions run using UNVA1 as the estimated unverifiable net asset variable and results have therefore not been tabulated.

10.2 – Market-to-book > 1 sample

10.2.1 – Univariate results

Table 8 analyzes the frequency of MTB>1 firms with goodwill balances impairing goodwill and the frequency of MTB>1 family firms in comparison with all

observations in the sample. For this sub-sample, Table 8 seems to indicate that the frequency of family firms within the MTB>1 sample are not significantly different than either the entire sample taken as a whole or the non-family firms impairing goodwill.

The summary descriptive statistics for the MTB>1 sample are set forth in Table 9, divided into the family firm and non-family firm sub-samples. The size of the non-family firms in this sub-sample are slightly larger than the non-family firms described in Table 4 (MTB<1) but not significantly so, while the family firms are similar in size to their MTB<1 counterparts. The family firms in the MTB>1 sub-sample are smaller than the non-family firms, but the difference is insignificant. The mean proportion of goodwill impaired is smaller for family firms than for non-family firms. The proxies for the number and size of reporting units (Numseg, NumSIC, Logseg, Logseg*Logsales, HHI) are similar with the total MTB>1 sample for family and non-family firms. The mean one year buy-and-hold return is lower for family firms than for non-family firms, as is the mean market-to-book ratio. As with the MTB<1 sample, the estimates of unverifiable net assets (Indlev, UNVA1-4) are lower for family firms than for non-family firms, but the differences between the two sub-samples are not as pronounced as in the MTB<1 sample. Taken together, family firms and non-family firms have their differences in the summary statistics, but these differences are not significant in general, nor are the differences as great as the differences in the MTB<1 sample.

Table 10 reports the correlations of the groups of independent variables with the dependent variable PROPGWIMP and with each other. Panel A includes the economic fundamental variables (size, buy-and-hold return, and proportion of goodwill as a proportion of net assets). None of these economic fundamental independent variables

are significantly correlated with the dependent variable or with each other, making then all viable candidates for inclusion in the multivariate regressions. Panel B shows that the variables used to estimate the number and size of reporting units are highly correlated with each other, but not with the dependent variable. Thus, the decision to include only one of these variables in each regression appears to be appropriate. The variables used to estimate the level of unverifiable net assets appear in Panel C. As with Panel B, these variables are highly correlated with one another, but not with the dependent variable. Once again it appears appropriate to include only one of these unverifiable discretion variables in each regression.

10.2.2 – Multivariate analysis

Tables 11 and 12 report the results of regression run on the MTB>1 family firm and non-family firm sub-samples. Table 11 shows the results for the regression run on the family firm sub-sample, with Panel A using the indicator variable GDWLIP_D (coded 1 if a firm takes a goodwill impairment write-off in year t, zero otherwise), and Panel B using the proportion of goodwill impaired (PROPGWIMP) as the dependent variable. Table 12 does the same for non-family firms.

The results tabulated in Panel A of Table 11 for all specifications of this regression indicate that greater family ownership levels result in a lower propensity to take a goodwill impairment write-off, but the presence of a descendant CEO offsets this tendency. Once again, certain agency-based concerns are either significant or marginally significant factors in the decision to take an impairment write-off. For the MTB<1 sample the BONUS and TENURE agency-based variables were important factors. In this MTB>1 sample, BONUS once again shows significance, suggesting that compensation

factors play a role in the impairment decision. The explanation for the negative coefficient on the BONUS variable seems to be reinforced by the negative coefficient on the buy-and-hold coefficient. If the stock has a positive return, then the CEO is more likely to get a bonus. Therefore, a higher buy-and-hold return and the presence of a bonus suggest a lower likelihood of a goodwill impairment write-off. In the regression specifications that use UNVA1 as the estimate of unverifiable net assets (a more firm-specific measure of unverifiable net assets than the more general industry leverage), COVDEBT also appears to be marginally significant. The implication here is that as a firm approaches the possibility of debt covenant violation, they are less likely to consider a goodwill impairment write-off. In all specifications of these regressions, the number and size of reporting units appear to be a significant factor in the impairment decision, as is UNVA1 (the estimate of unverifiable net assets). In the versions of the regression that use the log of the number of segments (Logseg), the log of the number of segments multiplied by the log of sales (Logseg*Logsales), and the number of SIC codes (NumSIC), the results indicate that a greater number of segments induce management to consider a goodwill impairment write-off, while a higher Herfindahl Hirshman Index (HHI – the closer to 1 the HHI becomes, the more sales are concentrated in a fewer number of business reporting units. An HHI of 1 would indicate one business segment) results in a lower possibility of a write-off. The interpretation of these coefficients suggests that family firms are using unverifiable discretion in an agency-based manner. More reporting units induce the possibility of an impairment write-off, suggesting that management has used the greater number of reporting units to potentially "hide"

goodwill. But as the number of reporting units decreases, concentrating operating results in fewer segments, the incidence of impairment write-offs would decrease.

These results appear to contradict prior literature and initial conjecture. Prior literature has suggested that family firms suffer less from agency-based concerns than non-family firms, but the results discussed above imply that the write-off decision in family firms does indeed take agency issues into account.

Panel B of Table 11 uses the proportion of goodwill impaired as the dependent variable (PROPGWIMP) and tempers the results of Panel A somewhat. Once again the level of family ownership is marginally significant in most specifications of these regressions, with higher family ownership resulting in a lower proportion of goodwill being written off. However, in these regressions the agency-based concerns do not arise as being significant factors in determining the amount of the goodwill impairment write-off. Rather, the firm-specific estimate of unverifiable net assets becomes important, as does the one year buy-and-hold return and the proportion of net assets that is made up of goodwill. This seems to be intuitive. If a higher proportion of net assets is comprised of goodwill, then unverifiable net assets will be higher. These two taken together might induce management to impair a greater portion of the goodwill balances. A higher buy-and-hold return over the previous year results in a lower portion of goodwill being written off. The market appears to believe that the intangible assets generate value and management fulfills this belief by taking a lower write-off, if any.

The year dummy variables were used in all specifications of these regressions, but the results were insignificant and thus have not been tabulated. And once again, the results for regressions run using UNVA2, UNVA3, and UNVA4 were similar to the

results for the regressions run using UNVA1 as the estimated unverifiable net asset variable and results have therefore not been tabulated.

Table 12 runs the same regressions for the MTB>1 non-family sub-sample. In Panel A (using GDWLIP_D as the dependent variable), the existence of a goodwill impairment write-off appears to be driven to a significant degree by agency-based issues and concerns. In all versions of this regression the existence of a cash bonus and a longer tenure for the CEO seems to result in a higher likelihood of a goodwill impairment write-off. The bonus might be the result of stock-price performance, as the coefficient on the one year buy-and-hold return suggests that a higher market return implies a lower incidence of impairment write-offs. The number and size of reporting units do not appear to be a significant factor with the exception of the regression specifications that use HHI, and then significance is still only marginal. And, the more general estimate of unverifiable net assets (Indlev) is also only marginally significant. In summary, for this group of firms, agency-based concerns seem to be the driving factors in the decision to take a goodwill impairment write-off.

In Panel B of Table 12 it appears that all of the variables are subsumed by the general level of unverifiable net assets (Indlev). The fundamental economic variables, information asymmetry, agency-based variables, and the number and size of reporting units do not seem to play a significant role in the proportion of goodwill written off.

Once again, in Panel B, the year dummy variables were used in all specifications of these regressions, but the results were insignificant and thus have not been tabulated. And once again, the results for regressions run using UNVA2, UNVA3, and UNVA4

were similar to the results for the regressions run using UNVA1 as the estimated unverifiable net asset variable and results have therefore not been tabulated.

11. Summary and Conclusion

FASB ASC Topic 350 (SFAS 142) prescribes a new treatment for goodwill. Goodwill is no longer treated as an asset whose value declines simply by the passage of time. Rather, FASB ASC Topic 350 (SFAS 142) requires testing for the impairment of goodwill at least annually. This testing process requires managers to use unverifiable estimates of the value of reporting units in order to determine whether the value of goodwill assigned to a reporting unit has been impaired and must be written down. Standard setters (FASB) contend that managers will use this unverifiable discretion to convey private information, while agency theory predicts that this unverifiable discretion will be used opportunistically.

Prior literature has argued that family firms are run in a different manner than non-family firms. Results of studies have shown evidence that family firms have better operating and stock-return results, lower cost of debt and lower incidence of abnormal accruals. This supports the argument that these family firms have interests that are aligned with those of other shareholders, rather than being entrenched, as agency theory suggests as a possibility.

Using a sample taken from the S&P 500 for 2003 and separating this sample into family firms and non-family firms, I look at the possible determinants of goodwill impairment write-offs to see if these differ between family and non-family firms. I further segregate this sample into those firms where there is a clear indication that the market has impounded impairment into the stock price (market-to-book<1) and those firms without this constraint to see if the results will hold for both groups.

For the MTB<1 sample, the results seem to suggest that debt concerns, agency issues, and the unverifiable discretion afforded managers under FASB ASC Topic 350 (SFAS 142) are the most significant factors influencing both the incidence of goodwill impairment write-offs and the magnitude of the write-off for both the family firm and non-family firm sub-samples. This supports the agency theory view that managers are using the unverifiable discretion opportunistically, rather than standard setters' argument that the unverifiable discretion will be used to convey private information. Further, it appears to contradict initial conjecture and results of prior literature which posit that family firms do not suffer from the same agency-based issues as their non-family counterparts. At least for the MTB<1 sub-sample, agency issues seem to affect both family firms and non-family firms once they have reached a point where the market has discounted the value of the firm and appears to have the expectation of an impairment write-off.

For the balance of the sample (MTB>1), the same agency issues are reflected in the tests that use the incidence of goodwill impairment write-offs as the dependent variable. But, the same is not true for the proportion of goodwill written off. For the regressions that use this as the dependent variable, the results are less clear, as the level of unverifiable net assets seems to subsume all other variables.

Table 1
Sample Selection

Panel A

Firms in S&P 500 at December 31, 2003		500
Less:		
Financial firms (SIC Code:6000-6999) and utilities companies (SIC Code 4900-4999)	(125)	
Firms taken private or acquired	(6)	(131)
S&P 500 12/31/03 Sample		369
Number of family firms		144
% of family firms in sample		39.02%

Panel B

S&P 500 12/31/03 sample per Panel A		369
2003-2008		6 yrs
Total firm-year observations possible		2214
Less:		
Firm-year observations without goodwill balances	(219)	
Firm-year observations without the necessary data on COMPUSTAT, CRSP, or EXECUCOMP	(141)	(360)
Firm-year observations in final sample		1854

Table 2
Variable Definitions

Variable	Definition
Dependent variables:	
GDWLIP_D	Indicator variable set to 1 if a firm records a goodwill impairment write-off in year t, 0 otherwise
Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Family firm variables:	
Founder_CEO	Indicator variable set to 1 if the CEO is the firm founder, 0 otherwise
Family_ownership	Percentage of equity owned by family members
Descendant_CEO	Indicator variable set to 1 if the CEO is a descendant of the founder, 0 otherwise
Economic Fundamentals:	
Size	Log(prior period assets)
PropGW	Prior period goodwill/prior period assets
BHRet	Buy-and-hold return over year t
Number and size of reporting units:	
NumSeg	Number of business segments
Num SIC	Number of SIC Codes
LogSeg	Natural log of the number of business segments
LogSeg*LogSales	Product of the natural logs of the number of business segments and firm sales
HHI	The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales to total sales
Information asymmetry:	
Repurch	Indicator variable set to 1 if the firm has positive share repurchase activity in year t
Agency-based variables:	
Covdebt	Total debt in year t/prior period assets
Bonus	Indicator variable set to 1 if CEO received a cash bonus in year t
Delist	Indicator variable set to 1 if the firm trades on the NASDAQ or AMEX in year t
Tenure	Number of years the incumbent CEO has held office

Table 2 (Con't)
Variable Definitions

Unverifiable Discretion variables:	
Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 3

Panel A: Frequency of MTB<1 firms with goodwill balances impairing goodwill			
	Family firms	Non-family firms	Total
No impairment	21	66	87
Impairment	18	25	43
Total	39	91	130
% not impairing	53.85%	72.53%	66.92%

The chi-square statistic for panel A has a p-value of <.0001

Panel B: Distribution of all firms in sample with MTB<1			
	Family firms	Non-family firms	Total
Firms with MTB<1	39	91	130
Total firm-year observations in sample	747	1159	1854
% of firms with MTB<1	5.22%	7.85%	

The chi-square statistic for panel B has a p-value of <.0001

Table 4
Descriptive statistics

Panel A: MTB<1 firms with goodwill balances

	MTB<1 family firms				MTB<1 non-family firms			
Variable	**N**	**Median**	**Mean**	**Std. Dev.**	**N**	**Median**	**Mean**	**Std. Dev.**
Family_ ownership	39	.0542	.0987	.0947	91	0.000	0.000	0.000
Propgwimp	39	0.000	-0.054	0.262	91	-0.000	-0.085	0.209
Size	39	8.766	8.982	1.425	91	9.032	8.976	1.470
PropGW	39	0.051	0.113	0.124	91	0.070	0.196	0.431
BHRet	39	-0.362	-0.268	0.349	91	-0.337	0.059	1.867
NumSeg	39	9.000	9.949	6.004	91	12.000	11.296	5.886
Num SIC	39	2.00	3.077	1.660	91	3.00	3.471	1.916
LogSeg	39	2.197	2.007	0.705	91	2.303	2.133	0.689
LogSeg* LogSales	39	16.961	18.05	7.572	91	19.75	19.352	7.459
HHI	39	0.583	0.642	0.288	91	0.565	0.613	0.255
Covdebt	39	0.271	0.774	1.236	91	0.261	0.907	2.554
Indlev	39	0.235	0.220	0.041	91	0.238	0.237	0.04
MkttoBk	39	0.813	-22.01	121.18	91	-0.30	-7.982	20.34
UNVA1	39	0.431	-26.10	158.53	91	0.1495	-0.001	27.00
UNVA2	39	0.431	-26.18	158.52	91	0.1433	-4.408	26.877
UNVA3	39	0.369	-21.19	139.09	91	0.093	-4.411	24.831
UNVA4	39	0.099	-18.45	122.08	91	-0.090	-3.783	24.044

Dependent variables:
Propgwimp Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Family firm variables:
Family_ownership Percentage of equity owned by family members
Economic Fundamentals:
Size Log(prior period assets)
PropGW Prior period goodwill/prior period assets
BHRet Buy-and-hold return over year t
Number and size of reporting units:
NumSeg Number of business segments
Num SIC Number of SIC Codes
LogSeg Natural log of the number of business segments
*LogSeg*LogSales* Product of the natural logs of the number of business segments and firm sales
HHI The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment + sales to total sales
MkttoBk Market value at the beginning of the year divided by (total assets-total liabilities)
Agency-based variables:
Covdebt Total debt in year t/prior period assets
Bonus Indicator variable set to 1 if CEO received a cash bonus in year t
Unverifiable Discretion variables:
Indlev Industry average leverage in year t

UNVA1 -1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2 -1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3 -1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4 -1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 5
Univariate Correlations (Spearman)
MTB<1 sample

Correlation
p-value

Panel A: Economic Fundamentals

	Propgwimp	Size	Bhret	Propgw
Propgwimp	1.00	0.0711	-0.278	0.0892
		0.422	0.0021	0.3130
Size		1.00	-0.1685	-0.0547
			0.0658	0.5363
Bhret			1.00	-0.172
				0.060
Propgw				1.00

Dependent variables:
Propgwimp — Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Fundamentals:
Size — Log(prior period assets)
PropGW — Prior period goodwill/prior period assets
BHRet — Buy-and-hold return over year t

Panel B: Number and size of reporting units

	Propgwimp	NumSeg	NumSIC	LogSeg	LogSeg* LogSales	HHI
Propgwimp	1.00	-0.00267	0.0064	-0.0304	-0.0116	-0.1447
		.9764	.9432	.7335	0.8967	0.1332
NumSeg		1.00	0.706	0.9464	0.9041	-0.8607
			<.0001	<.0001	<.0001	<.0001
NumSIC			1.00	0.651	0.6975	-0.5962
				<.0001	<.0001	<.0001
LogSeg				1.00	0.9065	-0.8073
					<.0001	<.0001
LogSeg*					1.00	-0.786
LogSales						<.0001
HHI						1.00

Dependent variables:
Propgwimp — Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Economic Fundamental variables:
NumSeg — Number of business segments
Num SIC — Number of SIC Codes
LogSeg — Natural log of the number of business segments
LogSeg*LogSales — Product of the natural logs of the number of business segments and firm sales
HHI — The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales to total sales

Table 5 (con't)
Univariate Correlations

Panel C: Unverifiable Discretion Variables						
	Propgwimp	**Indlev**	**UNVA1**	**UNVA2**	**UNVA3**	**UNVA4**
Propgwimp	1.00	0.1094	0.0322	0.0194	0.0565	-0.062
		0.217	0.722	0.829	0.531	0.489
Indlev		1.00	0.2203	0.2076	0.2361	0.0929
			0.014	0.021	0.008	0.305
UNVA1			1.00	0.9685	0.8825	0.7728
				<.0001	<.0001	<.0001
UNVA2				1.00	0.9152	0.8139
					<.0001	<.0001
UNVA3					1.00	0.7591
						<.0001
UNVA4						1.00

Dependent variables:

Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 6
Multivariate Analysis: Dependent variable is GDWLIP_D

$GDWLIP\_D = \alpha + \beta_1(\text{Family variables}) + \beta_2(\text{Economic Fundamentals}) + \beta_3(\text{Information asymmetry}) + \beta_4(\text{Agency-based variables}) + \beta_5(\text{Number and size of reporting units}) + \beta_6(\text{Unverifiable Discretion}) + \beta_7(\text{yeardummy}) + \varepsilon$

Panel A: Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	-1.578	-0.63	-1.576	-0.72	-1.529	-0.61	-0.904	-0.43
Founder CEO	-0.395	-0.55	**-1.336**	**-1.64**	-0.384	-0.55	**-1.230**	**-1.56**
Descendant_CEO	-0.587	-0.74	**-1.855**	**-1.90**	-0.576	-0.73	**-1.838**	**-1.89**
Family_Ownership	-1.634	-0.73	0.116	0.06	-1.629	0.69	0.567	0.28
Size	0.135	0.67	0.180	0.87	0.131	0.63	0.105	0.47
PropGW	0.139	0.09	-1.036	0.46	0.139	0.10	1.015	-0.44
BHRet	-0.028	-0.12	0.015	0.06	-0.030	-0.13	0.017	0.06
Repurch	-0.207	-0.59	-0.093	-0.25	-0.206	-0.59	-0.086	-0.23
Covdebt	0.080	0.38	0.224	0.23	0.083	0.38	0.272	0.28
Bonus	-0.260	-0.47	0.716	0.96	-0.256	-0.46	0.692	0.93
Tenure	0.007	0.23	**0.043**	**1.27**	0.007	0.21	**0.039**	**1.18**
Delist	0.568	0.78	**1.348**	**1.62**	0.562	0.77	**1.259**	**1.55**
LogSeg	0.026	0.10	0.296	0.95				
LogSeg&LogSales					0.002	0.06	0.031	0.92
NumSIC								
HHI								
IndLev	4.243	0.60			4.29	0.60		
UNVA1			-0.0005	-0.44			-0.0005	-0.45

See Panel E for variable definitions

Table 6 (con't)
Multivariate Analysis: Dependent variable is GDWLIP_D

$GDWLIP\_D = \alpha + \beta_1(\text{Family variables}) + \beta_2(\text{Economic Fundamentals}) + \beta_3(\text{Information asymmetry}) + \beta_4(\text{Agency-based variables}) + \beta_5(\text{Number and size of reporting units}) + \beta_6(\text{Unverifiable Discretion}) + \beta_7(\text{yeardummy}) + \varepsilon$

Panel A (con't): Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	1.096	0.42	-1.826	-0.54	-3.309	-1.00	-0.612	-0.14
Founder CEO	0.394	0.53	-1.774	-0.79	**-0.866**	**-1.01**	**-1.349**	**-1.43**
Descendant_CEO	0.521	0.59	-2.487	-0.87	**-1.459**	**-1.24**	**-1.740**	**-1.30**
Family_Ownership	-0.340	-0.16	-0.140	-0.07	-1.019	-0.43	0.162	0.08
Size	0.079	0.44	0.222	0.93	0.401	1.17	0.189	0.44
PropGW	-0.184	-0.14	-1.788	-0.79	-0.050	-0.03	-1.291	-0.55
BHRet	-0.292	-1.21	0.124	0.32	-0.105	-0.43	0.068	0.22
Repurch	-0.066	-0.21	-0.103	-0.26	0.029	0.07	-0.131	-0.25
Covdebt	0.097	0.54	0.520	0.53	0.051	0.24	0.448	0.45
Bonus	-0.437	-0.90	1.045	0.61	-0.285	-0.53	0.674	0.81
Tenure	-0.026	-0.76	0.064	0.66	0.026	0.67	0.046	1.21
Delist	-0.280	-0.35	1.845	0.79	1.062	1.19	1.232	1.19
LogSeg								
LogSeg&LogSales								
NumSIC	**-0.280**	**-.1.81**	0.157	0.33				
HHI					-0.506	-0.67	-0.750	-0.94
IndLev	-1.900	-0.27			1.505	0.19		
UNVA1			-0.0002	-0.15			-0.0003	-0.32

See Panel E for variable definitions

Table 6
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B: Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.190	0.02	-0.172	-0.15	-4.823	-0.49	0.430	0.38
Founder CEO	0.875	0.30	**-0.977**	**-2.20**	0.162	0.06	**-0.885**	**-2.06**
Descendant_CEO	-1.869	-0.57	**-1.219**	**-2.29**	-1.704	-0.54	**-1.207**	**-2.27**
Family_Ownership	-5.177	-0.56	0.704	0.69	-8.944	-0.96	1.119	1.02
Size	0.393	0.47	0.028	0.25	0.976	1.19	-0.040	-0.32
PropGW	**-11.575**	**-1.92**	**-1.512**	**-1.22**	**-12.039**	**-2.07**	**-1.482**	**-1.18**
BHRet	0.930	0.99	-0.055	-0.38	0.890	0.98	-0.054	-0.37
Repurch	-1.390	-0.96	0.102	0.51	-1.370	-0.99	0.109	0.54
Covdebt	0.539	0.61	**-0.742**	**-1.39**	0.619	0.73	**-0.704**	**-1.33**
Bonus	-0.930	-0.41	0.554	1.36	-0.774	-0.35	**0.534**	**1.32**
Tenure	-0.071	-0.51	**0.021**	**1.13**	-0.044	-0.34	0.017	0.96
Delist	-0.820	-0.27	**1.096**	**2.41**	-0.164	-0.06	**1.018**	**2.29**
LogSeg	**-2.096**	**-1.94**	**0.265**	**1.55**				
LogSeg&LogSales					**-0.246**	**-2.22**	**0.029**	**1.54**
NumSIC								
HHI								
IndLev	24.104	0.82			24.180	0.86		
UNVA1			**-0.013**	**-22.24**			**-0.0135**	**-21.73**

See Panel E for variable definitions

Table 6 (con't)
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) +β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B (con't): Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	11.518	0.96	-0.946	-0.49	-7.317	-0.50	0.383	0.15
Founder CEO	3.848	1.12	**-1.809**	**-1.42**	1.497	0.39	**-0.947**	**-1.71**
Descendant_CEO	1.586	0.39	**-2.347**	**-1.45**	-2.675	-0.51	**-1.136**	**-1.44**
Family_Ownership	5.601	0.59	0.518	0.47	-6.854	-0.66	0.647	0.55
Size	0.256	0.31	0.087	0.64	0.317	0.21	0.059	0.24
PropGW	**-12.788**	**-2.15**	**-2.206**	**-1.71**	**-11.201**	**-1.72**	**-1.866**	**-1.35**
BHRet	-0.049	-0.04	0.097	0.44	0.996	0.92	-0.022	-0.12
Repurch	-0.789	-0.54	0.112	0.49	-1.663	-0.88	0.089	0.29
Covdebt	0.109	0.13	-0.524	-0.95	0.469	0.50	-0.495	-0.85
Bonus	**-2.854**	**-1.28**	**1.169**	**1.21**	-1.424	-0.59	0.466	0.95
Tenure	**-0.190**	**-1.22**	**0.059**	**1.06**	-0.105	-0.62	0.021	0.95
Delist	**-5.199**	**-1.44**	**2.001**	**1.50**	-0.942	-0.24	1.001	1.65
LogSeg								
LogSeg&LogSales								
NumSIC	**-1.497**	**-2.11**	0.241	0.89				
HHI					**5.058**	**1.51**	**-0.498**	**-1.06**
IndLev	-17.859	-0.55			31.605	0.92		
UNVA1			**-0.0134**	**-17.34**			**-0.0132**	**-20.76**

See Panel E for variable definitions

Panel E: Variable definitions

Dependent variables:

GDWLIP_D	Indicator variable set to 1 if a firm records a goodwill impairment write-off in year t, 0 otherwise
Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Family firm variables:

Founder CEO	Indicator variable coded 1 if CEO is the firm founder, 0 otherwise
Descendant CEO	Indicator variable coded 1 if the CEO is a descendant of the founder, 0 otherwise
Family_ownership	Percentage of equity owned by family members

Fundamentals:

Size	Log(prior period assets)
PropGW	Prior period goodwill/prior period assets
BHRet	Buy-and-hold return over year t

Number and size of reporting units:

NumSeg	Number of business segments
Num SIC	Number of SIC Codes
LogSeg	Natural log of the number of business segments
*LogSeg*LogSales*	Product of the natural logs of the number of business segments and firm sales
HHI	The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales/.75total sales

Agency-based variables:

Covdebt	Total debt in year t/prior period assets
Bonus	Indicator variable set to 1 if CEO received a cash bonus in year t
Tenure	Number of years CEO has been in office in year t
Delist	Indicator variable coded 1 if firm is listed on NASDAQ or AMEX, 0 otherwise

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 7
Multivariate Analysis: Dependent variable is GDWLIP_D

GDWLIP_D = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel A: Non-Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	0.409	0.41	0,.159	0.20	0.855	0.86	0.705	0.92
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.046	-0.65	-0.040	-0.59	-0.101	-1.23	-0.099	-1.23
PropGW	-0.176	-0.34	-0.098	-0.19	-0.130	-0.25	-0.055	-0.11
BHRet	-0.010	-0.13	-0.030	-0.39	-0.008	-0.11	-0.027	-0.36
Repurch	-0.078	-0.49	-0.014	-0.09	-0.086	-0.54	-0.022	-0.14
Covdebt	**-0.324**	**-1.42**	**-0.462**	**-1.83**	**-0.305**	**-1.35**	**-0.436**	**-1.75**
Bonus	0.062	0.37	0.051	0.31	0.074	0.45	0.066	0.41
Tenure	0.009	0.36	**0.013**	**0.57**	0.010	0.42	0.015	0.62
Delist	**0.412**	**1.12**	**0.417**	**1.17**	**0.415**	**1.14**	**0.414**	**1.17**
LogSeg	**0.240**	**1.76**	0.266	1.95				
LogSeg&LogSales					**0.026**	**1.88**	**0.028**	**2.04**
NumSIC								
HHI								
IndLev	-0.299	-0.11			-0.094	-0.03		
UNVA1			**-0.004**	**-1.12**			**-0.0045**	**-1.07**

See Panel E for variable definitions

Table 7 (con't)
Multivariate Analysis: Dependent variable is GDWLIP_D

$GDWLIP\_D = \alpha + \beta_1(\text{Family variables}) + \beta_2(\text{Economic Fundamentals}) + \beta_3(\text{Information asymmetry}) + \beta_4(\text{Agency-based variables}) + \beta_5(\text{Number and size of reporting units}) + \beta_6(\text{Unverifiable Discretion}) + \beta_7(\text{yeardummy}) + \varepsilon$

Panel A (con't): Non-Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.509	0.52	0.506	0.67	0.959	0.95	1.217	1.41
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.022	-0.33	-0.024	-0.35	-0.035	-0.51	-0.026	-0.37
PropGW	-0.412	-0.86	-0.436	-0.92	-0.243	-0.48	-0.111	-0.22
BHRet	0.009	0.13	0.015	0.20	0.099	1.28	0.069	0.88
Repurch	-0.078	-0.47	-0.095	-0.58	-0.238	-1.45	-0.132	-0.81
Covdebt	**-0.399**	**-1.75**	**-0.359**	**-1.40**	-0.213	-0.90	**-0.334**	**-1.32**
Bonus	0.051	0.31	0.047	0.29	0.038	0.24	0.021	0.13
Tenure	0.001	0.08	0.0005	0.02	0.0004	0.02	0.007	0.33
Delist	**0.413**	**1.14**	**0.417**	**1.16**	**0.593**	**1.64**	**0.553**	**1.56**
LogSeg								
LogSeg&LogSales								
NumSIC	**0.064**	**1.42**	**0.064**	**1.42**				
HHI					**-0.804**	**-2.32**	**-0.807**	**-2.32**
IndLev	-0.149	-0.05			1.959	0.72		
UNVA1			0.001	0.29			-0.003	-0.83

See Panel E for variable definitions

Table 7
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B: Non-Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	-0.291	-0.62	-0.122	-0.33	-0.061	-0.13	0.132	0.36
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.007	-0.21	-0.008	-0.24	-0.032	-0.83	-0.033	-0.84
PropGW	0.091	0.37	0.111	0.45	0.097	0.39	0.115	0.46
BHRet	-0.019	-0.53	-0.020	-0.55	-0.017	-0.48	-0.018	-0.49
Repurch	**-0.111**	**-1.48**	**-0.102**	**-1.33**	**-0.115**	**-1.53**	**-0.106**	**1.38**
Covdebt	-0.044	-0.41	-0.047	-0.39	-0.033	-0.31	-0.033	-0.28
Bonus	-0.039	-0.50	-0.044	-0.55	-0.029	-0.38	-0.034	-0.43
Tenure	**0.017**	**1.46**	**0.017**	**1.55**	**0.016**	**1.46**	**0.018**	**1.54**
Delist	**0.282**	**1.64**	**0.269**	**1.57**	**0.280**	**1.62**	**0.266**	**1.55**
LogSeg	**0.129**	**2.01**	**0.127**	**1.95**				
LogSeg&LogSales					**0.013**	**1.95**	**0.012**	**1.87**
NumSIC								
HHI								
IndLev	0.684	0.53			0.783	0.60		
UNVA1			0.0003	0.15			0.0004	0.23

See Panel E for variable definitions

Table 7 (con't)
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) +β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B (con't): Non-Family Firms Analysis includes only firms with MTB<1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	-0.181	-0.38	0.047	0.12	0.021	0.04	0.360	0.83
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.001	-0.04	-0.003	-0.10	0.0004	0.01	-0.0007	-0.02
PropGW	-0.021	-0.09	-0.014	-0.06	0.053	0.22	0.086	0.34
BHRet	-0.003	-0.09	-0.001	-0.03	0.026	0.69	0.019	0.49
Repurch	**-0.147**	**-1.78**	**-0.145**	**-1.79**	**-0.172**	**-2.15**	**-0.145**	**-1.77**
Covdebt	-0.055	-0.49	-0.028	-0.22	0.012	0.10	0.004	0.04
Bonus	-0.015	-0.18	-0.027	-0.34	-0.052	-0.65	-0.056	-0.69
Tenure	**0.012**	**1.04**	**0.012**	**1.10**	**0.012**	**1.14**	**0.014**	**1.31**
Delist	**0.291**	**1.63**	**0.276**	**1.56**	**0.357**	**2.03**	**0.319**	**1.81**
LogSeg								
LogSeg&LogSales								
NumSIC	**0.037**	**1.67**	0.0.036	1.61				
HHI					**-0.408**	**-2.42**	**-0.363**	**-2.11**
IndLev	0.836	0.62			1.599	1.20		
UNVA1			0.001	0.66			0.0007	0.36

See Panel E for variable definitions

Panel E: Variable definitions

Dependent variables:

GDWLIP_D	Indicator variable set to 1 if a firm records a goodwill impairment write-off in year t, 0 otherwise
Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Family firm variables:

Founder CEO	Indicator variable coded 1 if CEO is the firm founder, 0 otherwise
Descendant CEO	Indicator variable coded 1 if the CEO is a descendant of the founder, 0 otherwise
Family_ownership	Percentage of equity owned by family members

Fundamentals:

Size	Log(prior period assets)
PropGW	Prior period goodwill/prior period assets
BHRet	Buy-and-hold return over year t

Number and size of reporting units:

NumSeg	Number of business segments
Num SIC	Number of SIC Codes
LogSeg	Natural log of the number of business segments
*LogSeg*LogSales*	Product of the natural logs of the number of business segments and firm sales
HHI	The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales/.75total sales

Agency-based variables:

Covdebt	Total debt in year t/prior period assets
Bonus	Indicator variable set to 1 if CEO received a cash bonus in year t
Tenure	Number of years CEO has been in office in year t
Delist	Indicator variable coded 1 if firm is listed on NASDAQ or AMEX, 0 otherwise

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 8

Panel A: Frequency of MTB>1 firms with goodwill balances impairing goodwill			
	Family firms	Non-family firms	Total
No impairment	519	849	1368
Impairment	52	89	141
Total	571	938	1509
% not impairing	90.89%	90.51%	90.65%

The chi-square statistic for panel A has p-value of 0.0001

Panel B: Distribution of all firms in sample with MTB>1			
	Family firms	Non-family firms	Total
Firms with MTB>1	656	1068	1724
Total firm-year observations in sample	747	1159	1854
% of firms with MTB>1	87.82%	92.15%	

The chi-square statistic for panel B has a p-value of <.0001

Table 9
Descriptive statistics

Panel B: MTB>1 firms with goodwill balances

	MTB>1 family firms				MTB>1 non-family firms			
Variable	**N**	**Median**	**Mean**	**Std. Dev.**	**N**	**Median**	**Mean**	**Std. Dev.**
Family_ ownership	656	.0443	.0905	.1149	1068	0.000	0.000	0.000
Propgwimp	656	0.000	-0.024	0.237	1068	0.000	-0.060	0.237
Size	656	8.728	8.869	1.069	1068	9.153	9.145	1.216
PropGW	656	0.124	0.152	0.147	1068	0.000	0.060	1.387
BHRet	656	0.041	0.092	0.419	1068	0.070	0.126	0.904
NumSeg	656	11.00	10.844	6.379	1068	12.000	11.971	6.674
Num SIC	656	3.00	3.712	2.18	1068	3.00	4.11	2.711
LogSeg	656	2.197	2.115	0.731	1068	2.485	2.227	0.724
LogSeg* LogSales	656	19.84	18.813	7.334	1068	21.289	20.381	7.907
HHI	656	0.557	0.628	0.289	1068	0.502	0.568	0.285
Covdebt	656	0.411	0.701	0.840	1068	0.322	0.704	1.184
Indlev	656	0.210	0.217	0.039	1068	0.219	0.223	0.041
MkttoBk	656	3.204	3.987	3.34	1068	3.031	5.187	26.151
UNVA1	656	0.523	1.202	2.942	1068	0.673	2.215	10.807
UNVA2	656	0.461	1.116	2.961	1068	0.589	2.083	10.802
UNVA3	656	0.409	1.057	3.341	1068	0.456	1.822	10.767
UNVA4	656	0.236	0.750	3.088	1068	0.172	1.401	9.224

Dependent variables:
Propgwimp Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Family firm variables:
Family_ownership Percentage of equity owned by family members
Economic Fundamentals:
Size Log(prior period assets)
PropGW Prior period goodwill/prior period assets
BHRet Buy-and-hold return over year t
Number and size of reporting units:
NumSeg Number of business segments
Num SIC Number of SIC Codes
LogSeg Natural log of the number of business segments
*LogSeg*LogSales* Product of the natural logs of the number of business segments and firm sales
HHI The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment + sales to total sales
MkttoBk Market value at the beginning of the year divided by (total assets-total liabilities)
Agency-based variables:
Covdebt Total debt in year t/prior period assets
Bonus Indicator variable set to 1 if CEO received a cash bonus in year t
Unverifiable Discretion variables:
Indlev Industry average leverage in year t

UNVA1 -1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2 -1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3 -1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4 -1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 10
Univariate Correlations (Spearman)
MTB>1 sample

Correlation
p-value

Panel A: Economic Fundamentals

	Propgwimp	Size	Bhret	Propgw
Propgwimp	1.00	0.0486	-0.0757	0.0807
		0.0436	0.0019	0.0008
Size		1.00	-0.0703	0.0089
			0.004	0.7109
Bhret			1.00	-0.0967
				<.0001
Propgw				1.00

Dependent variables:
Propgwimp — Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Fundamentals:
Size — Log(prior period assets)
PropGW — Prior period goodwill/prior period assets
BHRet — Buy-and-hold return over year t

Panel B: Number and size of reporting units

	Propgwimp	NumSeg	NumSIC	LogSeg	LogSeg* LogSales	HHI
Propgwimp	1.00	0.08669	0.0542	0.0692	0.058	-0.1035
		.0003	.0249	.0041	0.016	<.0001
NumSeg		1.00	0.7038	0.9702	0.9068	-0.8923
			<.0001	<.0001	<.0001	<.0001
NumSIC			1.00	0.6929	0.7237	-0.6802
				<.0001	<.0001	<.0001
LogSeg				1.00	0.9185	-0.8635
					<.0001	<.0001
LogSeg*					1.00	-0.8053
LogSales						<.0001
HHI						1.00

Dependent variables:
Propgwimp — Dollar value of goodwill impairment write-off/beginning-of-period goodwill
Economic Fundamental variables:
NumSeg — Number of business segments
Num SIC — Number of SIC Codes
LogSeg — Natural log of the number of business segments
LogSeg*LogSales — Product of the natural logs of the number of business segments and firm sales
HHI — The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales to total sales

Table 10 (con't)
Univariate Correlations

Panel C: Unverifiable Discretion Variables						
	Propgwimp	**Indlev**	**UNVA1**	**UNVA2**	**UNVA3**	**UNVA4**
Propgwimp	1.00	-0.009	0.0246	0.023	0.0292	0.0286
		0.7097	0.308	0.339	0.226	0.235
Indlev		1.00	-0.082	-0.089	-0.1226	-0.1258
			0.0007	0.0002	<0.0001	<0.0001
UNVA1			1.00	0.9661	0.899	0.8822
				<.0001	<.0001	<.0001
UNVA2				1.00	0.9377	0.9153
					<.0001	<.0001
UNVA3					1.00	0.9358
						<.0001
UNVA4						1.00

Dependent variables:

Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 11
Multivariate Analysis: Dependent variable is GDWLIP_D

GDWLIP_D = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel A: Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	-0.216	-1.13	-0.238	-1.32	-0.140	-0.71	-0.164	-0.89
Founder CEO	0.082	0.87	0.081	0.85	0.080	0.84	0.078	0.82
Descendant_CEO	**0.157**	**1.64**	**0.156**	**1.64**	**0.155**	**1.63**	**0.154**	**1.62**
Family_Ownership	**-0.246**	**-2.13**	**-0.253**	**-2.20**	**-0.246**	**-2.15**	**-0.252**	**-2.21**
Size	0.013	0.78	0.013	0.81	0.004	0.24	0.004	0.24
PropGW	**0.535**	**5.04**	**0.541**	**5.10**	**0.541**	**5.13**	**0.546**	**5.19**
BHRet	**-0.075**	**-2.25**	**-0.068**	**-2.03**	**-0.076**	**-2.28**	**-0.069**	**-2.05**
Repurch	-0.003	-0.13	-0.002	-0.10	-0.005	-0.21	-0.004	-0.18
Covdebt	-0.018	-0.88	**-0.032**	**-1.41**	-0.019	-0.91	**-0.033**	**-1.47**
Bonus	**-0.056**	**-1.76**	**-0.057**	**-1.79**	**-0.055**	**-1.73**	**-0.056**	**-1.76**
Tenure	-0.0001	-0.10	-0.0002	-0.13	-0.0002	-0.16	-0.0003	-0.19
Delist	-0.033	-1.13	-0.025	-0.85	-0.031	-1.04	-0.022	-0.75
LogSeg	**0.032**	**1.72**	**0.031**	**1.67**				
LogSeg&LogSales					**0.004**	**1.97**	**0.004**	**1.97**
NumSIC								
HHI								
IndLev	-0.083	-0.22			-0.095	-0.26		
UNVA1			**0.007**	**1.40**			**0.007**	**1.45**

See Panel E for variable definitions

Table 11 (con't)
Multivariate Analysis: Dependent variable is GDWLIP_D

$GDWLIP\_D = \alpha + \beta_1(\text{Family variables}) + \beta_2(\text{Economic Fundamentals}) + \beta_3(\text{Information asymmetry}) + \beta_4(\text{Agency-based variables}) + \beta_5(\text{Number and size of reporting units}) + \beta_6(\text{Unverifiable Discretion}) + \beta_7(\text{yeardummy}) + \varepsilon$

Panel A (con't): Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	-0.104	-0.54	-0.137	-0.76	-0.094	-0.48	-0.057	-0.31
Founder CEO	0.061	0.65	0.059	0.63	0.064	0.71	0.066	0.73
Descendant_CEO	**0.138**	**1.46**	**0.136**	**1.44**	**0.142**	**1.56**	**0.148**	**1.64**
Family_Ownership	**-0.211**	**-1.86**	**-0.217**	**-1.92**	**-0.150**	**-1.37**	**-0.157**	**-1.44**
Size	0.0009	0.06	0.0007	0.04	0.007	0.46	0.010	0.63
PropGW	**0.507**	**4.83**	**0.512**	**4.89**	**0.488**	**4.56**	**0.494**	**4.63**
BHRet	**-0.076**	**-2.30**	**-0.069**	**-2.06**	**-0.085**	**-2.58**	**-0.077**	**-2.31**
Repurch	-0.015	-0.59	-0.014	-0.55	0.008	0.33	0.006	0.25
Covdebt	-0.022	-1.09	**-0.037**	**-1.66**	-0.015	-0.73	**-0.027**	**-1.21**
Bonus	**-0.049**	**-1.54**	**-0.049**	**-1.57**	-0.031	-0.98	-0.031	-0.98
Tenure	0.0003	0.19	0.0002	0.15	-0.0004	-0.30	-0.0004	-0.28
Delist	-0.003	-0.09	0.007	0.23	-0.027	-0.94	-0.023	-0.81
LogSeg								
LogSeg&LogSales								
NumSIC	**0.024**	**3.72**	**0.234**	**3.73**				
HHI					**-0.143**	**-3.20**	**-0.139**	**-3.12**
IndLev	-0.146	-0.39			0.270	0.71		
UNVA1			**0.007**	**1.49**			**0.007**	**1.48**

See Panel E for variable definitions

Table 11
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B: Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	0.0045	0.06	-0.005	-0.07	-0.003	-0.04	-0.013	-0.17
Founder CEO	0.043	1.11	0.042	1.10	0.042	1.09	0.042	1.08
Descendant_CEO	0.036	0.93	0.036	0.94	0.036	0.91	0.036	0.92
Family_Ownership	**-0.076**	**-1.61**	**-0.081**	**-1.72**	**-0.074**	**-1.58**	**-0.078**	**-1.68**
Size	0.002	0.28	0.002	0.34	0.003	0.36	0.003	0.41
PropGW	**0.078**	**1.78**	**0.082**	**1.89**	**0.076**	**1.75**	**0.079**	**1.84**
BHRet	**-0.043**	**-3.12**	**-0.038**	**-2.75**	**-0.043**	**-3.12**	**-0.038**	**-2.74**
Repurch	-0.013	-1.28	-0.013	-1.26	-0.013	-1.26	-0.013	-1.24
Covdebt	-0.002	-0.21	-0.011	-1.25	-0.001	-0.22	-0.011	-1.25
Bonus	-0.014	-1.07	-0.014	-1.11	-0.014	-1.08	-0.014	-1.12
Tenure	-0.0009	-1.37	-0.0009	-1.43	-0.0009	-1.36	-0.0009	-1.42
Delist	-0.011	-0.94	-0.006	-0.50	-0.011	-0.92	-0.006	-0.47
LogSeg	-0.005	-0.68	-0.006	-0.77				
LogSeg&LogSales					-0.0005	-0.57	-0.0005	-0.58
NumSIC								
HHI								
IndLev	-0.027	-0.17			-0.026	-0.17		
UNVA1			**0.005**	**2.46**			**0.005**	**2.44**

See Panel E for variable definitions

Table 11 (con't)
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) +β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B (con't): Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	0.001	0.01	-0.008	-0.11	0.021	0.25	0.011	0.15
Founder CEO	0.042	1.08	0.041	1.06	0.040	1.05	-0.040	1.05
Descendant_CEO	0.035	0.90	0.035	0.91	0.037	0.97	0.037	0.98
Family_Ownership	**-0.074**	**-1.57**	**-0.077**	**-1.66**	-0.056	-1.22	-0.060	-1.31
Size	0.002	0.26	0.002	0.30	-0.0005	-0.07	-0.0001	-0.02
PropGW	**0.076**	**1.74**	**0.079**	**1.83**	**0.074**	**1.66**	**0.079**	**1.76**
BHRet	**-0.043**	**-3.12**	**-0.038**	**-2.75**	**-0.042**	**-3.04**	**-0.037**	**-2.65**
Repurch	-0.013	-1.22	-0.012	-1.21	-0.012	-1.12	-0.012	-1.12
Covdebt	-0.002	-0.23	-0.012	-1.26	0.0001	0.01	-0.009	-1.01
Bonus	-0.014	-1.10	-0.015	-1.14	-0.002	-0.18	-0.003	-0.21
Tenure	-0.0009	-1.43	-0.0009	-1.49	**-0.001**	**-1.94**	**-0.001**	**-1.99**
Delist	-0.012	-0.93	-0.006	-0.49	-0.015	-1.29	-0.010	-0.84
LogSeg								
LogSeg&LogSales								
NumSIC	-0.001	-0.47	-0.001	-0.47				
HHI					-0.009	-0.47	-0.008	-0.44
IndLev	-0.026	-0.17			-0.022	-0.14		
UNVA1			**0.005**	**2.43**			**0.005**	**2.43**

See Panel E for variable definitions

Panel E: Variable definitions

Dependent variables:

GDWLIP_D	Indicator variable set to 1 if a firm records a goodwill impairment write-off in year t, 0 otherwise
Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Family firm variables:

Founder CEO	Indicator variable coded 1 if CEO is the firm founder, 0 otherwise
Descendant CEO	Indicator variable coded 1 if the CEO is a descendant of the founder, 0 otherwise
Family_ownership	Percentage of equity owned by family members

Fundamentals:

Size	Log(prior period assets)
PropGW	Prior period goodwill/prior period assets
BHRet	Buy-and-hold return over year t

Number and size of reporting units:

NumSeg	Number of business segments
Num SIC	Number of SIC Codes
LogSeg	Natural log of the number of business segments
*LogSeg*LogSales*	Product of the natural logs of the number of business segments and firm sales
HHI	The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales/.75total sales

Agency-based variables:

Covdebt	Total debt in year t/prior period assets
Bonus	Indicator variable set to 1 if CEO received a cash bonus in year t
Tenure	Number of years CEO has been in office in year t
Delist	Indicator variable coded 1 if firm is listed on NASDAQ or AMEX, 0 otherwise

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

Table 12
Multivariate Analysis: Dependent variable is GDWLIP_D

GDWLIP_D = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel A: Non-Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	0.158	1.47	0.120	1.14	0.173	1.56	0.134	1.24
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	0.009	0.76	0.0009	0.09	0.008	0.65	0.0006	0.05
PropGW	0.047	0.66	0.052	0.72	0.050	0.70	0.054	0.76
BHRet	**-0.078**	**-3.07**	**-0.077**	**-3.03**	**-0.078**	**-3.07**	**-0.077**	**-3.04**
Repurch	0.015	0.71	0.015	0.72	0.015	0.69	0.015	0.71
Covdebt	0.017	1.04	0.007	0.49	0.017	1.04	0.007	0.49
Bonus	**-0.094**	**-3.25**	**-0.095**	**-3.29**	**-0.093**	**-3.23**	**-0.095**	**-3.27**
Tenure	**-0.005**	**-2.05**	**-0.005**	**-2.22**	**-0.005**	**-2.08**	**-0.005**	**-2.24**
Delist	-0.010	-0.26	-0.001	-0.04	-0.013	-0.33	-0.003	-0.10
LogSeg	0.013	0.88	0.012	0.81				
LogSeg&LogSales					**0.026**	**1.88**	0.0007	0.42
NumSIC								
HHI								
IndLev	**-0.474**	**-1.62**			**-0.465**	**-1.59**		
UNVA1			0.00009	0.09			0.00009	0.10

See Panel E for variable definitions

Table 12 (con't)
Multivariate Analysis: Dependent variable is GDWLIP_D

GDWLIP_D = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel A (con't): Non-Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**	**Estimate**	**t-value**
Intercept	0.194	1.74	0.154	1.40	0.169	1.49	0.143	1.29
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	0.006	0.47	-0.002	-0.17	0.008	0.72	0.003	0.26
PropGW	0.045	0.63	0.050	0.69	-0.003	-0.05	0.0005	0.01
BHRet	**-0.078**	**-3.08**	**-0.078**	**-3.05**	**-0.088**	**-3.49**	**-0.088**	**-3.47**
Repurch	0.015	0.71	0.015	0.73	0.024	1.11	0.024	1.11
Covdebt	0.015	0.95	0.006	0.40	0.019	1.21	0.012	0.83
Bonus	**-0.095**	**-3.28**	**-0.096**	**-3.31**	**-0.081**	**-2.81**	**-0.082**	**-2.86**
Tenure	**-0.005**	**-2.11**	**-0.005**	**-2.28**	**-0.004**	**-1.92**	**-0.005**	**-2.04**
Delist	-0.010	-0.25	-0.001	-0.03	0.005	0.14	0.011	0.30
LogSeg								
LogSeg&LogSales								
NumSIC	0.005	1.07	0.004	1.00				
HHI					**-0.046**	**-1.26**	**-0.046**	**-1.26**
IndLev	**-0.475**	**-1.63**			-0.327	-1.11		
UNVA1			0.00006	0.06			0.0001	0.13

See Panel E for variable definitions

Table 12
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) + β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B: Non-Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	-0.265	-0.51	-0.010	-0.02	-0.360	-0.67	-0.010	-0.19
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.021	-0.38	0.031	0.62	-0.008	-0.13	0.044	0.78
PropGW	-0.401	-1.16	-0.430	-1.24	-0.409	-1.19	-0.436	-1.26
BHRet	-0.050	-0.41	-0.055	-0.45	-0.048	-0.39	-0.053	-0.43
Repurch	-0.077	-0.75	-0.080	-0.78	-0.077	-0.76	-0.080	-0.78
Covdebt	-0.069	-0.89	-0.010	-0.13	-0.068	-0.89	-0.009	-0.13
Bonus	0.026	0.18	0.034	0.25	0.028	0.20	0.037	0.26
Tenure	-0.014	-1.27	-0.011	-1.05	-0.014	-1.27	-0.012	-1.06
Delist	0.031	0.17	-0.025	-0.14	0.021	0.11	-0.037	-0.20
LogSeg	-0.041	-0.56	-0.034	-0.46				
LogSeg&LogSales					-0.005	-0.70	-0.005	-0.66
NumSIC								
HHI								
IndLev	**3.179**	**2.25**			**3.161**	**2.24**		
UNVA1			0.00006	0.01			0.00003	0.01

See Panel E for variable definitions

Table 12 (con't)
Multivariate Analysis: Dependent variable is PROPGWIMP

PROPGWIMP = $\alpha + \beta_1$(Family variables) + β_2(Economic Fundamentals) + β_3 (Information asymmetry) + β_4(Agency-based variables) +β_5(Number and size of reporting units) + β_6(Unverifiable Discretion) + β_7 (yeardummy) + ε

Panel B (con't): Non-Family Firms Analysis includes only firms with MTB>1 with goodwill balances

Parameter	Estimate	t-value	Estimate	t-value	Estimate	t-value	Estimate	t-value
Intercept	-0.310	-0.57	-0.041	-0.08	-0.238	-0.41	0.029	0.05
Founder CEO	-	-	-	-	-	-	-	-
Descendant_CEO	-	-	-	-	-	-	-	-
Family_Ownership	-	-	-	-	-	-	-	-
Size	-0.022	-0.38	0.028	0.53	-0.035	-0.62	0.022	0.43
PropGW	-0.407	-1.18	-0.436	-1.26	-0.439	-1.21	-0.472	-1.29
BHRet	-0.050	-0.40	-0.055	-0.45	-0.051	-0.40	-0.056	-0.44
Repurch	-0.077	-0.75	-0.079	-0.77	-0.079	-0.73	-0.082	-0.75
Covdebt	-0.068	-0.87	-0.009	-0.12	-0.074	-0.93	-0.012	-0.16
Bonus	0.024	0.17	0.032	0.23	0.024	0.16	0.038	0.26
Tenure	-0.014	-1.24	-0.011	-1.02	-0.014	-1.21	-0.011	-0.99
Delist	0.043	0.23	-0.013	-0.07	0.059	0.30	0.0007	0.00
LogSeg								
LogSeg&LogSales								
NumSIC	-0.005	-0.24	-0.003	-0.14				
HHI					-0.025	-0.13	-0.028	-0.15
IndLev	**3.166**	**2.24**			**3.384**	**2.26**		
UNVA1			0.00007	0.02			0.00008	0.02

See Panel E for variable definitions

Panel E: Variable definitions

Dependent variables:

GDWLIP_D	Indicator variable set to 1 if a firm records a goodwill impairment write-off in year t, 0 otherwise
Propgwimp	Dollar value of goodwill impairment write-off/beginning-of-period goodwill

Family firm variables:

Founder CEO	Indicator variable coded 1 if CEO is the firm founder, 0 otherwise
Descendant CEO	Indicator variable coded 1 if the CEO is a descendant of the founder, 0 otherwise
Family_ownership	Percentage of equity owned by family members

Fundamentals:

Size	Log(prior period assets)
PropGW	Prior period goodwill/prior period assets
BHRet	Buy-and-hold return over year t

Number and size of reporting units:

NumSeg	Number of business segments
Num SIC	Number of SIC Codes
LogSeg	Natural log of the number of business segments
*LogSeg*LogSales*	Product of the natural logs of the number of business segments and firm sales
HHI	The firm's Herfindahl Hirschman Index, computed as the sum of the square of the ratios of segment sales/.75total sales

Agency-based variables:

Covdebt	Total debt in year t/prior period assets
Bonus	Indicator variable set to 1 if CEO received a cash bonus in year t
Tenure	Number of years CEO has been in office in year t
Delist	Indicator variable coded 1 if firm is listed on NASDAQ or AMEX, 0 otherwise

Unverifiable Discretion variables:

Indlev	Industry average leverage in year t
UNVA1	-1*[Cash+Short-term Investments-Debt-Preferred Equity] ÷ Net Assets
UNVA2	-1*[Cash+All Investments and Advances-Debt-Preferred Equity] ÷ Net Assets
UNVA3	-1*[Cash+All Investments and Advances+Receivables-Payables-Debt-Preferred Equity] ÷ Net Assets
UNVA4	-1*[Cash+All Investments and Advances+Receivables+Inventories-Debt-Preferred Equity] ÷ Net Assets

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