THE ACCOUNTING REVIEW
Vol. 89, No. 6
2014
pp. 2297–2329

American Accounting Association
DOI: 10.2308/accr-50840

The Effect of Governance on Specialist Auditor Choice and Audit Fees in U.S. Family Firms

Bin N. Srinidhi
The University of Texas at Arlington

Shaohua He
Lancaster University

Michael Firth
Lingnan University

ABSTRACT: Family firms are characterized by less separation between ownership and control (Type 1 agency problem), but greater conflict of interest between controlling insiders and non-controlling outside investors (Type 2 agency problem). Although strong board governance is known to decrease the Type 1 agency problem, its effectiveness in mitigating the adverse consequences of the Type 2 agency problem has not been well documented in the literature. We show that strongly governed family firms are more likely to choose specialist auditors and exhibit higher earnings quality than nonfamily firms. Weakly governed family firms demand lower audit effort and exhibit earnings quality that is no different from that of nonfamily firms. Within family firms, we show that strongly governed family firms choose higher quality audits in the form of a greater use of specialist auditors and higher audit efforts, and exhibit higher earnings quality than other family firms. These findings provide consistent evidence that strong board governance can effectively mitigate the adverse consequences of the Type 2 agency problem on financial reporting and transparency in family firms.

Keywords: *family firms; board governance; earnings quality; auditor choice; audit fees*.

Data Availability: *The data used are available from the public sources identified in the study*.

We thank two anonymous reviewers and the editor for their constructive comments and suggestions. We also thank the seminar participants at City University of Hong Kong, The Hong Kong Polytechnic University, Lingnan University, the Hong Kong Institute for Business Studies, The University of Texas at Arlington, and the April 2010 Conference on Financial Reporting, Auditing and Governance at Lehigh University for their helpful suggestions on earlier versions of this paper. We also express our gratitude to Peter Lau, Phyllis Mo, and Sonia Wong for their comments. Michael Firth acknowledges funding from the HKSAR government (LU340610, LU340412).

Editor's note: Accepted by Michael L. Ettredge.

Submitted: July 2012
Accepted: May 2014
Published Online: June 2014

I. INTRODUCTION

U.S. researchers have become increasingly interested in examining firms in which family members exert control over investment and operating decisions.[1] This is not surprising, as firms controlled by founding families constitute nearly one-third of the firms on the S&P 500 Index and operate across the entire spectrum of industries (Anderson and Reeb 2003; Wang 2006). The value of listed family firms accounts for almost 10 percent of the total market capitalization of U.S.-listed stocks and, therefore, represents an important component of the overall economy.[2]

Previous studies have identified two key agency relationships in which family firms differ from nonfamily firms. The first is the Type 1 agency relationship arising from the separation of ownership and control. Family firms face lower Type 1 agency costs than firms with diffuse ownership because the controlling insiders are better informed about the firm and are better able to monitor managerial actions and decisions (Demsetz and Lehn 1985). Prior studies also provide evidence about lower earnings management and improved earnings quality and transparency in family firms (Ali, Chen, and Radhakrishnan 2007; S. Chen, X. Chen, and Cheng 2008; Cascino, Pugliese, Mussolino, and Sansone 2010; Wang 2006) compared with similar nonfamily firms, which they attribute to direct monitoring. The second is the Type 2 agency relationship between controlling insider shareholders and dispersed nonfamily shareholders. This relationship is unique to insider-controlled firms and can have adverse effects when the controlling insiders make self-serving decisions at the expense of the non-controlling investors (Lansberg 1983) and extract private rents through channels such as advantageous related-party transactions, excessive compensation, and special dividends (Anderson and Reeb 2003, 2004).[3] Leuz, Nanda, and Wysocki (2003) show that the earnings quality is lower in firms where the private control benefits are consumed by insiders, and argue that such opaqueness facilitates the extraction of private rents. By implication, the Type 2 agency problem results in less transparency and lower earnings quality.

This paper examines whether strong independent boards and other non-market governance mechanisms can mitigate the adverse effects of the Type 2 agency problem on earnings quality and transparency. Comparing the strongly and weakly governed family firms in our sample with similar nonfamily firms and with each other, our results suggest that stronger governance can effectively mitigate the negative effects of the Type 2 agency problem on transparency.

---

[1] We define family firms as firms in which the members of one family have 20 percent or more of the voting rights and at least one family member serves as a director on the board (see, also, Footnote 5). Family members participate in senior management in 82 percent of the family firms in our sample. In 68 percent of the cases, the CEO is a family member, and in 79 percent of the cases, the chairman of the board is a family member. We believe that this extent of family participation at both the board and senior management levels makes them effective insiders. Therefore, we use the terms "family control" and "insider control" interchangeably.

[2] Listed family firms in the U.S. include well-known names such as Wal-Mart (sales: $422 billion), GAP Inc. (sales: $15 billion), CBS Corp. (sales: $14 billion), Thomson Reuters Corp. (sales: $13 billion), Marriott Intl. (sales: $12 billion), and Nordstrom, Inc. (sales: $10 billion). Family members such as Rob Walton of Wal-Mart, Sumner Redstone of CBS, John Marriott of Marriott Intl., and Blake Nordstrom of Nordstrom, Inc. are CEOs or board chairpersons at their respective corporations. All of the family firms have founding family member(s) serving on their boards; for example, two Waltons serve on the Wal-Mart board, two Fishers serve on the GAP board, two Redstones serve on the CBS board, two Thomsons serve on the Thomson Reuters board, two Marriotts serve on the Marriott board, and three Nordstroms serve on the Nordstrom board.

[3] The Type 2 agency problem arises from the differences in the interests of the controlling insiders and outside investors/managers. The differences in the interests of the insiders and outside *investors* are examined in the literature cited here. The differences in the interests of the insiders and nonfamily *managers* could also have adverse consequences. For example, the potential for favoritism toward family-connected managers could make some nonfamily professional managers reluctant to work according to the dictates of the family, resulting in a smaller pool of talent from which to select managers (Burkart, Panunzi, and Shleifer 2003).

Governance studies have rarely examined the effectiveness of a board in decreasing the Type 2 agency problem. Instead, they have primarily focused on the ability of boards to mitigate the Type 1 agency problem in diffuse-ownership firms. In contrast to firms with diffuse ownership, the major investors in family firms are also insiders. The boards of family firms might represent the interests of these major investors, but not the interests of the dispersed nonfamily investors. It is unclear whether the boards will uphold the interests of dispersed stockholders when a conflict of interest exists between the dispersed and the majority family shareholders.

Anderson and Reeb (2004) examine the effects of boards on the Type 2 agency problem. They show that strong boards improve the value of family firms, but are silent on whether they improve transparency and reporting quality. However, their results suggest that the increased market value could be the result of strong boards alleviating the concerns of the nonfamily investors about the extraction of private rents by insiders. This study finds that family firms with strong governance[4] signal their transparency by choosing specialist auditors and demanding greater audit efforts. Strongly governed family firms also signal their integrity by reporting higher earnings quality compared with weakly governed family firms.

Other studies of family firms have focused on the overall differences between family and nonfamily firms. Only recently, some studies have focused on the differences *within* family firms. For example, Villalonga and Amit (2006) and Miller, Le Breton-Miller, Lester, and Cannella (2007) find differences in values and performances between family firms that are controlled by the founder and those controlled by their successors. Chen, Dasgupta, and Yu (2014) find differences in transparency between large and small family firms. These findings suggest that the net effect of the two agency costs in family firms can differ depending on the context in which the firms operate.

Consistent with the literature, we define family firms as firms in which the insiders have the power to exercise significant control over investment and operating decisions.[5] We measure governance by two indices of documented board strength that incorporate the important core concepts of independence, restrained CEO power, board attendance, board and audit committee sizes, and the financial expertise of audit committee members (Carcello, Hermanson, Neal, and Riley 2002; Larcker, Richardson, and Tuna 2007). We measure earnings quality as the inverse of the accruals quality measure developed by Dechow and Dichev (2002) and Francis, LaFond, Olsson, and Schipper (2005).

Using samples of firms matched on the propensity of being family-owned, we show that more strongly governed family firms exhibit higher earnings quality than nonfamily firms, while more weakly governed family firms do not. Consistent with this result, we show that within the sample of family firms, more strongly governed firms exhibit higher earnings quality than more weakly governed firms. In a similar vein, considering the choice of specialist auditors as an explicit signal of openness, we find that more strongly governed family firms are more likely to engage specialist auditors than nonfamily firms, and that more weakly governed family firms are not more likely to do so. Within the sample of family firms, the more strongly governed family firms exhibit a

[4] We use the term "governance" to denote board-based, committee-based, and other internal mechanisms to improve transparency. We differentiate this type of governance from the "external" market-based governance that arises from the market for corporate control, product competition, and other market forces.

[5] The main results of this study are based on the definition of a family firm as a firm in which family members have 20 percent or more of the voting rights and at least one member on the board. The controlling insider(s) typically belong to a family that collectively holds the requisite number of voting rights, as, for example, the Walton family of Wal-Mart. Although an individual founder could hold 20 percent or more of the voting rights in a firm, we do not find this to be the case in the 12 largest listed family firms. We also examine the robustness of our findings under different definitions of "family firms," such as founder-controlled firms and firms with dominant insiders holding more than 50 percent of the voting rights, and find results that are qualitatively similar to those reported in the paper.

significantly higher likelihood to engage specialist auditors than the more weakly governed family firms.

We expect that firms that report higher quality earnings pose lower audit risk to auditors than firms that report lower quality earnings. *Ceteris paribus,* the reduction in audit risk should result in lower total audit effort and correspondingly lower audit fees.[6] However, we find that the audit fees paid by more strongly governed family firms are not lower than the fees paid by nonfamily firms. Further, we find that while more weakly governed family and nonfamily firms exhibit no difference in earnings quality, the family firms pay lower audit fees. These results suggest that the conclusion of Carcello et al. (2002) that stronger boards demand more intensive audits carries over to family firms. In effect, the lower audit fees due to the lower Type 1 agency problem arising from family control are offset by the increase in audit intensity arising from a higher demand from stronger boards, resulting in no difference in audit fees between nonfamily firms and family firms with better governance. Audit fees, which serve as proxies for audit efforts, are costly signals that more strongly governed family firms can use to separate themselves from other family firms. We confirm these results by comparing the firms within our sample of family firms, and show that more strongly governed family firms demand higher audit efforts than more weakly governed family firms. Taken together, our findings show that strong governance can mitigate the adverse effects of the Type 2 agency problem in family firms while retaining the benefits of lower Type 1 agency costs.

A key contribution of this paper is our finding that stronger governance is an effective mechanism to mitigate the adverse effects of the Type 2 agency problem on earnings quality and transparency that otherwise often arise in family firms. Although the role of strong boards in mitigating the Type 1 agency problem in firms has been well documented, our study is one of the few to examine the role of strong boards in mitigating the Type 2 agency problem. Fan and Wong (2005) show that Asian family firms, including those with a wedge between cash flow and voting rights, are able to credibly demonstrate their firms' transparency to external investors by choosing high-quality auditors. Our study differs from theirs, first, because they examine the Asian context in which family firms constitute the dominant organizational form. Second, they do not examine the differences in governance among family firms. Our findings imply that family firms are not homogenous. We show that the higher earnings quality of family firms is driven by more strongly governed family firms, and that the lower audit fees of family firms are driven by more weakly governed family firms. Further, we show that only strongly governed family firms choose high-quality auditors to signal their transparency.

Several studies with U.S. data have examined the effect of strong governance on auditor choice (Beasley and Petroni 2001; Chen and Zhou 2007) and audit efforts (Carcello et al. 2002) in samples consisting mostly of diffusely owned firms. However, the incentives that affect reporting and disclosure in family firms are different from those in diffusely owned nonfamily firms. Although the implementation of a strong and independent board by a family firm signals the firm's intention to voluntarily limit the extraction of private rent by insiders, the board structure itself does not instill the same credibility for the firm's external nonfamily investors as it does for the investors in diffusely owned firms. Consequently, family firms may find it worthwhile to engage in "bonding" to make their signal more credible by complementing the independent board structure with *demonstrably independent actions* that other family firms would find costly to mimic.[7] One such demonstrably independent board action is to engage a high-quality specialist auditor and contract

[6] The audit market is known to be highly price competitive. Therefore, audit risk reduction should normally result in lower audit fees (Simunic 1980).

[7] A similar context is cross-listing, in which firms located in weaker legal and governance jurisdictions seek to cross-list in strong governance jurisdictions such as the U.S. or U.K., and voluntarily subject themselves to additional scrutiny to signal their integrity (Coffee 2002; Doidge, Karolyi, and Stultz 2004).

for higher audit effort than is normally expected for a family firm of similar size and audit risk. While the family firm structure decreases Type 1 agency costs and increases Type 2 agency costs, our results show that strongly governed family firms are able to decrease their Type 2 agency costs by contracting for higher quality audits.

The next section provides a review of the related literature and describes the measures used in this study. Section III details the conceptual basis of our hypotheses. Section IV presents the hypotheses and models used for analysis. Section V describes the data and presents the results. The final section offers concluding remarks.

II. LITERATURE REVIEW AND MEASURES

Family Control and Its Effects on Transparency

Previous studies have focused on two opposing relationships between family ownership and firm performance. Family ownership mitigates Type 1 agency costs by reducing the separation between ownership and control, which, in turn, improves the performance of family firms compared with nonfamily firms. However, family control could increase the Type 2 agency costs due to family insiders expropriating wealth from dispersed shareholders (Lansberg 1983), thereby reducing the market value of family firms compared with similar diffusely owned firms.

Family ownership affects financial reporting and transparency, in addition to its financial performance. Direct monitoring by informed family owners limits the ability of managers to misreport their performance. In the absence of other effects, this should improve earnings quality. However, the earnings quality could be compromised in family firms due to several reasons. First, the family could use its control rights to extract private benefits that are denied to external investors, creating an incentive for the firm to be less transparent (Leuz et al. 2003). Second, family insiders hold private information, and depend less on public information when assessing the performance of their investment. Due to the lower demand for public information by controlling insiders, managers could devote less effort and care to the preparation of financial statements, rendering the firm less transparent to outside investors. Therefore, theoretically, it is difficult to predict whether the transparency of family firms is higher or lower compared with similar diffusely owned firms. Ali et al. (2007) examine this trade-off and find that although family firms report higher quality earnings and are more forthcoming about bad news, they are less likely to voluntarily disclose their corporate governance practices. Wang (2006) shows that family-owned firms exhibit higher earnings quality, lower abnormal accruals, greater informativeness, and fewer transitory components compared with nonfamily firms. Chen et al. (2008) document that family firms are more likely to disclose earnings downgrade warnings, but are less likely to provide earnings forecasts. These studies suggest that, on average, the reduction of Type 1 agency cost in family firms more than compensates for the increase in Type 2 agency cost. However, in some contexts, the increase in Type 2 agency cost can offset or exceed the effect of decreased Type 1 agency cost. A case in point is the finding by Anderson, Duru, and Reeb (2009) that family firms are more opaque than nonfamily firms, a result that they attribute to the Type 2 agency problem. These mixed results could potentially be due to the differences in governance strength among family firms. None of these preceding studies explicitly include governance strength in their analyses. To the best of our knowledge, this study is one of the few U.S. studies that examine the effects of governance differences within family firms.

Measures of Family Control

Some earlier studies, such as those by Anderson and Reeb (2003, 2004) and Ali et al. (2007), define a firm as family-controlled if its founder(s) and/or their descendants hold top management or board positions or are among its largest shareholders. They do not impose minimum ownership or

voting rights criteria. Hutton (2007) cites examples from the sample used by Ali et al. (2007), where the family influence is quite low, such as Percy Chubb, who is a non-voting director on the Chubb Co. board of directors. While Percy Chubb is a descendent of the founder of Chubb Co., his share ownership is extremely low and he has no voting rights on the board. Other studies, such as those by Barontini and Caprio (2006) and Barth, Gulbrandsen, and Schønea (2005), impose significant threshold restrictions on ownership or voting rights or both. Consistent with the latter set of studies, we argue below that the extent of voting rights of a family in their firm affects both Type 1 and Type 2 agency costs significantly.

A family that has greater voting rights in their firm, either through their significant ownership of cash flow rights or through dual-class shares with differential voting rights or both, has greater incentives to increase the firm's value. They can potentially increase this value by decreasing the separation between ownership and control through active participation in the firm's management. The family members in our sample of family firms participate overwhelmingly in both influential board positions (79 percent of the firms have a family member serving as the chairman of the board) and managerial positions (82 percent of the firms have family members serving in senior managerial positions, including 68 percent that have a family member serving as CEO). Decreasing the Type 1 agency costs increases the value of a firm. At the same time, the control exercised by the family allows for the potential transfer of the firm's resources from the dispersed nonfamily shareholders to the family insiders, resulting in an increase in the Type 2 agency problem.[8] In effect, significant voting rights held by the family in the firm provide a basis for both a decrease in Type 1 and an increase in Type 2 agency costs.

Consistent with the above arguments, our primary measure of family control is based on voting rights. *FAMILY* is an indicator variable that is coded 1 if a firm has family ties that go back a generation or two to the founder and if the family members have high voting rights ($\geq$ 20 percent) *and* serve on the board, and is coded 0 otherwise. We also recognize that insiders could control the decisions of a board through other means. The presence of a founder on the board could subvert the independence of the board, and the founder could effectively control the board's decisions. We define *FOUNDER* as an indicator variable that indicates the presence of a founder on the board. The insider control could be even stronger if the founder is also the CEO, captured by the indicator variable *FOUNDER_CEO*. We also recognize that if the founder is on the nominating committee (*FOUNDER_NOM*), he or she could influence the committee to nominate directors who are independent in appearance, but are in fact beholden to the founder. We use *FOUNDER, FOUNDER_CEO,* and *FOUNDER_NOM* as supplementary measures of family control, in addition to *FAMILY*.

Measures of Board Governance

Larcker et al. (2007) identify several observable structural indicators of board strength, such as the board's size, the number of independent directors, the expertise and experience of the directors, and the board's diversity. A board's governance strength is assessed either by *individual structural variables* used separately or *aggregates of the structural variables* to distinguish between strong and weak corporate governance. The use of aggregates decreases the measurement error that is inherent in the use of any one structural variable, e.g., the proportion of independent directors, to measure a board's governance strength. Therefore, we use two indices that aggregate these

[8] The Type 1 agency problem decreases firm value, and the Type 2 agency problem increases the share of the firm value extracted by the family insiders disproportionately relative to the amount left for the outsiders. In the case of a family holding more voting power than cash flow rights, such as the Ford family (2 percent cash flow rights and 40 percent voting rights), the family retains the incentive to maximize the value of the firm, which correspondingly increases their share of the firm value by decreasing the Type 1 agency problem, and to increase the proportion it consumes, which increases the Type 2 agency problem.

variables to measure board governance effectiveness for our main results. We supplement our results by additional analyses using individual disaggregated board governance measures.

Our first index (*GINDEXI*) aggregates the following indicators of board effectiveness:[9] board independence (measured as the percentage of outside directors), board diligence (measured as the number of meetings held), board expertise (measured as the percentage of financial experts on the audit committee plus the number of directorships held by outside directors), and a CEO power indicator variable, which captures whether the CEO is also the chairman or founder. Carcello et al. (2002) justify the inclusion of board independence, board diligence, and the number of directorships held by board members. Carcello, Hollingsworth, Klein, and Neal (2006) and Krishnan and Visvanathan (2009) justify the inclusion of financial expertise separately in their board expertise variable. Gul and Leung (2004) and García-Meca and Sánchez-Ballesta (2009) justify the inclusion of CEO power.[10] We add the variables for board independence, board meetings, and board expertise and subtract the CEO power indicator variable to obtain the index.[11] We classify the firms that have above-median index scores for the industry and year as "Strong CG" firms and those with below-median index scores as "Weak CG" firms. We measure corporate governance using both *GINDEXI* and the dichotomous variable *GINDEXI_DUM*, which has a value of 1 for the "Strong CG" firms, and 0 for the "Weak CG" firms.

Our second index (*GINDEXII*) is based on the set of board director characteristics identified by Larcker et al. (2007). From these characteristics, we choose those that are available in the Corporate Library database[12] and have been identified in previous studies as important indicators of board governance. Consistent with their analysis, we use the following characteristics in our construction of the index: board independence (Independence Index, measured as the percentage of outsiders − the percentage of affiliated[13] directors + the percentage of female directors);[14] board diligence

[9] We standardize each continuous variable to fall in the range [0, 1]. For non-dichotomous variables that may have values outside the range [0, 1], such as board meetings and board size, we scale the variable by the maximum value in our sample to obtain a value between 0 and 1. The dichotomous variables take a value of 0 or 1, and the percentages have values within the range [0, 1]. We standardize all the non-dichotomous variables before aggregating them to form board effectiveness indicators.

[10] The use of CEO power rather than CEO duality is based on a study by Dechow, Sloan, and Sweeney (1996).

[11] The use of a principal components analysis instead of simple aggregation does not change the results. There are no clear criteria to judge whether a weighted aggregation of these factors yields a better measure of corporate governance. Therefore, we present the results using simple aggregation. The results based on the principal component analysis are available on request.

[12] Larcker et al. (2007) use a proprietary database, Equilar, that provides a greater level of detail than the publicly available Corporate Library and IRRC databases.

[13] Affiliated directors are non-executive directors who have other connections with the firm or its officers. As described by Corporate Library, these include past executives; relatives of current executives; family members; directors with board interlocks (employees who within the last three years have been employees of another company at which an employee of the focal company serves as a director); employees of companies owned or run by a non-independent director or a member of management; employees of a predecessor company (within the last five years) that represented more than 50 percent of the company's sale of assets when it became part of the company; employees of a business acquired by the company in the last five years; employees, directors, or trustees of a non-profit organization to which the company made charitable contributions of $100,000 or more in the last fiscal calendar year; and professionals with "significant" business or financial ties with the firm. "Significant" business transactions are defined as those providing personal or professional services to a company or a senior management member for a fee of at least $120,000 per year, or to a non-executive chair whose annual cash compensation is equal to or greater than 50 percent of the total cash compensation of any of the named executive officers or is more than five times that of other non-executive directors (whichever is greater). In addition, if the firm has not disclosed sufficient information about the directors to judge independence, those directors are also considered affiliated directors. Affiliated directors are particularly problematic in family firms because they could be non-executive family members and/or could have professional or business ties to the family. Therefore, we subtract this percentage.

[14] Recent studies provide evidence that female directors are more independent and are stronger monitors of managers than male directors (Adams and Ferreira 2009; Gul, Srinidhi, and Ng 2011). Therefore, we add this percentage.

(Meetings Index, measured as the number of meetings held + the fraction of directors who attend more than 75 percent of the meetings); board and audit committee sizes (Size Index, measured as the size of the board + the size of the audit committee); the busy directors (Busy Index, measured as the fraction of outside directors who serve on four or more boards + the fraction of inside directors who serve on two or more other boards); and the power of the CEO (CEO Power). As in the case of *GINDEXI,* we standardize the variables. We add the values of Independence Index, Meeting Index, Size Index, and Busy Index and subtract CEO Power to obtain *GINDEXII*, and classify the firms that have above-median index scores as Strong CG firms and those with below-median index scores as Weak CG firms.[15] We measure corporate governance using both *GINDEXII* and the dichotomous variable *GINDEXII_DUM,* which has a value of 1 for the Strong CG firms, and 0 for the Weak CG firms.

III. FRAMEWORK FOR THE EFFECT OF GOVERNANCE IN FAMILY FIRMS ON TRANSPARENCY

We conceptualize the role of family ownership and governance on productive and reporting activities through the framework presented by Healy and Palepu (2001). They identify two related problems that impede the optimal allocation of investment capital to investment opportunities. The first is the "information problem" faced by savers resulting from the inability of the insider entrepreneur to credibly communicate to the outside investor his private knowledge about the true value of a corporation. This information asymmetry makes the investor overly cautious and could result in underinvestment. The second is the agency problem faced by the investor after the investment is made, because the insider entrepreneur could expropriate the invested amount.

The ownership structure of a firm affects both the information and agency problems. Family insiders are viewed with skepticism by other investors, resulting in an information problem that could limit outside investment. After the investment is made, the family insiders who control the firm's resources could indulge in private rent extraction, creating a Type 2 agency problem. Accounting regulators and third-party auditors mediate the information flow process and mitigate the information problem. Strong corporate boards are able to better enforce the relevant accounting standards, choose expert auditors, and demand more intensive auditing, all of which mediate the flow of information. Capital markets and financial institutions mediate the flow of capital from the investors to the firms. Strong boards are able to improve the flow of funds into the firm and the flow of funds inside the firm to the most valuable projects, which influence the firm's operating efficiency.

Previous studies on diffusely owned firms have related earnings quality and audit risk to the Type 1 agency problem in the client firm. Gul, Chen, and Tsui (2003) show that the relationship between discretionary accruals and audit fees is weaker for firms with high management ownership. They interpret this result as evidence of a lower Type 1 agency problem in such firms, which decreases the need for managers to opportunistically distort their earnings. A similar rationale holds for institutional ownership, which also decreases the Type 1 agency problem. The resulting improvement in earnings quality decreases the audit risk. Because auditors face a competitive market, the decreased risk translates into less costly substantive testing and lower audit fees, *ceteris paribus*. Several studies have documented the effect of ownership on audit fees. Mitra, Hossain, and

[15] Larcker et al. (2007, 974–977) identify the factors, standardize them, and compute the governance index scores "using the average equal-weighted sum of the *standardized* indicators associated with each factor." Our use of the sum of the standardized indicators is consistent with their methodology. When we compute the first principal component of every standardized indicator for both of the indices and repeat the analyses, we find qualitatively similar results.

Deis (2007) show that institutional and management ownership levels are negatively associated with audit fees. Nikkinen and Sahlstrom (2004) show the negative association between management ownership and audit fees in the international context. Further, Vafeas and Waegelein (2007) reveal a negative relationship between insider ownership and audit fees.

The preceding argument is also consistent with studies that have linked (1) auditor effort to litigation risk (Simunic and Stein 1996), and (2) earnings management to litigation risk (Heninger 2001). Abbott, Parker, and Peters (2006) show that due to asymmetric litigation effects, audit fees are more strongly related to positive earnings management risk, but less strongly to negative earnings management risk. These studies support the contention that in family firms where the Type 1 agency costs are low, auditors scale back their efforts and charge lower audit fees.

Although the literature has focused on the ability of independent boards to mitigate the Type 1 agency problem between managers and investors, it has provided little evidence about their ability or willingness to decrease the Type 2 agency problem and improve reporting and transparency in family firms. There are several reasons why strong boards might not be effective in decreasing the Type 2 agency problem. First, the obligation of the board is to protect the entire investor class, which is different from protecting one class of investors from expropriation by another class of investors. Second, the family can exercise significant control over the nomination and election of directors, which could make the "independent" directors beholden to the family. Third, separating the positions of CEO and chairman does not alleviate nonfamily investors' concern if both positions are held by family members or if the insiders have the power to choose who fills those positions. Even when a firm's board structure is known to its investors and satisfies the usual definitions of a strong board, the dispersed nonfamily investors in family firms are likely to be more skeptical than the dispersed investors in nonfamily firms in terms of the independent directors' incentives and abilities to limit the power of the CEO.

A strong and independent board in a family firm that effectively mitigates Type 2 agency concerns can signal the firm's transparency to skeptical outside investors if it takes *demonstrably independent actions*. Previous studies have identified board actions such as choosing a high-quality auditor and demanding greater audit efforts, which result in higher audit fees in a competitive audit market, as ways to signal transparency. For example, Wang, Wong, and Xia (2008) find a negative relationship between state ownership and the "big auditor" choice in Chinese firms. Guedhami, Pittman, and Saffar (2009) show that privatized firms have lower (higher) proclivity to choose Big 4 auditors when the proportion of state (foreign) ownership is higher. Fan and Wong (2005) find a positive relationship between the "big auditor" choice and the wedge between voting and cash flow rights in East Asian companies, and claim that Asian family firms use auditor choice to signal their motivations to small investors. Using audit fee as a proxy for audit effort, Carcello et al. (2002) demonstrate that independent boards demand higher levels of auditing from external auditors. Extrapolating the results of these studies to family firms, if a strong board mitigates the Type 2 agency problem, the firm should choose high-quality specialist auditors and demand greater audit effort. However, whether this actually occurs is an empirical issue.

IV. HYPOTHESES AND MODELS FOR ANALYSIS

We use evidence from previous studies and the preceding arguments to develop hypotheses on family ownership, earnings quality, internal governance, auditor choice, and audit fees. The detailed definitions of our variables are given in Table 1.

Hypotheses on Family Ownership and Earnings Quality

Consistent with Wang (2006), we hypothesize a higher earnings quality for family firms than for similar nonfamily firms:

TABLE 1

Definitions of Variables

Variables		Definitions
AQ	=	Standard deviation of the firm-specific residual from the previous three to five years based on the accruals quality model used by Francis et al. (2005).
BIG	=	1 if the auditor is PwC, EY, DTT, or KPMG, and 0 otherwise.
BM	=	Stockholders' equity of common shareholders (Compustat SEQ) divided by the market value (Compustat CSHO ∗ Compustat PRCC_F).
CAP_INTENSITY	=	Capital asset intensity measured as the net property, plant, and equipment divided by the total assets (Compustat PPENT/AT).
FAMILY	=	1 if family ties (most often going back a generation or two to the founder) play a key role in both the firm's voting rights (≥ 20 percent) and board membership, and 0 otherwise.
FINANCING	=	1 if *MA* is not equal to 1 and if the long-term debt (Compustat DLTT) increased by 20 percent or more and/or the number of shares outstanding (Compustat CSHO) increased by 10 percent or more after controlling for stock splits, and 0 otherwise.
FOREIGN	=	1 if a firm reports foreign sales, and 0 otherwise (Compustat Segment file).
FOUNDER	=	1 if there is at least one founder sitting on the board, and 0 otherwise.
FOUNDER_CEO	=	1 if the CEO is the founder, and 0 otherwise.
FOUNDER_NOM	=	1 if at least one founder sits on the nominating committee, and 0 otherwise.
GROWTH	=	Average growth rate in sales for the previous three years (Compustat SALE).
INT_INTENSITY	=	Intangible asset intensity measured as R&D plus advertising divided by the total assets (Compustat XRD + XAD/AT).
INVENTORY	=	Inventory divided by the total assets (Compustat INVT/AT).
INVREC	=	The sum of a firm's receivables (Compustat RECT) and inventory (Compustat INVT) divided by the total assets.
LEVE	=	The total assets less the stockholders' equity of common shareholders divided by the total assets (Compustat AT).
LNFEE	=	Natural log of the audit fees.
LOSS	=	1 if a firm reports negative earnings (Compustat IB), and 0 otherwise.
%LOSS	=	Proportion of the current and previous two (minimum) to four (maximum) years that a firm reports negative earnings (Compustat IB).
MA	=	1 if the firm is engaged in a merger or acquisition (as reported in Compustat SALE_FN) in the current year, and 0 otherwise.
MA3	=	1 if a firm is involved in a merger or acquisition in the previous three years, and 0 otherwise (as reported in Compustat SALE_FN).
MB	=	Market value (Compustat CSHO ∗ Compustat PRCC_F) divided by the stockholders' equity of common shareholders (Compustat SEQ).
NO_INT	=	1 if *INT_INTENSITY* is equal to 0, and 0 otherwise.
RESTRUCTURE	=	1 if a firm is involved in a restructuring in the previous three years, and 0 otherwise. This variable is coded 1 if any of the following Compustat data items are non-zero: RCA, RCD, RCEPS, RCP.
ROA	=	The net income before extraordinary items (Compustat IB) divided by the total assets.

(continued on next page)

TABLE 1 (continued)

Variables	Definitions
SEGMENTS	= Number of reported business segments (Compustat Segment file).
SIZE	= Natural log of total assets (Compustat AT).
SPECIAL	= 1 if the firm reports special items (Compustat SPI), and 0 otherwise.
SPECIALIST	= 1 if the auditor is the city leader in the SIC two-digit industry by clients' sales, and 0 otherwise.
STD_CFO	= Standard deviation of cash flow from operations divided by the total assets (Compustat OANCF/AT), where the standard deviation is calculated using the previous five fiscal years, requiring a minimum of three years of data.
STD_SALES	= Standard deviation of sales divided by the total assets (Compustat SALE/AT), where the standard deviation is calculated using the previous five fiscal years, requiring a minimum of three years of data.
WRITEOFF	= 1 if the firm reported a write-down in the fiscal year (Compustat WDP), and 0 otherwise.
ZSCORE	= Altman's (1968) Z-score, where a lower value represents a greater distress risk.
Board Governance Variables	
CG	= *GINDEXI* or *GINDEXII* or *GINDEXI_DUM* or *GINDEXII_DUM*.
GINDEXI	= *%Outsiders + #Board Meetings − CEO Power + %Financial Experts + Directorships*.
GINDEXII	= *Independence Index + Meetings Index − CEO Power + Size Index + Busy Index*.
GINDEXI_DUM	= 1 if *GINDEXI* is greater than the median within the same industry year, and 0 otherwise.
GINDEXII_DUM	= 1 if *GINDEXII* is greater than the median within the same industry year, and 0 otherwise.
Busy Index	= *%Busy Affiliated or Outsiders + %Busy Insiders*.
Independence Index	= *%Outsiders − %Affiliated + %Female*.
Meetings Index	= *#Board Meetings + %Attended*.
Size Index	= *Board Size + AC Size*.
#Board Meetings	= Number of board meetings in a year.
%Affiliated	= Fraction of affiliated directors who serve on the board (affiliated director is defined in Footnote 14).
%Attended	= Fraction of directors who meet attendance standards (75% attendance).
%Busy Affiliated or Outsider	= Fraction of affiliated or outside directors who serve on four or more other boards.
%Busy Insiders	= Fraction of inside directors who serve on two or more other boards.
%Female	= Fraction of female outside directors to every outside director.
%Financial Experts	= Fraction of accounting or financial experts who serve on the audit committee.
%Outsiders	= Fraction of outside directors who serve on the board.
AC Size	= Number of directors serving on the audit committee.
Board Size	= Number of directors serving on the board.
CEO Power	= 1 if the CEO is the chairman or founder, and 0 otherwise.
Directorships	= Average number of other boards on which outside directors serve.

H1a: *Ceteris paribus,* family firms exhibit a higher earnings quality than nonfamily firms.

The net effect on earnings quality in family firms is the result of two opposing forces: the lower Type 1 agency problem that positively affects earnings quality, and the higher Type 2 agency problem that negatively affects earnings quality. Our next two hypotheses compare the earnings qualities of strongly and weakly governed family firms separately with nonfamily firms.

We argue that strong boards demand higher earnings quality in family firms to uphold the interests of the outside shareholders. In effect, when strong governance mitigates the adverse effect of the Type 2 agency problem on earnings quality, the positive effect of the lower Type 1 agency problem on earnings quality stands out. Therefore, we expect family firms with strong board governance to exhibit a higher earnings quality than nonfamily firms.

Based on the above argument, we hypothesize that Wang's (2006) results are driven by family firms with strong board governance:

H1b: *Ceteris paribus,* family firms with strong board governance exhibit a higher earnings quality than nonfamily firms.

In weakly governed family firms, the positive effect of the lower Type 1 agency problem could be offset by the adverse effect of the higher Type 2 agency problem. In particular, if the reduction in Type 1 agency costs dominates (is dominated by) the increased Type 2 agency costs, we expect weakly governed family firms to exhibit a higher (lower) earnings quality than nonfamily firms. If neither effect dominates, we do not expect significant differences between the earnings qualities of family and nonfamily firms. Therefore, for family firms with weak governance, we present the hypothesis in the null form:

H1c: *Ceteris paribus,* family firms with weak board governance do not differ in earnings quality from nonfamily firms.

We test H1a–H1c using the following model:

$$\begin{aligned} AQ = {} & \beta_0 + \beta_1 SEGMENTS + \beta_2 FOREIGN + \beta_3 GROWTH + \beta_4 INVENTORY + \beta_5 MA3 \\ & + \beta_6 RESTRUCTURE + \beta_7 STD\_CFO + \beta_8 STD\_SALES + \beta_9 INT\_INTENSITY \\ & + \beta_{10} NO\_INT + \beta_{11} CAP\_INTENSITY + \beta_{12} SIZE + \beta_{13} \%LOSS + \beta_{14} ZSCORE \\ & + \beta_{15} BM + \beta_{16} BIG + \beta_{17} WRITEOFF + \beta_{18} FAMILY + \varepsilon. \end{aligned} \quad (1)$$

In this model, based on Ashbaugh-Skaife, Collins, Kinney, and LaFond (2008), the dependent variable *AQ* represents accruals quality. *AQ* is obtained by estimating the following accruals model based on Francis et al. (2005). The model is estimated in the annual cross-section using firms within three-, two-, or one-digit SIC code industries having at least 20 firms:

$$\Delta WC_{it} = t_{0j} + \alpha_{1j} CFO_{i,t-1} + \alpha_{2j} CFO_{i,t} + \alpha_{3j} CFO_{i,t+1} + \alpha_{4j} \Delta Sales_{i,t} + \alpha_{5j} PPE_{i,t} + \upsilon_{it}. \quad (1a)$$

In Model (1a), *i* denotes firm, *j* denotes the industry, and *t* denotes the year. Consistent with Francis et al. (2005), we use the change in operating non-cash working capital, ΔWC_{it}, as the dependent variable.[16] For each sample firm, we estimate Model (1a) for each of the five years (we use three to five years, depending on data availability). We then compute the standard deviation of

[16] We compute ΔWC_{it} as $(\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STDebt_{it})$. Cash and short-term debt are excluded because they do not represent operating accruals. All of the changes correspond to period *t*. ΔCA_{it} = change in current assets (Compustat #ACT), $\Delta Cash_{it}$ = change in cash balance (Compustat #CHE), ΔCL_{it} = change in current liabilities (Compustat #LCT), $\Delta STDebt_{it}$ = change in short-term debt included in current liabilities (Compustat #DLC), and CFO_{it} = operating cash flow from the cash flow statement (Compustat #OANCF). All of the variables are scaled by the average total assets.

the firm-specific residual υ_{it}, which we denote as *AQ*. The variable *FAMILY* in Model (1) denotes family control. The control variables in Model (1) are the other determinants of *AQ* described by Ashbaugh-Skaife et al. (2008). The first determinant comprises the business fundamentals and operating characteristics, and is captured by the number of operating segments; the presence of foreign sales; sales growth; inventory as a percentage of total assets; merger and acquisitions activity; restructurings; variability in cash flow and sales; the level of intangible off-balance sheet assets divided by the total assets; and the lack of intangible assets and capital intensity, measured by the magnitude of property, plant, and equipment and divided by the total assets. The second determinant comprises the investments in internal controls, and is measured by the log of the value of total assets, the propensity for making losses, and the probability of financial distress. The third determinant is accounting conservatism, and is measured by the book-to-market ratio and the presence of write-offs. The final determinant is auditor size, and is measured by whether the auditor is a Big 4 auditor. When we use the full sample, we expect β_{18} to be negative (H1a). For H1b, when we use the sample of strongly governed firms, we expect β_{18} to be negative. For H1c, when we use a sample of weakly governed firms, we do not have any specific expectation for the sign of β_{18}.

A direct comparison of the strongly and weakly governed family firms will further confirm these results. We state the following hypothesis:

H1d: *Ceteris paribus*, family firms with strong board governance exhibit a higher earnings quality than family firms with weak board governance.

We test H1d using the following model:

$$\begin{aligned} AQ = {} & \beta_0 + \beta_1 SEGMENTS + \beta_2 FOREIGN + \beta_3 GROWTH + \beta_4 INVENTORY + \beta_5 MA3 \\ & + \beta_6 RESTRUCTURE + \beta_7 STD\_CFO + \beta_8 STD\_SALES + \beta_9 INT\_INTENSITY \\ & + \beta_{10} NO\_INT + \beta_{11} CAP\_INTENSITY + \beta_{12} SIZE + \beta_{13} \%LOSS + \beta_{14} ZSCORE \\ & + \beta_{15} BM + \beta_{16} BIG + \beta_{17} WRITEOFF + \beta_{18} CG + \varepsilon. \end{aligned} \quad (2)$$

Model (2) is similar to Model (1), except there is no *FAMILY* variable because the sample consists only of family firms. The variable *CG* denotes *GINDEXI* or *GINDEXII* or *GINDEXI_DUM* or *GINDEXII_DUM*. *CG* captures the strength of governance in the firm. We expect *CG* to have a negative coefficient.

Hypotheses on Family Ownership and Auditor Choice

Fan and Wong (2005) show that Asian firms signal their non-expropriation behavior by choosing Big 4 auditors when faced with agency conflicts from the wedge between voting and cash flow rights. Unlike in Asia, the choice of Big 4 auditors in the U.S. is not a strong differentiating signal, because these auditors audit more than 90 percent of the firms, with asset values amounting to almost 98 percent of the total assets of all listed firms (Government Accountability Office [GAO] 2006, 48). We, therefore, examine the choice of specialist auditors, defined as the market leaders in the SIC two-digit industry based on the client sales in the city in which the audit firm is located. Many studies have shown that specialist auditors provide higher audit quality (Dunn and Mayhew 2004; Gul, Fung, and Jaggi 2009; Knechel, Naiker, and Pacheco 2007; Krishnan 2005; Lim and Tan 2008). Specialists have been shown to be more resilient, more confident, and less influenced by managers in their assessment of the validity of the accounting methods and estimates embedded in financial statements (Krishnan 2005). Given that outside investors could be suspicious of family owners expropriating wealth from them, the choice of specialist auditors who are less influenced by insider pressures provides a strong signal of independent board action. We state the following hypothesis:

H2a: *Ceteris paribus,* strongly governed (weakly governed) family firms are more likely (equally likely) to choose specialist auditors compared with nonfamily firms.

We test H2a using the following specialist auditor choice Model (3). We borrow from Francis, Maydew, and Sparks (1999) and Fan and Wong (2005) to identify potential auditor choice determinants.[17] In the following logistic model used to test H2a, we expect β_4 to be positive (not significant) for strongly governed (weakly governed) firms:

$$SPECIALIST = \beta_0 + \beta_1 SIZE + \beta_2 ROA + \beta_3 LEVE + \beta_4 FAMILY + Industry\ effects + Year\ effects + \varepsilon. \quad (3)$$

Our hypothesis using only the family firm sample is given as follows:

H2b: *Ceteris paribus,* strongly governed family firms are more likely to choose specialist auditors compared with weakly governed family firms.

We test H2b based on the prediction that β_4 will be positive and significant in the following logistic model:

$$SPECIALIST = \beta_0 + \beta_1 SIZE + \beta_2 ROA + \beta_3 LEVE + \beta_4 CG + Industry\ effects + Year\ effects + \varepsilon. \quad (4)$$

Hypotheses on Family Ownership and Audit Fees

Family firms depend less on accounting reports when evaluating managerial performance (Ali et al. 2007). Furthermore, because family members also serve in senior managerial positions, family firm managers have fewer incentives to distort accruals and are less able to hide the results of poor performance through accounting methods and estimates. Therefore, the quality of the accounting information produced by managers is higher, which should allow the external auditors to decrease costly substantive testing. We assume that the competitive audit market in which the auditors operate forces them to pass on the savings to their clients in the form of lower audit fees. Accordingly, we formulate the following hypothesis:

H3a: *Ceteris paribus,* the audit fees for family firms are lower than those for nonfamily firms.

However, when family firms have strong and independent boards and audit committees, they demand more scrutiny of the accounting methods and estimates used to prepare the financial statements. More intense verification could also include the scrutiny of related-party transactions and other forms of rent extraction by insiders (Fan and Wong 2005). This additional scrutiny instills greater confidence in nonfamily investors not only about the financial statement numbers, but also regarding the non-extraction of private rents by insiders. This additional verification, demanded by independent audit committees in strongly governed family firms, offsets the lower audit cost for family firms compared with nonfamily firms. Therefore, in comparison with nonfamily firms, we expect to find lower audit fees in weakly governed family firms, but not in strongly governed family firms. We state this hypothesis as follows:

[17] Francis et al. (1999) use the auditor choice model in the context of the role of Big 6 auditors in determining accruals. Therefore, they include other variables, such as capital intensity and operating cycle, that are associated with accruals. Fan and Wong (2005) also model the choice of Big N auditors using arguments similar to those for the choice of specialist auditors. Therefore, we borrow from these two models.

H3b: *Ceteris paribus,* the audit fees for strongly governed (weakly governed) family firms are not lower (are lower) than those for nonfamily firms.

We test H3a and H3b using the following audit fee model:

$$LNFEE = \beta_0 + \beta_1 BIG + \beta_2 SIZE + \beta_3 MA + \beta_4 FINANCING + \beta_5 MB + \beta_6 LEVE + \beta_7 ROA + \beta_8 INVREC + \beta_9 LOSS + \beta_{10} SPECIAL + \beta_{11} FAMILY + Industry\ effects + Year\ effects + \varepsilon. \quad (5)$$

The control variables included in Model (5) follow from Ashbaugh, LaFond, and Mayhew (2003).[18] The indicator variable *FAMILY* is the variable of interest. For the full sample used to test H3a, we expect β_{11} to be negative. In testing H3b, we expect β_{11} to be negative for the subsample of weakly governed firms, but not for the subsample of strongly governed firms.

We state the following hypothesis for our analysis within family firms:

H3c: *Ceteris paribus,* the audit fees for strongly governed family firms are higher than those for weakly governed family firms.

We test H3c using Model (5), but replace *FAMILY* with *CG* as the variable of interest. We expect *CG* to have a positive coefficient.

V. ANALYSIS AND RESULTS

Data and Sample

Data Sources and Sample Selection

The Sarbanes-Oxley Act of 2002 (SOX) affected the overall litigation atmosphere and the corporate governance processes in U.S. firms. Through direct regulation, it changed the audit risk faced by auditors, increasing their obligations to include internal control system assessments and making them more sensitive to weaknesses in internal controls (Chambers and Payne 2011; Kinney, Palmrose, and Scholz 2004). The changes are so significant that it would not be possible to control for all the effects of the Act in our analysis. Therefore, we focus on the post-Sarbanes-Oxley period from 2003 to 2010. We obtain the family ownership, board information, and director data from the Corporate Library's Board Analyst database. The family ownership data in Board Analyst are available from 2004 to 2010. We assume that if a firm was family-controlled in 2004, it was also family-controlled in 2003.[19] Board Analyst offers coverage for public companies trading on the S&P 500, S&P MidCap 400, S&P SmallCap 600, Fortune 1000, Russell 3000, and S&P/TSX 60. By giving coverage to midcaps and small caps, the database seeks to decrease the bias that could result from focusing exclusively on larger family firms that are subject to greater scrutiny and, therefore, have disclosures that are systematically different from those of smaller family firms.[20]

For the period 2003–2010, we obtain an initial sample of 21,942 firm-year observations. After subtracting the 1,102 firm-years for which the family ownership data are missing, we are left with 20,840 firm-year observations. We obtain the audit fee data from the Audit Analytics database. In

[18] Ashbaugh et al. (2003) use the natural log of the Market Value of Equity (*LNMVE*) to control for size. Instead, we use the natural log of total assets, which is a more commonly used size proxy. Total assets is an audited number and, therefore, is a determinant of audit fees. The same is not true of market value of equity. Even so, we repeat all our tests using *LNMVE* to control for size and find that the results are qualitatively unchanged.

[19] An analysis of the 2004–2010 period also gives results that are qualitatively similar to the ones presented here.

[20] Because larger firms are more likely to disclose information on their corporate governance and other practices, it is impossible to completely avoid the large firm bias, irrespective of which database is used for the analysis.

the sample of 20,840 firm-year observations, 1,562 are missing from Audit Analytics, leaving us with a sample of 19,278. We obtain data on market value, net income, leverage, and other factors from the financial statements in S&P's Compustat database. Matching with Compustat further decreases the sample by 2,967 observations. Of the remaining 16,311 observations, eliminating 2,412 observations for financial firms (SIC codes 6000–6999) yields a sample of 13,899 firm-years.

Out of the 13,899 firm-years, 1,697 are family firm-years, representing 12.2 percent of the sample. Using the Corporate Library classification, we identify a firm as a family firm if family members have more than 20 percent of the voting rights and at least one member serves on the board in at least one of the sample years. The market capitalization of family firms in the sample is 9.37 percent of the total capitalization of all firms.

We match each of the 1,697 family firm-years with a propensity-score-matched nonfamily firm-year, as explained later. We use the resulting matched sample of 3,394 firm-years for our main tests comparing the family and nonfamily firms. We use the family firm sample of 1,697 for our within-family-firm tests, and use the full unmatched sample of 13,899 firm-years for the supporting tests. The sample selection is summarized in Table 2, Panel A. Table 2, Panel B gives the sample statistics for the matched samples, founder firms, founder-CEO firms, and firms with a founder on the nominating committee, split into unique firms and firm-years.

Descriptive Details of the Sample

Table 2, Panel C presents the distribution of sample firms for the 2003–2010 period across the 13 different SIC-based industry categories used by Ashbaugh et al. (2003). The industry distribution is not materially different from the industry distribution of the entire Compustat database. The descriptive statistics in Panel D show that the audit fees have a mean and a median that are both significantly higher than those reported by Ashbaugh et al. (2003), perhaps due to the increase in audit fees after the Sarbanes-Oxley Act. Consistent with previous studies, 87.8 percent of the firms are audited by the Big 4 auditors and 63.4 percent are audited by industry specialists. The boards meet an average of 7.3 times per year. The average board size is 8.7 directors, and the average audit committee size is 3.7. Of the audit committee members, 33.4 percent have financial expertise. A correlation analysis shows that the correlations between the independent variables are small.[21] Panel E presents the average values of the audit quality and governance index variables for each year over the eight-year sample period. There is considerable improvement in the governance variables in the initial period from 2003 to 2005, which is consistent with the effect of the Sarbanes-Oxley Act and the Securities and Exchange Commission (SEC) rules issued in 2005 for implementing Section 404 of the Act. From 2005 onward, there are no major changes in the aggregate scores for corporate governance.

Main Tests

Propensity Score Matching

Our comparative examination of the earnings quality, auditor choice, and audit fees between family and nonfamily firms requires that the compared firms be similar to each other beyond their ownership structures. This mitigates the possibility that the results are driven by systematic differences in firm characteristics between family and nonfamily firms. We address this issue in our tests by computing the likelihood of a firm being organized as a family firm, and compare the

[21] The correlation matrix is not presented in the paper due to the large number of variables. It may be obtained on request. In order to determine the effect of multicollinearity, we compute the variance inflation factors in our regressions and find them to be lower than five for all variables in all cases. This result suggests that multicollinearity does not pose a significant problem for our analyses.

TABLE 2

Sample Details

Panel A: Sample Selection

	Obs. Dropped	Obs. Left
Initial sample: firm-year observations in the Corporate Library database over 2003–2010		21,942
Less:		
Observations with missing data in Corporate Library	1,102	20,840
Observations not covered (or with missing data) in Audit Analytics	1,562	19,278
Observations not covered (or with missing data) in Compustat	2,967	16,311
Observations in financial industries (6000–6999)	2,412	13,899
Observations deleted in matching procedure	10,505	3,394

Panel B: Sample Statistics for Matched Samples, Founder Firms, Firms with Founder CEOs, and Firms with Founders on Their Nominating Committees

	Firms	Firm-Years
Total matched sample with family and nonfamily firms	1,048	3,394
Family firms	385	1,697
Founder firms (firms with a founder on the board)	287	867
Firms with a founder as CEO	138	351
Firms with a founder on the nominating committee	22	32

Panel C: Distribution of the Sample Firms over the Sample Period and Across Industries

	2003	2004	2005	2006	2007	2008	2009	2010	Total
Agriculture (0100–0999)	0	0	0	2	2	6	6	8	24
Mining and construction (1000–1999, excluding 1300–1399)	6	6	8	12	12	8	10	16	78
Food (2000–2111)	18	16	16	28	27	26	24	26	181
Textiles and printing/publishing (2200–2799)	44	44	48	54	51	52	52	48	393
Chemicals (2800–2824, 2840–2899)	8	12	14	20	20	20	20	20	134
Pharmaceuticals (2830–2836)	8	8	6	14	14	12	14	14	90
Extractive (1300–1399, 2900–2999)	4	4	4	4	10	10	8	8	52
Durable manufactures (3000-3999, excluding 3570–3579 and 3670–3679)	60	63	68	98	102	100	102	90	683
Transportation (4000–4899)	46	48	52	74	78	78	76	68	520
Utilities (4900–4999)	0	0	0	10	8	6	6	10	40
Retail (5000–5999)	42	64	62	48	48	72	66	58	460
Services (7000–8999, excluding 7370–7379)	30	42	40	64	64	52	50	56	398
Computers (3570–3579, 3670–3679, 7370–7379)	26	31	34	44	44	44	48	36	307
Others	2	6	6	4	4	4	4	4	34
Total	294	344	358	476	484	490	486	462	3,394

(continued on next page)

TABLE 2 (continued)

Panel D: Descriptive Statistics

	n	Mean	Median	S.D.	P25	P75
Dependent Variable = *AQ*						
AQ	3,394	0.055	0.041	0.048	0.026	0.063
SEGMENTS	3,394	2.454	2.000	1.757	1.000	4.000
FOREIGN	3,394	0.132	0.000	0.339	0.000	0.000
GROWTH	3,394	0.109	0.071	0.233	0.003	0.155
INVENTORY	3,394	0.117	0.084	0.129	0.007	0.183
MA3	3,394	0.443	0.000	0.497	0.000	1.000
RESTRUCTURE	3,394	0.337	0.000	0.473	0.000	1.000
STD_CFO	3,394	0.050	0.035	0.079	0.020	0.057
STD_SALES	3,394	0.153	0.109	0.161	0.061	0.186
INT_INTENSITY	3,394	0.038	0.013	0.069	0.000	0.045
NO_INT	3,394	0.299	0.000	0.458	0.000	1.000
CAP_INTENSITY	3,394	0.282	0.223	0.214	0.115	0.404
SIZE	3,394	7.063	6.892	1.527	5.974	7.938
%LOSS	3,394	0.217	0.000	0.328	0.000	0.333
ZSCORE	3,394	3.900	3.213	3.841	1.999	5.145
BM	3,394	0.549	0.494	0.604	0.296	0.755
BIG	3,394	0.878	1.000	0.327	1.000	1.000
WRITEOFF	3,394	0.209	0.000	0.407	0.000	0.000
FOUNDER	3,394	0.255	0.000	0.436	0.000	1.000
FOUNDER_CEO	3,394	0.103	0.000	0.305	0.000	0.000
FOUNDER_NOM	3,394	0.009	0.000	0.097	0.000	0.000
Dependent Variable = *SPECIALIST/LNFEE*						
SPECIALIST	3,394	0.634	1.000	0.482	0.000	1.000
LNFEE	3,394	14.102	14.034	1.030	13.461	14.742
BIG	3,394	0.878	1.000	0.327	1.000	1.000
MA	3,394	0.214	0.000	0.410	0.000	0.000
FINANCING	3,394	0.278	0.000	0.448	0.000	1.000
MB	3,394	2.519	1.878	3.192	1.231	2.993
LEVE	3,394	0.539	0.522	0.252	0.371	0.664
ROA	3,394	0.019	0.043	0.138	0.006	0.078
INVREC	3,394	0.253	0.232	0.173	0.105	0.361
LOSS	3,394	0.225	0.000	0.417	0.000	0.000
SPECIAL	3,394	0.719	1.000	0.450	0.000	1.000
Board Governance Variables						
GINDEXI	3,394	1.067	1.055	0.661	0.515	1.556
GINDEXII	3,394	0.840	0.720	0.547	0.325	1.351
%Outsiders	3,394	0.601	0.600	0.148	0.500	0.714
%Affiliated	3,394	0.129	0.111	0.133	0.000	0.200
%Female	3,394	0.105	0.100	0.107	0.000	0.167
CEO Power	3,394	0.531	1.000	0.499	0.000	1.000
#Board Meetings	3,394	7.322	7.000	3.782	5.000	9.000
%Attended	3,394	0.985	1.000	0.068	1.000	1.000
Board Size	3,394	8.714	9.000	2.414	7.000	10.000
AC Size	3,394	3.684	3.000	1.048	3.000	4.000
%Busy Affiliated or Outsider	3,394	0.093	0.000	0.132	0.000	0.143

(continued on next page)

TABLE 2 (continued)

	n	Mean	Median	S.D.	P25	P75
%Busy Insiders	3,394	0.056	0.000	0.086	0.000	0.111
Directorships	3,394	1.910	1.714	0.789	1.333	2.333
%Financial Experts	3,394	0.334	0.333	0.284	0.167	0.400

Panel E: Descriptive Statistics of Specialist, Audit Fee, and Governance Variables over the Sample Period

	2003	2004	2005	2006	2007	2008	2009	2010	Mean
SPECIALIST	0.636	0.660	0.668	0.632	0.665	0.608	0.591	0.628	0.634
LNFEE	13.618	14.226	14.446	14.201	14.115	14.128	13.983	14.032	14.102
GINDEXI	0.667	0.802	1.206	1.188	1.148	1.160	1.083	1.083	1.067
GINDEXII	0.698	0.745	0.839	0.830	0.840	0.849	0.898	0.945	0.840

See Table 1 for the variable definitions.

propensity-score-matched firms (Rosenbaum and Rubin 1983) that have similar characteristics, but where one is a family firm and the other a nonfamily firm.

Demsetz and Lehn (1985) show that ownership structure is affected by size and profitability. Early studies, such as Jensen and Meckling (1976), show that the capital structure could affect insider ownership. Jensen, Solberg, and Zorn (1992) empirically show that capital structure is an important determinant of ownership structure. Based on these studies, we estimate the following logistic model for family control:

$$FAMILY = \beta_0 + \beta_1 LEVE + \beta_2 ROA + \beta_3 SIZE + Industry\ effects + \varepsilon. \quad (6)$$

We compute the likelihood of a firm being organized as a family firm according to this model. We match every family firm with the nonfamily firm that has the closest propensity score in the same industry year. All of our tests use firm-level clustering.[22]

Family Ownership and Earnings Quality

We estimate Model (1) using a propensity-score-matched sample of family and nonfamily firms. The results of the Model (1) estimation of the association between family ownership and earnings quality are given in Panel A of Table 3. The results for the full sample including all family firms are given in Column (1). Consistent with Wang (2006) and in accordance with H1a, the variable *FAMILY* exhibits a significant negative association with *AQ*, which is an inverse measure of earnings quality. This result supports the claim in the literature that family firms exhibit higher earnings quality compared with nonfamily firms.

Columns (2) and (4) ((3) and (5)) present the results for the weakly governed (strongly governed) family firms when *GINDEXI* and *GINDEXII* are the measures of governance, respectively. The strong and weak governance subsamples are formed by a median split, where the firms with above-median (below-median) governance scores are categorized as strongly

[22] We also control for self-selection using the Heckman (1976) correction (Lennox, Francis, and Wang 2012). Armstrong, Jagolinzer, and Larcker (2010, Appendix B) show that propensity score matching is superior to the Heckman regression approach in most circumstances. Even so, we compute the inverse Mills ratio from Model (6) and use it as an additional control variable (Heckman 1976) in Models (1), (3), and (5). Our results using the Heckman (1976) correction are similar to those using propensity-score-matched samples.

TABLE 3

Family Ownership, Governance, and Earnings Quality

Panel A: Matched Sample of Family and Nonfamily Firms[a]

$$AQ = \beta_0 + \beta_1 SEGMENTS + \beta_2 FOREIGN + \beta_3 GROWTH + \beta_4 INVENTORY + \beta_5 MA3 + \beta_6 RESTRUCTURE + \beta_7 STD\_CFO + \beta_8 STD\_SALES + \beta_9 INT\_INTENSITY + \beta_{10} NO\_INT + \beta_{11} CAP\_INTENSITY + \beta_{12} SIZE + \beta_{13} \%LOSS + \beta_{14} ZSCORE + \beta_{15} BM + \beta_{16} BIG + \beta_{17} WRITEOFF + \beta_{18} FAMILY + \varepsilon.$$

		GINDEXI		*GINDEXII*	
	(1) Full	**(2) Weak CG**	**(3) Strong CG**	**(4) Weak CG**	**(5) Strong CG**
Intercept	0.066***	0.049***	0.080***	0.052***	0.079***
	(13.75)	(7.03)	(11.90)	(7.24)	(12.17)
SEGMENTS	−0.000	−0.001	−0.000	−0.001*	0.000
	(−1.17)	(−0.83)	(−0.73)	(−1.75)	(0.15)
FOREIGN	−0.004**	−0.010***	0.001	−0.009***	0.001
	(−2.09)	(−3.20)	(0.33)	(−2.84)	(0.20)
GROWTH	0.009***	0.004	0.011**	0.004	0.012**
	(3.00)	(0.90)	(2.49)	(1.04)	(2.45)
INVENTORY	−0.030***	−0.032***	−0.023***	−0.035***	−0.023***
	(−5.32)	(−4.23)	(−2.79)	(−4.55)	(−2.81)
MA3	−0.001	−0.001	−0.000	−0.002	0.001
	(−0.63)	(−0.50)	(−0.11)	(−1.04)	(0.48)
RESTRUCTURE	0.008***	0.008***	0.007***	0.009***	0.005***
	(5.24)	(3.69)	(3.43)	(4.16)	(2.59)
STD_CFO	0.172***	0.160***	0.203***	0.213***	0.140***
	(16.96)	(12.49)	(12.11)	(13.53)	(10.55)
STD_SALES	0.049***	0.074***	0.024***	0.061***	0.041***
	(11.08)	(11.43)	(3.96)	(9.12)	(6.79)
INT_INTENSITY	0.042***	0.045***	0.034**	0.035**	0.048***
	(3.61)	(2.58)	(2.20)	(1.96)	(3.17)
NO_INT	0.003*	0.006***	−0.001	0.007***	−0.001
	(1.93)	(2.84)	(−0.48)	(2.96)	(−0.43)
CAP_INTENSITY	−0.021***	−0.021***	−0.022***	−0.022***	−0.021***
	(−6.41)	(−4.48)	(−4.49)	(−4.57)	(−4.59)
SIZE	−0.003***	−0.001*	−0.005***	−0.001	−0.005***
	(−6.04)	(−1.87)	(−6.46)	(−1.60)	(−6.88)
%LOSS	0.033***	0.027***	0.038***	0.025***	0.040***
	(14.08)	(7.75)	(11.87)	(7.34)	(12.54)
ZSCORE	−0.001***	−0.000	−0.001***	−0.000*	−0.001***
	(−3.76)	(−1.29)	(−3.87)	(−1.65)	(−4.04)
BM	−0.005***	−0.003**	−0.006***	−0.004***	−0.006***
	(−4.43)	(−2.13)	(−3.83)	(−2.66)	(−3.52)
BIG	−0.001	−0.002	−0.000	−0.003	−0.000
	(−0.28)	(−0.55)	(−0.13)	(−0.90)	(−0.04)

(continued on next page)

TABLE 3 (continued)

		GINDEXI		*GINDEXII*	
	(1) Full	**(2) Weak CG**	**(3) Strong CG**	**(4) Weak CG**	**(5) Strong CG**
WRITEOFF	0.005***	0.007***	0.005**	0.007***	0.004*
	(3.20)	(2.82)	(1.99)	(3.02)	(1.86)
FAMILY	−0.003**	0.001	−0.006***	−0.001	−0.006***
	(−2.46)	(0.04)	(−3.31)	(−0.26)	(−3.32)
Observations	3,394	1,707	1,687	1,711	1,683
Adj. R^2	0.382	0.363	0.421	0.339	0.438

[a] See Panel C for the logistic regression for propensity matching model results.

Panel B: Governance and Earnings Quality within Family Firm Sample

$$AQ = \beta_0 + \beta_1 SEGMENTS + \beta_2 FOREIGN + \beta_3 GROWTH + \beta_4 INVENTORY + \beta_5 MA3 + \beta_6 RESTRUCTURE + \beta_7 STD\_CFO + \beta_8 STD\_SALES + \beta_9 INT\_INTENSITY + \beta_{10} NO\_INT + \beta_{11} CAP\_INTENSITY + \beta_{12} SIZE + \beta_{13} \%LOSS + \beta_{14} ZSCORE + \beta_{15} BM + \beta_{16} BIG + \beta_{17} WRITEOFF + \beta_{18} CG + \varepsilon.$$

	(1) *CG* = *GINDEXI_DUM*	**(2) *CG* = *GINDEXII_DUM***	**(3) *CG* = *GINDEXI***	**(4) *CG* = *GINDEXII***
Intercept	0.049***	0.050***	0.048***	0.049***
	(3.86)	(3.88)	(3.74)	(3.81)
SEGMENTS	−0.000	−0.000	−0.000	−0.000
	(−0.26)	(−0.24)	(−0.23)	(−0.23)
FOREIGN	−0.008***	−0.008***	−0.008***	−0.007***
	(−2.73)	(−2.71)	(−2.74)	(−2.67)
GROWTH	0.008*	0.008*	0.008*	0.008*
	(1.85)	(1.87)	(1.80)	(1.83)
INVENTORY	0.019*	0.018*	0.019*	0.019*
	(1.72)	(1.68)	(1.77)	(1.73)
MA3	−0.000	0.000	0.000	−0.000
	(−0.01)	(0.01)	(0.03)	(−0.04)
RESTRUCTURE	0.008***	0.008***	0.008***	0.008***
	(4.26)	(4.21)	(4.27)	(4.23)
STD_CFO	0.172***	0.172***	0.171***	0.172***
	(14.30)	(14.31)	(14.28)	(14.31)
STD_SALES	0.074***	0.074***	0.075***	0.074***
	(11.74)	(11.70)	(11.76)	(11.72)
INT_INTENSITY	0.074***	0.074***	0.074***	0.072***
	(4.92)	(4.94)	(4.93)	(4.84)
NO_INT	−0.003	−0.003	−0.003	−0.003
	(−1.55)	(−1.53)	(−1.59)	(−1.56)
CAP_INTENSITY	0.006	0.006	0.006	0.006
	(0.96)	(0.91)	(0.96)	(0.93)
SIZE	−0.004***	−0.004***	−0.004***	−0.004***
	(−5.33)	(−5.31)	(−5.28)	(−5.25)

(continued on next page)

TABLE 3 (continued)

	(1) *CG* = *GINDEXI_DUM*	(2) *CG* = *GINDEXII_DUM*	(3) *CG* = *GINDEXI*	(4) *CG* = *GINDEXII*
%LOSS	0.035***	0.035***	0.035***	0.035***
	(11.26)	(11.18)	(11.36)	(11.22)
ZSCORE	−0.001***	−0.001***	−0.001***	−0.001***
	(−3.14)	(−3.18)	(−3.06)	(−3.13)
BM	−0.004**	−0.004**	−0.004***	−0.004***
	(−2.54)	(−2.50)	(−2.63)	(−2.61)
BIG	0.006**	0.006**	0.006**	0.006**
	(2.20)	(2.12)	(2.16)	(2.14)
WRITEOFF	0.004**	0.004**	0.004**	0.004**
	(2.05)	(2.01)	(2.02)	(1.97)
CG	−0.004**	−0.004**	−0.003**	−0.003**
	(−2.14)	(−2.22)	(−2.17)	(−2.04)
Observations	1,697	1,697	1,697	1,697
Adj. R^2	0.568	0.568	0.568	0.568

Panel C: The Results of the Logistic Regression Model for Propensity Score Matching between the Family and Nonfamily Firms are as Follows

	Dep. = *FAMILY*
Intercept	−0.250
	(−0.70)
SIZE	−0.110***
	(−5.70)
ROA	0.683***
	(3.28)
LEVE	−0.275**
	(−2.23)
Industry	Included
LR Chi-square	652***
Observations	13,899

*, **, *** Denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
Financial variables are winsorized at the 0.01 level. Standard errors are heteroscedasticity robust and clustered at the firm level. Robust t-values are reported in parentheses.
See Table 1 for the variable definitions.

(weakly) governed firms.[23] We examine the effect of family ownership in each subsample. *FAMILY* is significantly and negatively associated with *AQ,* consistent with the expectation in H1b that the earnings quality of the strongly governed family firms is significantly higher than that of nonfamily firms. However, there is no significant difference in the earnings quality between family and

[23] We supplement our analyses by using the interaction term *FAMILY* ∗ *CG* as a variable, in addition to the main effects for *FAMILY* and *CG,* in the Panel A regression that includes both family and matched nonfamily firms. The interaction terms have negative and significant coefficients for all of the measures of *CG,* suggesting that the relationship between *FAMILY* and earnings quality is further improved by *CG,* which is consistent with the results we have with the split-sample analysis.

nonfamily firms for the weakly governed firms. This result shows that H1c, as stated in the null form, cannot be rejected.

Table 3, Panel B presents the earnings quality analysis, restricted to the family firm sample of 1,697 family firm-years. The first two columns show the analysis with dummy variables for governance, and the final two columns show the analysis with continuous governance variables. The coefficients of the governance variables are negative and significant in every case, consistent with the expectation in H1d of higher earnings quality of the family firms with better governance.

Family Ownership and Auditor Choice

Table 4, Panel A gives the results of the logistic Model (3) for the matched sample. The first column including all of the family firms shows support for the proposition that family firms are more likely to use specialist auditors than nonfamily firms. The results in Columns (2) and (4) indicate that weakly governed family firms show no preference for specialist auditors. However, the results in Columns (3) and (5) indicate that strongly governed family firms exhibit a significant preference for specialist auditors, supporting H2a.[24]

Table 4, Panel B gives the results of Model (4) for the sample restricted to family firms. The first two columns present the analysis with dummy variables for governance, and the last two columns present the analysis with continuous governance variables. In each case, the coefficients for the governance variables are positive and significant. The preference of strongly governed family firms for specialist auditors supports H2b.

Family Ownership and Audit Fees

Table 5, Panel A gives the results of the audit fee Model (5). The first column shows that family firms pay lower audit fees, on average, compared with nonfamily firms, which is consistent with family firms having lower Type 1 agency costs and supporting H3a.

The remaining columns of Panel A show the differential results for strongly and weakly governed family firms. There is no significant difference between the audit fees of strongly governed family and nonfamily firms. The lower audit fees of family firms are driven by weak governance firms, because we find significantly lower audit fees for weakly governed family firms *vis-à-vis* nonfamily firms, supporting H3b.[25]

Table 5, Panel B presents the results for the sample restricted to family firms. The first two columns show the analysis with dummy variables for governance, and the last two columns show the analysis with continuous governance variables. In all these cases, the coefficients of the governance variables are positive and significant. The higher audit fees of the strongly governed family firms support H3c.

Supporting Tests

Different Manifestations of Insider Control

As indicated earlier, insider control can be exercised when a founder is on the board of directors or is the CEO or is on the nominating committee. We use the indicator variable

[24] We supplement the tests using the interaction term *FAMILY* ∗ *CG* as an additional control variable in conjunction with the main effects. The interaction terms are positive and significant, consistent with the split-sample results given in Table 4.

[25] We supplement the tests using the interaction term *FAMILY* ∗ *CG* as an additional control variable in conjunction with the main effects. The interaction terms are positive and significant, consistent with the split-sample results given in Table 5.

TABLE 4

Family Ownership, Governance, and the Choice of Specialist Auditors

Panel A: Matched Sample of Family and Nonfamily Firms

$$SPECIALIST = \beta_0 + \beta_1 SIZE + \beta_2 ROA + \beta_3 LEVE + \beta_4 FAMILY + Industry\ effects + Year\ effects + \varepsilon.$$

		GINDEXI		*GINDEXII*	
	(1) Full	**(2) Weak CG**	**(3) Strong CG**	**(4) Weak CG**	**(5) Strong CG**
Intercept	−1.391***	−2.021***	−0.765	−2.127***	−0.924
	(−2.65)	(−3.47)	(−0.87)	(−3.58)	(−1.08)
SIZE	0.286***	0.351***	0.253***	0.380***	0.241***
	(9.52)	(4.48)	(6.11)	(4.72)	(5.97)
ROA	0.646**	1.159**	0.553	0.937	0.730*
	(2.04)	(1.98)	(1.28)	(1.60)	(1.70)
LEVE	−0.026	−0.013	0.354	0.079	0.142
	(−0.15)	(−0.03)	(1.42)	(0.21)	(0.56)
FAMILY	0.322***	0.199	0.529***	0.137	0.599***
	(4.30)	(1.03)	(4.82)	(0.72)	(5.43)
Industry	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included
Wald Chi-square	295***	59***	163***	63***	168***
Observations	3,394	1,707	1,687	1,711	1,683
Pseudo R^2	0.070	0.065	0.073	0.072	0.076

Panel B: Governance and the Choice of Specialist Auditors within Family Firms

$$SPECIALIST = \beta_0 + \beta_1 SIZE + \beta_2 ROA + \beta_3 LEVE + \beta_4 CG + Industry\ effects + Year\ effects + \varepsilon.$$

	(1) *CG* = *GINDEXI_DUM*	**(2) *CG* = *GINDEXII_DUM***	**(3) *CG* = *GINDEXI***	**(4) *CG* = *GINDEXII***
Intercept	0.420	0.436	−1.638***	−1.698***
	(0.51)	(0.52)	(−4.61)	(−4.75)
SIZE	0.287***	0.281***	0.296***	0.279***
	(6.16)	(6.04)	(6.48)	(6.06)
ROA	1.359**	1.375**	1.613***	1.681***
	(2.43)	(2.47)	(3.07)	(3.21)
LEVE	0.173	0.180	0.124	0.184
	(0.63)	(0.65)	(0.46)	(0.67)
CG	0.403***	0.520***	0.258***	0.486***
	(3.59)	(4.61)	(3.00)	(4.93)
Industry	Included	Included	Included	Included
Year	Included	Included	Included	Included

(continued on next page)

TABLE 4 (continued)

	(1) *CG* = *GINDEXI_DUM*	(2) *CG* = *GINDEXII_DUM*	(3) *CG* = *GINDEXI*	(4) *CG* = *GINDEXII*
Wald Chi-square	191***	199***	101***	112***
Observations	1,697	1,697	1,697	1,697
Pseudo R^2	0.108	0.112	0.055	0.062

*, **, *** Denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
Financial variables are winsorized at the 0.01 level. Standard errors are heteroscedasticity robust and clustered at the firm level. Robust Z-values are reported in parentheses.
See Table 1 for the variable definitions.

FOUNDER (*FOUNDER_CEO, FOUNDER_NOM*) to identify firms where the founder is on the board of directors (is the CEO, is on the nominating committee). We use these indicator variables as additional controls separately in Models (1), (3), and (5). Panel A (B, C) of Table 6 shows the coefficients on the *FAMILY* and *FOUNDER* variables in estimating Model (1) ((3), (5)).[26] The results for *FAMILY* are similar to those reported in Tables 3–5. We find that *FOUNDER* is not significant in Panels A and B, which suggests that in family firms, the inclusion of the founder on the board of directors does not incrementally affect the earnings quality and choice of specialist auditors. However, *FOUNDER* is negative and significant in Panel C only for the "Weak CG" firms. This result indicates that the presence of the founder on the board further decreases the audit fees if the board is not strong enough to demand additional audit efforts.

Similar analyses for *FOUNDER_CEO* and *FOUNDER_NOM* (not tabulated) show the following results: (1) the founder CEO has no incremental effect on earnings quality and the choice of a specialist auditor, but has a negative influence on audit fees; (2) *FOUNDER_NOM* is not statistically significant in any regression; (3) the results in Tables 3–5 for the *FAMILY* variable are retained in all cases.

Additional Control Variables

Large institutional investors have the resources to scrutinize insider actions in a firm and collect private information. Further, even as outside shareholders, they might have the clout to pressure the firm's management to protect their interest. As a result, institutional investors can mitigate the Type 2 agency problem. Likewise, the presence of a large analyst following increases the scrutiny of a firm and can also mitigate the Type 2 agency problem. We, therefore, include institutional holdings and analyst following as additional control variables.

Since 2002, the SEC has required public firms with a public float of more than $75 million, designated as accelerated filers, to file their 10-K reports within 75 days of the fiscal year-end. Since 2006, public firms with a public float of more than $700 million, designated as large accelerated filers, have been required to file their 10-K reports within 60 days of the fiscal year-end (SEC Rule 33-8644). Accelerated family firms or large accelerated filers are likely to engage higher quality auditors who are able to provide timely opinions within a shorter time, and pay higher audit fees to comply with the shorter time duration, independent of the Type 2 agency problem they face.

[26] For brevity, we do not report the coefficients for the control variables in Table 6. These results are available on request.

TABLE 5

Family Ownership, Governance, and Audit Fees

Panel A: Matched Sample of Family and Nonfamily Firms

$$LNFEE = \beta_0 + \beta_1 BIG + \beta_2 SIZE + \beta_3 MA + \beta_4 FINANCING + \beta_5 MB + \beta_6 LEVE + \beta_7 ROA + \beta_8 INVREC + \beta_9 LOSS + \beta_{10} SPECIAL + \beta_{11} FAMILY + Industry\ effects + Year\ effects + \varepsilon.$$

		GINDEXI		*GINDEXII*	
	(1) Full	(2) Weak CG	(3) Strong CG	(4) Weak CG	(5) Strong CG
Intercept	9.128***	9.355***	9.007***	9.470***	8.912***
	(52.30)	(34.86)	(27.75)	(42.59)	(24.89)
BIG	0.285***	0.373***	0.142	0.313***	0.243**
	(6.80)	(6.18)	(1.60)	(5.63)	(2.36)
SIZE	0.505***	0.479***	0.516***	0.474***	0.517***
	(51.56)	(37.28)	(20.07)	(35.79)	(20.74)
MA	0.029	−0.016	0.075*	−0.024	0.078*
	(1.14)	(−0.43)	(1.65)	(−0.66)	(1.76)
FINANCING	−0.045*	−0.105***	0.008	−0.070*	−0.020
	(−1.69)	(−2.63)	(0.19)	(−1.85)	(−0.44)
MB	0.009***	0.008*	0.007	0.010**	0.006
	(3.07)	(1.92)	(0.91)	(2.29)	(0.76)
LEVE	0.322***	0.277***	0.389***	0.273***	0.410***
	(6.99)	(4.46)	(3.60)	(4.39)	(3.59)
ROA	−0.156	−0.146	−0.193	−0.159	−0.141
	(−1.47)	(−1.03)	(−0.82)	(−1.09)	(−0.56)
INVREC	0.839***	0.930***	0.722***	0.861***	0.799***
	(11.00)	(8.34)	(4.36)	(7.78)	(4.70)
LOSS	0.081**	0.075	0.066	0.084*	0.065
	(2.46)	(1.58)	(1.16)	(1.87)	(1.05)
SPECIAL	0.210***	0.235***	0.176***	0.240***	0.184***
	(8.19)	(6.51)	(3.99)	(6.77)	(3.95)
FAMILY	−0.054***	−0.134***	0.045	−0.118***	0.028
	(−2.62)	(−4.39)	(0.89)	(−3.97)	(0.55)
Industry	Included	Included	Included	Included	Included
Year	Included	Included	Included	Included	Included
Observations	3,394	1,707	1,687	1,711	1,683
Adj. R^2	0.665	0.629	0.708	0.618	0.706

(continued on next page)

Therefore, we include two indicator variables as additional control variables: one for accelerated filers and another for large accelerated filers.

Our results (not tabulated) with the additional control variables for institutional ownership, analyst following, and accelerated filers are qualitatively similar to the main results reported in Tables 3–6. In particular, the results for our main variable of interest, *FAMILY*, remain intact and provide robust evidence in favor of our hypotheses.

TABLE 5 (continued)

Panel B: Governance and Audit Fees within Family Firms

$$LNFEE = \beta_0 + \beta_1 BIG + \beta_2 SIZE + \beta_3 MA + \beta_4 FINANCING + \beta_5 MB + \beta_6 LEVE + \beta_7 ROA + \beta_8 INVREC + \beta_9 LOSS + \beta_{10} SPECIAL + \beta_{11} CG + Industry\ effects + Year\ effects + \varepsilon.$$

	(1) *CG* = *GINDEXI_DUM*	(2) *CG* = *GINDEXII_DUM*	(3) *CG* = *GINDEXI*	(4) *CG* = *GINDEXII*
Intercept	8.622***	8.627***	8.676***	8.644***
	(42.74)	(42.42)	(42.84)	(42.67)
BIG	0.307***	0.318***	0.305***	0.317***
	(6.58)	(6.76)	(6.51)	(6.75)
SIZE	0.508***	0.510***	0.508***	0.504***
	(40.88)	(40.55)	(40.69)	(40.00)
MA	0.074*	0.071*	0.071*	0.079**
	(1.84)	(1.75)	(1.77)	(1.96)
FINANCING	−0.030	−0.028	−0.032	−0.032
	(−0.82)	(−0.78)	(−0.89)	(−0.89)
MB	0.008	0.009	0.007	0.009
	(1.42)	(1.48)	(1.23)	(1.44)
LEVE	0.256***	0.244***	0.238***	0.252***
	(3.48)	(3.29)	(3.23)	(3.42)
ROA	0.018	0.006	−0.011	0.008
	(0.11)	(0.03)	(−0.07)	(0.05)
INVREC	1.016***	1.005***	1.002***	1.007***
	(9.45)	(9.27)	(9.29)	(9.33)
LOSS	0.121**	0.124**	0.106**	0.119**
	(2.47)	(2.52)	(2.15)	(2.42)
SPECIAL	0.200***	0.204***	0.197***	0.197***
	(5.87)	(5.95)	(5.75)	(5.76)
CG	0.236***	0.177***	0.168***	0.192***
	(7.91)	(5.86)	(7.10)	(6.91)
Industry	Included	Included	Included	Included
Year	Included	Included	Included	Included
Observations	1,697	1,697	1,697	1,697
Adj. R^2	0.669	0.664	0.667	0.667

*, **, *** Denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
Financial variables are winsorized at the 0.01 level. Standard errors are heteroscedasticity robust and clustered at the firm level. Robust t-values are reported in parentheses.
See Table 1 for the variable definitions.

Family Firms Categorized as Strong and Weak CG Firms using the Median Split of Individual Component Measures and Disaggregated Indices of Governance

In this analysis, we split the individual components and indices comprising variables focused on one aspect of governance at their median values to categorize strongly and weakly governed firms, resulting in repeated analyses using each selected *CG* variable (index). We conduct the analyses with disaggregated measures for two reasons: (1) to provide supporting evidence that our

TABLE 6

Results after Controlling for *FOUNDER*

Panel A: Family Ownership, Governance, and Earnings Quality

		GINDEXI		*GINDEXII*	
	(1) Full	(2) Weak CG	(3) Strong CG	(4) Weak CG	(5) Strong CG
FAMILY	−0.003**	−0.000	−0.006***	−0.000	−0.006***
	(−2.37)	(−0.17)	(−3.09)	(−0.24)	(−3.35)
FOUNDER	−0.000	0.002	−0.002	−0.000	0.001
	(−0.18)	(1.11)	(−0.70)	(−0.11)	(0.50)
Control variables	Included	Included	Included	Included	Included
Observations	3,394	1,707	1,687	1,711	1,683
Adj. R^2	0.382	0.364	0.421	0.338	0.438

Panel B: Family Ownership, Governance, and the Choice of Specialist Auditors

		GINDEXI		*GINDEXII*	
	(1) Full	(2) Weak CG	(3) Strong CG	(4) Weak CG	(5) Strong CG
FAMILY	0.342**	0.215	0.574***	0.138	0.676***
	(2.20)	(1.10)	(2.70)	(0.71)	(3.08)
FOUNDER	−0.117	−0.115	−0.270	−0.007	−0.412
	(−0.64)	(−0.52)	(−1.07)	(−0.03)	(−1.53)
Control variables	Included	Included	Included	Included	Included
Wald Chi-square	108***	59***	70***	64***	69***
Observations	3,394	1,707	1,687	1,711	1,683
Pseudo R^2	0.071	0.066	0.074	0.072	0.080

Panel C: Family Ownership, Governance, and Audit Fees

		GINDEXI		*GINDEXII*	
	(1) Full	(2) Weak CG	(3) Strong CG	(4) Weak CG	(5) Strong CG
FAMILY	−0.041*	−0.124***	0.056	−0.105***	0.032
	(−1.94)	(−4.00)	(1.09)	(−3.50)	(0.59)
FOUNDER	−0.077***	−0.066*	−0.072	−0.096***	−0.020
	(−2.72)	(−1.81)	(−0.93)	(−2.74)	(−0.23)
Control variables	Included	Included	Included	Included	Included
Observations	3,394	1,707	1,687	1,711	1,683
Adj. R^2	0.666	0.629	0.709	0.619	0.706

*, **, *** Denote significance at the 10 percent, 5 percent, and 1 percent levels, respectively.
Financial variables are winsorized at the 0.01 level. Standard errors are heteroscedasticity robust and clustered at the firm level. Robust t- (Z-) values are reported in parentheses.
See Table 1 for the variable definitions.

results are not driven by the aggregation of the components; and (2) to explore which aspects of board governance determine the earnings quality, specialist choices, and audit fees for family firms. The individual measures we use are: (1) *Board Independence,* measured as the percentage of non-affiliated independent directors on the board; (2) *Diligence,* measured by the number of board meetings; (3) concentration of power, measured by *CEO Power*; (4) expertise of the audit committee, measured by the percentage of financial experts on the committee; (5) exposure to external boards, measured as the average number of outside directorships held by the board members; (6) *Independence Index* (*%Outsiders − %Affiliated + %Female*); (7) *Meetings Index* (the number of board meetings standardized to a number between 0 and 1 plus the board attendance, which is also standardized to a number between 0 and 1); (8) *Size Index* (standardized board size + standardized audit committee size); and (9) *Busy Index* (percentage of busy affiliated or outsider directors [those on four or more boards] + percentage of busy insiders [those on two or more other boards]).

The results of these analyses (not tabulated) consistently show that strongly governed family firms have significantly higher earnings quality and are significantly more likely to choose specialist auditors compared with nonfamily firms. The weakly governed family firms do not show a significantly different earnings quality or a significantly different proclivity to choose specialist auditors compared with nonfamily firms. The weakly governed family firms pay significantly lower audit fees despite exhibiting an earnings quality similar to nonfamily firms.

Robustness Tests

Alternative Ways of Matching and the Use of an Unmatched Sample

Our main results are reported using the propensity-score-matching procedure.[27] We also use a principal-component-based matching methodology. In this analysis, we compute the principal components of the determinant variables for family control, i.e., leverage, size, and return on assets. We then select the first eigenvector and choose the matching nonfamily firms that deviate least from the focal family firm being matched. The results of our estimation of Models (1), (3), and (5) using this method are substantially the same as those reported in the main tables.

The use of propensity score matching (or principal component matching) to control for endogeneity and to compare similar family and nonfamily firms comes at the cost of a substantial reduction in the sample of nonfamily firms used for testing. We, therefore, use the full sample to reestimate Models (1), (3), and (5) and find results similar to those reported in the main tables.

Change Model

We examine in this analysis the relation between year-over-year changes in the dependent variables and year-over-year changes in the corresponding independent variables using a sample of family firms and matched nonfamily firms.[28] We also conduct a similar test within family firms. Although governance and many of the other variables are "sticky," the new regulations surrounding the passage of SOX create changes in governance and in the auditor choice and audit fee variables, especially during 2003–2006, as shown in Panel E of Table 2. The change model is based on a change sample of 2,580 firm-year observations for the matched sample test and 1,274 firm-year observations for the family firm sample. The results are consistent with those reported in Tables 3–5.

---

[27] We do not tabulate the results of the robustness tests in this paper. The results are available on request.

[28] We are grateful to the reviewers for suggesting the change test, the use of different audit specialist definitions, a separate test for young family firms, and a test for the effect of the financial crisis in 2008 to 2010.

Alternative Definitions of Specialist Auditor

We use the city-level market leader in an industry as the specialist auditor for that city and industry in the analyses reported in Table 4. In some city-industry combinations, it is possible for the Big 4 auditors to share the market almost equally. In that case, the market leader might not have enough market-share lead over the other auditors to be considered a specialist in that industry. Following Reichelt and Wang (2010), we use two alternative definitions of specialist auditor. First, a *SPECIALIST* is an auditor whose share of the audit fees is higher than 30 percent in the city in which the audit firm is located, for a two-digit SIC industry classification. Second, a *SPECIALIST* is an auditor whose share of the audit fees is higher than all of the others in the city, for a two-digit SIC industry classification with a market share that is at least ten percentage points higher than that of the auditor with the second-highest market share. Our analyses with these definitions yield results that are significant and consistent with those reported in Table 4.

Other Tests

We examine whether our results hold for a sample of young firms that have become public through an initial public offering within the last five years. Our results are consistent with the results in Tables 3–5. We also examine the case when the audit fee Model (3) has an additional control for *AQ*. The results are similar to those in Table 5.

Effect of the Financial Crisis Period on Our Results

Controlling families are likely to have a longer-term interest in the firms they control compared to dispersed investors in nonfamily firms. Therefore, family firms are likely to respond differently to tougher economic times, such as during the recent 2008–2010 financial crisis period, compared with nonfamily firms. Tougher economic times are also likely to make investors more sensitive to governance issues and result in both family and nonfamily firms strengthening their governance. The strengthening of governance in both family and nonfamily firms decreases the capability of family firms to distinguish themselves using their firms' governance as a signal. We address this issue by conducting a separate analysis for the 2008–2010 period and find results that are consistent with those reported earlier.

VI. CONCLUSION

Consistent with prior literature, we find that family firms exhibit higher earnings quality and lower audit fees than nonfamily firms. Upon further analysis, we find that the family firms that have stronger boards are more likely to choose specialist auditors, demand greater audit efforts, and report higher quality earnings. We examine many situations in which family member insiders have a strong influence on the firm's decisions that could make the Type 2 agency conflict of a misalignment between their interests and the interests of outside investors a matter of concern. Some situations that we address include the presence of the founder on the board, the presence of the founder on the nominating committee, and the founder being the CEO.

Our results show that strong boards mitigate Type 2 agency concerns by upholding the interests of diffuse outside investors in family firms relative to the family investors. This result is not obvious because the board's function is to represent investors in general, and when a family controls the firm, it is quite plausible for its board to interpret their mandate as representing the family investors rather than the outside investors. Our finding that board governance is a mechanism that alleviates the Type 2 agency problem in reporting and disclosure is an important contribution of this paper.

Strongly governed family firms strive to reassure outside investors that their invested capital is protected. Specifically, they improve the reporting transparency by choosing leading specialist

auditors and demanding greater audit effort despite having a higher earnings quality and lower audit risk. These actions by the board result in greater scrutiny of the insiders' actions, and thereby limit their ability to expropriate wealth away from outside investors. By taking these actions, which are costly for exploitative insiders to mimic, strongly governed family firms signal that their family insiders are not exploitative and differentiate themselves from other weakly governed family firms. Our results are particularly insightful for younger public family firms that are transitioning from privately held, family-controlled businesses into public firms seeking funds from the capital market.

We find that the results are robust to alternative measures of family control and corporate governance, different matching procedures, and controls for sample selection bias. Overall, we believe that these results help us better understand the different types of family-controlled firms in the U.S., and how these differences affect earnings quality, auditor choice, and audit efforts.

REFERENCES

Abbott, L. J., S. Parker, and G. F. Peters. 2006. Earnings management, litigation risk, and asymmetric audit fee responses. *Auditing: A Journal of Practice & Theory* 25 (1): 85–98.

Adams, R., and D. Ferreira. 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94 (2): 291–309.

Ali, A., T. Y. Chen, and S. Radhakrishnan. 2007. Corporate disclosures by family firms. *Journal of Accounting and Economics* 44 (1/2): 238–286.

Anderson, R. C., and D. M. Reeb. 2003. Founding-family ownership and firm performance: Evidence from the S&P 500. *The Journal of Finance* 58 (3): 1301–1328.

Anderson, R. C., and D. M. Reeb. 2004. Board composition: Balancing family influence in S&P 500 firms. *Administrative Science Quarterly* 49 (2): 209–237.

Anderson, R. C., A. Duru, and D. M. Reeb. 2009. Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics* 92 (2): 205–221.

Armstrong, C. S., A. D. Jagolinzer, and D. F. Larcker. 2010. Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research* 48 (2): 225–271.

Ashbaugh, H., R. LaFond, and B. W. Mayhew. 2003. Do nonaudit services compromise auditor independence? Further evidence. *The Accounting Review* 78 (3): 611–639.

Ashbaugh-Skaife, H., D. W. Collins, W. Kinney, Jr., and R. LaFond. 2008. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review* 83 (1): 217–250.

Barontini, R., and L. Caprio. 2006. The effect of family control on firm value and performance: Evidence from Continental Europe. *European Financial Management* 12 (5): 689–723.

Barth, E., T. Gulbrandsen, and P. Schønea. 2005. Family ownership and productivity: The role of owner-management. *Journal of Corporate Finance* 11 (1/2): 107–127.

Beasley, M., and K. Petroni. 2001. Board independence and audit-firm type. *Auditing: A Journal of Practice & Theory* 20: 97–114.

Burkart, M., F. Panunzi, and A. Shleifer. 2003. Family firms. *The Journal of Finance* 58 (5): 2167–2202.

Carcello, J. V., D. R. Hermanson, T. L. Neal, and J. R. A. Riley. 2002. Board characteristics and audit fees. *Contemporary Accounting Research* 19 (3): 365–384.

Carcello, J. V., C. W. Hollingsworth, A. Klein, and T. L. Neal. 2006. Audit committee financial expertise, competing corporate governance mechanisms, and earnings management. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=887512

Cascino, S., A. Pugliese, D. Mussolino, and C. Sansone. 2010. The influence of family ownership on the quality of accounting information. *Family Business Review* 23 (3): 246–265.

Chambers, D. J., and J. L. Payne. 2011. Audit quality and accrual reliability: Evidence from the pre- and post-Sarbanes-Oxley periods. *Managerial Auditing Journal* 26 (5): 437–456.

Chen, K. Y., and J. Zhou. 2007. Audit committee, board characteristics, and auditor switch decisions by Andersen's clients. *Contemporary Accounting Research* 24: 1085–1117.

Chen, S., X. Chen, and Q. Cheng. 2008. Do family firms provide more or less discretionary disclosures? *Journal of Accounting Research* 46 (3): 499–535.

Chen, T. Y., S. Dasgupta, and Y. Yu. 2014. Transparency and financing choices of family firms. *Journal of Financial and Quantitative Analysis* (forthcoming). Available at: http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9272480&fileId=S0022109014000313

Coffee, J. 2002. Racing toward the top? The impact of cross-listing and stock market competition on international corporate governance. *Columbia Law Review* 102 (7): 1757–1831.

Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13 (1): 1–36.

Dechow, P. M., and I. I. Dichev, 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77 (Supplement): 35–59.

Demsetz, H., and K. Lehn. 1985. The structure of corporate ownership: Causes and consequences. *Journal of Political Economy* 93 (6): 1155–1177.

Doidge, C., A. Karolyi, and R. M. Stultz. 2004. Why are firms listed in the U.S. worth more? *Journal of Financial Economics* 71: 205–238.

Dunn, K. A., and B. W. Mayhew. 2004. Audit firm industry specialization and client disclosure quality. *Review of Accounting Studies* 9 (1): 35–58.

Fan, J. P. H., and T. J. Wong. 2005. Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research* 43 (1): 35–72.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39 (2): 295–327.

Francis, J. R., E. L. Maydew, and C. Sparks. 1999. The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory* 18 (2): 17–34.

García-Meca, E., and J. Sánchez-Ballesta. 2009. Corporate governance and earnings management: A meta-analysis. *Corporate Governance: An International Review* 17 (5): 594–610.

Government Accountability Office (GAO). 2006. Report to the committee on small business and entrepreneurship, U.S. Senate. GAO-06-361. Available at: http://www.gao.gov/new.items/d06361.pdf

Guedhami, O., J. Pittman, and W. Saffar. 2009. Auditor choice in privatized firms: Empirical evidence on the role of state and foreign owners. *Journal of Accounting and Economics* 48 (2/3): 151–171.

Gul, F. A., S. Fung, and B. Jaggi. 2009. Earnings quality: Some evidence on the role of auditor tenure and auditors' industry expertise. *Journal of Accounting and Economics* 47 (3): 265–287.

Gul, F. A., B. Srinidhi, and A. C. Ng. 2011. Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics* 51: 314–338.

Gul, F. A., C. J. P. Chen, and J. S. L. Tsui. 2003. Discretionary accounting accruals, managers' incentives, and audit fees. *Contemporary Accounting Research* 20 (3): 441–464.

Gul, F. A., and S. Leung. 2004. Board leadership, outside directors' expertise and voluntary corporate disclosures. *Journal of Accounting and Public Policy* 23 (5): 351–379.

Healy, P. M., and K. G. Palepu. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics* 31 (1/3): 405–440.

Heckman, J. J. 1976. The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models. *Annals of Economic and Social Measurement* 5 (4): 475–492.

Heninger, W. G. 2001. The association between auditor litigation and abnormal accruals. *The Accounting Review* 76 (1): 111–126.

Hutton, A. P. 2007. A discussion of: Corporate disclosure by family firms. *Journal of Accounting and Economics* 44 (1/2): 287–297.

Jensen, G. R., D. P. Solberg, and T. S. Zorn. 1992. Simultaneous determination of insider ownership, debt, and dividend policies. *Journal of Financial and Quantitative Analysis* 27 (2): 247–263.

Jensen, M. C., and W. H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3 (4): 305–360.

Kinney, W. R., Z.-V. Palmrose, and S. Scholz. 2004. Auditor independence, non-audit services, and restatements: Was the U.S. government right? *Journal of Accounting Research* 42 (3): 561–588.

Knechel, W. R., V. Naiker, and G. Pacheco. 2007. Does auditor industry specialization matter? Evidence from market reaction to auditor switches. *Auditing: A Journal of Practice & Theory* 26 (1): 19–45.

Krishnan, G., and G. Visvanathan. 2009. Do auditors price audit committee's expertise? The case of accounting versus non-accounting financial experts. *Journal of Accounting, Auditing and Finance* 24 (1): 115–144.

Krishnan, G. V. 2005. The association between Big 6 auditor industry expertise and the asymmetric timeliness of earnings. *Journal of Accounting, Auditing and Finance* 20 (3): 209–228.

Lansberg, S. I. 1983. Managing human resources in family firms: The problem of institutional overlap. *Organizational Dynamics* 12 (1): 39–46.

Larcker, D. F., S. A. Richardson, and I. Tuna. 2007. Corporate governance, accounting outcomes, and organizational performance. *The Accounting Review* 82 (4): 963–1008.

Lennox, C., J. R. Francis, and Z. Wang. 2012. Selection models in accounting research. *The Accounting Review* 87 (3): 589–616.

Leuz, C., D. Nanda, and P. D. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69 (3): 505–527.

Lim, C. Y., and H. T. Tan. 2008. Non-audit service fees and audit quality: The impact of auditor specialization. *Journal of Accounting Research* 46 (1): 199–246.

Miller, D., I. Le Breton-Miller, R. H. Lester, and A. A. Cannella. 2007. Are family firms really superior performers? *Journal of Corporate Finance* 13 (5): 829–858.

Mitra, S., M. Hossain, and D. Deis. 2007. The empirical relationship between ownership characteristics and audit fees. *Review of Quantitative Finance and Accounting* 28 (3): 257–285.

Nikkinen, J., and P. Sahlstrom. 2004. Does agency theory provide a general framework for audit pricing? *International Journal of Auditing* 8 (3): 253–262.

Reichelt, K. J., and D. Wang. 2010. National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research* 48 (3): 647–686.

Rosenbaum, P., and D. Rubin. 1983. The central role of the propensity score in observational studies for causal effects. *Biometrika* 70 (1): 41–55.

Simunic, D. A. 1980. The pricing of audit services: Theory and evidence. *Journal of Accounting Research* 18 (1): 161–190.

Simunic, D. A., and M. T. Stein. 1996. Impact of litigation risk on audit pricing: A review of the economics and the evidence. *Auditing: A Journal of Practice & Theory* 15: 119–134.

Vafeas, N., and J. Waegelein. 2007. The association between audit committees, compensation incentives, and corporate audit fees. *Review of Quantitative Finance and Accounting* 28 (3): 241–255.

Villalonga, B., and R. Amit. 2006. How do family ownership, control and management affect firm value? *Journal of Financial Economics* 80 (2): 385–417.

Wang, D. 2006. Founding family ownership and earnings quality. *Journal of Accounting Research* 44 (3): 619–656.

Wang, Q., T. J. Wong, and L. Xia. 2008. State ownership, the institutional environment, and auditor choice: Evidence from China. *Journal of Accounting and Economics* 46 (1): 112–134.