THE ROLE OF AUDITOR ADVERTISING IN AUDIT MARKET COMPETITION AND ACCOUNTING SERVICE PROVISION

By

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TABLE OF CONTENTS

page

LIST OF TABLES

Abstract of Dissertation Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Doctor of Philosophy

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This dissertation consists of three interrelated essays that examine the relation between auditor advertising investment and auditing practice. Regulators, academics, and practitioners have long debated the merits of allowing public accounting firms to engage in formal marketing activities such as advertising. Prior research on the impact of advertising initiatives within accounting has been limited, however, due to a lack of available data. I address this gap in the literature using a proprietary database provided by The Nielsen Company LLC. In the first essay, I explore whether auditor advertising is associated with audit market structure and audit pricing. I find that advertising is positively related to an accounting firm's future market share at the national level only. I document that local advertising is negatively related to the audit firm's average audit fee consistent with a competitive market. In the second essay, I examine the relation between advertising and the risk profile of the clients of audit firm clients, as well as the firm's audit quality. I find that advertising is negatively related to audit quality, on average. In the third and final essay, I consider whether advertising investment has a different association with service quality for other types of services provided by the auditor. I focus on the joint provision of tax services as this is the largest type of nonaudit service provided by audit firms. I

find that advertising spending is not related to average tax avoidance but it is negatively related to average tax volatility. This suggests there is a positive relation between accounting firm advertising and sustainable long-term tax strategies. Collectively, the results of my study demonstrate that there are costs (lower audit quality and lower average fees) and benefits (greater market share and higher tax service quality) to auditor advertising lending support to both critics and proponents claims.

CHAPTER 1
INTRODUCTION

In the early 1900s, the audit profession debated whether or not auditors should be permitted to advertise. Proponents of auditor advertising contended that it would yield several benefits including lower search costs for clients and increased competition among auditors. The result would be lower fees to audit clients, more informed client decisions when selecting an auditor, and more innovation yielding higher audit quality. Critics contended that advertising would at best be ineffective and at worst have significant negative consequences on the profession. They asserted that auditors build business through referrals and maintaining a proven track record so advertising should not impact an auditor's ability to attract new customers. Moreover, they believed that auditors that invested in advertising would begin to focus on their commercial interests (i.e. selling their services) at the expense of their professionalism leading to lower service quality. Ultimately, the profession elected to impose a ban on advertising.

It was not until the 1970s that the ban on advertising was lifted when the Supreme Court ruled that such a prohibition inhibited audit firms' right to free speech. Auditors were reticent to engage in advertising in the U.S. initially and it was not until the 1980s that advertising became viewed as acceptable (Darling and Hackett 1978; Darling and Bergiel 1983). Practitioners were hesitant to engage in advertising as they shared the concerns voiced by critics decades ago. Despite their initial hesitation, audit firms now implement advertising initiatives spanning various types of media including television, radio, print, and internet.

Though advertising has gained acceptance among auditors, especially the largest audit firms, the implications of auditing on audit market structure, audit pricing, and audit quality have been largely unexplored. One exception is Hay and Knechel (2010) which examines the impact of the removal of the bans on advertising and solicitation in New Zealand. They find that the

removal of the ban on advertising is associated with increases in audit fees consistent with advertising being used to signal quality. Conversely, they document that the removal of the ban on solicitation is associated with a reduction in audit fees suggesting an increase in competition. I build upon their work by examining the relation between auditor advertising and audit practice management in several important ways. First, while they study the exogenous shock of the removal of each ban using a pre/post analysis around those events, I measure the actual levels of spending by individual audit firms. Utilizing a proprietary database from The Nielsen Company LLC ("Nielsen") I can construct measures of auditor advertising at a national as well as a local level. This enables me to look at whether and to what extent the variation in the amount of advertising spending is associated with audit practice management. Second, in addition to looking at audit pricing, I consider whether advertising is related to the pricing of other services provided by the auditor. Even after the implementation of Sarbanes-Oxley ("SOX") auditors still provide substantial amounts of nonaudit services to their audit clients. Therefore, it is important to understand what factors influence the pricing of these services. Third, I conduct analysis related to client risk and professional service quality to provide a more complete picture of how auditor advertising impacts the audit firm. With respect to my service quality analysis, I focus on audit and tax service quality as these are the two largest types of services, as measured by fees, provided to public audit clients. Lastly, because I am using U.S. data, my results also provide insights about the influence of U.S. institutions on the relation between advertising and audit practice.

In Chapter 2, I consider how auditor advertising is related to audit market structure and the pricing of audit and nonaudit services. It begins by documenting the level of advertising activity throughout the sample period. The study then tests the prediction that auditor advertising

is positively related to future market share at both a national and local level. Auditor advertising is found to be only be positively related to future market share at the national level. Additional analysis reveals that at the local market level auditor advertising is positively related to the proportion of new clients in a given auditor's client portfolio but it is negatively related to the average audit fee. This result suggests that at the local level auditor advertising contributes stimulates competition.

Chapter 3 builds upon Chapter 2 by looking at whether auditor advertising investment is associated with future client risk within a given auditor portfolio and audit quality. Examining the inherent riskiness of audit clients is important because an auditor will prefer clients that are less risky, all else equal (Jones and Raghunandan 1998; Johnstone and Bedard 2004). Consistent with prior literature and theory, I make no directional prediction about the relation between auditor advertising and the inherent risk in the auditor's client portfolio or audit quality. The results at the local level are consistent with critics' claims that advertising leads to an emphasis on commercialism at the expense of professionalism. I find that auditor advertising is positively related to the inherent risk of an auditor's clients and negatively related to auditor independence (a component of audit quality). I fail to find any evidence of a relation between inherent risk and auditor advertising at the national level, likely because an auditor is able to diversify away risk more easily.

In Chapter 4 I study the provision of tax services rather than auditing in order to more broadly evaluate how advertising can influence service production within an accounting firm. Such a perspective is consistent with the analysis of nonaudit fees conducted in Chapter 2. Chapter 4 explores how auditor advertising is related to future tax service quality. I focus on the joint provision of tax services as this is the largest type of nonaudit service provided by audit

firms. Tax service quality is measured as either greater tax avoidance or a reduction in the volatility of tax outcomes. The results show that auditor advertising is not associated with greater tax avoidance but is related to lower volatility in tax reporting. The evidence suggests that auditor advertising is associated with higher quality service provision in contrast to the findings reported in Chapter 3. The reason for this difference is likely that the quality of tax services is easier to evaluate ex post than is auditing.

Chapter 5, the final chapter of this study, provides concluding comments including summarizing the main findings, discussing the implications for various stakeholders, and offering suggestions for future research.

CHAPTER 2
ARE ADVERTISING EFFORTS BY ACCOUNTING FIRMS RELATED TO ACCOUNTING SERVICE MARKET STRUCTURE?

Understanding how the market for audit services functions is important given the role that auditing plays within capital markets. Competition is at the forefront of regulatory concerns as is the exceedingly high degree of concentration among a few large suppliers (Gerakos and Syverson 2014). Regulators and other stakeholders are concerned because a lack of competition could lead to potentially costly outcomes such as lower audit quality and increased uncertainty in capital markets. Several studies have examined market competition within the accounting literature and generally have found that the audit market is competitive (Rhode et al. 1974; Tonge and Wootton 1991; Ciconte et al. 2015). The literature has also examined how auditors compete. Most studies that consider competition within the audit market have examined the role of auditor specialization (Craswell et al. 1995; Francis et al. 2005) and low-balling (DeAngelo 1981; Simon and Francis 1988; Ettredge and Greenberg 1990) as the means by which audit firms garner fee premiums or attract customers. Auditors can also compete by engaging in advertising initiatives designed to promote their brand or various services. Despite the fact that auditors have been allowed to advertise since the American Institute of Certified Public Accountants ("AICPA") lifted its restrictions in 1978, there has been little research regarding the impact that advertising has on audit market structure and competition. This study addresses this gap in the existing literature by examining the relation between auditor advertising spending and future auditor market share.

Understanding how the market for professional services, such as accounting, functions is important for several reasons. First, professional services account for an increasing proportion of total economic activity in developed economies (Greenhalgh and Gregory 2001; Kotler 2002; Zagler 2009). These services include work done in the medical, legal, and accounting fields. Second, the accounting profession has come under increased scrutiny in the last decade due to

several high profile scandals. Regulators and academics have charged that as a whole the quality of the profession is deteriorating and that the market for services such as auditing is less competitive. Third, the quality of auditing is difficult for clients to assess ex ante. Theory posits that auditing exhibits characteristics of an experience or credence service increasing the bargaining power of auditors (Causholli and Knechel 2012; Knechel et al. 2013) which will impact how the market for audit services functions.

While it is true that audit firms' services serve the public interest, these firms are for-profit enterprises. Concerns regarding accounting firms, or professional service practices in general, conducting themselves in a commercial manner has been expressed for quite some time (Wyatt 2004; Zeff 2003a). Historically, advertising of professional services was banned because it was viewed as inconsistent with professionalism. Critics of lifting the ban on advertising contended that in a professional service context, such as auditing, advertising could not be credible and that auditor selection should be a function of firm reputation (Wyatt 2004). This is consistent with the notion that the majority of an auditor's time should be spent developing technical expertise leaving little time to build skills related to selling services (Ferguson 1996). The lack of commitment to marketing efforts such as advertising would hamper its effectiveness. Firms with a high reputation would not necessarily need to invest resources in advertising because they would experience lower levels of client loss and would receive the benefit of word-of-mouth promotion from existing clients (Rogerson 1983).

However, in the 1970s the ban on advertising was lifted because the Supreme Court found that consumers of these services should be permitted to obtain useful information from commercial speech (Smith and Meyer 1980). Proponents of the removal of the ban on advertising believed it would be net beneficial to consumers as it would facilitate more efficient service selection decisions and could increase competition within the market. Theory suggests that the advertisements themselves need not convey any information for advertising to

communicate a credible signal. Klein and Leffler (1981) contend that the act of simply committing resources to advertising indicates that a service firm is of high quality.

Despite these competing empirical predictions and long-standing debate about the impact of advertising, there has been no research on the relation between advertising and the market structure for audit services due to data limitations. I examine how the market for accounting services functions using data from individual audit engagements and data on advertising spending by the nine largest public accounting firms from a proprietary database maintained by The Nielsen Company, LLC ("Nielsen"). The Nielsen database provides advertising spending in total, at the national level, in total for local markets, and for each individual local market. Nielsen defines a local market as a digital media area ("DMA") so I conduct my analysis at the national and DMA levels. Prior audit research has used metropolitan service areas ("MSAs") to specify a local audit market. The DMAs that I use in my tests typically are larger than an MSA with many containing more than one MSA. As data concerning total assets and important controls is unavailable for audit firms I aggregate audit engagement data to construct proxies for each auditor. Such an empirical approach is consistent with prior auditing literature (Francis 2011) and with other research that has focused on industry, rather than company, level analysis (Cahan et al. 2008).

Using ordinary least squares regression, I estimate the level of future auditor market share as a function of lagged auditor advertising and controls. I measure auditor market share using three different bases: (i) total assets audited, (ii) total audit fees, and (iii) total fees. I also re-perform my analysis separately on Big 4 and non-Big 4 audit firms to ensure that any differences between those two groups is not driving my results.

I find that auditor advertising spending is positively related to future auditor market share at the national level. This relation holds for national and local advertising. To ensure that these results are not arising due to potential reverse causality I model future auditor advertising as a

function of lagged auditor market share and appropriate controls at the national level. Auditor market share never loads in any of my tests of the determinants of auditor advertising spending. With respect to the local level analysis, I fail to find any evidence that advertising spending is related to local auditor market share; in fact, the association is consistently negative. Such a result is puzzling and inconsistent with audit firms deriving a benefit from employing advertising to compete. I conduct additional analysis and test whether auditor advertising spending at the DMA level is associated with the proportion of new clients for the audit firm. I find that advertising is positively related to future new clients. Next, I explore the relation between auditor advertising and fees for audit and nonaudit services provided to audit clients. I interact auditor advertising with the proportion of new audit clients and I find that the interaction is significantly negatively related to fees in all three specifications. Taken together, the results suggest that DMA auditor advertising is associated with higher levels of future new clients, but that the acquisition of the new business comes at the expense of lower average fees.

This study makes a contribution to several streams of literature. First, this study provides evidence that auditor advertising spending is related to audit market structure and auditor fees. It shows that auditors compete not only through industry specialization (Craswell et al. 1995) or by low-balling (DeAngelo 1981) but through commercial speech. Second, this study contributes to the larger professional services literature by providing evidence regarding how advertising influences the market structure of a specific profession, auditing. Third, this study provides evidence regarding a benefit that audit firms realize from engaging in advertising, namely higher levels of market share or new clients. This study documents that benefits also accrue to the audit firm, specifically a stronger competitive position nationally and the ability to attract new business locally.

The remainder of the paper is organized as follows. In Section 2.2 I discuss the literature related to audit market structure and professional services advertising as well as develop my

hypothesis. Section 2.3 describes my empirical design for my main test regarding the relation between audit service market structure and audit firm advertising. I discuss the results from my analysis at both the national and local audit market levels as well as my test for reverse causality in Section 2.4. Section 2.5 contains additional analysis at the local audit market level. Finally, Section 2.6 contains concluding comments.

Background and Hypothesis Development

Competition among accounting firms is a long-standing concern for regulators especially as it pertains to auditing (Danos and Eichenseher 1986; Bauman 2014). Critics of the auditing profession contend that the consolidation of larger audit firms gives rise to anticompetitive outcomes such as collusion among the remaining firms in order to extract excess fees or reduce auditor effort leading to lower audit quality (European Commission 2010; European Commission 2011; Office of Fair Trading 2011). These potential problems will negatively impact capital market participants who rely upon external auditors to provide reasonable assurance about firms' financial statements.

While regulators in several developed audit markets have expressed concern about a lack of audit market competition, the empirical evidence has generally failed to support this conjecture. DeAngelo (1981) posits that if audit markets are competitive then new potential auditors will engage in the practice of low balling in order to entice clients to leave their current auditor. The practice of low balling means that the prospective auditor reduces his or her fees below cost to offset switching costs incurred by the client from the change in external auditor. There is considerable evidence consistent with audit firms cutting their prices on their initial engagements in order to acquire new business (Francis and Simon 1987; Simon and Francis 1988; Gregory and Collier 1996).

Firms can compete with one another using various strategies such as being the low-cost leader or delivering the highest quality (Porter 1991). In an auditing context, an example of a low

cost leader would be a firm that engages in low balling to obtain new clients while an example of a firm that competes on quality would be an auditor that becomes an industry specialist. To reinforce their strategy, firms can engage in marketing which involves several different activities such as advertising, public relations, or leveraging personal relationships. Marketing, broadly speaking, is a process through which firms find what they need via an exchange of value (Kotler 1994, p.6). Early theory regarding marketing was grounded in economics and viewed it as an activity concerned primarily with distribution of goods produced in a manufacturing context (Shaw 1912; Vargo and Lusch 2004). This simplistic understanding of marketing was replaced by a definition of marketing as an active process concerned with understanding customers' needs and wants and delivering value to the customer (Rust, Lemon, and Zeithaml 2004; Vargo and Lusch 2004). Because firms engage in exchanges of value to meet their needs they form markets where all possible customers that have the same need can participate in exchanges of value for the product or service they need (Kotler 1994). For the market to function effectively it is important that the private information a firm has about its services is communicated to its potential customers (Kotler 2002). The objective for marketing strategies employed by professional service firms, such as public accounting firms, is to build brand equity where current and potential clients will want to purchase services from the specific firm (Kotler 2002, p. 246; Vargo and Lusch 2004).

Effective marketing, such as advertising through various media outlets, should serve to improve a firm's competitive position within the market place by assisting in attracting new and retaining (or expanding demand from) existing clients. Prior research shows that advertising is positively related to short-term gains in sales volume and a firm's market share (Assmus et al. 1984). There is also considerable evidence that advertising expenditures are a long-term investment that yields a positive return to the firm (Boulding et al. 1994; Jedidi et al. 1999; Peles 1971; Pergelova et al. 2010). In oligopolistic industries similar to auditing, advertising has been

shown to serve as a primary competitive weapon with a significant long-term rate of return (Peles 1971; Telser 1962).

Despite the theory and empirical evidence concerning the benefits of investing in advertising, initially after the ban on solicitation and advertising was lifted for public accounting firms by the AICPA the profession was reticent to engage in such activities (Darling and Hackett 1978; Darling and Bergiel 1983).[1] The primary concern among practitioners was that engaging in such activities would lead to a reduction in the quality of the profession as a whole (Zeff 2003a). Hay and Knechel (2010) note that the removal of the restriction is commonly cited by academics and professionals as a potential cause of the decline in audit quality across all firms that led to the major accounting scandals of the early 2000s. Furthermore, some critics conjectured that advertising could not be done effectively given the highly technical nature of the services performed. As a result, firms would have the opportunity to engage in dishonest advertising which would mislead current and potential clients. Additionally, in the 1970s and 1980s, most professionals believed that the primary mechanism to drive new business was and should be the overall reputation of the accounting firm (Wyatt 2004). This is consistent with the theoretical assertion that word of mouth is more effective than overt advertising in building a service practice (Zeithaml 2000). One example of reputation building is withdrawing from engagements with firms seeking to take riskier positions in their financial statements. Wyatt (2004) notes that during this period Arthur Andersen was known for its tough stance with its clients and dropped aggressive clients. Arthur Andersen actually reaped a benefit from its policy as it experienced subsequent gains in its audit fees following these withdrawals.

Even if the marketing strategies implemented by public accounting firms are carefully crafted and executed, it is possible that they will not be successful. Selling professional services

[1] The United States was not the only developed audit market to lift a restriction on advertising and solicitation. Hay and Knechel (2010) examine how the removal of similar regulations in New Zealand influenced competition and they find that advertising was positively related to audit fees which they interpret as evidence that advertising signaled higher quality facilitating a fee premium.

is significantly different from selling goods because firm reputation is so important. Critics of public accounting firms engaging in overt marketing, such as advertising, contend that such activities will actually impair a firm's brand which would reduce their competitive position within the marketplace (Winston 1995). Stevens et al. (1994) find that accountants' perceptions were similar to those of critics, specifically that advertising would increase client frustration as there would be an expectations gap between what the client anticipated would be delivered and what was provided.

The arguments made by critics of auditor advertising would suggest no or even a negative relation between advertising investment and auditor market share. While accountants were hesitant to engage in advertising in the initial period following the change to the AICPA's code of conduct because of such concerns, their attitudes toward advertising evolved over time. Heischmidt and Elfrink (1991) note that advertising was becoming more accepted, especially among the largest firms during the late 1980s. Such efforts spanned a variety of channels including television and print. Table 2-1 provides descriptive statistics for advertising spending by the nine public accounting firms included in this study for the more recent time period of 2003 through 2013. Panel A shows that, on average, total spending increased over the first half of this period to a high point in 2008.[2] In contrast, advertising spending has seen a steep decline during the period from 2008 through 2013. This pattern makes sense when considering that the global financial crisis occurred in 2008 and firms in general were interested in keeping their costs down.

Investments in these initiatives can allow firms to more effectively signal their quality. Klein and Leffler (1981) suggests that the message contained in an advertisement itself is not necessary for a customer to infer something about the quality of the vendor. Rather, the act of

[2] Anecdotal evidence from conversations with several marketing professionals at audit firms included in my sample indicates that advertising initiatives are developed at both the national and local levels. As a result, the audit firm seeks to build its brand nationally but also allows autonomy for individual offices to utilize advertising when competing in their respective markets.

committing resources to advertising signals that a firm is of higher quality, all else equal. The message can augment the impact of this signal by communicating quality explicitly and enumerating the types of services available providing current and potential clients with more information (Tripp 1997). As a result of these gains in information, clients obtain more market power relative to accounting firms thus facilitating more competition. Stafford (1988) notes that theory suggests that one of the potential benefits of advertising by professional service firms is increased competition which will spur innovation and also reduce fees for clients.

Despite critics concerns, theory and empirical evidence suggest that auditor advertising will be positively related to the firm's competitive position in the market. Given the evidence of competition among the largest accounting firms even in highly concentrated markets (Ciconte et al. 2015), the positive theoretical link between marketing and a firm's competitive position, and that activities such as advertising are becoming more accepted by practitioners, I propose my hypothesis in the alternative as follows:

- **Hypothesis 1:** Accounting firm advertising is positively related to future accounting firm market share.

Research Design

Empirical Model

To test the relation between auditor market share and auditor advertising spending, I model future market share as a function of auditor advertising spending and auditor controls. When constructing my measures for control variables I aggregate individual audit client data consistent with prior literature that has looked at the audit firm as opposed to audit engagements because data such as total assets is unavailable for public accounting firms (Francis 2011; Francis and Michas 2013). This empirical approach is similar to the research design employed by

prior literature that has explored industry-level, rather than firm-specific, characteristics (Cahan et al. 2008). I specify the following OLS regression:[3]

$$MRKSHR_{it+1} = \beta_0 + \Sigma \beta_j ADV_{it} + \beta_1 SIZE_{it} + \beta_2 DISTANCE_{it} + \beta_3 HERF_{it} + \beta_4 AVG\_REG_{it} + \varepsilon \quad (2\text{-}1)$$

The dependent variable is *MRKSHR* and is the ratio of the auditor's activity in an audit market to total activity in a given audit market computed using either: (i) total assets audited, (ii) audit fees, or (iii) total fees for audit clients.[4]

The variables of interest, *ADV*, are measures of auditor advertising spending at either the national or local audit market level. I construct four separate measures of advertising investment by audit firms: (i) *ADV_TOTAL* is total advertising spending by a given audit firm across all media types and all audit markets, (ii) *ADV_NAT* is total national advertising by an audit firm, (iii) *ADV_LOCAL* captures total local advertising spending by an audit firm across all local markets, and (iv) *ADV_DMA* is advertising spending by an audit firm for a given DMA.

I include controls that prior literature has shown are important determinants of auditor market share and can be correlated with my variable of interest. Theory suggests that larger auditors will have greater reputational capital at stake and more resources available to conduct an audit which will lead to higher audit quality and increase the demand for the firm's services (DeAngelo 1981; Simunic 1980; Danos and Eichenseher 1986). *SIZE* controls for an audit firm's size and is the sum of total assets audited by an audit firm measured at either the national or DMA level. I expect auditor size to be positively related to future auditor market share. I also include a measure of market pressure from an audit firm's closest competitor, *DISTANCE*, which is estimated as the absolute value of the difference between audit firm i's market share and its

[3] Refer to the Appendix for a more comprehensive discussion of how the variables used in my empirical analysis are measured and what data items are included when the variables are obtained from publicly available databases.

[4] Danos and Eichenseher (1982) treat each client industry as a separate practice in their analysis. I do not as my research question is concerned with the audit firm as a whole as opposed to client-industry groups within an audit practice.

closest competitor. Prior literature finds that the distance between an auditor and the closest competitor has an impact on auditor market power and that greater distance is positively related to audit fees (Numan and Willekens 2012); therefore, I expect a positive relation between *DISTANCE* and future auditor market share. Pressure can also come from the broader set of auditors as opposed to just the closest auditor. *HERF* is included to control for the overall concentration of the audit market and is the Herfindahl index computed as the sum of the squared market shares for each audit firm in the audit market (Pearson and Trompeter 1994). I expect a positive relation between auditor concentration and future auditor market share consistent with firms retaining their market power. Lastly, I control for the industry mix of clients in the auditor's client portfolio with *AVG_REG* which reflects the number of audit engagements of regulated clients for a given audit firm scaled by the total number of audit engagements for the audit firm. Prior literature shows that the audit market for regulated clients is different from non-regulated clients (Danos and Eichenseher 1981; Danos and Eichenseher 1982) and I expect a positive relation between the average number of audit clients operating in a regulated industry and future market share given that the auditor has developed specialized knowledge which enables the firm to better serve regulated clients.

I estimate Equation (2-1) using standardized coefficients so that differences in the underlying distributions of the independent variables will not influence the analysis. Dependent and independent variables are standardized resulting in the variables with a mean of zero and a standard deviation of one; therefore, all coefficient estimates are reported in comparable units (Ciconte et al. 2015; Shan et al. 2013). As a result, the coefficients for all explanatory variables reflect the change in the dependent variable for a unit-standard deviation in the explanatory variables (Adelman and Morris 1968; Bennett et al. 2003; Shan et al. 2013). Estimating the OLS regression in this manner eases the interpretation of economic significance of the explanatory variables relative to each other.

Sample Selection

I begin by identifying the nine largest national public accounting firms currently operating in the U.S. audit market consistent with Hogan and Martin (2009). These firms are PricewaterhouseCoopers, LLC, Deloitte LLP, KPMG LLP, Ernst & Young LLP, Grant Thornton LLP, BDO USA, LLP, Crowe Horwath LLP, McGladrey LLP, and Plante & Moran, PLLC. I focus on these nine firms because prior literature shows that the largest firms are distinct from other public accounting firms with respect to the quality of their services (DeAngelo 1981), the types of clients they serve (Lawrence et al. 2011), and how they compete with respect to price (Simunic 1980; Craswell et al. 1995; DeFond et al. 2000; Choi et al. 2008). Additionally, theory suggests that in a professional service context only the largest firms will be likely to advertise due to the financial commitment required (Stafford 1988; Hay and Knechel 2010). By restricting my analysis to these firms I am able to alleviate concerns about underlying idiosyncratic accounting firm traits, especially accounting firm size, causing spurious inference. In my analysis, I do consider differences between the Big 4 and the other firms in my sample by re-estimating Equation (1) separately for Big 4 and non-Big4 firms.

I retrieve data from several databases in order to conduct my analysis. Specifically, I merge Compustat's Annual File, Audit Analytics, and a proprietary database provided by Nielsen that contains public accounting firm advertising spending. I match individual audit engagements in Audit Analytics with observations from Compustat. I exclude client-firm observations with missing data for any of my dependent or independent variables. I aggregate engagement specific data by auditor, year, and market (either national or DMA). Next, I merge this audit-engagement data with the database provided by Nielsen using auditor identifier. The Nielsen database reports accounting firm advertising spending in total, for national campaigns, in the aggregate for all local campaigns, and for each specific local audit market. All amounts in the Nielsen database are reported in thousands.

My sample period spans 2003 through 2013 for the national analysis. I begin my analysis in 2003 in order to mitigate the potential influence of the collapse of Arthur Andersen on the functioning of the audit market. At a national audit market level, this yields 99 unique firm-year observations. Consistent with the developing stream of literature that examines audit production and quality at a local, rather than national level, I also identify local markets in which the accounting firms compete. My sample period for the local analysis begins in 2004 and ends in 2013 due to data limitations. I require one lagged year of auditor advertising spending and the first year of spending data available at the DMA level is 2003. I diverge from prior research which generally examines local audit market competition at the metropolitan service area ("MSA") level because the Nielsen database that I utilize to examine advertising initiatives at the local audit market level divides the U.S. into DMAs rather than MSAs.[5] DMAs are typically larger than an MSA and many contain more than one MSA within them. There are 210 total unique DMAs, but many contain no advertising activity at all.[6] I focus on the 108 largest DMAs where the local advertising activity occurs and exclude the remaining 102 DMAs from my analysis. In order to merge the Nielsen data with the other databases I use in my analysis, I use a file provided by Nielsen that links every DMA to all relevant U.S. postal zip codes. I then join the advertising data to the financial statement and audit engagement data based on zip code using the Compustat Company table. If each auditor maintained an office in each DMA there would be 1,080 auditor-year-DMA observations. However, not all auditors have a presence in each DMA so my initial sample includes 6,064 auditor-DMA-year matches. I lose an additional 2,446 observations due to missing data needed to measure my control variables for a final sample of

[5] While prior literature has specified local markets at the MSA level, such definitions of audit markets may be too restrictive. Consider the Philadelphia-Camden-Wilmington MSA and its relation to the Harrisburg-Carlisle MSA. Both MSAs are located in Pennsylvania and are reasonably close to one another such that an auditor located in either MSA would be able to service clients in the other.

[6] Per the licensing agreement with Nielsen, I cannot disclose the 210 DMAs as this information is proprietary in nature.

3,618 matches. Auditor-DMA matches that are excluded due to missing data typically have only one or two engagements though some have up to six in a given year. To reduce the influence of outliers I winsorize all continuous variables at the 1st and 99th percentiles.

Main Analysis

National Audit Market Structure

Correlations and univariate statistics

Descriptive statistics are reported in Table 2-2. Panel A of Table 2-2 provides descriptives for the national auditor practice while Panel B of Table 2-2 provides descriptives for the local auditor practice. For the national audit practice level, the average audit firm has approximately 11% of the total audit market share, but there is significant skewness given the standard deviation for auditor market share is 0.125. Total advertising spending for all media at all levels, *ADV_TOTAL*, ranges from about $102 thousand at the first quartile to $2,028 thousand dollars at the third quartile. There is a similar distribution when looking at total local advertising spending and national advertising spending only. Even when restricting the analysis to the largest auditors, there is still significant skewness with respect to auditor size. *AUD_FEES*, defined as sum of all audit fees earned by a given auditor, has a mean (median) of $1,210 million ($175 million) and *SIZE*, or total assets audited, has a mean (median) of $7,771,866 million ($212,048 million). On average, at the national level auditors in my sample have long-standing relationships with their clients given that mean auditor tenure is 7.696 years and do commit errors in their audits given the mean firm has 44 income-decreasing financial restatements.

Correlations for the variables used in my analysis are provided in Table 2-3 with Panel A reporting correlations among the national level variables and Panel B reporting correlations among the local level variables. For the national level, several of the variables are significant with one another at the 0.01 level. Auditor market share is significantly positively related to each of my measures of auditor advertising spending providing univariate support for my hypothesis.

Auditor market share is also significantly related to my control variables for auditor size, competition, and client composition. Auditor advertising spending is also significantly related to auditor size, the distance between the auditor and the closest competitor, and the ratio of regulated clients to total clients in the auditor's client portfolio. The strong correlations among the dependent and independent variables lend support for the inclusion of each of my control variables in my multivariate tests.

Multivariate analysis

I report the results of my multivariate tests of Equation (2-1) for the national audit practices in Table 2-4. For each panel in Table 2-4, the dependent variable is measured using total assets audited in Column (1), total audit fees in Column (2), and total fees in Column (3). The adjusted R^2 for each regression is generally quite high with it exceeding 0.90 for all specifications in Panels A through C. When I split my sample between Big 4 and non-Big 4 in Panels D and E, respectively, the goodness of fit decreases though it is generally still quite high. Control variables perform as expected with the exception of *AVG_REG* which is negatively related to auditor market share.

In Panel A, the variable of interest is total advertising spending at both the national and local levels combined. For all three of my measures of auditor market share I find a positive and significant relation between total advertising spending and future auditor market share ($p<0.05$) which supports my hypothesis. I gauge the economic significance of advertising spending by comparing the coefficient for advertising to the coefficient for auditor size. Using the coefficients from Column (1), I find that advertising spending explains about six percent as much of the variation in future auditor market share as does auditor size (0.051 / 0.878).

I disaggregate my advertising spending measure and test national and local auditor advertising spending separately in Panels B and C, respectively. For the national auditor spending, I find a positive and significant relation ($p<0.05$) which supports my hypothesis. I also

find some support that local auditor spending is positively related to future auditor market share in two of the three specifications (p<0.01). Using Column (2) of both Panels, I gauge the economic significance of each type of spending relative to auditor size. I find that national auditor spending explains roughly 12.5% as much of the variation in future auditor market share as does auditor size and local auditor spending explains about 13.8% as much of the variation in future auditor market share as does auditor size. The evidence suggests that investment in advertising at both levels helps the audit firm improve its competitive position.

To ensure that my results are not driven by either the Big 4 or non-Big 4 audit firms, I re-estimate Equation (2-1) for each subsample separately. The independent variable of interest is total advertising spending for both the national and local levels. Panel D reports the results for the Big 4 only subsample. I continue to find a positive and significant relation between advertising spending and auditor market share (p<0.01). Turning to Panel E, I find consistent evidence in two of my three specifications (p<0.05). These results provide some comfort that the analysis is not driven by differences between Big 4 and non-Big 4 audit firms.

Test of reverse causality

The empirical design for the main analysis tests the relation between auditor market share at time t+1 with lagged auditor advertising spending at time t. Such a design provides some assurance about the direction of causality when examining the association between auditor market share and auditor advertising investment. However, to mitigate concerns about reverse causality, I examine the relation between auditor advertising spending at time t+1 and auditor market share at time t. I specify the following OLS model:

$$ADV\_TOTAL_{it+1} = \beta_0 + \beta_1 MRKSHR_{it} + \beta_2 DISTANCE_{it} + \beta_3 HERF_{it} + \beta_4 AUD\_FEES_{it} + B_5 NONAUD\_FEES_{it} + \beta_6 SIZE_{it} + \beta_7 RESTATE_{it} + \beta_8 ROA_{it} + \beta_9 LOSS_{it} + \beta_{10} BUSY_{it} + \beta_{11} SEGS_{it} + \beta_{12} TENURE_{it} + \beta_{13} REG_{it} + \varepsilon \quad (2\text{-}2)$$

The dependent variable, *ADV_TOTAL*, is total advertising spending by the audit firm across all media and markets. The variable of interest in this test, *MRKSHR*, is auditor market share and is measured using either: (i) total assets audited, (ii) total audit fees, or (iii) total fees. I expect β_1 to be insignificant consistent with reverse causality not holding because lagged auditor market share is not related to future auditor advertising spending.

I include the explanatory variables from Equation (2-1) as well as additional variables that I expect to be related to auditor advertising spending. Theory suggests that firms will advertise in order to build brand value, improve the firm's competitive position within a market place, and reap excess returns in future operating performance (Eng and Keh 2007). I control for brand value by including a measure of auditor size, *SIZE*, as larger auditors have more reputational capital at stake (DeAngelo 1981) and I expect auditor size to be negatively related to audit firm advertising consistent with smaller firms attempting to enhance their brand.[7] I also control for the desire to repair a damaged brand as evidenced by the delivery of low audit quality (Nelson 1970). I include *RESTATE* which is the sum of the total number of income-decreasing restatements for a given auditor and expect it to be positively related to advertising spending. In addition to my market share measure, I include the variable *DISTANCE* to control for a firm's competitive position within a market place and expect it to be negatively related to auditor advertising as greater distance suggests less competition (Numan and Willekens 2012). I also include the variable *HERF* which is the Herfindahl index to control for the concentration within the audit market. To the extent that greater concentration leads to lower competition (Giroud and Mueller 2011) audit firms would have less incentive to advertise so I expect a negative relation between concentration and auditor advertising.

[7] A positive relation would also be expected consistent with the theory that larger firms are more able to afford to advertise and signal their ability (Klein and Leffler 1981; Becker and Kaldenberg 1990).

Zeithaml (2000) suggests that advertising spending will be positively related to expected future profitability. While I cannot observe abnormal profits in this setting due to a lack of auditor cost data, I include auditor fees in my analysis to control for advertising improving an audit firm's ability to sell more of or set higher prices for its services. *AUD_FEES* is the sum of total audit fees earned by the auditor and is expected to be positively related to auditor advertising. *NONAUD_FEES* is the sum of nonaudit fees earned by the audit firm for audit clients and is expected to be positively related to auditor advertising. I include controls related to the financial health of the auditor's clients as prior literature finds that auditors seek to shift toward better performing and less risky clients (Johnstone and Bedard 2004). I include average return on net operating assets, *ROA*, and the sum of client firms that experienced a net operating loss, *LOSS*. I expect that *ROA* will be negatively related and *LOSS* will be positively related to auditor advertising spending as the audit firm has stronger incentives to seek new business when its clients are performing poorly.

I also control for the timing of existing audit engagements and the complexity of the audit firm's client portfolio as the auditor will be less likely to seek new business when there is little slack available to handle it. *BUSY* is the sum of the number of audit engagements that have a December year-end and I expect it to be negatively related to auditor advertising spending. *SEGS* is the average number of segments for a client of an auditor and *REG* is the number of engagements operating in regulated industries. Both of these variables proxy for engagement complexity and I expect them to be negatively related to auditor advertising spending. More established practitioners with well-developed client relationships are less likely to rely upon advertising to drive business so I include *TENURE* which captures the average number of years an audit firm has served its clients and expect it to be negatively related to advertising spending (Becker and Kaldenberg 1990). As with my analysis for Equation (2-1), I estimate Equation (2-

2) using standardized coefficients so that differences in the underlying distributions of the independent variables will not influence the analysis.

I report the results of my test in Table 2-5. Adjusted R^2 for each regression is reasonable as they all exceed 0.48. Many of the control variables perform as expected with auditor size being negative and significantly related to advertising spending and audit fees being positive and significantly related to advertising spending. The control for incidences of loss firms in an auditor's client portfolio is one exception as it is negatively related to advertising spending. With respect to my variable of interest, auditor market share, I fail to find any evidence that lagged auditor market share is related to future advertising spending. This provides comfort that it is not existing auditor market share that drives advertising spending.

Local Audit Market Structure

Correlations and univariate statistics

Panel B of Table 2-2 reports the descriptive statistics for the DMA level analysis. There are many similarities between the distribution of the variables used in my analysis at the national and local levels. The average auditor in a given DMA has approximately 24% of the market share, but there is skewness given the standard deviation is 0.273. Auditor size at the DMA level is similarly skewed with mean (median) audit fees of $15,178,500 ($3,162,339). Advertising in specific DMAs is infrequent given that the median advertising spending at the local level is $0. However, it is important to note that 2,822 auditor-DMA-year matches have some advertising activity. The magnitude of the firm's investment is quite small for many of these offices and so I only treat the 854 auditor-DMA-year matches with advertising spending above $1000 as engaging in advertising activity. For these specific observations, the amount of advertising spending is comparable to the magnitude of the investment at the national level given that the mean spending is $1.450 thousand dollars and audit office sizes are similarly an order of magnitude smaller than the national practice.

Correlations for the variables used in the local level analysis are reported in Panel B of Table 2-3. The dependent variable market share is significantly related to auditor size, the distance to the auditor's closest competitor, and the proportion of audit clients that operate in regulated industries. Counter to my hypothesis, auditor market share is negatively related to advertising spending at the DMA level. Similarly, auditor spending at the DMA level is negatively related to the distance between the auditor and the closest competitor. The univariate statistics suggest that advertising investment exhibits a different relation to audit market structure at the local level compared to the national level.

Multivariate analysis

I report the results of estimating Equation (2-1) for the DMA level in Table 2-6. For Panels A and B, the adjusted R^2 is reasonably high (>0.60) so the model fits reasonably well. In Panel B, I modify equation one by including the lagged dependent variable. The adjusted R^2 is similar for the subsample of Big 4 auditors (>0.65) while it is much lower for the non-Big 4 subsample (>0.15). Control variables generally perform as expected with the exception of the Herfindahl index which is negatively related to future auditor market share. In all specifications, I fail to find any evidence that auditor advertising spending at the DMA level is positively associated with future auditor market share. I do find evidence that national auditor advertising spending is positively related to future auditor-DMA market share. Using the coefficients from Column (2) of Panel B, national advertising spending explains 5.6% as much of the variation in auditor-DMA market share as does the distance to the auditor's closest competitor (0.014 / 0.249). This suggests that the national advertising initiatives of audit firms play an important role in the local market.

Auditor advertising as a function of market share

Though I do not find any evidence that local auditor advertising is positively associated with future auditor market share, for completeness I estimate Equation (2-2) for the DMA level. I

modify Equation (2-2) and include one additional control variable to account for the riskiness of local audit office client portfolios, *STD_OCF*. I report the results of my tests in Table 2-7. The goodness of fit for my models of auditor advertising spending at the DMA level are decidedly low with no adjusted R^2 exceeding 0.04. Most of the control variables are insignificant, but the Herfindahl index is negative and significantly related to future auditor advertising spending ($p<0.01$) as is auditor tenure ($p<0.01$). Unlike with the national auditor analysis, I do observe a significant relation between lagged auditor market share and future auditor advertising spending ($p<0.01$). The relation is negative which is consistent with the analysis reported in Table 2-6. Taken together, the results suggest that auditors that spend more on advertising at the local level have lower levels of market share and that auditors with lower levels of market share will invest more in advertising. Such a result is inconsistent with theory and would appear suboptimal as it suggests that auditors are not reaping a return on their investment in advertising.

Supplemental Analysis

Local Advertising and New Engagements

The lack of evidence that advertising spending at the local level for audit firms is positively associated with future market share is quite surprising. Advertising is a signal of a firm's financial health as well as its expectations of future demand for its services (Simpson 2008; Desai 2000). Investing resources in advertising indicates that the firm believes its advertisements are effective (Srinivasan and Sihi 2012) and spending indicates that the firm delivers high quality service (Klein and Leffler 1981). The fact that the observed relation is negative is inconsistent with existing theory. I conduct additional analysis to disentangle this puzzling result by testing the relation between auditor-DMA advertising and the proportion of new clients in an auditor's portfolio as well as the average fee for a given audit client.

Empirical model

I begin my additional analysis by examining the relation between the proportion of new clients in an auditor's portfolio and auditor advertising. The analysis of auditor market share at the local audit market level does not support the theory that advertising investment by auditors will be positively related to an auditor's future market position. This suggests that auditor advertising is not associated with future new business for the audit firm. I test this directly using the following OLS model and include year fixed effects consistent with Petersen (2009):

$$AVG\_NEW_{it+1} = \beta_0 + \beta_1 AVG\_ADV\_DMA_{it} + \beta_2 AVG\_ADV\_NAT_{it} + \beta_3 AVG\_NEW_{it} + \beta_4 AVG\_SIZE_{it} + \beta_5 AVG\_RESTATE_{it} + \beta_6 AVG\_AF_{it} + B_7 LEV_{it} + \beta_8 ROA_{it} + \beta_9 AVG\_LOSS_{it} + \beta_{10} AVG\_BUSY_{it} + \beta_{11} SEGS_{it} + \beta_{12} TENURE_{it} + \beta_{13} AVG\_REG_{it} + \text{Year Fixed Effects} + \varepsilon \quad (2\text{-}3)$$

The dependent variable in my analysis is *AVG_NEW* which is the ratio of the number of new audit clients to total audit clients for a given audit firm. My variable of interest is *AVG_ADV_DMA* which is the sum of total advertising spending for an auditor-DMA match scaled by the total number of audit engagements for the audit firm.

I include the level of national advertising, *AVG_ADV_NAT*, to control for the influence of national initiatives. I also include the lag of the dependent variable, *AVG_NEW*, to control for potential omitted correlated variables. Additionally, I include several control variables that prior literature has found are associated with audit changes. Francis and Wilson (1988) find that client size is positively related to auditor switches to a large auditor. *AVG_SIZE* is the sum of the total assets for all audit clients for a given audit firm scaled by the total number of audit engagements for the auditor and I expect it to be positively related to the number of new clients added for the auditor. Audit failures are negatively associated with an auditor's ability to attract new clients or retain their existing ones (Mande and Son 2013). *AVG_RESTATE* is the sum of income-decreasing restatements for a given auditor and I expect it to be negatively related to the number

of new audit clients the auditor obtains. Theory suggests that incumbent auditors possess an advantage over potential successors due to switching costs (DeAngelo 1981). I include the average audit fee charged by the audit firm, *AVG_AF*, to control for the pricing strategy of the auditor and expect the average audit fee to be negatively related to the number of new clients a firm engages. DeFond (1992) asserts that firms with higher leverage tend to switch to higher quality audit firms. I include the average leverage ratio for the auditor's clients, *LEV*, and expect it to be positively related to the number of new clients obtained consistent with higher levels of leverage representing increased pressure to deliver a high audit quality.

I also control for the general health of the clients the auditor serves by including the average return on assets, *ROA*, and the count of the number of audit engagements experiencing a net operating loss, *LOSS*. Johnson and Lys (1990) find that clients and auditors align such that higher quality auditors serve clients with better financial performance; therefore, I expect *ROA* to be positively related and *LOSS* to be negatively related to the number of new clients engaged. I include *AVG_BUSY*, the ratio of clients with a December year-end to all audit clients for a given auditor, and *SEGS*, the average number of segments for a client of an auditor, to control for resource strain (Bills et al. 2014) and engagement complexity. I expect both to be negatively related to the number of new clients an auditor obtains. I include average client tenure, *TENURE*, as audit firms that have long-standing relationships with their clients will be less likely to seek out new clients (Becker and Kaldenberg 1990). Finally, I control for the industry mix of clients in the auditor's client portfolio with *AVG_REG* which counts the number of audit engagements of regulated clients for a given audit firm scaled by the total number of audit engagement for the audit firm. Consistent with prior literature (Danos and Eichenseher 1981; Danos and Eichenseher 1982), I expect a positive relation between the average number of audit clients operating in a regulated industry and new engagements given that the auditor has developed specialized knowledge which enables the firm to better serve prospective regulated clients. As with my

analysis for Equation (2-2), I estimate Equation (2-3) using standardized coefficients so that differences in the underlying distributions of the independent variables will not influence the analysis.

Multivariate results

I report the results of my estimation of Equation (2-3) in Table 2-8. Column (1) reports the results using the specification discussed above. In Column (2), I modify Equation (2-3) such that the dependent variable is the count of the number of new audit engagements for a given auditor and I include the number of audit engagements, *ENG*, as an additional control. The adjusted R^2 is quite low for Column (1) as it is less than 0.06 but is much higher in Column (2) as it exceeds 0.42. Control variables generally perform as expected with the exception of *RESTATE* in Column (2) which is positively related to the number of new audit clients acquired.

I find that auditor advertising at the DMA level is positively related to the number of new audit clients a firm obtains ($p<0.01$) in both specifications. This is consistent with my expectation that auditor advertising should be positively related to new business. I gauge economic significance using coefficients reported in Column (1) and *ROA* as the benchmark variable. Auditor advertising explains 78.6% as much of the variation in the number of new audit clients an auditor obtains relative to the financial performance of the auditor's clients (0.057 / 0.072). The results suggest that auditor-DMA advertising is a significant tool for auditors to use to acquire new business in their local audit markets.

Local Advertising and Fees

While auditor-DMA advertising was not found to be positively related to future auditor market share, I do find evidence that local auditor advertising is related to an auditor obtaining new clients. These two results appear to be inconsistent as the acquisition of new clients should increase auditor market share. To provide additional insight into these results, I next model the relation between auditor fees and auditor advertising. If the new business that the auditor

acquires comes at a discount, then it would follow that advertising would be related to new clients but not necessarily to gains in market share.

Empirical model

To test the relation between average auditor fees and auditor advertising, I specify the following OLS model consistent with prior literature:

$$AVG\_FEE_{it+1} = \beta_0 + \beta_1 AVG\_ADV\_DMA_{it} + \beta_2 AVG\_ADV\_NAT_{it} + \beta_3 AVG\_NEW_{it} + \beta_4 ADV*NEW_{it} + \beta_5 AVG\_SIZE_{it} + B_6 LEADER_{it} + \beta_7 BIGMS_{it} + \beta_8 DISTANCE_{it} + \beta_9 LEV_{it} + \beta_{10} AVG\_CR_{it} + \beta_{11} AVG\_CA\_TA_{it} + \beta_{12} AVG\_ARINV_{it} + \beta_{13} ROA_{it} + \beta_{14} AVG\_LOSS_{it} + \beta_{15} AVG\_AQC_{it} + \beta_{16} AVG\_BUSY_{it} + \beta_{17} SEGS_{it} + \beta_{18} TENURE_{it} + \beta_{19} AVG\_REG_{it} + \varepsilon \quad (2\text{-}4)$$

The dependent variable, *AVG_FEE*, is the average fee earned by the audit firm measured using either: (i) audit fees only, (ii) nonaudit fees only, or (iii) all fees, audit and nonaudit, for audit clients. As with my previous analysis, the variable of interest is *AVG_ADV_DMA* which is the sum of total advertising spending for an auditor-DMA match scaled by the total number of audit engagements for the audit firm.

AVG_NEW which is the ratio of new audit engagements to total audit engagements for an auditor is included to control for low-balling consistent with theory (DeAngelo 1981). The variable *ADV*NEW* is an interaction term constructed by multiplying *AVG_ADV_DMA* and *AVG_NEW*. I expect that β_4 will be negative and significant consistent with higher levels of advertising and a larger proportion of new audit clients being associated with lower average fees. Other control variables included in Equation (2-4) are based upon prior research that examines the determinants of audit fees.

Multivariate results

I report the results of my estimation of Equation (2-4) in Table 2-9. Column (1) reports the results using the average audit fee as the dependent variable, Column (2) reports the results

using average nonaudit fee for audit clients, and Column (3) reports the results using the average total fee. The adjusted R^2 are lower than those reported in prior studies that have examined individual audit engagement fees, but appear reasonable (>0.42). Control variables generally perform as expected with the exception of *AVG_ARINV* and *ROA*.

I generally fail to find evidence that auditor advertising at the DMA level is positively related to the average fee charged by the auditor, though I do obtain marginal results for nonaudit fees (p<0.10). I find no main effect for the proportion of new clients to total audit clients. With respect to the variable of interest, *ADV*NEW*, I find a negative and significant coefficient in all three tests (p<0.10). The results are consistent with my expectation that auditor advertising and the addition of new clients are associated with lower average fees. I gauge economic significance of the interaction term using coefficients reported in Column (1) and *AVG_SIZE* as the benchmark variable. *ADV_NEW* explains 3.2% as much of the variation in the average audit fee relative to the size of the auditor (0.015 / 0.482).

Correlated omitted variables and endogeneity

With respect to my analysis of auditor fees at the local level, I have not previously utilized econometric techniques to control for potential correlated omitted variables or endogeneity. Anecdotal evidence from conversations with practitioners at several of the firms in my sample suggests that auditor offices do have some autonomy when designing and implementing their advertising initiatives. I test for differences in the means and medians of several key control variables between auditor-DMA practices that do and do not engage in advertising. I report the results in Table 2-10 and find that the two groups are generally similar (i.e. there is a lack of a significant difference in auditor size, client riskiness, or industry composition).[8] Despite the general homogeneity among the two groups, I employ three separate

[8] Recall that I restrict my analysis to the nine largest audit firms thus auditor offices should be similar especially as for many DMAs there are multiple Big 4 and non-Big 4 auditor offices. As such, the sample represents auditor offices that are quite similar without the need to employ any matching techniques.

techniques in an effort to alleviate concerns about the influence of correlated omitted variables or the endogenous choice to advertise.

First, in untabulated supplemental analysis, I re-estimate Equation (2-4) and include the lagged dependent variable for each of my auditor fee regressions. Woolridge (2000) notes that including the lagged dependent variable alleviates concerns about the autocorrelation of error terms as well as omitted correlated variables. Such an econometric design is effectively a quasi-change model which allows the firm to act as its own control (Chen et al. 2011). I find that my variable of interest, *ADV_NEW*, continues to be negative and significant (p<0.10) across all three specifications, though it weakens in significance in the audit fee and total fee specifications.

Next, I re-estimate Equation (2-4) and include auditor fixed effects as including firm fixed effects is a common empirical technique to address endogeneity. Such a technique is effective provided that factors that impact the endogenous choice are time-invariant (Lennox et al. 2012). I report the results in Table 2-11. The explanatory power of each of my models improves slightly with the inclusion of auditor fixed effects. More importantly, I obtain quantitatively and qualitatively similar results for each of my tests (p<0.10).

Lastly, I re-estimate Equation (2-4) after employing an instrumental variable approach to provide additional comfort regarding the influence of endogeneity. Identifying a good instrument is a challenge and prior literature has used the lagged endogenous variable as the instrument. This empirical approach is only appropriate if the endogenous part of the regressor does not persist over time (Larcker and Rusticus 2010). This technique makes the opposite assumption to that of the fixed effect approach.

For my first stage model, I modify Equation (2-2) by measuring the dependent variable as the average of auditor-DMA spending and I include all control variables from my second-stage model not included in Equation (2-2). I do not report the results of my first-stage estimation for brevity but the results are consistent with those reported previously. I find that lagged auditor-

DMA advertising is significant and positively related to future auditor-DMA advertising (p<0.01). I report the results of my second-stage estimation in Table 2-12. I continue to find a negative and significant coefficient on the interaction term *ADV_NEW* for audit fees (p<0.01), non-audit fees (p<0.10), and total fees (p<0.01), respectively. Taken together, the results from my additional analysis suggest that my primary fee analysis is not driven by correlated omitted variables or endogeneity.

Concluding Remarks

While theory suggests that advertising should be positively related to a firm's competitive position in a market place and should be related to higher future sales, critics contend that advertising would not be beneficial to auditors. They assert that auditors cannot credibly communicate their quality to the market and that this would lead to potentially deceptive marketing. As a result, clients would not rely upon advertising and would make a decision to engage an auditor based upon the firm's reputation. Despite this debate, there has been little research done examining the relation between audit firm advertising and market structure due to data limitations.

I address this gap in the literature by using a proprietary database provided by Nielsen that tracks auditor advertising spending. I test the relation between advertising spending and market structure at both the national and local levels. I find that auditor advertising spending is positively related to future auditor market share for the national auditor only. I fail to find evidence of a positive relation between auditor advertising and future market share at the DMA level. Though I do not find any evidence of a relation between auditor advertising and future market share, I document a positive relation between auditor advertising and new audit clients at the local level. Further, I find that there is a negative relation between the interaction of auditor advertising spending and increases in the number of new audit engagements and average audit and nonaudit fees.

Though I test my hypothesis using several specifications and measures, my study is still subject to limitations. First, I cannot observe advertising by the smaller audit market; therefore, the results of this analysis may not generalize beyond the firms included here. Second, my measures of several dependent and independent variables are constructed using publicly available data. I cannot include data for private company audits or for nonaudit services provided to nonaudit clients which may induce measurement error into my analysis. Third, I only examine advertising which is a subset of a firm's overall marketing strategy. To the extent that other marketing avenues are associated with both market structure and the audit firm's advertising budget this may induce bias. Despite these limitations, this study represents a good first step toward understanding how audit firm advertising influences the way the market for audit and accounting services works.

Table 2-1. Advertising Summary Statistics (in thousands)

Panel A: Total advertising by fiscal year

Fiscal Year	Mean	Std. Dev.	Q1	Median	Q3	N
2003	1,433.162	3,347.159	8.470	101.997	945.059	9
2004	2,167.001	5,301.328	3.669	167.425	180.012	9
2005	1,832.147	3,738.278	82.160	240.851	346.810	9
2006	2,640.878	4,040.475	176.772	505.517	2,784.834	9
2007	2,921.990	4,643.995	123.869	1,393.903	3,034.437	9
2008	3,184.526	6,419.715	434.360	515.901	2,140.241	9
2009	1,977.883	3,699.676	175.529	432.554	916.180	9
2010	1,263.262	1,556.948	160.664	629.856	2,027.883	9
2011	1,547.917	2,196.440	512.040	671.227	1,580.963	9
2012	1,168.100	1,337.826	312.178	504.782	1,765.107	9
2013	1,021.356	866.017	303.423	906.080	1,867.566	9

Panel B: Total national advertising by fiscal year

Fiscal Year	Mean	Std. Dev.	Q1	Median	Q3	N
2003	1,264.713	3,202.815	-	-	694.626	9
2004	1,914.734	4,945.098	-	-	41.600	9
2005	1,693.297	3,713.623	-	100.895	274.971	9
2006	1,851.190	3,442.735	-	35.334	1,376.487	9
2007	2,179.164	4,122.840	0.145	330.333	2,294.545	9
2008	2,649.069	5,941.300	0.024	22.344	1,653.061	9
2009	1,585.831	3,303.578	0.926	85.727	599.630	9
2010	994.772	1,456.798	1.763	148.581	1,605.801	9
2011	1,281.695	2,014.975	5.051	579.159	1,400.725	9
2012	976.943	1,267.772	27.941	208.595	1,731.407	9
2013	732.946	866.137	2.029	420.049	1,273.700	9

Table 2-1. Continued

Panel C: Total local (DMA) advertising by fiscal year

Fiscal Year	Mean	Std. Dev.	Q1	Median	Q3	N
2003	168.449	185.424	8.470	101.997	280.538	9
2004	252.267	371.062	3.669	167.425	180.012	9
2005	138.850	214.812	21.976	38.817	153.209	9
2006	789.688	713.115	171.554	470.183	1,408.255	9
2007	742.826	799.820	91.203	643.450	739.892	9
2008	535.457	527.839	127.139	487.180	658.521	9
2009	392.052	434.035	89.802	316.550	572.825	9
2010	268.490	255.155	30.236	158.901	481.275	9
2011	266.222	309.141	37.235	128.166	511.961	9
2012	191.157	182.626	33.700	192.256	236.866	9
2013	288.410	248.435	121.233	201.933	446.913	9

This table presents descriptive statistics for the amount of advertising incurred by the nine largest public accounting firms by year. Panel A reflects the total amount of advertising in all markets for the fiscal year. Panel B reports descriptive statistics for national advertising only while Panel C contains only local level advertising. All statistics are in thousands and presented in the aggregate per the license agreement with The Nielsen Company LLC.

Table 2-2. Summary Statistics

Panel A: Descriptives for national auditor practices

Variable	Mean	Std. Dev.	Q1	Median	Q3	N
MRKSHR	0.111	0.125	0.001	0.003	0.251	99
ADV_TOTAL (in 000s)	1,923.475	3,635.528	101.997	441.443	2,027.883	99
ADV_LOCAL (in 000s)	366.715	466.295	35.318	175.161	515.877	99
ADV_NAT (in 000s)	1,556.759	3,329.835	-	99.037	1,605.801	99
AUD_FEES	1,210,000,000	1,380,000,000	25,800,000	175,000,000	2,630,000,000	99
NONAUD_FEES	357,000,000	422,000,000	5,922,432	23,900,000	752,000,000	99
TOTAL_FEES	1,560,000,000	1,780,000,000	2,400,000	199,000,000	3,410,000,000	99
SIZE (in millions)	7,771,866	9,182,778	70,868	212,048	17,100,000	99
RESTATE	44.051	60.928	2.000	16.000	64.000	99
ROA	(0.064)	0.162	(0.117)	(0.040)	(0.006)	99
LOSS	221.212	222.181	25.000	119.000	396.000	99
BUSY	411.808	399.422	67.000	186.000	806.000	99
SEGS	1.025	0.444	0.848	1.228	1.295	99
TENURE	7.696	4.788	3.938	5.760	11.560	99
REG	119.000	104.090	30.000	65.000	220.000	99
DISTANCE	0.009	0.015	-	0.001	0.012	99
HERF	0.250	0.002	0.248	0.250	0.251	99

Panel B: Descriptives for DMA auditor practices

Variable	Mean	Std. Dev.	Q1	Median	Q3	N
MRKSHR	0.221	0.253	0.012	0.121	0.344	3,618
ADV_DMA (in 000s)	1.805	8.230	0.000	0.000	0.000	3,618
AVG_ADV_DMA (in 000s)	0.247	1.257	0.000	0.000	0.000	3,618
AVG_AF	1,582,271.00	1,390,218.00	560,637.80	1,214,411.00	2,170,310.00	3,618
AVG_NAF	378,867.70	513,518.50	73,583.50	215831.00	472,349.80	3,618
AVG_TF	1,963,138.00	1,796,672.00	667,981.00	1,459,013.00	2,710,408.00	3,618
AUD_FEES	19,760,620	38,071,290	1,470,540	5,370,521	18,490,870	3,618

Table 2-2. Continued

Panel B Descriptives for DMA auditor practices

Variable	Mean	Std. Dev.	Q1	Median	Q3	N
NONAUD_FEES	5,428,585	13,732,010	209,022	964,948	4,089,017	3,618
TOTAL_FEES	25,042,820	49,909,570	1,731,000	6,475,202	23,116,300	3,618
SIZE (in millions)	88,213.640	279,045.200	1,367.343	9,508.871	45,382.550	3,618
RESTATE	0.745	1.621	0.000	0.000	1.000	3,618
ROA	-0.033	0.186	-0.052	0.015	0.047	3,618
LOSS	4.180	9.473	0.000	1.000	4.000	3,618
BUSY	7.704	13.020	1.000	3.000	7.000	3,618
REG	2.061	3.319	0.000	1.000	2.000	3,618
ENG	11.326	21.358	2.000	4.000	10.000	3,618
DISTANCE	0.134	0.219	0.006	0.044	0.129	3,618
LEADER	0.226	0.418	0.000	0.000	0.000	3,618
HERF	0.465	0.171	0.331	0.426	0.547	3,618
BIGMS	0.280	0.449	0.000	0.000	1.000	3,618
AVG_NEW	0.046	0.117	0.000	0.000	0.024	3,618
AVG_SIZE (in millions)	5,448.805	10,035.760	502.684	1,959.387	5,445.099	3,618
AVG_RESTATE	0.067	0.151	0.000	0.000	0.077	3,618
LEV	0.258	0.173	0.151	0.234	0.325	3,618
AVG_CR	2.245	1.670	1.294	1.804	2.654	3,618
AVG_CA_TA	0.381	0.179	0.257	0.362	0.482	3,618
AVG_ARINV	0.261	0.135	0.166	0.247	0.334	3,618
AVG_LOSS	0.314	0.293	0.000	0.286	0.500	3,618
AVG_AQC	48.107	109.334	0.000	7.564	42.882	3,618
AVG_BUSY	0.715	0.280	0.563	0.750	1.000	3,618
TENURE	11.755	9.642	4.571	9.744	15.735	3,618
AVG_REG	0.207	0.239	0.000	0.148	0.333	3,618

This table presents descriptive statistics for the analysis conducted at the national and digital media area (DMA) market levels. Advertising data is obtained from The Nielsen Company LLC and all statistics are presented in thousands and the aggregate per the license agreement. All audit and nonaudit fees, incidences of restatement, and auditor opinion data are obtained from Audit Analytics. All client financial statement data are obtained from the Compustat Annual File. Panel A reports the statistics for the national auditing practices of each firm. *MRKSHR* is defined as the national market share for audit firm i in year t using total assets

audited at the national level. *ADV_TOTAL* is defined as the total advertising spending, both nationally and locally, for audit firm i in year t. *ADV_LOCAL* is total local advertising spending for audit firm i in year t. *ADV_NAT* is total national advertising spending for audit firm i in year t. *AUD_FEES* is the sum of all audit fees for audit firm i in year t measured nationally. *NONAUD_FEES* is the sum of all nonaudit fees for audit firm i in year t measured nationally. *TOTAL_FEES* is the sum of the total fees, including all audit and nonaudit fees, for audit firm i in year t measured nationally. *SIZE* is the sum of total assets audited by audit firm i in year t measured nationally. *RESTATE* is the total number of income-decreasing restatements for audit firm i in year t measured nationally. *ROA* is the average return on net operating assets for audit firm i in year t measured nationally. *LOSS* is the total number of clients reporting a loss for audit firm i in year t measured nationally. *BUSY* is the total number of clients with a December year-end for audit firm i in year t measured nationally. *SEGS* is the average number of segments for audit firm i in year t measured nationally. *TENURE* is the total number of years of tenure across all clients for audit firm i in year t measured nationally. *REG* is the total number of clients operating in regulated industries for audit firm i in year t measured nationally. *DISTANCE* is the smallest absolute difference in market share between the incumbent auditor and the closest competitor measured using total assets audited in year t. *HERF* is the herfindahl concentration index at the national audit market level measured using total assets audited in year t. Panel B reports the descriptives for each auditor-DMA practice. *MRKSHR* is defined as the market share for audit firm i in year t using total assets audited at the DMA level. *ADV_DMA* is measured as the total local advertising for audit firm i in DMA j in year t. *AVG_ADV_DMA* is measured as the local advertising spending for audit firm i in DMA j in year t scaled by the total number of audit engagements for the auditor in DMA j in year t. *AVG_AF* is measured as the average audit fee per audit engagement for audit firm i in DMA j in year t. *AVG_NAF* is measured as the average nonaudit fee for an audit client of audit firm i in DMA j in year t. *AVG_TF* is measured as the average total fee for an audit client of audit firm i in DMA j in year t. *AUD_FEES* is the sum of all audit fees for firm i in DMA j in year t. *NONAUD_FEES* is the sum of all nonaudit fees for firm i in DMA j in year t. *TOTAL_FEES* is the sum of the total fees, including all audit and nonaudit fees, for firm i in DMA j in year t. *SIZE* is the sum of total assets audited by audit firm i in DMA j in year t. *RESTATE* is the total number of income-decreasing restatements for audit clients of audit firm i in DMA j in year t. *ROA* is the average return on net operating assets for audit clients of audit firm i in DMA j in year t. *LOSS* is the total number of clients reporting a loss for audit firm i in DMA j in year t. *BUSY* is the total number of clients with a December year-end for audit firm i in DMA j in year t. *SEGS* is the average number of segments for an audit client of audit firm i in DMA j in year t. *TENURE* is the total number of years of tenure across all clients for audit firm i in DMA j in year t. *REG* is the total number of clients operating in regulated industries for audit firm i in DMA j in year t. *ENG* is the total number of audit engagements for audit firm i in DMA j in year t. *DISTANCE* is the smallest absolute difference in market share between the incumbent auditor and the closest competitor measured using total assets audited in DMA j in year t. *LEADER* is an indicator taking a value of 1 if audit firm i has the largest market share in DMA j in year t measured using total assets audited. *HERF* is the herfindahl concentration index at measured at the DMA market level using total assets audited in year t. *BIGMS* is an indicator variable taking a value of 1 if audit firm i has a market share greater than 30% in DMA j in year t where market share is measured using total assets audited. *AVG_NEW* is the ratio of new audit clients to total audit clients for audit firm i in DMA j in year t. *AVG_SIZE* is the average total assets for an audit client of audit firm i in DMA j in year t. *AVG_RESTATE* is the ratio of clients that have an income-decreasing restatement to the total number of audit engagements for audit firm i in DMA j in year t. *LEV* is the average leverage ratio for a given audit client of audit firm i in DMA j in year t. *AVG_CR* is the average ratio of current assets to current liabilities for an audit client of audit firm i in DMA j in year t. *AVG_CA_TA* is the average ratio of current assets to total assets for an audit client of audit firm i in DMA j in year t. *AVG_ARINV* is the average ratio of accounts receivable plus inventories divided by total assets for an audit client of audit firm i in DMA j in year t. *AVG_LOSS* is the ratio of clients with negative net income to the total number of audit clients for audit firm i in DMA j in year t. *AVG_AQC* is the average size of an acquisition for an audit client of audit firm i in DMA j in year t. *AVG_BUSY* is the ratio of the number of audit engagements that have a December year-end to total audit engagements for audit firm i in DMA j in year t. *TENURE* is the average length of auditor tenure for an audit client of audit firm i in DMA j in year t. *AVG_REG* is the ratio of audit clients operating in a regulated industry to total audit clients for audit firm i in DMA j in year t.

Table 2-3. Correlations

Panel A: Correlations for national auditor practice variables

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)	*MRKSHR*	1.00	**0.29**	0.25	**0.29**	**0.92**	**0.92**	**0.93**	**0.95**	**0.64**	**0.39**	**0.79**	**0.86**	**0.62**	**0.91**	**0.90**	**0.60**	**0.00**
(2)	*ADV_TOTAL*	**0.38**	1.00	**0.69**	**0.99**	**0.40**	**0.43**	**0.41**	**0.29**	0.25	0.05	**0.26**	**0.30**	**0.34**	**0.35**	0.24	0.07	-0.09
(3)	*ADV_LOCAL*	**0.29**	**0.80**	1.00	**0.62**	**0.36**	**0.32**	**0.36**	**0.27**	0.09	0.15	0.26	**0.26**	0.22	**0.30**	0.23	0.06	-0.28
(4)	*ADV_NAT*	**0.41**	**0.90**	**0.57**	1.00	**0.39**	**0.43**	**0.40**	**0.28**	**0.26**	0.04	0.25	**0.29**	**0.34**	**0.34**	0.23	0.07	-0.06
(5)	*AUD_FEES*	**0.90**	**0.44**	**0.35**	**0.50**	1.00	**0.94**	**1.00**	**0.96**	**0.62**	**0.30**	**0.87**	**0.92**	**0.61**	**0.97**	**0.92**	**0.63**	-0.11
(6)	*NONAUD_FEES*	**0.90**	**0.42**	**0.32**	**0.47**	**0.95**	1.00	**0.96**	**0.91**	**0.81**	**0.28**	**0.90**	**0.95**	**0.60**	**0.97**	**0.93**	**0.67**	0.08
(7)	*TOTAL_FEES*	**0.90**	**0.45**	**0.36**	**0.51**	**1.00**	**0.96**	1.00	**0.96**	**0.67**	**0.30**	**0.88**	**0.94**	**0.62**	**0.98**	**0.93**	**0.65**	-0.07
(8)	*SIZE*	**0.94**	**0.39**	**0.30**	**0.43**	**0.94**	**0.90**	**0.93**	1.00	**0.57**	**0.35**	**0.79**	**0.87**	**0.59**	**0.93**	**0.91**	**0.59**	-0.06
(9)	*RESTATE*	**0.79**	0.26	0.23	**0.29**	**0.85**	**0.90**	**0.86**	**0.80**	1.00	0.11	**0.81**	**0.82**	**0.48**	**0.73**	**0.78**	**0.58**	**0.32**
(10)	*ROA*	**0.30**	0.13	0.16	0.02	0.20	0.21	0.21	0.32	0.13	1.00	0.17	0.23	0.00	**0.29**	**0.31**	0.18	-0.12
(11)	*LOSS*	**0.79**	**0.30**	0.26	**0.37**	**0.91**	**0.93**	**0.92**	**0.83**	**0.93**	0.08	1.00	**0.97**	**0.61**	**0.94**	**0.90**	**0.70**	0.06
(12)	*BUSY*	**0.83**	**0.33**	**0.29**	**0.37**	**0.92**	**0.95**	**0.95**	**0.85**	**0.94**	0.17	**0.97**	1.00	**0.62**	**0.97**	**0.96**	**0.71**	0.04
(13)	*SEGS*	**0.85**	**0.39**	0.21	**0.48**	**0.85**	**0.86**	**0.86**	**0.83**	**0.76**	0.11	**0.77**	**0.77**	1.00	**0.62**	**0.58**	**0.39**	0.01
(14)	*TENURE*	**0.83**	**0.39**	**0.33**	**0.44**	**0.93**	**0.93**	**0.94**	**0.86**	**0.87**	0.21	**0.92**	**0.94**	**0.79**	1.00	**0.938**	**0.718**	0.007
(15)	*REG*	**0.81**	**0.29**	**0.29**	**0.29**	**0.83**	**0.87**	**0.84**	**0.84**	**0.87**	**0.38**	**0.84**	**0.90**	**0.69**	**0.83**	1.00	**0.62**	-0.02
(16)	*DISTANCE*	**0.74**	**0.33**	**0.29**	**0.35**	**0.78**	**0.8**	**0.78**	**0.75**	**0.69**	**0.25**	**0.8**	**0.77**	**0.65**	**0.85**	**0.70**	1.00	0.22
(17)	*HERF*	-0.03	-0.12	-0.21	-0.10	-0.11	0.0	-0.09	-0.05	0.06	-0.08	0.0	0.00	0.07	0.00	-0.06	0.03	1.00

Table 2-3. Continued

Panel B: Correlations for DMA auditor practice variables

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)	*MRKSHR*	1.00	**-0.08**	**0.42**	**0.32**	**0.42**	**0.15**	**0.17**	0.02	**0.74**	**0.87**	**0.23**	**0.87**	**-0.08**	**0.45**	-0.02
(2)	*ADV_DMA*	**-0.10**	1.00	0.00	0.02	0.01	-0.03	**-0.06**	**0.20**	**-0.09**	**-0.04**	**-0.12**	**-0.04**	0.04	0.03	-0.01
(3)	*AVG_AF*	**0.58**	-0.01	1.00	**0.69**	**0.98**	**0.14**	**0.33**	**0.13**	**0.22**	**0.33**	-0.02	**0.38**	**-0.09**	**0.68**	-0.02
(4)	*AVG_NAF*	**0.52**	**0.05**	**0.70**	1.00	**0.81**	**0.12**	**0.25**	**0.14**	**0.16**	**0.25**	-0.02	**0.28**	**-0.06**	**0.58**	0.03
(5)	*AVG_TF*	**0.60**	0.00	**0.98**	**0.80**	1.00	**0.15**	**0.33**	**0.14**	**0.22**	**0.33**	-0.02	**0.37**	**-0.09**	**0.69**	0.00
(6)	*ROA*	**0.17**	**-0.10**	**0.13**	**0.09**	**0.13**	1.00	**0.15**	-0.03	**0.11**	**0.09**	**0.05**	**0.11**	**-0.11**	**0.10**	0.02
(7)	*SEGS*	**0.20**	-0.01	**0.36**	**0.30**	**0.37**	**0.16**	1.00	**-0.13**	**0.15**	**0.13**	**0.12**	**0.12**	**-0.05**	**0.18**	0.03
(8)	*ENG*	**0.21**	**0.23**	**0.28**	**0.40**	**0.30**	**-0.23**	-0.02	1.00	**-0.10**	0.03	**-0.29**	**0.05**	-0.01	**0.16**	0.00
(9)	*DISTANCE*	**0.76**	**-0.15**	**0.36**	**0.31**	**0.37**	**0.19**	**0.15**	**-0.05**	1.00	**0.60**	**0.55**	**0.54**	**-0.07**	**0.30**	0.02
(10)	*LEADER*	**0.74**	**-0.04**	**0.34**	**0.31**	**0.35**	**0.08**	**0.13**	**0.10**	**0.58**	1.00	**0.15**	**0.86**	**-0.06**	**0.38**	-0.01
(11)	*HERF*	**0.07**	**-0.16**	**-0.09**	**-0.11**	**-0.09**	**0.14**	**0.05**	**-0.44**	**0.30**	**0.14**	1.00	**0.08**	**-0.07**	**0.06**	0.02
(12)	*BIGMS*	**0.79**	**-0.04**	**0.39**	**0.33**	**0.40**	**0.09**	**0.13**	**0.11**	**0.58**	**0.86**	**0.08**	1.00	**-0.06**	**0.42**	-0.03
(13)	*AVG_NEW*	**-0.05**	**0.15**	0.00	**0.06**	0.00	**-0.18**	**-0.06**	**0.44**	**-0.14**	-0.04	**-0.26**	-0.03	1.00	**-0.05**	**0.04**
(14)	*AVG_SIZE*	**0.74**	0.00	**0.80**	**0.69**	**0.82**	**0.14**	**0.25**	**0.40**	**0.48**	**0.48**	**-0.10**	**0.53**	**0.04**	1.00	-0.01
(15)	*AVG_RESTATE*	**0.09**	**0.11**	**0.11**	**0.21**	**0.13**	**-0.13**	0.03	**0.41**	-0.02	**0.04**	**-0.20**	**0.04**	**0.24**	**0.14**	1.00
(16)	*LEV*	**0.16**	-0.02	**0.18**	**0.16**	**0.19**	**-0.12**	**0.16**	0.03	**0.09**	**0.11**	-0.01	**0.12**	0.00	**0.21**	**0.04**
(17)	*AVG_CR*	**-0.19**	**0.08**	**-0.12**	**-0.09**	**-0.12**	-0.03	0.00	**0.04**	**-0.15**	**-0.11**	-0.03	**-0.12**	**0.06**	**-0.26**	0.00
(18)	*AVG_CA_TA*	**-0.35**	**0.07**	**-0.19**	**-0.19**	**-0.20**	**-0.11**	-0.03	**-0.06**	**-0.26**	**-0.20**	-0.01	**-0.23**	**0.04**	**-0.41**	-0.01
(19)	*AVG_ARINV*	**-0.13**	**0.05**	**-0.17**	**-0.11**	**-0.17**	**0.07**	**-0.08**	-0.01	**-0.12**	**-0.06**	0.00	**-0.08**	0.03	**-0.16**	-0.03
(20)	*AVG_LOSS*	**-0.22**	**0.10**	**-0.13**	**-0.07**	**-0.13**	**-0.76**	**-0.15**	**0.27**	**-0.24**	**-0.13**	**-0.18**	**-0.14**	**0.19**	**-0.18**	**0.13**
(21)	*AVG_AQC*	**0.28**	**0.05**	**0.49**	**0.47**	**0.51**	**0.04**	**0.22**	**0.46**	**0.09**	**0.13**	**-0.22**	**0.14**	**0.17**	**0.44**	**0.21**
(22)	*AVG_BUSY*	**0.05**	**-0.08**	-0.01	**-0.07**	-0.02	0.02	0.00	**-0.22**	**0.10**	0.03	**0.13**	**0.06**	**-0.12**	0.01	**-0.10**
(23)	*TENURE*	**0.49**	**-0.04**	**0.51**	**0.50**	**0.52**	**0.18**	**0.23**	**0.23**	**0.36**	**0.26**	0.01	**0.30**	**-0.12**	**0.51**	**0.06**
(24)	*AVG_REG*	**0.32**	**0.05**	**0.16**	**0.16**	**0.16**	0.00	**-0.04**	**0.31**	**0.19**	**0.21**	**-0.07**	**0.23**	**0.09**	**0.41**	**0.09**

Table 2-3. Continued

Panel B: Correlations for DMA auditor practice variables

		(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(1)	*MRKSHR*	**0.07**	**-0.15**	**-0.30**	**-0.09**	**-0.22**	**0.17**	**0.10**	**0.38**	**0.28**
(2)	*ADV_DMA*	-0.01	0.03	0.02	**0.05**	**0.05**	-0.03	-0.03	**-0.06**	0.01
(3)	*AVG_AF*	**0.09**	**-0.15**	**-0.17**	**-0.11**	**-0.15**	**0.37**	0.02	**0.47**	**0.02**
(4)	*AVG_NAF*	**0.07**	**-0.11**	**-0.13**	**-0.08**	**-0.12**	**0.34**	0.01	**0.43**	-0.01
(5)	*AVG_TF*	**0.10**	**-0.15**	**-0.17**	**-0.11**	**-0.15**	**0.38**	0.01	**0.49**	0.02
(6)	*ROA*	**-0.18**	**-0.04**	**-0.19**	0.03	**-0.51**	**0.06**	-0.03	**0.17**	**0.09**
(7)	*SEGS*	**0.13**	**-0.07**	**-0.08**	**-0.12**	**-0.15**	**0.16**	0.00	**0.29**	-0.02
(8)	*ENG*	**-0.08**	0.01	**-0.06**	**-0.14**	**0.14**	**0.10**	**-0.04**	-0.01	-0.03
(9)	*DISTANCE*	0.02	**-0.05**	**-0.14**	**-0.04**	**-0.17**	**0.07**	**0.08**	**0.26**	**0.21**
(10)	*LEADER*	**0.06**	**-0.09**	**-0.21**	**-0.07**	**-0.15**	**0.13**	**0.06**	**0.26**	**0.21**
(11)	*HERF*	0.00	**0.05**	0.03	0.02	**-0.08**	**-0.06**	**0.05**	**0.06**	**0.07**
(12)	*BIGMS*	**0.07**	**-0.10**	**-0.24**	**-0.09**	**-0.17**	**0.15**	**0.09**	**0.29**	**0.22**
(13)	*AVG_NEW*	0.02	-0.01	**0.05**	**0.06**	**0.06**	-0.01	-0.03	**-0.16**	-0.03
(14)	*AVG_SIZE*	**0.07**	**-0.15**	**-0.21**	**-0.04**	**-0.13**	**0.25**	**0.05**	**0.34**	**0.18**
(15)	*AVG_RESTATE*	**0.05**	**-0.04**	0.00	-0.03	0.00	-0.03	-0.02	0.00	**-0.04**
(16)	*LEV*	1.00	**-0.30**	**-0.33**	**-0.16**	**0.11**	**0.06**	**0.08**	-0.01	**0.06**
(17)	*AVG_CR*	**-0.36**	1.00	**0.50**	-0.01	**0.07**	**-0.07**	**-0.06**	**-0.08**	**-0.21**
(18)	*AVG_CA_TA*	**-0.39**	**0.64**	1.00	**0.41**	**0.16**	**-0.12**	**-0.19**	**-0.16**	**-0.47**
(19)	*AVG_ARINV*	**-0.22**	**0.09**	**0.43**	1.00	**-0.07**	**-0.10**	**-0.14**	**-0.04**	**-0.06**
(20)	*AVG_LOSS*	**0.06**	**0.05**	**0.14**	**-0.07**	1.00	**-0.06**	0.01	**-0.22**	**-0.20**
(21)	*AVG_AQC*	**0.10**	-0.02	**-0.10**	**-0.08**	0.00	1.00	-0.01	**0.17**	**-0.04**
(22)	*AVG_BUSY*	**0.07**	**-0.14**	**-0.18**	**-0.15**	**-0.07**	**-0.11**	1.00	-0.02	**0.21**
(23)	*TENURE*	0.01	**-0.04**	**-0.15**	**-0.04**	**-0.18**	**0.29**	**-0.07**	1.00	**0.09**
(24)	*AVG_REG*	**0.11**	**-0.32**	**-0.46**	**-0.05**	**-0.09**	**0.04**	**0.11**	**0.16**	1.00

This table reports Pearson (Spearman) correlations above (below) the diagonal. All correlations significant at the 0.01 level are bolded. Panel A reports the pairwise correlations between all variables measured at the national auditor level. Panel B reports the pairwise correlations between all variables measured at the local (DMA) auditor level. All variables are as previously defined in Table 2-2.

Table 2-4. OLS Regression of Future Market Share on Accounting Firm Advertising and Controls.

Panel A: Relation Between National Market Share and Total Firm Advertising

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_TOTAL	+	0.051	**	0.127	***	0.170	***
		2.03		3.36		3.54	
SIZE	+	0.878	***	0.842	***	0.907	***
		30.02		16.86		17.75	
DISTANCE	+	0.109	**	0.074		-0.012	
		2.33		1.02		-0.15	
HERF	+	-0.048		0.096	***	0.124	***
		-1.22		3.00		3.26	
AVG_REG	+	-0.026		-0.048		-0.026	
		-2.22		-2.61		-1.49	
Observations		99		99		99	
Adj. R^2		0.940		0.912		0.915	

Panel B: Relation Between National Market Share and National Firm Advertising

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_NAT	+	0.050	**	0.103	***	0.143	***
		2.16		2.85		2.93	
SIZE	+	0.875	***	0.825	***	0.889	***
		29.00		14.68		14.80	
DISTANCE	+	0.113	**	0.100		0.017	
		2.39		1.22		0.17	
HERF	+	-0.050		0.094	***	0.123	***
		-1.27		2.96		3.18	
AVG_REG	+	-0.025		-0.049		-0.028	
		-2.14		-2.64		-1.56	
Observations		99		99		99	
Adj. R^2		0.940		0.909		0.910	

Table 2-4. Continued

Panel C: Relation Between National Market Share and Local Firm Advertising

Variables	Exp Sign	(1) MRKSHR_AT Coefficient t-statistic		(2) MRKSHR_AF Coefficient t-statistic		(3) MRKSHR_TF Coefficient t-statistic	
ADV_LOCAL	+	-0.010		0.107	***	0.115	***
		-0.45		3.48		3.47	
SIZE	+	0.895	***	0.775	***	0.820	***
		27.25		14.46		15.85	
DISTANCE	+	0.104	**	0.169	**	0.123	*
		2.08		2.54		1.72	
HERF	+	-0.050		0.120	***	0.140	***
		-1.25		3.44		3.39	
AVG_REG	+	-0.032		-0.050		-0.035	
		-2.88		-2.65		-1.93	
Observations		99		99		99	
Adj. R^2		0.938		0.911		0.909	

Panel D: Relation Between National Market Share and Total Firm Advertising (Big 4 Only)

Variables	Exp Sign	(1) MRKSHR_AT Coefficient t-statistic		(2) MRKSHR_AF Coefficient t-statistic		(3) MRKSHR_TF Coefficient t-statistic	
ADV_TOTAL	+	0.318	***	0.501	***	0.572	***
		3.52		4.12		3.37	
SIZE	+	0.276	**	0.490	***	0.459	***
		2.20		3.86		3.28	
DISTANCE	+	0.077		0.098		0.025	
		0.48		0.79		0.15	
HERF	+	-0.114		0.153		0.144	
		-0.56		1.55		1.18	
AVG_REG	+	0.349		-0.682		-0.580	
		2.92		-6.47		-5.08	
Observations		44		44		44	
Adj. R^2		0.334		0.734		0.691	

Table 2-4. Continued

Panel E: Relation Between National Market Share and Total Firm Advertising (Non-Big 4 Only)

Variables	Exp Sign	(1) MRKSHR_AT Coefficient t-statistic		(2) MRKSHR_AF Coefficient t-statistic		(3) MRKSHR_TF Coefficient t-statistic	
ADV_TOTAL	+	-0.005		0.189	**	0.204	**
		-0.06		1.92		1.94	
SIZE	+	0.857	***	0.440	***	0.421	***
		15.59		4.05		4.03	
DISTANCE	+	0.088		0.289	***	0.288	***
		0.93		3.22		2.96	
HERF	+	-0.082		0.040		-0.003	
		-1.14		0.52		-0.03	
AVG_REG	+	-0.067		-0.288		-0.293	
		-1.44		-3.62		-3.04	
Observations		55		55		55	
Adj. R^2		0.862		0.795		0.798	

This table reports the results of ordinary least squares regressions of Equation (2-1). The dependent variable *MRKSHR* in column (1) is the national market share for audit firm i in year t measured using the sum of total assets audited in Panels A through E, respectively. The dependent variable *MRKSHR* in column (2) is the national market share for audit firm i in year t measured using the sum of total audit fees in Panels A through E, respectively. The dependent variable *MRKSHR* in column (3) is the national market share for audit firm i in year t measured using the sum of total fees in Panels A through E, respectively. *ADV_TOTAL*, *ADV_NAT*, *ADV_LOCAL*, and *AVG_REG*, *DISTANCE*, and *HERF* are as defined previously in Table 2-2 for the year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-5. OLS Regression of Accounting Firm Total Advertising on Potential Determinants

Variables	Exp Sign	(1) ADV_TOTAL Coefficient t-statistic		(2) ADV_TOTAL Coefficient t-statistic		(3) ADV_TOTAL Coefficient t-statistic	
MRKSHR	?	0.127		0.667		-0.185	
		0.24		0.53		-0.09	
DISTANCE	-	-0.262	*	0.347		0.423	
		-1.95		2.16		3.11	
HERF	-	0.117	*	-0.171	*	-0.208	**
		1.73		-1.98		-2.54	
AUD_FEES	+	1.433	***	1.214	**	1.347	
		5.10		2.26		1.58	
NONAUD_FEES	+	1.707	***	0.963		1.249	
		4.45		1.29		1.13	
SIZE	-	-1.733	***	-1.703	***	-1.534	***
		-3.37		-4.77		-4.45	
RESTATE	+	-0.274		0.068		0.034	
		-0.90		0.28		0.14	
ROA	-	-0.019		-0.012		-0.040	*
		-0.78		-0.65		-1.96	
LOSS	+	-1.256		-1.201		-0.946	
		-3.23		-2.97		-2.57	
BUSY	-	0.814		0.325		0.413	
		1.41		0.45		0.66	
SEGS	-	0.267	***	0.255	***	0.221	***
		3.98		3.72		3.29	
TENURE	-	0.047		-0.003		0.023	
		0.31		-0.02		0.17	
REG	-	-0.636	**	-0.508		-0.553	
		-2.23		-1.43		-1.58	
Observations		99		99		99	
Adj. R^2		0.486		0.647		0.666	

This table reports the results of ordinary least squares regressions of Equation (2-2). The dependent variable *ADV_TOTAL* is the total advertising spending for audit firm i in year t in columns (1), (2), and (3). *MRKSHR* is the national market share for audit firm i in year t-1 measured using total assets, total audit fees, and total fees in columns (1), (2), and (3), respectively. All other variables are as defined previously in Table 2-2 for the year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-6. OLS Regression of Future DMA Market Share on Accounting Firm Advertising and Controls

Panel A: Relation Between DMA Market Share and DMA Firm Advertising

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_DMA	+	-0.059		-0.075		-0.077	
		-8.04		-9.87		-10.05	
ADV_NAT	+	0.049	***	0.079	***	0.082	***
		5.08		8.44		8.95	
SIZE	+	0.124	***	0.119	***	0.123	***
		9.61		13.11		13.65	
DISTANCE	+	0.807	***	0.804	***	0.797	***
		41.85		35.44		36.01	
HERF	+	-0.194		-0.119		-0.116	
		-16.90		-7.45		-7.34	
AVG_REG	+	0.109	***	0.070	***	0.073	***
		8.94		5.97		6.24	
Observations		3,618		3,618		3,618	
Adj. R^2		0.634		0.609		0.603	

Panel B: Relation Between DMA Market Share and National and DMA Firm Advertising

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_DMA	+	-0.007		-0.014		-0.014	
		-2.53		-4.92		-4.80	
ADV_NAT	+	0.007		0.014	***	0.015	***
		1.35		2.63		2.82	
MRKSHR	+	0.933	***	0.789	***	0.798	***
		71.51		45.01		46.17	
SIZE	+	-0.001		0.012	**	0.012	**
		-0.09		2.23		2.33	
DISTANCE	+	0.006		0.249	***	0.234	***
		0.39		11.04		10.48	
HERF	+	0.009		-0.082		-0.077	
		1.16		-8.53		-8.01	
AVG_REG	+	0.005		0.006		0.007	
		0.98		1.01		1.15	

Table 2-6. Continued

Panel B: Relation Between DMA Market Share and National and DMA Firm Advertising

Observations	3,618	3,618	3,618
Adj. R^2	0.887	0.904	0.904

Panel C: Relation Between DMA Market Share and DMA Firm Advertising (Big 4 Only)

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_DMA	+	-0.018		-0.022		-0.022	
		-1.97		-2.55		-2.55	
ADV_NAT	+	0.031	***	0.056	***	0.056	***
		2.79		5.22		5.22	
SIZE	+	0.084	***	0.064	***	0.064	***
		5.79		7.27		7.27	
DISTANCE	+	0.868	***	0.878	***	0.878	***
		50.03		41.45		41.45	
HERF	+	-0.220		-0.129		-0.129	
		-16.21		-7.48		-7.48	
AVG_REG	+	0.075	***	0.017		0.017	
		5.63		1.33		1.33	
Observations		2,643		2,643		2,643	
Adj. R^2		0.658		0.665		0.656	

Panel D: Relation Between DMA Market Share and DMA Firm Advertising (Non-Big 4 Only)

		(1) MRKSHR_AT		(2) MRKSHR_AF		(3) MRKSHR_TF	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic		Coefficient t-statistic	
ADV_DMA	+	-0.071		-0.085		-0.083	
		-6.53		-8.36		-8.15	
ADV_NAT	+	-0.009	***	0.078	***	0.081	***
		-0.31		2.60		2.65	
SIZE	+	0.064	***	0.057	***	0.049	***
		2.87		2.98		2.70	
DISTANCE	+	0.436	***	0.320	***	0.319	***
		4.60		3.80		3.95	
HERF	+	-0.104		0.054		0.060	
		-3.75		1.58		1.86	
AVG_REG	+	0.034	***	-0.059		-0.055	
		1.47		-2.92		-2.82	

Table 2-6. Continued

Panel D: Relation Between DMA Market Share and DMA Firm Advertising (Non-Big 4 Only)

Observations	975	975	975
Adj. R^2	0.172	0.155	0.156

This table reports the results of ordinary least squares regressions of Equation (2-3). The dependent variable *MRKSHR_AT* in column (1) is the DMA market share for audit firm i in year t measured using the sum of total assets audited in Panels A and B, respectively. The dependent variable *MRKSHR_AF* in column (2) is the DMA market share for audit firm i in year t measured using the sum of total audit fees in Panels A and B, respectively. The dependent variable *MRKSHR_TF* in column (3) is the DMA market share for audit firm i in year t measured using the sum of total fees in Panels A and B, respectively. *DMA_ADV*, *NAT_ADV*, and *AVG_REG_DMA* are as defined previously in Table 2-2 for the year t-1. In Panels A and B, *DISTANCE_DMA* is the smallest absolute difference in DMA market share between the incumbent auditor and the closest competitor measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3) for year t-1. For Panels A and B, *LEADER_DMA* is an indicator variable taking a value of 1 when audit firm i has the largest market share in DMA j in year t-1 measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). In Panels A and B, *HERF_DMA* is the herfindahl concentration index at the DMA audit market level measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3) for year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-7. OLS Regression of Accounting Firm DMA Advertising on Potential Determinants

		(1) ADV_DMA		(2) ADV_DMA		(3) ADV_DMA	
	Exp	Coefficient		Coefficient		Coefficient	
Variables	Sign	t-statistic		t-statistic		t-statistic	
MRKSHR	?	-0.135	***	-0.134	***	-0.137	***
		-5.30		-7.19		-7.57	
DISTANCE	-	0.050		0.049		0.053	
		2.23		2.93		3.27	
HERF	-	-0.053	***	-0.064	***	-0.071	***
		-2.60		-4.19		-4.60	
AUD_FEES	+	-0.072		-0.036		-0.045	
		-3.96		-2.10		-2.60	
NONAUD_FEES	+	0.019		0.023		0.037	*
		0.99		1.20		1.90	
SIZE	-	0.060		0.023		0.023	
		1.63		0.66		0.63	
RESTATE	+	-0.001		0.000		0.000	
		-0.10		0.02		0.03	
STD_OCF	+	0.037		0.036		0.036	
		1.40		1.34		1.33	
ROA	-	-0.028		-0.025		-0.025	
		-1.34		-1.18		-1.17	
LOSS	+	0.004		0.003		0.002	
		0.17		0.12		0.11	
BUSY	-	-0.030	*	-0.029	*	-0.029	*
		-1.80		-1.76		-1.77	
SEGS	-	-0.019		-0.013		-0.011	
		-1.16		-0.79		-0.67	
TENURE	-	-0.057	***	-0.054	***	-0.055	***
		-4.52		-4.29		-4.36	
REG	-	0.058		0.049		0.050	
		3.12		2.71		2.75	
Observations		3,607		3,607		3,607	
Adj. R2		0.036		0.039		0.040	

This table reports the results of ordinary least squares regressions of Equation (2-2). The dependent variable *ADV_DMA* is the total advertising spending for audit firm i in DMA j in year t in columns (1), (2), and (3). *MRKSHR* is the DMA market share for audit firm i in year t-1 measured using total assets, total audit fees, and total fees in columns (1), (2), and (3), respectively. All other variables are as defined previously in Table 2-2 for the year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-8. OLS Regression of the Ratio of New Audit Clients to Total Clients on DMA Firm Advertising

Variables	Exp Sign	(1) AVG_NEW Coefficient t-statistic		Variables	Exp Sign	(2) NEW Coefficient t-statistic	
AVG_ADV_DMA	+	0.057	***	*ADV_DMA*	+	0.072	***
		2.35				3.07	
AVG_ADV_NAT	+	0.045		*ADV_NAT*	+	-0.041	
		1.49				-3.16	
AVG_NEW	?	0.047	*	*NEW*	?	0.239	***
		1.85				7.62	
AVG_SIZE	-	0.006		*SIZE*	-	0.006	
		0.40				0.18	
AVG_RESTATE	-	-0.002		*RESTATE*	-	0.154	
		-0.10				4.09	
AVG_AF	-	-0.026		*AUD_FEES*	-	-0.155	**
		-1.03				-2.36	
LEV	+	0.003		*LEV*	+	0.001	
		0.15				0.07	
ROA	-	-0.072	**	*ROA*	-	-0.051	***
		-2.12				-2.74	
AVG_LOSS	+	0.042	*	*LOSS*	+	0.000	
		1.75				0.00	
AVG_BUSY	-	-0.011		*BUSY*	-	0.250	
		-0.53				2.13	
SEGS	-	-0.008		*SEGS*	-	0.010	
		-0.43				1.15	
TENURE	-	-0.047	**	*TENURE*	-	-0.017	*
		-2.48				-1.83	
AVG_REG	+	-0.027		*REG*	+	0.081	*
		-1.41				1.90	
				ENG	-	0.107	
						0.72	
Year Fixed Effects		Yes				Yes	
Observations		3,618				3,618	
Adj. R^2		0.054				0.424	

This table reports the results of ordinary least squares regressions of Equation (2-4). The dependent variable *AVG_NEW* in column (1) is the ratio of new clients to total clients for audit firm i in DMA j in year t and the variable *NEW* is the sum of the new clients for audit firm i in DMA j in year t in column (2). All other variables are as defined in Table 2-2 for year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard

Table 2-8. Continued

errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-9. OLS Regression of Average Fees for Auditor DMA on DMA Firm Advertising and Controls

Variables	Exp Sign	(1) AVG_AF Coefficient t-statistic		(2) AVG_NAF Coefficient t-statistic		(3) AVG_TF Coefficient t-statistic	
AVG_ADV_DMA	+	0.009		0.018	*	0.012	
		1.17		1.74		1.53	
AVG_ADV_NAT	+	0.052	***	-0.022		0.038	**
		3.12		-1.38		2.49	
AVG_NEW	-	0.005		0.003		0.005	
		0.41		0.32		0.49	
*ADV*NEW*	-	-0.015	***	-0.009	*	-0.015	***
		-3.09		-1.80		-3.04	
AVG_SIZE	+	0.482	***	0.458	***	0.508	***
		23.70		14.17		23.00	
LEADER	+	0.069	***	-0.008		0.041	*
		3.06		-0.32		1.88	
BIGMS	+	0.102	***	0.094	***	0.123	***
		4.74		3.68		5.74	
DISTANCE	+	0.077	***	0.000		0.056	***
		3.81		0.01		2.88	
LEV	+	0.029	***	0.010		0.030	***
		2.75		0.88		2.87	
AVG_CR	-	-0.061	***	-0.031	**	-0.056	***
		-4.96		-2.46		-4.85	
AVG_CA_TA	+	0.026		0.011		0.023	
		1.57		0.65		1.48	
AVG_ARINV	+	-0.072		-0.033		-0.065	
		-6.59		-2.98		-6.36	
ROA	-	0.039		0.035		0.042	
		4.28		3.09		4.71	
AVG_LOSS	+	-0.010		0.003		-0.009	
		-0.74		0.23		-0.70	
AVG_AQC	+	0.113	***	0.078	***	0.104	***
		7.42		3.21		6.74	
AVG_BUSY	+	0.034	***	-0.004		0.029	***
		2.90		-0.32		2.61	
SEGS	+	0.089	***	0.068	***	0.086	***
		5.89		3.83		5.61	
TENURE	+	0.165	***	0.199	***	0.178	***
		9.75		8.30		10.01	
AVG_REG	+	-0.097		-0.070		-0.097	

Table 2-9. Continued

	-6.61	-3.98	-6.66
Year Fixed Effects	Yes	Yes	Yes
Observations	3,618	3,618	3,618
Adj. R^2	0.600	0.421	0.610

This table reports the results of ordinary least squares regressions of Equation (2-5). The dependent variable *AVG_AF* in column (1) is average audit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_NAF* in column (2) is average nonaudit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_TF* in column (3) is average total fee for an audit client of audit firm i in DMA j in year t. *ADV*NEWCLIENT* is an interaction term measured as the product of the average amount of advertising for audit firm i in DMA j in year t, *AVG_ADV_DMA*, and the ratio of new clients to total clients for audit firm i in DMA j in year t, *AVG_NEW*. *LEADER* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has the largest market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). *BIGMS* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has more than 30 percent of the total market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). All other variables are as defined in Table 2-2 for year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-10. Test of Differences in Means and Medians between Advertising and Non-advertising DMAs

Panel A: Test of Means

Variables	(1) DMAADV=1 Mean	(2) DMAADV=0 Mean	(3) Diff	(4) t-stat
SIZE	5,679	5,412	267	0.55
AVG_AF	1,606,588	1,578,362	28,226	0.42
AVG_NAF	416,451	372,827	43,624	1.77*
AVG_RES	0.061	0.068	-0.007	-1.00
AVG_STD_OCF	123.316	112.752	10.564	1.13
AVG_ROA	-0.056	-0.230	-0.026	2.91***
AVG_LOSS	0.345	0.308	0.037	2.62***
AVG_REG	0.203	0.208	0.004	0.39
AVG_LEV	0.250	0.259	-0.009	-1.11
AVG_AQC	44.580	48.676	-4.096	-0.78

Panel B: Test of Medians

Variables	(1) DMAADV=1 Median	(2) DMAADV=0 Median	(3) Diff	(4) z-stat
SIZE	1,644	2,005	-361	-1.58
AVG_AF	1,185,825	1,214,625	-28,800	-1.10
AVG_NAF	206,000	216,237	-10,237	-0.86
AVG_RES	0.000	0.000	0.000	3.52***
AVG_STD_OCF	48.239	47.486	0.753	1.19
AVG_ROA	0.000	0.017	-0.017	-5.05***
AVG_LOSS	0.333	0.273	0.060	4.21***
AVG_REG	0.167	0.143	0.024	1.26
AVG_LEV	0.219	0.237	-0.018	-1.86*
AVG_AQC	8.295	7.354	0.941	0.55

This table reports the results of tests of means and medians for key control variables between auditor-DMA pairs that did and did not engage in advertising. Auditor-DMA pairs that engage in advertising take a value of 1 for the binary variable *DMAADV*, 0 otherwise. All other variables are as defined in Table 2-2 for year t. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-11. OLS Regression of Average Fees for Auditor DMA on DMA Firm Advertising, Auditor Fixed Effects, and Controls

Variables	Exp Sign	(1) AVG_AF Coefficient t-statistic		(2) AVG_NAF Coefficient t-statistic		(3) AVG_TF Coefficient t-statistic	
AVG_ADV_DMA	+	0.031	***	0.027	**	0.032	***
		4.28		2.40		3.94	
AVG_ADV_NAT	+	0.010		-0.068		-0.007	
		0.52		-3.41		-0.38	
AVG_NEW	-	0.028		0.016		0.026	
		2.45		1.62		2.63	
*ADV*NEW*	-	-0.014	***	-0.008	*	-0.013	***
		-3.36		-1.78		-3.24	
AVG_SIZE	+	0.457	***	0.435	***	0.483	***
		23.07		13.48		22.25	
LEADER	+	0.056	***	-0.023		0.026	
		2.61		-0.92		1.24	
BIGMS	+	0.062	***	0.066	***	0.084	***
		3.08		2.65		4.11	
DISTANCE	+	0.090	***	0.013		0.069	***
		4.58		0.56		3.64	
LEV	+	0.020	*	-0.003		0.019	*
		1.93		-0.25		1.86	
AVG_CR	-	-0.040	***	-0.016		-0.035	***
		-3.33		-1.23		-3.12	
AVG_CA_TA	+	0.025		0.001		0.019	
		1.56		0.08		1.27	
AVG_ARINV	+	-0.011		0.020	*	-0.004	
		-0.96		1.69		-0.41	
ROA	-	0.020		0.020		0.023	
		2.27		1.82		2.67	
AVG_LOSS	+	-0.001		0.005		-0.001	
		-0.06		0.37		-0.07	
AVG_AQC	+	0.101	***	0.071	***	0.093	***
		6.93		2.95		6.29	
AVG_BUSY	+	0.033	***	0.003		0.030	***
		2.87		0.22		2.64	
SEGS	+	0.091	***	0.060	***	0.086	***
		6.19		3.45		5.77	
TENURE	+	0.086	***	0.144	***	0.102	***
		4.69		5.24		5.18	
AVG_REG	+	-0.106		-0.081		-0.106	
		-7.45		-4.64		-7.52	

Table 2-11. Continued

Auditor Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Observations	3,618	3,618	3,618
Adj. R^2	0.631	0.449	0.641

This table reports the results of ordinary least squares regressions of Equation (2-5). The dependent variable *AVG_AF* in column (1) is average audit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_NAF* in column (2) is average nonaudit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_TF* in column (3) is average total fee for an audit client of audit firm i in DMA j in year t. *ADV*NEWCLIENT* is an interaction term measured as the product of the average amount of advertising for audit firm i in DMA j in year t, *AVG_ADV_DMA*, and the ratio of new clients to total clients for audit firm i in DMA j in year t, *AVG_NEW*. *LEADER* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has the largest market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). *BIGMS* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has more than 30 percent of the total market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). All other variables are as defined in Table 2-2 for year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 2-12. OLS Regression of Average Fees for Auditor DMA on DMA Firm Advertising and Controls After Taking an Instrumental Variable Approach

Variables	Exp Sign	(1) AVG_AF Coefficient t-statistic		(2) AVG_NAF Coefficient t-statistic		(3) AVG_TF Coefficient t-statistic	
AVG_ADV_DMA	+	0.037	***	0.042	***	0.041	***
		3.10		2.86		3.30	
AVG_ADV_NAT	+	0.042	**	-0.025		0.027	*
		2.39		-1.50		1.68	
AVG_NEW	-	0.006		0.014		0.011	
		0.46		1.13		0.87	
*ADV*NEW*	-	-0.022	***	-0.016	*	-0.023	***
		-2.65		-1.93		-2.82	
AVG_SIZE	+	0.489	***	0.460	***	0.515	***
		22.72		13.18		21.82	
LEADER	+	0.080	***	-0.010		0.058	**
		3.46		-0.38		2.56	
BIGMS	+	0.091	***	0.090	***	0.094	***
		4.09		3.40		4.27	
DISTANCE	+	0.079	***	-0.003		0.062	***
		3.71		-0.14		3.02	
LEV	+	0.028	**	0.000		0.025	**
		2.49		-0.01		2.27	
AVG_CR	-	-0.062	***	-0.038	***	-0.058	***
		-4.68		-2.78		-4.74	
AVG_CA_TA	+	0.014		0.004		0.010	
		0.81		0.20		0.60	
AVG_ARINV	+	-0.073		-0.036		-0.067	
		-6.01		-2.93		-5.88	
ROA	-	0.034		0.033		0.037	
		3.63		2.68		4.13	
AVG_LOSS	+	-0.017		0.001		-0.014	
		-1.26		0.04		-1.09	
AVG_AQC	+	0.109	***	0.091	***	0.105	***
		7.11		3.46		6.54	
AVG_BUSY	+	0.033	***	-0.004		0.025	**
		2.62		-0.24		2.03	
SEGS	+	0.090	***	0.060	***	0.086	***
		5.63		3.37		5.40	
TENURE	+	0.168	***	0.199	***	0.181	***

Table 2-12. Continued

		9.40	8.13	9.71
AVG_REG	+	-0.111	-0.080	-0.109
		-6.81	-4.53	-6.89
Year Fixed Effects		Yes	Yes	Yes
Observations		3,166	3,166	3,166
Adj. R^2		0.606	0.422	0.614

This table reports the results of ordinary least squares regressions of Equation (2-5). The dependent variable *AVG_AF* in column (1) is average audit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_NAF* in column (2) is average nonaudit fee for an audit client of audit firm i in DMA j in year t. The dependent variable *AVG_TF* in column (3) is average total fee for an audit client of audit firm i in DMA j in year t. *ADV*NEWCLIENT* is an interaction term measured as the product of the average amount of advertising for audit firm i in DMA j in year t, *AVG_ADV_DMA*, and the ratio of new clients to total clients for audit firm i in DMA j in year t, *AVG_NEW*. *LEADER* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has the largest market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). *BIGMS* is an indicator variable taking a value of 1 when audit firm i in DMA j in year t-1 has more than 30 percent of the total market share where market share is measured using total assets audited in column (1), total audit fees in column (2), and total fees in column (3). All other variables are as defined in Table 2-2 for year t-1. All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

CHAPTER 3
AS ADVERTISED? AN EXAMINATION OF THE RELATION BETWEEN PUBLIC ACCOUNTING FIRM ADVERTISING AND CLIENT RISKINESS AND AUDIT QUALITY

Clients rely upon professionals because they are authorities on a subject with deep technical knowledge that is not easily obtained without sufficient training and experience (Burns and Haga 1977).[1] Auditors are professionals that serve an important role in capital markets because they function as monitors of clients' management. As a professional with a duty to equity investors as well as other stakeholders, an auditor must exercise due professional care which entails adhering to established standards. Due professional care requires that the auditor exhibit professional skepticism which is defined as "an attitude that includes a questioning mind and a critical assessment of audit evidence" (AICPA 1972). Auditors must balance their professional responsibility with their own commercial interest as theory suggests that as one increases the other correspondingly decreases (Malsch and Gendron 2013). Public accounting firms engage in various commercial activities such as advertising in order to build brand recognition and market their various services. The appropriateness of advertising by accounting firms has been the subject of a long-standing debate. To the extent advertising is a reflection of commercial focus, I investigate the commercialization of the profession by examining the relation between auditor investment in advertising and audit practice management.

During the high profile accounting scandals of the early 2000s, critics of the auditing profession contended that the integrity of auditors as a whole was declining.[2] Many believed that auditors were becoming too commercially focused and that such an orientation placed the

[1] The authors state, "A profession is an occupation that possesses both a high degree of cruciality and a high degree of mystique in the eyes of its relevant work audience."

[2] Joseph Weber of *Businessweek* asserted in the wake of the failure of Arthur Anderson that Anderson's actions demonstrated "how deeply the accounting industry has lost its way." The full article is available at http://www.businessweek.com/stories/2002-06-30/commentary-the-lingering-lessons-of-andersens-fall.

expansion of revenue opportunities above delivering high service quality. While the Sarbanes-Oxley Act ("SOX") of 2002 and subsequent scrutiny by the Public Company Accounting Oversight Board ("PCAOB") were intended to restore professionalism in auditing and to reduce activities that could impair audit quality, auditors still engage in activities that are commercially oriented.

The alleged decline of professionalism among public accountants is a continued source of concern for practitioners, academics, and regulators even with the passage of SOX (Wyatt 2004). Prior to the 1990s, public accounting firms were decentralized and advertising initiatives were almost nonexistent as they were perceived as unprofessional. Greenwood and Suddaby (2006) find that starting in the 1990s the largest accounting firms adopted a different organizational form that was more bureaucratic and that increasingly focused on expanding revenue streams. The new business model has important implications for public accounting firms, particularly with respect to their audit practices, as it places an emphasis on commercialization. Commercialization is defined as the objective of generating short-term profitability and de-emphasizing the auditor's focus on public interest (Malsch and Gendron 2013). Auditors that have a commercial focus are more interested in making audits profitable and satisfying company management to secure continued engagement (Gendron 2002). While auditors have historically been focused on their own economic interests dating back to the early 1900s (Walker 1995), critics contend that there has been a shift in the balance between commercialism and professionalism within audit firms (Malsch and Gendron 2013).

Advertising is a commercial process (Pollay 1986) and a firm can elect to advertise a message to customers either to build brand awareness, promote a specific good or service, or enumerate its pricing. On the one hand, active advertising by audit firms will not necessarily be

related to engaging riskier audit clients or delivering poorer service quality because it can promote competition among auditors and inform clients about audit firms' quality (Bloom 1977; Smith and Meyer 1980).[3] In fact, the message conveyed in the advertisement itself does not need to be informative for a firm's investment in advertising to signal quality. Klein and Leffler (1981) posit that higher levels of advertising, regardless of the underlying message, serve as a signal of high quality. On the other hand, there has been a long-held aversion toward advertising by professionals as it promotes commercialism which is believed to shift a firm's focus from client service to revenue generation (Kotler and Conner 1977; Hay and Knechel 2010). Advertising is seen as reinforcing materialism and selfishness (Pollay 1986) which would be particularly costly for professional service firms where there is a clear duty to others. Theory predicts that professionals such as auditors must trade-off between commercialism and professionalism as the two focuses are incongruous (Gendron 2002; Malsch and Gendron 2013).

Understanding the relation between advertising by public accounting firms and service outcomes, such as audit quality, is important for several reasons. First, audit production is generally very complex and it is difficult to evaluate service providers. Causholli and Knechel (2012) find that auditing is most like a credence service; therefore, to the extent that advertising contains information about auditor quality this can reduce information asymmetry between the auditor and the firm's clients.[4] Second, regulators continue to be concerned with the state of the

[3] Cursory inspection of selected examples of print advertisements for several firms included in my sample revealed that in general these advertisements touted the firm's overall brand, industry expertise, and/or diverse service offerings.

[4] An audit is determined to be a credence service because the information asymmetry between the auditor and the client is so extreme that a client is never able to ascertain quality even after the service is delivered. While other literature has proposed that auditing is an experience service (Craswell and Francis 1999), the literature agrees that there is significant information asymmetry between the auditor and the client which makes it difficult for a client to assess an auditor's quality prior to an initial engagement.

audit profession and various initiatives are being considered to enhance auditor professionalism.[5] Third, audit quality is an important construct which has received considerable attention within the accounting literature. DeFond and Zhang (2014) discuss the large literature that has looked at factors influencing a client's demand for high quality auditing as well as incentives of auditors to deliver high quality. However, this literature does not examine advertising investment by the audit firm which can directly influence client demand and speak to the underlying focus of the audit firm on risk and quality.

To address my research question, I obtain proprietary data from The Nielsen Company LLC ("Nielsen") about advertising spending by the nine largest public accounting firms at both national and local levels. Local markets are defined by Nielsen as digital media areas ("DMA") and in many cases are larger than a metropolitan statistical area ("MSA") which is the common unit of analysis for local audit markets in the academic literature. I then merge this data with publicly available data from the Compustat Annual File and Audit Analytics. The unit of analysis is the audit firm rather than the audit engagement so I aggregate the client data by auditor and market. This approach is consistent with Cahan et al. (2008) who examine industry-level activity so they aggregate observations by two-digit SIC code.

Using ordinary least squares regression, I estimate three separate empirical models to test the relation between auditor advertising spending and client riskiness or audit quality at the DMA level. I measure client riskiness as the average riskiness of the auditor's clients using either the standard deviation of future cash flows for the years t+1 through t+5 or the proportion of financially distressed clients, as defined by DeFond et al. (2002), within a given auditor's

[5] Emily Chasan writes in a blog post on WSJ.com dated 1/24/2014 that the PCAOB Chief Auditor asserts that roughly 30 to 40 percent of all audits inspected fail. One of the suggested reasons for this high failure rate is that auditors lack sufficient professional skepticism.

portfolio in the year t+1. My risk measures facilitate an examination of how auditors manage the inherent risk of their client portfolio.[6] I measure audit quality as either: (i) the proportion of financially distressed clients defined consistent with DeFond et al. (2002) that receive a going-concern opinion for a given auditor in a given year or (ii) the number of subsequent adverse restatements for a given auditor in a given year measured at the DMA level. The first measure explores the relation between advertising and audit quality for a particularly risky subset of an auditor's client portfolio, namely financially distressed firms and provides evidence regarding potential independence impairment. The second measure allows for an examination of auditor quality unconditional on the financial health of the clients in an auditor's portfolio and speaks to both an auditor's independence and technical competence.

I find that audit firm advertising is associated with audit quality and risk at the DMA level of the audit firm's practice. Specifically, I find that advertising at the DMA level by the auditor is positively related to the future riskiness of the auditor's client portfolio. Further, auditor-DMA advertising is negatively associated with the issuance of a going-concern opinion for financially distressed clients of a given auditor-DMA practice. However, I fail to find any evidence of a relation between auditor advertising at the local level and income-decreasing financial restatements. These results suggest that at the local level, as an audit firm invests more in advertising, the firm's client portfolio contains a higher level of riskiness and the firm is less likely to express a negative opinion about the financial outlook of its poorer performing clients. In supplemental analysis, I find that my results hold when I: (i) employ an instrumental variable approach to control for potential endogeneity and (ii) include the lagged dependent variable in

[6] Inherent risk is a component of the audit risk of a particular audit engagement and is considered during client acceptance and continuance decisions (Johnstone and Bedard 2004).

my regressions to control for potential autocorrelation of the error terms or omitted correlated variables.

In additional analysis, I examine whether auditor advertising investment is associated with client riskiness and audit quality at the national level. I find evidence consistent with a general decline in audit quality as measured by the number of subsequent adverse financial restatements. This is driven by national audit firm spending and there is little evidence that local level spending is related to national auditor quality as measured by restatements. I fail to find any evidence that auditor advertising is associated with the riskiness of the national audit practice's client portfolio or the propensity of the auditor to issue a going-concern opinion to financially distressed companies. Taken together, the analysis suggests an overall decline in technical competence given the lack of a relation between advertising spending and the propensity to issue a going-concern opinion.

This study makes a contribution to several streams of literature. First, it contributes to the audit quality literature by providing evidence audit firm commercial activity, as proxied by advertising, is related to subsequent audit quality. The examination of public accounting firms' advertising is distinct from prior literature which has examined the relation between an audit firm's increasing emphasis on the provision of other services, which is also expected to represent commercial focus, and audit quality (see, for example, DeFond et al. 2002; Kinney et al. 2004) as well as the literature which has examined the relation between auditor size and audit quality (DeAngelo 1981; DeFond 1992; Palmrose 1988; Teoh and Wong 1993). Second, this study contributes to the marketing literature that examines the relation between advertising and professional service quality (Tripp 1997) by documenting how advertising can impact an important service outcome of accounting professionals, audit quality. Third, this study

contributes to the emerging literature on auditing that examines the impact of advertising initiatives on accounting practice as this study provides evidence of a cost of accounting firm advertising.

The remainder of the paper is organized as follows. Section 3.2 provides background on auditor advertising and develops my hypothesis regarding the relation between advertising and risk and audit quality. In Section 3.3, I discuss my research design and sample selection procedure. Section 3.4 describes the results of my main empirical analysis while Section 3.5 discusses my supplemental analysis. Lastly, I make concluding remarks in Section 3.6.

Background and Hypotheses Development

In the early 1900s the accounting profession engaged in a debate regarding whether or not to permit advertising. The profession decided to impose a ban on advertising which remained in place until the Supreme Court struck down this prohibition. Despite the removal of the ban on advertising by public accounting firms in the 1970s, accounting firms were initially reticent to engage in such activities (Darling and Hackett 1978; Darling and Bergiel 1983). The most oft cited reason for the hesitation within the profession to engage in advertising was that advertising would lead to a decline in audit quality (Zeff 2003a). Furthermore, many critics of advertising contended that it was unnecessary because the mechanism through which audit firms acquired new business was the firm's reputation (Wyatt 2004).

While there were initial reservations among practitioners about advertising, it has gained acceptance among accounting firms over time and it is now typical for the largest accounting firms to engage in some advertising activity. Chapter 2 of this study examines whether advertising investment by the largest public accounting firms is associated with audit market structure and fees. Advertising spending is found to be positively related to the accounting firm's future market share and the ratio of new clients to total clients.

In addition to influencing a firm's position within the market for audit services, advertising can have an impact on other aspects of the audit practice. First, to the extent that advertising is associated with attracting a particular type of client it follows that advertising can also be related to the relative riskiness of the auditor's clients. There is a considerable body of literature which shows that auditors and their clients are concerned about the audit firm's client portfolio especially with respect to the riskiness of its clients (Bell et al 2002; Shu 2000; Wells and Loudder 1997). Auditors consider the financial risk, audit risk, and auditor business risk presented by each client in particular (Johnstone and Bedard 2004).[7] The evidence regarding the relation between client acceptance or continuance and client risk is mixed with some studies finding a negative relation (Jones and Raghunandan 1998; Johnstone and Bedard 2004) while others document a positive relation (Francis and Krishnan 2003).

On the one hand, auditor advertising investment can be related to subsequent increases in the riskiness of the audit firm's client portfolio. This would be the case if the audit firm traded off its professional focus for a more commercial orientation. An increase in the firm's commercial orientation can lead to a de-emphasis in professionalism thus undermining its focus on maintaining quality (Tripp 1997). Gendron (2002) asserts that professionalism and commercialism are at odds and as a firm increases its focus on one it decreases its commitment to the other. Adopting a commercial orientation can lead to audit partners sacrificing quality to sell more services or to obtain more clients. Even in the post-Sarbanes Oxley period where the provision of nonaudit services is greatly restricted for public audit clients, several types of services are still permissible. For more commercially oriented firms, growth of the practice,

[7] Financial risk is defined as the risk that the client's financial health will deteriorate in the future (Johnstone 2000). Audit risk refers to the risk that the auditor will fail to modify his or her audit opinion or uncover a material misstatement (Johnstone and Bedard 2004). Auditor business risk is the risk that the auditor will incur a loss due to the audit engagement (Johnstone 2000).

whether through the sale of existing or new services, would become the focal point of the firm's day-to-day business (Bloom 1977). This was the primary point of contention among critics of the removal of the ban on advertising and solicitation in the late 1970s (Hay and Knechel 2010). In order to meet the firm's objectives for growth, audit partners potentially would relax their screening criteria when considering new or existing clients.

On the other hand, some economic theory suggests that advertising can be associated with a reduction in the riskiness of an auditor's client portfolio. Klein and Leffler (1981) posit that advertising by a firm is a signal of the firm's high quality. The message contained in the advertisement does not have to be informative as the commitment of firm resources itself is a sufficient signal. If auditor advertising serves as a positive signal, it follows that advertising would be negatively related to the riskiness of the audit firm's client portfolio. Advertising would enable the auditor to obtain higher quality and less risky clients thus reducing the overall level of risk in the auditor's client portfolio. This would be consistent with the risk avoidance hypothesis which posits that auditors seek to avoid engaging riskier clients due to potential reputational impairment if there is a subsequent audit failure (Johnstone and Bedard 2004). Advertising could also be unrelated to the riskiness of a firm's client portfolio. If critics' contention that firm reputation is the key driver of an audit firm's ability to attract or retain clients then the level of advertising investment should be expected to have no association with the auditor's client portfolio. Given these competing theoretical predictions, I state my first hypothesis in the null as follows:

- **H1:** Auditor advertising investment is not related to the inherent risk of the auditor's client portfolio.

The second dimension of the audit practice that can be influenced by the firm's investment in advertising is its audit quality. Audit quality is a component of a client's financial

reporting quality and is not a simple binary construct (DeFond and Zhang 2014). Rather, audit quality is continuous with higher levels of audit quality reflecting higher levels of assurance about the credibility of a client's financial statements. When assessing an audit firm's quality, there are two primary considerations. Audit quality is higher when an auditor is likely to report and detect a material misstatement in a client's financial statements (DeAngelo 1981). The first aspect of audit quality refers to the auditor's independence while the second reflects the auditor's technical competence.

Auditor advertising can be positively related to future audit quality if it serves as a mechanism for innovation due to increased competitive pressure (Stafford 1988). To the extent that auditors signal their quality through advertising (Klein and Leffler 1981), there will be a reduction in the amount of information asymmetry between auditors and their clients. Consistent with the notion of competitive pressure facilitating service quality, there is evidence that the absence of commercially competitive behaviors such as advertising in professions is related to anticompetitive outcomes (Nordenflycht 2010). Advertising as a competitive practice would enable firms to differentiate themselves with respect to their quality.

However, it is not a priori obvious that auditor advertising will be positively related to audit quality. Stafford (1988) points out that those opposed to advertising by professionals such as auditors believed that advertising by professionals is inherently misleading and so higher levels of advertising can reflect increased effort to deceive. This is due to the fact that professional services such as auditing are difficult to evaluate ex ante given that auditing exhibits the characteristics of a credence service (Causholli and Knechel 2012). If advertising were deceptive rather than informative then higher levels of advertising spending would be expected to be negatively related to audit quality.

Moreover, higher levels of advertising can result in overemphasis of commercial interests within the audit firm thus reducing its professionalism. A firm is less professional if it de-emphasizes skepticism which will undermine its quality (Tripp 1997). As stated previously, professionalism and commercialism are theorized to be at odds and as a firm increases one it does so at the expense of the other (Gendron 2002). This can manifest along both dimensions of audit quality either through a reduction in: (i) the firm's technical competence (for example, due to fewer resources devoted to formal training) or (ii) the firm's independence. Auditors with a commercial focus are more concerned with satisfying the client and selling services than maintaining their professional reputation.

Given the competing theoretical predictions regarding the relation between auditor advertising and audit quality, I state my second hypothesis in the null as:

- **H2:** Auditor advertising investment is not related to audit quality.

Research Design

Empirical Models

I begin by specifying an empirical model to test Hypothesis 1 regarding the relation between the riskiness of an auditor's client portfolio and auditor advertising spending. As public accounting firms are private enterprises, data is unavailable to construct direct measures of controls such as audit firm size or audit practice complexity. Francis (2011) points out that this is one of the reasons why there has been limited research done at the audit firm as opposed to the audit engagement level. He notes that studies interested in examining the audit firm rather than the engagement have relied upon publicly available data to construct measures of auditor characteristics. Consistent with this empirical approach, I utilize publicly available data for the clients that a particular auditor serves to construct my dependent and independent variables. Specifically, I aggregate the data for all clients for a particular auditor in a particular year. Such

an empirical approach is consistent with prior literature that measures auditor, rather than client, characteristics (Francis and Michas 2013) or industry-level characteristics (Cahan et al. 2008). I estimate the following OLS regression and include year fixed effects (Petersen 2009):[8]

$$RISK_{it+k} = \beta_1 AVG\_DMA\_ADV_{it} + \beta_2 AVG\_NAT\_ADV_{it} + \beta_3 AVG\_NEW_{it} + \beta_4 AVG\_NAF\_TF_{it} + \beta_5 CLOSE\_DMA_{it} + \beta_6 AVG\_AUD\_FEE_{it} + \beta_7 AVG\_ASSETS_{it} + \beta_8 AVG\_LOSS_{it} + \beta_9 AVG\_ROA_{it} + \beta_{10} AVG\_BUSY_{it} + \beta_{11} AVG\_LEV_{it} + \beta_{12} AVG\_SEGS_{it} + \beta_{13} AVG\_TENURE_{it} + \beta_{14} AVG\_REG_{it} + \beta_{15} AVG\_AGE_{it} + Year\ fixed\ effects + \varepsilon \quad (3\text{-}1)$$

My dependent variable, *RISK*, is measured as either: (1) the standard deviation of future cash flows for the period from t+1 through t+5 consistent with Minton and Schrand (1999) or (2) the proportion of clients in a given auditor's client portfolio that are financially distressed relative to all audit clients in year t+1. I identify firms as financially distressed consistent with DeFond et al. (2002).

The variable of interest is my measure *AVG_DMA_ADV* which reflects total advertising investment at the local level. I measure advertising investment as the advertising spending for a specific auditor in a particular DMA_j scaled by the total number of audit engagements conducted in DMA_j.[9] I include *AVG_NAT_ADV* to control for the influence of national advertising initiatives at the local auditor practice level.[10]

[8] Refer to the Appendix for a more detailed discussion of how the variables in my empirical model are constructed and what data items are used when the variables are generated from publicly available databases.

[9] The DMA designation is defined by Nielsen and is proprietary in nature. Refer to subsequent section for more discussion of the DMA measure and how it is used in the analysis.

[10] Advertising reach is defined as the extent to which the message conveyed in the advertisement is received by an audience (Greene 1970). I do not distinguish between advertising campaigns that are broad as opposed to those that are more targeted. Such analysis would enable me to speak to whether advertising efforts that are more efficient (i.e.

I include several additional control variables that are likely to be related to the overall riskiness of an auditor's client portfolio. Prior literature suggests that client age, *AVG_AGE*, (Dickinson 2011) and client industry, *AVG_REG*, will be negatively related to the inherent riskiness of the auditor's client portfolio. Conversely, audit market competition, *CLOSE_DMA*, (Numan and Willekens 2012), audit fees, *AVG_AUD_FEE*, (Thornton and Moore 1993), nonaudit fees, *AVG_NAF_TF*, (DeAngelo 1981; Simunic 1984), client leverage, *AVG_LEV*, (Choi et al. 2004), client losses, *AVG_LOSS*, and client complexity, *AVG_SEGS*, (Baxter et al. 2013) are expected to be positively related to the riskiness of the auditor's client portfolio. I also include auditor size, *AVG_ASSETS*, (DeAngelo 1981), client financial performance, *AVG_ROA*, (Choi et al. 2004), the proportion of clients an auditor serves during busy season, *AVG_BUSY*, (Bills et al. 2014), auditor tenure, *AVG_TENURE*, (Carcello et al. 2011; Chen et al. 2008; Johnson et al. 2002; Myers et al. 2003), and the proportion of new clients in the auditor's portfolio, *AVG_NEW*, as controls though it is unclear whether they will be positively or negatively related to the riskiness of the auditor's client portfolio. All variables are defined in the Appendix.

I estimate Equation (3-1) with standardized coefficients to mitigate concerns that the differences in the underlying distributions of my independent variables are influencing the analysis. I standardize both the dependent and independent variables in my analysis such that each variable has a mean of zero and a standard deviation of one thus all coefficient estimates are presented in comparable units (Ciconte et al. 2015; Shan et al. 2013). The coefficient for each independent variable reflects the change in the dependent variable given a unit-standard

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have a greater likelihood of reaching target clients) are influencing the results. Ghosh and Stock (2010) note that as advertising efforts become more focused on hard to reach clients they become less efficient. One potential result of such inefficiency would be increases in spending without commiserate returns in the form of new business. I cannot test whether this is occurring, however, it would likely bias against my results as it would weaken the relation between advertising investment and client riskiness or audit quality.

deviation change in the independent variable (Adelman and Morris 1968; Bennett et al. 2003; Shan et al. 2013). This facilitates the interpretation of economic significance of the independent variables relative to one another.[11]

In order to test Hypothesis 2 I estimate two empirical models. First, I estimate a model of future going-concern opinions issued by the auditor as a function of auditor advertising spending and controls. A test of the propensity to issue a going-concern opinion to financially distressed clients provides evidence of potential auditor independence impairment. Consistent with my analysis related to the riskiness of the auditor's client portfolio, I construct dependent and independent variables using data from public audit clients aggregated for a particular auditor and year. I estimate the following OLS regression and include year fixed effects (Petersen 2009):

$$AVG\_GC_{it+1} = \beta_1 AVG\_DMA\_ADV_{it} + \beta_2 AVG\_NAT\_ADV_{it} + \beta_3 AVG\_NAF\_TF_{it} + \beta_4 AVG\_ASSETS_{it} + \beta_5 AVG\_NEW_{it} + \beta_6 AVG\_ALTZ_{it} + \beta_7 AVG\_AGE_{it} + \beta_8 AVG\_TENURE_{it} + \beta_9 AVG\_AUD\_FEE_{it} + \beta_{10} AVG\_REG_{it} + \beta_{11} BIGN_{it} + Year\ fixed\ effects + \varepsilon \quad (3\text{-}2)$$

The dependent variable *AVG_GC* is the number of going-concern opinions for financially distressed clients of audit firm i in year t+1 scaled by the total number of audit engagements for financially distressed clients of audit firm i in year t+1. As with my risk measure for Equation (3-1), I define financially distressed clients consistent with DeFond et al. (2002).

My variable of interest is measured as defined previously. I rely upon prior research to identify important controls for an auditor's propensity to issue going-concern opinions. I control for auditor size, *AVG_ASSETS*, (DeAngelo 1981), amount of audit fees, *AVG_AUD_FEE*, and client industry composition, *AVG_REG*, and expect each to be positively related to the auditor's

[11] Results are qualitatively similar when I estimate Equation (3-1) with unstandardized coefficients and include an intercept.

propensity to issue a going-concern opinion. I also control for the proportion of nonaudit fees to total fees, *AVG_NAF_TF*, the proportion of clients that are new to the auditor, *AVG_NEW*, client health, *AVG_ALTZ*, client age, *AVG_AGE*, and auditor tenure, *AVG_TENURE*, and expect each of these variables to be negatively related to the auditor's propensity to issue a going-concern opinion (DeFond et al. 2002; Knechel and Vanstraelen 2007). Finally, I control for auditor reputation, *BIGN*, but make no directional prediction. All variables are defined in the Appendix.

For my second empirical test of Hypothesis 2, I model future income-decreasing financial restatements as a function of auditor advertising spending and auditor controls. Using incidences of subsequent income-decreasing financial restatements is a joint test of both technical competence and auditor independence. I estimate the following OLS regression and include year fixed effects (Petersen 2009):

$$\begin{aligned} AVG\_RES_{it+1} = {} & \beta_1 AVG\_DMA\_ADV_{it} + \beta_2 AVG\_NAT\_ADV_{it} + \beta_3 AVG\_NEW_{it} + \\ & \beta_4 AVG\_NAF\_TF_{it} + \beta_5 AVG\_ASSETS_{it} + \beta_6 AVG\_LEV_{it} + \\ & \beta_7 AVG\_AQC_{it} + \beta_8 AVG\_ROA_{it} + \beta_9 AVG\_LOSS_{it} + \\ & \beta_{10} AVG\_BUSY_{it} + \beta_{11} AVG\_SEGS_{it} + \beta_{12} AVG\_TENURE_{it} + \\ & \beta_{13} AVG\_REG_{it} + \beta_{14} BIGN_{it} + Year\ fixed\ effects + \varepsilon \end{aligned} \quad (3\text{-}3)$$

The dependent variable *AVG_RES* is the number of income-decreasing restatements for clients of audit firm i in year t+1 scaled by the total number of audit engagements for audit firm i in year t+1.

I rely upon prior literature (Francis 2011) to identify several characteristics of engagements performed by the auditor that are likely determinants of auditor quality which I then aggregate at the appropriate auditor level (i.e. national or local). I expect that the proportion of new clients, *AVG_NEW*, (Johnson et al. 2002; Bell et al. 2014), economic bonding,

AVG_NAF_TF, (DeAngelo 1981; Simunic 1984), client acquisition activity, *AVG_AQC*, (Skinner and Srinivasan 2012), poor client financial health, *AVG_LOSS*, (Hribar et al. 2014), the proportion of clients operating in regulated industries, *AVG_REG*, (Danos and Eichenseher 1986), the proportion of engagements conducted during busy season, *AVG_BUSY*, (Knechel et al. 2013; Lopez and Peters 2012), and client complexity, *AVG_SEGS*, (Davis et al. 1993) will be positively related to incidences of future income-decreasing financial restatements. Conversely, I expect that auditor size, *AVG_ASSETS*, (Carcello et al. 2011; DeAngelo 1981; Palmrose 1986), client performance, *AVG_ROA*, (Hribar et al. 2014), and auditor tenure, *AVG_TENURE*, (Carcello et al. 2011; Chen et al. 2008; Johnson et al. 2002; Myers et al. 2003) will be negatively related to future income-decreasing financial restatements. I also include a control for client leverage, *AVG_LEV*, and auditor reputation, *BIGN*, but have no expectation regarding its relation to future income-decreasing financial restatements consistent with Becker et al. (1998). I estimate all my tests of income-decreasing financial restatements with standardized coefficients.[12]

Sample Selection

I draw my sample from the intersection of Compustat's Annual File, Audit Analytics, The Center for Research in Security Prices ("CRSP") Daily Stock File, and a proprietary database of public accounting firm advertising spending provided by Nielsen. I match individual audit engagements in Audit Analytics with client specific information such as total assets from

[12] While using the averages of aggregated client data is consistent with prior literature that examines a unit of analysis that is higher than the client level, it does present the potential for a scale effect that may induce bias. Though the analysis here is restricted to the largest public accounting firms in the US, there is still the possibility that scaled-related coefficient bias may arise when scaling by the number of audit engagements per firm to compute the averages. To mitigate concerns related to scale effects, I modify Equations (3-1), (3-2), and (3-3) by measuring my dependent and independent variables by the raw aggregated amounts and explicitly controlling for my scalar which is the number of engagements conducted by audit firm i in year t (*ENG*) in my model, with exception of my specification using the standard deviation of operating cash flows (Barth and Kallapur 1996; Barth and Clinch 2009). In untabulated analysis, I obtain qualitatively similar results.

Compustat. I exclude client-firm observations with missing data from my aggregated measures for the auditor. Next, I merge the data from Nielsen onto the aggregated data by auditor identifier. The Nielsen database reports accounting firm advertising spending in total, for the national audit market only, total local audit market spending only, and spending in specific local audit markets. All amounts are reported in thousands. I only examine the nine largest public accounting firms as data is unavailable for smaller public accounting firms. Focusing on the largest firms is desirable given evidence from prior literature that the largest public accounting firms are systematically different from smaller firms due to differences in firm technology and procedures facilitating systematically higher quality auditing (DeAngelo 1981; Craswell et al. 1995; Khurana and Raman 2004).

I aggregate client observations by DMA. DMAs are generally larger than a metropolitan service area ("MSA") which is typically used to define a local market in auditing research. In some cases a DMA includes more than one MSA. DMAs are reasonable proxies for individual auditor offices given their size and the reach of most audit offices. Examining the influence of auditor advertising on audit practice management at the DMA level is appropriate given prior research has found that audit quality varies across audit offices (Francis and Michas 2013), Anecdotal evidence from marketing professionals at the largest audit firms suggests there is autonomy in advertising initiatives across offices. I use the Compustat Company table to obtain zip codes for specific engagements which I use to merge the data to the Nielsen database. I use a propriety table from Nielsen to join the databases by zip code so that I can assign a DMA identifier from Nielsen to each client-year observation. I then join my merged data set with the Nielsen DMA advertising data on auditor identifier and DMA code. Nielsen divides the U.S. into 210 unique DMAs. I identified unique auditor offices using the Audit Opinions table in Audit

Analytics. I confirmed with Nielsen that the unique auditor offices fall within only 108 of the total 210 DMAs. Moreover, the advertising spending by the audit firms at the local level occurs within these 108 DMAs. Therefore, I restrict my analysis to only these DMAs. If each auditor had a presence in each of the 108 DMAs for each year there would be a total of 6,804 possible auditor-DMA-year observations. However, not all auditors have a presence in each DMA and I obtain an initial sample of 4,496 auditor-DMA-year matches.[13] I lose additional observations due to missing data related to control variables such as total assets audited or number of segments. For these particular auditor-DMA matches, there are generally only one or two audit engagements though some have up to six in a given year.[14]

I include audit firm-year observations for the years spanning the period from 2004 through 2013 for my risk and going-concern analysis and restrict my sample to the period between 2004 and 2010 for my financial restatement tests. I start in 2004 because I only have local advertising spending starting in 2003 and I require one year of lagged advertising spending for my analysis. Additionally, by excluding observations prior to 2004 I alleviate the potential confound of the collapse of Arthur Andersen in 2002.[15] For the financial restatement analysis, I stop in 2010 because the dependent variable is measured as incidences of financial restatements so I must allow at least three and a half years subsequent to the original filing for a restatement to be detected and reported (Paterson and Valencia 2011).

[13] Of these auditor-DMA-year matches, 2,822 engage in some advertising. However, the magnitude of the advertising activity is quite small for many of these practices as only 854 spend over $1,000. All auditor-DMA-year matches with less than $1,000 in spending are treated as having 0 advertising investment.

[14] I confirm that each engagement is missing the particular data item used to generate the control variable.

[15] Arthur Andersen's dissolution was covered extensively in the popular press and an article from ABC News noted that the firm ceased its operations on Saturday, August 31st in 2002. You can refer to article at http://abcnews.go.com/Business/Decade/arthur-andersen-business/story?id=9279255.

Local Auditor Level Results

Risk Analysis

Descriptive statistics for the risk analysis sample for the local auditor practices are reported in Table 3-1. The average standard deviation of future operating cash flows (proportion of distressed clients in the auditor's portfolio) is 114.215 (0.350). There is considerable variation in size across auditor-DMA matches as reflected by the distribution of total assets audited (*ASSETS*) ranging from $1,367.96 million at the bottom quartile to $47,322.79 million at the upper quartile. Other control variables such as *AVG_LOSS*, *AVG_BUSY*, and *AVG_REG* exhibit similar skewness to that of total assets audited. Auditor advertising spending at the DMA level has a mean (median) of $1,918 ($0) thousand. The skewness in the data suggests that there are likely scale differences. I thus address this potential bias by estimating a model in which I scale the aggregated variables by the number of audit engagements for the auditor, *ENG*.

Correlations among the variables used in the auditor-DMA practice analysis are reported in Table 3-2. One of my risk measures, *AVG_DISTRESS*, has a significant positive correlation with auditor-DMA advertising spending, *DMA_ADV*, while *AVG_STD_OCF* has no significant correlation providing some univariate evidence to reject Hypothesis 1. The risk measures have significant correlations with several of the control variables included in the analysis, though sometimes in unexpected ways. Auditor-DMA advertising also has a significant correlation with several of the control variables providing univariate support for their inclusion in the model. Variance inflation factors indicate that multicollinearity is not a problem.

Multivariate analysis of the relation between future client risk and auditor advertising spending at the DMA level is reported in Table 3-3. Each regression includes year fixed effects but I do not report the coefficients for brevity. The dependent variable is the mean standard deviation of future cash flows for all audit clients for the period t+1 through t+5 in Column (1)

and the proportion of distressed clients to total clients in a given auditor's portfolio in year t+1 in Column (2). The adjusted R^2 for the models using the mean standard deviation of future cash flows is greater than 0.66 and it is greater than 0.35 for the ratio of distressed firms indicating good fit. The variable of interest is *AVG_DMA_ADV* in Columns (1) and (2). I find that advertising spending at the auditor-DMA practice level is associated with future client risk (p<0.10).[16] To gauge economic significance, I compare the coefficient for *AVG_DMA_ADV* to the coefficient for *AVG_ROA* and find that total advertising spending explains 42.9 percent (0.009 / 0.021) and 20.6 percent (0.020 / 0.097) as much of the variation in the standard deviation of future cash flows and the proportion of distressed clients to total clients for a given auditor in Columns (1) and (2), respectively.

Going-Concern Analysis

For brevity, I do not tabulate the descriptive statistics or correlations for the going-concern analysis. At the DMA level, the average auditor has approximately 1 going-concern opinion in my sample. As with the analysis related to client riskiness, there is significant skewness in several of my control variables including *AVG_ASSETS*, *ENG*, *AVG_NEW*, and *AVG_REG*. There is also skewness with respect to my variable of interest as auditor-DMA activity has a mean (median) of $2.327 ($0) thousand in sample.[17] With respect to the correlations, the raw number of going-concern opinions, *GC*, is positive and significantly correlated to DMA advertising spending, *DMA_ADV*, providing univariate evidence to reject Hypothesis 2. It is not significantly related to national advertising, *NAT_ADV*, suggesting that the relation between auditor-DMA quality and advertising is a function of local, rather than national,

[16] In untabulated analysis, I use the average standard deviation of daily stock returns for a given auditor's clients in year t+1 as my measure of client riskiness. I obtain qualitatively similar results (p<0.05).

[17] The difference between the mean value of auditor-DMA advertising reported for the risk analysis and the analysis here is due to the restriction for this sample that only audit offices with distressed clients are included.

advertising investment. The correlations between *GC* and controls variables are generally consistent with expectations (i.e. *ASSETS*, *AVG_ALTZ*, *AVG_AGE*, *AUD_FEES*, and *REG*). Many of the control variables also have significant correlations with my measures of advertising investment at the DMA level supporting their inclusion in multivariate tests. Variance inflation factors indicate that multicollinearity is not a problem.

I report the results of estimating Equation (3-2) for the auditor-DMA practice level in Table 3-4, Column (1). I include year fixed effects which are not reported for brevity. The adjusted R^2 for the model is somewhat low as it does not exceed 0.07. I find that my variable of interest, *AVG_DMA_ADV*, is negatively associated with the propensity to issue going-concern opinions for financially distressed clients ($p<0.05$). To gauge economic significance, I compare the coefficient for *AVG_DMA_ADV* to the coefficient for *AVG_ALTZ* and find that total advertising spending explains 24.7 percent (0.037 / 0.150) as much of the variation in the propensity to issue a going-concern opinion to a financially distressed client.

Financial Restatement Analysis

For brevity, I do not tabulate the descriptive statistics or correlations for the financial restatement analysis. At the DMA level, the average auditor has approximately 1 income-decreasing restatement in my sample, but as with my prior analysis there is significant skewness across many of the variables included in the analysis. Auditor-DMA advertising spending has a mean (median) of $1.664 ($0) thousand. With respect to the correlations among the variables used in the restatement analysis, the raw number of restatements, *RES*, is positive and significantly correlated to DMA advertising spending, *DMA_ADV*, providing univariate evidence to reject Hypothesis 2. It is unrelated to national advertising, *NAT_ADV*, suggesting that the relation between auditor-DMA quality and advertising is a function of local, rather than national, advertising investment. The correlations between *RES* and control variables are generally in line

with expectations (i.e. *NEW*, *BUSY*, *AQC*, *AVG_ROA*, and *LOSS*). Many of the control variables also have significant correlations with my measures of advertising investment at the DMA level supporting their inclusion in multivariate tests. Variance inflation factors indicate that multicollinearity is not a problem.

I report the results of estimating Equation (3) for the auditor-DMA practice level in Table 3-4, Column (2). I include year fixed effects but I do not report the coefficients for brevity. The dependent variable is the mean number of restatements in Column (2) and the adjusted R^2 is decidedly low as it is less than 0.04. I fail to find any evidence that advertising spending at the auditor-DMA practice level is associated with future audit quality (p>0.10).

Supplemental Analysis

Local Level Analysis

Instrumental variables approach

In the main analysis, I specify single equation models to test my hypotheses. However, the decision to engage in advertising activity at the local level is potentially endogenous. Chapter 2 of this study examines the determinants of advertising investment and I rely upon this model to specify the following first-stage equation to control for the potential endogeneity in the accounting firm's decision to advertise at the DMA level:

$$AVG\_DMA\_ADV_{it} = \beta_1 AVG\_DMA\_ADV_{it} + \beta_2 AVG\_DMA\_SPEND_{it} + \beta_3 AVG\_NAT\_ADV_{it} + \beta_4 DMA\_MKSHR_{it} + \beta_5 DMA\_HERF_{it} + \beta_6 AVG\_NEW_{it} + \beta_7 AVG\_AUD\_FEE_{it} + \beta_8 AVG\_NAF\_TF_{it} + \beta_9 AVG\_ASSETS_{it} + \beta_{10} CLOSE\_DMA_{it} + \beta_{11} AVG\_LOSS_{it} + \beta_{12} AVG\_ROA_{it} + \beta_{13} AVG\_BUSY_{it} + \beta_{14} AVG\_LEV_{it} + \beta_{15} AVG\_SEGS_{it} + \beta_{16} AVG\_TENURE_{it} +$$

$$\beta_{17} AVG\_REG_{it} + \beta_{18} AVG\_AGE_{it} + \beta_{19} AVG\_ALTZ_{it} + \beta_{20} BIGN_{it} +$$

$$\beta_{21} AVG\_AQC_{it} + Year\ fixed\ effects + \varepsilon \qquad (3\text{-}4)$$

My instruments are: (i) the lagged auditor-DMA spending on advertising and (ii) the average level of advertising spending among audit firms in a given DMA_j. Using lagged dependent variables and industry averages as an instrumental variables are common practice within the accounting literature (see, for example, Cannon 2014; Hanlon et al. 2003). Lagged dependent variables are appropriate when the endogenous part of the regressor does not persist over time. Larcker and Rusticus (2010) note with respect to using averages within an industry that such instruments are semi-endogenous and the researcher must assess the relative endogeneity of the instrument and the variable of interest as well as their correlation. In my setting, I assume that the decision to engage in advertising activity by competitors is exogenous and beyond the scope of the accounting firm's control. Prior literature documents that advertising activity within an industry is likely to be an important determinant of advertising investment by a given firm (Balasubramanian and Kumar 1990; Balasubramanian and Kumar 1997). Additionally, as reported in Table 3-2 the correlation between my variable of interest, *AVG_DMA_ADV*, and *AVG _DMA_SPEND*, my instrument, is 0.42 and is significant at the 1 percent level providing comfort about the usefulness of my instrument.

In addition to my instruments I include each auditor's market share, *DMA_MKSHR*, and the audit market concentration within a given DMA_j, *DMA_HERF*, as these variables are likely to also be determinants of advertising spending. I also include all control variables from my second-stage models of riskiness and audit quality. I report the results of my first-stage models in Table 3-5. Column (1) reports the estimation of DMA level advertising spending for a given audit firm for my risk sample while Columns (2) and (3) report the results of my first-stage

estimations for my going-concern and restatement samples, respectively. Across all three columns I find that my instruments are positive and significant (p<0.01) and confirm that my analysis does not suffer from a weak-instrument problem (F-statistic>20.00, p<0.01) (Larcker and Rusticus 2010).

I report the results of my second-stage estimations for client riskiness and audit quality in Tables 3-6 and 3-7, respectively. Turning to Table 3-6, I find that there is still a positive and significant relation between auditor DMA advertising and the average riskiness of the firm's client portfolio after controlling for endogeneity. Specifically, I find that auditor DMA advertising is positively related to the standard deviation of operating cash flows (coeff.=0.055, p<0.01) and the proportion of distressed clients within the auditor's client portfolio (coeff.=0.053, p<0.01). In Table 3-7, I show that after implementing an instrumental variable approach I still observe a negative and significant relation between auditor advertising at the DMA level and the firm's propensity to issue a going-concern opinion (coeff.=-0.095, p<0.01). These results provide comfort that endogeneity is not driving the observed relation between advertising and client riskiness or audit quality in my primary analysis.

Auditor fixed effects

Employing firm fixed effects is another method commonly used within the accounting literature to alleviate concerns about endogeneity. Fixed effects are effective if the factors that impact the endogenous decision are time-invariant (Lennox et al. 2012). In untabulated additional analysis, I find qualitatively similar results for only one of my risk measures as auditor advertising is positively related to the future standard deviation of operating cash flows (coeff.=0.009, p<0.05). I also find qualitatively similar results for my going-concern analysis as auditor advertising spending is negatively related to the propensity to issue a going-concern

opinion (coeff.=-0.034, $p<0.10$). Collectively, this analysis provides additional comfort that endogeneity is not driving my results from my main analysis.

Lagged dependent variables

Another concern regarding the main analysis is that there is potentially autocorrelation of the error terms or omitted correlated variables which will introduce bias into my coefficient estimates. Woolridge (2000) notes that one mechanism to alleviate such concerns is to employ a quasi-change model in which the lagged dependent variable is included in the analysis. Chen et al. (2011) assert that such an empirical approach allows the firm to act as its own control. I, therefore, re-estimate Equations (3-1), (3-2) and (3-3) including lagged measures of my dependent variables. In untabulated supplemental analysis, I continue to find inferentially similar results with respect to my analysis of the relation between auditor DMA advertising and client riskiness ($p<0.10$) and the propensity to issue a going-concern opinion ($p<0.01$).

National Level Analysis

While there is evidence that audit practices are managed at the local rather than the national level (Francis et al. 2005; Reichelt and Wang 2010), audit firms still maintain their brands at a national level and employ mechanisms to ensure the firm's reputation across local markets. Anecdotal evidence from marketing professionals that work at some of the firms included in my analysis suggests that these large public accounting firms have national as well as local strategies. Therefore, I test my hypotheses for national auditor practices and re-estimate Equations (3-1), (3-2), and (3-3) at the national as opposed to the DMA level.

For brevity, I do not tabulate my analysis related to the inherent risk of the national auditor client portfolio. I fail to reject Hypothesis 1 that there is no relation between auditor advertising and inherent risk at the national level as national auditor advertising is not significant

in any specification.[18] I do find some evidence that national auditor advertising is negatively related to national auditor quality. In Table 3-8 I document that national auditor advertising is positively related to incidences of income-decreasing financial restatements (p<0.10). National advertising is unrelated to the propensity to issue a going-concern opinion to a firm's financially distressed clients at the national level. Taken together, the evidence is consistent with auditor investment in advertising having a different impact at the local and national levels and suggests that at the national level greater focus on advertising activities is associated with lower technical competence.

Concluding Remarks

The long-standing debate concerning professionals engaging in advertising has centered on the tension between advertising being beneficial because it reduces information asymmetry about service providers and it being costly because it reduces professionalism. Critics of advertising by professionals contend that it leads to an emphasis on commercialism and that the focus on short-term profits comes at the expense of exercising due care. Understanding the influence of advertising investment on professionalism is particularly important with respect to public accounting firms as they are key monitors in capital markets.

This study informs the debate by examining the relation between audit firm advertising spending and the subsequent level of riskiness in an audit firm's client portfolio as well as subsequent audit quality. I find evidence that local advertising spending is positively related to the average riskiness of the clients in a given auditor's portfolio. Further, for the subset of riskier audit clients, those that I identify as financially distressed, I find that local advertising investment is negatively related to audit quality as measured by the propensity to issue a going-concern

[18] While the rule of thumb is that a sample size greater than 30 is a large sample, I cannot rule out the alternative explanation that the lack of an association in my national analysis is the result of insufficient power.

opinion. Turning to national level analysis, I provide evidence that higher levels of advertising by an audit firm are negatively associated with future audit quality as well but only when audit quality is measured by income-decreasing financial restatements.

Though I test my hypothesis using several different specifications, my study is still subject to several limitations. First, I am unable to observe advertising spending by smaller audit firms and so the results of my analysis may not generalize to small audit firms. Second, my measures of auditor characteristics such as auditor size or complexity at both the local and national levels are constructed using data on individual engagements for public companies. I am unable to include data for private company audits or for nonaudit services for nonaudit clients potentially introducing measurement error into my analysis. Third, I only examine advertising spending which is one aspect of a firm's overall marketing strategy due to data availability.

Despite these limitations, my study still makes an important contribution to the accounting literature. I provide evidence that advertising spending is negatively related to audit quality at both a national and local level. The results of my analysis are of interest to several stakeholders. First, regulators concerned with a decline in audit firm professionalism should consider the role that commercial activities, such as advertising, play in audit practice management and consider potential reforms to reduce the costs associated with greater commercial focus by public accounting firms. Any reforms, however, must also consider the potential impact that they would have regarding the documented benefits of auditor advertising for clients. Second, auditors should consider the potential cost that they are incurring beyond the direct advertising expense from increased advertising investment as this commercial activity appears to come at the expense of quality. Lastly, investors and other parties that rely upon the

work of auditors should consider the signal that audit firm advertising provides as higher levels of advertising are associated with lower auditor quality.

Table 3-1. Descriptives for DMA auditor practices for risk sample (2003 through 2013)

Variable	Mean	Std. Dev.	Q1	Median	Q3	N
DMA_ADV (in 000s)	1.918	8.517	0.000	0.000	0.000	3,618
NAT_ADV (in 000s)	2,285.558	4,200.676	3.693	208.595	2,294.545	3,618
AVG_DMA_ADV (in 000s)	0.243	1.240	0.000	0.000	0.000	3,618
AVG_STD_OCF	114.215	194.186	14.067	47.497	119.838	3,618
AVG_DISTRESS	0.350	0.300	0.000	0.333	0.500	3,618
GC	0.330	0.782	0.000	0.000	0.000	3,618
AVG_GC	0.035	0.111	0.000	0.000	0.000	3,618
RES	0.745	1.621	0.000	0.000	1.000	3,618
AVG_RES	0.067	0.151	0.000	0.000	0.077	3,618
ENG	12.478	22.877	2.000	5.000	12.000	3,618
NEW	0.546	1.088	0.000	0.000	1.000	3,618
AVG_NAF_TF	0.055	0.086	0.011	0.027	0.060	3,618
CLOSE_DMA	0.108	0.167	0.011	0.045	0.119	3,618
ASSETS (in millions)	90,499.030	281,859.300	1,367.960	10,082.280	47,322.790	3,618
AUD_FEE	19,760,620.00	38,071,290.00	1,470,540.00	5,370,521.00	18,490,870.00	3,618
NONAUD_FEE	5,428,585.00	13,732,010.00	209,022.00	964,948.00	4,089,017.00	3,618
TOTAL_FEE	25,042,820.00	49,909,570.00	1,731,000.00	6,475,202.00	23,116,300.00	3,618
AVG_LEV	0.260	0.170	0.154	0.237	0.327	3,618
AQC	693.258	1,919.885	0.000	35.647	399.000	3,618
AVG_ROA	-0.037	0.190	-0.056	0.012	0.045	3,618
LOSS	4.667	10.086	0.000	1.000	4.000	3,618
BUSY	8.471	13.786	1.000	4.000	8.000	3,618
AVG_SEGS	1.440	0.603	1.000	1.333	1.714	3,618
AVG_TENURE	11.130	9.122	4.300	9.273	15.000	3,618
REG	2.198	3.468	0.000	1.000	2.000	3,618
AVG_NEW	0.061	0.155	0.000	0.000	0.042	3,618
AVG_ASSETS (in millions)	5,077.623	9,476.537	459.874	1,811.690	5,163.473	3,618
AVG_AUD_FEE	1,463,549.00	1,314,812.00	485,250.00	1,084,018.00	2,047,462.00	3,618

Table 3-1. Continued

AVG_AQC	43.712	101.431	0.000	6.901	38.879	3,618
AVG_LOSS	0.323	0.288	0.000	0.307	0.500	3,618
AVG_BUSY	0.721	0.265	0.583	0.750	1.000	3,618
AVG_REG	0.200	0.229	0.000	0.143	0.333	3,618
AVG_AGE	20.178	9.768	13.765	18.233	24.500	3,618
AVG_ALTZ	2.536	4.772	1.162	2.298	3.628	3,618
DMA_MKSHR	0.229	0.208	0.047	0.186	0.337	3,618
DMA_HERF	0.436	0.194	0.305	0.370	0.513	1,026
AVG_DMA_SPEND	1.385	4.951	0.000	0.000	0.100	1,026

Continuous variables are winsorized at the 1st and 99th percentiles. Variables are defined in the Appendix.

Table 3-2. Local Correlations for Risk Sample.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)	*DMA_ADV*	1.00	**0.05**	**0.79**	0.02	**0.07**	**0.13**	0.01	**0.14**	-0.02	**0.19**	**0.18**	**-0.08**	**-0.10**	**0.12**	**0.15**	**0.16**	**0.16**	-0.01	**0.06**
(2)	*NAT_ADV*	**0.29**	**1.00**	**0.03**	0.11	**-0.05**	**-0.03**	-0.03	**0.05**	0.00	**0.02**	**-0.05**	**0.01**	**0.06**	**0.05**	**0.08**	**0.07**	**0.08**	0.01	**0.03**
(3)	*AVG_DMA_ADV*	**1.00**	**0.29**	**1.00**	-0.04	**0.05**	**0.00**	0.00	**-0.02**	-0.02	**-0.02**	**0.02**	**-0.01**	**-0.10**	**-0.01**	**-0.03**	**-0.02**	**-0.03**	-0.03	**-0.05**
(4)	*AVG_STD_OCF*	-0.02	0.09	-0.03	1.00	**-0.10**	**0.06**	-0.07	**0.16**	-0.03	**0.22**	**0.07**	**-0.12**	**0.24**	**0.60**	**0.44**	**0.42**	**0.44**	0.09	**0.29**
(5)	*AVG_DISTRESS*	**0.08**	**-0.03**	**0.07**	**-0.18**	**1.00**	**0.24**	0.28	**0.10**	0.01	**0.13**	**0.14**	**-0.03**	**-0.16**	**0.01**	**0.06**	**0.05**	**0.05**	0.03	**0.03**
(6)	*GC*	**0.12**	**-0.05**	**0.11**	**0.06**	**0.33**	**1.00**	0.43	**0.43**	0.00	**0.52**	**0.45**	**-0.19**	**-0.11**	**0.31**	**0.45**	**0.43**	**0.46**	0.03	**0.33**
(7)	*AVG_GC*	**0.10**	**-0.05**	**0.09**	**0.02**	**0.33**	**0.98**	1.00	**-0.02**	-0.02	**-0.03**	**0.03**	**-0.02**	**-0.08**	**-0.03**	**-0.05**	**-0.04**	**-0.05**	0.12	**-0.04**
(8)	*RES*	**0.09**	**-0.01**	**0.08**	**0.24**	**0.14**	**0.35**	**0.29**	1.00	**0.31**	**0.72**	**0.50**	**-0.19**	**-0.08**	**0.44**	**0.62**	**0.65**	**0.64**	**-0.04**	**0.39**
(9)	*AVG_RES*	**0.05**	**-0.01**	**0.04**	**0.17**	**0.10**	**0.23**	**0.19**	**0.94**	**1.00**	**-0.01**	**0.02**	**0.10**	**-0.02**	**0.00**	**-0.01**	**0.01**	**-0.01**	**0.04**	**-0.02**
(10)	*ENG*	**0.18**	**0.02**	**0.17**	**0.43**	**0.17**	**0.42**	**0.35**	**0.54**	**0.38**	**1.00**	**0.58**	**-0.25**	**-0.09**	**0.61**	**0.86**	**0.84**	**0.87**	**-0.09**	**0.62**
(11)	*NEW*	**0.14**	**-0.05**	**0.13**	**0.08**	**0.18**	**0.32**	**0.27**	**0.36**	**0.24**	**0.49**	**1.00**	**-0.21**	**-0.15**	**0.32**	**0.48**	**0.45**	**0.48**	**-0.04**	**0.35**
(12)	*AVG_NAF_TF*	**-0.11**	**-0.01**	**-0.09**	**-0.24**	**-0.19**	**-0.36**	**-0.31**	**-0.34**	**-0.19**	**-0.64**	**-0.39**	**1.00**	**0.05**	**-0.16**	**-0.25**	**-0.18**	**-0.24**	**-0.01**	**-0.17**
(13)	*CLOSE_DMA*	**-0.13**	**0.08**	**-0.13**	**0.37**	**-0.20**	**-0.13**	**-0.14**	**0.01**	**0.01**	**0.01**	**-0.16**	**0.07**	**1.00**	**0.00**	**-0.02**	**-0.01**	**-0.02**	**0.02**	**0.01**
(14)	*ASSETS*	**0.06**	**0.06**	**0.05**	**0.81**	**-0.06**	**0.23**	**0.16**	**0.42**	**0.29**	**0.77**	**0.28**	**-0.45**	**0.27**	**1.00**	**0.77**	**0.82**	**0.79**	**0.00**	**0.54**
(15)	*AUDIT_FEES*	**0.09**	**0.10**	**0.07**	**0.74**	**0.03**	**0.30**	**0.23**	**0.46**	**0.31**	**0.84**	**0.35**	**-0.57**	**0.23**	**0.92**	1.00	**0.90**	**0.99**	-0.04	**0.71**
(16)	*NON_AUDIT_FEES*	**0.11**	**0.07**	**0.09**	**0.68**	**0.02**	**0.28**	**0.21**	**0.49**	**0.35**	**0.82**	**0.33**	**-0.31**	**0.23**	**0.88**	**0.91**	**1.00**	**0.94**	-0.03	**0.67**
(17)	*TOTAL_FEES*	**0.09**	**0.09**	**0.08**	**0.74**	**0.02**	**0.30**	**0.23**	**0.47**	**0.33**	**0.84**	**0.34**	**-0.52**	**0.24**	**0.92**	**1.00**	**0.94**	**1.00**	-0.04	**0.71**
(18)	*AVG_LEV*	-0.01	-0.02	-0.02	0.22	-0.01	0.03	0.04	0.02	0.04	0.03	-0.02	**0.05**	**0.10**	**0.14**	**0.12**	**0.13**	**0.13**	1.00	**-0.02**
(19)	*AQC*	**0.07**	**0.06**	**0.05**	**0.52**	**0.03**	**0.24**	**0.17**	**0.39**	**0.27**	**0.67**	**0.31**	**-0.43**	**0.13**	**0.67**	**0.74**	**0.71**	**0.74**	**0.09**	**1.00**
(20)	*AVG_ROA*	**-0.09**	**0.05**	**-0.08**	**0.15**	**-0.50**	**-0.34**	**-0.34**	**-0.17**	**-0.14**	**-0.22**	**-0.19**	**0.19**	**0.17**	**0.01**	**-0.06**	**-0.05**	**-0.06**	**-0.07**	**-0.03**
(21)	*LOSS*	**0.18**	**0.01**	**0.16**	**0.22**	**0.43**	**0.49**	**0.43**	**0.49**	**0.34**	**0.80**	**0.47**	**-0.59**	**-0.11**	**0.50**	**0.61**	**0.58**	**0.61**	**0.05**	**0.48**
(22)	*BUSY*	**0.16**	**0.02**	**0.14**	**0.44**	**0.17**	**0.42**	**0.35**	**0.52**	**0.36**	**0.96**	**0.47**	**-0.64**	**0.03**	**0.76**	**0.82**	**0.79**	**0.82**	**0.05**	**0.64**
(23)	*AVG_SEGS*	-0.02	0.11	-0.02	0.35	-0.22	-0.11	-0.11	0.01	0.03	-0.01	-0.09	**0.10**	**0.24**	**0.21**	**0.22**	**0.22**	**0.22**	**0.24**	**0.18**
(24)	*AVG_TENURE*	**-0.05**	**0.14**	**-0.06**	**0.52**	**-0.21**	**-0.07**	**-0.09**	**0.08**	**0.06**	**0.25**	**-0.14**	-0.02	0.36	0.50	0.46	0.47	0.47	0.03	0.31
(25)	*REG*	**0.13**	**-0.01**	**0.11**	**0.40**	**0.03**	**0.32**	**0.25**	**0.44**	**0.30**	**0.74**	**0.38**	**-0.47**	**0.05**	**0.71**	**0.66**	**0.64**	**0.66**	**0.05**	**0.47**
(26)	*AVG_NEW*	**0.12**	**-0.06**	**0.11**	**0.01**	**0.15**	**0.23**	**0.19**	**0.25**	**0.18**	**0.36**	**0.96**	**-0.29**	**-0.16**	**0.16**	**0.22**	**0.20**	**0.22**	**-0.01**	**0.20**
(27)	*AVG_ASSETS*	-0.02	0.08	-0.03	0.87	-0.22	0.02	-0.02	0.21	0.14	0.42	0.06	**-0.19**	**0.37**	**0.89**	**0.73**	**0.69**	**0.74**	**0.22**	**0.50**
(28)	*AVG_AUD_FEE*	-0.04	0.16	-0.04	0.81	-0.17	0.02	-0.02	0.16	0.10	0.31	0.02	**-0.22**	**0.38**	**0.71**	**0.76**	**0.63**	**0.75**	**0.21**	**0.51**
(29)	*AVG_AQC*	0.02	0.07	0.01	0.49	-0.04	0.12	0.07	0.26	0.19	0.47	0.18	**-0.28**	**0.16**	**0.56**	**0.61**	**0.58**	**0.61**	**0.12**	**0.95**
(30)	*AVG_LOSS*	**0.06**	**-0.05**	**0.06**	**-0.15**	**0.56**	**0.29**	**0.29**	**0.16**	**0.12**	**0.21**	**0.19**	**-0.20**	**-0.19**	**-0.04**	**0.06**	**0.04**	**0.05**	**0.05**	**0.03**
(31)	*AVG_BUSY*	**-0.07**	**0.00**	**-0.07**	**0.04**	**-0.05**	**-0.04**	**-0.03**	**-0.10**	**-0.07**	**-0.16**	**-0.11**	**0.07**	**0.07**	**-0.03**	**-0.08**	**-0.11**	**-0.09**	**0.10**	**-0.10**
(32)	*AVG_REG*	0.02	-0.02	0.02	0.23	-0.14	0.03	0.02	0.10	0.08	0.27	0.06	**-0.07**	**0.08**	**0.39**	**0.25**	**0.26**	**0.25**	**0.12**	**0.10**
(33)	*AVG_AGE*	**-0.05**	**0.07**	**-0.04**	**0.35**	**-0.30**	**-0.16**	**-0.15**	**-0.09**	**-0.07**	**0.00**	**-0.13**	**0.05**	**0.25**	**0.26**	**0.22**	**0.19**	**0.22**	**0.10**	**0.11**
(34)	*AVG_ALTZ*	0.02	0.08	0.03	-0.03	-0.22	-0.15	-0.17	-0.02	-0.02	-0.03	-0.02	0.02	0.01	-0.06	-0.01	0.00	-0.01	-0.40	0.05
(35)	*DMA_MKSHR*	**-0.12**	**0.09**	**-0.12**	**0.62**	**-0.24**	**-0.04**	**-0.07**	**0.14**	**0.11**	**0.23**	**-0.06**	**-0.07**	**0.67**	**0.56**	**0.53**	**0.50**	**0.54**	**0.19**	**0.35**
(36)	*DMA_HERF*	**-0.18**	**-0.03**	**-0.18**	**-0.04**	**-0.21**	**-0.28**	**-0.24**	**-0.28**	**-0.19**	**-0.45**	**-0.33**	**0.39**	**0.39**	**-0.22**	**-0.32**	**-0.27**	**-0.31**	**0.06**	**-0.29**
(37)	*AVG_DMA_SPEND*	**0.42**	**0.01**	**0.42**	**0.04**	**0.21**	**0.33**	**0.29**	**0.31**	**0.19**	**0.49**	**0.37**	**-0.38**	**-0.30**	**0.24**	**0.33**	**0.32**	**0.33**	**-0.05**	**0.28**

Table 3-2. Continued

		(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
(1)	*DMA_ADV*	-0.03	**0.15**	**0.18**	**-0.07**	**-0.09**	**0.19**	0.03	0.02	-0.03	**-0.05**	**0.05**	-0.02	0.02	**-0.08**	0.03	**-0.12**	**-0.14**	**0.48**
(2)	*NAT_ADV*	0.05	**0.00**	**0.03**	**0.14**	**0.16**	**0.01**	-0.03	0.08	0.20	**0.04**	**-0.06**	0.05	0.04	**0.09**	0.04	**0.13**	**-0.01**	**0.00**
(3)	*AVG_DMA_ADV*	-0.04	**-0.02**	**-0.02**	**-0.07**	**-0.11**	**-0.01**	0.04	-0.04	-0.08	**-0.07**	**0.03**	-0.04	0.01	**-0.07**	0.06	**-0.15**	**-0.10**	**0.35**
(4)	*AVG_STD_OCF*	0.11	**0.16**	**0.25**	**0.20**	**0.31**	**0.26**	-0.08	0.79	0.68	**0.26**	**-0.11**	0.09	0.07	**0.22**	-0.01	**0.36**	**0.05**	**0.11**
(5)	*AVG_DISTRESS*	-0.34	**0.21**	**0.11**	**-0.20**	**-0.22**	**0.05**	0.08	-0.13	-0.16	**-0.08**	**0.55**	-0.01	-0.21	**-0.31**	-0.16	**-0.23**	**-0.14**	**0.11**
(6)	*GC*	-0.23	**0.54**	**0.55**	**-0.13**	**-0.09**	**0.45**	0.02	0.04	0.01	**0.03**	**0.21**	-0.01	-0.05	**-0.15**	-0.11	**-0.06**	**-0.22**	**0.33**
(7)	*AVG_GC*	-0.31	**0.00**	**-0.03**	**-0.06**	**-0.11**	**-0.05**	0.05	-0.08	-0.10	**-0.07**	**0.24**	0.03	-0.08	**-0.10**	-0.16	**-0.13**	**-0.04**	**0.03**
(8)	*RES*	-0.03	**0.68**	**0.72**	**-0.08**	-0.01	**0.61**	-0.02	**0.14**	**0.09**	**0.06**	**0.11**	**-0.05**	-0.03	**-0.13**	-0.01	**0.05**	**-0.23**	**0.35**
(9)	*AVG_RES*	-0.04	**0.00**	**-0.01**	**0.02**	-0.03	**-0.01**	0.02	**-0.02**	**-0.03**	**0.00**	**0.05**	**-0.03**	-0.01	**-0.04**	-0.03	**0.00**	**-0.01**	**-0.01**
(10)	*ENG*	-0.02	**0.95**	**0.96**	**-0.15**	0.00	**0.83**	-0.05	**0.18**	**0.14**	**0.11**	**0.15**	**-0.06**	-0.03	**-0.13**	-0.01	**0.05**	**-0.28**	**0.42**
(11)	*NEW*	-0.10	**0.56**	**0.59**	**-0.13**	-0.14	**0.53**	0.40	**0.05**	**0.00**	**0.04**	**0.14**	**-0.05**	-0.03	**-0.14**	-0.04	**-0.09**	**-0.25**	**0.39**
(12)	*AVG_NAF_TF*	0.05	**-0.23**	**-0.28**	**0.11**	-0.03	**-0.28**	0.04	**-0.11**	**-0.16**	**-0.07**	**-0.04**	**-0.07**	-0.03	**0.01**	0.08	**-0.10**	**0.25**	**-0.15**
(13)	*CLOSE_DMA*	0.10	**-0.10**	**-0.09**	**0.24**	0.30	**-0.07**	-0.09	**0.23**	**0.33**	**0.11**	**-0.16**	**0.07**	0.09	**0.28**	0.03	**0.70**	**0.59**	**-0.16**
(14)	*ASSETS*	0.04	**0.52**	**0.64**	**-0.01**	0.10	**0.61**	-0.05	**0.68**	**0.42**	**0.18**	**0.02**	**0.02**	0.04	**0.00**	0.01	**0.14**	**-0.14**	**0.30**
(15)	*AUDIT_FEES*	0.03	**0.78**	**0.91**	-0.03	**0.12**	**0.80**	**-0.08**	**0.41**	**0.42**	**0.22**	**0.07**	0.00	0.00	-0.03	0.01	**0.18**	**-0.25**	**0.38**
(16)	*NON_AUDIT_FEES*	0.02	**0.75**	**0.87**	-0.02	**0.10**	**0.76**	**-0.06**	**0.41**	**0.35**	**0.20**	**0.06**	-0.01	0.01	-0.03	0.02	**0.15**	**-0.20**	**0.38**
(17)	*TOTAL_FEES*	0.03	**0.78**	**0.92**	-0.03	**0.12**	**0.80**	**-0.08**	**0.42**	**0.41**	**0.22**	**0.07**	0.00	0.00	-0.03	0.01	**0.17**	**-0.24**	**0.39**
(18)	*AVG_LEV*	-0.22	**-0.10**	**-0.07**	0.16	**-0.01**	**-0.04**	**0.00**	**0.07**	**0.11**	**0.07**	**0.08**	0.11	0.08	0.05	-0.39	**0.09**	**0.02**	**-0.02**
(19)	*AQC*	0.01	**0.56**	**0.66**	0.01	**0.08**	**0.55**	**-0.05**	**0.28**	**0.29**	**0.62**	**0.04**	0.01	-0.02	-0.01	0.01	**0.15**	**-0.17**	**0.23**
(20)	*AVG_ROA*	1.00	**-0.09**	**-0.03**	0.17	**0.18**	**0.04**	**-0.11**	**0.10**	**0.16**	**0.07**	**-0.48**	-0.04	0.11	0.20	0.42	**0.16**	**0.09**	**-0.06**
(21)	*LOSS*	**-0.57**	**1.00**	**0.90**	-0.19	**-0.04**	**0.74**	**-0.04**	**0.12**	**0.08**	**0.08**	**0.27**	-0.08	-0.06	-0.17	-0.03	**0.01**	**-0.27**	**0.37**
(22)	*BUSY*	**-0.22**	**0.78**	1.00	**-0.12**	0.01	**0.86**	**-0.06**	**0.21**	**0.19**	**0.14**	**0.13**	0.03	0.00	**-0.13**	-0.01	**0.07**	**-0.30**	**0.41**
(23)	*AVG_SEGS*	**0.20**	**-0.13**	**-0.02**	**1.00**	0.32	**-0.11**	**-0.05**	**0.18**	**0.34**	**0.18**	**-0.21**	0.03	0.08	**0.46**	0.03	**0.31**	**0.19**	**-0.10**
(24)	*AVG_TENURE*	0.19	0.03	0.23	**0.28**	1.00	**0.05**	**-0.23**	**0.32**	**0.46**	**0.18**	**-0.24**	0.00	0.14	**0.52**	0.02	**0.44**	**0.13**	**-0.12**
(25)	*REG*	**-0.09**	**0.54**	**0.75**	0.00	0.24	**1.00**	**-0.06**	**0.25**	**0.19**	**0.11**	**0.05**	0.03	0.26	**-0.06**	-0.05	**0.08**	**-0.28**	**0.40**
(26)	*AVG_NEW*	**-0.17**	**0.35**	**0.34**	**-0.08**	**-0.19**	**0.25**	**1.00**	**-0.08**	**-0.11**	**-0.04**	**0.09**	-0.03	-0.06	**-0.07**	-0.02	**-0.14**	**-0.02**	**0.05**
(27)	*AVG_ASSETS*	**0.16**	**0.17**	**0.44**	**0.33**	**0.55**	**0.49**	**-0.01**	**1.00**	**0.68**	**0.27**	**-0.13**	0.08	0.16	**0.23**	-0.02	**0.37**	**0.06**	**0.08**
(28)	*AVG_AUD_FEE*	**0.14**	**0.14**	**0.33**	**0.40**	**0.52**	**0.29**	**-0.04**	**0.81**	**1.00**	**0.37**	**-0.16**	0.09	0.06	**0.38**	-0.03	**0.56**	**0.06**	**0.03**
(29)	*AVG_AQC*	**0.05**	**0.29**	**0.45**	**0.23**	**0.31**	**0.31**	**0.12**	**0.48**	**0.52**	1.00	**-0.07**	0.02	-0.02	**0.12**	-0.01	**0.22**	-0.01	-0.01
(30)	*AVG_LOSS*	**-0.74**	**0.68**	**0.20**	**-0.23**	**-0.20**	**0.04**	**0.16**	**-0.20**	**-0.15**	**-0.05**	**1.00**	0.01	-0.23	**-0.30**	-0.21	**-0.21**	-0.13	0.09
(31)	*AVG_BUSY*	**0.02**	**-0.12**	**0.10**	0.01	-0.04	0.01	-0.09	0.07	0.06	-0.07	-0.05	1.00	0.24	**-0.08**	-0.04	**0.08**	0.04	-0.01
(32)	*AVG_REG*	**0.06**	**0.08**	**0.30**	**0.05**	**0.20**	**0.75**	**0.03**	**0.40**	**0.17**	**0.06**	**-0.15**	**0.14**	1.00	**0.26**	-0.13	**0.15**	0.03	0.01
(33)	*AVG_AGE*	**0.26**	**-0.18**	**-0.04**	**0.45**	**0.50**	**0.07**	**-0.12**	**0.39**	**0.41**	**0.16**	**-0.29**	**-0.12**	**0.18**	**1.00**	0.00	**0.36**	0.17	-0.13
(34)	*AVG_ALTZ*	0.39	-0.18	-0.07	**0.05**	**0.08**	**-0.15**	**-0.03**	**-0.08**	**-0.01**	**0.06**	**-0.30**	**-0.13**	**-0.23**	**0.06**	1.00	**0.01**	0.04	0.01
(35)	*DMA_MKSHR*	**0.17**	**0.04**	**0.24**	**0.35**	**0.52**	**0.24**	**-0.10**	**0.64**	**0.66**	**0.35**	**-0.20**	**0.03**	**0.18**	**0.35**	0.03	**1.00**	0.36	-0.15
(36)	*DMA_HERF*	**0.19**	**-0.45**	**-0.43**	**0.13**	**0.06**	**-0.31**	**-0.25**	**-0.02**	**-0.04**	**-0.19**	**-0.20**	**0.10**	**-0.03**	**0.14**	**-0.05**	**0.20**	1.00	**-0.25**
(37)	*AVG_DMA_SPEND*	**-0.20**	**0.47**	**0.46**	**-0.11**	**-0.10**	**0.35**	**0.29**	**0.01**	**0.01**	**0.16**	**0.20**	**-0.10**	**0.05**	**-0.15**	0.00	-0.23	-0.50	**1.00**

All variables are defined in the Appendix.

Table 3-3. OLS Regression of Accounting Firm Advertising on Client Riskiness

Variables	Exp Sign	(1) *AVG_STD_OCF* Coefficient t-statistic		(2) *AVG_DISTRESS* Coefficient t-statistic	
AVG_DMA_ADV	?	0.009	**	0.020	*
		2.02		1.76	
AVG_NAT_ADV	?	-0.025	**	-0.037	**
		-2.46		-2.43	
AVG_NEW	?	0.002		0.016	
		0.33		0.77	
AVG_NAF_TF	+	-0.007		0.003	
		-0.95		0.14	
CLOSE_DMA	+	0.021		-0.022	
		1.20		-1.37	
AVG_AUD_FEE	+	0.261	***	-0.009	
		9.72		-0.32	
AVG_ASSETS	?	0.612	***	-0.008	
		17.32		-0.46	
AVG_LOSS	+	0.008		0.441	***
		0.88		19.63	
AVG_ROA	?	0.021	***	-0.097	***
		2.98		-5.28	
AVG_BUSY	?	0.024	***	-0.013	
		2.61		-0.71	
AVG_LEV	+	0.021	***	-0.014	
		2.67		-0.85	
AVG_SEGS	+	0.001		-0.011	
		0.06		-0.55	
AVG_TENURE	?	0.009		-0.002	
		0.65		-0.11	
AVG_REG	-	-0.042	***	-0.049	***
		-3.67		-2.92	
AVG_AGE	-	-0.017		-0.122	***
		-1.19		-5.36	
Year Fixed Effects		Yes		Yes	
Observations		3,618		3,618	
Adj. R^2		0.666		0.359	

Table 3-3. Continued

This table presents the results of OLS regressions of Equation (3-1). The dependent variable, *AVG_STD_OCF*, is the average standard deviation of cash flows for the clients of the audit firm measured for the years t+1 through t+5 while the dependent variable, *AVG_DISTRESS*, is the proportion of financially distressed clients to total clients for a given audit firm for the year t+1. All other variables are as defined in the Appendix. All t-statistics are presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3-4. OLS Regression of Accounting Firm Advertising on Audit Quality

Variables	Exp Sign	(1) *AVG_GC* Coefficient t-statistic		Variables	Exp Sign	(2) *AVG_RES* Coefficient t-statistic	
AVG_DMA_ADV	?	-0.037	**	*AVG_DMA_ADV*	?	-0.018	
		-2.01				-1.54	
AVG_NAT_ADV	?	0.003		*AVG_NAT_ADV*	?	-0.008	
		0.12				-0.28	
AVG_NAF_TF	-	0.010		*AVG_NEW*	+	0.016	
		0.40				0.60	
AVG_ASSETS	+	-0.014		*AVG_NAF_TF*	+	0.084	***
		-1.15				2.72	
AVG_NEW	-	0.002		*AVG_ASSETS*	-	0.006	
		0.07				0.40	
AVG_ALTZ	-	-0.150	***	*AVG_LEV*	?	0.056	**
		-5.69				2.16	
AVG_AGE	-	-0.011		*AVG_AQC*	+	-0.024	
		-0.38				-1.54	
AVG_TENURE	-	-0.007		*AVG_ROA*	-	-0.006	
		-0.23				-0.23	
AVG_AUD_FEE	+	-0.020		*AVG_LOSS*	+	0.039	
		-0.88				1.31	
AVG_REG	+	-0.020		*AVG_BUSY*	+	-0.005	
		-0.95				-0.18	
BIGN	?	-0.166	***	*AVG_SEGS*	+	-0.003	
		-6.21				-0.14	
				AVG_TENURE	-	-0.024	
						-0.86	
				AVG_REG	+	-0.028	
						-1.19	
				BIGN	?	0.045	*
						1.90	
Year Fixed Effects		Yes				Yes	
Observations		2,361				3,056	
Adj. R^2		0.065				0.035	

This table presents the results of OLS regressions of Equations (3-2) and (3-3). The dependent variable, *AVG_GC*, is the average number of going-concern opinions an audit firm issues for its financially distressed clients while the dependent variable, *AVG_RES*, is the average number of income-decreasing financial restatements an audit firm has. All other variables are as defined in the Appendix. All t-statistics are presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3-5. OLS Regression of Determinants of Auditor Advertising Expenditure

		(1)		(2)		(3)	
		AVG_DMA_ADV		*AVG_DMA_ADV*		*AVG_DMA_ADV*	
	Exp	Coefficient		Coefficient		Coefficient	
Variables	Sign	t-statistic		t-statistic		t-statistic	
AVG_DMA_ADV	+	0.431	***	0.385	***	0.420	***
		7.65		7.07		7.00	
AVG_DMA_SPEND	+	0.040	***	0.039	***	0.038	***
		6.41		6.47		6.07	
AVG_NAT_ADV	?	0.040	*	0.032	***	0.034	
		1.71		2.57		1.59	
DMA_MKSHR	?	-0.029	*	-0.008		0.014	
		-1.81		-0.36		1.11	
DMA_HERF	-	0.015		0.015		-0.001	
		0.99		0.84		-0.08	
AVG_NEW	+	0.024		-0.075		0.024	
		1.08		-0.40		1.01	
AVG_AUD_FEE	?	-0.032	*	-0.010			
		-1.90		-0.31			
AVG_NAF_TF	?	0.026		0.059	***	0.032	
		1.14		2.82		1.32	
AVG_ASSETS	?	-0.012		-0.001		-0.016	
		-0.91		-0.03		-1.23	
CLOSE_DMA	+	0.007		-0.005			
		0.50		-0.26			
AVG_LOSS	-	-0.033	*			-0.042	**
		-1.88				-1.98	
AVG_ROA	+	-0.001				-0.003	
		-0.05				-0.15	
AVG_BUSY	-	-0.015				-0.013	
		-0.79				-0.64	
AVG_LEV	-	0.004				-0.012	
		0.20				-0.68	
AVG_SEGS	-	-0.006				-0.012	
		-0.34				-0.93	
AVG_TENURE	?	-0.015		0.033		0.000	
		-0.98		1.46		-0.03	
AVG_REG	?	0.000		-0.013		-0.001	
		-0.02		-0.74		-0.04	
AVG_AGE	-	0.009		0.003			
		0.41		0.13			
AVG_ALTZ	+			0.020			
				0.96			
BIGN	-			-0.237	***	-0.199	***
				-4.45		-3.68	

Table 3-5. Continued

AVG_AQC	?		-0.023	***
			-3.01	
Year Fixed Effects	Yes	Yes	Yes	
Observations	3,168	2,164	2,510	
Adj. R^2	0.313	0.318	0.315	

This table presents the results of OLS regressions of Equation (3-4). The dependent variable, *AVG_DMA_SPEND*, is the average amount of advertising spending by auditors in a given DMA_j in year t. Column (1) estimates Equation (3-4) for the risk subsample while Columns (2) and (3) estimate Equation (3-4) for the going-concern and restatement subsamples, respectively. All other variables are as defined in the Appendix. All t-statistics are presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3-6. OLS Regression of Accounting Firm Advertising on Client Riskiness.

Variables	Exp Sign	(1) *AVG_STD_OCF* Coefficient t-statistic		(2) *AVG_DISTRESS* Coefficient t-statistic	
AVG_DMA_ADV	?	0.055	***	0.053	**
		3.31		2.09	
AVG_NAT_ADV	?	-0.029	***	-0.035	**
		-2.72		-2.27	
AVG_NEW	?	0.004		0.007	
		0.43		0.33	
AVG_NAF_TF	+	-0.017		0.000	
		-1.99		0.00	
CLOSE_DMA	+	0.017		-0.021	
		0.92		-1.21	
AVG_AUD_FEE	+	0.246	***	0.002	
		9.19		0.08	
AVG_ASSETS	?	0.636	***	-0.014	
		18.15		-0.74	
AVG_LOSS	+	0.009		0.443	***
		0.88		18.17	
AVG_ROA	?	0.025	***	-0.111	***
		2.95		-5.68	
AVG_BUSY	?	0.033	***	-0.001	
		3.10		-0.05	
AVG_LEV	+	0.027	***	-0.012	
		3.03		-0.65	
AVG_SEGS	+	0.000		-0.035	
		-0.02		-1.79	
AVG_TENURE	?	0.007		-0.011	
		0.44		-0.53	
AVG_REG	-	-0.051	***	-0.046	**
		-4.10		-2.52	
AVG_AGE	-	-0.011		-0.101	***
		-0.68		-4.34	
Year Fixed Effects		Yes		Yes	
Observations		3,168		3,168	
Adj. R^2		0.671		0.368	

Table 3-6. Continued

This table presents the second-stage results of OLS regressions of Equation (3-1) after employing an instrumental variable approach. The dependent variable, *AVG_STD_OCF*, is the average standard deviation of cash flows for the clients of the audit firm measured for the years t+1 through t+5 while the dependent variable, *AVG_DISTRESS*, is the proportion of financially distressed clients to total clients for a given audit firm for the year t+1. All other variables are as defined in the Appendix. All t-statistics are presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3-7. OLS Regression of Accounting Firm Advertising on Audit Quality

		(1) *AVG_GC*				(2) *AVG_RES*	
Variables	Exp Sign	Coefficient t-statistic		Variables	Exp Sign	Coefficient t-statistic	
AVG_DMA_ADV	?	-0.095	***	*AVG_DMA_ADV*	?	-0.034	*
		-2.75				-1.70	
AVG_NAT_ADV	?	-0.004		*AVG_NAT_ADV*	?	-0.009	
		-0.17				-0.33	
AVG_NAF_TF	-	0.028		*AVG_NEW*	+	0.026	
		1.02				0.97	
AVG_ASSETS	+	-0.010		*AVG_NAF_TF*	+	0.083	**
		-0.72				2.34	
AVG_NEW	-	-0.042		*AVG_ASSETS*	-	-0.005	
		-0.21				-0.35	
AVG_ALTZ	-	-0.141	***	*AVG_LEV*	?	0.050	*
		-5.41				1.86	
AVG_AGE	-	-0.028		*AVG_AQC*	+	-0.013	
		-0.90				-0.81	
AVG_TENURE	-	0.010		*AVG_ROA*	-	-0.023	
		0.30				-0.75	
AVG_AUD_FEE	+	-0.018		*AVG_LOSS*	+	0.031	
		-0.70				1.03	
AVG_REG	+	-0.027		*AVG_BUSY*	+	-0.013	
		-1.20				-0.46	
BIGN	?	-0.409	***	*AVG_SEGS*	+	-0.019	
		-6.26				-0.79	
				AVG_TENURE	-	-0.007	
						-0.26	
				AVG_REG	+	-0.013	
						-0.57	
				BIGN	?	0.118	**
						2.13	
Year Fixed Effects		Yes				Yes	
Observations		2,164				2,510	
Adj. R^2		0.064				0.023	

This table presents the results of OLS regressions of Equations (3-2) and (3-3) after employing an instrumental variable approach. The dependent variable, *AVG_GC*, is the average number of going-concern opinions an audit firm issues for its financially distressed clients while the dependent variable, *AVG_RES*, is the average number of income-decreasing financial restatements an audit firm has. All other variables are as defined in the Appendix. All t-

Table 3-7. Continued

statistics are presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3-8. OLS Regression of Accounting Firm Advertising on Audit Quality at the National Level

Variables	Exp Sign	(1) *AVG_GC* Coefficient t-statistic		Variables	Exp Sign	(2) *AVG_RES* Coefficient t-statistic	
AVG_DMA_ADV	?	-0.045		*AVG_LOC_ADV*	?	-0.076	
		-0.35				-1.43	
AVG_NAT_ADV	?	-0.006		*AVG_NAT_ADV*	?	0.112	*
		-0.07				1.86	
AVG_NAF_TF	-	0.031		*AVG_NEW*	+	0.166	
		0.19				1.36	
AVG_ASSETS	+	0.131		*AVG_NAF_TF*	+	-0.334	
		1.15				-2.46	
AVG_NEW	-	0.113		*AVG_ASSETS*	-	0.163	
		0.99				0.92	
AVG_ALTZ	-	-0.507	***	*AVG_LEV*	?	0.103	
		-8.20				0.60	
AVG_AGE	-	0.062		*AVG_AQC*	+	-0.072	
		0.46				-0.74	
AVG_TENURE	-	-0.393	***	*AVG_ROA*	-	-0.014	
		-2.75				-0.10	
AVG_AUD_FEE	+	-0.189		*AVG_LOSS*	+	0.101	
		-0.86				0.85	
AVG_REG	+	-0.483		*AVG_BUSY*	+	0.026	
		-3.81				0.13	
BIGN	?	-0.194		*AVG_SEGS*	+	0.554	***
		-1.00				3.14	
				AVG_TENURE	-	-0.531	**
						-2.61	
				AVG_REG	+	0.442	***
						3.37	
				BIGN	?	0.554	**
						2.48	
Year Fixed Effects		Yes				Yes	
Observations		98				72	
Adj. R^2		0.663				0.875	

This table presents the results of OLS regressions of Equations (3-2) and (3-3) at the national audit practice level. The dependent variable, *AVG_GC*, is the average number of going-concern opinions an audit firm issues for its financially distressed clients while the dependent variable, *AVG_RES*, is the average number of income-decreasing financial restatements an audit firm has. All other variables are as defined in the Appendix. All t-statistics are

Table 3-8. Continued

presented below the coefficients and are estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

CHAPTER 4
AN EXAMINATION OF THE RELATION BETWEEN ACCOUNTING FIRM ADVERTISING AND TAX SERVICE OUTCOMES

A longstanding debate among academics and regulators is whether the joint provision of audit and nonaudit services by public accounting firms should be permitted (Omer et al. 2006; Krishnan and Visvanathan 2011). Critics' concerns regarding the joint provision are grounded in the theory that such an arrangement leads to auditor independence impairment (Simunic 1984). The accounting literature has generally focused on how the joint provision of these services influences audit production and quality. An emerging literature is now exploring the quality of nonaudit services in general (Ciconte et al. 2015) and tax services in particular (Gleason and Mills 2011; Ciconte et al. 2015). The quality of auditor-provided nonaudit services is likely influenced by the dual roles that an accounting firm must assume as the independent auditor and as a consultant. Assessing the quality of such services ex ante is quite difficult as accounting services are either experience or credence services (Causholli and Knechel 2012; Craswell and Francis 1999). In order to alleviate the information asymmetry between the service provider and the client an accounting firm can elect to provide costly signals through mechanisms such as practice specialization, practice insurance, or advertising. While some theory suggests that advertising can function as a signal of high quality (Klein and Leffler 1981), there is other theory which contends that advertising may be negatively related to professional service quality because it leads to a reduction in a firm's professional focus (Gendron 2002). I inform this debate by testing whether advertising is positively or negatively related to service quality within the context of auditor-provided tax services.

One of the most complicated aspects of corporate financial reporting is income tax accounting (Graham et al. 2012). This is due in large part to the inherent ambiguity of various provisions within the tax code especially for more complex transactions (Dyreng et al. 2008;

Mills et al. 2010). Anecdotal evidence suggests that an important cause of poor tax planning or tax function effectiveness is insufficient personnel within firms' tax departments. A potential solution to human capital shortfalls is to engage an external consultant, such as the auditor, to provide tax specific services (Ciconte et al. 2015).

Understanding what influences service quality across various types of accounting services is important given the continued growth of nonaudit practices within public accounting (PAR 2012) and demand for such services from public companies (PwC 2013). Despite considerable research on nonaudit service provision, there is little evidence about its quality and the literature largely focuses on how the production of nonaudit services influences audit production.[1] The focus on the relation between nonaudit services and auditing is logical given the continued concerns among regulators in the U.S. and other developed audit markets that providing both impairs auditor independence. Despite such concerns, there has generally been a lack of empirical evidence regarding an impairment of auditor independence when nonaudit services are also provided to an audit client (Ashbaugh et al. 2003; Chung and Kallapur 2003; DeFond et al. 2002; Kinney et al. 2004).

In Chapter 3 I examine the relation between public accounting firm advertising and the quality of another type of service, namely auditing. Tax service professionals are distinct from audit professionals because they function as client advocates. While auditors must maintain their independence, in both fact and appearance, from their clients, tax service professionals need not be independent and often will act on the behalf of their clients in resolving tax issues.[2] It is

[1] One exception is Ciconte et al. (2015) which looks at how nonaudit services provided to audit clients impact future operating performance and risk. They find that jointly provided tax services are positively related to future operating performance and negatively related to future operating risk.

[2] For example, a client can elect to give their tax service professional power of attorney to represent the client on all or some tax matters related to the firm's federal tax filings by submitting Form 2848, Power of Attorney and Declaration of Representative.

unsurprising that concerns arise among regulators and other stakeholders when an accounting firm serves as both a client's independent auditor and tax advocate because of the tension inherent in such a dual role (PCAOB 2011).

While prior research has found no empirical evidence that the joint provision of tax and audit services leads to negative audit service outcomes, it does not account for variation of commercial focus among firms and individual offices. Substantial criticism has been levied against the audit profession for its apparent decline in professionalism (Wyatt 2004). A common assertion among the profession's critics is that audit firms have expanded the size and scope of their non-audit services and have shifted their attention toward these lines at the expense of their audits (Malsch and Gendron 2013). Auditors have been historically concerned with their commercial interests, but critics believe that starting in the 1990s the balance between commercialism and professionalism has shifted decidedly toward commercialism (Greenwood and Suddaby 2006; Malsch and Genderon 2013).

Advertising is a commercial process (Pollay 1986) that can serve to either spur improvements in service quality or undermine it. If advertising increases competition within a service market then it can push service providers to innovate leading to higher quality (Bloom 1977; Smith and Meyer 1980). The removal of the ban on advertising preceded the rise of non-audit services within accounting firms and could have contributed to focus on developing new services. However, if advertising indicates an emphasis on commercial interests (Suddaby et al. 2009) then increased focus on advertising can lead to lower quality. As documented previously advertising investment is related to market structure but it is negatively related to audit quality. The relation between advertising and tax service production, however, is likely different given

the nature of the relationship between the client and the service provider is not one of strict independence.

In order to test my research question, I obtain proprietary data from the The Nielsen Company LLC ("Nielsen") about advertising spending for the nine largest public accounting firms. I am able to differentiate between spending for national and local advertising initiatives. I define local markets as digital media areas ("DMA") consistent with Nielsen's definition.[3] Next, I construct my other empirical measures using public data on audit engagements from the Compustat Annual File and Audit Analytics. Because I am interested in studying public accounting firms which are private enterprises that provide little data publicly about their operations, I aggregate audit engagement data. Such an empirical approach is consistent with other research that focuses on industry-level activity and conducts its analysis by aggregating data by two-digit SIC code (see, for example, Cahan et al. 2008). As I am interested in studying the quality of tax service provision, I require that for a given client-year observation to be included the client purchase some amount of tax services from their auditor.

Using ordinary least squares regression, I estimate two separate empirical models of tax service quality at both the national and local audit practice levels. I define tax service quality as either: (i) tax avoidance, or (ii) a reduction in the volatility of tax outcomes. I measure tax avoidance using two empirical proxies: (i) the average of an audit firm's clients' current effective tax rates for the period from t+1 through t+5 or (ii) the average of an audit firm's clients' cash effective tax rates for the period from t+1 through t+5. I measure tax volatility as either the standard deviation of an auditor's clients' tax expense or cash taxes paid for the period from t+1 through t+5.

[3] Note that a DMA is typically larger than a metropolitan statistical area ("MSA") which is the unit of analysis used in accounting research to define a local audit market.

I find that auditor advertising investment is unrelated to tax avoidance at either the national or local level. This is inconsistent with advertising being related with the provision of tax planning strategies or tax coordination initiatives that lead to reductions in future GAAP tax expense or cash tax payments. While I fail to find evidence of advertising being related to tax savings, I do find evidence that auditor advertising investment is negatively related to future tax volatility at both the national and local levels. These results suggest that auditor advertising is related to tax services that reduce the volatility of tax outcomes.

The results of this study contribute to several streams of literature. First, this study provides additional evidence regarding what factors are related to higher professional service quality. I find that greater investment in advertising by public accounting firms is related to higher quality tax service consistent with investment in public accounting firm advertising spurring innovation among tax service providers. Second, this study contributes to the growing auditor-provided tax service literature which examines the consequences of the joint provision of audit and tax services by a single provider. While prior literature finds that auditor-provided tax services are positively related to financial reporting quality (Kinney et al. 2004) and positively related to operating performance (Ciconte et al. 2015), I extend this literature by showing how accounting firm advertising investment relates to the quality of the tax services provided. Third, the study contributes to the broader tax literature that examines either the determinants of tax avoidance or the emerging literature that studies tax risk management. Fourth, the results of this study contribute to the developing literature within auditing that examines the inherent tension between a firm's professional and commercial focus. While I document in Chapter 3 that auditors trade-off professionalism for commercialism with respect to audit quality, I find that when accounting firms assume a role that allows for advocacy rather than requiring strict

independence, higher levels of commercial activity, in the form of advertising spending, do not appear to come at the cost of professionalism.

The remainder of this study is organized as follows. Section 4.2 provides background and develops the hypotheses. Section 4.3 describes the empirical design of the study. Section 4.4 discusses the results of the local level analysis while Section 4.5 reviews the results of the national analysis. Section 4.6 concludes.

Background and Hypothesis Development

Income tax accounting is complex and there are a myriad of transactions for which the appropriate tax treatment is ambiguous (Hanlon and Heitzman 2010). Tax departments are charged with two primary tasks, tax compliance and tax planning (Robinson et al. 2010). Tax compliance refers to the filing of tax returns by taxpayers and the subsequent inspection of the returns by the relevant tax authority (Sansing 1993). This activity is conducted after the close of a given tax year thus it is backward-looking. In contrast, tax planning is a forward-looking process in which a taxpayer considers the potential consequences of engaging in a given transaction and determines a structure for that transaction that results in the most tax favorable outcome. Both of these activities present challenges and anecdotal evidence suggests that one of the primary reasons why a firm experiences problems with either type of activity is that the firm lacks adequate human capital within its tax function.

Obtaining and developing human capital is one of the most important factors in the ultimate success or failure of a firm (Pfeffer 1995; Jung et al. 2013). This is particularly true when considering functions such as accounting that require deep technical knowledge and professional judgment. Shortfalls in human capital have been shown to be negatively related to future operating performance (Jung et al. 2014) and inadequate human capital is a frequent cause of ineffective internal control (Choi et al. 2013).

When a firm experiences a shortfall in its human capital within the tax department it must compensate by acquiring external labor. Nonaudit professionals, such as tax professionals, at a public accounting firm are a common source of substitute labor when a firm cannot adequately staff its tax department in-house. Ciconte et al. (2015) note that in addition to addressing the lack of headcount that a firm faces, professionals from public accounting firms also offer technical and tacit knowledge which may not be available internally among existing client personnel.

The use of tax professionals from a firm's auditor can facilitate high audit and financial reporting quality. When auditors provide tax services to their audit clients they are more likely to issue a going-concern opinion prior to an audit client filing for bankruptcy (Robinson 2008). Further, Kinney et al. (2004) find that higher levels of tax fees are negatively related to financial restatements. Such evidence is consistent with auditor-provided tax services yielding knowledge spillovers that improve audit quality.

Auditor-provided tax services are also positively related to the quality of firms' estimation of tax uncertainty. Gleason and Mills (2011) document a positive relation between auditor-provided tax services and the accuracy of firms' estimates of their reserves for income tax uncertainty. Gleason and Mills (2011) test the relation between auditor-provided services and tax reserve accuracy in the period prior to the implementation of FIN 48. Ciconte et al. (2015) test how tax reserves map into future income tax cash outflows using data from FIN 48 disclosures. They find that FIN 48 reserves unwind into future cash flows and that this relation is stronger for firms that purchase auditor-provided tax services relative to firms that do not.

Lastly, auditor-provided tax services can improve the information systems of their clients through enhancing internal controls. The empirical evidence is consistent with such improvements as auditor-provided tax services are negatively related to incidences of internal

control weaknesses (Ege et al. 2015). Improved information systems mean that the firm is less likely to make errors when filing its tax returns improving its tax compliance. Further, higher quality accounting information systems mean that information will be more reliable so management can make better decisions thus enhancing the firm's tax planning (Gallemore and Labro 2014).

While external tax professionals can address needs within the tax function for audit clients, each client still faces the difficult task of evaluating the quality of various potential service providers. Causholli and Knechel (2012) note that ex ante assessment of accounting service providers is difficult as these services exhibit characteristics of experience or credence services. Clients are at an information disadvantage relative to the professional and must rely upon the accountant to identify the appropriate type and amount of service needed. Even ex post it is difficult for a client to assess whether or not the service provided is of high quality given the intangibility of most accounting services. While certain types of tax services can be evaluated ex post, this is only true if a tax authority audits the relevant tax position or tax return.[4] If the tax service rendered pertains to an issue that is not examined upon audit then whether or not the service rendered was of high quality will remain unclear.[5]

Public accounting firms can utilize various mechanisms in an effort to alleviate the information asymmetry problem. Firms typically engage in practice specialization around specific types of client industries and are able to build a reputation that current and future clients can use when selecting an accounting firm (McGuire et al. 2012). Another means of signaling a firm's quality is to engage in advertising (Hay and Knechel 2010). Klein and Leffler (1981) posit

[4] It should be noted that the largest firms are subject to continuous audit by the Internal Revenue Service.

[5] An exception would be if the service provided is focused on income tax accounting for financial reporting in which case achieving a desired tax rate may provide an ex post signal of quality.

that advertising spending serves as a signal of a given firm's quality as a commitment of dollars to advertising suggests that the firm has slack resources. In fact, the actual message contained in the advertisement is not important because the signal to current and potential clients is the act of spending on advertising itself.

In contrast to economic theory which suggests that advertising should be positively related to professional service quality, the management literature has developed the trade-off theory of commercialism and professionalism (Gendron 2002). This is the argument that was made by critics of the removal of the ban on advertising by professionals during the 1970s (Malsch and Gendron 2013). Such an argument is particularly compelling for audit professionals who must maintain their independence from their clients and concurrent research provides empirical evidence consistent with auditor advertising being negatively related to audit service quality.

While the trade-off theory and empirical evidence suggest that advertising by accounting service providers should be negatively related to accounting service quality as seen in the audit context, such a relation is likely conditional upon the relationship that the service provider must maintain with the client. The removal of the ban on advertising was a contributing factor in the rise of non-audit practices and the development of value-added services. Additionally, not all accounting services have the same client-service provider relationship. Tax services generally are provided in a non-adversarial manner and it is common for a tax service provider to assume the role of client advocate. Furthermore, prior empirical evidence suggests that auditor-provided tax services yield various benefits to purchasers. Therefore, despite the competing theoretical predictions regarding the relation between auditor advertising investment and tax service quality, I state my hypothesis in the alternative as:

- **H1:** Accounting firm advertising investment is positively related to the quality of its tax services.

Research Design

Measures of Tax Service Quality

Professional service quality is a broad construct which is inherently difficult to measure. Some studies define service quality as meeting or exceeding some reference standard, such as customer expectations (Golder et al. 2012; Parasuraman et al. 1985), but such an operationalization of quality is difficult to employ. Moreover, theory suggests that customers are unable to assess quality, especially in an accounting context (Causholli and Knechel 2012). Despite the difficulty in measuring professional service quality, there is considerable literature within accounting that does measure the quality of one type of accounting service, auditing. Empirical proxies typically make use of ex post outcomes such as incidences of financial restatement (Kinney et al. 2004) or the propensity to issue a going-concern opinion (DeFond et al. 2002).

Consistent with the prior literature in auditing that uses financial reporting outcomes to measure audit quality, I construct my measures of tax service quality using data on clients' tax reporting. Specifically, I focus on the levels of tax avoidance and tax volatility for a given auditor's clients. Tax avoidance is measured as either: (i) the average of an audit firm's clients' current effective tax rates for the period from t+1 through t+5 or (ii) the average of an audit firm's clients' cash effective tax rates for the period from t+1 through t+5. GAAP and cash effective tax rates are common empirical proxies for tax avoidance within the tax literature (Dyreng et al. 2008; Ayers et al. 2009; Hanlon and Heitzman 2010). I measure tax volatility as either the standard deviation of an auditor's clients' tax expense or cash taxes paid for the period from t+1 through t+5.

This empirical approach assumes that, all else equal, greater tax avoidance and lower tax volatility for clients that purchase auditor-provided tax services are indicative of higher quality service. While some tax avoidance strategies can be relatively more uncertain, there is evidence that investors view tax avoidance positively (Koester 2011; Robinson and Schmidt 2013) and that managers are compensated for engaging in tax avoidance (Armstrong et al. 2012). Similarly, there is an emerging literature which finds that reducing the volatility in tax outcomes is important to investors, managers, and tax practitioners (Bauer and Klassen 2014; McGuire et al. 2013).

Empirical Model

In order to test my hypothesis, I specify an empirical model of the relation between public accounting firm advertising investment and auditor-provided tax service quality. Given that public accounting firms are private enterprises with limited disclosures of their financial information, I use data from audit engagements of publicly traded clients to construct my controls. The lack of available information on public accounting firm operations is the reason why there is only limited research done at the audit firm rather than the audit engagement level (Francis 2011). I aggregate data for all clients for a particular auditor in a given year consistent with prior literature that does examine auditor, rather than client, characteristics (Francis and Michas 2013) or industry-level characteristics (Cahan et al. 2008). I estimate the following empirical model and include year fixed effects (Petersen 2009):

$$AVG\_TAX\_QUALITY_{it+k} = \beta_1 AVG\_ADV_{it} + \beta_2 AVG\_TAX\_FEES_{it} + \beta_3 LEADER\_TAX_{it} + \beta_4 AVG\_LOSS_{it} + \beta_5 AVG\_LEV_{it} + \beta_6 AVG\_FOREIGN_{it} + \beta_7 AVG\_REG_{it} + \beta_8 AVG\_CAPINT_{it} + \beta_9 AVG\_SALEGROW_{it} + \beta_{10} AVG\_B2M_{it} + Year\ fixed\ effects$$

$$+ \varepsilon \qquad (4\text{-}1)$$

My dependent variable, *AVG_TAX_QUALITY*, is measured as described above. The variable of interest is *AVG_ADV* and is measured as either: (i) average advertising spending for auditor i in DMA j for the local level analysis or (ii) average advertising spending for auditor i nationally for the national level analysis. With respect to the national level analysis, I also add an additional control for total local advertising spending across all DMAs for a given auditor i to control for the influence of local level spending.

I include several control variables consistent with prior literature that examines the determinants of tax avoidance (Phillips 2003) or tax volatility (Bauer and Klassen 2014).[6] I estimate Equation (4-1) with standardized coefficients in order to alleviate any concerns that the underlying distributions of my independent variables are influencing the analysis. Both the dependent and independent variables are standardized with each having a mean of zero and a standard deviation of one to ensure that all coefficients are presented in comparable units (Ciconte et al. 2015; Shan et al. 2013). The reported coefficient for each independent variable represents the change in the dependent variable given a unit-standard deviation change in the independent variable (Adelman and Morris 1968; Bennett et al. 2003; Shan et al. 2013). Such an approach eases the interpretation of the economic significance of the independent variables relative to each other.

Sample Selection

I obtain my sample by merging the Compustat Annual File, Audit Analytics, and a proprietary database of public accounting firm advertising investment provided by Nielsen. First, I match individual audit engagement data from Audit Analytics with client specific information

[6] Refer to the Appendix for complete definitions including references to the data items used to construct the various control variables.

such as property, plant, and equipment data in Compustat. I exclude client-firm observations with no purchase of tax fees as well as observations with missing data from my aggregated measures dependent and control variables. Second, I merge the data from Nielsen onto the aggregated data by auditor identifier. The data provided by Nielsen allows me to identify auditor advertising spending at both the national and local levels with all advertising spending reported in thousands. I focus my analysis on the nine largest public accounting firms because data on advertising spending for the smaller accounting firms is unavailable. Focusing on the largest firms is desirable given evidence from prior literature that the largest public accounting firms are systematically different from smaller firms due to differences in firm technology and procedures facilitating systematically higher quality auditing (DeAngelo 1981; Craswell et al. 1995; Khurana and Raman 2004).

Local Analysis

Descriptive Statistics

I begin my analysis by focusing on accounting firm advertising at the local, rather than national, auditor level. This is guided by recent literature which documents that audit quality and practice management is determined at the local level (Francis et al. 2005; Francis and Michas 2013; Reichelt and Wang 2010). I report descriptive statistics for my local level analysis in Table 4-1. I find that in my sample the majority of local offices do not spend a material amount on advertising initiatives as reflected by the fact that firms at the upper quartile of *DMA_ADV* have a value of $0 spent. While this suggests that advertising is not something that most audit offices engage in, I note in untabulated statistics that 2,822 auditor offices engage in some advertising as measured by units purchased but the magnitude, in terms of dollars spent, is less than $1,000. I treat these offices as having not invested in advertising.

With respect to my dependent variables, I find that there is not significant skewness for either of my measures of tax avoidance, *AVG_CURRETR* or *AVG_CASHETR*, which aggregate avoidance across all audit clients that purchase some tax services for a given auditor's client portfolio as the mean and median of these variables are quite close. In contrast, I note that there appears to be skewness in my tax volatility measures as the mean and median for my measures, *AVG_STDCURRETR* and *AVG_STDCASHETR*, are quite different. I also note that there appears to be significant skewness in the amount of tax fees earned across audit offices as the mean and median of *TAXFEES* are quite different.

I also consider the impact of correlations among my dependent and independent variables and report the correlations for these variables in Table 4-2. I find that my variable of interest, *AVG_DMA_ADV*, does not have a significant association with most of my dependent measures, with the exception of the negative and significant correlation with *AVG_STDCASHETR*. Thus, I only find some limited support for my hypothesis that auditor advertising is positively related to tax service quality when tax service quality is measured as a reduction in tax volatility. Inspection of the rest of the correlations I find that the correlations among my independent variables are generally below 0.40. In unreported analysis, I find that variance inflation factors do not indicate that multicollinearity is a problem.

Multiple Regression Analysis

Tax avoidance

Though I find limited support for my hypothesis when examining univariate statistics, that analysis fails to control for potentially important correlated omitted variables. As a result, I conduct multiple regression analysis by estimating Equation (4-1). I report the results from my tax avoidance tests at the local auditor level in Panels A and B of Table 4-3.

I include year fixed effects but do not report them for brevity. The dependent variable is the long-run current and long-run cash effective tax rates measured over the five year horizon from t+1 through t+5 in columns (1) and (2), respectively. The explanatory power of my empirical models appears reasonable as the adjusted R^2 for each of my models is in line with prior research (Dyreng et al. 2009; Higgins et al. 2014; Rego 2003). The variable of interest is *AVG_DMA_ADV* in both Panels A and B. Panel A reports the results from my base specification when estimating Equation (4-1). In Panel B, I re-estimate Equation (4-1) and include an interaction term for auditor advertising investment and auditor-DMA tax leader, *APTLEADADV*. Across each specification, I fail to find any evidence consistent with my hypothesis (p>0.10).

I do find that several of my control variables, however, are related to the average level of tax avoidance within a given auditor-DMA practice. Specifically, a greater proportion of loss firms, *AVG_LOSS*, and a greater proportion of leverage, *AVG_LEV*, within an auditor-DMA practice are negatively related to future current and cash effective tax rates (i.e. thus positively related to tax avoidance). Interestingly, while I do not find a relation between auditor-tax DMA leader and tax avoidance, I do find that the size of a given tax practice, *AVG_TAXFEES*, is positively related to future tax rates. This suggests that as a tax practice grows, the returns from its services to its clients in the form of tax avoidance decrease potentially because the mix of tax services likely shifts from avoidance strategies to other initiatives. Once such shift is likely to be toward tax risk management where the firm manages the potential risk it faces with respect to its tax positions.

Tax volatility

While I fail to find any support for my hypothesis when testing tax avoidance, tax service quality can be delivered not only through tax savings but also through reduced risk. Therefore, I

next estimate Equation (4-1) using my two measures of tax volatility. I report the results of my analysis at the auditor-DMA level in Table 4-4.

I include year fixed effects but do not report them for brevity. The dependent variable is standard deviation of the long-run current and long-run cash effective tax rates measured over the five year horizon from t+1 through t+5 in columns (1) and (2), respectively. The explanatory power of my empirical models is much greater than it was for my tax avoidance analysis as the adjusted R^2 for each of my models exceeds 0.23 implying reasonable goodness of fit. The variable of interest is *AVG_DMA_ADV* in both Panels A and B. Panel A reports the results from my base specification when estimating Equation (4-1). In Panel B, I re-estimate Equation (4-1) and include an interaction term for auditor advertising investment and auditor-DMA tax leader, *APTLEADADV*.

Across each specification I find robust evidence that auditor advertising investment is negatively related to the volatility of tax accounts for the auditor's clients ($p<0.01$). I standardize each of my regressions thus facilitating my comparison of the economic significance of my independent variables. With respect to Panel A, I find that advertising investment explains about 4.6% (5.1%) as much of the variation in future current (cash) effective tax rates as does the size of a given auditor's tax practice, *AVG_TAXFEES*.[7] While the size of auditor tax practices explains a large amount of the variation in the volatility of tax outcomes for audit clients that purchase tax services, advertising investment does explain a relatively significant amount. Moreover, the significant and negative relation between auditor advertising and tax volatility suggests that auditor advertising is associated with higher tax service quality as evidenced by greater predictability of tax outcomes.

[7] I compute economic significance for my models of current and cash effective tax rates as (0.019/0.415) and (0.020/0.390), respectively.

As with my analysis of tax avoidance, I extend Equation (4-1) and include an interaction term for auditor advertising investment and auditor-DMA tax leader, *APTLEADADV*. I report the results from this estimation in Panel B of Table 4-4. My results continue to hold after including this interaction as auditor advertising continues to be negative and significant in both columns (1) and (2) ($p<0.01$). Further, the interaction term itself is insignificant in both columns. The economic significance for the variable of interest is consistent with what I find in Panel A. Specifically, auditor advertising investment explains about 5.3% (6.7%) as much of the variation in long-run current (cash) effective tax rates.[8]

Overall, the results reported in Table 4-4 provide robust support my hypothesis that auditor advertising investment is positively related to tax service quality. Taken together with my analysis of tax avoidance, my results suggest that auditor advertising investment serves as a signal of tax service quality and that the value provided by auditor-provided tax services arises from a reduction in the volatility of tax outcomes.

Instrumental variable approach

In my primary analysis, I do not control for the potential influence of endogeneity in the decision to engage in advertising by individual auditor offices. Anecdotal evidence suggests that the offices do have autonomy and as Chapter 2 reports there is variation in advertising across auditor-DMA practices. To address concerns about endogeneity, I take an instrumental variable approach and use the lag of auditor advertising spending as my instrument.[9] I include all of my control variables from the second-stage when modeling the auditor's advertising spending at

[8] I compute economic significance for my models of current and cash effective tax rates as (0.022/0.415) and (0.026/0.389), respectively.

[9] Using the lag of the dependent variable is common in the accounting literature but is only appropriate if the endogenous part of the regressor does not persist over time (Larcker and Rusticus 2010).

time t-1. In untabulated analysis, I find that lagged auditor advertising spending is positive and significantly related to auditor advertising spending at t-1 (coeff=0.501, $p<0.01$).

I report the results of my second-stage estimation for my tax volatility tests in Table 4-5. Panel A reports my results for Equation (4-1) while Panel B reports the results when I include an interaction term for auditor advertising spending and being the tax service leader in a given DMA. I find that my results hold as auditor advertising spending is negative and significantly related to the future volatility of current tax expense and cash taxes paid ($p<0.01$).

Lagged dependent variables

While my empirical models includes several control variables which I have identified from prior literature, to alleviate concerns about potential correlated omitted variables I re-estimate each model and include the lagged dependent variable. The inclusion of a lagged dependent variable effectively is a quasi-change model allowing the firm to act as its own control (Chen et al. 2011). This alleviates concerns about autocorrelation of error terms in addition to concerns about correlated omitted variables (Woolridge 2000). In untabulated supplemental analysis, I continue to find a negative and significant relation between auditor-DMA advertising and future tax volatility as measured using the standard deviation of current tax expense (coeff=-0.013, $p<0.05$) or the standard deviation of cash taxes paid (coeff=-0.013, $p<0.05$).

National Analysis

Tax Avoidance Analysis

While my focus is at the local office level, I conduct additional analysis at the national auditor level. My examination at the national level is motivated by early audit literature which asserts that the largest accounting firms have incentives to maintain their reputations across all engagements (DeAngelo 1981). Further, during conversations with professionals at several firms

included in my sample I noted that these firms conduct not only local marketing initiatives but also national campaigns to build and maintain their brands.

As with my local level analysis, I estimate Equation (4-1) and measure tax service quality as either: (i) tax avoidance or (ii) tax volatility. I report the results of my analysis related to tax avoidance in Table 4-6.

I include year fixed effects but do not report them for brevity. The dependent variable is the long-run current and long-run cash effective tax rates measured over the five year horizon from t+1 through t+5 in columns (1) and (2), respectively, in each panel. The explanatory power of my empirical models appears to be quite high as the adjusted R^2 for each of my models exceeds 0.59 which is well above the adjusted R^2 reported in prior research (Dyreng et al. 2009; Higgins et al. 2014; Rego 2003). Panel A reports the results from my base specification when estimating Equation (4-1) and measuring my variable of interest, *AVG_TOTAL_ADV*, as total auditor advertising spending across all national and local channels. In Panel B, I refine my measure of auditor advertising by disaggregating it between local, *AVG_LOCAL_ADV*, and national, *AVG_NAT_ADV*. Consistent with my analysis at the local level, I also re-estimate both my aggregated and disaggregated advertising spending analysis and include interactions between advertising spending and a given audit firm being a national leader in auditor-provided tax services. I report the results for the aggregated analysis in Panel C and the disaggregated analysis in Panel D. In general, I fail to find any evidence consistent with my hypothesis as auditor advertising spending measured in total, *AVG_TOTAL_ADV*, or disaggregated between the local, *AVG_LOC_ADV*, and national, *AVG_NAT_ADV*, levels is not negatively related to tax avoidance

(p>0.10). This result is consistent with the evidence from my examination of the relation between auditor advertising investment and tax avoidance at the local level.[10]

Inspection of the controls variables included in my empirical models indicates that there are differences between the national and local levels. In particular, I do not find any evidence that the size of auditor-provided tax services measured at the national level, *AVG_TAX_FEES*, is associated with tax avoidance (p>0.10). I do find that several of my control variables, however, are related to the average level of tax avoidance within a given auditor-DMA practice. Specifically, a greater proportion of loss firms, *AVG_LOSS*, within a national auditor practice are negatively related to future current effective tax rates (i.e. thus positively related to tax avoidance). Conversely, I find that a higher proportion of firms operating in regulated industries for a given national auditor practice is positively related to both future current and cash effective tax rates (p<0.05). My results suggest that when aggregating the national level it is individual client characteristics, rather than auditor characteristics, that drive future tax avoidance.[11]

Tax volatility analysis

Though I fail to find a relation between auditor investment in advertising and tax avoidance, such an analysis does not consider other measures of tax service quality. As with my local level analysis, I next examine whether auditor advertising investment is associated with the volatility of future tax outcomes as measured by the standard deviation of future long-run current, *AVG_STD_CURRETR*, and cash, *AVG_STD_CASHETR*, effective tax rates. I report the results of my analysis in Table 4-7.

[10] I acknowledge that a key limitation of my analysis at the national level is the limited number of observations included in my sample. As a result, I urge caution in interpreting these results as the lack of an association may be the result of a lack of statistical power.

[11] In addition to examining the relation between auditor advertising and the size of auditor-provided tax services, I also consider whether a given audit firm is a national leader in providing tax services. In general, I fail to find an association as *LEADER_TAXFEES* is insignificant in all but two of the specifications.

I include year fixed effects but do not report them for brevity. The dependent variable is either the standard deviation of long-run current and long-run cash effective tax rates measured over the five year horizon from t+1 through t+5 in columns (1) and (2), respectively, in each panel. The explanatory power of my empirical models appears to be quite high as the adjusted R^2 for each of my models exceeds 0.89. Panel A reports the results from my base specification when estimating Equation (4-1) and measuring my variable of interest, *AVG_TOTAL_ADV*, as total auditor advertising spending across all national and local channels. In Panel B, I refine my measure of auditor advertising by disaggregating it between local, *AVG_LOCAL_ADV*, and national, *AVG_NAT_ADV*. Consistent with my analysis at the local level, I also re-estimate both my aggregated and disaggregated advertising spending analysis and include interactions between advertising spending and a given audit firm being a national leader in auditor-provided tax services. I report the results for the aggregated analysis in Panel C and the disaggregated analysis in Panel D.

In Panel A, I find that advertising investment as measured by *AVG_TOTAL_ADV* is negatively related to the volatility of future tax outcomes ($p<0.05$). I standardized each equation to facilitate the interpretation of economic significance of my variable of interest. I find that auditor advertising spending explains about 12.3% (12.9%) as much of the variation in the standard deviation of long-run current (cash) effective tax rates as does the size of auditor-provided tax services for a given auditor, *AVG_TAX_FEES*.[12]

When I disaggregate auditor advertising spending between local and national initiatives in Panel B I identify which investment is driving the relation. I find that local advertising spending, *AVG_LOC_ADV*, is unrelated to future tax volatility ($p>0.10$) for national auditor

[12] I compute economic significance for my model of the standard deviation of long-run current and long-run cash effective tax rates as (0.108/0.878) and (0.116/0.894), respectively.

practices. In contrast, national advertising spending, *AVG_NAT_ADV*, is negative and significantly related to future tax volatility ($p<0.01$) at the national level. The economic significance of national advertising spending is consistent with that reported in Panel A as national advertising spending explains about 15.6% (15.1%) as much of the variation in future long-run current (cash) effective tax rates as does the size of auditor-provided tax services for a given audit firm.[13]

I report the results from my estimation of Equation (4-1) including an interaction term for national auditor-provided tax service leader for aggregated and disaggregated auditor advertising investment in Panels C and D, respectively. I find that my results are consistent after including these interaction terms as auditor advertising spending, *AVG_TOTAL_ADV*, is negatively related to tax volatility in Panel C ($p<0.05$) and that this appears to be driven by national rather than local advertising investment as only *AVG_NAT_ADV* is negative and significantly related to tax volatility ($p<0.01$).

Overall, the results of my national analysis are consistent with my evidence from my examination at the local auditor practice level. Auditor advertising investment is positively related to tax service quality but only with respect to reductions in the volatility of future tax outcomes. Moreover, the relation at the national level is driven by national, rather than local, initiatives consistent with anecdotal evidence that audit firms conduct national campaigns to build and promote their brand and quality across their lines of service.

Conclusion

The debate concerning whether or not professionals, such as accountants, should be allowed to engage in advertising has centered on the tension regarding whether advertising will

[13] I compute economic significance for my model of the standard deviation of long-run current and long-run cash effective tax rates as (0.133/0.852) and (0.131/0.868), respectively

spur competition thus increasing quality or lead to lower professionalism thus inhibiting quality. In the preceding chapters examining the impact of advertising investment by accounting firms, Chapter 3 finds that higher levels of auditor advertising are associated with lower future audit quality and Chapter 2 finds that higher auditor advertising is negatively related to audit fees. Taken together these results suggest that advertising does lead to price competition but that it also leads to an increased focus on selling at the expense of audit quality. While both studies provide important insight into the implications of auditor advertising on auditing, they do not address the potential impact of advertising on the provision of other accounting services.

In this study, I show that auditor advertising investment is positively related to a key tax service outcome. I document that higher levels of auditor advertising are negatively related to the volatility of future tax outcomes. I show that this result is robust to examination at both the local and national audit practice levels. Moreover, I document that the relation is not mitigated when I control for the interaction of auditor-provided tax service leaders and advertising spending. I also fail to find any evidence that auditor advertising is associated with tax avoidance. Taken together the results suggest auditor advertising is associated with higher tax service quality through more predictable future tax outcomes.

While this study provides important evidence regarding a setting in which advertising is associated with higher accounting service quality, it is subject to several limitations. First, my data does not include firms smaller than the nine largest public accounting firms and so my results may not generalize to the smaller accounting firm market. Second, my measures of accounting firm characteristics are derived from publicly available data on individual audit engagements for public clients. As such, I am unable to observe the market for private company audits and accounting services as well as the market for non-audit services provided by firms

other than the auditor. Third, I only examine accounting firm advertising which is just one component of the broader marketing strategy of a given accounting firm.

The above limitations notwithstanding, my study should be of interest to several groups. First, regulators concerned with the current level of quality within the accounting profession should find my evidence to be of interest as they weigh future restrictions on service provision by auditors and initiatives to increase competition. Second, auditors considering investing in advertising should consider how advertising will influence various lines of practice. Lastly, investors and other stakeholders that are interested in predicting future firm performance should find my results to be of interest as they suggest that for audit clients that purchase auditor-provided tax services the extent the auditor engages in advertising can serve as a signal of lower volatility in future tax outcomes.

Table 4-1. Descriptive for DMA auditor practices (2003 through 2013)

Variable	Mean	Std. Dev.	Q1	Median	Q3	N
DMA_ADV (in 000s)	1.929	8.929	0.000	0.000	0.000	4,235
AVG_DMA_ADV (in 000s)	0.388	2.029	0.000	0.000	0.000	4,235
AVG_CURRETR	0.229	0.136	0.144	0.228	0.318	4,235
AVG_CASHETR	0.171	0.159	0.059	0.149	0.242	4,235
AVG_STDCURRETR	40.695	72.845	3.620	13.991	43.710	4,235
AVG_STDCASHETR	29.157	48.830	1.981	9.552	33.932	4,235
AVG_TAXFEES	250.400	349.303	48.000	126.858	314.933	4,235
LEADER_TAXFEES	0.253	0.435	0.000	0.000	1.000	4,235
AVG_LOSS	0.284	0.318	0.000	0.200	0.500	4,235
AVG_LEV	0.250	0.179	0.130	0.224	0.332	4,235
AVG_FOREIGN	0.343	0.334	0.000	0.333	0.500	4,235
AVG_REG	0.263	0.333	0.000	0.143	0.400	4,235
AVG_CAPINT	0.237	0.192	0.101	0.191	0.324	4,235
AVG_SALESGROW	0.138	0.326	0.004	0.082	0.182	4,235
AVG_B2M	3.893	10.918	0.684	1.129	2.441	4,235
AUDITFEES(in 000s)	16,190.410	38,735.180	814.000	3,554.000	13,901.000	4,235
NONAUDITFEES (in 000s)	5,222.418	14,435.190	180.039	819.000	3,691.140	4,235
TAXFEES (in 000s)	2,720.342	6,737.054	86.393	415.000	1,990.519	4,235
ASSETS (in millions)	81,319.140	336,546.500	974.345	5,770.764	35,679.010	4,235
LOSS	2.890	6.960	0.000	1.000	2.000	4,235
REG	1.520	2.490	0.000	1.000	2.000	4,235

This table presents descriptive statistics for the analysis conducted at the digital media area (DMA) market level. Advertising data is obtained from The Nielsen Company LLC and all statistics are presented in thousands and the aggregate per the license agreement. All audit and nonaudit fees, incidences of restatement, and auditor opinion data are obtained from Audit Analytics. All client financial statement data are obtained from the Compustat Annual File. All variables are defined in the Appendix.

Table 4-2. DMA Correlations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1)	*AVG_DMA_ADV*	1.00	**-0.05**	-0.02	-0.03	-0.03	0.03	**-0.05**	**0.09**	-0.02	0.01	0.02	**-0.07**	0.04	0.02
(2)	*AVG_CURRETR*	0.00	1.00	**0.56**	**0.19**	**0.27**	**0.11**	**0.07**	**-0.38**	**-0.04**	**0.07**	**0.05**	**0.14**	-0.04	**0.06**
(3)	*AVG_CASHETR*	-0.01	**0.51**	1.00	**0.26**	**0.38**	**0.20**	**0.09**	**-0.20**	**-0.06**	**0.22**	-0.03	**0.11**	**-0.11**	0.00
(4)	*AVG_STDCURRETR*	-0.04	**0.12**	**0.12**	1.00	**0.89**	**0.64**	**0.30**	-0.01	**0.27**	**0.37**	-0.01	**0.27**	**0.04**	-0.04
(5)	*AVG_STDCASHETR*	**-0.04**	**0.14**	**0.18**	**0.80**	1.00	**0.63**	**0.28**	**-0.09**	**0.21**	**0.37**	**0.06**	**0.25**	0.04	**-0.05**
(6)	*AVG_TAXFEES*	-0.04	**0.09**	**0.10**	**0.44**	**0.43**	1.00	**0.42**	0.02	**0.25**	**0.41**	-0.04	**0.20**	**0.09**	**-0.08**
(7)	*LEADER_TAXFEES*	**-0.08**	**0.06**	**0.04**	**0.20**	**0.21**	**0.39**	1.00	**-0.05**	**0.13**	**0.13**	0.00	**0.15**	0.02	**-0.06**
(8)	*AVG_LOSS*	0.03	**-0.32**	**-0.14**	**-0.06**	**-0.11**	**-0.10**	**-0.08**	1.00	**0.08**	**0.07**	**-0.13**	**-0.06**	**-0.10**	0.00
(9)	*AVG_LEV*	-0.03	**-0.09**	**-0.09**	**0.12**	**0.09**	**0.13**	**0.07**	**0.11**	1.00	**0.10**	**-0.05**	**0.43**	0.00	**-0.14**
(10)	*AVG_FOREIGN*	**-0.05**	**0.09**	**0.14**	**0.24**	**0.23**	**0.32**	**0.11**	0.00	0.02	1.00	**-0.30**	**0.07**	0.01	**-0.16**
(11)	*AVG_REG*	**0.05**	**0.05**	-0.02	**-0.10**	**-0.09**	**-0.13**	**-0.04**	**-0.18**	**-0.09**	**-0.40**	1.00	**-0.25**	-0.01	**0.44**
(12)	*AVG_CAPINT*	**-0.09**	**0.10**	0.03	**0.10**	**0.10**	0.04	**0.13**	**-0.07**	**0.34**	**-0.05**	**-0.17**	1.00	**0.04**	**-0.25**
(13)	*AVG_SALESGROW*	0.00	**-0.09**	**-0.12**	-0.02	-0.02	0.00	0.00	-0.03	-0.02	-0.03	**-0.05**	0.01	1.00	**-0.18**
(14)	*AVG_B2M*	0.03	**-0.08**	-0.02	0.00	-0.03	-0.04	**-0.04**	**0.16**	**-0.09**	**-0.12**	**0.26**	**-0.17**	**-0.07**	1.00

This table reports Pearson (Spearman) correlations above (below) the diagonal. All correlations significant at the 0.01 level are bolded. All variables are defined in the Appendix.

Table 4-3. Local Accounting Firm Advertising and Tax Avoidance

Panel A: OLS Regression of Local Accounting Firm Advertising on Tax Avoidance

		(1) *AVG_CURRETR*		(2) *AVG_CASHETR*	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic	
AVG_DMA_ADV	-	-0.016		0.028	
		-0.79		1.15	
AVG_TAXFEES	?	0.031	*	0.051	***
		1.80		3.03	
LEADER_TAXFEES	-	0.007		-0.004	
		0.46		-0.24	
AVG_LOSS	-	-0.321	***	-0.210	***
		-14.28		-9.18	
AVG_LEV	-	-0.050	***	-0.059	***
		-2.62		-2.96	
AVG_FOREIGN	?	0.058	***	0.085	***
		2.61		3.75	
AVG_REG	+	0.023		-0.031	
		1.10		-1.26	
AVG_CAPINT	?	0.082	***	0.024	
		4.15		1.05	
AVG_SALESGROW	+	-0.085		-0.062	
		-5.61		-3.81	
AVG_B2M	-	-0.034	**	-0.012	
		-2.24		-0.76	
Year Fixed Effects		Yes		Yes	
Observations		3,624		3,624	
Adj. R^2		0.137		0.098	

Table 4-3. Continued

Panel B: OLS Regression of Local Accounting Firm Advertising and Tax Leader Interaction on Tax Avoidance

		(1) *AVG_CURRETR*		(2) *AVG_CASHETR*	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic	
AVG_DMA_ADV	-	0.004		0.008	
		0.51		0.81	
APTLEADADV	-	-0.017		0.026	
		-0.80		1.00	
AVG_TAXFEES	?	0.030	*	0.051	***
		1.79		2.99	
LEADER_TAXFEES	-	0.007		-0.005	
		0.43		-0.28	
AVG_LOSS	-	-0.321	***	-0.210	***
		-14.28		-9.16	
AVG_LEV	-	-0.049	***	-0.059	***
		-2.62		-2.95	
AVG_FOREIGN	?	0.058	***	0.085	***
		2.61		3.74	
AVG_REG	+	0.023		-0.030	
		1.10		-1.26	
AVG_CAPINT	?	0.081	***	0.024	
		4.15		1.05	
AVG_SALESGROW	+	-0.085		-0.062	
		-5.61		-3.80	
AVG_B2M	-	-0.034	**	-0.012	
		-2.24		-0.76	
Year Fixed Effects		Yes		Yes	
Observations		3,624		3,624	
Adj. R^2		0.137		0.098	

This table reports the results of ordinary least squares regressions of Equation (4-1). All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. All variables are defined in the Appendix.

Table 4-4. OLS Regression of Local Accounting Firm Advertising on Tax Volatility

Panel A: OLS Regression of Local Accounting Firm Advertising on Tax Volatility

		(1) *AVG_STDCURRETR*		(2) *AVG_STDCASHETR*	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic	
AVG_DMA_ADV	-	-0.019	***	-0.020	***
		-2.92		-2.68	
AVG_TAXFEES	?	0.415	***	0.390	***
		13.13		15.00	
LEADER_TAXFEES	?	0.019		0.053	***
		1.02		2.87	
AVG_LOSS	-	-0.031	**	-0.072	***
		-2.13		-4.86	
AVG_LEV	?	0.060	***	0.036	**
		4.24		2.44	
AVG_FOREIGN	?	0.066	***	0.062	***
		3.40		3.17	
AVG_REG	-	-0.045	***	-0.037	**
		-3.18		-2.17	
AVG_CAPINT	?	0.051	***	0.055	***
		2.89		3.09	
AVG_SALESGROW	+	-0.001		0.001	
		-0.08		0.07	
AVG_B2M	?	0.060	***	0.021	
		3.09		1.47	
Year Fixed Effects		Yes		Yes	
Observations		3,624		3,624	
Adj. R^2		0.247		0.237	

Table 4-4. Continued

Panel B: OLS Regression of Local Accounting Firm Advertising and Tax Leader Interaction on Tax Volatility

		(1) *AVG_CURRETR*		(2) *AVG_CASHETR*	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic	
AVG_DMA_ADV	-	-0.022	***	-0.026	***
		-4.20		-4.54	
APTLEADADV	-	0.014		0.024	
		0.79		1.14	
AVG_TAXFEES	?	0.415	***	0.389	***
		13.09		14.95	
LEADER_TAXFEES	?	0.018		0.050	***
		0.95		2.75	
AVG_LOSS	-	-0.030	**	-0.071	***
		-2.11		-4.83	
AVG_LEV	?	0.060	***	0.036	**
		4.25		2.47	
AVG_FOREIGN	?	0.066	***	0.062	***
		3.39		3.15	
AVG_REG	-	-0.045	***	-0.036	**
		-3.17		-2.16	
AVG_CAPINT	?	0.051	***	0.055	***
		2.90		3.10	
AVG_SALESGROW	+	-0.001		0.001	
		-0.08		0.08	
AVG_B2M	?	0.060	***	0.021	
		3.09		1.47	
Year Fixed Effects		Yes		Yes	
Observations		3,624		3,624	
Adj. R^2		0.247		0.238	

This table reports the results of ordinary least squares regressions of Equation (4-1). All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. All variables are defined in the Appendix.

Table 4-5. OLS Regression of Local Accounting firm Advertising on Tax Volatility with Instrumental Variable Approach

Panel A: OLS Regression of Local Accounting Firm Advertising on Tax Volatility with Instrumental Variable Approach

		(1) *AVG_STDCURRETR*		(2) *AVG_STDCASHETR*	
Variables	Exp Sign	Coefficient t-statistic		Coefficient t-statistic	
AVG_DMA_ADV	-	-0.023	***	-0.025	***
		-2.74		-3.22	
AVG_TAXFEES	?	0.420	***	0.396	***
		12.61		14.67	
LEADER_TAXFEES	?	0.013		0.049	**
		0.65		2.51	
AVG_LOSS	-	-0.031	**	-0.073	***
		-1.98		-4.55	
AVG_LEV	?	0.067	***	0.037	**
		4.25		2.30	
AVG_FOREIGN	?	0.071	***	0.062	***
		3.40		2.93	
AVG_REG	-	-0.047	***	-0.044	**
		-3.07		-2.41	
AVG_CAPINT	?	0.047	**	0.049	**
		2.46		2.54	
AVG_SALESGROW	+	0.004		0.003	
		0.32		0.22	
AVG_B2M	?	0.073	***	0.028	*
		3.48		1.89	
Year Fixed Effects		Yes		Yes	
Observations		3,140		3,140	
Adj. R^2		0.250		0.237	

Table 4-5. Continued

Panel B: OLS Regression of Local Accounting Firm Advertising and Tax Leader Interaction on Tax Volatility with Instrumental Variable Approach

		(1) *AVG_CURRETR*		(2) *AVG_CASHETR*	
	Exp	Coefficient		Coefficient	
Variables	Sign	t-statistic		t-statistic	
AVG_DMA_ADV	-	-0.029	***	-0.034	***
		-4.77		-5.38	
APTLEADADV	-	0.024		0.031	
		1.02		1.40	
AVG_TAXFEES	?	0.418	***	0.394	***
		12.52		14.57	
LEADER_TAXFEES	?	0.009		0.044	**
		0.42		2.18	
AVG_LOSS	-	-0.031	*	-0.073	***
		-1.95		-4.51	
AVG_LEV	?	0.067	***	0.037	**
		4.23		2.28	
AVG_FOREIGN	?	0.070	***	0.061	***
		3.36		2.88	
AVG_REG	-	-0.047	***	-0.044	**
		-3.06		-2.42	
AVG_CAPINT	?	0.049	**	0.051	***
		2.52		2.64	
AVG_SALESGROW	+	0.005		0.003	
		0.34		0.25	
AVG_B2M	?	0.072	***	0.028	*
		3.46		1.87	
Year Fixed Effects		Yes		Yes	
Observations		3,140		3,140	
Adj. R^2		0.250		0.238	

This table reports the results of ordinary least squares regressions of Equation (4-1). All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. All variables are defined in the Appendix.

Table 4-6. OLS Regression of Average Tax Avoidance at National Auditor Level

Panel A: Total Advertising

Variables	Exp Sign	(1) AVG_CURRETR Coefficient t-statistic		(2) AVG_CASHETR Coefficient t-statistic	
AVG_TOTAL_ADV		0.117		0.181	
		1.42		1.93	
AVG_TAX_FEES		-0.120		0.152	
		-1.02		1.23	
LEADER_TAX		-0.070		-0.127	*
		-0.96		-1.81	
AVG_LOSS		-0.894	***	0.072	
		-8.02		0.61	
AVG_LEV		0.156	*	0.065	
		1.98		1.29	
AVG_FOREIGN		0.598	**	0.224	
		2.61		0.95	
AVG_REGULATED		0.477	***	0.471	***
		2.67		2.62	
AVG_CAPINT		0.267		0.310	**
		1.49		2.54	
AVG_SALEGROW		0.105	*	0.077	
		1.78		1.51	
AVG_B2M		0.005		-0.058	
		0.13		-1.06	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.640		0.596	

Table 4-6. Continued

Panel B: Disaggregated Advertising

Variables	Exp Sign	(1) AVG_CURRETR Coefficient t-statistic		(2) AVG_CASHETR Coefficient t-statistic	
AVG_LOC_ADV		0.089		0.105	
		0.77		0.79	
AVG_NAT_ADV		0.079		0.137	
		1.23		1.44	
AVG_TAX_FEES		-0.095		0.191	
		-0.78		1.59	
LEADER_TAX		-0.094		-0.166	**
		-1.23		-2.27	
AVG_LOSS		-0.883	***	0.088	
		-7.89		0.76	
AVG_LEV		0.152	*	0.052	
		1.74		0.92	
AVG_FOREIGN		0.623	**	0.253	
		2.35		1.01	
AVG_REGULATED		0.473	***	0.474	***
		2.63		2.63	
AVG_CAPINT		0.237		0.267	*
		1.29		1.98	
AVG_SALEGROW		0.106	*	0.077	
		1.67		1.49	
AVG_B2M		0.008		-0.052	
		0.22		-0.95	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.642		0.598	

Table 4-6. Continued

Panel C: Total Advertising with Leader Interaction

Variables	Exp Sign	(1) AVG_CURRETR Coefficient t-statistic		(2) AVG_CASHETR Coefficient t-statistic	
AVG_TOTAL_ADV		0.121		0.188	
		1.42		2.00	
*ADV*LEADER*		-0.051		-0.101	
		-0.49		-0.66	
AVG_TAX_FEES		-0.120		0.152	
		-1.01		1.22	
LEADER_TAX		-0.026		-0.040	
		-0.21		-0.29	
AVG_LOSS		-0.891	***	0.076	
		-7.94		0.66	
AVG_LEV		0.157	*	0.065	
		1.97		1.30	
AVG_FOREIGN		0.602	**	0.233	
		2.60		0.97	
AVG_REGULATED		0.480	***	0.477	***
		2.64		2.63	
AVG_CAPINT		0.266		0.309	**
		1.47		2.51	
AVG_SALEGROW		0.105	*	0.075	
		1.76		1.46	
AVG_B2M		0.002		-0.065	
		0.04		-1.16	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.641		0.598	

Table 4-6. Continued

Panel D: Disaggregated Advertising with Leader Interaction

Variables	Exp Sign	(1) AVG_CURRETR Coefficient t-statistic		(2) AVG_CASHETR Coefficient t-statistic	
AVG_LOC_ADV		0.084		0.099	
		0.74		0.74	
AVG_NAT_ADV		0.094		0.157	
		1.33		1.62	
*LOC_ADV*LEADER*		-0.022		-0.049	
		-0.29		-0.30	
*NAT_ADV*LEADER*		-0.150	**	-0.171	
		-2.09		-1.09	
AVG_TAX_FEES		-0.097		0.189	
		-0.78		1.52	
LEADER_TAX		0.039		0.004	
		0.48		0.04	
AVG_LOSS		-0.892	***	0.078	
		-7.86		0.66	
AVG_LEV		0.151	*	0.051	
		1.73		0.86	
AVG_FOREIGN		0.634	**	0.267	
		2.37		1.05	
AVG_REGULATED		0.471	**	0.473	**
		2.59		2.59	
AVG_CAPINT		0.229		0.258	*
		1.23		1.89	
AVG_SALEGROW		0.116	*	0.090	
		1.76		1.64	
AVG_B2M		-0.003		-0.066	
		-0.10		-1.25	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.651		0.611	

This table reports the results of ordinary least squares regressions of Equation (4-1). All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. All variables are defined in the Appendix.

Table 4-7. OLS Regression of Average Tax Volatility at National Auditor Level

Panel A: Total Advertising

Variables	Exp Sign	(1) AVG_STD_CURRETR Coefficient t-statistic		(2) AVG_STD_CASHETR Coefficient t-statistic	
AVG_TOTAL_ADV		-0.108	**	-0.116	***
		-2.32		-2.75	
AVG_TAX_FEES		0.878	***	0.894	***
		9.45		11.00	
LEADER_TAX		-0.064		-0.087	
		-1.01		-1.39	
AVG_LOSS		-0.150	***	-0.163	***
		-3.37		-3.50	
AVG_LEV		0.025	***	0.036	
		6.30		0.90	
AVG_FOREIGN		-0.031		0.026	
		-0.23		0.23	
AVG_REGULATED		-0.146	**	-0.163	**
		-2.14		-2.44	
AVG_CAPINT		-0.018		-0.080	
		-0.18		-0.86	
AVG_SALEGROW		0.034		0.051	
		0.75		1.15	
AVG_B2M		-0.026		-0.015	
		-1.01		-0.56	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.891		0.899	

Table 4-7. Continued

Panel B: Disaggregated Advertising

Variables	Exp Sign	(1) AVG_STD_CURRETR Coefficient t-statistic		(2) AVG_STD_CASHETR Coefficient t-statistic	
AVG_LOC_ADV		0.021		0.018	
		0.54		0.50	
AVG_NAT_ADV		-0.133	***	-0.131	***
		-3.45		-3.62	
AVG_TAX_FEES		0.852	***	0.868	
		9.11		1.06	
LEADER_TAX		-0.029		-0.054	
		-0.45		-0.84	
AVG_LOSS		-0.160	***	-0.173	***
		-3.61		-3.68	
AVG_LEV		0.052		0.061	*
		1.54		1.79	
AVG_FOREIGN		-0.028		0.034	
		-0.22		0.29	
AVG_REGULATED		-0.178	***	-0.191	***
		-2.69		-2.86	
AVG_CAPINT		0.004		-0.058	
		0.04		-0.64	
AVG_SALEGROW		0.033		0.050	
		0.71		1.12	
AVG_B2M		-0.032		-0.021	
		-1.23		-0.74	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.893		0.901	

Table 4-7. Continued

Panel C: Total Advertising with Leader Interaction

Variables	Exp Sign	(1) AVG_STD_CURRETR Coefficient t-statistic		(2) AVG_STD_CASHETR Coefficient t-statistic	
AVG_TOTAL_ADV		-0.105	**	-0.113	***
		-2.21		-2.64	
*ADV*LEADER*		-0.043		-0.043	
		-0.69		-0.59	
AVG_TAX_FEES		0.878	***	0.894	***
		9.43		10.98	
LEADER_TAX		-0.028		-0.049	
		-0.31		-0.54	
AVG_LOSS		-0.148	***	-0.161	***
		-3.26		-3.41	
AVG_LEV		0.025		0.036	
		0.63		0.90	
AVG_FOREIGN		-0.027		0.029	
		-0.2		0.26	
AVG_REGULATED		-0.144	**	-0.160	**
		-2.09		-2.40	
AVG_CAPINT		-0.019		-0.080	
		-0.18		-0.86	
AVG_SALEGROW		0.034		0.051	
		0.73		1.13	
AVG_B2M		-0.028		-0.018	
		-1.09		-0.64	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.891		0.900	

Table 4-7. Continued

Panel D: Disaggregated Advertising with Leader Interaction

Variables	Exp Sign	(1) AVG_STD_CURRETR Coefficient t-statistic		(2) AVG_STD_CASHETR Coefficient t-statistic	
AVG_LOC_ADV		0.021		0.018	
		0.56		0.51	
AVG_NAT_ADV		-0.133	***	-0.128	***
		-3.35		-3.37	
*LOC_ADV*LEADER*		-0.063		-0.110	
		-0.57		-1.05	
*NAT_ADV*LEADER*		0.126		0.178	*
		1.57		1.97	
AVG_TAX_FEES		0.852	***	0.867	***
		9.03		10.59	
LEADER_TAX		-0.074		-0.100	
		-0.70		-1.06	
AVG_LOSS		-0.154	***	-0.166	***
		-3.52		-3.58	
AVG_LEV		0.050		0.057	*
		1.52		1.73	
AVG_FOREIGN		-0.029		0.035	
		-0.22		0.29	
AVG_REGULATED		-0.170	***	-0.179	***
		-2.69		-2.86	
AVG_CAPINT		0.009		-0.050	
		0.09		-0.55	
AVG_SALEGROW		0.026		0.041	
		0.56		0.91	
AVG_B2M		-0.025		-0.012	
		-1.05		-0.48	
Year Fixed Effects		Yes		Yes	
Observations		99		99	
Adj. R^2		0.896		0.906	

This table reports the results of ordinary least squares regressions of Equation (4-1). All test statistics are presented below the coefficients and have been estimated with robust standard errors. The symbols *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively. All variables are defined in the Appendix.

CHAPTER 5
CONCLUSION

This study provides evidence about the costs and benefits of auditor investments in advertising. In doing so, it informs the long-standing debate regarding whether audit firms should engage in advertising. Critics of auditor advertising contend that it is not the best way to build and maintain an audit practice, will be inherently misleading, and will lead to an over-emphasis of commercial rather than professional interests. Proponents of advertising by audit firms assert that advertising reveals useful information, will increase competition, and spur innovation. The evidence provides support for both critics and proponents of auditor advertising.

Chapter 2 examines whether auditor advertising is associated with audit market structure and the pricing of audit and nonaudit services. It tests the theoretical prediction that auditor advertising should be positively related to future market share. The expected relation only holds at the national practice level. Supplemental analysis documents that auditor advertising is positively related to the proportion of new clients an auditor obtains and negatively related to future audit fees at the local level. Such a result provides support for proponents claims and is consistent with the theory of low-balling because it suggests that auditor advertising stimulates competition at the local level.

Chapter 3 evaluates whether auditor advertising is associated with the inherent risk of an auditor's client portfolio and audit quality. Given competing theoretical predictions, no relation is predicted between auditor advertising and either inherent risk of audit clients or audit quality. For the local level analysis only, the evidence suggests that auditor advertising is positively related to the inherent risk of an auditor's clients and negatively related to audit quality. This evidence provides support for critics claims that advertising is negatively related to professionalism.

Chapter 4 explores the provision of tax services by the auditor. The largest audit firms are organized across three broad categories of services, auditing, tax, and advisory. By examining tax service provision this study takes a broader perspective about the potential impact of advertising investment on professional service quality within accounting firms. I focus on the joint provision of tax services as this is the largest type of nonaudit service provided by audit firms. The results lend support for proponents' contentions about the benefits of advertising and suggest that auditor advertising is associated with higher service quality because it has a negative association with the future volatility of tax outcomes. The quality of tax services are typically easier to assess ex post which likely explains the difference between the results in Chapter 3 and Chapter 4.

It should be noted that this work is subject to several limitations. First, I restrict my analysis to the nine largest public accounting firms in the U.S. I do not observe advertising spending by smaller audit firms and so the results of my study may not generalize to the smaller audit market. Second, aside from my measures of auditor advertising all variables included in my analysis are constructed using publicly available data from individual audit engagements because audit firms are private organizations. Aggregating data from audits of public companies omits data from audits of private companies or for nonaudit engagements performed for nonaudit clients. Third, I only study advertising which is a subset of a firm's overall marketing efforts. While advertising is one of the more commercial marketing activities that a firm can engage in, the exclusion of other types of marketing from the analysis can introduce bias.

Despite these limitations, my study makes an important contribution to the accounting literature. The results of my study should be of interest to several groups including regulators, practitioners, investors, and academics. Regulators in the U.S. and other audit markets continue

to express concern about the appearance of a lack of competition in the audit market and a decline in the overall quality of the audit profession. While my study suggests that one way to spur competition is by encouraging advertising, regulators should exercise caution as a possible negative consequence would be a decline in audit quality. Practitioners have and will continue to try to balance their commercial and professional objectives. This study suggests that care should be exercised by auditors when considering engaging or increasing their advertising activity because advertising is associated with both positive and negative consequences for individual audit practices. Investors should find my results to be of interest because they suggest that auditor advertising can serve as an observable signal of audit quality. Investors are interested in auditor quality as they rely upon auditors to provide assurance about the reliability of a firm's financial statements.

Academics should also find my results to be of interest as understanding how auditors compete and what influences audit quality remain important questions meriting further study (DeFond and Zhang 2014). Moreover, future research can build upon this study to enhance our understanding of audit practice management. Researchers can seek to answer questions including: How does auditor advertising fit within the larger marketing strategy of the firm? Is advertising a complement or a substitute for other types of marketing? What types of advertisements are most effective, ones that focus on a specific service or those that more broadly build a firm's brand? Is auditor advertising associated with higher quality for all nonaudit services or just for tax services? Does the relation differ if the nonaudit service is provided to a nonaudit client? Studies addressing these questions will allow us to better understand audit firm strategy including how they compete with one another and how they deliver quality to their clients.

APPENDIX
VARIABLE DEFINITIONS

Dependent Variables

$MRKSHR_{t+1}$	Audit firm i market share measured as either: (1) the sum of total assets (at) audited by audit firm i divided by the sum of total assets (at) audited in a given audit market j in year t+1, (2) the sum of total audit fees [audit_fees] earned by audit firm i divided by the sum of total audit fees [audit_fees] earned in a given audit market j in year t+1, or (3) the sum of total fees [total_fees] earned, including nonaudit service fees [non_audit_fees], for audit firm i divided by the sum of total fees [total_fees] earned, including nonaudit service fees [non_audit_fees], for audit market j in year t+1. Audit markets are defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
ADV_TOTAL_{t+1}	Total audit firm advertising across all media types in a given audit market j for audit firm i in year t+1. Audit market is defined at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
AVG_NEW_{t+1}	The total number of new audit clients for audit firm i in year t+1 scaled by the total number of audit engagements for audit firm i in year t+1 measured at the auditor-DMA level.
NEW_{t+1}	The total number of new audit clients for audit firm i in year t+1 measured at the auditor-DMA level.
AVG_AF_{t+1}	The sum of total audit fees [audit_fees] paid to auditor i in year t+1 scaled by the total number of audit engagements performed by auditor i in year t+1 measured at the auditor-DMA level.
AVG_NAF_{t+1}	The sum of total nonaudit fees [non_audit_fees] paid to auditor i in year t+1 scaled by the total number of audit engagements performed by auditor i in year t+1 measured at the auditor-DMA level.
AVG_TF_{t+1}	The sum of total nonaudit fees [non_audit_fees] paid to auditor i in year t+1 scaled by the total number of audit engagements performed by auditor i in year t+1 measured at the auditor-DMA level.
AVG_STD_OCF	The standard deviation of operating cash flows (oancf) for period from t+1 through t+5 for all clients of audit firm i scaled by the number of engagements for audit firm i in year t+1 measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.

AVG_DISTRESS The number of firms in audit firm i's client portfolio identified as financially distressed in year t+1 scaled by the total number of engagements for audit firm i measured at either: (a) the auditor-DMA level or (b) the national auditor practice level. A firm is identified as financially distressed consistent with DeFond et al. (2002) if operating income (ib) or operating cash flows (oancf) in year t+1 are less than zero.

AVG_GC Number of going-concern opinions [going_concern] issued by audit firm i in year t+1 for financially distressed clients scaled by the total number of engagements for financially distressed clients for audit firm i measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.

AVG_RES Number of income-decreasing restatements [res_adverse] for audit firm i in year t+1 scaled by the total number of engagements for audit firm i in year t+1 measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.

AVG_CURR_ETR The average GAAP effective tax rate for a given audit firm's clients for the period from t+1 through t+5 measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level. GAAP effective tax rates are estimated as total income tax expense (txt) divided by pre-tax income (pi).

AVG_CASH_ETR The average cash effective tax rate for a given audit firm's clients for the period from t+1 through t+5 measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level. Cash effective tax rates are estimated as total cash taxes paid (txpd) divided by pre-tax income (pi).

AVG_STDCURRETR The average of the standard deviation of total tax expense (txt) for a given audit firm's clients for the period from t+1 through t+5 measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.

AVG_STDCASHETR The average of the standard deviation of total cash taxes paid (txpd) for a given audit firm's clients for the period from t+1 through t+5 measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.

Independent Variables

ADV_t Total audit firm advertising across all media types in a given audit market j for audit firm i in year t. Audit market is defined at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.

AVG_ADV_t Total audit firm advertising across all media types in a given audit market j for audit firm i in year t scaled by the total number of audit engagements. Audit market is defined at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.

DMA_ADV	Total advertising spending at the individual DMA level only across all media for audit firm i in year t.
AVG_DMA_ADV	Total advertising spending at the individual DMA level only across all media for audit firm i scaled by the number of audit engagements for audit firm i in DMA j in year t.
LOC_ADV	Total local advertising spending only for all DMAs across all media for audit firm i in year t measured at the national audit practice level.
NAT_ADV	Total national advertising spending only across all media for audit firm i in year t measured at the national audit practice level.
AVG_LOC_ADV	Total local advertising spending only for all DMAs across all media for audit firm i scaled by the total number of engagements for audit firm i in year t measured at the national audit practice level.
AVG_NAT_ADV	Total national advertising spending only across all media for audit firm i scaled by the total number of engagements for audit firm i in year t measured at the national audit practice level.
AVG_TOTAL_ADV	Total advertising spending for a given audit firm across all local and national media scaled by the total number of engagements for audit firm i in year t.
ENG	Total number of audit engagements conducted by audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
NEW	The total number of new audit clients for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
$SIZE_t$	The sum of total assets (at) audited by audit firm i in market j in year t. Audit markets are defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
$DISTANCE_t$	The smallest absolute difference in market share between audit firm i, the incumbent auditor, and the closest competitor in year t where market share is calculated using: (1) total assets (at), (2) total audit fees [audit_fees], or (3) total fees [total_fees]. The audit market is defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
$HERF_t$	The Herfindahl concentration index in year t measured using either: (1) total assets (at) audited, (2) total audit fees [audit_fees], or (3) total fees [total_fees]. The audit market is defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.

AVG_REG_t	The number of regulated clients for audit firm i in year t divided by the total number of audit engagements for audit firm i in year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA. A client firm is identified as operating in a regulated industry if it has a four-digit SIC code of 4900 through 4949 or 6000 to 6999 consistent with Kasznik and Lev (1995) and Louis (2005).
AUD_FEES_t	The sum of total audit fees [audit_fees] earned by audit firm i in year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
$NONAUD\_FEES_t$	The sum of total nonaudit fees [non_audit_fees] earned by audit firm in in year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
$RESTATE_t$	The number of income-decreasing restatements [res_adverse] for the clients of audit firm i for year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
ROA_t	The ratio of net income excluding discontinued operations and extraordinary items (ib) to total assets (at) for all audit clients of audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level.
$LOSS_t$	The number of audit clients with a net loss for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level. A firm is identified as having a net loss when (ib) < 0.
$BUSY_t$	The total number of clients with a December fiscal year end (fyr) for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level.
$SEGS_t$	The total number of segments for audit clients for audit firm i in year t scaled by the total number of engagements for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level.
$TENURE_t$	The average number of years audit firm i has served as the auditor for its clients in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level.
REG_t	The total number of clients operating in regulated industries for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level. A client firm is identified as operating in a regulated industry if it has a four-digit SIC code of 4900 through 4949 or 6000 to 6999 consistent with Kasznik and Lev (1995) and Louis (2005).

$MRKSHR_t$	Audit firm i market share measured as either: (1) the sum of total assets (at) audited by audit firm i divided by the sum of total assets (at) audited in a given audit market j in year t, (2) the sum of total audit fees [audit_fees] earned by audit firm i divided by the sum of total audit fees [audit_fees] earned in a given audit market j in year t, or (3) the sum of total fees [total_fees] earned, including nonaudit service fees [non_audit_fees], for audit firm i divided by the sum of total fees [total_fees] earned, including nonaudit service fees [non_audit_fees], for audit market j in year t. Audit markets are defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
AVG_SIZE_t	The sum of total assets (at) audited by audit firm i in market j in year t scaled by the total number of audit engagements for audit firm i in market j in year t. Audit markets are defined as either: (1) the national audit market or (2) the local audit market where local market is defined by DMA
$AVG\_RESTATE_t$	The number of income-decreasing restatements [res_adverse] for the clients of audit firm i for year t scaled by the number of audit engagements for auditor i in year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
AVG_AF_t	The sum of total audit fees [audit_fees] earned by audit firm i in year t scaled by the total number of audit engagements for audit firm i in year t measured at either: (1) the national audit market or (2) the local audit market where local market is defined by DMA.
LEV_t	The ratio of total debt (dlc + dltt) to total assets (at) for all audit clients of audit firm i in year t measured at either: (a) the national audit practice level or (b) the auditor-DMA level.
AVG_LOSS_t	The number of audit clients with a net loss for audit firm i in year t scaled by the number of audit engagements for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level. A firm is identified as having a net loss when (ib) < 0.
AVG_BUSY_t	The total number of clients with a December fiscal year end (fyr) for audit firm i in year t scaled by the total number of audit engagements for audit firm i in year t measured at either: (1) the national audit practice level or (2) the auditor-DMA level.
AVG_REG_t	The total number of regulated clients for auditor i in market j for year t scaled by the total number of audit engagements for auditor i in market j for year t.
ENG_t	The total number of audit engagements for auditor i in market j for year t.

$LEADER_t$	Indicator variable taking a value of 1 if audit firm i has the largest market share in DMA j in year t where market share is measured using total assets (at) audited, 0 otherwise.
$BIGMS_t$	Indicator variable taking a value of 1 if audit firm i has a market share in excess of 30% in DMA j in year t where market share is measured using total assets (at) audited, 0 otherwise.
AVG_CR_t	The average ratio of current assets (act) to current liabilities (lct) for audit clients of audit firm i in DMA j for year t.
$AVG\_CA\_TA_t$	The average ratio of current assets (act) to total assets (at) for audit clients of audit firm i in DMA j for year t.
AVG_ARINV_t	The average ratio of the sum of current receivables (rect) plus inventory (invt) divided by total assets (at) for audit clients of audit firm i in DMA j for year t.
AVG_AQC_t	The sum of the total amount of acquisitions (aqc) for the audit clients of audit firm i in DMA j for year t scaled by the total number of audit engagements for audit firm i in DMA j for year t.
AVG_NAF_TF	The ratio of total nonaudit fees [non_audit_fees] to total fees [total_fees] across all audit clients of audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
AVG_SEGS	The total number of segments for audit clients for audit firm i in year t scaled by the total number of engagements for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
BIGN	A dichotomous variable taking a value of 1 if the audit firm is a Big 4 audit firm, 0 otherwise.
CLOSE	The absolute value of the distance between audit firm i and its closest competitor in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
AVG_ATLZ	The average Altman Z-score across all clients for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level. The Altman Z score is computed consistent with Altman (2000) and the denominator for the average is the total number of audit engagements for audit firm i in year t.
AVG_AGE	The average age of a client of audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.

ASSETS	The sum of total assets (at) for all audit clients of audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
LOSS	The total number of clients with a net loss for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level. A firm is identified as having a net loss when (ib) < 0.
BUSY	The total number of clients with a December fiscal year end (fyr) for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
REG	The total number of clients operating in regulated industries for audit firm i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level. A client firm is identified as operating in a regulated industry if it has a four-digit SIC code of 4900 through 4949 or 6000 to 6999 consistent with Kasznik and Lev (1995) and Louis (2005).
AUD_FEES	The sum of total audit fees [audit_fees] paid to auditor i in year t measured at either: (a) the auditor-DMA level or (b) the national auditor practice level.
HERF	Audit market concentration measured using the Herfindahl index with audit fees [audit_fees] as the base for either: (a) the auditor-DMA level or (b) the national auditor practice level.
AVG_DMA_SPEND	Average advertising spending by auditors within a given DMA_j for year t.
AVG_TAX_FEES	The ratio of total tax fees [tax_fees] to the number of audit engagements for which the client purchases some level of tax services for audit firm i in year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.
LEADER_TAX	An indicator variable taking a value of 1 if audit firm i has the largest market share of tax fees paid to audit clients in a given year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.
AVG_FOREIGN	The total number of clients with non-zero foreign income (pifo) for audit firm i in year t scaled by the total number of audit engagements for audit firm i in year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.
AVG_CAPINT	The average ratio of property, plant and equipment (ppent) to total assets (at) for the clients of audit firm i in year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.

AVG_SALEGROW	The average rate of growth in sales (sale) for the clients of audit firm i from year t-1 to year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level.
AVG_B2M	The average book-to-market ratio for the clients of audit firm i in year t measured at either: (i) the auditor-DMA level or (ii) the national auditor practice level. Book-to-market ratio is measured as the ratio of book value of equity (at – dlc – dltt) to the market value of equity (prcc_f * csho).

Data items obtained from Compustat to construct my dependent and independent variables are identified in parentheses. Data items obtained from Audit Analytics to construct my dependent and independent variables are identified in square brackets.

REFERENCES

Adelman, I., and C. T. Morris. 1968. An econometric model of socio-economic and political change in underdeveloped countries. *The American Economic Review* 58 (5): 1184 – 1218.

Altman, E. I. 2000. *Predicting financial distress of companies: revisiting the Z-score and ZETA models*. Working Paper, New York University.

American Institute of Certified Public Accountants (AICPA). 1972. Due professional care in the performance of work. AU Section 230.

Armstrong, C. S., J. L. Blouin, and D. F. Larcker. 2012. The incentives for tax planning. *Journal of Accounting and Economics*, 53: 391 – 411.

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

Assmus, G., J. U. Farley, and D. R. Lehmann. 1984. How advertising affects sales: Meta-analysis of econometric results. *Journal of Marketing Research* 21 (1): 65 – 74.

Barth, M. E., and G. Clinch. 2009. Scale effects in capital markets-based accounting research. *Journal of Business Finance & Accounting* 36 (3): 253 – 288.

Barth, M. E., and S. Kallapur. 1996. The effects of cross-sectional scale differences on regressions results in empirical accounting research. *Contemporary Accounting Research* 13 (2): 527 – 567.

Baxter, R., J. C. Bedard, R. Hoitash, and A. Yezegel. 2013. Enterprise risk management program quality: Determinants, value relevance, and the financial crisis. *Contemporary Accounting Research* 30 (4): 1264 – 1295.

Becker, B. W., and D. O. Kaldenberg. 1990. Advertising expenditures by professionals: An exploratory investigation of dental practitioners. *Journal of Advertising* 19 (1): 23 – 29.

Bell, T. B., J. C. Bedard, K. M. Johnstone, and E. F. Smith. 2002. KRiskSM: A computerized decision aid for client acceptance and continuance risk assessments. *Auditing: A Journal of Practice & Theory* 19 (1): 169 – 184.

Bell, T. B., M. Causholli, and W. R. Knechel. 2014. *Audit firm tenure, non-audit services and internal assessments of audit quality*. Working paper, University of North Florida, University of Kentucky, University of Florida.

Bennett, J. A., R. W. Sias, and L. T. Starks. 2003. Greener pastures and the impact of dynamics institutional preferences. *Review of Financial Studies*, 16: 1203 – 1238.

Bills, K. L., Q. T. Swanquist, and R. L. Whited. 2014. *Collateral damage: Audit quality and office growth*. Working Paper, Colorado State University, The University of Tennessee – Knoxville.

Bloom, P. N. 1977. Advertising in the Professions: The Critical Issues. *Journal of Marketing* 41 (3): 103 – 110.

Boulding, W., E. Lee, and R. Staelin. 1994. Mastering the mix: Do advertising, promotion, and sales force activities lead to differentiation? *Journal of Marketing Research* 31 (2): 159 – 172.

Burns, D. C., and W. J. Haga. 1977. Much Ado about Professionalism: A Second Look at Accounting. *The Accounting Review* 52 (1): 705 – 715.

Butters, G. R. 1977. Equilibrium distributions of sales and advertising prices. *The Review of Economic Studies* 44 (3): 465 – 491.

Cahan, S. F., J. M. Godfrey, J. Hamilton, and D. C. Jeter. 2008. Auditor specialization, auditor dominance, and audit fees: The role of investment opportunities. *The Accounting Review* 83 (6): 1393 – 1423.

Callen, J. L., D. Segal, and O. Hope. 2010. The pricing of conservative accounting and the measurement of conservatism at the firm-year level. *Review of Accounting Studies* 15: 145 – 178.

Cannon, J. N. 2014. Determinants of "sticky costs": An analysis of cost behavior using United States Air Transportation Industry Data. *The Accounting Review* 89 (5): 1645 – 1672.

Carcello, J. V., T. L. Neal, Z. Palmrose, and S. Scholz. 2011. CEO involvement in selecting board members, audit committee effectiveness, and restatements. *Contemporary Accounting Research* 28 (2): 396 – 430.

Causholli, M., and W. R. Knechel. 2012. An Examination of the Credence Attributes of an Audit. *Accounting Horizons* 26 (4): 631 – 656.

Chaney, P. K., D. C. Jeter, and P. E. Shaw. 1997. Client-auditor realignment and restrictions on auditor selection. *The Accounting Review* 72 (3): 433 – 453.

Chen, F., O. Hope, Q. Li, and X. Wang. 2011. Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review* 86 (4): 1255-1288.

Choi, J-H., R. K. Doogar, and A. R. Ganguly. 2004. The riskiness of large audit firm client portfolios and changes in audit liability regimes: Evidence from the U.S. Audit Market. *Contemporary Accounting Research* 21 (4): 747 – 785.

Choi, J-H., F. Kim, J-B. Kim, and Y. Zang. 2010. Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory* 29 (1): 73 – 97.

Choi, J., J. Kim, X. Liu, and D. A. Simunic. 2008. Audit pricing, legal liability regimes, and big 4 premiums: Theory and Cross-country evidence. *Contemporary Accounting Research* 25 (1): 55 – 99.

Chung, H., and S. Kallapur. 2003. Client importance, nonaudit services, and abnormal accruals. The Accounting Review 78 (4): 931 – 955.

Ciconte, W., M. P. Donohoe, P. Lisowsky, and M. A. Mayberry. 2015. *Predictable uncertainty: The relation between unrecognized tax benefits and future income tax cash outflows*. Working paper, University of Florida, University of Illinois at Urbana-Champaign.

Ciconte, W., W. R. Knechel, and C. Schelleman. 2015. An examination of the relation between market structure and the profitability of audit engagements. *Accounting and Finance* 55 (3): 749-781.

Craswell, A. T., and J. R. Francis. 1999. Pricing Initial Audit Engagements: A Test of Competing Theories. *The Accounting Review* 74 (2): 201 – 216.

Craswell, A., J. Francis, and S. Taylor. 1995. Auditor brand name reputations and industry specializations. *Journal of Accounting and Economics* 3 (3): 183 – 199.

Danos, P., and J. W. Eichenseher. 1982. Audit industry dynamics: Factors affecting changes in client-industry market shares. *Journal of Accounting Research* 20 (2): 604 – 616.

Danos, P., and J. W. Eichenseher. 1986. Long-term trends toward seller concentration in the U.S. audit market. *The Accounting Review* 61 (4): 633 – 650.

Davis, L. R., D. N. Ricchiute, and G. Trompeter. 1993. Audit effort, audit fees, and the provision of nonaudit services to audit clients. *The Accounting Review* 68 (1): 135 – 150.

DeAngelo, L. E. 1981. Auditor size and audit quality. *Journal of Accounting & Economics* 3: 183 – 199.

DeFond, M. 1992. The association between changes in client firm agency costs and auditor switching. *Auditing: A Journal of Practice & Theory* 11 (1): 16 – 31.

DeFond, M. L., and J. Zhang. 2014. A review of archival auditing research. *Journal of Accounting and Economics*, forthcoming.

DeFond, M. L., F. R. Francis, and T. J. Wong. 2000. Auditor industry specialization and market segmentation: Evidence from Hong Kong. *Auditing: A Journal of Practice & Theory* 19 (1): 49 - 66.

DeFond, M. L., K. Raghunandan, and K. R. Subramanyam. 2002. Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research* 40 (4): 1247 – 1274.

Dickinson, V. 2011. Cash flow patterns as a proxy for firm life cycle. *The Accounting Review* 86 (6): 1969 – 1994.

Dyreng, S. D., M. Hanlon, and E. L. Maydew. 2008. Long-run corporate tax avoidance. *The Accounting Review*, 83 (1): 61 – 82.

Eichenseher, J. W., and P. Danos. 1981. The analysis of industry-specific auditor concentration: Towards an explanatory model. *The Accounting Review* 56 (3): 479 – 492.

Eng, L. L., and H. T. Keh. 2007. The effects of advertising and brand value on future operating and market performance. *Journal of Advertising* 36 (4): 91 – 100.

Ettredge, M., and R. Greenberg. 1990. Determinants of fee cutting on initial audit engagements. *Journal of Accounting Research* 28 (1): 198 – 210.

Ferguson, C. J. 1996. "Selling" professional services: a practical approach – Part I. *Management Decision* 34 (3): 49 – 54.

Firth, M. 1997. The provision of nonaudit services by accounting firms to their audit clients. *Contemporary Accounting Research* 14 (2): 1 – 21.

Fisk, R. P., S. W. Brown, and M. J. Bitner. 1993. Tracking the evolution of the services marketing literature. *Journal of Retailing* 69 (1): 61 – 103.

Francis, J. R. 2006. Are Auditors Compromised by Nonaudit Services? Assessing the Evidence. *Contemporary Accounting Research* 23 (3): 747 – 760.

Francis, J. R. 2011. A framework for understanding and researching audit quality. *Auditing: A Journal of Practice & Theory* 30 (2): 125 – 152.

Francis, J. R., and J. Krishnan. 2003. Evidence on auditor risk-management strategies before and after the private securities litigation reform act of 1995. *Asia-Pacific Journal of Accounting and Economics* 9: 135 – 157.

Francis, J. R., and P. N. Michas. 2013. The contagion effect of low-quality audits. *The Accounting Review* 88 (2): 521 – 552.

Francis, J. R., K. Reichelt, and D. Wang. 2005. The Pricing of National and City-Specific Reputations for Industry Expertise in the US Audit Market. *The Accounting Review* 80 (1): 113 – 136.

Francis, J. R., and E. R. Wilson. 1988. Auditor changes: A joint test of theories relating to agency costs and auditor differentiation. *The Accounting Review* 63 (4): 663 – 682.

Francis, J. R., and M. D. Yu. 2009. Big 4 Office Size and Audit Quality. *The Accounting Review* 84 (5): 1521 – 1552.

Gallemore, J., and E. Labro. 2014. The importance of the internal information environment for tax avoidance. *Journal of Accounting and Economics*, forthcoming.

Gendron, Y. 2002. On the role of the organization in auditors' client-acceptance decisions. *Accounting, Organizations and Society* 27 (7): 659 – 684.

Gerakos, J., and C. Syverson. 2014. *Competition in the audit market: Policy implications*. Working paper, University of Chicago.

Ghosh, A., and S. Lustgarten. 2006. Pricing of initial audit engagements by large and small audit firms. *Contemporary Accounting Research* 23 (2): 333 – 368.

Ghosh, B., and A. Stock. 2010. Advertising effectiveness, digital video recorders, and product market competition. *Marketing Science* 29 (4): 639 – 649.

Giroud, X., and H. M. Mueller. 2011. Corporate governance, product market competition, and equity prices. *Journal of Finance* 66 (2): 563 – 600.

Golder, P. N., D. Mitra, and C. Moorman. 2012. What is quality? An integrative framework of processes and states. Journal of Marketing 76: 1 – 23.

Graham, J. R., J. S. Raedy, and D. A. Shackelford. 2012. Research in accounting for income taxes. Journal of Accounting and Economics 53 (1): 127 – 178.

Greene, J. D. 1970. Personal media probabilities. *Journal of Advertising Research* 10 (5): 12 – 18.

Greenhalgh, C., and M. Gregory. 2001. Structural change and the emergence of the new service economy. *Oxford Bulletin of Economics and Statistics* 63 (1): 629 – 646.

Greenwood, R., and R. Suddaby. 2006. Institutional entrepreneurship in mature fields: The big five accounting firms. *Academy of Management Journal* 49 (1): 27 – 48.

Hanlon, M., and S. Heitzman. 2010. A review of tax research. Journal of Accounting and Economics 50: 127 – 178.

Hanlon, M., S. Rajgopal, and T. Shevlin. 2003. Are executive stock options associated with future earnings? *Journal of Accounting and Economics* 36: 3 – 43.

Hay, D., and W. R. Knechel. 2010. The effects of advertising and solicitation on audit fees. *Journal of Accounting and Public Policy* 29 (1): 60 – 81.

Hinings, C. R., J. L. Brown, and R. Greenwood. 1991. Change in an autonomous professional organization. *Journal of Management Studies* 28: 375 – 393.

Hogan, C. E., and R. D. Martin. 2009. Risk shifts in the market for audits: An examination of changes in risk for "second tier" audit firms. *Auditing: A Journal of Practice & Theory* 28 (2): 93 – 118.

Hribar, P., T. Kravet, and R. Wilson. 2014. A new measure of accounting quality. *Review of Accounting Studies* 19 (1): 506 – 538.

Jedidi, K., C. F. Mela, and S. Gupta. 1999. Managing advertising and promotion for long-run profitability. *Marketing Science* 18 (1): 1 – 22.

Johnson, W. B., and T. Lys. 1990. The market for audit services: Evidence from voluntary auditor changes. *Journal of Accounting and Economics* 12 (1): 281 – 308.

Johnson, V. E., I. Khurana, and J. K. Reynolds. 2002. Audit firm tenure and the quality of financial reports. *Contemporary Accounting Research* 19 (4): 637 – 660.

Johnstone, K. M. 2000. Client acceptance decisions: Simultaneous effects of client business risk, audit risk, auditor business risk, and risk adaptation. *Auditing: A Journal of Practice & Theory* 19: 1 – 27.

Johnstone, K. M., and J. C. Bedard. 2004. Audit firm portfolio management decisions. *Journal of Accounting Research* 42 (4): 659 – 690.

Jung, B., W. J. Lee, and D. P. Weber. 2014. Financial reporting quality and labor investment efficiency. Contemporary Accounting Research, forthcoming.

Kasznik, R., and B. Lev. 1995. To warn or not to warn: Management disclosures in the face of an earnings surprise. *The Accounting Review* 70 (1): 113 – 134.

Keaveney, S. M. 1995. Customer switching behavior in service industries: An exploratory study. *Journal of Marketing* 59 (2): 71 – 82.

Khurana, I. K., and K. K. Raman. 2004. Litigation risk and the financial reporting credibility of big 4 versus non-big 4 audits: Evidence from Anglo-American countries. *The Accounting Review* 79 (2): 473 – 495.

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

Klein, B., and K. B. Leffler. 1981. The role of market forces in assuring contractual performance. *Journal of Political Economy* 89 (4): 615 – 641.

Knechel, W. R., G. V. Krishnan, M. Pevzner, L. B. Shefchik, and U. K. Velury. 2013. Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory* 32 (1): 385 – 421.

Knechel, W. R., and A. Vanstraelen. 2007. The relationship between auditor tenure and audit quality implied by going concern opinions. *Auditing: A Journal of Practice & Theory* 26 (1): 113 – 131.

Kotler, P. 1994. *Marketing Management: Analysis, Planning, Implementation, and Control* (8th edition). Englewood Cliffs, NJ: Prentice-Hall.

Kotler, P., and R. A. Connor, Jr. 1977. Marketing Professional Services. *Journal of Marketing* 41 (1): 71 – 76.

Kotler, P., T. Hayes, and P. N. Bloom. 2002. *Marketing Professional Services* (2nd edition). Paramus, NJ: Prentice Hall Press.

Krishnan, G. V., and G. Visvanathan. 2011. Is there an association between earnings management and auditor-provided tax services? Journal of the American Taxation Association 33 (2): 111 – 135.

Larcker, D. F., and T. O. Rusticus. 2010. On the use of instrumental variables in accounting research. *Journal of Accounting and Economics* 49 (3): 186 – 205.

Lawrence, A., M. Minutti-Meza, and P. Zhang. 2011. Can big 4 versus non-big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review* 86 (1): 259 – 286.

Lennox, C. S., J. R. Francis, and Z. Wang. 2012. Selection models in accounting research. *The Accounting Review* 87 (2): 589 – 616.

Lopez, D. M., and G. F. Peters. 2012. The effect of workload compression on audit quality. *Auditing: A Journal of Practice & Theory* 31 (4): 139 - 165.

Louis, H. 2005. Acquirers' abnormal returns and the non-Big 4 auditor clientele effect. *Journal of Accounting and Economics* 40 (1-3): 75 – 99.

Malhotra, N., and T. Morris. 2009. Heterogeneity in professional service firms. *Journal of Management Studies* 46 (6): 895 – 922.

Malsch, B., and Y. Gendron. 2013. Re-theorizing change: Institutional experimentation and the struggles for domination in the field of public accounting. *Journal of Management Studies* 50 (5): 870 – 899.

Mande, V., and M. Son. 2013. Do financial restatements lead to auditor changes? *Auditing: A Journal of Practice & Theory* 32 (2): 119 – 145.

McGuire, S. T., S. S. Neuman, and T. C. Omer. 2013. Sustainable tax strategies and earnings persistence. Working paper, Texas A&M University.

Mills, L. F., L. A. Robinson, and R. C. Sansing. 2010. FIN 48 and tax compliance. The Accounting Review 85 (5): 1721 – 1742.

Minton, B. A., and C. Schrand. 1999. The impact of cash flow volatility on discretionary investment and the costs of debt and equity financing. *Journal of Financial Economics* 54: 425 – 460.

Myers, J., L. Myers, and T. Omer. 2003. Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation? *The Accounting Review* 78 (3): 779 – 799.

Nelson, P. 1970. Information and consumer behavior. *Journal of Political Economy* 78 (20): 311 – 329.

Neuman, S. S., T. C. Omer, and A. M. Thompson. 2015. Determinants and consequences of tax service provider choice in the not-for-profit sector. Contemporary Accounting Research, forthcoming.

Nordenflycht, A. V. 2010. What is a professional service firm? Toward a theory and taxonomy of knowledge-intensive firms. *Academy of Management Review* 35 (1): 155 – 174.

Numan, W., and M. Willekens. 2012. An empirical test of spatial competition in the audit market. *Journal of Accounting and Economics* 53: 450 – 465.

O'Keefe, T. B., D. A. Simunic, and M. T. Stein. 1994. The production of audit services: Evidence from a major public accounting firm. *Journal of Accounting Research* 32 (2): 241 – 261.

Palmrose, Z. 1986. Audit fees and auditor size: Further evidence. *Journal of Accounting Research* 24 (1): 97 – 110.

Palmrose, Z. 1988. An Analysis of Auditor Litigation and Audit Service Quality. *The Accounting Review* 63 (1): 55 – 73.

Parasuraman, A., V. A. Zeithaml, and L. L. Berry. 1985. A conceptual model of service quality and its implications for future research. Journal of Marketing 49: 41 – 50.

Paterson, J. S., and A. Valencia. 2011. The effects of recurring and nonrecurring tax, audit-related, and other nonaudit services on auditor independence. *Contemporary Accounting Research* 28 (5): 1510 – 1536.

Patterson, P. G., L. W. Johnson, and R. A. Spreng. 1997. Modeling the determinants of customer satisfaction for business-to-business professional services. *Journal of the Academy of Marketing Science* 25 (1): 4 – 17.

Pearson, T., and G. Trompeter. 1994. Competition in the market for audit services: The effect of supplier concentration on audit fees. *Contemporary Accounting Research* 11 (1): 115 – 135.

Pergelova, A., D. Prior, and J. Rialp. 2010. Assessing advertising efficiency. *Journal of Advertising* 39 (3): 39 – 54.

Petersen, M. A. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies* 22: 435 – 480.

Pfeffer, J. 1995. Producing sustainable competitive advantage through the effective management of people. The Academy of Management Executive 9 (1): 55 – 69.

Podolny, J. M. 1993. A status-based model of market competition. *American Journal of Sociology* 98 (4): 829 – 872.

Pollay, R. W. 1986. The distorted mirror: Reflections on the unintended consequences of advertising. *Journal of Marketing* 50 (2): 18 – 36.

Porter, M. E. 1991. Towards a dynamic theory of strategy. *Strategic Management Journal* 12: 95 – 117.

PwC. 2013. Building trust in a time of change global annual review 2013. New York, NY: PwC.

Public Accountants Report (PAR). 2012. CCH, Chicago, IL.

Public Company Accounting Oversight Board (PCAOB). 2011. Concept release on auditor independence and audit firm rotation. New York, NY: PCAOB.

Reichelt, K., 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.

Rhode, J. G., G. M. Whitsell, and R. L. Kelsey. 1974. An analysis of client-industry concentrations for large public accounting firms. *The Accounting Review* 49: 772 – 786.

Robinson, D. 2008. Auditor independence and auditor-provided tax service: Evidence from going-concern audit opinions prior to bankruptcy filings. Auditing: A Journal of Practice & Theory 27 (2): 31 – 54.

Robinson, J. R., S. A. Sikes, and C. D. Weaver. 2010. Performance measurement of corporate tax departments. The Accounting Review 85 (3): 1035 – 1064.

Rogerson, W. P. 1983. Reputation and product quality. *The Bell Journal of Economics* 14 (2): 508 – 516.

Rust, R. T., K. N. Lemon, and V. A. Zeithaml. 2004. Return on marketing: Using customer equity to focus marketing strategy. *Journal of Marketing* 68 (1): 109 – 127.

Sansing, R. C. 1993. Information acquisition in a tax compliance game. The Accounting Review 68 (4): 874 – 884.

Shan, Y., S. Taylor, and T. Walter. 2013. The role of "other information" in analysts' forecasts in understanding stock return volatility. *Review of Accounting Studies*: 1 – 47.

Shaw, A. W. 1912. Some problems in market distribution. *The Quarterly Journal of Economics* 26 (4): 703 – 765.

Shu, S. Z. 2000. Auditor resignations: Clientele effects and legal liability. *Journal of Accounting and Economics* 29: 173 – 205.

Simon, D., and J. Francis. 1988. The effects of auditor change on audit fees: Tests of price cutting and price recovery. *The Accounting Review* 63 (2): 255 – 269.

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

Simunic, D. A. 1984. Auditing, consulting, and auditor independence. *Journal of Accounting Research* 22 (2): 679 – 702.

Skinner, D. J., and S. Srinivasan. 2012. Audit quality and auditor reputation: Evidence from Japan. *The Accounting Review* 87 (5): 1737 – 1765.

Smith, R. E., and T. S. Meyer. 1980. Attorney advertising: A consumer perspective. *Journal of Marketing* 44 (2): 56 – 64.

Stafford, D. C. 1988. Advertising in the professions: A review of the literature. *International Journal of Advertising* 7 (3): 189 – 220.

Stevens, R. E., C. W. McConkey, D. L. Loudon, and P. Dunn. 1994. Accountants' attitudes toward advertising and their use of marketing tools. *Journal of Professional Services Marketing* 10 (2): 181 – 201.

Suddaby, R., Y. Gendron, and H. Lam. 2009. The organization context of professionalism in accounting. *Accounting, Organizations and Society* 34 (3): 409 – 427.

Teoh, S. H., and T. J. Wong. Perceived Auditor Quality and the Earnings Response Coefficient. *The Accounting Review* 68 (2): 346 – 366.

Thornton, D., and G. Moore. 1993. Auditor choice and audit fee determinants. *Journal of Business Finance and Accounting* 20 (3): 333 – 349.

Tonge, S., and C. Wootton. 1991. Auditor concentration and competition among large public accounting firms: Post-merger status and future implications. *Journal of Accounting and Public Policy* 10: 157 – 172.

Tripp, C. 1997. Services advertising: An overview and summary of research, 1980 – 1995. *Journal of Advertising* 26 (4): 21 – 38.

Tuli, K. R., A. Mukherjee, and M. G. Dekimpe. 2012. On the value relevance of retailer advertising spending and same-store sales growth. *Journal of Retailing* 88 (4): 447 – 461.

Vargo, S. L., and R. F. Lusch. 2004. Evolving to a new dominant logic for marketing. *Journal of Marketing* 68 (1): 1 – 17.

Walker, S. P. 1995. The genesis of professional organization in Scotland: a contextual analysis. *Accounting, Organizations and Society* 20: 285 – 310.

Weiss, D. L. 1968. Determinants of market share. *Journal of Marketing Research* 5 (3): 290 – 295.

Wells, D., and M. Loudder. 1997. The market effects of auditor resignations. *Auditing: A Journal of Practice & Theory* 16 (1): 138 – 144.

Willenborg, M. 2002. Discussion of "Brand name audit pricing, industry specialization, and leadership premiums post-Big 8 and Big 6 mergers." *Contemporary Accounting Research* 19 (1): 111 – 116.

Winston, W. (Ed.). 1995. *Marketing for CPAs, Accountants, and Tax Professionals*. New York, NY: The Haworth Press.

Wyatt, A. R. 2004. Accounting Professionalism – They Just Don't Get It! *Accounting Horizons* 18 (1): 45 – 53.

Zagler, M. 2009. Economic growth, structural change, and search unemployment. *Journal of Economics* 96 (1): 63 – 78.

Zeff, S. A. 2003a. How the U.S. Accounting Profession Got Where It Is Today: Part I. *Accounting Horizons* 17 (3): 189 – 205.

Zeff, S. A. 2003b. How the U.S. Accounting Profession Got Where It Is Today: Part II. *Accounting Horizons* 17 (4): 267 – 286.

Zeithaml, V. A. 2000. Service quality, profitability, and the economic worth of customers: What we know and what we need to learn. *Journal of the Academy of Marketing Science* 28 (1): 67 – 85.

BIOGRAPHICAL SKETCH

Will received dual bachelor's degrees from the University of Delaware. His Bachelor of Science is in Business Administration while his Bachelor of Arts is in Political Science with a concentration in Public Law. He went on to complete a Master of Accountancy at Villanova University and a Master of Finance at Saint Joseph's University. Will joined the Ph.D. program at the University of Florida in 2010 and majored in Business Administration with a concentration in Accounting. He completed his Ph.D. from the University of Florida in the spring of 2016. His research interests include audit quality, audit production, auditor-provided nonaudit services, and tax avoidance.