ECONOMIC CONSEQUENCES OF IMPLEMENTING THE ENGAGEMENT PARTNER SIGNATURE REQUIREMENT IN THE UK

by

Min Liu

A Dissertation Submitted to the Faculty of

The College of Business

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Florida Atlantic University

Boca Raton, FL

August 2016

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This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Mark Kohlbeck, School of Accounting, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the College of Business and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

SUPERVISORY COMMITTEE:

Mark Kohlbeck, Ph.D.
Dissertation Advisor

Julia Higgs, Ph.D.

Maya Thevenot, Ph.D.

Ky-Hyang Yuhn, Ph.D.

George Young, Ph.D.
Director, School of Accounting

Daniel Gropper, Ph.D.
Dean, College of Business

Deborah L. Floyd, Ed.D.
Dean, Graduate College

07/14/2016
Date

ACKNOWLEDGEMENTS

Though only my name appears on the cover of this dissertation, many great people have contributed to this paper. I owe my gratitude to all those people who have made this dissertation possible and because of whom my graduate experience has been one that I will cherish forever.

My deepest gratitude is to my dissertation chair, Dr. Mark Kohlbeck for taking time to write constructive comments and correct errors in this manuscript. His patience and support have helped me overcome many difficult situations and finish this dissertation. I am grateful to other dissertation committee members, Dr. Julia Higgs who inspired me to do auditing research, Dr. Maya Thevenot who has shared her knowledge with her students, and Dr. Ky-Hyang Yuhn who patiently answered my econometric questions. I also thank other faculties at accounting department for their support and helpful comments: Drs. Robert Pinsker, Jian Cao, Li Qu, Kim Dunn, George Young, Karen Hooks, and Joseph Rakestraw.

I also thankful to the writing center, staffs of accounting department, and my friendly colleagues for their support and encouragements. Finally, I would like to acknowledge the support and care of my family and friends.

ABSTRACT

Author: Min Liu

Title: Economic Consequences of Implementing the Engagement Partner Signature Requirement in the UK

Institution: Florida Atlantic University

Dissertation Advisor: Dr. Mark Kohlbeck

Degree: Doctor of Philosophy

Year: 2016

I investigate the effects of requiring the audit engagement partner (EP) signature and individual EP's quality on information asymmetry, analysts' forecast errors and forecast dispersion. I predict and find that, ceteris paribus, there is a significant decline in information asymmetry, analysts' forecast errors and forecast dispersion from the pre- to post-EP signature period in the UK over both of short-term (e.g., 2008-2010) and long-term (e.g., 2004-2014). These findings hold when using a control sample approach and a different proxy for the information asymmetry, which indicate that my results are not likely due to the effect of concurrent events and correlated omitted variables. These findings provide timely and important empirical evidence to the ongoing debate about whether the Public Company Accounting Oversight Board should pass a similar requirement in the U.S.

DEDICATION

To my lovely mother who has inspired me to work as hard as I could to achieve this goal.

ECONOMIC CONSEQUENCES OF IMPLEMENTING THE ENGAGEMENT PARTNER SIGNATURE REQUIREMENT IN THE UK

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CHAPTER 1 INTRODUCTION

I investigate economic consequences of requiring the audit engagement partner (EP) to sign the audit report in the United Kingdom (UK). This topic is important. The Public Company Accounting Oversight Board (PCAOB 2011, 2013) proposes to require US companies to disclose the audit EP's name to promote more "informative, accurate, and independent audit reports" (PCAOB 2013, 2). The proponents of the mandatory disclosure of the EP's identity argue that the requirement increases the transparency of the audit process and the EP's accountability, as well as reduces information asymmetry, and thereby increases competitiveness and efficiency of markets (PCAOB 2011, 2013).

There are possible unintended consequences of this requirement. Investors may be misled by making "unwarranted inferences about the EP" (PCAOB 2013, 41). Information asymmetry among investors may increase because investors have different levels of ability to judge the information that can be used to evaluate the EP's performance and audit report (e.g., Kim and Verrecchia 1994).[1] Over auditing and inefficient auditing may occur, thereby increasing unnecessary audit-related costs, which will likely be borne by companies and their shareholders (PCAOB 2013; King, Davis, and Mintchik 2012; Bailey, Dickins, and Reisch 2010). Opponents of this proposal argue

[1] According to Kim and Verrecchia's (1994) model, some market participants process the public information into private and possibly diverse information about a firm's performance at some cost (e.g., time and effort). They further argue that the "private information can be thought of as informed judgements or opinions (Kim and Verrecchia 1994, 42)." If publicizing EP's name stimulates informed judgement, the disclosure may create or exacerbate information asymmetry between traders and market makers.

that it is unnecessary to disclose the EP's name to the public because the current disclosure level in the audit process is sufficient.

The previously-argued potential benefits depend on the PCAOB's belief that the disclosure of the EP's name provides important information to market participants. However, there is little evidence supporting this assumption. Evidence about EPs indicates that knowing the EP's name conveys information associated with his/her audit style and audit quality, and the market responds differently to individual EPs (Knechel, Vanstraelen, and Zerni 2013b; Azizkhani, Monroe, and Shailer 2013; Aobdia, Lin, and Petacchi 2013). The current empirical research also provides evidence on the aggregate market response to the information about the EP.[2] However, there is lack of direct evidence on how the disclosure of the EP's identity impacts the information environment.

Acknowledging the conflicting arguments and evidence pertaining to the passage of the disclosure of the EP's name, the PCAOB (2013) calls for further comments on the questions about "[w]ould disclosure of the EP's name and information about other participants in the audit provide investors and other financial statement users with useful information? How might investors and other financial statement users use the information?... Can an engagement partner's history provide a signal about the reliability of the audit and, in turn, the company's financial statements?"

I therefore investigate the effect of requiring an EP to sign audit reports in the United Kingdom (UK) on analysts' information environment in order to contribute to the ongoing debate on whether the PCAOB shall pass a similar requirement in the U.S. Using

[2]Azizkhani, Monroe, and Shailer (2013) and Aobdia, Lin, and Petacchi (2013) provide empirical evidence that the EP's identity is informative for the market in addition to the audit firm's identity in Australia and in Taiwan respectively.

UK data is reasonable because accounting regulations, accounting disclosure, accounting reporting systems, cultures, and institutional factors are similar to the U.S. The UK adopted the Eighth Directive (Directive 2006/43/EC, European Parliament and the Council of the European Union 2006) through the Company Acts of 2006 and required the EP to sign her/his name in audit reports with fiscal years ending in April 2009 or after. Therefore, I have a comparable empirical environment (in the UK) to examine how passing an EP signature requirement impacts a group of financial statement users (e.g., financial analysts).

Specifically, I examine two research questions. The first research question ask how the EP signature requirement impacts the information asymmetry, analysts' forecast errors, and analysts' forecast dispersion. There was an information asymmetry problem between managers and investors in the pre-EP signature period because the EP's name was only available to managers but not to the public. Disclosing the EP's name reduces this information asymmetry in the post-EP signature period. Moreover, theoretical disclosure literature argues that more publically available information and more precise information reduces information asymmetry, thereby improving information environment (e.g., Diamond and Verrecchia 1991; Lang and Lundholm 1993 and 1996; Easley and O'Hara 2004; Lambert, Leuz, and Verrecchia 2007).[3]

Further, accountability theory suggests that, in the post-EP signature period, an EP's accountability increases because of disclosure of his/her name, which should make

[3] Lambert, Leuz, and Verrecchia (2011) further analytically show that with imperfect market competition, information affects cost of equity capital even after controlling for the average investor's average precision. I control for the market competition in my analyses on the effects of requiring EP signature on cost of equity capital.

the EP devote more effort to the engaged audit, thereby increasing audit quality (PCAOB 2011; Carcello and Li 2014; Cole 2014; Carcello and Santore 2015). The higher audit quality increases the credibility of financial statements. Therefore, financial statement users (e.g., analysts) should have more reliable information to predict future earnings. As a result, analysts forecast errors and dispersion should decrease in the post-signature period compared to pre-signature period.

Because EP's quality varies across individual EPs, and the EP's name became publically available in the post-EP signature period, my second research question asks how individual EP's quality impacts the information asymmetry, analysts' forecast errors, and analysts' forecast dispersion. Auditors who possess more industry-specific knowledge and are more reputable in the industry are more likely to assure higher quality financial statements of his/her clients. Higher quality financial statements are regarded as a higher quality disclosure, which provides financial statement users more accurate information about the firm's performance and reduces information asymmetry between managers and investors. Therefore, I hypothesize that clients of high-quality EP have lower information asymmetry about the firms' future performance, that analysts could more accurately forecast the clients' future earnings and have less discrepancies about the clients' performance.

To test my hypotheses on the economic outcomes of implementing EP signature requirement, I form a sample of UK firms having all required data in both last year in the pre-EP signature period and the first year in the post-EP signature period (e.g., a balanced panel design). I measure information asymmetry among analysts following Barron, Kim, Lim, and Stevens (1998) and analysts' forecast errors and analysts' forecast dispersion

following Byard, Li, and Yu (2011). I use an indicator variable, *POST*, to capture the impact of the implementation of the EP signature requirement on the economic consequences. Then, I regress these outcome variables on *POST* and other factors that may influence these economic consequences. I find a significant decrease in analysts' forecast errors and forecast dispersion for the UK firms in the post-EP signature period compared with pre-EP signature period over the short term period (i.e., 2008-2010) when using the balanced panel design. I then extend the tests to a longer sample period of 2004-2014 and repeat my analyses. I find that the UK firms experience a significant decrease in information asymmetry, as well as a significant decline in analysts' forecast errors and dispersion in the post-EP signature period compared pre-EP signature period over a long term period (i.e., 2004-2014)

Further, to mitigate the confounding effects that may lead to the association between economic outcome variables and the EP signature requirement in the UK, I use a difference-in-difference approach similar to Daske et al. (2008); Carcello and Li (2014) and Byard et al. (2011). I compare the changes in these economic outcome variables for firms in the UK from the pre- to post-signature period with the changes in these variables for firms in the U.S. during the same period. The U.S. has not adopted the EP signature requirement yet. Therefore, firms in the U.S. comprise the control sample not subject to change, unlike the treatment sample firms in the UK. When I compare the UK firms with the U.S. firms, I find that the UK firms experience a significantly greater decrease in the information asymmetry, as well as a reduction in the analysts' forecast errors and dispersion over the long term period.

To test the hypotheses that the quality of an individual EP is associated with the economic outcomes (e.g., analysts' information environment), I first use all available financial and earnings forecast data for the UK firms in the post-signature period. I then construct a variable that distinguishes each EP's quality. I capture the EP's quality by his/her industry specialization, which is measured by the EP's industry market share, *EPMKTShare*, based on sales of clients. The larger market share of the EP in the industry indicates a higher EP quality. I also use the EP's size (*EPSize*) as the proxy for audit quality. The larger size of the EP is a better quality. Then, I regress the outcome variables on the proxies for the EP's quality when controlling for other factors that may influence the outcomes. I do not find significant evidence supporting that an industry-specialist EP is associated with information asymmetry, analysts' forecast errors, and analysts' forecast dispersion. However, when I use the EP's size (*EPSize*) as the proxy for the audit quality, I find that a higher quality EP is associated with a lower information asymmetry and a smaller analysts' forecast dispersion.

Overall, the findings make a number of contributions. First, the collective results provide timely inferences to the U.S. regulators who are calling for empirical evidence on whether the proposed mandatory disclosure of the EP's name "provide[s] investors and other financial statement users with useful information" and on the cost-benefit analysis of the mandatory disclosure of the EP name (PCAOB 2013). The effects of the EP signature requirement on analysts' information environment would in part lend credit to the PCAOB's belief that the disclosure of the identity of the EP in the auditor's report benefits financial statement users. The result of less information asymmetry from the pre-signature period to post-signature period supports the PCAOB's claim that the mandatory

disclosure of the EP's identity will increase the transparency of the audit process and decrease information asymmetry, thereby promoting investors' activism, including better prediction of the firm's performance.

Moreover, the results of more accurate analysts' forecasts and less dispersion in the post-signature period also lend credit to the PCAOB's (2011 and 2013) argument that disclosing the EP's identity should increase the EP's accountability. When the EP is more accountable, the EP's clients are more likely to have higher quality financial statements, consequently benefiting financial statements users.

Finally, this paper builds upon previous literature by showing the extent to which an auditing regulation affects analysts' information environment. Further, this paper tests the theory related to disclosure and accountability in a unique setting, in which there was a change in the level of information asymmetry and a change in accountability of the EP from the pre- to post-signature requirement period. This change in the information asymmetry provides an ideal environment to test the debate on whether disclosing EP's name is useful to the information users and the debate on whether increased accountability of EP benefits the markets.

This paper proceeds as follows. Chapter 2 reviews relevant literature and Chapter 3 develops my hypotheses. Chapter 4 details my research method. Chapter 5 describes sample selection and sample statistics. Chapter 6 reports results and Chapter 7 concludes my findings.

CHAPTER 2 LITERATURE REVIEW

In this chapter, I outline prior literature relevant to this paper. I first introduce the background of requiring the audit engagement partner signature in the UK and its relevant literature to date. Then, I describe the literature on economic consequences of disclosure. I next introduce the literature related to accountability. Finally, I summarize the reviewed literature.

2.1 Audit Engagement Partner Signature Requirement and Relevant Literature

Before 2006, few European countries (e.g., France, Germany, and Luxembourg) required the EP to sign the audit report (US Department of Treasury 2008). Soon after, in 2006, the European Union (EU) adopted Eighth Company Law Directive that asks for EU members to require the EP to sign the audit report (Directive 2006/43/EC). EU countries have adopted the Eighth Company Law Directive at different times. The UK required the EP to sign audit reports ending in April 2009 and after (PwC Legal 2010).[4] China and Taiwan also required the EP to sign his/her signature. Since 2008, the US has proposed to pass a similar requirement of asking the EP to disclose her/his name in the audit report (PCAOB 2011, 2013).

[4] The term statutory auditor is equivalent to the term engagement partner as defined in the International Standards on Auditing (PwC Legal 2010).

Since the disclosing the EP's name in the EU countries has been a relatively recent development, empirical studies on the consequences of this disclosure are limited.[5] This subsection reviews the most relevant studies of the mandatory disclosure of the EP's name.

Studies use the EP identification to document that individual engagement partners' tenure and rotation are related to perceived audit quality. Using sample firms from Australia, Azizkhani, Monroe, and Shailer (2013) investigate the usefulness of the disclosure of the EP's identity and examine whether audit EP tenure and rotation are informative for investors proxied by the ex-ante cost of equity capital. Azizkhani et al. (2013) find that EP tenure has a quadratic relation with the ex-ante cost of equity capital for non-Big 4 audit engagements prior to the introduction of the partner rotation requirement. The researchers also find the partner rotation is related to increased ex-ante cost of equity capital. Their results suggest that partner's tenure and rotation influence investors' perceptions about auditor quality.

Lennox, Wu, and Zhang (2014) examine the effect of mandatory partner rotation on audit quality using a unique data of audit adjustments in China. Lennox et al. (2014) find a significantly higher frequency of audit adjustments during the departing partner's final year of tenure prior to mandatory rotation and during the incoming partner's first year of tenure following mandatory rotation. Thus, the researchers suggest that mandatory rotation of engagement partner leads to higher quality audits in the years immediately surrounding rotation.

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[5] EP's identity is disclosed when EP signs his/her name. Therefore, I interchange the term EP signature requirement and disclosing EP's name.

Some studies document that the markets respond differently to individual EP's clients. Knechel et al. (2013b) examine the persistence and economic consequences of variations in reporting style across audit engagement partners in Sweden. They find that the aggressive and conservative styles of individual EPs, which are measured by the frequency of historical Type 2 and Type 1 audit reporting error rates,[6] persist over time and extend to other clients of the same EPs. Knechel et al. (2013b) indicate that the market penalizes client firms that were subject to aggressive EPs' audit decisions.

Using data from Taiwan, Aobdia, Lin, and Petacchi (2015) examine whether disclosing the identity of the EP, rather than merely the identity of the audit firm, provides additionally useful information. Abodia et al. (2015) measure the EP's quality by the EP's clients' discretionary accruals quality. They find a positive relationship between the EP's quality and the client firm's earnings response coefficient around earnings announcements. They also find that the firms audited by higher quality EPs are able to obtain favorable debt contracting terms. Results of Aobdia et al. (2015) indicate that both debt and equity markets react to the performance characteristics of EPs.

Researchers also use an experimental approach to examine the effect of disclosing EP's name on accountability and incentives, consequently influencing audit quality. Lambert, Luippold, and Stefaniak (2013) examine possible investors' reactions to the disclosure and effects of the disclosure on the EP's reputations, incentives and independence. Using a 2 x 2 between-participants experiment design, Lambert et al. (2013) find that prospective investors are less likely to invest in a firm audited by an EP

[6] Not issuing a going-concern opinion (GCO) to a failing client is labeled as a Type 2 error, while issuing a GCO to a non-failing client is a Type 1 error.

whose name is related to a firm that restates financial reports. Lambert et al. (2013) suggest that, in a regime of mandatory disclosing EP's name, client performance and event history will become inextricably linked to a partner and his/her reputation, which might affect partner accountability, incentives, and independence.

Using an experimental method, DeZoort, Harrison, and Taylor (2006) find that auditors under higher levels of accountability pressure (i.e., justification and/or feedback) provide more conservative materiality judgments and have less judgment variability than auditors under lower levels of pressure (i.e., review, anonymity). DeZoort et al. (2006) argue that disclosing the EP's identity will increase his/her accountability and consequently increase his/her efforts during the audit process.

Likewise, Carcello and Li (2014) hypothesize that requiring the EP signature will increase the EP's accountability, thereby improving audit quality. Using a larger sample from the UK, they examine the effect of the EP signature requirement on the audit quality and audit fees in the UK in the post-signature period compared to in the pre-signature period. Carcello and Li (2014) find a significant decrease in abnormal accruals and propensity to meet an earnings target; a significant increase in the incidence of qualified audit reports and earnings informativeness; and an increase in audit fees. The resulting increase in audit fees is consistent with the concerns about the costs related to implementation of the EP signature requirement.

2.2 Accountability and Audit Quality

Accountability is defined as the quality or state of being accountable: an obligation or willingness to accept responsibility or to account for one's actions (Merriam-Webster 2003). The theory of judgement and decision making argues that

people are often accountable for their judgement and decisions (Tetlock 1985; Beach and Mitchell 1978). Accountability strongly impacts the decision marker's information process and judgement no matter it is self-imposed or not (e.g., supervisor, organizational rules, or regulations).

The demand of accountability arises from the need of exerting more cognitive effort to think carefully about the alternatives or to use thorough analytic skills (McAllister, Mitchell, and Beach 1979; Chaiken 1980; Hagafors and Brehmer 1983; Tetlock, Skitka, and Boettger 1989). Auditor is accountable for his/her audit. Accounting research documents that accountability makes the auditor put more effort to the engaged audit, thereby, resulting in a higher audit quality (Kren and Greenstein 1991).

Previous studies also provide evidence that accountability is positively associated with judgement consistency and consensus. Johnson and Kaplan (1991) examine the influence of accountability on auditor judgement. Specifically, professional auditors are asked to assess the risk of obsolescence for 20 inventory items. The auditors are assigned as an accountable group in which auditors' judgements would be asked to explain and a control group in which auditors' judgements would be kept anonymous. Accountable auditors show higher consensus and self-insight than non-accountable auditors. This result indicates that accountability improves auditor judgements.

Similarly, using professional auditors as subjects, Ashton (1992) examines the effect of accountability, proxied by an explicit justification requirement, on the auditors' judgement on the quality of bonds. The subjects are asked to classify the industry bonds into different rating categories, which represent different levels of financial quality. Ashton (1992) finds that higher level of justification requirement is associated with

greater judgement accuracy, which is reflected by greater consistency of judgement and greater consensus among auditors.

Further, Kennedy (1993) examines whether accountability reduces "recency" that may happen in the audit review process. Recency is a type of cognitive bias: "the tendency to overweight evidence received later in a sequence" (Kennedy 1993, 231). Kennedy (1993) first assigns MBA and professional auditor subjects into either an accountable group or a control group. Then, Kennedy (1993) asks the subjects to judge whether a client is able to continue as a going concern. The professional auditor subjects do not show recency bias no matter whether they were accountable. The MBA subjects show recency bias when they were not accountable, while their recency bias reduced when they are accountable. Kennedy (1993) concludes that accountability leads to a higher level of cognitive effort, which is associated with a higher quality of audit in a going concern context.

Recent research also provides empirical evidence on the positive association between accountability and audit quality. For example, DeZoort, Harrison, and Taylor (2006) investigate the effects of different levels of accountability on auditors' materiality judgments. Using auditors as subjects, DeZoort et al. (2006) hypothesize and find that the levels of accountability (e.g., anonymity, review, justification, and feedback) are positively associated with judgement conservatism, consensus, and effort. Carcello and Li (2014) hypothesize that requiring an EP's signature would increase the EP's accountability, thereby, improving audit quality in the UK. Their results are consistent with an improved audit in the post-EP signature in the UK.

2.3 Economic Consequences of Disclosure Regulation

One of important goals of mandatorily disclosing the EP's name is to promote more transparent disclosure about the audit process (PCAOB 2013, 2015), which is similar to other disclosure regulations. To infer the possible consequences of increased transparent disclosure, I discuss the economic outcomes of a major disclosure regulation passed in 2000 by the US Congress, Reg. FD. Reg. FD intends to promote full and fair information to all market participants, requiring firms to publically disclose information that was only available to certain individuals or entities (e.g., analysts and institutional investors). In particular, Reg. FD prohibits managers from disclosing material information to select capital market professionals, financial analysts, and/or institutional shareholders, therefore, increasing the confidence in public capital markets. Empirical evidence is mixed on the benefits of Reg. FD. Wang (2007) finds that in the post-Reg. FD period, firms with lower information asymmetry and higher proprietary costs reduce or eliminate a specific type of disclosure: issuing earnings guidance. However, Bushee, Matsumoto, and Miller (2004) show that disclosure levels increased or remained the same in the post-Reg. FD period. Kothari, Shu and Wysocki (2009) find that firms generally reduced the withholding of bad news relative to good news in the post-Reg. FD period.

There is also mixed evidence on whether Reg. FD reduces information asymmetry among investors. A stream of papers provides empirical evidence of a decrease in bid-ask spreads in the post-Reg. FD period (e.g., Bushee et al. 2004; Gintschel and Markov, 2004; Eleswarapu, Thompson, Venkataraman 2004; Chiyachantana Taechapiroontong, Jiang, and Wood 2004). However, Sidhu, Smith, Whaley, and Willis (2008) show bid-ask

spread has increased in the post-Reg. FD period and conclude that Reg. FD led to an increase in the expected cost of information asymmetry. The evidence on the effects of the Reg. FD on the informativeness of public resources is mixed as well. Jorion, Liu, and Shi (2005) find that compared with earnings forecasts, the credit rating changes have become more informative in the post-Reg. FD period. This finding suggests that firms changed the avenue of private information dissemination to not violate the regulation of Reg. FD.

Francis, Nanda, and Wang (2006) re-examine the effect of Reg. FD on the public information metrics (returns volatility, information efficiency, and trading volume) and on analyst information metrics (forecast dispersion and accuracy) using ADRs (who are exempt from Reg. FD). They find that contemporaneous events and not Reg. FD affected the availability of public information while analyst report informativeness declined for the U.S. firms compared with ADR firms. They conclude that Reg. FD achieved one of its goals: reducing private information flows to analysts. Similarly, Lin and Yang (2012) find that analysts forecast errors and forecast dispersion reduced in the post-FD period for restructuring firms. Results of Lin and Yang (2012) suggest that FD has limited private information, and aims to provide all users with the same access to information within the context of firms reporting restructuring costs.

2.4 Summary of Literature Review

In summary, previous studies provide theoretical and empirical evidence that accountability is positively associated with audit quality: reducing auditors' judgement biases in the audit, and increasing auditors' judgement consensus and effort. Disclosing an EP's name should increase his/her accountability in the engaged audit, therefore,

increasing audit quality. However, the empirical evidence related to the accountability and the EP's signature requirement is scarce.

Moreover, previous literature also documents that disclosing individual EP's name is informative to investors and leads to higher overall audit quality. Prior literature on disclosure theory generally suggests that disclosure regulation benefits the markets by improving the information environment. Although the empirical evidence on the costs and benefits of increased disclosure, in general, supports the assertion that mandatory disclosure is associated with better information environment. Given the inconsistent results of theoretical and empirical research on the costs and benefits of increased disclosure, I use a unique setting to provide further empirical evidence on how an auditing regulation increases disclosure and improves accounting information quality, therefore, improving the analysts' information environment (e.g., information asymmetry, analysts' forecast errors and dispersion).

Overall, I extend previous literature related to accountability and disclosure by examining how this increased disclosure and accountability impacts information asymmetry, analysts' forecast errors, and analysts' forecast dispersion during both a short-term and a long-term period. The long-term effects of requiring an EP signature are unclear and important to policy setters.

CHAPTER 3 HYPOTHESES DEVELOPMENT

I first discuss the association between EP signature requirement and information asymmetry, analysts' forecast errors, and analysts' forecast dispersion, which leads to my first, second, and third hypotheses, respectively. Since audit quality is different at the EP level and the financial statements of clients of a higher quality auditor are regarded as a higher quality disclosure. I also discuss how the quality of individual EP impacts analyst information environment, which lead to my fourth, fifth, and sixth hypotheses correspondingly. Ultimately, I conclude with a summary of my hypotheses.

3.1 Effects of Engagement Partner Signature Requirement

First, accountability is the acknowledgment and assumption of responsibility for actions, products, decisions, and policies including the administration, governance, and implementation within the scope of the role or employment position as well as encompassing the obligation to report, explain and be answerable for resulting consequences (leadership perspective). According to Directive 2006/43/EC (Article 2 (6)), the engagement partner who has the leadership role in an audit is responsible for the engagement and its performance. As a result, the EP is accountable for the appropriate supervision of the work of the engagement team members and for compliance with International Standards on Auditing that regard using the work of specialists, other auditors, internal auditors, and others who are involved in testing controls.

Furthermore, identifying EP's name is essential to hold the EP to be personally accountable. In the pre-signature period, the EP's identity was only known by limited people (e.g., managers and regulators). In the post-signature period, the EP's name is disclosed to public, which would provide additional motivation for the EP to avoid any possible association with audit failure (DeZoort et al. 2006). The association with the audit failure may cause devaluing the EP's reputation and/or embarrassing the EP's family, friends, neighbors, and the press (Carcello and Li 2014). Such negative consequences may motivate the EP to work more diligently. Therefore, disclosing the EP's name (or requiring the EP's signature) should improve the overall audit quality in the post-signature period. The higher audit quality is associated with higher financial statement quality; these benefits were confirmed in Carcello and Li (2014). Higher quality financial statements are regarded as a higher quality disclosure. Lower information asymmetry in the market and less uncertainty among financial statement users is therefore expected (Lang and Lundholm 1993, 1996).

Second, theoretical literature generally assumes that information asymmetry arises between informed and uninformed investors (e.g., Glosten and Milgrom 1985; Kalay 2012). Informed investors have access to the private information about the firm while uninformed investors do not,[7] which creates an information asymmetry problem. Releasing public information has two common benefits (e.g., Diamond 1985). First, it

[7] Another popular source of information asymmetry is caused by investors' different ability to process pubic information. Sophisticated investors have superior ability to process public information compared to unsophisticated investors. Therefore, when the information becomes publically available, sophisticated investors are able to make more informative inferences from the publically available information than unsophisticated investors, which may exacerbate information asymmetry problem (e.g., Kim and Verrecchia 1994). I do not discuss the differences in the effects of disclosing EP's name on sophisticated and unsophisticated investors in this paper, which could be a future research topic.

reduces costs of obtaining such information if the public information was not released. Second, it improves risk sharing because the public disclosure makes investors' beliefs more homogeneous and decreases speculative trades. In sum, economic theory generally indicates that increased disclosure reduces information asymmetry between the firm and market participants or between informed and uninformed investors (Beyer et al. 2010). Empirical results also generally support this negative association between the level of disclosure and information asymmetry (Amihud and Mendelson 1986; Welker 1995; Healey et al. 1999; Leuz and Verrecchia 2000). Combined, I expect that information asymmetry declines after implementing the EP signature requirement. Thus, my first hypothesis in alternative form is as follows.[8]

H1: The implementation of the EP signature requirement is associated with decreased information asymmetry.

Empirical studies also support the theoretical prediction that a high quality disclosure is associated with decreased forecast errors and forecast dispersion (Lang and Lundholm 1996; Ashbaugh and Pincus 2001; Ernsberger et al. 2008; Hodgdon et al. 2008; Bae et al. 2008; Byard et al. 2011; Barth et al. 2012; Horton et al. 2013). Financial statements users have more information about the audit process and the EP's quality in the post-EP signature period than pre-EP signature period. Moreover, the EPs are more accountable in the post-EP signature period than pre-EP signature period, which should lead to a higher quality audit. A higher quality audit usually is associated with more credible financial statements. Analysts should have better judgement about the firm's

[8] All hypotheses are stated in the alternative form.

future performance when they use more reliable financial statements in their forecasts. Therefore, I expect that analysts should make smaller forecast errors in the post-EP signature period than pre-EP signature period. Thus, my second hypothesis is stated below.

H2: The implementation of the EP signature requirement is associated with decreased forecast errors.

In the post-EP signature period, analysts have more publically available information about the EPs whom the firms hire. Analysts can evaluate the EPs' performance using more publically available data in the post-EP signature period than pre-EP signature period. As a result, the forecast discrepancies among analysts may reduce in the post-EP signature compared to pre-EP signature period. Therefore, my third hypothesis is stated below.

H3: The implementation of the EP signature requirement is associated with decreased forecast dispersion.

3.2 Effects of Engagement Partner's Quality

Although audit service benefits the markets, researchers have debated about how to assess audit quality because different stakeholders in the financial reporting process may have different views about audit quality, which will impact the selection of audit quality measurements (Knechel et al. 2013a, 386). The user of financial reports may regard a high-quality audit as the high-quality financial statements. The audit firm may view a high-quality audit as one that can be defended against challenge in an inspection or court of law. Regulators may define a high-quality audit as one that follows professional standards.

Since I focus on the economic consequences of knowing the EP's identity, I am interested in how the EP's quality impacts financial statement users. Therefore, I define a high-quality audit as an audit that increases the reliability of financial statements and helps investors to make a more accurate estimate of the firm's value (Titman and Trueman 1986; Behn, Choi, and Kang 2008). Furthermore, previous literature documents that clients of high-quality auditors have better quality financial reporting, and the debt and equity markets respond favorably to the clients of high-quality auditors by charging lower interest rates for the clients' debts or responding strongly to the clients' earnings announcements (Beatty 1989; Teoh and Wong 1993; Carcello and Nagy 2004; Khurana and Raman 2004; Mansi et al. 2004; Pittman and Fortin 2004; Behn et al. 2008; and Chang et al. 2009).

Beginning in the post-EP signature period in the UK, investors and analysts can evaluate the audit EPs' quality. Therefore, I investigate how individual EP quality influences analysts' information environment in the post-EP signature period.

Although the evidence to date on the relationship between the audit quality at the engagement partner level and financial statement quality is scarce, research shows that the EPs are associated with earnings quality in Taiwan (Chen, Lin, and Lin 2008; Aobdia et al. 2015). Azizkhani et al. (2013) find that the Australian markets perceive the financial statements of clients of a high-quality EP as a lower information risk and demand lower cost of capital. Knechel et al. (2013b) document that in Sweden the market recognizes the EP's audit styles (i.e., aggressive and conservative) and penalizes client firms that were subject to aggressive EPs' audit decisions.

Therefore, I expect that firms hiring higher quality EPs are associated with more reliable financial statements, according to my definition about EP quality. The reliable financial reports reduce information asymmetry about the firm's performance between managers and investors. Thus, I predict that, ceteris paribus, the firms audited by high-quality EPs should have less information asymmetry among analysts. My fourth hypothesis is formally stated below.

H4: Ceteris paribus, EP quality is negatively associated with information asymmetry.

Since a higher quality EP is more likely to provide higher degree of assurance to the EP's clients' financial statements, the EP's clients' financial statements should be more reliable compared with the financial statements audited by a low quality EP. Investors can draw more accurate information about firm's value from more reliable financial statements. As a result, analysts should provide more accurate forecasts and have less dispersion in their forecasts when analysts use more trustworthy financial statements. Thus, firms audited by a high quality EP are likely to have more accurate and less dispersed analysts' forecasts.

My fifth and sixth hypotheses are stated below.

H5: Ceteris paribus, EP quality is negatively associated with analysts' forecast errors.

H6: Ceteris paribus, EP quality is negatively associated with analysts' forecast dispersion.

3.3 Summary of Hypotheses Development

The currently available empirical results about the association between the individual EP's name and (a) audit quality and (b) audit style, and about the market responses to different EP's names, indicate that the EP's name conveys useful information. Disclosing an EP's identity should therefore lead to a higher level of accountability on the EP in the post-EP signature period compared to the pre-EP signature period. The EP is motivated to put more efforts into his/her engaged audit, therefore, resulting in higher audit quality. The higher audit quality is associated with a higher quality of financial statements, which are regarded as a higher quality of disclosure.

Therefore, I develop hypotheses that predict the informative disclosure of the EP's name leads to a lower information asymmetry, more accurate analysts' forecasts, and less dispersion in the analysts' forecasts. Furthermore, the clients of a high quality EP usually have more credible financial statements, which are deemed as superior disclosures. I accordingly predict that, ceteris paribus, the quality of an EP is negatively associated with information asymmetry among analysts, analysts' forecast errors, and analysts' forecast dispersion.

CHAPTER 4 RESEARCH DESIGN

This section presents the research design for testing my hypotheses. I first adapt prior literature to provide three measurements of audit quality at the EP level. Then, I discuss the measurements of information asymmetry, analysts forecast errors, and forecast dispersion. Finally, I present empirical models used to test my hypotheses.

4.1 Measurements of Information Asymmetry, Analysts' Forecast Errors and Dispersion

I follow Barron, Kim, Lim, and Stevens (1998) (BKLS, hereafter) to measure information asymmetry since this measurement captures two types of information asymmetry: information asymmetry among analysts as well as information between informed and uninformed investors (Barron, Stanford, and Yu 2009).

The BKLS information asymmetry measurement (*IS*) is computed as 1-ρ, where ρ is the consensus among analysts. Specifically, consensus is defined as the ratio of common uncertainty to the overall uncertainty: $\rho = C/V$. Consensus measures how much the mean of analysts' forecasts belief reflects common information versus private information (Barron et al. 1998, 425). The higher value of ρ indicates the more consensuses among analysts, while the lower value of *IS* presents lower level of

information asymmetry among analysts.[9] Please refer the details of computation of BKLS information asymmetry to the below formulas.

Where:

IS= 1- $\frac{SE-\frac{D}{n}}{\left(1-\frac{1}{n}\right)D+SE}$, the proxy for information asymmetry, which reflects the lack of analysts' consensus. [10]

Following previous literature (Byard et al. 2011), I measure analysts' forecast errors (*FE*) and forecast dispersion (*Dispersion*) are follows.

FE = the absolute value of the difference between the analyst's last one-year-ahead forecasted earnings-per-share and the actual earnings-per-share reported by I/B/E/S, deflated by the security price per-share.

Dispersion = the standard deviation of one-year-ahead forecasted earnings-per-share deflated by security price per-share.

4.2 Measurements of Engagement Partner Quality

Contemporaneous literature reviews the measurements of audit quality from different perspectives. Francis (2011) argues that assessing audit quality is affected by six

[9] I also use an alternative information asymmetry measurement: discretional accruals quality, which is estimated by using a modified Jones (1991) model. The lower discretional accrual quality indicates a higher information asymmetry between managers and investors (Francis et al. 2005).
[10] Following Barron et al. (1999) and Byard et al. (2011), I use detailed file of I/B/E/S to compute the three dependent variables.

units of analysis: (1) audit inputs, (2) audit process, (3) accounting firms, (4) audit industry and audit markets, (5) institutions, and (6) economic consequences of audit outcomes. DeFond and Zhang (2014) group the measurements of audit quality by the input and output of audit.

I follow Francis (2011) and assess audit quality at the EP level according to the EP's industry expertise and EP's size because of the following reasons. First, an EP who audits a large share of firms in a particular industry is subject to a high level of accountability because the EP may suffer more reputational and economic loss in the case of audit failure. Therefore, an industry-specialized EP is motivated to devote more effort into the engagements, which leads to a high audit quality. Second, auditor knowledge and expertise directly determine the audit quality (Knechel et al. 2013a, 392). Auditors with industry expertise have greater knowledge of industry business and accounting practices than non-specialists (Dopuch and Simunic, 1982). Industry-specialist auditors are more likely to make more accurate judgements about financial statements and therefore provide higher degree of assurance to financial reporting. Thus, industry-specialist auditors are more capable of delivering higher quality audits.

This paper focuses on the economic impacts of disclosing individual EP's name. The information hypothesis suggests that the firms hiring higher quality EP have higher quality of financial statements, which is a higher quality of disclosure. Consequently, the higher quality EPs should be related to improving analysts' forecasts quality. Therefore, using industry specialization to differentiate the EP's quality is suitable for my research purpose.

Following previous literature, I capture the EP's industry specialization by the EP's industry market share (*EPMKTShare*), based on sales of clients (Dunn and Mayhew 2004; Chin and Chi 2009; DeFond and Zhang 2014, 301). In particular, following Aobdia et al. (2015), I measure the EP's quality by the ratio of the sum of the EP's total clients' revenues in the industry to the total industry revenues.[11] The larger market share of the EP in the industry indicates a higher EP quality.

I also use an alternative measurement of individual EP's industry expertise: the EP's portfolio concentration in a particular industry (*EPPortfolio*), defined as the sum of the partner's total clients' revenues in a specific industry divided by the sum of all the EP's clients' revenues. The higher EP's portfolio concentration in a particular industry implies a higher EP quality.

The other alternative of audit quality is the size of the EP (*EPSize*), defined as the natural logarithm value of the sum of the total client assets audited by the EP (in US million dollars). Audit size is a widely used proxy for audit quality. Previous studies analytically and empirically show that the larger the size of the EP implies a higher EP quality (e.g., DeAngelo 1981; Craswell, Francis, and Taylor 1995; Reynolds and Francis 2000). Therefore, I argue that the larger EP's size indicates a higher audit quality.

[11] The firms used to compute *EPMKTShare* are publically listed in London Stock Exchange. I am aware that the variable may not accurately capture the EP's market share because of ignoring the EP's non-publically listed clients.

4.3 Empirical Models

In this subsection, I present models used to test my hypotheses in the order of previously discussed economic consequences of requiring an EP signature and individual EP quality.

I adapt the Byard et al. (2011) model to test my first, second, and third hypotheses about the effects of the EP signature requirement on the information asymmetry, analysts' forecast errors and dispersion by adding an indicator variable, *POST*, capturing the effect of implementation of EP signature requirement. [12] My first, second, and third hypotheses predict that information asymmetry, analysts' forecast errors and dispersion reduced in the post-EP signature period compared with the pre-EP signature period. I use the equation (1) to determine the effect of the EP signature on the information asymmetry, analysts' forecast errors and dispersion in the UK (firm i and time t subscripts are omitted for brevity):[13]

$$IS, FE, or\ Dispersion = \beta_0 + \beta_1 POST + \beta_2 AnCov + \beta_3 Size + \beta_4 ROA + \beta_5 MB + \beta_6 Horizon + \beta_7 Leverage + \beta_8 Intangible + \beta_9 Big4 + \beta_{10} ABAQ + \varepsilon \quad (1)$$

Where:

POST = 1 if a firm-year ends in April 2009 or after, 0 otherwise.

[12] Lehavy, Li, and Merkley (2011) and Horton, Serafeim, and Serafeim (2013) also use similar models to test the effects of annual report readability and IFRS, respectively, on the analysts' information environment.

[13] Since information asymmetry, analysts' forecast errors and dispersion may be impacted by analysts' coverage and analysts' coverage may be influenced by information asymmetry, analysts' forecast errors and dispersion (e.g., endogeneity issue), I also use a fitted value of *AnCov* in the regression in my sensitive analyses.

AnCov = Analyst coverage, which is measured as the log value of the total number of analysts who issue at least one annual earnings forecast for the firm-year. I use all analysts following a firm, not just the analysts included in the constant analyst-firm sample.

Size = log value of the total assets in US dollar amount.

ROA = ratio of income before extraordinary items to the prior year-end total assets.

MB = ratio of market-to-book of firm i.

Horizon = log value of the number of the days between the forecast issuing date and the earnings announcement date.

Leverage = ratio of total liability to total assets.

Intangible = intangible assets in US dollar amount deflated by the prior year-end total asset in US dollar amount.

Big4 = 1 if the financial reports of firm i in the year t were audited by a Big Four auditor, 0 otherwise.

ABAQ = absolute value of abnormal accruals, proxy for accounting information quality. First, I measure discretionary accruals as the difference between firms' actual accruals and the normal level of accruals. I cross-sectionally estimate the latter for each industry using the modified Jones (1991) model below:[14]

[14] I use equation (3) to estimate cross-sectional discretionary accruals because this model does not contain as many data restrictions as other versions of the modified Jones model. Unlike the time-series method, the cross-sectional estimation method does not require lead and lag variables over many periods to be used to estimate the discretionary accruals. The time-series method creates a lot of noise in my analysis because my sample period is only three years and I test the EP signature effect from the last year prior to the implementation of the requirement to the first year with the implementation of the requirement.

$$\frac{TA_t}{A_{t-1}} = \rho_0 + \rho_1\left(\frac{1}{A_{t-1}}\right) + \rho_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \rho_3\left(\frac{PPE_t}{A_{t-1}}\right) + \varepsilon_t \quad (3)$$

where *TA* is the earnings before extraordinary items and discontinued operations less the operating cash flows reported in the statement of cash flows in year t; *S* is the sales in the year t; and *PPE* is the gross of property, plant, and equipment. Then, I compute the absolute value of the estimated residuals, *ABAQ*, from the estimation of equation (3) as my proxy for the accruals quality. A larger value for *ABAQ* implies a lower accounting information quality.

Other variables are as defined as previously.

In the information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) regressions, I control for analysts following (*AnCov*), firm size (*Size*), profitability (*ROA*), growth opportunities (*MB*), forecast horizon (*Horizon*), leverage (*Leverage*), intangible assets (*Intangible*), the Big Four auditor (*Big4*), and accounting information quality (*ABAQ*). Prior research has shown that these variables impact analysts' forecasts in at least some circumstances (Bhushan 1989; O'Brien and Bhushan 1990; Lang and Lundholm 1996; Barth, Kasznik, and McNichols 2001; Byard et al. 2011; Tan et al. 2011).

The firms with more analyst following may have more diversified forecast opinions, subsequently less consensus among analysts. I therefore expect the estimated coefficient on *AnCov* to be positive (e.g., Horton et al. 2013). The larger firms and firms with more analysts following tend to have smaller forecast errors and dispersion, while information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) increase along with increasing forecast horizon (*Horizon*). I do

not predict the signs of the estimated coefficients of *ROA*, *MB*, and *Leverage* because of the unclear relationship between *IS, FE* and *Dispersion* and these three variables. The firms having large amount of intangible assets tend to have more information asymmetry issues; therefore, analysts tend to have larger forecast errors and more forecast dispersion for these firms. Thus, I expect the estimated coefficient on *Intangible* to be positive in information asymmetry (*IS*), analysts' forecast errors (*FE*) and dispersion (D*ispersion*) regressions. Previous research suggests that firms audited by Big4 auditors tend to have less information asymmetry problem, smaller analysts' forecast errors and dispersion. Therefore, I expect the coefficients on *Big4* to be negative in the information asymmetry (*IS*), analysts' forecast errors (*FE*) and dispersion (*Dispersion*) regressions (e.g., Byard et al. 2011). Following literature, I expect a positive relationship between *IS*, *FE* and *Dispersion* and *ABAQ* (e.g., Lobo, Song, and Stanford 2012).

The *POST* variable captures the effect of the EP signature on the analysts' information environment. If the EP signature requirement improves analysts' information environment in the post-signature period, the coefficient on *POST*, β_1 is expected to be negative in equation (1).

Similarly, I use equation (2) below to test the rest of my hypotheses that predict that the EP's quality is negatively associated with information asymmetry, analysts' forecast errors, and analysts' forecast dispersion.

$$IS, FE, or\ Dispersion = \beta_0 + \beta_1 EPQuality + \beta_2 AnCov + \beta_3 Size + \beta_4 ROA + \beta_5 MB + \beta_6 Horizon + \beta_7 Leverage + \beta_8 Intangible + \beta_9 Big4 + \beta_{10} ABAQ + \varepsilon \quad (2)$$

Where:

EPQuality = *EPMKTShare*, *EPPortfolio*, and *EPSize*.

EPMKTShare = EP industry market share, proxy for EP quality, defined as the sum of the partner's total clients' revenues in the industry divided by the total industry revenues. When I compute this variable, I use all the available EP's name data and financial data of an industry, not only the observations used in the final sample.

EPPortfolio = the EP's portfolio concentration in a particular industry, defined as the sum of the partner's total clients' revenues in a specific industry divided by the sum of all the EP's clients' revenues.

EPSize = the size of the EP, defined as the natural logarithm value of sum of the total client assets audited by the EP (in US million dollars).

All other variables are as defined as before.

As discussed previously, a higher quality EP should have a favorable effect on the outcome variables and a larger EP industry market share, a higher EP concentration in one industry, or a larger EP size indicates a higher EP quality. Hence, clients of a high quality EP should have a lower information asymmetry, less analysts' forecast errors and forecast dispersion. Thus, I expect the coefficient of *EPQuality* to be negative in the equations (2). The analyses for the control variables are similar to those in equation (1).

CHAPTER 5 SAMPLE SELECTION

In this chapter I first describe the procedures employed to generate the final samples. I then discuss the descriptive statistics of the variables used in the regression models and the correlations among them.

5.1 Samples

I collect analysts' forecast data for international firms from the I/B/E/S international detail file, and financial and security data from Global Vantage (GV). [15]

To test my hypotheses 1, 2, and 3, I select all UK firms with required financial data. I then exclude firms in the banking (SIC 6000-6999) and utility (SIC 4813, 4900-4999) industries because they are under different regulations and have different financial structures from other industries. After deleting observations with missing financial statement data from Compustat (1,646) and missing analyst forecast data from I/B/E/S (13,971) over fiscal years of 2004-2014, the final long-term UK test sample is comprised of 5,156 observations. [16] This sample is used to test the long-term effect of requiring an EP's signature in the UK, which is driven by the change in EPs' accountability. On the one hand, the effect of EP signature requirement on accountability should be as long as the requirement stays. On the other hand, the effect of EP signature requirement on the

[15] The analysts' forecasts are the last forecasts made by analysts before the current period earnings announcement date and after the previous period earnings announcement date in the detailed file of I/B/E/S.

[16] Although I use financial data for sample firms up to fiscal year end 2015, my samples end 2014 because the calculation of discretionary accruals need one year lead financial data (Francis et al. 2005).

information asymmetry should be a one-time impact. The short-term effect of the EP signature on analysts' information environment should be driven by the change in the information asymmetry. Therefore, I next construct the UK sample to test the short-term effect of the requirement on the outcomes.

I use a balanced panel design to examine the short-term effect of the EP signature requirement on the analysts' information environment over fiscal years of 2008-2010. In particular, I use the last year of pre-signature requirement as a benchmark to compare against the first year of the post-signature requirement. Therefore, I use a balanced panel design by comparing U.K. firms in the last year before the implementation of the signature requirement to the same firms in the first year of the signature requirement. This design can minimize confounding effects that may lead to the association between the EP signature requirement and analysts' information environment, because the comparison is made between a firm itself from the pre-EP signature period to the post-EP signature period. To satisfy the terms of the balanced panel design, I require the firms to have data in both the year prior to the signature and in the first year of the signature requirement (Carcello and Li 2014). These selection criteria lead to a final short-term UK test sample of 756 observations.

To address the concern about the confounding effects that may lead to the changes in the economic outcomes around the passage of the EP signature requirement, I construct control samples. I compare the U.K. firms with firms from the U.S. that has not adopted the EP signature requirement yet. I match the UK firms with U.S. firms based on industry, fiscal year, and size. I also require the long-term and short-term control sample firms meet the same requirements as those used to select long-term and short-term UK

test samples. These procedures lead to a matched long-term (short-term) U.S. control sample of 5,156 (756) observations.

To examine how the individual EP's quality impacts information asymmetry among analysts, analysts' forecast errors, and forecast dispersion in the UK (H4-H6), I hand-collect the EPs' names for UK firms from publically available sources up to five years after implementing the EP signature requirement. I compute the EP quality variables, *EPMKTShare*, *EPPortfolio*, and *EPSize*, using all available EPs' names and financial data. This step leads to 2,567 observations. Then, I match these observations with the firms having all required financial, security, and analysts' forecasts over 2009-2014 fiscal years. This procedure results in a final EP sample of 1,632 observations.

Table 1 Sample Determination
Panel A: Samples used to the effects of the EP signature requirement

All Compustat UK test group firms for the period of 2004 to 2014	22,049	
Less:		
Firm-years in the utilities and financial industry (SIC 4813, SIC 4900-4999, and SIC 6000-6999)	(1,276)	
Less missing observations:		
Missing financial data from Compustat	(1,646)	
Missing analysts' forecast data from IBES	(13,971)	
Final sample (long-term)[1]	5,156	
Less missing observations:		
Do not meet the balanced panel design requirement	(4,400)	
Do not have engagement partner name data		(3,524)
Final sample (short-term)[2]	756	
Final sample (EP test)[3]		1,632

Panel B: Industry Representation

Industry[1]	Number of Observations
1	9
7	10
10	226
12	22
13	258
14	11
15	160
16	15
17	18
20	185
21	26
22	45
23	34
25	1
26	33
27	152
28	406
29	25
30	57
31	1
32	45
33	43
34	47
35	83
36	215
37	75
38	217
39	48
41	47
42	25
44	51
45	35
47	61
50	127
51	60
52	39
53	69
54	31
55	46
56	90
57	74
58	214

59	216
70	56
72	18
73	801
75	20
76	1
78	19
79	102
80	32
82	18
87	401
89	19
99	17
Total	5,156

Panel C: Fiscal Year Representation

Year	Number of Observations
2004	399
2005	420
2006	426
2007	403
2008	425
2009	436
2010	429
2011	438
2012	450
2013	480
2014	494
2015	356
Total	5,156

[1]This final sample (long-term) is used to test the effect of requiring an EP's signature over a sample period of 2004 to 2014.
[2]This final sample (short-term) is used to test the effect of requiring an EP's signature over a sample period of 2008 to 2010, which requires the sample firms have available data in both of the last year before the implementation of the EP signature requirement and the first year with the implementation of the requirement.
[3]This final sample is used to test the effect of requiring an EP's quality over a sample period of 2008 to 2014, which requires the sample firms have publically available engagement partner's names.
[4]The industry classification is based on the first two digits of SIC code.

Panel B of Table 1 presents the industry distribution of the UK long-term sample of 5,156 observations, using the first two digits of the SIC code. Three industries, advertising, biological and chemical products, and technical service, represent approximately 31% of the sample. Further, the advertising industry is the largest industry segment represented, which accounts for about 16% of the sample firms. I therefore control for industry effects. Panel C of Table 1 shows that fiscal year 2014 weighs most in the sample (9.6%). I therefore also control year effect in my regression analyses when using the long-term effect samples.

5.2 Descriptive Statistics

Tables 2 and 3 report descriptive statistics for the variables of interest over short term (i.e., 2008-2010) and long term (i.e., 2004-2014), respectively. Continuous variables are winsorized at the 1% and 99% levels to minimize the effects of outliers. All variables are presented as scaled in regression models. The Appendix describes all the variables used in my analyses. In both tables, panel A (B) presents the descriptive statistics for observations of the UK test sample in the pre-EP (post-EP) signature period, and panel C (D) presents the descriptive statistics for observations of the US control sample in the pre-EP (post-EP) signature period.

Table 2 Descriptive Statistics for the Short-Term UK Test Sample and US Control Sample

Panel A: UK test sample firms in the pre-signature period (2008-2009)

Variable[1] (N=378)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.656	0.324	0.436	0.801	0.927
FE	0.005	0.032	0.000	0.004	0.006
Dispersion	0.037	0.074	0.006	0.016	0.035
AnCov	2.071	0.661	1.609	2.079	2.602
SIZE	6.726	1.760	5.410	6.595	7.927
ROA	0.040	0.124	0.007	0.053	0.092
MB	1.678	3.671	0.653	1.197	2.290
Horizon	2.478	0.705	1.946	2.565	2.996
Leverage	0.601	0.217	0.462	0.616	0.737
Intangible	0.319	0.262	0.089	0.263	0.477
ABAQ	0.119	0.125	0.042	0.082	0.157

Panel B: UK test sample firms in the post-signature period (2009-2010)

Variable[1] (N=378)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.633	0.344	0.304	0.766	0.938
FE	0.003	0.032	0.001	0.004	0.005
Dispersion	0.030	0.054	0.006	0.013	0.031
AnCov	2.138	0.664	1.609	2.197	2.708
SIZE	6.731	1.763	5.334	6.601	7.859
ROA	0.036	0.094	0.009	0.039	0.075
MB	1.860	3.962	0.972	1.610	2.797
Horizon	2.533	0.725	1.946	2.565	3.045
Leverage	0.588	0.227	0.444	0.580	0.730
Intangible	0.283	0.224	0.082	0.251	0.436
ABAQ	0.110	0.105	0.035	0.084	0.138

Panel C: US control sample firms in the pre-signature period (2008-2009)

Variable[1] (N=378)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.767	0.264	0.750	0.867	0.926
FE	0.009	0.051	0.000	0.005	0.006
Dispersion	0.071	0.148	0.010	0.030	0.070
AnCov	1.994	0.592	1.609	1.946	2.485
SIZE	6.721	1.770	5.644	6.841	8.132
ROA	-0.002	0.184	-0.033	0.043	0.093
MB	2.040	3.410	0.945	1.608	2.784
Horizon	2.421	0.641	2.079	2.708	3.091
Leverage	0.516	0.244	0.331	0.511	0.667
Intangible	0.195	0.216	0.018	0.116	0.308
ABAQ	0.268	0.250	0.088	0.198	0.364

Panel D: US control sample firms in the post-signature period (2009-2010)

Variable[1] (N=378)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.706	0.223	0.772	0.879	0.932
FE	0.008	0.028	0.000	0.004	0.005
Dispersion	0.061	0.121	0.010	0.030	0.060
AnCov	2.029	0.627	1.609	1.946	2.485
SIZE	6.763	1.785	5.680	6.878	8.205
ROA	0.000	0.173	-0.021	0.032	0.078
MB	2.615	3.755	1.280	1.969	3.234
Horizon	2.584	0.646	2.398	2.890	3.219
Leverage	0.503	0.246	0.320	0.498	0.649
Intangible	0.195	0.208	0.021	0.125	0.316
ABAQ	0.245	0.251	0.079	0.179	0.344

Panel E: Comparison between UK and US firms from the pre- to post-EP signature period.

Variable (N=378)	UK Diff. in Mean (1)	US Diff. in Mean (2)	UK-US Diff-in-diff (3)=(1)-(2)	UK Diff. in Median (4)	US Diff. in Median (5)	UK-US Diff-in-diff (6)=(4)-(5)
IS	-0.023	-0.061*	0.038	-0.035	0.012***	-0.047**
FE	-0.002	-0.001	-0.001**	0.000	-0.001***	0.001
Dispersion	-0.007	-0.010	0.003	-0.003	0.000	-0.003*
AnCov	0.067	0.035*	0.032***	0.118	0.000	0.118
SIZE	0.005	0.042	-0.037	0.006	0.037	-0.031
ROA	-0.004***	0.002	-0.006***	-0.014*	-0.011***	-0.003
MB	0.182	0.575***	-0.393**	0.413***	0.361***	0.052
Horizon	0.055	0.163	-0.108**	0.000	0.182*	-0.182**
Leverage	-0.013	-0.013*	0.000	-0.036	-0.013**	-0.023*
Intangible	-0.036*	0.000*	-0.036**	-0.012	0.009	-0.021**
ABAQ	-0.009	-0.023*	0.014	0.002	-0.019**	0.021

Panel A (C) and B (D) report the descriptive statistics for the UK (US) test (control) sample in the pre- and post-EP signature periods, respectively. Panel E reports the differences in means and median of variables used in the regression analyses for the UK and the US samples from pre- to post-EP signature window. Column (1) and (2) report the differences in the mean values of variables used in the regressions for the UK and US firms, respectively, from pre- to post-EP signature period. Column (3) is the difference between columns (1) and (2). Column (4) and (5) report the differences in the medians of variables used in the regressions for the UK and US firms, respectively, from pre- to post-EP signature period. Column (6) is the difference between columns (4) and (5).

*, **, *** indicate that the mean (median) is significantly different at the 0.10, 0.05, and 0.01 levels respectively, using a t-test of means (Wilcoxon Rank Sums test).

[1] See Appendix A for variable definitions

Panels A and B of Table 2 show that the mean values of information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) are 0.656, 0.005, and 0.037 in the pre-EP signature period, respectively, and are 0.633, 0.003, and 0.030 in the post-EP signature period, respectively, for the UK test sample firms over 2008 to 2010. UK firms experience a decline in the profitability in the first year of the post-EP signature period compared to the last year of the pre-EP signature period: the mean value of profitability (*ROA*) is 0.040 (0.036) in the pre- (post-) EP signature period. The median value of growth (*MB*) is 1.197 (1.610) in the pre- (post-) EP signature period, suggesting that there is a significant increase in growth in the first year of the post-EP signature period compared to the last year of the pre-EP signature period. The UK firms also experience a slight decrease in intangible assets from the pre-EP signature period to the post-EP signature period. There is no significant change in other control variables when comparing the last year of the pre-EP signature period to the first year of the post-EP signature period.

Panels C and D of Table 2 show that the median values of information asymmetry *(IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) are 0.867, 0.005, and 0.030 in the pre-EP signature period respectively, and are 0.879, 0.004, and 0.030 in the post-EP signature period, respectively, for the U.S. control sample firms from 2008 to 2010. These results indicate that the U.S. firms experience an increase in the information asymmetry and a decrease in analysts' forecast errors in the post-EP signature period compared to the pre-EP signature period, and these changes are statistically significant at 0.01 levels. The mean values of log values of the number of

analysts' coverage (*AnCov*) are 1.994 and 2.029 in the pre- and post-signature period, respectively, indicating that the number of analysts following a firm significantly (P-value < 0.1) increase in the post-EP signature period compared with the pre-EP signature period. Results in Panel C and D of Table 2 also show that the U.S. firms had significant increases in growth (*MB*, P-value < 0.01) and accruals quality (*ABAQ*, P-value < 0.1) as well as a significant decrease in leverage (*Leverage*, P-value < 0.1) in the post-EP signature period compared with the pre-EP signature period.

I then compare the differences in changes of mean and median values of variables for the UK test firms to those for the U.S. control firms from pre- to post-EP signature period, which are reported in Panel E of Table 2. Columns 1 (2) and 4 (5) report the differences in mean and median values of variables, respectively, for the UK (US) sample firms from the pre- to post- EP signature period. Column 3 (6) is the difference between columns 1 (4) and 2 (5). I find that the UK test sample firms have significantly more decline in the median value of *IS* and marginally significant more decrease in the mean value of Dispersion than US control firms from the pre- to post-EP signature period. The UK test sample firms also have significantly more increase in analysts' coverage than the US control firms from the pre- to post-EP signature period. The UK test sample firms experience a decreases in profitability (*ROA*, P-value <0.01) from the pre- to post-EP signature period, but US control sample firms do not. The US control firms have a significant increase in the growth rate (*MB*, P-value <0.01) from the pre- to post-EP signature period, but the UK firms do not. The UK firms experience less increase in forecast horizon but more decease in intangible assets than the US firms from the pre- to post-EP signature period. These differences in control variables between the UK and US

firms suggest that the changes in the economic characteristics do not likely drive the changes in analysts' information environment for the UK firms.

Table 3 Descriptive Statistics for the Long-Term UK Sample and US Control Sample
Panel A: UK test sample firms in the pre-signature period (2004-2009)

Variable[1] (N=2,580)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.653	0.330	0.416	0.800	0.921
FE	0.010	0.056	0.001	0.004	0.006
Dispersion	0.034	0.067	0.007	0.015	0.035
AnCov	1.474	0.783	0.693	1.099	2.079
SIZE	5.765	2.117	4.265	5.506	7.020
ROA	0.026	0.170	0.004	0.050	0.097
MB	2.764	4.170	1.104	1.977	3.299
Horizon	2.625	0.777	1.946	2.639	3.219
Leverage	0.543	0.239	0.372	0.538	0.692
Intangible	0.268	0.301	0.030	0.162	0.408
ABAQ	0.143	0.149	0.044	0.095	0.189

Panel B: UK test sample firms in the post-signature period (2009-2014)

Variable[1] (N=2,576)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.637	0.346	0.326	0.786	0.937
FE	0.008	0.061	0.001	0.003	0.005
Dispersion	0.035	0.066	0.006	0.014	0.034
AnCov	1.722	0.842	1.099	1.609	2.398
SIZE	5.921	2.178	4.377	5.743	7.310
ROA	0.006	0.199	-0.002	0.040	0.087
MB	2.640	4.165	0.978	1.740	3.134
Horizon	2.578	0.699	1.946	2.639	3.091
Leverage	0.514	0.249	0.340	0.499	0.673
Intangible	0.288	0.282	0.051	0.216	0.453
ABAQ	0.129	0.134	0.042	0.093	0.170

Panel C: US control sample firms in the pre-signature period (2004-2009)

Variable[1] (N=2,580)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.764	0.249	0.751	0.858	0.919
FE	0.011	0.060	0.001	0.005	0.007
Dispersion	0.083	0.190	0.010	0.030	0.060
AnCov	1.706	0.737	1.099	1.609	2.303
SIZE	5.766	2.045	5.293	6.675	8.054
ROA	-0.009	0.229	-0.009	0.035	0.089
MB	2.786	3.893	1.298	2.076	3.428
Horizon	2.612	0.696	2.079	2.639	3.045
Leverage	0.534	0.274	0.323	0.520	0.720
Intangible	0.185	0.242	0.010	0.081	0.279
ABAQ	0.293	0.277	0.097	0.213	0.398

Panel D: US control sample firms in the post-signature period (2009-2014)

Variable[1] (N=2,576)	Mean	Std. Dev.	Q1	Median	Q3
IS	0.779	0.215	0.774	0.878	0.935
FE	0.012	0.056	0.002	0.004	0.006
Dispersion	0.085	0.177	0.010	0.030	0.070
AnCov	1.822	0.789	1.099	1.792	2.485
SIZE	5.941	2.137	5.555	7.000	8.425
ROA	-0.025	0.256	-0.018	0.028	0.076
MB	2.878	4.527	1.155	1.930	3.422
Horizon	2.627	0.698	1.946	2.639	3.219
Leverage	0.543	0.273	0.336	0.530	0.726
Intangible	0.188	0.239	0.010	0.089	0.295
ABAQ	0.276	0.275	0.092	0.205	0.391

Panel E: Comparison between UK and US firms from the pre- to post-EP signature period.

Variable (N=2,580)	UK Diff. in Mean (1)	US Diff. in Mean (2)	UK-US Diff-in-diff (3)= (1)-(2)	UK Diff. in Median (4)	US Diff. in Median (5)	UK-US Diff-in-diff (6)=(4)-(5)
IS	-0.016*	0.015***	-0.031***	-0.014	0.020***	-0.034***
FE	-0.002	0.001	-0.003***	-0.001	-0.001	0.000
Dispersion	0.001	0.002	-0.001**	-0.001***	0.000	-0.001**
AnCov	0.248***	0.116***	0.132**	0.510***	0.183***	0.327***
SIZE	0.156***	0.175***	-0.019	0.237***	0.325***	-0.088
ROA	-0.020***	-0.016***	-0.004	-0.010***	-0.007***	-0.003
MB	-0.124	0.092**	-0.216**	-0.237***	-0.146***	-0.091**
Horizon	-0.047***	0.015	-0.062***	0.000	0.000	0.000
Leverage	-0.029***	0.009***	-0.038**	-0.039***	0.010**	-0.049***
Intangible	0.020***	0.003	0.017***	0.054***	0.008*	0.046***
ABAQ	-0.014***	-0.017**	0.003	-0.002**	-0.008**	0.006

Panel A (C) and B (D) report the descriptive statistics for the UK (US) test (control) sample in the pre- and post-EP signature periods, respectively.

Panel E reports the differences in means and medians of variables used in the regression analyses for the UK and the US samples from pre- to post-EP signature window. Column (1) and (2) report the differences in the mean values of variables used in the regressions for the UK and US firms, respectively, from pre- to post-EP signature period. Column (3) is the difference between columns (1) and (2). Column (4) and (5) report the differences in the medians of variables used in the regressions for the UK and US firms, respectively, from pre- to post-EP signature period. Column (6) is the difference between columns (4) and (5).

*, **, *** indicate that the mean (median) is significantly different at the 0.10, 0.05, 0.01 level respectively, using a two-tiled t-test of means (Wilcoxon Rank Sums test).

[1] See Appendix A for variable definitions

Panels A and B of Table 3 show that the UK test firms have a marginally significant (P-value <0.1) decrease in the mean values of information asymmetry in the post-EP signature period compared with the pre-EP signature period. These results support my hypotheses 1 over the long-term (i.e., 2004-2014). The UK test sample firms also experience significant increases in analyst coverage (*AnCov*, P-value < 0.01), size (*Size*, P-value < 0.01), intangible assets (*Intangible*, P-value < 0.01), and accruals quality (*ABAQ*, P-value < 0.01), but experience decreases in mean values of profitability (*ROA*, P-value < 0.01), forecast horizon (*Horizon*, P-value < 0.01), and leverage (*Leverage*, P-value < 0.01) in the post-EP signature period compared with pre-EP signature period.

Panels C and D of Table 3 show that, for the U.S. control firms, the changes in the mean values of variables in the regressions over the long-term period (i.e., 2004-2014) are similar to those over the short-term period (i.e., 2008-2010). The U.S. control firms experienced a significant increase in the information asymmetry (P-value < 0.01), analyst coverage (P-value < 0.01), size (P-value < 0.01), growth (P-value < 0.01), leverage (P-value < 0.01), accruals quality (P-value < 0.05), and leverage (P-value < 0.01) in the post-EP signature period compared to the pre-EP signature period.

Similar to my analyses for the differences between the two samples (i.e., test vs. control) over the short-term period, the analyses for two samples over the long-term period show that the UK test sample firms experience more decline in information asymmetry (*IS*, P-values <0.01), and additional decreases in analysts forecast errors (*FE*, P-value <0.01) and forecast dispersion (*Dispersion*, P-values <0.05) than the US firms from the pre- to post-EP signature period. The UK firms experience greater increase in analyst coverage (*AnCov*, P-value <0.05) than the US firms from the pre-EP to the post-

EP signature period. The US firms have more increase in the growth (*MB*, P-value <0.05), forecast horizon (*Horizon*, P-value<0.01), and leverage (P-value <0.05), as well as less increase in intangible assets (P-value <0.01) than the UK firms from the pre- to post-EP signature period.

Table 4 Descriptive Statistics for the UK EP Sample (2009-2014)

Variable[1] (N=1,632)	Mean	Std. Dev.	Q1	Median	Q3
EPMKTShare	0.120	0.218	0.003	0.099	0.118
EPPortfolio	0.691	0.359	0.355	0.889	1.000
EPsize	6.429	2.125	4.900	6.337	7.928
AUMKTShare	0.291	0.268	0.046	0.230	0.432
AUPortfolio	0.044	0.068	0.006	0.017	0.056
AUSize	12.186	1.630	12.225	12.844	13.411
IS	0.635	0.347	0.319	0.785	0.936
FE	0.008	0.056	0.001	0.005	0.006
Dispersion	0.033	0.055	0.005	0.014	0.034
AnCov	1.713	0.840	1.099	1.609	2.398
SIZE	5.877	2.186	4.353	5.711	7.286
ROA	0.011	0.174	-0.002	0.040	0.087
MB	2.663	4.089	0.979	1.746	3.136
Horizon	2.579	0.702	1.946	2.639	3.091
Leverage	0.511	0.246	0.339	0.498	0.671
Intangible	0.293	0.302	0.051	0.217	0.454
ABAQ	0.126	0.121	0.041	0.093	0.170

[1] See Appendix A for variable definitions

Table 4 reports the descriptive statistics for the UK EP sample over a period of 2009-2014, which is used to test H4-H6. The mean value of *EPMKTShare* is 0.12, indicating that the average of an EP's total publically listed clients' sales in one industry

market share is 12% of total sales of that industry.[17] The mean value of *EPPortfolio* is 0.691, indicating that the average of an EP's total clients' revenues in a specific industry is 69.1% of all the EP's clients' revenues. The mean value of *EPSize* is 6.429, indicating the sample EPs' clients' are large firms.

[17] The mean value of *EPMKTShare* is close to the upper quantile of sample data, which indicate potential outlier issues. To address this issue, I winsorize the data at two-tails (1% and 99%) in my regression analyses. Since I only use the publically listed companies to compute *EPMKTShare*, inferences of results in this paper should be cautiously drawn.

Table 5 Pearson above (Spearman below) Matrices for the UK Test Samples

Panel A: UK test sample (over 2004-2014) used to test H1-H3

Variable[1] (n=5,156)	1	2	3	4	5	6	7	8	9	10	11	12
1 IS		-0.100	**0.263**	-0.021	**0.492**	**0.419**	**0.211**	**0.105**	0.006	**0.080**	**-0.040**	**-0.050**
2 FE	**0.176**		**0.098**	-0.012	**-0.120**	**-0.097**	**-0.245**	**-0.041**	**0.057**	0.021	-0.020	**0.033**
3 Dispersion	**0.489**	**0.101**		0.002	**0.236**	**0.316**	0.001	-0.014	-0.007	0.011	**-0.142**	**-0.047**
4 POST	0.009	0.008	**-0.042**		**0.164**	**0.052**	**-0.035**	**-0.018**	**-0.042**	**-0.059**	**0.025**	**-0.050**
5 AnCov	**0.573**	**-0.046**	**0.380**	**0.167**		**0.803**	**0.240**	**0.096**	**-0.065**	**0.268**	-0.009	**-0.167**
6 Size	**0.476**	**-0.054**	**0.430**	**0.057**	**0.795**		**0.285**	**-0.038**	**-0.057**	**0.369**	**-0.037**	**-0.183**
7 ROA	**0.208**	**-0.182**	**0.030**	**-0.045**	**0.245**	**0.178**		**-0.025**	-0.022	**0.069**	0.008	**-0.048**
8 MB	**0.206**	-0.002	**0.044**	**-0.050**	**0.199**	**0.030**	**0.325**		0.011	**0.063**	**-0.028**	0.002
9 Horizon	0.014	0.018	-0.008	**-0.033**	**-0.053**	**-0.044**	-0.011	0.012		**0.002**	**0.003**	**0.037**
10 Leverage	**0.101**	**-0.038**	**0.094**	**-0.063**	**0.283**	**0.415**	-0.006	**0.099**	0.000		**-0.106**	**0.057**
11 Intangible	-0.012	0.011	**-0.189**	**0.067**	**0.078**	**0.031**	**0.048**	**0.027**	-0.005	**-0.030**		-0.013
12 ABAQ	**-0.080**	0.000	**-0.064**	-0.027	**-0.144**	**-0.163**	0.025	0.012	**0.037**	**0.042**	**-0.054**	

Panel B: UK test sample (over 2008-2014) used to test H4-H6

Variable1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
(N=1,632)																	
1 EPMKTShare		**0.394**	**0.295**	**0.639**	**0.192**	**0.389**	**0.099**	-0.019	**0.040**	**0.290**	**0.288**	**0.053**	0.002	**-0.048**	**0.130**	0.002	**-0.064**
2 EPPortfolio	**0.931**		**0.148**	**0.549**	**0.423**	**0.607**	0.017	-0.021	0.017	**0.226**	**0.126**	0.033	-0.014	**-0.040**	**0.028**	0.007	**-0.045**
3 EPSize	**0.965**	**0.897**		**0.270**	**0.530**	**0.196**	**0.118**	-0.015	**0.229**	**0.266**	**0.300**	**0.028**	**-0.041**	-0.017	**0.029**	**-0.040**	**-0.079**
4 AUMKTShare	0.961	0.921	0.955		**0.425**	**0.691**	**0.080**	**-0.025**	**0.001**	**0.316**	**0.251**	**0.028**	-0.024	**-0.058**	**0.085**	0.010	**-0.067**
5 AUPortfolio	**0.906**	**0.925**	**0.935**	**0.939**		**0.254**	**0.041**	-0.001	**0.081**	**0.190**	**0.141**	-0.002	-0.016	-0.019	-0.001	0.019	-0.007
6 AUSize	**0.941**	**0.917**	**0.946**	**0.960**	**0.908**		**0.054**	**-0.040**	-0.015	**0.299**	**0.209**	**0.036**	-0.007	**-0.024**	**0.045**	-0.001	**-0.107**
7 IS	**0.100**	**0.038**	**0.128**	**0.075**	**0.059**	**0.052**		**-0.100**	**0.263**	**0.492**	**0.419**	**0.211**	**0.105**	0.006	**0.080**	**-0.040**	**-0.050**
8 FE	-0.018	-0.004	-0.011	-0.006	-0.001	-0.012	**0.176**		**0.098**	**-0.120**	**-0.097**	**-0.245**	**-0.041**	**0.057**	0.021	-0.020	**0.033**
9 Dispersion	-0.010	-0.032	0.028	-0.025	-0.027	**-0.045**	**0.489**	**0.101**		**0.236**	**0.316**	0.001	-0.014	-0.007	0.011	**-0.142**	**-0.047**
10 AnCov	**0.317**	**0.229**	**0.342**	**0.290**	**0.256**	**0.271**	**0.573**	**-0.046**	**0.380**		**0.803**	**0.240**	**0.096**	**-0.065**	**0.268**	-0.009	**-0.167**
11Size	**0.219**	**0.109**	**0.235**	**0.174**	**0.121**	**0.151**	**0.476**	**-0.054**	**0.430**	**0.795**		**0.285**	**-0.038**	**-0.057**	**0.369**	**-0.037**	**-0.183**
12 ROA	0.014	-0.005	0.002	-0.007	0.001	-0.007	**0.208**	**-0.182**	**0.030**	**0.245**	**0.178**		**-0.025**	-0.022	**0.069**	0.008	**-0.048**
13 MB	**-0.045**	**-0.050**	**-0.036**	**-0.044**	**-0.032**	**-0.032**	**0.206**	-0.002	**0.044**	**0.199**	**0.030**	**0.325**		0.011	**0.063**	**-0.028**	0.002
14 Horizon	**-0.038**	**-0.037**	**-0.035**	**-0.042**	**-0.036**	**-0.031**	**0.014**	0.018	-0.008	**-0.053**	**-0.044**	-0.011	0.012		0.002	0.003	**0.037**
15 Leverage	**0.056**	0.002	**0.028**	**0.027**	-0.003	0.010	**0.101**	**-0.038**	**0.094**	**0.283**	**0.415**	**-0.006**	**0.099**	0.000		**-0.106**	**0.057**
16 Intangible	**0.085**	**0.083**	**0.089**	**0.091**	**0.092**	**0.085**	-0.012	0.011	**-0.189**	**0.078**	**0.031**	**0.048**	**0.027**	-0.005	**-0.030**		-0.013
17 ABAQ	**-0.044**	-0.014	**-0.067**	**-0.039**	-0.007	**-0.053**	**-0.080**	**0.000**	**-0.064**	**-0.144**	**-0.163**	0.025	0.012	**0.037**	**0.042**	**-0.054**	

Bolded estimates are significant at the 5 percent level, based on a two-tiled t-test.
[1] See Appendix A for variable definitions

Panel B of Table 5 shows that the interested variable measuring the EP's industry expertise, *EPMKTShare*, is positively correlated with its two alternatives, *EPPortfolio* and *EPSize* (e.g., 0.394 and 0.295), supporting my expectation that *EPPortfolio* and *EPSize* are the good alternative measurements of the EP's quality because these variables capture the same aspect of audit quality as well as differences. The measurements of the EP's industry expertise are positively correlated with the measurements of audit firm industry expertise. The estimated Pearson correlation coefficients between three paired variables, *EPMKTShare* and *AUMKTShare*, *EPPortfolio* and *AUPortfolio*, and *EPSize* and *AUSize*, are 0.639, 0.423, and 0.196, respectively. These results are consistent with the rational notation that the training, support, and industry specialization at the audit firm influence its individual auditors' industry expertise. The estimated Pearson correlation coefficients between *EPMKShare* and *IS*, *FE*, *Dispersion* are 0.099, -0.019, and 0.040, respectively. The negative sign of the correlation coefficient between *EPMKTShare* and *FE* is consistent with my expectation. The estimated Spearman correlation coefficients between *EPMKTShare* and *IS*, *FE*, *Dispersion* are 0.100, -0.018, and -.0.010, correspondingly. The negative signs of the latter two coefficients are also consistent with my expectation. The Pearson and Spearman correlation coefficients between the *EPMKTShare*, *EPPortfolio*, and *EPSize* and *ABAQ* are negative, which is consistent with my expectation that firms hiring an industry specialist EP should have better accruals quality. All statistically significant correlations between control variables are less than 0.5. Thus, the correlation results indicate that multicollinearity is not an issue for the regression-analyses on the EP quality effect.

CHAPTER 6 RESULTS AND ANALYSES

In this chapter, I discuss the empirical results relating to the six hypotheses. I first analyze whether the implementation of the EP signature requirement is associated with information asymmetry, analysts' forecast errors, and analysts' forecast dispersion. I then discuss whether an individual EP's quality influences analysts' information environment. I finally conclude this chapter with sensitivity analyses to assess the robustness of the main findings.

6.1 Tests of EP Signature Requirement

Panels A and B of Table 6 report the panel OLS regression results with clustering the standard errors by firm to account for the possible correlation of regression residuals (Petersen 2009). Equations (1) and (2) test the effects of the EP signature requirement on information asymmetry (*IS*) as well as analysts' forecast errors (*FE*) and forecast dispersion (*Dispersion*) in the UK. In Panel A of Table 6, when using a balanced panel design to test H1-H3 over a short period (i.e., 2008-2010), the adjusted R-squares are 0.337, 0.129, and 0.457 for the *IS*, *FE*, and *Dispersion* models, respectively, which are comparable with previous studies (Horton et al. 2013; Byard et al. 2011).

The estimated coefficients on *POST*, the variable capturing the EP signature effect, are -0.023 (P-value > 0.1), -0.011 (P-value < 0.05), and -0.008 (P-value < 0.05) for the information asymmetry (*IS*), forecast errors (*FE*), and dispersion (*Dispersion*) regressions, respectively, indicating that *FE* and *Dispersion* decrease 0.011 unit and 0.008 unit, respectively, in the post-EP signature period compared to the pre-EP signature

period. These findings suggest that following the implementation of the EP signature requirement, analysts' forecast errors and dispersion decrease, supporting my H2 and H3 over the period of 2008-2010.

The coefficient on *AnCov* in the *IS* regression is 0.222 (P-value < 0.01), the sign of which is consistent with my expectation and previous study (Horton et al. 2013). The coefficient on *ROA* is significant in the *IS* (0.414, P-value < 0.01) and *FE* (0.279, P-value < 0.01) regressions. The coefficient on *Size* is -0.011 (P-value < 0.01) in the *Dispersion* regression,

In Panel B of Table 6, when I test H1-H3 over a long period (i.e., 2004-2014), the estimated coefficients on *POST*, the variable capturing the EP signature effect, are -0.034 (P-value < 0.01), -0.007 (P-value < 0.01), and -0.004 (P-value < 0.01) for the information asymmetry (*IS*), forecast errors (*FE*), and dispersion (*Dispersion*) regressions, respectively. These results indicate that following the implementation of the EP signature requirement, the information asymmetry, analysts' forecast errors, and analysts' forecast dispersion decrease by 0.034 units, 0.007 units, and 0.004 units, respectively, supporting my H1, H2, and H3 over the period of 2004-2014.

The coefficient on *AnCov* in the *IS* regression is 0.202 (P-value < 0.01), consistent with my expectation and previous study (Horton et al. 2013). The coefficients on *Size*, *ROA*, *MB*, *Big4* in the *IS* regression are -0.014 (P-value < 0.01), 0.275 (P-value <0.01), 0.004 (P-value <0.01), and -0.037 (P-value <0.1), respectively, which are consistent with my expectation. Among the control variables in the *FE* regression, the coefficients on *AnCov* (-0.012, P-value < 0.01), *Size* (-0.003, P-value < 0.05), *ROA* (-0.058, P-value <

0.01)[18], *Intangible* (0.008, P-value < 0.1), *Big4* (-0.014, P-value < 0.01) are statistically significant. Signs of coefficients of *AnCov*, *Intangible*, and *Big4* are consistent with my expectation that firms followed by more analysts and audited by Big4 audit firms tend to have smaller analyst forecast errors while firms with a larger proportion of intangible assets are more likely to have larger analyst forecast errors. Similarly, among the control variables in the *Dispersion* regression, the coefficients on *Size* (-0.010, P-value < 0.01) and *Intangible* (0.012, P-value < 0.01) are consistent with my expectation (Byard et al. 2011).

In sum, results in Table 6 support my H2 and H3 over a short period, as well as H1, H2, and H3 over a long period.

[18] The sign of *ROA* in the *FE* regression over long-term is different from that over short-term. This result is not surprising because the short-term sample period overlapped with financial crisis and the current profitability had less inference about future performance of the firm. Analysts had larger *FE* for firms with higher *ROA*. However, over the long-term sample period, the quality of profitability improved and had better inference about future performance of the firms. Analysts were able to more accurately predict future earnings for firms with higher *ROA*.

Table 6 Regressions of Analysts' Information Environment on the EP Signature Requirement for the UK Test Firms

$$IS, FE, or\ Dispersion = \beta_0 + \beta_1 POST + \beta_2 AnCov + \beta_3 Size + \beta_4 ROA + \beta_5 MB$$

$$+\beta_6 Horizon + \beta_7 Leverage + \beta_8 Intangible + \beta_9 Big4 + \beta_{10} ABAQ + \varepsilon \quad (1)$$

Panel A: Regression over the short-term (2008-2010)

Variable[1] (N=756)	Prediction	DV=*IS* Coefficient (1)	t-statistics (2)	DV=*FE* Coefficient (3)	t-statistics (4)	DV=*Dispersion* Coefficient (5)	t-statistics (6)
Intercept	?	0.141	1.47	0.020	0.12	0.107**	2.20
POST	H1, H2, & H3: -	-0.023	-0.86	-0.011**	-2.46	-0.008**	-2.06
AnCov	+/-/-	0.222***	6.25	0.049	0.90	0.004	0.55
Size	-	0.011	0.85	-0.012	-0.61	-0.011***	-3.12
ROA	?	0.414***	3.50	0.279**	2.69	-0.019	-0.41
MB	?	0.001	0.19	-0.003	-0.73	0.000	0.79
Horizon	+	-0.010	-0.60	0.002	0.06	0.002	0.29
Leverage	?	-0.025	-0.33	0.139	1.22	0.019	0.98
Intangible	?	-0.035	-0.67	0.098	1.62	-0.003	-0.32
Big4	-	0.017	0.38	-0.086	-1.27	-0.008	-0.87
ABAQ	+	-0.145	-1.52	0.000	0.00	0.004	0.15
Industry Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.337		0.129		0.457	

Panel B: Regression over the long-term (2004-2014)

Variable[1] (N=5,156)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.314***	5.21	0.022**	2.03	0.010	0.83
POST	H1, H2, & H3: -	-0.034***	-2.74	-0.007**	-2.44	-0.004*	-1.92
AnCov	+/-/-	0.202***	12.13	-0.012***	-3.41	0.002	0.65
Size	-	-0.014**	-2.93	-0.003**	-1.97	-0.010***	-5.05
ROA	?	0.275***	5.20	-0.058***	-4.09	0.006	0.53
MB	?	0.004***	3.30	0.000	0.60	0.000	1.24
Horizon	+	-0.003	-0.34	-0.002	-0.83	0.000	0.10
Leverage	?	-0.054	-1.56	-0.002	-0.20	-0.005	-0.73
Intangible	?	-0.024	-0.91	0.008*	1.82	0.012***	3.01
Big4	-	-0.037*	-1.89	-0.014***	-3.68	-0.003	-0.90
ABAQ	+	0.031		-0.001	-0.04	0.016	1.31
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.295		0.0561		0.3919	

*, **, *** indicates significant levels at the 0.10, 0.05, and 0.01 levels, respectively based on two-sided t-tests. T-statistics are based on robust standard errors clustered by firms.

[1] See Appendix A for variable definitions.

6.2 Tests of EP Quality

Panels A, B, and C of Table 7 reports the panel OLS regression results with clustering the standard errors by EP to account for the possible correlation of regression residuals (Petersen 2009), using an EP's industry expertise (*EPMKTShare*), an EP's portfolio concentration (*EPPortfolio*), and an EP's size (*EPSize*) as the proxies for the EP's quality, respectively.

In Table 7, equation (2) is used to examine H4-H6 that predict the EP's quality is associated with information asymmetry, analysts' forecast errors, and analysts' forecast dispersion over a period of 2008-2014. In Panel A of Table 7, the estimated coefficients on *EPMKTShare*, the variable capturing the EP's quality (e.g., industry expertise), are -0.007 (P-value > 0.1), 0.004 (P-value > 0.1), and 0.006 (P-value > 0.1) for the information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) regressions, respectively. These results do not support my H4-H6 over the period of 2008-2014.

Among the control variables in the *IS* regression, *AnCov* (0.215), *ROA* (0.307), *MB* (0.004), and Big4 (-0.059) are statistically significant at 0.05 levels, consistent with my expectation (Horton et al. 2013). Among the control variables in the *FE* regression, the coefficients on *AnCov* (-0.008, P-value < 0.1), *ROA* (-0.031, P-value < 0.05), and *Leverage* (-0.023, P-value < 0.05), the signs of which are consistent with my expectation (Byard et al. 2011). Among the control variables in the *Dispersion* regression, *Size* (-0.009, P-value <0.01) and *Intangible* (-0.013, P-value<0.01), the signs of which are consistent with previous literature (Byard et al. 2011; Horton et al. 2013).

Table 7 Regressions of Analysts' Information Environment on the EP Quality for the UK Test Firms over the Period of 2008-2014

$$IS, FE, or\ Dispersion = \beta_0 + \beta_1 EPQuality + \beta_2 AnCov + \beta_3 Size + \beta_4 ROA + \beta_5 MB + \beta_6 Horizon + \beta_7 Leverage + \beta_8 Intangible + \beta_9 Big4 + \beta_{10} ABAQ + \varepsilon \quad (2)$$

Panel A: EP's industry expertise

Variable[1] (N=1,632)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.263***	3.87	0.022**	2.23	0.017	1.35
EPMKTShare	H4, H5, & H6: -	-0.007	-0.14	0.004	0.41	0.006	0.71
AnCov	+/-/-	0.215***	8.99	-0.008*	-1.65	0.002	0.48
Size	-	0.010	0.91	0.002	1.20	-0.009***	-4.43
ROA	?	0.307***	4.58	0.031**	2.03	0.006	0.56
MB	?	0.004**	2.35	0.000	0.81	0.000	0.32
Horizon	+	-0.005	-0.44	-0.002	-0.88	-0.003	-1.49
Leverage	?	-0.024	-0.50	-0.023**	-2.43	0.000	-0.01
Intangible	?	0.011	0.30	0.002	0.26	-0.013***	-2.82
Big4	-	-0.059**	-2.00**	-0.010	-1.60	-0.003	-0.86
ABAQ	+	0.070	0.89	0.002	0.13	0.023*	1.71
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.346		0.049		0.427	

Panel B: EP's portfolio concentration

Variable[1] (N=1,632)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.257***	4.05	0.017	1.52	0.012	0.93
EPPortfolio	H4, H5, & H6: -	0.017	0.73	0.007	1.39	0.005	1.57
AnCov	+/-/-	0.215***	9.00	-0.008	-1.63	0.002	0.51
Size	-	0.010	1.24	0.002	1.25	-0.009***	4.53
ROA	?	0.306***	4.57	0.031**	2.10	0.005	0.48
MB	?	0.004**	2.34	0.000	0.80	0.000	0.40
Horizon	+	-0.005	-0.43	-0.002	-0.80	-0.003	-1.40
Leverage	?	-0.025	-0.52	-0.024**	-2.50	0.000	-0.04
Intangible	?	0.013	0.35	0.002	0.31	-0.013***	-2.73
Big4	-	-0.061	-2.10	-0.009	-1.51	-0.003	-0.76
ABAQ	+	0.067	0.86	0.002	0.14	0.023*	1.72
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.343		0.050		0.428	

Panel C: EP's size

Variable[1] (N=1,632)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.264***	4.09	0.019*	1.76	0.030***	2.77
EPSize	H4, H5, & H6: -	-0.001**	-2.02	-0.002	-0.84	-0.011***	-3.66
AnCov	+/-/-	0.215***	9.04	-0.008*	-1.66	0.004	1.09
Size	-	0.008	0.67	0.003	1.39	-0.006***	-3.24
ROA	?	0.308***	4.61	-0.031**	-2.08	0.010	0.92
MB	?	0.004**	2.36	0.000	0.87	0.000	0.49
Horizon	+	-0.005	-0.46	-0.002	-0.85	-0.003	-1.47
Leverage	?	-0.024	-0.50	-0.024**	-2.44	0.002	0.20
Intangible	?	0.011	0.30	0.001	0.19	-0.009**	-2.00
Big4	-	0.059**	2.03	-0.010*	-1.68	-0.001	-0.36
ABAQ	+	0.068	0.88	0.003	0.15	0.024*	1.93
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.346		0.049		0.451	

*, **, *** indicates significant levels at the 0.10, 0.05, and 0.01 levels, respectively based on two-sided t-tests. T-statistics are based on robust standard errors clustered by EP.

[1] See Appendix A for variable definitions.

Results in Panel B of Table 7 do not provide evidence supporting H4-H6 when I use the *EPPortfolio* as the alternative proxy for the EP's quality. Signs of significant control variables are consistent with my expectations (Byard et al. 2011; Horton et al. 2013).

In Panel C of Table 7, the estimated coefficients on *EPSize*, the variable capturing the EP's quality, are -0.001 (P-value < 0.05), -0.002 (P-value > 0.1), and -0.011 (P-value < 0.01) for the information asymmetry (*IS*), forecast errors (*FE*), and dispersion (*Dispersion*) regressions, respectively. The results of *IS* and *Dispersion* regressions are statistically and economically significant. The *IS* decreases 0.001 units with a one-unit increase in the EP quality (*EPSize*). Further, the *Dispersion* declines 0.011 units with a one-unit increase in the *EPSize*. These results indicate that the EP's size is negatively associated with information asymmetry and analysts' forecast dispersion, supporting my H4 and H6. The analyses for the control variables are consistent with my expectation and similar to those previously discussed.

In summary, the results in Table 7 provide weak evidence supporting my H4 and H6 that the EP's quality is negatively associated with information asymmetry and analysts' forecast dispersion.

6.3 Robustness Tests and Additional Analyses

6.3.1 Difference-in-difference Approach

To address the concerns about the confounding and omitted correlated variable problems, I use a control sample approach by comparing the change in the analysts' information environment for the UK test sample firms with the U.S. control sample firms over both the short-term (i.e., 2008-2010) and long-term (i.e., 2004-2014). I first match

the U.S. firms with UK firms by industry and fiscal year. I then use the equations (1) and (2) to test the robustness of results of H1-H3 by adding an indicator variable, *UK*, which is coded 1 for the UK test firms and 0 for the U.S. control firms, and an interaction term between *UK* and *POST*, *UKPOST*. The *UKPOST* is the variable of interest, capturing the difference in the change in the analysts' information environment between the UK test firms and the U.S. control firms.

In Panel A of Table 8, when using a balanced panel design and a control sample approach to test H1-H3 over a short period (i.e., 2008-2010), the estimated coefficients on *POST* are 0.034 (P-value < 0.01), 0.022 (P-value < 0.1), and -0.022 (P-value < 0.01) for the information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) regressions, respectively. These results suggest that there is an increase in the information asymmetry and analysts' forecast errors, and a decrease in analysts' forecast dispersion in the post-EP signature period compared with pre-EP signature period. The estimated coefficient on *UK* are -0.132 (P-value <0.01), -0.017 (P-value >0.1), and -0.028 (P-value <0.01) for the information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) regressions, respectively. These results indicate that the UK test firms experience lower information asymmetry, analysts' forecast errors, and analysts' forecast dispersion than the U.S. control firm over the period of 2008-2010. The estimated coefficient on the interested variable, *UKPOST*, are -0.059 (P-value <0.05), -0.014 (P-value > 0.1), and -0.009 (P-value < 0.05) for the information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) regressions, respectively. These results show that the UK firms experience 0.059, 0.014, and 0.009 units more decline in the

information asymmetry (*IS*), analysts' forecast errors (*FE*), and analysts' forecast dispersion (*Dispersion*) than the U.S. firms from the pre-EP signature period to the post-EP signature period, supporting my H1-H3. The analyses for the control variables are similar to those presented in the Table 6.

In Panel B of Table 8, when comparing the changes in the analysts' information environment over a period of 2004-2014 between the UK test firms and the U.S. control firms, I find that the UK firms experience 0.062 and 0.033 units more decline in the information asymmetry (*IS*) and analysts' forecast errors (*FE*) than the U.S. firms from the pre-EP signature period to the post-EP signature period. For brevity, I do not repeat my analyses on the control variables.

Results in Table 8 support my H1 and H3 over the short-term period and my H1 and H2 over the long-term period when using the U.S. firms as control firms. These results are statistically and economically significant.

Table 8 Regressions of Analysts' Information Environment on the EP Signature Requirement for the UK Test Firms and US Control Firms

$$IS, FE, or\ Dispersion = \beta_0 + \beta_1 POST + \beta_2 UK + \beta_3 UKPOST + \beta_4 AnCov + \beta_5 Size + \beta_6 ROA + \beta_7 MB$$

$$+\beta_8 Horizon + \beta_9 Leverage + \beta_{10} Intangible + \beta_{11} Big4 + \beta_{12} ABAQ + \varepsilon$$

Panel A: Regression over the short-term (2008-2010)

Variable[1] (N=1,512)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.358***	10.72	0.068	0.47	0.008	0.26
POST	?	0.034***	5.00	0.022*	1.83	-0.022***	-6.94
UK	-	-0.132***	-6.56	-0.017	-0.85	-0.028***	-4.66
UKPOST	H1, H2, & H3: -	-0.059**	-2.40	-0.014	-0.67	-0.009**	-2.30
AnCov	+/-/-	0.174***	21.68	-0.020**	-2.50	-0.017***	-3.65
Size	-	-0.011***	-3.57	-0.002	-0.34	-0.015***	-5.96
ROA	?	0.070***	2.80	0.083**	2.58	-0.097***	-5.25
MB	?	0.001	1.17	-0.001	-0.51	0.000	-0.17
Horizon	+	0.003	0.55	-0.003	-0.29	0.000	0.06
Leverage	?	-0.003	-0.14	-0.007	-0.22	0.011	0.99
Intangible	?	-0.002	-0.10	0.012	0.47	-0.039***	-4.98
Big4	-	0.006	0.43	0.023	1.01	0.002	0.34
ABAQ	+	-0.011	-0.64	-0.032	-1.17	-0.016	-1.55
Industry Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.272		0.018		0.169	

Panel B: Regression over the long-term (2004-2014)

Variable[1] (N=10,312)	Prediction	DV=IS Coefficient (1)	t-statistics (2)	DV=FE Coefficient (3)	t-statistics (4)	DV=Dispersion Coefficient (5)	t-statistics (6)
Intercept	?	0.444***	15.58	0.014	0.22	0.082*	1.81
POST	?	0.015***	4.47	0.021***	3.17	-0.009***	-3.17
UK	-	-0.096***	-8.20	0.012	0.76	-0.028***	-6.10
UKPOST	H1, H2, & H3: -	-0.062***	-4.92	-0.033*	-1.79	0.003	0.78
AnCov	+/-/-	0.171***	47.93	0.015***	2.66	-0.034***	-9.74
Size	-	-0.005***	-3.88	0.000	0.04	-0.016***	-9.42
ROA	?	0.038***	3.83	0.057***	3.70	-0.090***	-8.04
MB	?	0.000	0.05	0.000	0.66	0.000	-0.55
Horizon	+	0.001	0.53	0.010**	2.16	0.000	-0.08
Leverage	?	-0.008	-1.01	-0.044***	-2.67	0.007	0.87
Intangible	?	-0.009	-1.16	-0.009	-0.73	-0.037***	-6.11
Big4	-	-0.022***	-3.66	0.012	1.14	0.003	0.69
ABAQ	+	0.020**	2.69	-0.014	-1.21	-0.010	-1.38
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.285		0.009		0.121	

*, **, *** indicates significant levels at the 0.10, 0.05, and 0.01 levels, respectively based on two-sided t-tests. T-statistics are based on robust standard errors clustered by firms.

[1] See Appendix A for variable definitions.

6.3.2 Alternative Measures of Information Asymmetry

I first use the natural logarithm value of (1+*IS*) to repeat my analyses related to IS regressions. The results of using this logarithmic form *IS* are qualitatively similar to those previously reported.

I also use the discretional accruals quality (*ABAQ*) as the alternative measurement of information asymmetry to assess the robustness of the results of testing H1 and H4 (Francis et al. 2005).

Panel A of Table 10 reports the results of testing H1 over both short-term and long-term periods when using the UK test firms. The estimated coefficient of *POST* is -0.016 (P-value < 0.05) and -0.014 (P-value < 0.05) in short-term and long-term regressions, respectively. These results indicate that UK firms experienced a decline of 0.016 units (0.014 units) in the information asymmetry, which is proxied by *ABAQ*, from the pre-EP signature period to the post-EP signature period over a short-term (long-term) period. Panel B of Table 9 reports the results of testing H1 over both short-term and long-term periods when using the UK test and the U.S. control firms. I find that the UK test firms experience 0.017 units greater decline in information asymmetry than the U.S. control firm from pre-EP signature period to the post-EP signature period over the short-term. Results in Table 9 support H1 again when using a different proxy for the information asymmetry.

Table 9 Effect of the EP Signature Requirement on the Information Asymmetry, Using Alternative Measurement of Information Asymmetry

Panel A: UK test firms

Variable[1]	Prediction	DV=ABAQ over short-term (N=756) Coefficient	t-statistics	DV=ABAQ over long-term (N=5,156) Coefficient	t-statistics
Intercept	?	0.183***	3.52	0.125***	5.10
POST	H1: -	-0.016**	-2.06	-0.014**	-2.41
AnCov	-	0.017	1.16	0.006	0.88
Size	-	-0.020***	-3.35	-0.016***	-4.34
ROA	?	-0.004	-0.07	-0.022	-0.94
MB	?	0.001	0.45	0.001	0.80
Leverage	+	0.175**	2.43	0.071**	2.45
Intangible	+	0.038*	1.67	0.069***	5.26
Big4	-	-0.032*	-1.86	-0.009	-1.03
Industry Fixed Effect		Yes		Yes	
Year Fixed Effect				Yes	
Adjusted R^2		0.244		0.226	

Panel B: UK test and control US firms

Variable	Prediction	UK US Short term DV=ABAQ over short-term (N=1,512) Coefficient	t-statistics	Long-term DV=ABAQ over long-term (n=10,312) Coefficient	t-statistics
Intercept	?	0.282***	4.56	0.282***	7.74
POST	?	-0.018***	-3.95	-0.001	-0.40
UK	?	-0.153***	-12.63	-0.153***	-18.31
UKPOST	H1: -	-0.017**	-2.20	-0.009	-1.15
AnCov	-	-0.032***	-4.00	-0.034***	-7.76
Size	-	0.000	0.00	0.003	1.13
ROA	?	0.289***	9.90	0.198***	12.87
MB	?	-0.002	-1.61	-0.001**	-2.24
Leverage	+	0.075***	3.08	0.046***	3.26
Intangible	+	0.140***	7.92	0.153***	13.41
Big4	-	-0.012	-0.87	-0.025***	-3.15
Industry Fixed		Yes		Yes	

Effect		
Year Fixed Effect		Yes
Adjusted R^2	0.287	0.269

*, **, *** indicates significant levels at the 0.10, 0.05, and 0.01 levels, respectively based on two-sided t-tests. T-statistics are based on robust standard errors clustered by firms.
[1] See Appendix A for variable definitions.

I also repeat my analyses on H4 using *ABAQ* as the alternative proxy for the information asymmetry. In Table 10, the estimated coefficients of *EPMKTShare*, *EPPortfolio*, and *EPSize* in the information asymmetry regression are 0.061 (P-value < 001), 0.004 (P-value > 0.1), and 0.000 (P-value > 0.1). The sign of the coefficient on the *EPMKTShare* is opposite to my expectation, which may be due to the possibility that the firms with lower accruals quality tend to hire higher quality EPs. The signs of significant control variables are consistent with my expectation.

Table 10 Effect of the EP's Quality on the Information Asymmetry, Using Alternative Measure of Information Asymmetry

Variable (N=1,632)	Prediction	DV=ABAQ Coefficient (1)	t-statistics (2)	Coefficient (3)	t-statistics (4)	Coefficient (5)	t-statistics (6)
Intercept	?	0.123***	4.84	0.106***	4.20	0.109***	4.36
EPMKTShare	H4: -	0.061***	3.35				
EPPortfolio	H4: -			0.004	0.44		
EPSize	H4: -					0.000	-0.07
AnCov	+	0.014*	1.69	0.014*	1.72	0.014*	1.72
Size	-	-0.020***	-5.37	-0.016***	-4.56	-0.016***	-3.85
ROA	?	-0.048*	-1.70	-0.055**	-1.97	-0.055**	-1.96
MB	?	0.001	1.08	0.001	1.35	0.001	1.37
Leverage	+	0.077***	4.07	0.078***	4.06	0.078***	4.06
Intangible	+	0.042***	3.16	0.042***	3.12	0.042***	-3.18
Big4	-	-0.014	-1.44	-0.017*	-1.79	-0.017*	-1.80
Industry Fixed Effect		Yes		Yes		Yes	
Year Fixed Effect		Yes		Yes		Yes	
Adjusted R^2		0.290		0.286		0.286	

*, **, *** indicates significant levels at the 0.10, 0.05, and 0.01 levels, respectively based on two-sided t-tests. T-statistics are based on robust standard errors clustered by EP.

[1] See Appendix A for variable definitions.

6.3.3 Alternative Measure of Forecast Errors

I compute forecast error (*FE*) as the difference between analysts' forecast median and actual earnings-per-share, deflated by the share price at the beginning of the fiscal year. I then repeat my analyses related to the *FE* regressions, the results of which are qualitatively similar to those reported in Tables 6-9.

6.3.4 Alternative Measure of Forecast Dispersion

I also compute the variable of *Dispersion* as the natural logarithm value of the forecast standard deviation and repeat my analyses related to *Dispersion* regressions. The results are qualitatively similar to those reported in Tables 6-9.

6.3.5 Alternative Measure of EPMKTShare

I take the natural logarithmic value of (1+*EPMKTShare*) as the alternative measurement of *EPMKTShare* and repeat related analyses. The results of using this logarithmic form of *EPMKTShare* are qualitatively same to those using *EPMKTShare*.

6.3.6 2SLS Regressions

To account for the possibility that *AnCov* and *FE* as well as *AnCov* and *Dispersion* are simultaneously determined, I first estimate *AnCov* by regressing *AnCov* on the firms' characteristics variables documented in previous literature (Lang and Lundholm 1996; Byard et al. 2011). I then repeat my analyses on *FE* and *Dispersion* regressions using the estimated *AnCov* instead of raw value of *AnCov*. The results of these 2SLS regressions (*FE* and *Dispersion*) are qualitatively similar to those reported in Tables 6-8.

Since an EP's quality may be influenced by his/her audit firm, I repeat my analyses using the EP's audit firm's quality as the instrumental variable of the EP's

quality. For example, I first estimate *EPMKTShare* by regressing *EPMKTShare* on the *AUMKTShare*. I then use the estimated value of *EPMKTShare* to rerun the regressions related to *EPMKTShare*. I apply the same instrumental procedure for the *EPPortfolio* and *EPSize* regression analyses. Results of regressions using the quality of audit firm (i.e., *AUMKTShare, AUPortfolio,* and *AUSize*) as the instrumental variables of the EP's quality are qualitatively same to those reported in Tables 7 and 10.

CHAPTER 7 CONCLUSION

I investigate the economic consequences of requiring an EP's signature in the UK. The PCAOB in the U.S. is considering whether it should pass a similar requirement, reasoning that disclosing an EP's identity should increase the EP's accountability and the transparency of the audit process, thereby improving the audit quality and providing useful information about the audit to various financial statement users. However, the proposed disclosure of the EP's name in the U.S. has been hotly debated over last few years. Given the limited empirical evidence on the consequences of requiring an EP's signature or disclosing the EP's name, the PCOAB has called for further empirical evidence on the costs and benefits of disclosing the EP's identity.

Based on accountability and disclosure theories, my first, second, and third hypotheses predict that the implementation of the EP signature requirement is associated with a decrease in information asymmetry, analysts' forecast errors, and analysts' forecast dispersion in the UK. According to the accountability theory, an industry-specialist EP has more reputational stake to lose when the EP's name is revealed. Therefore, I define an industry specialist EP as high quality. The clients of a high quality EP consequently should have high quality financial statements, which should benefit analysts' information environment. Thus, my fourth, fifth, and sixth hypotheses predict that, ceteris paribus, the EP's quality is negatively associated with information asymmetry, analysts' forecast errors, and analysts' forecast dispersion.

Consistent with my first, second, and third hypotheses, I find some evidence that the UK firms experienced significant declines in information asymmetry, analysts' forecast errors, and analysts' forecast dispersion in the post-EP signature period compared to the pre-EP signature period. These results hold to a battery of robustness tests such as employing different test periods, using a different proxy for the information asymmetry, and comparing the UK firms with the U.S. control firms over the same periods. I also find evidence to support my fourth and sixth hypotheses when using the EP's size as the proxy for the EP's quality, but do not find evidence to support my fourth, fifth, and sixth hypotheses when using other alternative proxies for the EP's quality.

This study provides timely empirical evidence to the ongoing debate over the costs and benefits of the PCAOB's proposal to pass a similar requirement in the U.S. The results are also informative to firms by showing that the disclosure of the EP's name may reduce information asymmetry. Moreover, the results aid investors who demand more information about the audit by showing that the implementation of the EP signature improves analysts' forecast performances.

APPENDIX

Variable Definitions

IS = 1- ρ, the proxy for information asymmetry, which reflects the lack of analysts' consensus.

ρ = the ratio of common uncertainty to overall uncertainty, *C*/*V*.

C = $SE - \frac{D}{n}$, common uncertainty across analysts. Here, *D* is measured by the sample variance of the individual forecast FC_i around the mean forecast ($\overline{FC}$); and SE is the square error in the mean forecast, which is measured as the square of the difference between earnings per share and the mean forecast, i.e., $(EPS - \overline{FC})^2$.

V = overall uncertainty, which is measured by the mean of the squared differences between individual analysts' forecasts (FC_i) and reported earnings per share (*EPS*).

FE = the absolute value of the difference between the analyst's last one-year-ahead forecasted earnings-per-share and the actual earnings-per-share reported by I/B/E/S, deflated by the absolute value of the actual earnings-per-share.

Dispersion = the standard deviation of one-year-ahead forecasted earnings-per-share deflated by the absolute value of the actual earnings-per-share.

POST = 1 if a firm-year ends in April 2009 or after, 0 otherwise.

AnCov = analyst coverage, which is measured as the log value of sum of 1 and the total number of analysts who issue at least one annual earnings forecast for the firm-year. I use all analysts following a firm.

Size = natural logarithm value of the total assets in US dollar amount.

Horizon = log value of the number of the days between the forecast issuing date and the earnings announcement date.

ROA = ratio of income before extraordinary items to the prior year-end total assets.

MB = ratio of market-to-book of firm i.

Leverage = ratio of total liability to total assets.

Intangible = intangible assets deflated by the prior year-end total asset.

Big4 = 1 if the financial reports of firm i in the year t were audited by a Big Four auditor, 0 otherwise.

ABAQ = absolute value of abnormal accruals, which is estimated by a modified Jones (1991) model. A larger value for *ABAQ* implies a lower accounting information quality.

EPMKTShare = the sum of the partner's total clients' revenues in the industry divided by the total industry revenues for the industry.

EPPortfolio = the EP's portfolio concentration in a particular industry, defined as the sum of the partner's total clients' revenues in a specific industry divided by the sum of all the EP's clients' revenues.

EPSize = the size of the EP, defined as the natural logarithm value of sum of the total client assets audited by the EP (in US million dollars).

AUMKTShare = the sum of the audit firm's total clients' revenues in the industry divided by the total industry revenues.

AUPortfolio = the audit firm's portfolio concentration in a particular industry, defined as the sum of the audit firm's total clients' revenues in a specific industry divided by the sum of all the audit firm's clients' revenues.

AUSize = the size of the audit firm, defined as the natural logarithm value of sum of the total client assets audited by the audit firm (in US million dollars).

REFERENCES

Admati, A.R., P. Pfleiderer. 1988. A theory of intraday patterns: Volume and price variability. *The Review of Financial Studies* 1: 3-40

Admati, A.R., P. Pfleiderer. 2000. Forcing firms to talk: financial disclosure regulation and externalities. *The Review of Financial Studies* 13: 479-519

Amihud, Y., and H. Mendelson. 1986. The effects of beta, bid-ask spread, residual risk and size on stock returns. *The Journal of Finance*, 479-486

Aobdia, D, C. Lin, and R. Petacchi. 2013. Capital Market Consequences of Individual Audit Partners. *Working paper*. Northwest University. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2321333

Armstrong, C., J.E. Core, D. J. Taylor, and R.E. Verrecchia. 2011. When does information asymmetry affect the cost of capital? *Journal of Accounting Research* 49 (1): 1-40.

Ashbaugh, H., and M. Pincus. 2001. Domestic accounting standards, international accounting standards, and the predictability of earnings. *Journal of Accounting Research* 39: 417-434.

Ashton, R.H. 1992. Effects of justification and a mechanical aid on judgement performance. *Organizational Behavior and Human Decision Processes* 52: 292-306.

Azizkhani, M., G.S. Monroe, and G. Shailer. 2013. Audit Partner tenure and cost of equity capital. *Auditing: A Journal of Practice & Theory* 32 (1): 183-202.

Bae, K-H, H. Tan, and M. Welker. 2008. International GAAP differences: The impact on foreign analysts. *The Accounting Review* 83: 593–628

Bailey, R.L., D. Dickins, and J.H. Reisch. 2012. A discussion of public identification of US audit engagement partners: Who benefits? Who pays? *International Journal of Disclosure and Governance* 7 (4): 334-343.

Ball, R., and L. Shivakumar. 2006. The role of accruals in asymmetrically timely gain and loss recognition. *Journal of Accounting Research* 44: 207–241.

Balsam, S., J. Krishnan, and J.S. Yang. 2003. Auditor industry specialization and earnings quality. *Auditing: A journal of Practice and Theory* 22 (2): 71-97.

Barron, O., D. Byard, and O. Kim. 2002. Changes in analysts' information around earnings announcements. *The Accounting Review* 77: 821–846

Barron, O., O. Kim, S. Lim, and D. Stevens. 1998. Using analysts' forecasts to measure properties of analysts' information environment. *The Accounting Review* 73: 421-433

Barron, O., and P. Stuerke. 1998. Dispersion in analysts' earnings forecasts as a measure of uncertainty. *Journal of Accounting, Auditing, and Finance* 13: 243-268

Barry, C., and S. Brown. 1984. Differential information and the small firm effect. *Journal of Financial Economics* 13: 283-294.

Barry, C., and S. Brown. 1985. Differential information and security market equilibrium. *Journal of Financial and Quantitative Analysis* 20: 407-422.

Barth, M., R. Kasznik, and M. McNichols. 2001. Analyst coverage and intangible assets. *Journal of Accounting Research* 39: 1-34.

Barth, M., and A. Hutton. 2004. Analyst earnings forecast revisions and the pricing of accruals. *Review of Accounting Studies* 9: 59-96.

Barth, M., W. Landsman, M. Lang, and C. Williams. 2012. Are IFRS-based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics 54*: 68-93.

Beach, L.R., and T.R. Mitchell. 1978. A contingency model for the selection of decision strategies. *Academy of Management Review*: 439-449.

Behn, B.K., J. Choi, and T. Kang. 2008. Audit quality and properties of analyst earnings forecasts. *The Accounting Review* 83: 327-349.

Berger, P. 2011. Challenges and opportunities in disclosure research – A discussion of "the financial reporting environment: Review of the recent literature." *Journal of Accounting and Economics 51*: 204-218.

Beyer, A., D. Cohen, T. Lys, and B. Walther. 2010. The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics* 50: 296-343.

Bhushan, R. 1989. Firm characteristics and analyst following. *Journal of Accounting and Economics* 11: 255–274

Botosan, C.A. 1997. Disclosure level and the cost of equity capital. *The Accounting Review*. 72 (3): 323-349.

Botosan, C.A., and M. A. Plumlee. 2002. A re-examination of disclosure level and the expected cost of equity capital. *Journal of Accounting Research* 40 (1): 21-40.

Botosan, C.A., and M. A. Plumlee. 2005. Assessing alternative proxies for the expected risk premium. *The Accounting Review* 80 (1): 21-53.

Bowen, R., X. Chen, and Q. Cheng. 2008. Analyst coverage and the cost of raising equity capital: Evidence from the underpricing of seasoned equity offerings. *Contemporary Accounting Research* 25: 657-700

Brown, S. 1979. The effect of estimation risk on capital market equilibrium. *Journal of Financial and Quantitative Analysis* 15: 215-220.

Bushee, B., D. Matsumoto, and G. Miller. 2004. Managerial and investor responses to disclosure regulation: The case of Reg. FD and conference calls. *The Accounting Review* 79: 617-643.

Byard, D., Y. Li, and Y. Yu. 2011. The effect of mandatory IFRS adoption on financial analysts' information environment. *Journal of Accounting Research* 49: 69-96

Carcello, J.V., and C. Li. 2014. Costs and benefits of requiring an engagement partner signature: Recent experience in the United Kingdom. *The Accounting Review*. 88 (5): 1511-1546.

Chaiken, S. 1980. Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*: 752-766.

Chen, C.-Y., C-J. Lin, and Y.-C. Lin. 2008. Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality? *Contemporary Accounting Research* 25 (2): 415-445.

Chen, H., C. Huang, and H. Lin. 2014. Changes in analyst following for less covered firms accompanying Regulation Fair Disclosure: the role of ability and industry experience. *Review Quantitative Finance and Accounting, forthcoming*. DOI 10.1007/s11156-014-0477-x

Chen, H., J.Z. Chen, G.J. Lobo, and Y. Wang. 2011. Effects of audit quality on earnings management and cost of equity capital: Evidence from China. *Contemporary Accounting Research* 28 (3): 892-925.

Chen, Z., D. Dhaliwal, H. Xie. 2010. Regulation fair disclosure and the cost of equity capital. Review of Accounting Studies 15: 106-144.

Chiyachantana, C., N. Taechapiroontong, C. Jiang, and R. Wood. 2004. The impact of Regulation Fair Disclosure on information asymmetry and trading: An intraday analysis. *The Financial Review* 39: 549-577.

Christensen, P.O., and G. Feltham. 2000. Market performance measures and disclosure of private management information in capital market. *Review of Accounting Studies* 5: 301-329.

Christensen, P.O., L. De La Rosa, and G. Feltham. 2010. Information and the cost of capital: An ex-ante perspective. *The Accounting Review* 85 (3): 817-848.

Claus, J., and J. Thomas. 2001. Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets. *Journal of Finance* 56: 1629-1666

Cohen, D., A. Dey, and T. Lys. 2008. Real and accruals-based earnings management in the pre- and post-Sarbanes-Oxley eras. *The Accounting Review* 83: 757-788.

Commonwealth of Australia. 2001. Corporations Act 2001. Act No. 50 of 2001 as amended. Canberra, Australia: Commonwealth of Australia.

Copley, P.A., and E.B. Douthett Jr. 2002. The association between auditor choice, ownership retained, and earnings disclosure by firms making initial public offerings. *Contemporary Accounting Research* 19 (1): 49–75.

Daske, H., H. Luzi, C. Leuz, and R. Verdi. 2008. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research*. 46 (5): 1085-1142.

Dee, C.C., A. Lulseged, and T. Zhang. 2013. Who did the audit? Investor perceptions and disclosures of other audit participants in PCAOB filings. *Working Paper*. University of Colorado - Denver.

DeZoort, T., P. Harrison, and M. Taylor. 2006. Accountability and auditors' materiality judgments: The effects of differential pressure strength on conservatism, variability, and effort. *Accounting, Organizations and Society* 31 (4/5): 373–390.

Diamond, D. 1985. Optimal release of information by firms. *The Journal of Finance* 40: 1071-1094

Diamond, D., and R. Verrecchia. 1991. Disclosure, liquidity and cost of capital. *Journal of Finance* 46 (4): 1325-1359.

Doty, J.R. 2013. Statement on the Reproposal on Improving Transparency Through Disclosure of Engagement Partner and Certain Other Participants in Audits. Available at: http://pcaobus.org/News/Speech/Pages/12042013_Doty_Transparency.aspx

Duarte, J., X. Han, J. Harford, L. Young. 2008. Information asymmetry, information dissemination and the effect of Regulation FD. *Journal of Financial Economic* 87: 24-44.

Dye, R.A. 1990. Mandatory vs. voluntary disclosures: the cases of financial and real externalities. *The Accounting Review* 64: 1-24.

Easley, D., S. Hvidkjaer, and M. O'Hara. 2002. Is information risk a determinant of asset returns? *The Journal of Finance* 57 (5): 2185-2221.

Easley, D., and M. O'Hara. 2004. Information and the cost of capital. *The Journal of Finance* 59 (4): 1553-1583.

Easton, P. 2004. PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. *The Accounting Review* 79: 73-95.

Easton, P., and S. Monahan. 2015. Review of recent research on improving earnings forecasts and evaluating accounting-based estimates of the expected rate of return on equity capital. *Working Paper*, Notre Dame.

Elton, E. 1999. Presidential address: Expected return, realized return, and asset pricing tests. *The Journal of Finance* 54: 1199-1220.

Engel, E., R.M. Hayes, and X. Wang. 2007. The Sarbanes–Oxley Act and firms' going-private decisions. *Journal of Accounting and Economics* 44 (1): 116-145.

Ernsberger, J., S. Krotter S, and C. Stadler. 2008. Analysts' forecast accuracy in Germany: The effect of different accounting principles and changes of accounting principles. *Business Research* 1: 26-53

European Parliament and the Council of the European Union (2006) Directive 2006/43/EC of the European Parliament and of the Council. Available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri¼OJ:L:2006:157:0024:0086:en:PDF

Fama, E., and K. French. 2002. The equity premium. *The Journal of Finance* 57: 637-659.

Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States. 2011. Available at http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf

Fischer, P.E., and P.C. Stocken. 2008. Analyst information acquisition and communication. *Working Paper*.

Francis, J. R., I.K. Khurana, and R. Pereira. 2005. Disclosure incentives and effects on cost of capital around the world. *The Accounting Review* 80 (4): 1125-1162.

Frankel, R., S.P. Kothari, J. Weber J (2006) Determinants of the informativeness of analyst research. *Journal of Accounting and Economics* 41: 29-54

Francis, J., D. Nanda, and X. Wang. 2006. Re-examining the effects of regulation fair disclosure using foreign listed firms to control for concurrent shocks. *Journal of Accounting and Economics* 41: 271-292.

Francis, J., R. LaFond, P.M. Olsson, and K. Schipper. 2004. Cost of equity and earnings attributes. *The Accounting Review* 79 (4): 967-1010.

Francis, J., R. Lafond, P.M., Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39: 295-327.

Francis, J., D. Nanda, and P. Olsson. 2008. Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research* 46 (1): 53–99.

Francis, J., and L. Soffer. 1997. The relative informativeness of analyst stock recommendations and earnings forecast revisions. Journal of Accounting Research 35: 193-212

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

Francis, J.R. and M. Yu. 2009. Big 4 office size and audit quality. *Accounting Review* 84 (1): 1521-1552.

Gebhardt, W., C. Lee, and B. Swaminathan. 2001 Toward and Implied Cost of Capital *Journal of Accounting Research* 39 (1): 135-176.

Gigler, F.B., and T. Hemmer. 2004. On the value of transparency in agencies with renegotiation. *Journal of Accounting Research* 42: 871-893.

Gintschel, A., and S. Markov. 2004. The effectiveness of Regulation FD. *Journal of Accounting and Economics* 37: 293-314.

Glosten, L., and P. Milgrom. 1985. Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders. Journal of Financial Economics 26:71-100

Gode, D., and P. Mohanram. 2003. Inferring the cost of capital Using the Ohlson-Juettner Model. *Review of Accounting Studies* 8: 399-431.

Greene, W. 2008. Econometric Analysis (6 ed). Pearson Prentice Hall, New Jersey

Guttman, I. 2010. The timing of analysts' earnings forecasts. *The Accounting Review* 85: 513-545.

Hagafors, R., and B. Brehmer. 1983. Does having to justify one's judgments change the nature of the judgment process? *Organizational Behavior and Human Decision Processes*: 223-232.

Hail, L., and C. Leuz. 2006. International differences in the cost of equity capital: Do legal institutions and securities regulation matter? *Journal of Accounting Research* 44: 485–531.

Healy, P., A. Hutton, and K. Palepu. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research* 16:485–520

Hirshleifer, J. 1971. The private and social value of information and the reward to inventive activity. *The American Economic Review* 61: 561-574.

Hodgdon, C., R. Tondkar, D. Harless, A. Adhikari. 2008. Compliance with IFRS disclosure requirements and individual analysts' forecast errors. *Journal of International Accounting, Auditing, and Taxation* 17: 1-13.

Hong, H., T. Lim, and J. Stein. 2000. Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies. *Journal of Finance* 55: 265-295

Holmstrom, B. 1979. Moral hazard and observability. *Bell Journal of Economics* 10: 74-91.

Hope, O. 2003. Disclosure practices, enforcement of accounting standards and analysts' forecast accuracy: An international study. *Journal of Accounting Research* 41: 235–272

Horton, J., G. Serafeim, and I. Serafeim. 2013. Does mandatory IFRS adoption improve the information environment? *Contemporary Accounting Research* 30: 388-423

Imhoff, E., and G. Lobo. 1992. The effect of Informedness and consensus on price and volume behavior. *The Accounting Review* 67: 427-439

Jain, P., and Z. Rezaee. 2006. The Sarbanes-Oxley Act of 2002 and capital market behavior: Early evidence. *Contemporary Accounting Research* 23: 629-654.

Johnson, V. E., and S. E. Kaplan. 1991. Experimental evidence on the effects of accountability on auditor judgments. *Auditing: A Journal of Practice & Theory* 10 (Supplement): 96-107.

Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193–228

Jorion, P., Z. Liu, and C. Shi. 2005. Informational effects of Regulation FD: Evidence from rating agencies. *Journal of Financial Economics* 76: 309-330.

Kennedy, J. 1993. Debiasing audit judgment with accountability: A framework and experimental results. *Journal of Accounting Research* 31 (2): 231-245.

Kim, J.B., R. Chung, and M. Firth. 2003. Audit conservatism, asymmetric monitoring, and earnings management. *Contemporary Accounting Research* 20 (2): 323-359.

Kim, O., and R. Verrecchia. 1994. Market liquidity and volume around earnings announcements. *Journal of Accounting and Economics* 17: 41-67.

King, R.R., S.M. Davis, and N. Mintchik. 2012. Mandatory disclosure of the engagement partner's identity: Potential benefits and unintended consequences. *Accounting Horizon* 26 (3): 533-561.

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 (Supplement 1): 385-421

Knechel, W. R., A. Vanstraelen, and M. Zerni. 2013. Does the identity of engagement partners matter? An analysis of audit partner reporting decisions. *Working paper*. University of Florida

Kothari, S. P., A. J. Leone, and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39 (1): 163–197.

Kothari, S.P., S. Shu, and P. Wysocki. 2009. Do managers withhold bad news? Journal of Accounting Research 47: 241-276.

Kothari, S.P., X. Li, and J.E. Short. 2009. The effect of disclosures by management, analysts, and business press on cost of capital, return volatility, and analyst

forecasts: A study using content analysis. *The Accounting Review* 84 (5): 1639-1670.

Krishnan, G. 2003. Does Big 6 auditor industry expertise constrain earnings management? *Accounting Horizons* 17 (Supplement): 1-16.

Lambert, R., C. Leuz, and R. E. Verrecchia. 2007. Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* 45 (2): 385-420.

Lambert, R., C. Leuz, and R. E. Verrecchia. 2011. Information asymmetry, Information precision, and the cost of capital. *Review of Finance* 16 (1): 1-29.

Lambert, T.A., B.L. Luippold, and C.M. Stefaniak. 2013. Audit partner disclosure: Potential implication for investor reaction and auditor independence. *Working Paper*. University of Massachusetts Amherst.

Lang, M., K. Lins, and D. Miller. 2003. ADRs, analysts, and accuracy: Does cross listing in the US improve a firm's information environment and increase market value? *Journal of Accounting Research* 41: 317–345

Lang, M., K. Lins, and M. Maffett. 2012. Transparency, liquidity, and valuation: International evidence on when transparency matters most. *Journal of Accounting Research* 50: 729-774

Lang, M., and R. Lundholm. 1996. Corporate disclosure policy and analyst behavior. *The Accounting Review* 71: 467–492

Laporta, R., F. Lopez-De-Silanes, A. Shleifer, and R. Vishny. 1998. Law and finance. *Journal of Political Economy* 106:1113-1155

Lennox, C.S., X. Wu, and T. Zhang. 2014. Does mandatory rotation of audit partners improve audit quality? *The Accounting Review* 89: 1775-1803.

Leuz, C., A. Triantis, and T.Y. Wang. 2008. Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations. *Journal of Accounting and Economics* 45: 181-208.

Leuz, C., and R. Verrecchia. 2000. The economic consequences of increased disclosure. *Journal of Accounting Research* 38: 91-124.

Levin, C., and T. Coburn. 2011. Wall street and the financial crisis: Anatomy of a financial collapse. Senate Financial Crisis Report 2011. Available at: http://www.hsgac.senate.gov//imo/media/doc/Financial_Crisis/FinancialCrisisReport.pdf?attempt=2

Lin, B., R. Yang. 2012. Does Regulation Fair Disclosure affect analysts' forecast performance? The case of restricting firms. *Review of Quantitative Finance and Accounting* 38: 495-517.

Lobo, G., M. Song, and M. Stanford. 2012. Accruals quality and analyst coverage. *Journal of Banking & Finance* 36: 497-508.

Mcallister, D.W., T.R. Mitchell, and L.R. Beach. 1979. The contingency model for the selection of decision strategies: An empirical test of the effects of significance, accountability, and reversibility. *Organizational Behavior and Human Decision Processes*: 228-244.

Merton, R. 1987. Presidential address: A simple model of capital market equilibrium with incomplete information. *Journal of Finance* 42: 483-510

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?

Naranjo, P. 2010. The appropriateness of realized returns and implied cost of capital as proxies for expected returns. *Working Paper*, MIT.

Nichols, D. 1989. The Handbook of Investor Relations. Dow Hones –Irwin, IL

O'Brien, P., and R. Bhushan. 1990. Analyst following and institutional ownership. *Journal of Accounting Research* 28: 55–76

O'Hara, M. 2003. Presidential address: Liquidity and price discovery. *Journal of Finance* 58: 1335- 1354**.**

Ohlson, J. 1995. Earnings, book values and dividends in equity valuation. *Contemporary Accounting Research* 11: 661-687.

Ohlson, J., and B. Juettner-Nauoth. 2005. Expected EPS and EPS growth as determinants of Value. *Review of Accounting Studies* 10 (2-3). 349-365.

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

Pittman, J. A., and S. Fortin. 2004. Auditor choice and the cost of debt capital for newly public firms. *Journal of Accounting and Economics* 37 (1): 113–136.

Pricewaterhousecoopers (PWC) Legal (2010) A practical guide to the companies act of 2006—A guide for busy directors and company secretaries. UK: CCH.

PricewaterhouseCoopers (PwC) LLP. 2009. Comment on PCAOB Concept Release on Requiring the Engagement Partner to Sign the Audit Report. PCAOB Release No

2009–005. (September 11). Available at: http://pcaobus.org/Rules/Rulemaking/Docket029/014_PwC.pdf

Public Company Accounting Oversight Board (PCAOB). 2008. Standing Advisory Group Meeting. Panel Discussion—Signing the Auditor's Report. (October 22–23). Available at: http://pcaobus.org/News/Events/Pages/10222008_SAGMeeting.aspx

Public Company Accounting Oversight Board (PCAOB). 2009. Requiring the Engagement Partner to Sign the Audit Report. Concept Release No. 2009-005. Available at: http://pcaobus.org/Rules/Rulemaking/Docket029/2009-07-28_Release_No_2009-005.pdf

Public Company Accounting Oversight Board (PCAOB). 2011. Improving the Transparency of Audits: Proposed Amendments to PCAOB Auditing Standards and Form 2. Concept Release No. 2011-007. Available at: http://pcaobus.org/Rules/Rulemaking/Docket029/PCAOB_Release_2011-007.pdf

Public Company Accounting Oversight Board (PCAOB). 2013. Improving the transparency of audits: Proposed amendments to PCAOB auditing standards to provide disclosure in the auditor's report of certain participants in the audit. Release No. 2013-009. Available at: http://pcaobus.org/Rules/Rulemaking/Docket029/PCAOB%20Release%20No%20%202013-009%20-%20Transparency.pdf

Rock, S., S. Sedo, M. Willenborg. 2001. Analyst following and count-data econometrics. Journal of Accounting and Economics 30: 351–373

Roll, R. 1984. A simple implicit measure of the effective bid-bask spread in an efficient market. The Journal of finance 39: 1127-1139.

Schipper, K. 1991. Analysts' forecasts. Accounting Horizons 4: 105-121.

Sidhu, B., T. Smith, R. Whaley, R. Willis. 2008. Regulation Fair Disclosure and the cost of adverse selection. *Journal of Accounting Research* 46: 697-728.

Tan, H., S. Wang, and M. Welker. 2011. Analyst following and forecast accuracy after mandated IFRS adoption. *Journal of Accounting Research* 49:1307-1357

Tetlock, P.E. 1985. Accountability: A social check on the fundamental attribution error. *Social Psychology Quarterly*: 227-236.

Tetlock, P.E., and R. Boettger. 1989. Accountability: A social magnifier of the dilution effect. *Journal of Personality and Social Psychology*: 388-398.

Titman, D., and B. Trueman. 1986. Information quality and the valuation of new issues. *Journal of Accounting and Economics* 8: 159-172.

US Department of the Treasury. 2008. Final report of the advisory committee on the auditing profession (ACAP). Government Printing Office, Washington, DC

Verrecchia, R.E. 1982. The use of mathematical models in financial accounting. Journal of Accounting Research 20: 1-55.

Verrecchia, R.E. 1983. Discretionary disclosure. *Journal of Accounting and Economics* 5: 365-380.

Wallace, W. 1980. The economic role of the audit in free and regulated markets. (The Touche Ross and Co. aid to education program] [Reprinted in *Auditing*

Monographs (New York: Macmillan Publishing Co., 1985). Available at http://www.raw.rutgers.edu/raw/wallace/homepage.html

Wang, I. 2007. Private earnings guidance and its implications for disclosure regulation. *The Accounting Review* 82: 199-1332.

Welker, M. 1995. Disclosure policy, information asymmetry, and liquidity in equity markets. *Contemporary Accounting Research* 11: 801–827

Zhang, I.X., 2007. Economic consequences of the Sarbanes–Oxley Act of 2002. *Journal of Accounting and Economics* 44 (1): 74-115.