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Maria Wieczynska
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“The ‘Big’ Consequences of IFRS: How and
When Does the Adoption of IFRS Benefit
Global Accounting Firms?”

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The 'Big' Consequences of IFRS: How and When Does the Adoption of IFRS
Benefit Global Accounting Firms?

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Abstract

In this paper, I examine how audit markets are affected by the adoption of International Financial Reporting Standards (IFRS), which have been mandated in multiple countries and may soon be introduced in the United States. Specifically, I examine whether and how the probability of an audit firm replacement is affected by IFRS adoption. First, I hypothesize that IFRS adoption creates an expert advantage for global audit firms during a regime shift in reporting standards, which may lead to an increased frequency of switching from small audit firms to the global six. Second, I hypothesize that the likelihood of auditor replacement around IFRS adoption is affected by the strength of a country's regulatory regime.

I test my hypotheses by examining the effect of IFRS adoption on the frequency and direction of auditor switching in the years surrounding the mandatory adoption of IFRS in five EU countries: the United Kingdom, Germany, Spain, Italy, and Poland. First, I find that the frequency of auditor replacements is higher in the IFRS adoption year and that firms are significantly more likely to switch from small audit firms to global auditors in the year of IFRS adoption than in other years. Second, I find that firms listed in markets with high-quality regulatory regimes are more likely to switch from small audit firms to global audit firms in the year of IFRS adoption than firms from markets with low-quality regulatory regimes. Finally, I find that firms listed in low quality regulatory regimes are more likely to replace audit firms before IFRS adoption. I do not find that IFRS adopters listed in markets with stronger oversight are more likely to switch from small auditors to global audit firms before IFRS adoption, thus indicating that this particular direction of auditor switching is a phenomenon associated with the year of IFRS adoption. Overall, my results indicate that there is a significant increase in the likelihood of replacement of a small audit firm with a global six audit firm in the year of IFRS adoption in countries with high quality regulatory regimes.

1. Introduction

The adoption of International Financial Reporting Standards (IFRS) is affecting the quality and content of financial reports around the world (Barth et al. 2008; Barth et al. 2012). Researchers have dedicated significant effort to estimating the impact of IFRS adoption on the way financial reports are prepared by firms and later used by both individual and institutional investors and financial analysts (Brüggemann et al. 2011; Yu 2010; DeFond et al. 2011). However, significantly less attention has been paid to how IFRS adoption affects auditors, who play an integral role in financial reporting. Few studies examine how audit markets, auditor judgments, and auditor-client relationships are affected by IFRS adoption. To fill this gap in the literature, I examine whether and how auditors are affected by changes in financial reporting standards regime.

In this paper, I examine whether and how the auditor replacement rates among firms switching to new financial reporting standards are affected in the years surrounding IFRS adoption. In addition, because IFRS adoption is unlikely to have the same effect on global and smaller auditors, I examine whether switching rates to and from global audit firms (defined as the global six: PricewaterhouseCoopers [PwC], Deloitte Touche Tohmatsu, Ernst & Young, KPMG, Grant Thornton, and BDO) and to and from smaller audit firms are affected by IFRS adoption in different ways. I hypothesize that IFRS adoption provides global audit firms an expert advantage during a regime shift in reporting standards. In turn, this advantage may lead to an increased frequency of switching from small audit firms to the global six.

My research methodology is as follows. I test my hypothesis by examining the effect of IFRS adoption on the frequency and direction of auditor switching in the years surrounding the mandatory adoption of IFRS in five European Union (EU) countries: the United Kingdom,

Germany, Spain, Italy, and Poland. The number of auditor replacements increased in the year leading to, the year of, and the year following IFRS adoption. Using logistic regression analysis to control for various firm characteristics shown by the auditor switching literature to be associated with auditor replacements, I find that the likelihood of audit firm replacement increases significantly in the IFRS adoption year. However, supplemental analyses indicate that this result is sensitive to the inclusion of year-fixed effects and that the coefficient loses significance in the presence of additional explanatory variables. In addition, I find that the year of IFRS adoption is associated with a higher likelihood of switching from a small audit firm to a global auditor. This result is robust, as it is based upon various samples and variable specifications.

Building on prior studies that demonstrated the quality of a country's regulatory regime affects the quality of IFRS implementation, I test whether IFRS adopters listed in strong regulatory regimes are more likely to switch from small auditors to global audit firms than firms listed in weak regulatory regimes. Vulcheva (2012) has shown that IFRS adoption affects financial market participants in countries with high regulatory quality more than firms in countries with poor regulatory quality. She also suggests that this effect arises because firms in countries with strong regulatory regimes have to implement IFRS more strictly, whereas firms in countries with weak regulatory regimes implement IFRS without fully implementing all of the rules (Daske et al. 2012). Using a measure introduced by Kaufmann et al. (2009) that quantifies the ability of a government to implement and enforce regulations, I find that firms listed in markets with high-quality regulatory regimes are more likely to switch from small audit firms to global audit firms in the year of IFRS adoption than firms from markets with low-quality regulatory regimes.

Finally, I examine whether the timing of auditor switching around IFRS adoption is associated with its listing in a strong regulatory regime market. Prior literature suggests that firms listed in markets with high-quality regulatory regimes have more incentives to engage in superior reporting practices than firms from markets with low-quality regulatory regimes (Christensen et al. 2011). Based on anecdotal evidence that firms need a year or two to prepare for adoption of new reporting standards, I assume that if a client firm previously using a small auditor is looking for a global auditor's expert assistance with IFRS adoption, it will switch from a small auditor to a global audit firm before IFRS adoption (IFAC, 2010). I find evidence of an increased frequency of auditor switching before IFRS adoption for firms from low-quality regulatory regimes, and a decreased frequency of auditor replacements for firms from high-quality regulatory regimes. However, I do not find that IFRS adopters listed in markets with stronger oversight are more likely to switch from small auditors to global audit firms, either one or two years, before first-time IFRS adoption.

This paper's findings extend the literature on auditor switching and the literature on the economic consequences of IFRS adoption. In their review of the auditor switching literature, Stefaniak et al. (2009) stress the importance of determining the causes of auditor switching. Hail et al. (2010) review the issues related to the potential adoption of IFRS in the United States and list the effects of IFRS on audit markets as among the important topics. They do not, however, list any empirical studies related to that topic. My paper addresses the concerns of Stefaniak et al. (2009) and Hail et al. (2010) by providing evidence of an increase in auditor replacement rates around IFRS adoption and an increase in the frequency of switching from small audit firms to global auditors.

The Securities and Exchange Commission (SEC) is currently considering the adoption of IFRS in the United States. In the Commission Statement in Support of Convergence and Global Accounting (SEC 2010a) and the Work Plan for the Consideration of Incorporating International Financial Reporting Standards into the Financial Reporting System for U.S. Issuers (SEC 2010b), the SEC listed the unresolved issues associated with accounting professionals' and audit firms' readiness to implement IFRS. Among other matters, the SEC noted that the introduction of IFRS may have positive effects on international audit firms and may be burdensome for small audit firms in the United States. Even though some of the largest international audit firms assured the SEC that small accounting firms would not be harmed by the change in the reporting standards, there is no empirical evidence to support or disprove this statement.

In this paper, I provide evidence directly related to the ongoing debate on whether, when, and how the United States should adopt IFRS by examining one of the consequences of IFRS adoption. However, it is important to note that the countries in my sample have lower-quality regulatory regimes than the United States. Furthermore, my sample countries were able to keep local reporting standards for unlisted firms and firms preparing single entity financial statements (Pownall and Wieczynska 2012). Therefore, the consequences of IFRS documented in my study are suggestive, but not dispositive of the effects on the American audit market if the United States adopts IFRS for all American firms.

In general, this paper addresses a critical question: what happens to the audit market if there is an accounting regime change? Prior research has examined how changes to individual reporting standards affect audit markets (Atkinson et al. 2002). Additionally, using the example of the Sarbanes-Oxley Act, scholars have studied how audit market regulation affects audit firms (Read et al. 2004; Rama and Read 2006; Landsman et al. 2009). In this paper, I examine the

effects of an overall regime change. Specifically, I study how the mandatory adoption of IFRS impacted the audit markets in the EU. The findings of this paper, with respect to increasing reliance on global audit firms, contribute to the issue of increasing audit market concentration. As pointed out by the British Parliament: “The audit of large firms, in the UK and internationally, is dominated by an oligopoly with all dangers that go with that” (House of Lords 2011, p. 9). Although my paper does not suggest how to avoid an increase in audit market concentration, it aids in understanding market-wide changes that exacerbate the issue. The future may bring unexpected regulations or accounting regime changes; knowing how current accounting regime changes affected the audit market may help us prepare for the future.

In section 2, I review the relevant literature and develop hypotheses. In section 3, I describe my research design. In section 4, I describe the data sample and my results. In section 5, I include supplemental and robustness analyses. I conclude the paper in section 6.

2. Literature review and hypotheses development

2.1. Consequences of mandatory IFRS adoption

Multiple papers have examined the intended and unintended consequences of IFRS adoption, but few papers have examined the consequences of IFRS adoption on audit markets.¹ Among others, Kim et al. (2010) and De George et al. (2012) find that audit fees increase when IFRS is adopted. Another study by Comprix et al. (2011) assumes that if a firm used an auditor in 2007 different from the one it used in 2003, the firm replaced the auditors because of mandatory IFRS adoption.² Using that assumption, the authors found that in countries with

¹ Brüggemann et al. 2012 provide a review of the literature on unintended consequences of IFRS adoption in the EU.

²The paper by Comprix et al. (2011) is similar in nature to this paper. Nonetheless, a number of differences exist between the empirical design in Comprix et al. (2011) and the approach that I take in this paper. Using the Global Vantage database on the largest firms from the EU, Comprix et al. (2011) examine auditor switching around IFRS

greater differences between local reporting standards and IFRS during the 2003-2007 period, larger client firms were more likely to switch from small audit firms to the Big Four. However, it is inappropriate to assume assuming that all auditor replacements in the years 2003-2007 were related to IFRS because client firms switch auditors when they are not adopting new standards as well, is inappropriate. Furthermore, based on the limited evidence from Comprix et al. (2011), it is unclear whether the audit industry was affected before IFRS adoption or during the IFRS adoption process. Given that auditors certify the financial reports prepared under any set of reporting standards, it is necessary to study whether and how auditor-client relationships are affected by a regime change in accounting standards.

Additionally, there is a gap in the understanding of the relationship between regulatory quality and the effects of IFRS adoption. Past researchers stress the importance of the strength of a regulatory regime when considering the consequences of IFRS adoption (Leuz et al. 2003; Vulcheva 2012; Barth et al. 2012) and when examining the various aspects of audit markets (Choi et al. 2008; Francis and Wang 2008). To my knowledge, this is the first paper to examine whether the effects of IFRS are the same for audit firms operating in high-quality and low-quality regulatory regimes.

2.2. Auditor switching

In their review of the auditor switching literature, Stefaniak et al. (2009) stress the importance of determining the causes of auditor switching. Auditor replacements have long-term consequences for both client firms and auditors. Williams (1988) listed some costs associated with auditor switching: cost of familiarizing the auditor with the internal and external firm

adoption. I use Worldscope data to form a comprehensive sample of both large and small firms from five large European capital markets. I examine when exactly during the IFRS adoption process firms were more likely to switch auditors. Finally, I find that the quality of the regulatory regime affected the likelihood of auditor switching and the timing of auditor replacement.

environment, potential costs associated with unsuccessful audit due to lack of understanding of client's operation, "higher degree of information risk assigned to financial statements by financial statement users who suspect that the client 'shopped around' for a more accommodating auditor in an attempt to manipulate earnings" (Williams 1988, p. 243). In addition to these costs, most auditor switches are accompanied by negative stock market reactions. Moreover, researchers have shown that longer auditor-client relationships help auditors know their clients' operations better and may therefore facilitate higher quality audits (Ghosh and Moon 2005; Johnson et al. 2002). Furthermore, because the annual financial reports received by investors are certified by auditors, the auditor replacements may directly affect the quality of these reports. Therefore, it is important to examine whether and how auditor replacements are affected by IFRS adoption.

In my first research question, I ask whether IFRS adoption affects auditor-client relationships. The EU announced the 2005 mandatory IFRS adoption in 2002. Presumably, the three-year period provided sufficient time for all client firms and auditors to prepare for IFRS adoption; no significant changes took place in the audit market. However, the audit market may have been affected by IFRS adoption for a number of reasons.

First, as suggested by Atkinson et al. (2002), client firms are more likely to switch auditors when they adopt new reporting standards. Atkinson et al. (2002) attribute this finding to disagreements between the auditors and the firm's management over the application of the new rules. The adoption of IFRS represents a replacement of the whole set of reporting standards and may lead to even more disagreements, which, in turn, will lead to more auditor replacements. Therefore, I state my first hypotheses in the following form:

H1: The likelihood of auditor replacements is not associated with IFRS adoption.

H1A: The likelihood of auditor replacements increases in the year of IFRS adoption.

Second, the differences between global and small audit firms may prompt a switch to a new audit firm. The prior literature in management and economics suggests that the largest accounting firms are actively competing with their smaller peers. Specifically, according to McWilliams et al. (2009), global auditors compete with other audit firms based on the quality of auditors and the quality of the resulting audits. For example, large audit firms actively work to limit the quality of human capital resources available to smaller accounting firms through recruiting events at the best business schools around the world. Evidence of the positive outcomes of this firm behavior is seen in the accounting literature, where researchers frequently assume that the global audit firms perform superior quality audits.

The global accounting firms' involvement with IFRS appears to be another example of their competitive strategy. Through their IFRS expertise, global audit firms gain an advantage because they can differentiate themselves from their smaller industry peers on the basis of their prior IFRS-audit experience and superior IFRS knowledge. Currently, global accounting firms actively participate in the creation of IFRS and IFRS-specific knowledge. Global audit firms financially support the International Accounting Standards Board (IASB), participate in the creation of new IFRS standards by providing feedback on drafts and proposals, publish IFRS-related guidebooks and study materials, and actively support the adoption of IFRS by the United States. Prior literature established that auditor expertise matters for audit quality, and therefore also matters for investors and for client firms. Specifically, higher quality firms are more likely to have auditors who are industry specialists or the largest audit firms (DeAngelo 2001, Krishnan 2003). Thus, client firms that used small audit firms may be more likely to switch to global

auditors to obtain IFRS expertise. Accordingly, I test the following alternate to my first null hypothesis:

H1B: The likelihood of switching from small auditors to global audit firms increases in the year of IFRS adoption.

Alternatively, small auditors may benefit from mandatory IFRS adoption. Given an overall increase in the audit fees associated with IFRS adoption (Kim et al. 2010; De George et al. 2012), some of the global audit firms' clients may have to switch to auditors charging lower fees. Prior research has found that the Big Four firms charge a fee premium (Choi et al. 2008) (i.e., a client firm would pay higher audit fees if it used the audit services of a Big Four auditor instead of a smaller audit firm, *ceteris paribus*). Therefore, client firms that previously used global audit firms, which are known for charging fee premiums, may be more likely to switch from global audit firms to small audit firms around the time of IFRS adoption to counteract additional increases in audit fees. My final alternate to the first null hypothesis is as follows:

H1C: The likelihood of switching from global audit firms to smaller audit firms increases in the year of IFRS adoption.

2.3. The timing of auditor replacements

Following Atkinson et al. (2002), I assume that auditor switching due to new reporting standards takes place in the year of IFRS adoption.³ However, during the IFRS adoption process, it is not clear when client firms may switch auditors. For example, Comprix et al. (2011) assume that all auditor switches that took place between 2003 and 2007 were related to IFRS. Nonetheless, it is not clear whether these switches took place before IFRS adoption, during the adoption process, or after IFRS had been implemented.

³ Atkinson et al. (2002) found that likelihood of auditor replacement increases for client firms in the year of adopting new reporting standards. The authors propose that the auditor replacements are caused by disagreements over the implementation of the new rules.

A firm switching from a small audit firm to a global audit firm in the year of IFRS adoption may be too late to take advantage of the global auditor's IFRS expertise. Based on evidence from firms that have switched to new accounting standards, firms need a few years to prepare for the first-time change in reporting standards (IFAC 2010).⁴ A client firm previously using a small auditor may seek a global auditor's help with IFRS a year or two years before adopting new reporting standards. Consequently, if a client firm seeks help with first-time IFRS adoption, it will switch to a global audit firm before IFRS adoption.

H2: The likelihood of auditor replacement is not different one year (two years) before IFRS adoption the likelihood of auditor replacement in other years.

H2A: The likelihood of switching auditors is significantly higher one year (two years) before IFRS adoption than in other years.

H2B: The likelihood of switching from a small audit firm to a global audit firm is significantly higher one year (two years) before IFRS adoption than in other years.

2.4. Regulatory regime

A gap exists in the literature with regard to the relationship between the quality of a regulatory regime and the decision to switch auditors. The prior literature (Ball et al. 2003; Leuz et al. 2003; Christensen et al. 2008; Christensen et al. 2011; Daske et al. 2012; Vulcheva 2012) has shown that country-level regulatory quality and securities laws enforcement strongly influence how regulations are implemented by firms. Specifically, in countries with strong regulatory regimes, new regulations are implemented more strictly. Thus, the quality of IFRS implementation is higher on average in countries with strong regulatory regimes (Barth et al. 2012). Because firms in countries with strong regulatory regimes already have strong incentives

⁴ Joe Kaeser, Chief Financial Officer (CFO) of Siemens, commented in an interview that when Siemens switched to new reporting standards, the company needed two years to prepare for the switch (IFAC 2010).

to produce high-quality IFRS reports, it is not clear whether the incentives to switch auditors are the same for these firms as for the firms listed in countries with poor-quality regulatory regimes. Furthermore, it is unclear whether audit quality and a country's regulatory quality are complements or substitutes. Consequently, to examine how the quality of a regulatory regime moderates the effects of IFRS adoption on auditor switching, I state the following hypothesis in the null form:

H3: The likelihood of auditor replacements in the year of IFRS adoption is the same in countries with strong regulatory regimes as in countries with regulatory regimes.

Vulcheva (2012) has suggested that IFRS adoption affects financial market participants to a greater extent in countries with high regulatory quality than in countries with poor regulatory quality because firms from the former category implement IFRS more strictly, whereas firms from the latter implement IFRS more as a "label" (Daske et al. 2012, Vulcheva 2012). If firms in strong regulatory regimes implement IFRS more strictly than firms in weak ones, then strong-regime firms are likely to need the advice of those with IFRS expertise. Furthermore, following the argument from Atkinson et al. (2002), client firms from high quality regulatory regimes may switch from small audit firms to global audit firms because they are more likely to agree with the global auditors' interpretation of new reporting standards. Thus, I test the following alternate hypothesis:

H3A: The likelihood of switching from small audit firms to global auditors in the year of IFRS adoption is higher in countries with strong regulatory regimes than in countries with weak regulatory regimes.

A firm may switch from a small auditor to a global audit firm in the year of IFRS adoption because of the global audit firm's reputation rather than its IFRS expertise. Firms

subject to higher quality oversight have stronger incentives to engage in high-quality IFRS reporting than other firms (Daske et al. 2012). As noted by Vulcheva (2012), these firms are more likely to care about properly applying the new reporting standards. Thus, such client firms may be more likely to switch to IFRS expert auditors before IFRS adoption to seek their help with IFRS adoption. Accordingly, I test the following hypotheses:

H4: The likelihood of switching from small audit firms to global auditors before IFRS adoption is not related to the strength of a country's regulatory regime.

H4A: The likelihood of switching from small audit firms to global auditors before IFRS adoption is positively related to the strength of a country's regulatory regime.

3. Research design

To analyze the auditor switching behavior of European firms, I collect the names of auditors from the annual financial reports of firms from the United Kingdom, Poland, Germany, Italy, and Spain in the period from 1998 to 2010. The Worldscope database provides the names of client firms' auditors for the most recent fiscal year. I collect the names of audit firms for some of the missing auditor observations from Worldscope compact discs (available only until 2006), and I collect the remaining ones from English and local language annual reports. I provide descriptive statistics for this sample in section 4.

I define the IFRS adoption year as the first year in which firm i uses IFRS. Starting in 2005, EU companies preparing consolidated financial statements were generally required to use IFRS in their financial reports.⁵ However, firms in my sample have different fiscal year end dates, some are listed in countries that allowed early IFRS adoption, and some firms were able to

⁵ From 2007 onwards, the London Stock Exchange (LSE) required firms listed on the Alternative Investment Market (AIM) to prepare their financial reports in IFRS.

defer the adoption or avoid it altogether (Pownall and Wieczynska, 2012). Therefore, I do not use 2005 as the IFRS adoption year in my analyses, but I collect the actual adoption years for my sample firms using the Worldscope database.

I define global audit firms as the Big Four auditors (i.e. PwC, KPMG, Ernst & Young, and Deloitte Touche Tohmatsu) and two very large international audit firms: BDO and Grant Thornton (hereafter global six). I also include Arthur Andersen as a global audit firm in the years before its dissolution. I include BDO and Grant Thornton as global audit firms for two reasons. First, similar to the Big Four, these two firms support IFRS financially and provide professional advice on proposed standards.⁶ Second, both firms are present internationally and thus were able to obtain IFRS-related audit experience prior to the mandatory adoption in 2005.⁷

Following Chan et al. (2006) and Landsman et al. (2009), my analyses of auditor switching behavior are based on logistic and multinomial logistic regressions.⁸ However, unlike Chan et al. (2006), who only include auditor switching firms in their analyses, or Landsman et al. (2009), who exclude all lateral auditor switches among small audit firms, I include both companies that switch auditors and those that do not. Because I am interested in whether client firms are more likely to switch auditors when adopting IFRS, I compare the likelihood of a specific direction of auditor switching not only to all other auditor switch options but also to the option of no auditor switching. The logistic regression equation takes the following form:

⁶ Specifically, global audit firms have provided International Accounting Standards Board, the creators of IFRS, with substantial funding. The IFRS Foundation's financial report for 2011 indicates that the Big 4 provided \$2.25 million each, and BDO and Grant Thornton donated \$150 thousand each (IFRS Foundation, 2012).

⁷ Table 3 panel D presents distribution of individual global audit firms with the group of firm-year observations designated as audited by global six (plus Arthur Andersen).

⁸ Chan et al. (2006) use logistic regression analysis to determine changes in auditor switching behavior after a regulatory change in China. Landsman et al. (2009) examine auditor replacements prior to and subsequent to Arthur Andersen's demise. In section 5, I examine whether the Chan et al. (2006) or Landsman et al. (2009) sample selection procedures would affect my results.

$$\text{Model 1: } Chg_{it} (Chg_xty_{it}) = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 SIZE_{it} + \beta_3 Net_Income_{it} + \beta_4 Growth_{it} \\ + \beta_5 Loss_{it-1} + \beta_6 \Delta C_Stock_{it} + \beta_7 \Delta LTDebt_{it} + \beta_8 \#Exch_i + \sum \gamma_c Country_i + \epsilon_{it}$$

To test the hypothesis that IFRS adoption is positively related to auditor switching (H1A), I define the dependent variable Chg_{it} as an indicator variable equal to one if firm i used a different auditor in year t than in year $t-1$. To test whether IFRS is related to an increased likelihood of auditor switches from small auditors to the global six or vice versa (H1B, H1C), I use a multinomial logistic regression analysis. Such analysis allows for comparison of each possible direction of audit firm replacement with the base outcome of no auditor change. I define Chg_xty_{it} as an index variable with a base condition of no auditor change and separate values for auditor change types: STG (small auditor to a global auditor), STS (small auditor to a small auditor), GTS (global auditor to a small auditor), and GTG (global auditor to a global auditor). I conduct all of my analyses using both the binary logistic regression model and the multinomial logistic regression model.

$IFRS_ADOPT_{it}$ is an indicator variable for IFRS adoption. I code $IFRS_ADOPT_{it}$ as one if firm i used IFRS in year t , and if it reported using non-IFRS accounting standards in year $t-1$ and in year $t-2$. Otherwise, I code $IFRS_ADOPT_{it}$ as zero.⁹ The coefficient on $IFRS_ADOPT_{it}$ is the coefficient of interest because its value indicates whether IFRS adoption is associated with the likelihood of switching auditors.¹⁰

The remaining variables are control variables used in the prior auditor choice and auditor switching literature (Francis and Wilson 1988; Simunic 1980; Johnson and Lys 1990; DeFond 1992; Williams 1998; Chan et al. 2006). These control variables include $SIZE_{it}$, Net_Income_{it} , $Growth_{it}$, $Loss_{it-1}$, ΔC_Stock_{it} , $\Delta LTDebt_{it}$, $\Delta CloseOwn_{it}$, and $\#Exch_i$. $SIZE_{it}$ controls for the

⁹ In section 5, I examine how my results are affected when I require only $t-1$ standards to be non-IFRS.

¹⁰ By construction, the control sample consists of firms adopting IFRS in years when they do not switch reporting standards, and firms which do not adopt IFRS in my sample period.

propensity of larger firms to use global auditors and is defined as a natural logarithm of total assets. Net_Income_{it} captures a firm's profitability and is defined as net income scaled by total assets. $Growth_{it}$ captures the incentives of expanding firms to switch to larger auditors and is defined as the percentage change in sales from year $t-1$ to year t . The $Loss_{it-1}$ variable controls for the tendency of poorly performing firms to switch auditors and equals one for firms experiencing negative income in year $t-1$, zero otherwise. ΔC_Stock_{it} and $\Delta LTDebt_{it}$ capture changes in firms' financing structures. ΔC_Stock_{it} controls for equity issuance and is defined as the percentage change in the number of common shares outstanding. $\Delta LTDebt_{it}$ controls for debt issuance and is defined as the percentage change in long-term debt. $\#Exch_i$ controls for the complexity associated with a client firm's listing on multiple exchanges and is defined as the number of exchanges on which firm i is listed. $Country_i$ are country fixed effects. See table 1 for a detailed description of these variables.

[Insert Table 1 here]

To examine whether preparation for IFRS adoption is also associated with increased likelihood of auditor switching (H2A, H2B), I repeat my first regression model with additional variables $IFRS_pre1_{it}$ and $IFRS_pre2_{it}$. The variable $IFRS_pre1_{it}$ ($IFRS_pre2_{it}$) is an indicator variable equal to one for firm i in year t if $IFRS_ADOPT_{it}$ equals to one for firm i in year $t+1$ ($t+2$). The logistic regression takes the following form:

$$\begin{aligned} \text{Model 2: } Chg_{it} (Chg_xty_{it}) = & \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_pre1_{it} + \beta_3 IFRS_pre2_{it} \\ & + \beta_4 SIZE_{it} + \beta_5 Net_Income_{it} + \beta_6 Growth_{it} + \beta_7 Loss_{it-1} + \beta_8 \Delta C_Stock_{it} + \beta_9 \Delta LTDebt_{it} \\ & + \beta_{10} \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it} \end{aligned}$$

To test whether the strength of a regulatory regime affects auditor switching in the IFRS adoption year (H3A), I repeat my primary regression including $RegQ_{it}$, a continuous variable

capturing the strength of a regulatory regime in firm i 's country in year t .¹¹ Higher values of $RegQ_{it}$ indicate better ability of a country's government to implement and enforce regulations (Kaufmann et al. 2009; Christensen et al. 2011). In my model, I include an interaction variable $IFRS_ADOPT_{it} * RegQ_{it}$, which captures the influence of a regulatory regime on auditor switching in the IFRS adoption year:

$$\begin{aligned} \text{Model 3: } Chg_{it} (Chg_xty_{it}) = & \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_ADOPT_{it} * RegQ_{it} + \beta_3 RegQ_{it} \\ & + \beta_4 SIZE_{it} + \beta_5 Net_Income_{it} + \beta_6 Growth_{it} + \beta_7 Loss_{it-1} + \beta_8 \Delta C_Stock_{it} + \beta_9 \Delta LTDebt_{it} \\ & + \beta_{10} \#Exch_i + \sum \gamma_c Country_i + \varepsilon_{it} \end{aligned}$$

Model 3 allows me to test whether firms listed in high quality regulatory regimes are more likely to switch to global auditors in the year of IFRS adoption (hypothesis 3A). In order to examine whether firms listed in strong regulatory regimes are more likely to switch to global auditors before they adopt IFRS (hypothesis 4A), I repeat my primary regression while including $RegQ_{it}$, $IFRS_pre1_{it}$, $IFRS_pre2_{it}$ and interactions between $RegQ_{it}$ and the IFRS adoption timing variables. The coefficients associated with the interaction terms allow me to evaluate whether the strength of a regulatory regime affects the timing of auditor switching around the IFRS adoption. I estimate the following regression:

$$\begin{aligned} \text{Model 4: } Chg_{it} (Chg_xty_{it}) = & \alpha_0 + [\beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_ADOPT_{it} * RegQ_{it}] \\ & + [\beta_3 IFRS_pre1_{it} + \beta_4 IFRS_pre1_{it} * RegQ_{it}] + [\beta_5 IFRS_pre2_{it} + \beta_6 IFRS_pre2_{it} * RegQ_{it}] + \beta_7 RegQ_{it} \\ & + \beta_8 SIZE_{it} + \beta_9 Net_Income_{it} + \beta_{10} Growth_{it} + \beta_{11} Loss_{it-1} + \beta_{12} \Delta C_Stock_{it} + \beta_{13} \Delta LTDebt_{it} \\ & + \beta_{14} \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it} \end{aligned}$$

4. Sample characteristics and results

¹¹ I collect the values of $RegQ_{it}$ from Kaufmann et al. (2009) for each country-year in my sample. As in Pownall and Wiczynska (2012), I replace the missing values in 2009 and 2010 with the values from 2008.

To analyze the switching behavior of EU firms, I collect the names of auditors from the annual financial reports of firms from the United Kingdom, Poland, Germany, Italy, and Spain in the 1998 to 2010 period. I select these countries because they represent the five largest capital markets in the EU and have different levels of regulatory regime quality. I exclude France from my analyses because of its dual audit requirement, which causes difficulty in identifying the lead auditor for the purpose of my analyses (Francis et al. 2009).¹²

I collect the firm and auditor data from the Worldscope database.¹³ I select my initial sample of firms based on whether they are domiciled in my sample countries and whether they have total assets higher than zero in any of the years from 1998 to 2010.¹⁴ I remove the observations for which I am not able to determine the auditor. These firm-selection procedures result in a sample of 6,272 firms, which provide 48,065 firm-years with positive total assets. I collect the names of audit firms from Worldscope. The online version of the Worldscope database provides the names of firms' auditors only for the most recent fiscal year-end for which data are available. I collect the audit firms' names for some of the missing auditor observations from the Worldscope compact discs (available only until 2006) and the remaining ones from annual reports. The firm-year observations for the auditor data are organized such that the auditors for 2006 audited the financial statements for 2006. These procedures result in 44,116

¹²I collect the names of the audit firms that examined financial statements prepared under IFRS and non-IFRS reporting standards. For each firm-year, I determine the financial reporting standards and the name of the audit firm. Because the audit reports included in French companies' financial reports do not specify which auditor is responsible for auditing current period's financials, I am not able to properly code the data for this country.

¹³ Alternatively, it is possible to use Compustat Global Vantage to collect auditors' names. However, compared with Worldscope, Global Vantage has a limited coverage of international firms. Specifically, Global Vantage covers only the largest and most visible firms, whereas Worldscope also includes small firms and firms listed on unregulated markets. For example, Comprix et al. (2011) analyze the auditor replacements for a sample of fourteen EU countries using the Global Vantage database, resulting in a sample of 1,989 firms. The sample of firms from the five countries that I analyze in this paper, collected from Worldscope, includes 5,982 firms.

¹⁴ Pownall and Wiczynska (2012) use this selection procedure to create a sample of firms from 2005 to 2010.

firm-year auditor observations with 955 unique audit firms. See table 2 for a summary of sample selection procedures.

[Insert Table 2 here]

An indicator variable for auditor replacements, Chg_{it} , is non-missing for the 38,137 firm-years for which I collect the names of the auditors in year t and in year $t-1$. I adjust this variable for audit firm mergers and audit firm failures. Among others, I record as non-replacements all replacements of Arthur Andersen with other audit firms in the years 2001-2003 because of Arthur Andersen's failure, and the replacements of RSM with Grant Thornton in the United Kingdom in 2007 and 2008 because these audit firms merged in 2007. In total, I change the value of 460 Chg_{it} indicators from one to zero. This variable adjustment left my sample with 3,300 (34,837) observations of Chg_{it} equal to one (zero). For my sample characteristics, I split Chg_{it} into four different indicator variables: Chg_STG_{it} (replaced a small audit firm with a global audit firm), Chg_STS_{it} (replaced a small audit firm with another small audit firm), Chg_GTG_{it} (replaced a global audit firm with another global audit firm), and Chg_GTS_{it} (replaced a global audit firm with a small audit firm).

In table 3, I report the number of auditor replacements for the sample of all firms for which audit firm data are available. Panel A of table 3 suggests that the frequency of switching from small auditors to global audit firms increased substantially after 2005. Similarly, the frequency of switching from a small auditor to another small auditor increased after 2005. In addition, more client firms switched from global audit firms to smaller auditors in the years 2003-2006. Panel B shows how many firms adopted IFRS and how many firms were using IFRS in each of my sample years. Consistent with Pownall and Wiczynska (2012), I find that many EU firms continued to use local financial reporting standards even in 2010. Consequently, it is

not appropriate to pick a particular year as the year of IFRS adoption, but it is necessary to consider each firm's IFRS adoption as a specific firm-year event.

[Insert Table 3 here]

In panel C of table 3, I compare the timing of IFRS adoptions with the number of auditor replacements. The auditor replacement frequencies in this table are only for the firms that adopted IFRS during my sample period. Table 3 reports that more firms switched from small auditors to global audit firms in the year of IFRS adoption. More firms switched from one global audit firm to another global audit firm, and fewer firms using global auditors switched to small audit firms after IFRS adoption. To assure that the increased frequency of auditor replacements is not associated with increased firm coverage by Worldscope in more recent years, I use logistic regression analysis to examine whether the likelihood of auditor switching around IFRS adoption was significantly different from the likelihood of auditor switching in other sample years. The results of this analysis are reported in table 5.

Compared with the full sample of 38,137 possible auditor replacement observations, the main regression analysis uses 33,371 potential auditor change observations, of which 2,740 are auditor replacements. Panel A of table 4 presents country and industry composition and panel B contains the characteristics of all variables for the sample of firm-year observations with available auditor data. Panel C of table 4 reports the characteristics of all dependent and independent regression variables for the sample used to estimate the main logistic regression.

Panel E of table 4 contains correlation coefficients for the sample used to estimate the main regression.¹⁵ The correlation between $IFRS_ADOPT_{it}$ and Chg_{it} is positive and significant

¹⁵ I have calculated tetrachoric correlation coefficients for dichotomous variables and Pearson and Spearman correlation coefficients for continuous variables. Because Pearson and Spearman correlation coefficients are not appropriate for estimating relations between dichotomous variables, I estimate tetrachoric correlation coefficients (Carroll 1961, Digby 1983).

at the 10% level (correlation coefficient=0.03). The correlation between IFRS adoption and replacement of a small audit firm with a global audit firm (Chg_STG_{it}) is positive and significant (correlation coefficient=0.08, significant at 1% level). Moreover, firms adopting IFRS were larger, more profitable, and were growing more rapidly than non-IFRS firms. These results are consistent with Pownall and Wieczynska (2012). As for auditor replacements, larger firms were less likely to replace auditors and were more likely to switch from a global audit firm to another global audit firm. Firms issuing debt or equity were also more likely to switch auditors and more likely to switch from small auditors to global audit firms.

[Insert Table 4 here]

Table 5 reports the results of testing whether auditor replacement frequency is associated with the adoption of IFRS. The coefficient estimates reported in the first column are from a binary logit model. The coefficient on $IFRS_ADOPT_{it}$ is positive and significant ($\beta_1=0.14$, $p<.10$). This coefficient suggests that client firms were more likely to replace auditors in the year of IFRS adoption than in other years. The coefficients associated with other explanatory variables suggest that larger ($\beta_2=-0.14$, $p<.01$) and more profitable ($\beta_3=-0.15$, $p<.10$) firms were less likely to switch auditors. Growing firms, firms that experienced a loss, firms issuing debt or equity, and firms listed on multiple stock exchanges were more likely to switch auditors.

[Insert Table 5 here]

In table 5, I report the results of estimating a multinomial logistic regression model where I estimate the effect of IFRS adoption on specific directions of auditor replacements. For the firms switching from small auditors to global audit firms (STG), the coefficient associated with $IFRS_ADOPT_{it}$ is positive and significant: $\beta_1=0.46$ ($p<.01$). This result indicates that client firms were more likely to replace small auditors with global audit firms in the year of IFRS adoption.

Therefore, I reject hypothesis H1, which states that IFRS adoption is not related to the likelihood of auditor replacements, and I accept H1A, which states that a positive relation between these two phenomena exists. The relative odds ratio associated with $IFRS_ADOPT_{it}$ in the *STG* specification is 1.58. This suggests that client firms are about 60% more likely to switch from small audit firms to global audit firms in the year of IFRS adoption than in other years as compared to the option of no auditor replacements, *ceteris paribus*.

The coefficient associated with $IFRS_ADOPT_{it}$ is also marginally significant in *GTG* specification, where $\beta_1=0.19$ ($p<.10$), suggesting that firms adopting IFRS are more likely to switch between global auditors. The coefficient associated with $IFRS_ADOPT_{it}$ is not significant in any other specification. Because the coefficients associated with the replacement of global auditors with small audit firms are insignificant, I reject hypothesis H1C, which states that IFRS adoption is positively related to the likelihood of replacing global audit firms with small auditors.

Additionally, I find that larger firms were less likely to switch auditors in the *STG*, *STS*, and *GTS* specifications, but were more likely to switch auditors in the *GTG* specification. Growing firms and firms issuing debt or stock were more likely to switch from small audit firms to global auditors. Client firms experiencing losses were more likely to switch from global audit firms to small auditors or to other global audit firms.

[Insert Table 6 here]

Table 6 presents the coefficient estimates for model 2, including all three variables capturing the timing of IFRS adoption. In the binary logit model, only $IFRS_ADOPT_{it}$ has a significant coefficient, $\beta_1=0.16$ ($p<.10$). Consistent with the results from table 5, this suggests that on average client firms were more likely to switch auditors in the year of IFRS adoption, but not before adopting IFRS (β_2 and β_3 are not significant). In the multinomial logit model, the

coefficient associated with $IFRS_ADOPT_{it}$ is positive and significant for the client firms switching from small auditors to global audit firms ($\beta_1=0.52, p<.01$). The coefficient associated with $IFRS_preI_{it}$ is marginally significant in *GTS* specification ($\beta_2=0.31, p<.10$).

[Insert Table 7 here]

Table 7 presents the results of estimating model 3, including a variable capturing the quality of a country's regulatory regime. The coefficients on $RegQ_{it}$, $IFRS_ADOPT_{it}*RegQ_{it}$, and $IFRS_ADOPT_{it}$ are not significant in the model with a binary dependent variable. In other words, I cannot reject the hypothesis that the strength of a regulatory regime has no influence on auditor switching in the year of IFRS adoption.

The results from estimating the multinomial logit model indicate that firms operating in markets with high-quality regulatory regimes were more likely to switch from small auditors to global audit firms ($\beta_3=2.20, p<.01$), more likely to switch from global audit firms to other global audit firms ($\beta_3=0.91, p<.05$), and less likely to switch from global audit firms to small auditors ($\beta_3=-2.64, p<.01$) than firms listed in markets with lower quality regulatory regimes. Marginally significant coefficient on $IFRS_ADOPT_{it}$ in *STS* specification indicates that the likelihood of switching from small audit firms to global auditors is lower in the year of IFRS adoption for firms adopting IFRS in low quality regulatory regimes ($\beta_1=-1.25, p<.10$). However, the coefficient on the interaction term suggests that in countries with high quality regulatory regimes the likelihood of switching from small audit firms to global auditors is significantly positively associated with IFRS adoption ($\beta_2=1.01, p<.05$). Consequently, hypothesis H3, which states that regulatory regime quality has no influence on the likelihood that a small audit firm will be replaced by a large auditor in the year of IFRS adoption, can be rejected in favor of the alternate hypothesis H3A. Specifically, results indicate that the frequency of switching from small audit

firms to global auditors in the year of IFRS adoption is higher in countries with strong regulatory regimes than in countries with weak regulatory regimes. Other results from table 7 are consistent with those in table 5.

[Insert Table 8 here]

Table 8 reports the results of estimating model 4, which examines the auditor replacement practices before IFRS adoption for firms operating in high- and low-quality regulatory regimes. Consistent with prior results, table 8 shows that firms operating in markets with high-quality regulatory regimes were more likely to switch auditors and more likely to switch to global audit firms. In addition, the binary model suggests that client firms from lower (higher) quality regulatory regimes were on average (less) more likely to switch auditors one year before and two years before IFRS adoption. Considering these results and the lack of results for the binary logistic regression in table 6, I conclude that the audit industry in markets with high quality regulatory regimes was affected differently by IFRS adoption than the audit industry in markets with low quality regulatory regimes. It is important to keep these results in mind, especially when estimating the consequences of the possible adoption of IFRS in a country with a high quality regulatory regime, such as the United States.

The coefficients associated with the *STS* ($\beta_4=-0.74, p<.05$) and *GTG* ($\beta_4=-0.65, p<.05$) specifications suggest that in contrast to firms from low quality regulatory regimes, firms from highly regulated markets were less likely to switch to audit firms of the same type as their previous auditor in the year before IFRS adoption. In addition, firms from lower quality regulatory regimes were more likely to switch from global audit firms to other audit firms two years before IFRS adoption. However, firms from highly regulated markets were less likely to replace global audit firms with other auditors ($\beta_6 = - 0.83, p<.10$ in *GTS* specification, and $\beta_6 = -$

0.76, $p < .05$ in *GTG* specification). These results may be due to client firms trying to keep global auditors in order to obtain their advice during IFRS adoption.

Overall, table 8 suggests that auditor switching increased in the years leading up to the IFRS adoption but the switching was significantly diminished for firms listed in markets with high quality regulatory regimes. Also, all tables consistently report that the likelihood of switching from small audit firms to global auditors increased significantly for firms from high quality regulatory regimes in the IFRS adoption year. Based on table 8, there are no significant results for this direction of auditor switching before IFRS adoption.

5. Supplemental analyses

5.1. Additional explanatory variables

Audit fees and audit opinion. Because the audit fees data are not available for many of my sample firms, I do not include the audit fee variable in my primary regression equation. However, because audit fees and a qualified audit opinion may be associated with auditor switching I include these variables in my supplemental analyses. Specifically, I include the following three variables in my model: Aud_Fees_{it} is the natural logarithm of audit fees, ΔAud_Fees_{it} is a percentage change in audit fees from year $t-1$ to year t , and $Qualified_{it}$ is an indicator variable equal to one if a firm received a qualified audit opinion in year $t-1$. For this analysis I use 21,055 possible auditor change observations, 1,383 of which are auditor switches. Panel D of table 4 presents summary characteristics for this sample.

Results reported in table 9 suggest that higher audit fees were associated with a lower likelihood of switching from small auditors to small audit firms and from global audit firms to small auditors. Additionally, an increase (decrease) in audit fees was associated with a higher

likelihood of switching from small audit firms to global auditors (from global auditors to small audit firms). A qualified audit opinion in year $t-1$ increased the likelihood of auditor replacements in year t . Consistent with the main results, the likelihood of switching auditors and the likelihood of replacing a small audit firm with a global audit firm was still higher in the year of IFRS adoption ($\beta_1 = 0.18$, $p < .10$ in the binary model, and $\beta_1 = 0.60$, $p < .01$ in *STG* specification of the multinomial model).

[Insert Table 9 here]

Changes in the complexity of operations. In the main part of the paper, I use firm size to control for complexity. However, prior research (Kim et al. 2010) has used other variables to control for the complexity of a client firm's operations. In supplemental analyses, I use data on the business and geographic segments of the firms in my sample as additional controls for changes in business complexity. Specifically, I create two indicator variables, first for change in the number of segments ($\mu=0.30$, $\sigma=0.46$)¹⁶, and second for an increase in the number of segments ($\mu=0.18$, $\sigma=0.39$). Untabulated results suggest that changes in the number of segments are positively associated with auditor replacements, and positively related to switching to global audit firms. The coefficient associated with the year of IFRS adoption is insignificant in the binary models, but the coefficient associated with switching from small audit firms to global auditors retains the direction and significance levels from the main analysis.

Likelihood of bankruptcy. Firms may be more likely to switch auditors because they become financially distressed. Therefore, to test whether financial distress was responsible for auditor switching in my sample firms, I include Altman's Z-score in my explanatory variables (Altman, 1968). I calculate Z-score for each of my sample firms-year ($\mu=4.66$, $\sigma=28.00$,

¹⁶ Characteristics of additional explanatory variables presented in this section are calculated for the sample used to estimate the logistic regression including these variables.

median=2.53). Untabulated results indicate that the Z-score variable is negatively related to auditor replacements. As in the analyses including segment variables, while the results from multinomial logistic analyses are consistent with the main part of the paper, the coefficient associated with the year of IFRS adoption is insignificant in the binary models.

Characteristics of firms switching auditors. Throughout this paper, I assume that increased frequency of auditor switching in the year of IFRS adoption is due to the adoption of IFRS. However, it is not clear that the firms switching auditors during IFRS adoption would not have switched auditors in spite of the reporting regime change. Thus, to examine whether differences in incentives exist between firms switching and firms retaining auditors in the IFRS adoption period, I conduct a series of t-tests for difference in means on summary characteristics for a sample of firms switching audit firms, and a sample of firms switching from small to global audit firms. Results are reported in table 10.

[Insert Table 10 here]

Panel A of table 10 suggests that firms switching auditors and firms retaining auditors differ significantly on most of the sample characteristics in the year of IFRS adoption (Diff.), in the years before IFRS adoption (Diff. pre), subsequent to IFRS adoption (Diff. post), and for all sample firm-years (All). Results indicate that firms switching auditors in the IFRS adoption year differ from non-switchers on almost all dimensions, and they share these differences with other time periods. However, panel B of table 10 suggests that among firms using small auditors, firms switching from small audit firms to global auditors in the year of IFRS adoption do not differ significantly from firms using small audit firms on any of the sample characteristics. Meanwhile, firms switching from small to global audit firms tend to differ from non-switchers on $SIZE_{it}$, $Growth_{it}$, ΔC_Stock_{it} , and $\Delta LTDebt_{it}$. These results indicate that companies switching from small

audit firms to global auditors in the year of IFRS adoption may have incentives for audit firm replacement that are independent from organizational development or stock market incentives.

5.2. Sample selection

As mentioned in section 3, Chan et al. (2006) (Landsman et al. [2009]) limit their analysis to a sample of firms that replaced auditors (firms that used global audit firms prior to switching auditors). In contrast, I use a sample of firms that did not replace auditors and firms that replaced auditors in each direction. To assure robustness of my results to alternative sample specifications, I estimate models 1 and 2 on the following samples: (1) a sample of firms that switched auditors during my sample period; (2) a sample of firms that adopted IFRS during my sample period; (3) a sample that is at an intersection of samples (1) and (2); (4) a sample of firm-years for which the audit firm in year $t-1$ is a small audit firm; and (5) a sample excluding firms which adopted IFRS before 2005 (excluding voluntary adopters). Sample (1) has 16,829 firm-years, sample (2) has 22,100 firm-years, sample (3) has 12,323 firm-years, sample (4) has 8,966 firm-years, and sample (5) has 31,787 firm-year observations.

The coefficient associated with IFRS adoption in the binomial model retains significance only in the non-voluntary (5) sample. My conclusions with respect to IFRS adoption and auditor replacements in multinomial logistic regression models are consistent with prior results. One difference is that the coefficient associated with $IFRS_ADOPT_{it}$ in model 1 is negative and significant for *STS* specification in sample (1) and in sample (3). $IFRS_ADOPT_{it}$ coefficient is positive and significant in sample (5) for *BTB* specification. The results with respect to $RegQ_{it}$ variable are consistent with the main analyses.

5.3. Variable definitions

IFRS adoption. $IFRS_ADOPT_{it}$ is defined in my paper as an indicator variable equal to one if firm i used IFRS in year t and non-IFRS reporting standards in years $t-1$ and $t-2$. In this section, I examine whether the results of my analyses are sensitive to the definition of this variable. I re-estimate models 1 and 2 using the following conditions: (1) $IFRS_ADOPT_{it}$ is equal to one if firm i used IFRS in year t and non-IFRS reporting standards in year $t-1$, and (2) $IFRS_ADOPT_{it}$ is equal to one if firm i used IFRS in year t and either used non-IFRS reporting standards in year $t-1$ or had no reporting standards data available for year $t-1$. The conclusions obtained from multinomial logit models using these alternative definitions are consistent with the main part of paper. IFRS adoption coefficients are not significant in the binary logit models.

Regulatory environment. I examine whether the results for the analyses of regulatory quality are affected by the choice of a proxy for regulatory quality. That is, I will replace the continuous $RegQ_{it}$ variable based on Kaufmann et al. (2008) with an indicator variable, where the indicator variable equals one for firm-year with above median values of $RegQ_{it}$. Conclusions from analyses using the binary regulatory quality variable are consistent with those reported in the main part of the paper.

Alternatively, I also use an indicator variable for firms listing on stock exchanges regulated by the EU. Such firms have to abide by the EU directives which specify additional disclosure requirements and they are also subject to EU-oversight (Pownall and Wieczynska 2012). When I include this indicator variable and its interaction with $IFRS_ADOPT_{it}$, the coefficient on $IFRS_ADOPT_{it}$ is positive and significant in the binary logit model and in the *STB* specification of the multinomial logit model. At the same time, the coefficient of the interaction term is negative and significant in the *STB* specification. These results indicate that firms not subject to EU oversight may be more likely to seek help of global audit firms. It is possible that

firms regulated by the EU have better quality reports and may be better prepared for transition to IFRS than firms regulated by national authorities or exchanges only. In addition, almost eighty percent of firms regulated by the EU and only sixty percent of firms not regulated by the EU were using global audit firms before IFRS adoption, which naturally limits the sample of potential small auditor replacement observations from the EU regulated markets.

5.4. Alternative model specification

Big Four vs. global six. In the main part of the paper, I define global audit firms as the Big Four (Five) auditors plus BDO and Grant Thornton. Here, I examine how sensitive my results are to the definition of the largest audit firms. I repeat my analyses after replacing the global six with the Big Four. Coefficients of interest lose significance in models using regulatory quality variables. Model 1 and model 2 results are consistent with those obtained using global six audit firms. However, a coefficient in *GTS* multinomial model specification associated with $IFRS_ADOPT_{it}$ is positive and significant ($\beta_1=0.29$, $p<.10$ in model 1, and $\beta_1=0.36$, $p<.05$ in model 2). Lack of significance for this coefficient in the main analyses indicates that some of the increase in auditor switching is due to Big Four firms' clients moving to other global audit firms. This suggests that BDO and Grant Thornton should not be grouped together with small audit firms. Possibly, the two-tier audit market has been replaced by the three-tier market, where Big Four are followed by large non-Big Four auditors and then by smaller audit firms.

Fixed effects. In the main part of the paper I use only country-fixed effects. Since most IFRS adoptions are concentrated in particular years (see table 3, panel B), I do not include year-fixed effects in my main analyses, because they may capture the effect of IFRS adoption. However, I include year fixed effects as checks of robustness. Conclusions from these analyses are mostly consistent with those obtained without year-fixed effects. The only exception is that

the coefficient associated with $IFRS_ADOPT_{it}$ in the binary models loses significance, perhaps due to year-effects capturing most of the IFRS adoption events.

6. Conclusions

In this study, I examine whether IFRS adoption affects auditor replacement behavior. I find that client firms are more likely to replace auditors in the year of IFRS adoption. Furthermore, my findings indicate that IFRS adoption has different effects on global and small audit firms. In particular, I show that client firms are more likely to replace small audit firms with global audit firms when adopting IFRS, but not before IFRS adoption.

Additionally, I study whether the effect of IFRS adoption is moderated by the quality of a regulatory regime. I find that in countries with high-quality regulatory regimes, the difference in the effects of IFRS on small and global audit firms is more pronounced: small audit firms are more likely to lose clients adopting IFRS, whereas global audit firms are more likely to gain these clients. The results of my sensitivity analyses suggest that my conclusions are robust to alternative variable and sample definitions.

Natural extensions of this research paper may use more sample countries to examine the effect that IFRS had on their audit markets. For example, Canada, a country with a high-quality regulatory regime and a well-developed stock market, adopted IFRS in 2011 and would be an interesting setting for the analysis of auditor switching behavior. Another possible extension could examine whether the firms that switched to global auditors when adopting IFRS prepare better-quality IFRS financial reports than the firms that have adopted IFRS and have retained small audit firms. Finally, future scholars may want to examine audit firms' earnings before and after country-wide IFRS adoptions.

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Table 1: Variable definitions

Variable	Definition	Source
Chg_{it}	An indicator variable equal to one if firm i uses a different auditor to examine financial statements for year t than the auditor who examined financial statements for year $t-1$	Worldscope, Financial Reports
Chg_xty_{it}	Chg_xty_{it} is an index variable that takes different values for each of the five possible auditor replacement options: <i>STG</i> (small auditor to global six), <i>STS</i> (small auditor to small auditor), <i>GTS</i> (global six to small auditor), <i>GTG</i> (global six to global six), and no auditor replacement.	Worldscope, Financial Reports
$IFRS_ADOPT_{it}$	An indicator variable equal to one if firm i uses IFRS in year t , and reports using non-IFRS accounting standards in years $t-1$ and $t-2$	Worldscope
$IFRS_pre1_{it}$	An indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+1$	Worldscope
$IFRS_pre2_{it}$	An indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+2$	Worldscope
$SIZE_{it}$	Natural logarithm of total assets at the end of year t . All financial data from Worldscope has been downloaded in USD.	Worldscope
Net_Income_{it}	Net income scaled by total assets	Worldscope
$Growth_{it}$	Percentage change in sales from year $t-1$ to year t	Worldscope
$Loss_{it-1,t-2}$	An indicator variable equal to one if a firm experienced a loss in year $t-1$	Worldscope
ΔC_Stock_{it}	A proxy for common equity issuance; percentage change in the number of common shares outstanding from year $t-1$ to year t	Worldscope
ΔLTD_{it}	A proxy for debt issuance; percentage change in firm i 's long term debt from year $t-1$ to year t .	Worldscope
$\#Exch_i$	Number of exchanges that firm i is listed on;	Worldscope
Aud_Fees_{it}	Natural logarithm of audit fees	Worldscope
ΔAud_Fees_{it}	Percentage change in audit fees from year $t-1$ to year t	Worldscope
$Qualified_{it}$	An indicator variable equal to one when Worldscope indicates a qualified audit opinion for year $t-1$ financial report	Worldscope
$RegQ_{it}$	The regulatory quality variable from Kaufmann et al. (2009). The variable is a proxy for the ability of a country's government to implement and enforce regulations. I collect values of $RegQ_{it}$ from Kaufmann et al. (2009) for each country-year in my sample. As in Pownall and Wieczynska (2012), the 2009 and 2010 missing values are replaced with the values from 2008.	Kaufmann et al. (2009)
$Country_i$	A set of country indicator variables	Worldscope

Table 2: Sample selection

Sample	Firms	Firm-years
Initial sample [#]	6, 272	48, 065
Less:		
- missing audit firm data [#]	67	3, 949
- missing audit firm data for year $t-1$ ^{##}	444	5, 979
- missing regression variables ^{###}	<u>276</u>	<u>4, 766</u>
Used in regression analyses:	5, 485	33, 371
Less:		
- missing audit fee and audit opinion data ^{###}	<u>1, 506</u>	<u>12, 316</u>
Used in an analysis with audit fee & opinion variables:	3, 979	21, 055

[#]Initial sample is the sample of all publicly traded firms domiciled in the UK, Germany, Italy, Spain, and Poland with total assets higher than zero in any of the years 1998-2010. I created the initial sample in the spring 2011 based on the total assets data collected from Worldscope database. Subsequently, I collected audit firm data from Worldscope compact discs and from firms' annual financial reports. The initial sample includes data for 1998 because I need this year's data to create auditor replacement and other change variables for the following year. The data sample I examine in this paper includes data from years 1999-2010.

^{##}I require that the audit firm for the current and prior period can be identified. I use current and prior periods' values to create variable capturing auditor replacements.

^{###} For my regression analyses, I require that all independent variables are available for the firm-years I analyze. I also truncate the continuous financial variables: TA_{it} , Net_Income_{it} , $Growth_{it}$, ΔC_Stock_{it} , $\Delta LTDebt_{it}$, Aud_Fees_{it} , and ΔAud_Fees_{it} at 1% and at 99%. The main regression equation is: $Chg_{it} (Chg_xty_{it}) = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 SIZE_{it} + \beta_3 Net_Income_{it} + \beta_4 Growth_{it} + \beta_5 Loss_{it-1} + \beta_6 \Delta C_Stock_{it} + \beta_7 \Delta LTDebt_{it} + \beta_8 Exch_{it} + \sum \gamma_c Country_i + \epsilon_{it}$. I require audit opinion and audit fee data for supplemental analysis, where Aud_Fees_{it} , ΔAud_Fees_{it} , and $Qualified_{it}$ are included as additional explanatory variables.

Table 3**Table 3 Panel A: Auditor replacements per year**

Variable	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total	Avg/Yr
<i>N</i>	2,569	2,654	2,948	3,063	3,034	3,103	3,254	3,430	3,643	3,630	3,523	3,286	38,137	3,178
<i>Chg_{it} = 1</i>	199	196	255	209	244	261	292	336	364	346	306	292	3,300	275
<i>Chg_STG_{it}</i>	43	34	49	42	30	34	43	67	82	88	47	62	621	52
<i>Chg_STS_{it}</i>	45	35	52	56	48	73	81	100	120	93	121	109	933	78
<i>Chg_GTG_{it}</i>	87	108	117	68	107	101	100	108	123	119	88	88	1,214	101
<i>Chg_GTS_{it}</i>	24	19	37	43	59	53	68	61	39	46	50	33	532	44

Frequencies are provided for the sample of 38,137 firm-years with available total assets and available auditor data for year t and year $t-1$, where t is 1999-2010. N is the number of firm-year observations. Chg_{it} is an indicator variable equal to one if firm i uses a different auditor in year t than in year $t-1$. $Chg_{xty_{it}}$ is a binary indicator variable equal to one if a firm replaces its audit firm from x type to y type, and it equals zero if auditor change is in a different direction or there is no auditor change; xty takes one of the four possible forms: *STG* (small auditor to global six), *STS* (small auditor to small auditor), *GTS* (global six to small auditor) or *GTG* (global six to global six).

Table 3 Panel B: Financial reporting standards used and IFRS adoptions per year

Variable	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
<i>IFRS</i>	62	123	159	224	252	318	1,406	2,037	2,573	3,005	2,922	2,752	15,833
<i>IFRS_ADOPT</i>	23	13	19	29	24	51	1,008	547	401	413	35	23	2,586
<i>Local</i>	2,089	2,120	2,434	2,668	2,647	2,686	1,811	1,369	1,040	604	584	520	20,572

IFRS_{it} is an indicator variable equal to one if firm i uses IFRS in a given year and zero otherwise. *IFRS_ADOPT_{it}* is an indicator variable equal to one if firm i uses IFRS in year t , and reports using non-IFRS accounting standards in years $t-1$ and $t-2$. Frequencies are provided for the sample of 38,137 firm-years with available total assets and available auditor data for year t and year $t-1$.

Table 3 Panel C: Auditor replacements in the years surrounding IFRS adoption

Variable	T _{IFRS-2}	T _{IFRS-1}	T _{IFRS}	T _{IFRS+1}	T _{IFRS+2}
<i>Chg_{it}</i> = 1	189	242	248	233	194
<i>Chg_STG_{it}</i>	36	39	63	44	30
<i>Chg_STS_{it}</i>	45	72	51	61	63
<i>Chg_GTG_{it}</i>	68	87	98	98	75
<i>Chg_GTS_{it}</i>	40	44	36	30	26

Chg_{it} is an indicator variable equal to one if firm *i* uses a different auditor in year *t* than in year *t-1*. *Chg_{xyit}* is a binary indicator variable equal to one if a firm replaces auditors from *x* type to *y* type, and it equals zero if auditor change is in a different direction or there is no auditor change; *xyt* takes one of the four possible forms: *STG* (small auditor to global six), *STS* (small auditor to small auditor), *GTS* (global six to small auditor) or *GTG* (global six to global six). T_{IFRS} is the first year when firm *i* is using IFRS. T_{IFRS+1} is the second year when firm *i* is using IFRS, etc. T_{IFRS-1} is a year before firm *i* adopts IFRS, etc. Frequencies are provided for the sample of 38,137 firm-years with available total assets and available auditor data for year *t* and year *t-1*.

Table 3 Panel D: Global six audit firms by country

	Pre IFRS period						IFRS period					
	Germany	Spain	UK	Italy	Poland	Total	Germany	Spain	UK	Italy	Poland	Total
PwC	27%	26%	26%	26%	18%	26%	23%	24%	21%	28%	11%	22%
Deloitte Touche	4%	22%	16%	21%	20%	14%	11%	47%	19%	26%	19%	20%
Ernst & Young	21%	11%	17%	21%	15%	18%	27%	13%	15%	28%	21%	19%
KPMG	29%	12%	22%	17%	20%	22%	27%	10%	20%	15%	16%	20%
Arthur Andersen	10%	28%	5%	13%	7%	9%						
BDO	9%	1%	7%	<1%	21%	7%	10%	5%	10%	3%	25%	10%
GT	1%	<1%	7%	1%	<1%	5%	1%	1%	15%	<1%	8%	9%

The table contains the distribution of specific audit firms within global six (plus Arthur Andersen) across countries before and after the IFRS adoption. The percentage values represent how many of the global six observations in a given period belong to a particular accounting firm. Distribution is provided for the sample of firm-years with available total assets and available auditor data for year *t* where audit firm is identified as one of the global six. Pre IFRS period summarizes data from 1998 to 2004, IFRS period represents data from 2005 until 2010.

Table 4: Sample Characteristics

Table 4 Panel A: Main sample country and industry breakdown

Country:		%
	Germany	24.05
	Spain	4.80
	UK	57.43
	Italy	7.77
	Poland	5.94
Industry:		%
	Agriculture, forestry, and fishing	<1
	Construction	3
	Finance, insurance, and real estate	29
	Manufacturing	29
	Mining	5
	Public administration	<1
	Retail trade	4
	Services	20
	Utilities	7
	Wholesale trade	3

This table contains industry and country breakdown for the main sample firms. The main sample is a sample of firm-year observations for which total assets data and audit firm's name is available in years 1998-2010. The sample includes 44,116 firm-year observations. Industry is based on two-digit SIC codes from Worldscope.

Table 4 Panel B: Summary of regression variables for the whole sample

Variable	N	μ	σ	min	p1	p5	p25	med	p75	p95	p99	max
<i>Chg_{it}</i>	38,137	0.09	0.28	0	0	0	0	0	0	1	1	1
<i>Chg_STG_{it}</i>	38,137	0.02	0.13	0	0	0	0	0	0	0	1	1
<i>Chg_STS_{it}</i>	38,137	0.02	0.15	0	0	0	0	0	0	0	1	1
<i>Chg_GTS_{it}</i>	38,137	0.01	0.12	0	0	0	0	0	0	0	1	1
<i>Chg_GTG_{it}</i>	38,137	0.03	0.18	0	0	0	0	0	0	0	1	1
<i>IFRS_ADOPT_{it}</i>	40,101	0.07	0.25	0	0	0	0	0	0	1	1	1
<i>Qualified_{it}</i>	39,886	0.02	0.13	0	0	0	0	0	0	0	1	1
<i>Loss_{it-1}</i>	39,336	0.33	0.47	0	0	0	0	0	1	1	1	1
<i>TA_{it}</i>	40,509	2,310.96	10,377.43	0.43	1.00	3.51	24.60	100.89	497.28	9,359.29	55,311.63	147,000.00
<i>Net_Income_{it}</i>	40,473	-0.04	0.25	-2.22	-1.26	-0.47	-0.03	0.02	0.05	0.14	0.23	0.31
<i>Growth_{it}</i>	38,542	22.77	81.67	-99.47	-83.16	-44.82	-7.57	7.54	28.51	123.18	399.31	970.22
ΔC_Stock_{it}	37,590	8.69	31.30	-16.60	-9.13	-2.61	0.00	0.00	1.59	51.96	168.53	350.13
ΔLTD_{it}	38,772	40.99	239.96	-100.00	-100.00	-99.21	-17.02	0.00	20.05	211.71	1,136.75	3,516.66
<i>#Exch_i</i>	41,335	1.12	0.79	0.00	0.00	0.00	1.00	1.00	1.00	3.00	3.00	11.00
<i>Aud_Fees_{it}</i>	26,751	0.95	2.76	0.01	0.01	0.02	0.05	0.16	0.56	4.44	16.10	30.27
ΔAud_Fees_{it}	23,952	24.84	85.84	-78.18	-70.82	-52.01	-15.76	6.12	34.90	163.46	438.13	760.38
<i>RegQ_{it}</i>	41,335	1.55	0.32	0.61	0.67	0.77	1.46	1.68	1.79	1.88	1.88	1.88

The sample for this table contains firm-year observations for which audit firm data were available in years 1999-2010. The sample includes 5,982 individual firms (41,335 firm-year observations). I exclude year 1998 from this table for comparability with tables including sample characteristics for main regression sample, where year 1998 is excluded by construction. *Chg_{it}* is an indicator variable equal to one if firm *i* uses a different auditor to examine year *t*'s report than it used to examine year *t-1*'s annual report. *Chg_xty_{it}* are indicator variables equal to one if a firm replaces auditors: *STG* (small auditor to global six), *STS* (small auditor to small auditor), *GTS* (global six to small auditor) or *GTG* (global six to global six). *IFRS_ADOPT_{it}* is an indicator variable equal to one if firm *i* adopts IFRS in year *t*. *TA_{it}* is total assets at the end of year *t*. *Net_Income_{it}* is net income reported for firm *i* in year *t* scaled by total assets. *Growth_{it}* is defined as percentage change in sales from year *t-1* to year *t*. *Loss_{it-1}* is an indicator variable equal to one if a firm experienced a loss in year *t-1*. ΔC_Stock_{it} is a percentage change in common shares outstanding from year *t-1* to year *t*. ΔLTD_{it} is a percentage change in firm *i*'s long term debt from year *t-1* to year *t*. *#Exch_i* is the number of exchanges that firm *i* is listed on. *Aud_Fees_{it}* is a natural logarithm of audit fees. ΔAud_Fees_{it} is the percentage change in audit fees from year *t-1* to year *t*. *Qualified_{it}* is an indicator variable equal to one when firm *i*'s report had a qualified audit opinion in year *t-1*. *RegQ_{it}* is regulatory quality variable from Kaufmann et al. (2009). Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 4 Panel C: Summary of regression variables for the main regression sample

Variable	N	μ	σ	min	p1	p5	p25	med	p75	p95	p99	max
<i>Chg_{it}</i>	33,371	0.08	0.28	0	0	0	0	0	0	1	1	1
<i>Chg_STG_{it}</i>	33,371	0.02	0.12	0	0	0	0	0	0	0	1	1
<i>Chg_STS_{it}</i>	33,371	0.02	0.14	0	0	0	0	0	0	0	1	1
<i>Chg_GTS_{it}</i>	33,371	0.01	0.11	0	0	0	0	0	0	0	1	1
<i>Chg_GTG_{it}</i>	33,371	0.03	0.18	0	0	0	0	0	0	0	1	1
<i>IFRS_ADOPT_{it}</i>	33,371	0.07	0.26	0	0	0	0	0	0	1	1	1
<i>Loss_{it-1}</i>	33,371	0.31	0.46	0	0	0	0	0	1	1	1	1
<i>TA_{it}</i>	33,371	2,566.84	10,845.82	0.43	1.48	4.83	31.48	127.43	630.63	11,049.08	57,398.87	147,000.00
<i>Net_Income_{it}</i>	33,371	-0.03	0.23	-2.22	-1.12	-0.41	-0.02	0.02	0.06	0.14	0.22	0.31
<i>Growth_{it}</i>	33,371	20.54	76.81	-99.41	-80.74	-43.32	-7.64	7.20	26.77	110.31	372.80	970.22
ΔC_Stock_{it}	33,371	7.89	29.14	-16.60	-9.35	-2.75	0.00	0.00	1.39	47.97	150.82	350.13
$\Delta LTDebt_{it}$	33,371	41.04	239.24	-100.00	-100.00	-97.60	-17.07	0.00	20.48	209.44	1,116.31	3,502.89
<i>#Exch_i</i>	33,371	1.14	0.76	0.00	0.00	0.00	1.00	1.00	1.00	3.00	3.00	10.00
<i>RegQ_{it}</i>	33,371	1.55	0.32	0.61	0.68	0.77	1.46	1.68	1.79	1.88	1.88	1.88

The table summarizes the values of dependent and independent variables for the sample used to estimate model 1. The sample includes 33,371 firm-year observations from 5,485 individual firms. *Chg_{it}* is an indicator variable equal to one if firm *i* uses a different auditor to examine year *t*'s report than it used to examine year *t-1*'s annual report. *Chg_xty_{it}* are indicator variables equal to one if a firm replaces auditors: *STG* (small auditor to global six), *STS* (small auditor to small auditor), *GTS* (global six to small auditor) or *GTG* (global six to global six). *IFRS_ADOPT_{it}* is an indicator variable equal to one if firm *i* adopts IFRS in year *t*. *TA_{it}* is total assets at the end of year *t*. *Net_Income_{it}* is net income reported for firm *i* in year *t* scaled by total assets. *Growth_{it}* is defined as percentage change in sales from year *t-1* to year *t*. *Loss_{it-1}* is an indicator variable equal to one if a firm experienced a loss in year *t-1*. ΔC_Stock_{it} is a percentage change in common shares outstanding from year *t-1* to year *t*. $\Delta LTDebt_{it}$ is a percentage change in firm *i*'s long term debt from year *t-1* to year *t*. *#Exch_i* is the number of exchanges that firm *i* is listed on. *Aud_Fees_{it}* is a natural logarithm of audit fees. ΔAud_Fees_{it} is the percentage change in audit fees from year *t-1* to year *t*. *Qualified_{it}* is an indicator variable equal to one when firm *i*'s report had a qualified audit opinion in year *t-1*. *RegQ_{it}* is regulatory quality variable from Kaufmann et al. (2009). Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 4 Panel D: Summary of regression variables for the regression analysis with audit fee and auditor’s opinion variables

Variable	N	μ	σ	min	p1	p5	p25	med	p75	p95	p99	max
<i>Chg_{it}</i>	21,055	0.07	0.25	0	0	0	0	0	0	1	1	1
<i>Chg_STG_{it}</i>	21,055	0.01	0.11	0	0	0	0	0	0	0	1	1
<i>Chg_STS_{it}</i>	21,055	0.02	0.12	0	0	0	0	0	0	0	1	1
<i>Chg_GTS_{it}</i>	21,055	0.01	0.10	0	0	0	0	0	0	0	1	1
<i>Chg_GTG_{it}</i>	21,055	0.03	0.16	0	0	0	0	0	0	0	1	1
<i>IFRS_ADOPT_{it}</i>	21,055	0.07	0.25	0	0	0	0	0	0	1	1	1
<i>Qualified_{it}</i>	21,055	0.02	0.13	0	0	0	0	0	0	0	1	1
<i>Loss_{it-1}</i>	21,055	0.32	0.47	0	0	0	0	0	1	1	1	1
<i>TA_{it}</i>	21,055	2,004.25	8,924.29	0.43	1.38	4.46	29.29	119.70	578.66	7,832.12	44,690.68	146,000.00
<i>Net_Income_{it}</i>	21,055	-0.04	0.24	-2.22	-1.20	-0.46	-0.03	0.02	0.06	0.14	0.22	0.31
<i>Growth_{it}</i>	21,055	20.69	77.94	-99.35	-78.40	-43.41	-7.53	6.74	26.47	111.78	383.64	967.68
ΔC_Stock_{it}	21,055	8.58	30.14	-16.60	-10.00	-3.58	0.00	0.00	1.99	52.87	154.94	349.96
ΔLTD_{it}	21,055	37.59	234.78	-100.00	-100.00	-99.72	-16.58	0.00	14.91	190.15	1,116.12	3,502.89
<i>#Exch_i</i>	21,055	1.02	0.59	0.00	0.00	0.00	1.00	1.00	1.00	2.00	3.00	9.00
<i>Aud_Fees_{it}</i>	21,055	0.93	2.56	0.01	0.01	0.02	0.06	0.17	0.60	4.34	14.29	30.27
ΔAud_Fees_{it}	21,055	21.70	78.86	-78.09	-69.85	-50.84	-15.65	5.72	32.59	143.54	396.46	760.38
<i>RegQ_{it}</i>	21,055	1.69	0.21	0.61	0.93	1.23	1.68	1.77	1.79	1.88	1.88	1.88

The table summarizes the values of dependent and independent variables for the sample used to estimate supplemental analyses models with audit fee and opinion variables. The sample includes 21,055 firm-year observations from 3,979 individual firms. *Chg_{it}* is an indicator variable equal to one if firm *i* uses a different auditor to examine year *t*'s report than it used to examine year *t-1*'s annual report. *Chg_xty_{it}* are indicator variables equal to one if a firm replaces auditors: *STG* (small auditor to global six), *STS* (small auditor to small auditor), *GTS* (global six to small auditor) or *GTG* (global six to global six). *IFRS_ADOPT_{it}* is an indicator variable equal to one if firm *i* adopts IFRS in year *t*. *TA_{it}* is total assets at the end of year *t*. *Net_Income_{it}* is net income reported for firm *i* in year *t* scaled by total assets. *Growth_{it}* is defined as percentage change in sales from year *t-1* to year *t*. *Loss_{it-1}* is an indicator variable equal to one if a firm experienced a loss in year *t-1*. ΔC_Stock_{it} is a percentage change in common shares outstanding from year *t-1* to year *t*. ΔLTD_{it} is a percentage change in firm *i*'s long term debt from year *t-1* to year *t*. *#Exch_i* is the number of exchanges that firm *i* is listed on. *Aud_Fees_{it}* is a natural logarithm of audit fees. ΔAud_Fees_{it} is the percentage change in audit fees from year *t-1* to year *t*. *Qualified_{it}* is an indicator variable equal to one when firm *i*'s report had a qualified audit opinion in year *t-1*. *RegQ_{it}* is regulatory quality variable from Kaufmann et al. (2009). Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 4 Panel E: Correlation coefficients

	Chg_{it}	Chg_STG_{it}	Chg_STS_{it}	Chg_GTS_{it}	Chg_GTG_{it}	$IFRS_ADOPT_{it}$	$Loss_{it-1}$	TA_{it}	Net_Income_{it}	$Growth_{it}$	ΔC_Stock_{it}	$\Delta LTDebt_{it}$	$\#Exch_i$	$RegQ_{it}$
Chg_{it}	1							-0.09	-0.05	0.01	0.02	-0.01	0.02	-0.07
Chg_STG_{it}	1.00	1						-0.04	-0.01	0.02	0.03	0.00	0.01	-0.02
Chg_STS_{it}	1.00	-1.00	1					-0.13	-0.03	0.01	0.02	-0.01	0.00	-0.04
Chg_GTS_{it}	1.00	-1.00	-1.00	1				-0.08	-0.05	-0.02	0.00	-0.01	0.01	-0.02
Chg_GTG_{it}	1.00	-1.00	-1.00	-1.00	1			0.05	-0.01	0.00	0.00	-0.01	0.02	-0.05
$IFRS_ADOPT_{it}$	0.03	0.08	-0.05	0.01	0.05	1		0.02	0.04	0.03	0.05	0.00	0.04	0.04
$Loss_{it-1}$	0.14	0.05	0.17	0.22	0.03	-0.00	1	-0.35	-0.52	-0.01	0.16	-0.07	-0.01	0.09
TA_{it}	-0.02	-0.02	-0.03	-0.03	0.03	0.01	-0.11	1	0.24	0.03	-0.08	0.11	0.12	-0.19
Net_Income_{it}	-0.05	-0.02	-0.04	-0.05	0.00	0.01	-0.42	0.06	1	0.17	-0.12	0.01	0.02	-0.03
$Growth_{it}$	0.02	0.04	0.01	0.00	0.00	-0.01	0.10	-0.02	-0.02	1	0.17	0.19	0.01	0.03
ΔC_Stock_{it}	0.05	0.04	0.04	0.01	0.00	0.02	0.19	-0.03	-0.17	0.15	1	0.05	-0.03	0.14
$\Delta LTDebt_{it}$	0.02	0.02	0.01	0.01	0.00	0.01	-0.02	0.01	0.02	0.07	0.05	1	0.02	-0.03
$\#Exch_i$	0.01	0.01	-0.01	0.00	0.02	0.03	-0.02	0.27	0.03	-0.02	-0.02	0.00	1	-0.20
$RegQ_{it}$	-0.09	-0.02	-0.07	-0.02	-0.06	-0.01	0.09	-0.10	-0.09	0.04	0.05	-0.04	-0.13	1

The sample includes 33,371 firm-year observations from 5,485 individual firms. The upper-left part of the table contains values of tetrachoric correlation coefficients for dichotomous dependent and independent variables for the sample of firm-year observations used to estimate model 1. The remainder of the table contains values of Pearson (lower diagonal) and Spearman (upper diagonal) correlations. Bolded correlation coefficients are significant at .10 level. Chg_{it} is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Chg_xty_{it} are indicator variables equal to one if a firm replaces auditors: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six). $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. $RegQ_{it}$ is regulatory quality variable from Kaufmann et al. (2009). Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 5: Main logistic regression analysis

Model 1:

$$Chg_{it} = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 SIZE_{it} + \beta_3 Net_Income_{it} + \beta_4 Growth_{it} + \beta_5 Loss_{it-1} + \beta_6 \Delta C_Stock_{it} + \beta_7 \Delta LTDebt_{it} + \beta_8 \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it}$$

VARIABLES	Binary logit model		Multinomial logit model							
	Chg_{it}		STG		STS		GTS		GTG	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
$IFRS_ADOPT_{it}$	0.143*	(0.08)	0.460***	(0.15)	-0.192	(0.17)	0.090	(0.19)	0.186*	(0.11)
$SIZE_{it}$	-0.144***	(0.01)	-0.154***	(0.02)	-0.549***	(0.03)	-0.372***	(0.03)	0.101***	(0.02)
Net_Income_{it}	-0.147*	(0.08)	-0.246	(0.18)	0.260*	(0.14)	-0.041	(0.17)	-0.086	(0.17)
$Growth_{it}$	0.001**	(0.00)	0.002***	(0.00)	0.000	(0.00)	-0.000	(0.00)	0.000	(0.00)
$Loss_{it-1}$	0.231***	(0.05)	-0.135	(0.11)	0.100	(0.09)	0.473***	(0.11)	0.367***	(0.08)
ΔC_Stock_{it}	0.003***	(0.00)	0.006***	(0.00)	0.004***	(0.00)	0.000	(0.00)	0.001	(0.00)
$\Delta LTDebt_{it}$	0.000**	(0.00)	0.000***	(0.00)	0.000	(0.00)	0.000*	(0.00)	-0.000	(0.00)
$\#Exch_{it}$	0.059*	(0.03)	-0.012	(0.07)	0.042	(0.08)	0.159*	(0.08)	0.007	(0.04)
Constant	-1.758***	(0.08)	-2.947***	(0.17)	-1.584***	(0.17)	-2.792***	(0.20)	-3.987***	(0.12)
Country fixed effects	Yes		Yes							
Observations	33371		33371							
Pseudo R-squared	0.04		0.07							

Standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .10$. The dependent variable for the logistic regression for which coefficients and standard errors are reported in the first two columns is Chg_{it} , which is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Results reported in the following columns are from a multinomial logistic regression where the dependent variable is $Chg_{xty_{it}}$ which is an index variable with separate values for each type of auditor replacement: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six), and a base condition of no auditor replacement. $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 6: Auditor replacements before IFRS adoption

Model 2:
$$Chg_{it} = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_pre1_{it} + \beta_3 IFRS_pre2_{it} + \beta_4 SIZE_{it} + \beta_5 Net_Income_{it} + \beta_6 Growth_{it} + \beta_7 Loss_{it-1} + \beta_8 \Delta C_Stock_{it} + \beta_9 \Delta LTDebt_{it} + \beta_{10} \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it}$$

VARIABLES	<u>Binary logit model</u>		<u>Multinomial logit model</u>							
	<i>Chg_{it}</i>		STG		STS		GTS		GTG	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
<i>IFRS_ADOPT_{it}</i>	0.157*	(0.08)	0.516***	(0.16)	-0.202	(0.19)	0.211	(0.19)	0.146	(0.12)
<i>IFRS_pre1_{it}</i>	0.118	(0.08)	0.103	(0.18)	0.197	(0.15)	0.306*	(0.18)	0.006	(0.12)
<i>IFRS_pre2_{it}</i>	0.007	(0.09)	0.208	(0.19)	-0.082	(0.18)	0.210	(0.19)	-0.107	(0.13)
<i>SIZE_{it}</i>	-0.143***	(0.01)	-0.145***	(0.03)	-0.559***	(0.03)	-0.393***	(0.03)	0.094***	(0.02)
<i>Net_Income_{it}</i>	-0.125	(0.09)	-0.171	(0.20)	0.339**	(0.16)	0.007	(0.18)	-0.139	(0.18)
<i>Growth_{it}</i>	0.000**	(0.00)	0.002***	(0.00)	0.000	(0.00)	-0.000	(0.00)	0.000	(0.00)
<i>Loss_{it-1}</i>	0.276***	(0.05)	-0.108	(0.12)	0.192*	(0.10)	0.501***	(0.12)	0.384***	(0.08)
<i>ΔC_Stock_{it}</i>	0.003***	(0.00)	0.006***	(0.00)	0.004***	(0.00)	0.001	(0.00)	0.001	(0.00)
<i>ΔLTDebt_{it}</i>	0.000*	(0.00)	0.000***	(0.00)	0.000	(0.00)	0.000	(0.00)	0.000	(0.00)
<i>#Exch_{it}</i>	0.049	(0.03)	-0.022	(0.07)	0.012	(0.09)	0.192**	(0.09)	-0.004	(0.04)
Constant	-1.770***	(0.09)	-2.959***	(0.19)	-1.571***	(0.19)	-2.788***	(0.22)	-3.954***	(0.13)
Country fixed effects	Yes		Yes							
Observations	28269		28269							
Pseudo R-squared	0.04		0.08							

Standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .10$. The dependent variable for the logistic regression for which coefficients and standard errors are reported in the first two columns is Chg_{it} , which is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Results reported in the following columns are from a multinomial logistic regression where the dependent variable is $Chg_{xty_{it}}$ which is an index variable with separate values for each type of auditor replacement: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six), and a base condition of no auditor replacement. $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . $IFRS_pre1_{it}$ is an indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+1$. $IFRS_pre2_{it}$ is an indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+2$. TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 7: The effect of regulatory regime quality on auditor replacements during IFRS adoption

Model 3:
$$Chg_{it} = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_ADOPT_{it} * RegQ_{it} + \beta_3 RegQ_{it} + \beta_4 SIZE_{it} + \beta_5 Net_Income_{it} + \beta_6 Growth_{it} + \beta_7 Loss_{it-1} + \beta_8 \Delta C_Stock_{it} + \beta_9 \Delta LTDebt_{it} + \beta_{10} \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it}$$

Variables	<u>Binary logit model</u>		<u>Multinomial logit model</u>							
	<i>Chg_{it}</i>		STG		STS		GTS		GTG	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
<i>IFRS_ADOPT_{it}</i>	-0.200	(0.29)	-1.247*	(0.71)	-0.419	(0.54)	-0.118	(0.76)	0.303	(0.42)
<i>IFRS_ADOPT_{it}*RegQ_{it}</i>	0.232	(0.19)	1.088**	(0.44)	0.140	(0.36)	0.153	(0.49)	-0.074	(0.28)
<i>RegQ_{it}</i>	0.473	(0.30)	2.150***	(0.72)	0.838	(0.61)	-2.636***	(0.68)	0.912**	(0.46)
<i>SIZE_{it}</i>	-0.145***	(0.01)	-0.155***	(0.02)	-0.548***	(0.03)	-0.372***	(0.03)	0.101***	(0.02)
<i>Net_Income_{it}</i>	-0.142*	(0.08)	-0.225	(0.18)	0.264*	(0.14)	-0.054	(0.17)	-0.080	(0.17)
<i>Growth_{it}</i>	0.001**	(0.00)	0.002***	(0.00)	0.000	(0.00)	0.000	(0.00)	0.000	(0.00)
<i>Loss_{it-1}</i>	0.232***	(0.05)	-0.137	(0.11)	0.101	(0.09)	0.462***	(0.11)	0.374***	(0.08)
<i>ΔC_Stock_{it}</i>	0.003***	(0.00)	0.006***	(0.00)	0.004***	(0.00)	0.000	(0.00)	0.001	(0.00)
<i>ΔLTDebt_{it}</i>	0.000**	(0.00)	0.000***	(0.00)	0.000	(0.00)	0.000*	(0.00)	-0.000	(0.00)
<i>#Exch_{it}</i>	0.058*	(0.03)	-0.021	(0.07)	0.035	(0.08)	0.170**	(0.08)	0.007	(0.04)
Constant	-2.457***	(0.46)	-6.116***	(1.09)	-2.821***	(0.91)	1.103	(1.03)	-5.348***	(0.69)
Country fixed effects	Yes		Yes							
Observations	33371		33371							
Pseudo R-squared	0.04		0.07							

Standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .10$. The dependent variable for the logistic regression for which coefficients and standard errors are reported in the first two columns is Chg_{it} , which is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Results reported in the following columns are from a multinomial logistic regression where the dependent variable is $Chg_{xty_{it}}$ which is an index variable with separate values for each type of auditor replacement: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six), and a base condition of no auditor replacement. $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . $RegQ_{it}$ is regulatory quality variable from Kaufmann et al. (2009). $IFRS_ADOPT_{it} * RegQ_{it}$ is an interaction term which represents the quality of regulatory regime for firm i in the year that it adopts IFRS. TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 8: The effect of regulatory regime quality on auditor replacements before IFRS adoption

Model 4:
$$Chg_{it} = \alpha_0 + [\beta_1 IFRS_ADOPT_{it} + \beta_2 IFRS_ADOPT_{it} * RegQ_{it}] + [\beta_3 IFRS_pre1_{it} + \beta_4 IFRS_pre1_{it} * RegQ_{it}] + [\beta_5 IFRS_pre2_{it} + \beta_6 IFRS_pre2_{it} * RegQ_{it}] + \beta_7 RegQ_{it} + \beta_8 SIZE_{it} + \beta_9 Net_Income_{it} + \beta_{10} Growth_{it} + \beta_{11} Loss_{it-1} + \beta_{12} \Delta C_Stock_{it} + \beta_{13} \Delta LTDebt_{it} + \beta_{14} \#Exch_{it} + \sum \gamma_c Country_i + \varepsilon_{it}$$

VARIABLES	<u>Binary logit</u>		<u>Multinomial logit model</u>							
	<u>model</u>		STG		STS		GTS		GTG	
	<i>Chg_{it}</i>		Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
<i>IFRS_ADOPT_{it}</i>	-0.108	(0.31)	-1.268	(0.82)	-0.755	(0.61)	0.063	(0.79)	0.631	(0.43)
<i>IFRS_ADOPT_{it}*RegQ_{it}</i>	0.182	(0.20)	1.138**	(0.50)	0.374	(0.41)	0.114	(0.51)	-0.322	(0.29)
<i>IFRS_pre1_{it}</i>	0.695**	(0.29)	0.035	(0.78)	0.932**	(0.47)	0.049	(0.78)	0.966**	(0.44)
<i>IFRS_pre1_{it}*RegQ_{it}</i>	-0.394**	(0.19)	0.045	(0.50)	-0.537*	(0.32)	0.182	(0.49)	-0.650**	(0.30)
<i>IFRS_pre2_{it}</i>	0.720**	(0.33)	0.385	(0.87)	0.296	(0.62)	1.360*	(0.71)	0.995**	(0.49)
<i>IFRS_pre2_{it}*RegQ_{it}</i>	-0.481**	(0.22)	-0.098	(0.55)	-0.245	(0.41)	-0.826*	(0.48)	-0.756**	(0.34)
<i>RegQ_{it}</i>	0.679**	(0.33)	1.823**	(0.77)	0.830	(0.68)	-2.357***	(0.74)	1.407***	(0.50)
<i>SIZE_{it}</i>	-0.144***	(0.01)	-0.146***	(0.03)	-0.559***	(0.03)	-0.394***	(0.03)	0.094***	(0.02)
<i>Net_Income_{it}</i>	-0.123	(0.09)	-0.153	(0.20)	0.338**	(0.16)	-0.006	(0.18)	-0.138	(0.18)
<i>Growth_{it}</i>	0.000**	(0.00)	0.002***	(0.00)	0.000	(0.00)	-0.000	(0.00)	-0.000	(0.00)
<i>Loss_{it-1}</i>	0.279***	(0.05)	-0.109	(0.12)	0.198*	(0.10)	0.487***	(0.12)	0.395***	(0.08)
<i>ΔC_Stock_{it}</i>	0.003***	(0.00)	0.006***	(0.00)	0.004***	(0.00)	0.001	(0.00)	0.001	(0.00)
<i>ΔLTDebt_{it}</i>	0.000**	(0.00)	0.000***	(0.00)	0.000	(0.00)	0.000	(0.00)	0.000	(0.00)
<i>#Exch_{it}</i>	0.049	(0.03)	-0.029	(0.07)	0.011	(0.09)	0.201**	(0.09)	-0.003	(0.04)
Constant	-2.778***	(0.50)	-5.645***	(1.17)	-2.805***	(1.03)	0.709	(1.11)	-6.054***	(0.76)
Country fixed effects	Yes		Yes							
Observations	28269		28269							
Pseudo R-squared	0.0450		0.0772							

Standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .10$. The dependent variable for the logistic regression for which coefficients and standard errors are reported in the first two columns is Chg_{it} , which is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Results reported in the following columns are from a multinomial logistic regression where the dependent variable is $Chg_{xty_{it}}$ which is an index variable with separate values for each type of auditor replacement: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six), and a base condition of no auditor replacement. $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . $IFRS_pre1_{it}$ is an indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+1$. $IFRS_pre2_{it}$ is an indicator variable equal to one for firm i in year t if firm i switches to IFRS in year $t+2$. $RegQ_{it}$ is regulatory quality variable from Kaufmann et al. (2009). $IFRS_ADOPT_{it} * RegQ_{it}$, $IFRS_pre1_{it} * RegQ_{it}$, and $IFRS_pre2_{it} * RegQ_{it}$ are interaction terms which represent the quality of regulatory regime for firm i in the year that it adopts IFRS, the year before IFRS adoption, and two years before IFRS adoption, respectively. TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 9: Main regression analysis with audit fee and audit opinion control variables

Model:
$$Chg_{it} = \alpha_0 + \beta_1 IFRS_ADOPT_{it} + \beta_2 SIZE_{it} + \beta_3 Net_Income_{it} + \beta_4 Growth_{it} + \beta_5 Loss_{it-1} + \beta_6 \Delta C_Stock_{it} + \beta_7 \Delta LTDebt_{it} + \beta_8 \#Exch_{it} + \beta_9 Aud_Fees_{it} + \beta_{10} \Delta Aud_Fees_{it} + \beta_{11} Qualified_{it} + \sum \gamma_c Country_i + \varepsilon_{it}$$

Variables	<u>Binary logit model</u>		<u>Multinomial logit model</u>							
	<i>Chg_{it}</i>		STG		STS		GTS		GTG	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
<i>IFRS_ADOPT_{it}</i>	0.184*	(0.11)	0.601***	(0.21)	-0.080	(0.25)	-0.100	(0.30)	0.274*	(0.15)
<i>SIZE_{it}</i>	-0.175***	(0.02)	-0.256***	(0.05)	-0.438***	(0.05)	-0.327***	(0.06)	0.020	(0.03)
<i>Net_Income_{it}</i>	-0.097	(0.11)	-0.173	(0.23)	0.210	(0.20)	-0.041	(0.22)	-0.042	(0.20)
<i>Growth_{it}</i>	0.001***	(0.00)	0.002***	(0.00)	0.000	(0.00)	0.001	(0.00)	0.001**	(0.00)
<i>Loss_{it-1}</i>	0.093	(0.07)	-0.220	(0.16)	-0.117	(0.14)	0.204	(0.16)	0.233**	(0.10)
<i>ΔC_Stock_{it}</i>	0.004***	(0.00)	0.007***	(0.00)	0.003**	(0.00)	0.002	(0.00)	0.002**	(0.00)
<i>ΔLTDebt_{it}</i>	0.000**	(0.00)	0.001***	(0.00)	0.000	(0.00)	0.001**	(0.00)	-0.000	(0.00)
<i>#Exch_{it}</i>	0.088	(0.05)	0.033	(0.13)	0.086	(0.14)	0.180	(0.15)	-0.019	(0.07)
<i>Aud_Fees_{it}</i>	-0.041	(0.03)	0.015	(0.07)	-0.287***	(0.07)	-0.254***	(0.08)	0.046	(0.04)
<i>ΔAud_Fees_{it}</i>	0.000	(0.00)	0.003***	(0.00)	0.000	(0.00)	-0.007***	(0.00)	-0.001	(0.00)
<i>Qualified_{it}</i>	0.548***	(0.16)	-0.000	(0.43)	1.036***	(0.23)	0.211	(0.37)	0.390	(0.29)
Constant	-1.644***	(0.20)	-2.487***	(0.46)	-2.833***	(0.48)	-3.281***	(0.52)	-3.225***	(0.29)
Country fixed effects	Yes		Yes							
Observations	21055		21055							
Pseudo R-squared	0.04		0.07							

Standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .10$. The dependent variable for the logistic regression for which coefficients and standard errors are reported in the first two columns is Chg_{it} , which is an indicator variable equal to one if firm i uses a different auditor to examine year t 's report than it used to examine year $t-1$'s annual report. Results reported in the following columns are from a multinomial logistic regression where the dependent variable is $Chg_{xty_{it}}$ which is an index variable with separate values for each type of auditor replacement: STG (small auditor to global six), STS (small auditor to small auditor), GTS (global six to small auditor) or GTG (global six to global six), and a base condition of no auditor replacement. $IFRS_ADOPT_{it}$ is an indicator variable equal to one if firm i adopts IFRS in year t . TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on. Aud_Fees_{it} is a natural logarithm of audit fees. ΔAud_Fees_{it} is the percentage change in audit fees from year $t-1$ to year t . $Qualified_{it}$ is an indicator variable equal to one when firm i 's report had a qualified audit opinion in year $t-1$. Values of financial variables were truncated at 1% and 99%. Truncation procedure decreases the number of firm-year observations but does not remove any firms from this sample.

Table 10: Summary characteristics of auditor switching firms

Table 10 Panel A: Firms switching auditors

Variable	Auditor switchers			Non-switchers			Switchers vs. non-switchers			
	μ	σ	med	μ	σ	med	Diff.	Diff. pre	Diff. post	All
TA_{it}	1376.51	6425.55	84.14	3078.99	11909.68	151.11	**	*	***	***
Net_Income_{it}	-0.04	0.24	0.02	-0.02	0.24	0.03	-	***	***	***
$Growth_{it}$	28.21	92.86	5.57	16.75	77.26	1.66	**	***	*	***
$Loss_{it-1}$	0.39	0.49	0.00	0.30	0.46	0.00	**	***	***	***
ΔC_Stock_{it}	16.55	41.33	0.22	9.36	30.96	0.04	***	***	***	***
$\Delta LTDebt_{it}$	91.01	348.27	0.00	45.88	251.42	0.00	**	-	***	***
$\#Exch_i$	1.15	0.63	1.00	1.21	0.72	1.00	-	**	-	**

Table 10 panel A provides summary statistics for IFRS adoption year for the samples of (1) Auditor switchers, i.e. client firms which in IFRS adoption year have switched audit firms, n=215, and (2) Non-switchers, i.e. companies which have not replaced auditors during IFRS adoption year, n=2119. The samples are selected from within truncated (at 1% and 99%) firm-year observations that were used in the main regression analyses. Column titled “Diff.” contains significance levels of a t-test for difference in means between firms replacing auditors and firms not replacing auditors in the year of IFRS adoption. “Diff. pre” (“Diff. post”) contains significance levels of a t-test for difference in means between firms switching auditors and firms retaining their audit firms for a sample of IFRS adopting firms before (after) IFRS adoption. “All” contains significance levels of a t-test for difference in means between companies switching audit firms and companies not switching audit firms for all of my sample firm-years, including firms not adopting IFRS during my sample period. *** p<.01, ** p<.05, * p<.10, and “-“ indicates lack of significance. TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on.

Table 10 Panel B: Firms switching from small audit firms to global audit firms

Variable	STG switchers			Small audit firm			Switchers vs. non-switchers			
	μ	σ	med	μ	σ	med	Diff.	Diff. pre	Diff. post	All
TA_{it}	423.56	1078.8	83.84	228.7	1494.45	34.19	-	*	-	***
Net_Income_{it}	-0.09	0.39	0.01	-0.06	0.28	0.01	-	-	-	-
$Growth_{it}$	47.94	133.78	15.66	26.06	88.89	5.39	-	***	-	***
$Loss_{it-1}$	0.36	0.48	0.00	0.40	0.49	0.00	-	-	-	**
ΔC_Stock_{it}	22.72	56.95	0.41	16.02	39.11	0.00	-	*	**	***
$\Delta LTDebt_{it}$	103.72	280.37	0.00	53.61	270.72	0.00	-	-	**	***
$\#Exch_i$	1.11	0.51	1.00	1.17	0.50	1.00	-	-	-	-

Table 10 panel B provides summary statistics for IFRS adoption year for the samples of (3) *STG* switchers, i.e. companies switching from small audit firms to global audit firms in the year of IFRS adoption, $n=53$, and (4) Small audit firms, i.e. firms which have used a small audit firm in the prior year and are using a small audit firm during IFRS adoption (this includes *STS* audit replacements), $n=602$. The samples are selected from within truncated (at 1% and 99%) firm-year observations that were used in the main regression analyses. Column titled “Diff.” contains significance levels of a t-test for difference in means between firms replacing small audit firms with global audit firms and firms retaining small audit firms or switching to other small audit firms during the IFRS adoption year. “Diff. pre” (“Diff. post”) contains significance levels of a t-test for difference in means between firms switching from small to global audit firms and firms retaining small audit firms or switching *STS* for a sample of IFRS adopting firms before (after) IFRS adoption. “All” contains significance levels of a t-test for difference in means between companies switching from small to global audit firms and companies keeping small audit firms or switching *STS* for all of my sample firm-years, including firms not adopting IFRS during my sample period. *** $p < .01$, ** $p < .05$, * $p < .10$, and “-” indicates lack of significance. TA_{it} is total assets at the end of year t . Net_Income_{it} is net income reported for firm i in year t scaled by total assets. $Growth_{it}$ is defined as percentage change in sales from year $t-1$ to year t . $Loss_{it-1}$ is an indicator variable equal to one if a firm experienced a loss in year $t-1$. ΔC_Stock_{it} is a percentage change in common shares outstanding from year $t-1$ to year t . $\Delta LTDebt_{it}$ is a percentage change in firm i 's long term debt from year $t-1$ to year t . $\#Exch_i$ is the number of exchanges that firm i is listed on.

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EDUCATION

Ph.D. (Accounting), Emory University, Expected Completion May 2013
B.B.A., Stetson School of Business and Economics, Mercer University (*Summa Cum Laude*), 2008

RESEARCH AND TEACHING INTERESTS

Research: Disclosure of Financial Information in Global Capital Markets, International Accounting, Economic Consequences of Accounting Regulation
Teaching: Financial Accounting, International Accounting, Oil and Gas Accounting

WORKING PAPERS

“The ‘Big’ Consequences of IFRS: How and When Does the Adoption of IFRS Benefit Global Accounting Firms?” (Dissertation)

“Deviations from the Mandatory Adoption of IFRS in the European Union: Incentives, Standards, and Compliance” *coauthored with Prof. Grace Pownall, Emory University* (Presented at AAA FARS Midyear Meeting, at AAA IAS Midyear Meeting, and at AAA Annual Meeting, 2012; Under Review)

“Exchange Demutualization, Firm Liquidity and Timely Loss Recognition” *coauthored with Prof. Maria Vulcheva, Florida International University*

RESEARCH IN PROGRESS

“Are Firms Listed on Unregulated Markets Low Quality? Disclosure Behavior and Performance Analysis of Firms Listed on Unregulated Exchange Segments in the European Union”

“Shareholders’ control over financial reporting: Analysis of multiple large shareholders’ influence on financial disclosure” *coauthored with Prof. Maria Vulcheva, Florida International University*

CONFERENCE PARTICIPATION

American Accounting Association Annual Meeting (Presenter and Discussant)	August, 2012
AAA IAS Doctoral Consortium and Midyear Meeting (Presenter and Discussant)	February, 2012
AAA FARS Doctoral Consortium and Midyear Meeting (Presenter)	January, 2012
American Accounting Association Annual Meeting (Discussant)	August, 2011
Southeast Summer Accounting Research Colloquium	July 2009, 2011, 2012

ACADEMIC EMPLOYMENT & TRAINING

Teaching Experience

BBA Introduction to Financial Reporting, Emory University (Instructor rating: 4.4 / 5.0)	Summer 2012
Research Assistant to Professor Peter Demerjian	2009
Research Assistant to Professor Grace Pownall	2009-2012
Teaching Statistical Methods Workshop for PhD Students	October 2011
Teaching Assistant and Teaching Associate to Professor Grace Pownall	
BBA & MBA Information and Global Capital Markets	Fall 2011, Fall 2012
BBA & MBA Financial Reporting I	Fall 2010
Student Coordinator, Goizueta Business School Prospective PhD Student Recruiting	2010, 2011, 2012
Master Teaching Program	Summer 2010
A program developing effective learning and evaluation techniques in the classroom	
Business Teaching	Spring 2010
A course combining the theoretical and practical aspects of teaching, addressing common problems in the teacher-student interaction, and developing effective presentation skills	
Teaching Assistant Training & Teaching Opportunities	Summer 2009
A seminar developing effective presentation and course structuring techniques	
Web Based Data Collection and Analysis Methods in Accounting, University of Miami	June 2009

HONORS AND AWARDS

Doctoral Fellowship, Goizueta Business School, Emory University	2008- continuing
AAA/Deloitte/J. Michael Cook Doctoral Consortium Fellow	2012
AAA IAS Doctoral Consortium	2012
AAA FARS Doctoral Consortium	2012
Laney Graduate School Travel Grant, Emory University	2009, 2011, 2012
AAA International Accounting Section Travel Grant	2011
Sheth Foundation Dissertation Research Support Fellowship, Emory University	2010
Phi Kappa Phi Honor Society, Mercer University	2008
President's & Dean's List, Mercer University	2005-2008

AFFILIATIONS

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