Use of Big Four auditors and fund raising: Evidence from developing and emerging markets

Abstract

Purpose –This study is motivated by recent research suggesting that the funding benefits of using Big Four auditors may not be as uniform as was previously assumed. We apply data from microfinance institutions in emerging countries, a population typically not investigated in accounting research, to analyze the relationship between use of Big Four auditors and access to debt capital.

Design/methodology/approach – We apply a unique hand-collected dataset from 60 emerging markets and empirically investigate whether access to various debt categories is related to the use of Big Four auditors.

Findings – We find that access to international commercial debt, international subsidized debt and government agency debt is positively related to the use of a Big Four auditor. For local commercial debt, we find no association between auditor type and access to debt capital. The association between auditor choice and access to debt capital is stronger for nonprofit than for-profit microfinance institutions.

Originality/value – This is the first audit quality study to include a broad sample of emerging countries, which in itself is an important contribution. As far as general audit quality research is concerned**,** we take the literature one step further by showing that the benefits of using a Big Four auditor may be dependent on the specific source of debt financing a firm or organization seeks to use. Moreover, we demonstrate that the for-profit versus nonprofit dimension influences the relationship between auditor choice and access to capital.

Keywords Audit quality; Cost of debt; Fund raising; Microfinance; Emerging markets.

Paper type Research paper

1. Introduction

Improved audit quality is associated with fewer information asymmetries between an organization and its stakeholders (Chen et al., 2011). Prior research suggests that audit quality has real consequences for an organization; the reduced risk caused by lower agency costs improves fund raising possibilities and reduces costs of capital (Kitching, 2009; Gul et al., 2013; Pratoomsuwan, 2012). An indicator variable for use of Big Four auditors is the most commonly used proxy variable for audit quality (Hay et al., 2006), and several studies suggest that use of Big Four auditors is associated with improved fund raising opportunities and lower costs of capital (Boone et al., 2010; Pittman and Fortin, 2004; Mansi et al., 2004).

However, recent reviews of audit quality research find that empirical results from this line of research are mixed and highly country-specific (Gul et al., 2013; Eilifsen and Willekens, 2008; Tsipouridou and Spathis, 2012). For instance, Francis and Wang (2008) suggest that Big Four auditors do not universally enforce higher accounting quality. Their study concludes that the importance of auditor choice is dependent on the investor protection level of the country in which the firms are situated. Building on Francis and Wang (1998), Gul et al. (2013) find that cost of debt is lower for firms using Big Four auditors, but the effect is most pronounced in countries with strong investor protection. In a similar vein, El Ghoul et al. (2016a) find that equity financing costs are lower in the presence of Big Four auditors, especially in countries with better institutions governing investor protection and disclosure regulation. Interestingly, their findings suggest that audit quality does not matter in countries with weak investor protection and disclosure regulation. To answer the challenge of Francis and Wang (2008) to learn more about audit quality and its possible consequences in different settings, we turn to the microfinance industry in developing and emerging markets and use a unique hand-collected dataset as our case. Specifically, we analyze the association between Big Four auditors and access to various sources of debt capital.

The microfinance industry offers several advantages for novel audit research. First, the industry has grown rapidly into a major industry in developing and emerging countries (Demirguc-Kunt and Klapper, 2012). Thus, it allows exploration of contexts and settings not normally examined in accounting research (Dechow et al., 2010; De Zoysa and Rudkin, 2010). Access to good financial data from developing and emerging markets is both a major challenge and a core explanation for the scarcity of research on Asian, African and Latin-American countries, but the microfinance industry allows us to apply reliable data collected by professional rating agencies. El Ghoul et al. (2016a) stress the importance of increasing the geographical coverage when examining the consequences of audit quality (also see Gul et al., 2013); our investigation includes (by far) the largest number of emerging countries among the empirical studies published on this issue thus far.

Second, the microfinance industry offers a unique opportunity to study differences between for-profit and nonprofit organizations. Some microfinance institutions (MFIs) are for-profit corporations, whereas others are nonprofit entities[1]. However, they operate in similar markets, offer similar products and serve similar clients (see Beisland and Mersland, 2014). Notably, nonprofit organizations have been subjected to very little audit research (Tate, 2007). In fact, we are aware of no international study that has investigated the association between auditor choice and fund raising in the not-for-profit sector. This situation is highly unfortunate, as the nonprofit sector is considerable in many countries (for example, almost 7 % of national income in the US, according to Tate, 2007). Furthermore, given that nonprofits in general help people in some type of need, it is very important that nonprofits can optimize the cost/benefit-relationship associated with using external (expensive) auditors. When investigating the microfinance industry, we respond directly to Dechow et al.'s (2010) call for research on accounting-related choices for organizations seeking to meet multiple objectives.

[1] A nonprofit organization is an organization whose main objective is something other than making a financial profit. Many MFIs are referred to as hybrid organizations because they have the dual objectives of financial sustainability and poverty reduction. Similar to other nonprofit organizations, nonprofit MFIs do not seek to maximize profit, but financial sustainability is necessary to be able to fight poverty.

Third, the microfinance industry is frequently involved in fund raising, which is a prerequisite when the association between audit quality and access to capital is investigated. In fact, access to debt capital is considered necessary to cover the increasing world demand for microfinance services (Ledgerwood et al., 2013) because retained profits, subsidies and donations do not match the huge demand for microcredit by low-income families (Gosh and van Tassel, 2013). Importantly, the microfinance industry is an arena in which different debt providers such as professional banks, government agencies and providers of subsidized debt meet, thus permitting investigation of whether the influence of Big Four auditors on access to capital varies between different creditor types.

Our empirical investigation shows no association between the use of Big Four auditors and access to local commercial debt. However, for international commercial debt, international subsidized debt and government agency debt, we document a positive association between access to capital and the use of a Big Four auditor. When dividing our sample between for-profit and nonprofit MFIs, we find that auditor choice appears to be more important for access to debt capital for nonprofit than for-profit MFIs.

Our study adds to existing research by demonstrating that the importance of auditor choice is dependent not only on investor protection level and disclosure regime but also on the types of capital providers. While prior research has acknowledged that "the benefits of acquiring an audit are multi-faceted and the value of these benefits is likely to vary across firms" (Knechel et al., 2008, p. 65), potentially differing preferences for auditor choice across creditor types have received little (if any) attention. Moreover, to the best of our knowledge, the proposition that the for-profit versus nonprofit dimension alone might have an influence on the relationship between auditor choice and access to capital, has not been discussed in prior research. Our findings have obvious and direct

policy implications. Auditor choice matters if MFIs, particularly nonprofit MFIs, seek to raise international debt capital or government agency debt capital. However, auditor choice may be less relevant if local debt is the main source of capital, and MFIs may then be less dependent on choosing the more expensive (see Hay et al., 2006; Chung and Narasimhan, 2002) Big Four auditors. In general, because auditor choice has real consequences, not only for individual companies but potentially also for economies as a whole, we believe it is of major importance to examine how both client characteristics and creditor characteristics can affect the relation between auditor choice and access to capital.

This paper is organized as follows: Section 2 discusses prior research and develops the study's hypothesis. Section 3 outlines the research methodology and presents the data sample. Empirical findings are explained and discussed in Section 4, and Section 5 concludes the paper.

2. Prior Research and Hypothesis Development

DeAngelo (1981) defines audit quality as the joint probability that an auditor will detect and report a material misstatement. Thus, the definition of audit quality consists of two components: the *ability* to detect misstatements and the *willingness* to report misstatements that are uncovered during an audit. Audit fees (Knechel et al., 2008; Lin and Hwang, 2010), auditor size (Francis and Krishnan, 1999; Boone et al., 2010), and auditor reputation (Khurana and Raman, 2004; Pratoomsuwan, 2012) are the most commonly listed indicators of audit quality. These indicators are all readily applicable to the Big Four (or Five or Six) auditors. These Big Four auditors are not only the largest auditors in the world but are also typically the auditors with the best reputations and highest prices. In fact, according to Hay et al. (2006), a Big Four binary variable is the most commonly used indicator of audit quality. The proposition that use of a Big Four auditor is related to high-quality auditing is supported by many empirical studies (e.g., Knechel et al., 2008; Francis, 2004; Barnes, 2008; DeFond and Jiambalvo, 1993; Krishnan and Schauer, 2000; Dechow et al., 2010). Hope et al. (2008, p. 360)

summarize the use of Big Four auditors as an indication of high quality as follows: "…the ability to detect material error in the financial statement is a function of auditor competence, while the propensity to correct or reveal the material error is a function of auditor independence from the client … big four auditors are perceived to be competent, given their heavy spending on auditor training facilities and programs, and to be independent by virtue of their size and large portfolio of clients".

Prior research suggests that earnings are of higher quality for companies using a Big Four auditor (see discussion in Francis and Wang, 2008).[2] More credible financial reporting; hence, decreased agency costs, are associated with lower information asymmetries between firm insiders and outside investors (e.g., see Gul et al., 2013; El Ghoul et al., 2016a). The lower information risk caused by higher-quality auditing is expected to lead to increased fund raising possibilities and lower costs of capital (e.g., Khurana and Raman, 2006) because capital providers can forecast companies' future cash flows with greater certainty. Both the positive association between fund raising and use of Big Four auditors and the negative association between use of these auditors and the costs of (both debt and equity) capital have been documented empirically (El Ghoul et al., 2016a; Boone et al., 2010; Pittman and Fortin, 2004). Thus, the prevailing view in the audit literature has traditionally been that use of such auditors is generally beneficial for firms when raising funds (e.g., see Mansi et al., 2004). However, prior research also indicates that there is no free lunch. Most empirical studies strongly suggest that Big Four auditors are more expensive than other auditors (Hay et al., 2006), particularly for small- and medium-sized firms (Choi et al., 2008).

Most Big Four research has traditionally focused on US companies (cf. Fleischer and Goettsche, 2012; Hay et al., 2006). More recent international research finds that the evidence on general audit quality

[2] Several definitions of earnings quality exist in the accounting literature. In general, earnings quality can be regarded as a measure of the trustworthiness, usefulness and relevance of financial reporting (Beisland and Mersland, 2014).

differentiation is country-specific (Eilifsen and Willekens, 2008). Inspired by research suggesting that the role of a Big Four versus a non-Big Four auditor can be highly context-dependent (El Ghoul et al, 2016a; Francis and Wang, 2008), we turn to the microfinance industry to investigate whether the conclusions on increased fund raising possibilities following the use of Big Four auditors are applicable to settings other than listed Western companies.

Microfinance is the provision of financial services to low-income families and entrepreneurs. The growth in the microfinance market is remarkable. Soon, the microfinance sector may become the world's largest banking market in terms of the number of customers (Mersland, 2013). Microfinance is increasingly an important asset class for investors, particularly investors who are pursuing both financial and social returns (www.mixmarket.org). The importance of close examination of the consequences of external control mechanisms in the microfinance industry has greatly increased as more investors and creditors have become involved in microfinance (Beisland et al., 2015; Hartarska, 2009).

The clear majority of MFIs pursue the dual objectives of financial sustainability *and* social outreach. Funding for MFIs is supplied by sources that range from donations to commercial investments. Microfinance is thus an arena in which donors and professional investors may meet. MFIs are typically incorporated as shareholder firms registered as either commercial banks or non-bank financial institutions, as nonprofit organizations often referred to as non-governmental organizations (NGOs), or as formally registered, member-based organizations such as savings and credit cooperatives (Beisland et al., 2014). Prior research suggests that there is no difference in performance between different types of MFIs (Beisland and Mersland, 2014). Nonetheless, because of the dual objectives and considerable numbers of grants and subsidies, correct performance measurements can be unusually difficult to obtain (Manos & Yaron, 2009). Moreover, the industry has been criticized for weak corporate governance (Mersland and Strøm, 2009). These factors

suggest that information asymmetries between managers and capital providers may be considerable in the microfinance industry, thereby making the industry well-suited for research on the importance of auditor choice.

To service the high demand for microloans, it is contended that MFIs need to shift their funding focus from donors to the capital markets (Briere and Szafarz, 2015). In this study, we investigate the association between fund raising and the use of Big Four auditors using observations from 60 emerging and developing economies (see data sample section). The large number of subsidies and grants obscures correct cost of capital measurement. Additionally, very different interest regimes make it challenging to aggregate costs of capital across countries (cf. Chen et al., 2011). Therefore, we focus the analysis of possible gains from using a Big Four auditor on binary indicator variables for access to various types of debt capital rather than using cost of capital variables.

Based on theory and prior empirical research (Boone et al., 2010; Pittman and Fortin, 2004), a natural starting point is to hypothesize that MFIs using Big Four auditors will more easily access capital than will those using other, presumably lower quality, auditors. Moreover, MFIs are typically small entities, and Gul et al. (2013) maintain that small firms and institutions have the most to gain from high-quality auditing. However, Francis and Wang (2008) find that the association between auditor choice and accounting quality is not invariant across countries (see also Tsipouridou and Spathis, 2012). Specifically, their research suggests that the influence of Big Four auditors on accounting quality might be less in countries with weaker investor protection. With weak investor protection, Big Four auditors often do not have incentives to enforce high earnings quality (also see discussion in El Ghoul et al., 2016a). In contrast, when investor protection is low, enforcement of high earnings quality might lead to the dismissal of auditors (Jaggi and Low, 2011). Building on Francis and Wang (2008) among others, it should thus come as no surprise that Gul et al. (2013) found that the negative relationship between use of Big Four auditors and the cost of debt documented in prior

research (e.g., Pittman and Fortin, 2004) was particularly strong in strict investor-protection regimes (see El Ghoul et al., 2016a for similar evidence for the cost of equity). Most countries in our sample are known to have weak investor protection. Thus, it is possible that the association between use of Big Four auditors and access to capital is less pronounced in this study than in previous studies that typically were based on Western observations.

Another aspect of our sample is that it includes donors (inclusive of subsidized debt providers), an additional stakeholder group typically absent in prior research. Because of the importance of donors to the microfinance industry, it is possible that investors' relative influence on audit quality is lower than in other settings. One may argue that donors are less professional capital providers than investors, thereby causing audit quality to be of less importance in microfinance than in industries without donors. However, the opposite possibility cannot be ignored (cf. Harris and Krishnan, 2012). Tate (2007) claims that because donors receive no direct and easily measurable benefit from their contributions, they rely more heavily on monitoring than other stakeholders. Thus, following the line of argument of Tate (2007), the presence of donors might *increase* the positive association between fund raising possibilities and use of a Big Four auditor. The latter contention is indirectly supported by Krishnan and Schauer (2000), who report higher audit quality in their sample of not-for-profit entities (US Voluntary Health and Welfare Organizations) for users of Big Four auditors. In general, the role of accounting (and hence auditing) may not be similar between nonprofits and for-profit entities. Unfortunately, very little research on audit quality has been conducted on nonprofits (Tate, 2007). An important contribution of our study is to contribute to filling this knowledge gap.

An additional topic that has received relatively little attention in audit research is the possible difference between actual and perceived audit quality. Boone et al. (2010) document that perceived differences in audit quality can be larger than the actual differences (cf. Karjalainen, 2011). Thus, even if there may not be a real difference in audit quality between Big Four and non-Big Four

auditors, the clients of Big Four auditors might still access capital more easily. Little is known about how stakeholders perceive audit quality (of Big Four auditors relative to other auditors) in developing and emerging markets. With their Western origin, it is reasonable to assume that Big Four auditors have stronger positions in developed countries than in developing and emerging markets. However, international influence is strong in the microfinance industry. Ashbaugh and Warfield (2003) document a positive association between audit quality and foreign stakeholders (cf. Leuz et al., 2009). Accordingly, it is not unlikely that the international relationships of many MFIs may reinforce a possible positive association between fund raising and use of Big Four auditors. The large distances between capital providers and MFIs may cause a particularly large demand for well-known Big Four auditors from MFIs trying to raise capital. Notably, when talking about distances, the cultural aspect may be equality important as mere geographic remoteness (Paredes and Wheatley, 2017).

Overall, it is uncertain whether the positive association between the use of Big Four auditors and fund raising possibilities is stronger or weaker in our sample of MFIs from developing and emerging markets than in traditional research from the US and other Western countries (e.g., Mansi et al., 2004). As a starting point – based on conventional arguments – we maintain the hypothesis of a positive association as follows:

- *There is a positive association between use of Big Four auditors and access to various sources of debt capital in our international sample of microfinance institutions.*

The association between various debt types and Big Four auditors was analyzed by El Ghoul et al. (2016b). However, their focus was on different classes of debt maturity and not creditor type. Here, we focus on the latter; specifically, our investigation is based on binary indicator variables for access to different sources of MFI debt financing: commercial debt, subsidized debt and government agency debt. These three debt types cover all sources of debt capital used by the MFIs in our sample.

Regarding the commercial debt variable, we have data for both local and international commercial debt. As an additional test of access to capital, we also examine access to voluntary savings (from clients). One might have proposed sub-hypotheses for the different variables. For instance, based on the finding that foreigners avoid investing in poorly governed firms (Leuz et al., 2009), one might assume that use of Big Four auditors is more important when trying to access international rather than local commercial capital (Leuz et al., 2009). Moreover, Big Four auditors might be less important for government agencies than for commercial capital providers (Guedhami et al., 2009). However, given the novelty of this study, we refrain from launching such clear-cut hypotheses.

3. Research Design and Data Sample

3.1. Research Design

We start the investigation with simple t-tests, in which the mean access to various sources of debt capital is compared between the sample of MFIs that use Big Four auditors and the sample of those that do not. We then proceed with a multivariate analysis. Here, an obvious starting point is to regress binary variables for access to the sources of debt capital on a binary variable for the use of Big Four auditors and a vector of control variables.

However, our explanatory variable of interest, the Big Four variable, is possibly endogenous (see discussion in El Ghoul et al., 2016b). This means that running simple OLS regressions does not reveal whether the use of a Big Four auditor really *causes* the MFI to more likely assume international commercial debt, for instance, even if the correlation between Big Four and the assumed debt should prove to be positive. We solve this problem by linking the Big Four variable to variables that explain why the MFI has a Big Four auditor in the first place. We follow Beisland et al. (2015) in running a probit regression with the Big Four as the dependent variable and the MFI's main market

segments[3], number of branch offices, savings fraction of total portfolio, MFI age, and the presence of an internal auditor as explanatory variables. From this regression, we obtain the *predicted* Big Four variable, and then in a second step, we use predicted Big Four as the explanatory variable instead of the Big Four binary variable. The interpretation of the predicted Big Four is the same as that of the original variable. However, the predicted Big Four now incorporates conditions that may cause Big Four to appear in a given MFI in the first place. The regression with Big Four as the dependent variable is not reported. It shows that Big Four is related to the variables we mention.

The procedure set out above is from Heckman (1979) and is called the dummy endogenous variable method. An alternative is the propensity score method of Rosenbaum and Rubin (1983). In our case, the propensity score would be the probability that the MFI has a Big Four auditor. The score is then used to construct matching pairs of MFIs with and without Big Four auditors. However, the method is unsuitable in our case for two reasons. One is that the sample is rather small, so that dividing it into two will likely reduce the statistical power. Thus, we can easily lose observations in construction. Second, even if we could construct matching pairs, we cannot be sure that we have used the correct model to construct the propensity score. If the correct model is not used, then the propensity score will carry a bias. Heckman and Navarro-Lozano (2004) show that enlarging the number of control variables in the estimation may create an even larger bias. Wooldridge (2010) concludes that the Heckman two-step procedure is the more robust method.

To summarize, the multivariate results presented in the empirical sections are the results from step 2 of the dummy endogenous variable method:

$$CapAccess = \alpha + \beta PredictedBigFour + \boldsymbol{\gamma Control} + \varepsilon$$

[3] A complexity proxy. This variable takes a value of 1 if an MFI's main market is strictly urban, a value of 2 if an MFI's main market is strictly rural, or a value of 3 if the MFI's main market is a mix of urban and rural settings.

CapAccess represents binary variables for access to local commercial debt, international commercial debt, government agency debt and international subsidized debt, respectively. PredictedBigFour comes from the first step of the Heckman two-step procedure**. Control** is a vector of control variables (cf. El Ghoul et al., 2016a; Gul et al., 2014) in which the choice of specific variables is adapted to the fact that we study non-listed entities from the microfinance industry. We control for MFI size using the log of assets as our size proxy, the typical size proxy in audit research (Hay et al., 2006). Risk is controlled for using portfolio at risk > 30 (PAR30) as the risk measure, the most commonly used risk measure in the microfinance industry (Gutierrez-Nieto and Serrano-Cinca, 2007). PAR30 refers to the outstanding balance of loans more than 30 days past due divided by the average outstanding gross loan portfolio.[4] Note that market-based risk metrics (such as the market model beta) are not applicable for non-listed institutions. Profitability is controlled for through return on assets (ROA) (Ahlin et al., 2011). We expect international connotations to have favorable consequences for fund raising (cf. discussion in Guedhami et al., 2009). Thus, we control for possible international initiation through a binary indicator variable. Microfinance is an industry in which certain players are regulated by local banking authorities, while other entities do not experience this regulation (for more details, see Arun, 2005; McGuire, 1999). Regulations can be imposed in a manner that improves access to capital. We control for this consideration through a binary indicator variable. Because of the limited sample size (see below), neither country-specific regressions nor the inclusion of country-specific indicator variables in the pooled regressions are appropriate. Thus, it is important to include sufficient controls to account for differences between countries. Thus, we apply three country control variables. Based on the findings of Francis and Wang (2008) and Gul et al. (2013), we control for investor protection. Specifically, we apply the Index of Economic Freedom published by The Heritage Foundation ("Index of Economic Freedom measures economic freedom of 186 countries based on trade freedom, business freedom, investment freedom, and property rights", please see

[4] Note that we do not include leverage as an explanatory variable. Given that we focus the analysis on access to debt capital, the use of leverage on the right-hand side of the equation would defeat the purpose of the test.

www.heritage.org/index for more details). Furthermore, we use the logarithm of GDP per person as a control variable for the level of economic development of the countries in which the examined MFIs are located.[5] More-developed countries have more-developed financial markets, which may affect the demand for accounting transparency (Guedhami at al., 2009) and the relative use of debt versus equity financing (Gul et al., 2013). Moreover, as a further control for differences between national financial systems, we include market share of domestic banks in each country.

3.2. Data Sample

Following the rapid growth of the microfinance industry, the increased need for independent MFI information has led several firms to offer specialized rating assessments of MFIs. These rating assessments are much broader than traditional credit ratings, as they claim to measure MFIs' ability to reach their multiple sets of objectives simultaneously (Reille et al., 2002). The purpose of published rating reports is to present independent information that stakeholders such as lenders, donors, owners or managers can use to make informed decisions. Our dataset is hand-collected from these rating reports using data reported by five of the leading rating agencies in the microfinance industry.

Mitra et al. (2008) report that there are approximately 16 active rating agencies in the microfinance industry. Our five selected rating agencies have been chosen because they are the agencies that provide the most information and involve the largest players in the microfinance industry. Specifically, the agencies selected for this study include the American *MicroRate* agency, the Italian *Microfinanza* agency, the French *Planet Rating* agency and the two Indian agencies *Crisil* and *M-Cril*. All these agencies consider the entire world to be their market. The agencies are official rating agencies approved by the Rating Fund of the Consultative Group to Assist the Poor (C-GAP, a branch of the World Bank) (www.ratingfund2.org).

[5] In robustness checks, we use the Human Development Index (HDI) from the UN Development Programme. HDI is a composite index incorporating GDP per capita, health and education indicators.

The MFIs included have voluntarily decided to be rated to reach out to more investors and to benchmark themselves with other MFIs. A large firm bias is avoided because the very largest MFIs, operating as commercial banks, are excluded from the dataset – these players are normally rated by traditional rating agencies such as Standards and Poor and Moody's. Moreover, the dataset does not include small savings and credit cooperatives or development programs offering credit to poor people as part of their social services. Thus, the MFIs included are typical representatives of professional providers of microfinance services.

The original dataset contains information from 405 MFIs in 73 countries. From this, we pull all MFIs that have an external auditor. However, some rating reports do not list the auditor name. The data contains 255 observations on external auditors of MFIs situated in 60 countries (see Table 1). Lawrence et al. (2011) document that differences in audit quality between Big Four and non-Big Four users can be industry-dependent. An advantage of our study is that all entities examined belong to the same industry and thus are similar with respect to products offered and clients served.

Table 1

The rating reports constituting our database are from between 2000 and 2009, with most reports published during the last five years of this period. The rating agencies differ in their emphasis and in the abundance of available information. This resulted in different numbers of observations for different variables and in different years being reported. Where appropriate, all numbers in the dataset were annualized and dollarized using then-current official exchange rates. Descriptive statistics for variables used in the study are displayed in Table 2.

Table 2

Of the 255 observations on auditor choice, 30 % are from MFIs audited by PWC, KPMG, Deloitte or Ernst & Young (now EY). Table 2 presents separate results for the Big Four versus the non-Big Four sub-sample (cf. Kim et al., 2011). According to a simple t-test, there is no difference in access to local

commercial debt or government agency debt between the two sub-samples. However, MFIs employing a Big Four auditor appear to have easier access to international commercial debt (56 % compared with 35 % for those not using a Big Four auditor) and international subsidized debt (65 % vs. 41 %). Although the variable is only used as a robustness check (see below), we note that improved access to clients' savings seems to be *negatively* associated with use of a Big Four auditor. Nonetheless, because these differences may be attributable to MFI characteristics other than simply auditor choice, we await the multivariate analysis before drawing strong conclusions.

Moving on to the control variables, MFIs audited by Big Four auditors appear to be larger than others as measured by total assets. This finding is consistent with prior research (Hay and Davis, 2004). Moreover, MFIs employing Big Four auditors seem to be less risky as measured by PAR30 and more profitable as measured by ROA. However, these differences are not significant. With respect to country control variables, we find evidence of lower Heritage Foundation Economic Freedom Index values, a higher share of domestic banks and a lower GDP per person in countries covering the Big Four sub-sample. The finding that Big Four users appear to be situated in less developed countries, relatively speaking, is somewhat surprising. A possible interpretation is that the signaling effect from using a Big Four auditor is more important in the less developed countries. This result illustrates the importance of controlling for systematic country differences between the two-sub samples in the multivariate analysis.

4. Multivariate analysis

In the main analysis, binary indicator variables for access to local commercial debt, international commercial debt, international subsidized debt and government agency debt are dependent variables, and the predicted Big Four variable outlined above is the test variable. Additionally, the control variables discussed in Section 3.1 are included as explanatory variables. The results of the analysis are presented in Table 3.

Table 3

Consistent with the t-tests, we find a positive association between the use of Big Four auditors and access to international commercial debt and international subsidized debt.[6] However, in the multivariate analysis, in which systematic differences between MFIs beyond auditor choice are controlled for, we also document a positive relationship between the use of Big Four auditors and access to government agency debt. Only for local commercial debt are we unable to find any association with auditor choice.

One may say that these findings extend the contentions of previous research stating that the importance of auditor choice is setting-dependent. Investor protection level and disclosure regulations may not be the only factors that matter – the type of capital provider can also affect the relationship between auditor choice and access to capital. Our findings fit well with previous audit and governance research. Leuz et al. (2009) found that foreigners invested less in poorly governed firms, whereas Guedhami et al. (2009) documented that privatized firms worldwide became more likely to appoint a Big Four auditor along with the extent of foreign ownership.

Local commercial debt providers appear to be less concerned about auditor choice. However, this does not necessarily mean that these players are less concerned about governance in more general terms. Prior research suggests that internal auditing can supplement external auditing for nonprofits (Beisland et al., 2015; Vermeer et al., 2009) and it could be that local capital providers focus more on governance mechanisms other than the quality of the chosen auditor. Alternatively, inspired by the research of Boone et al. (2010) and Karjalainen (2011) (also see de Zoysa and Rudkin, 2010), one may ask whether the perception of audit quality is different in developing and emerging countries. Prior research ignores many of the world's developing and emerging countries. Emerging and developing economies have less-developed financial markets and very different auditing environments (cf.

[6] We only observe 9 cases where MFIs have access to local subsidized debt – a result strongly indicating that local debt is not subsidized. These 9 observations are not included in the analysis.

discussion in Lin and Liu, 2009). If the Big Four do not have the superior reputations in our sample-countries that they do in developed countries, it is no wonder that we do not find a positive association with access to local commercial capital.[7] Thus, our results might be attributed to Big Four auditors not being *perceived* as higher-quality auditors by local debt providers.

Our findings on government agency debt may be harder to interpret. Government agency debt is often local, and hence, the results conflict somewhat with those just presented. The results are also slightly harder to relate to prior research. Guedhami et al. (2009) find that state owners place less value on credible financial reporting and are less apt to choose a Big Four auditor. Similarly, Chen et al. (2009) document that audit quality is less important for state-owned enterprises. However, our findings on government agency debt can be related to the following statement by Tate (2007, pp. 50-51): "[s]ince donors receive no direct benefit from the charitable contributions they provide to a nonprofit and therefore cannot directly see how the funds were used, they rely more heavily on monitoring to ensure their funds were used consistently with their intent". Government agencies will in some respects fit the characteristics of donors in the microfinance industry. We return to this issue in a supplementary test of differences between for-profit and nonprofit MFIs below.[8]

Before proceeding, we note that many of our control variables are insignificant in this main analysis. Nonetheless, risk appears to be relevant for access to debt capital. As expected, in the cases where the coefficient of the PAR30-variable is significant, the relationship between risk and access to debt is negative.

[7] All our observations are from this century. The reputation of the Big Four may have been negatively affected by the audit scandals which occurred around the turn of the century. A question that cannot be answered from our data is whether the reputation of the Big Four was *more* negatively affected in poor countries than in rich, Western countries.

[8] Government agency debt is typically provided through funds that are designed to support the microfinance industry. A possible interpretation of the finding that government capital provision is related to the use of Big Four auditors is that these funds appear to be professional and focused on transparency.

As a further test of fund raising possibilities, we conduct an additional analysis in which a binary indicator variable for access to voluntary savings is applied as the dependent variable (see rightmost columns of Table 3). MFIs are not necessarily banks in the sense that they universally accept deposits, and only approximately 30% of our sample offer savings. For these MFIs, an additional source of debt financing becomes relevant; in fact, savings may be a large source of capital.[9] Table 3 suggests that there is a negative association between the use of Big Four auditors and voluntary savings. However, we do not interpret this to mean that depositors shy away from MFIs which use Big Four auditors. Instead, the negative coefficient of the test variable may be interpreted to provide evidence in favor of what Beisland et al. (2015) refer to as the signaling effect of deposits. That is, when MFIs have access to savings, they are less dependent on other sources of (professional) capital and are therefore less dependent on signaling high-quality governance structures through the choice of external auditor. We note that savings are positively related to size and regulation. The finding that regulation is positively associated with savings is expected. In fact, being regulated is often a pre-requisite for being allowed to accept savings. We also note that MFIs that accept savings are less likely to be originated abroad.

Most MFIs subscribe to the dual objectives of financial sustainability and social performance (poverty reduction). However, increasingly strict commercial players have recently entered the microfinance market. One may generally argue that whereas NGOs and cooperatives typically are strictly nonprofit entities, a for-profit objective is more explicit for banks and non-bank financial institutions incorporated as shareholder companies (Galema et al., 2012).[10] There may be systematic differences between the two sets of MFIs. Therefore, as an additional test, we separate the for-profit MFIs (shareholder corporations) from the nonprofit MFIs (NGOs and cooperatives) and re-run all tests on these two sub-samples; see Table 4. In this alternative procedure, we investigate whether the for-

[9] Mandatory savings are often applied in the microfinance industry, in that clients are required to save to access credit. We focus this analysis on the portion of capital provision that is voluntary.

[10] For the record; cooperatives may have a for-profit objective in some industries. Thus, our categorization of for-profit and nonprofit entities should not necessarily be extended to other industries.

profit versus nonprofit dimension of firms and organizations can have an influence on the funding consequences of audit quality (cf. the contention of Chen et al., 2011, that the governance role of auditing varies between firm types).

Table 4

In Table 4, auditor choice remains significantly related to international subsidized debt and government agency debt, but only for nonprofit MFIs. The finding that audit quality is important for nonprofit organizations is hardly surprising and can be related to prior research (Tate, 2007). However, the result that auditor choice in our analysis is *more* important for nonprofits than more profit-oriented organizations is somewhat unexpected. The data themselves cannot present any answer with respect to the underlying reason for this empirical result. Nonetheless, based on prior research, we launch some plausible explanations for the finding that auditor choice appears to be more important for the capital access of nonprofit than for-profit MFIs.

First, the finding lends additional support to Tate (2007), who states that because the benefits from providing capital to nonprofit entities may be difficult to measure, capital providers rely even more on monitoring. Manos and Yaron (2009) maintain that microfinance is an industry in which correct performance measurements are unusually complex to obtain, and it is reasonable to assume that this complexity is largest for MFIs with multi-dimensional objectives. The complexity explanation may also relate to accounting standards. Nonprofit MFIs may apply different accounting rules than shareholder corporations. If creditors are not familiar with the accounting practice of nonprofits, high audit quality may become relatively more important when loans are to be granted (cf. Hartarska, 2009). Second, according to Mersland (2009), banks and non-bank financial institutions might be regarded as more 'professional' than NGOs and cooperatives. This aspect can make the use of Big Four auditors more important for the latter group of MFIs when capital is to be raised. Third, our finding may be related to other governance mechanisms. Beisland et al. (2015) document that internal auditors are less likely to be present in nonprofit than for-profit MFIs. Lack of other

governance mechanisms can increase the relative importance of high quality (external) auditing in nonprofit MFIs. Moreover, this argument is somewhat consistent with the contention of Vermeer et al. (2009) that recent governance failures in nonprofit industries have led to increased scrutiny of nonprofit entities in general. Fourth, we cannot rule out the possibility that nonprofit MFIs have larger agency conflicts than their for-profit counterparts (cf. e.g., discussion of internal agency problems in Knechel et al., 2008). The non-distribution of retained earnings, access to donations and the endowment funds found in nonprofit MFIs are all characteristics that may exacerbate agency costs (for instance in the form of unnecessary expenses). Higher agency costs increase the need for high quality auditing (Hay et al., 2006), in particular if other governance mechanisms are weak or non-existent. .

If (perceived) complexity is the reason why creditors of NGOs and cooperatives apparently rely heavily on audit quality, one may contend that increased transparency with respect to, e.g., performance, accounting rules and 'business practice' in more general terms can be beneficial for these nonprofit MFIs when capital is to be raised. If creditors regard lack of professionalism and good control structures as a challenge for nonprofits, increased focus on the quality of internal governance mechanisms may pay off. However, before jumping to strong conclusions based on the results of Table 4 we stress that the number of observations is smaller for shareholder firms than NGOs and cooperatives, which may explain why we struggle to observe statistically significant relationships for the shareholder MFIs. Nonetheless, even if disregarding significance levels as such, we note that the regression coefficient on the Big Four variable is substantially larger in the nonprofit sample for international subsidized debt and government agency debt (and for international commercial debt, where the Big Four variable is insignificant in both samples).

5. Conclusions

This is the first study of the consequences of high audit quality that applies a broad sample of emerging market countries. As instructively discussed by Lin and Liu (2009), high-quality auditing will be adopted only if the benefits outweigh the costs of the choice. Many benefits from high-quality auditing could arise. In this study, we focus on what has historically been assumed to be the main benefit from using a Big Four auditor, specifically, increased fund raising possibilities and lower costs of capital (Boone et al., 2010; Pittman and Fortin, 2004). Our empirical analysis suggests that these benefits are dependent on the creditor type that an MFI wants to approach. If an MFI aims to increase its international or government agency debt, the choice of a Big Four auditor can be important and effective. However, in our sample from developing and emerging markets, we are not able to document any association between the use of a Big Four auditor and access to local commercial debt. Another important aspect of our study is that we can compare capital access for nonprofit and for-profit entities that are otherwise similar. In this additional study, auditor choice appears to be more important for capital access by nonprofit entities.

Our findings raise several interesting questions for future research. Few of the sample countries are covered by other international studies of the consequences of audit quality (such as El Ghoul et al., 2016a; Francis and Wang, 2008; Gul et al., 2013). It could be that the perception of the brand names of the Big Four are different in countries such as Cambodia, Peru and Zambia than in Western countries typically covered by traditional audit research (cf. Khurana and Raman, 2004). Emerging markets differ from developed markets, and there are also distinct differences among countries *within* the emerging markets category (Boamah, 2017). Therefore, to investigate how sensitive our conclusions are to the specific countries covered by the sample, more research is needed on emerging countries in Africa, Asia and Latin-America. Similarly, with respect to the importance of the nonprofit versus for-profit dimension, it is important to investigate further to which degree our findings can be generalized to other industries and settings.

Overall, we consider the most important finding of this study to be that the benefits of auditor choice appear to be sensitive to the type of capital provider. For several decades, audit quality research was based on the expectation that higher-quality auditing reduced information asymmetries and thereby increased the access to capital (e.g., see Pittman and Fortin, 2004). More recent research has suggested that the benefits of higher quality auditors are dependent on investor protection levels and disclosure regulations (Gul et al., 2013; El Ghoul, 2016a). In this study, we take the literature one step further by demonstrating that the relationship between auditor choice and access to debt capital may be creditor-specific. Our findings on capital access for nonprofits and for-profits respectively that are similar with respect to products, markets and clients are also a contribution to audit research. However, here we stress that the sample sizes are small and the results therefore should be interpreted with some caution.

In general, we regard the possible benefits of auditor choice to be an important issue in accounting research. Big Four auditors might improve access to capital and lower the cost of capital. On the other hand, Big Four auditors are more expensive than other auditors – in developing as well as in developed countries (Hay et al., 2006; Chung and Narasimhan, 2002) – for unlisted entities (Peel and Makepeace, 2012), for nonprofits (Vermeer et al., 2009), for small organizations (Choi et al., 2008) and with respect to non-audit services (Fleischer and Goettsche, 2012). It is important to weigh the costs of auditor choice against the benefits. Our study shows that the benefits can be sensitive to both organization type and creditor type. In the microfinance industry, it is important to remember that access to debt capital is regarded as necessary to address increasing world demand for microfinance services (Ledgerwood et al., 2013). International creditors may be the most important source of debt in the years to come for the microfinance industry. Therefore, one of the benefits from the use of Big Four auditors documented in this study, i.e., improved access to international debt, may be of vital importance in the role that microfinance plays in bringing people out of poverty (cf. Imai et al., 2012; Odell, 2010).

Some caveats are, however, in order. Our data contains little information on access to equity. Therefore, it may be the case that our indicator variables for access to the various sources of debt capital do not capture all aspects of fund raising. Moreover, we have good data for access to debt, not cost of debt. Although it remains a challenge to obtain high-quality data for non-listed corporations in many parts of the world, future research should try to develop both cost of equity and cost of debt variables in alternative settings, contexts and geographical regions to further develop the literature on the costs and benefits of auditor choice. Sample size is also important. It is notable that our results represent average findings for 60 countries, and we cannot rule out that differences exist between our sample countries.

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Table 1: Geographical Distribution of Data Sample

Country	Obs.	Pct.	Country	Obs.	Pct.	Country	Obs.	Pct.
Albania	3	1,18 %	Gambia	1	0,39 %	Morocco	6	2,35 %
Armenia	3	1,18 %	Georgia	4	1,57 %	Mozambique	2	0,78 %
Azerbaijan	7	2,75 %	Ghana	4	1,57 %	Nicaragua	4	1,57 %
Benin	7	2,75 %	Guatemala	5	1,96 %	Niger	2	0,78 %
Bolivia	16	6,27 %	Guinea	1	0,39 %	Nigeria	1	0,39 %
Bosnia Herzegovina	14	5,49 %	Haiti	2	0,78 %	Paraguay	1	0,39 %
Brazil	14	5,49 %	Honduras	6	2,35 %	Peru	13	5,10 %
Bulgaria	2	0,78 %	India	10	3,92 %	Philippines	2	0,78 %
Burkina Faso	2	0,78 %	Jordan	4	1,57 %	Romania	1	0,39 %
Cambodia	8	3,14 %	Kazakhstan	2	0,78 %	Russian Federation	12	4,71 %
Cameroun	3	1,18 %	Kenya	5	1,96 %	Rwanda	4	1,57 %
Chad	1	0,39 %	Kosovo	3	1,18 %	Senegal	4	1,57 %
Chile	2	0,78 %	Kyrgyzstan	4	1,57 %	Serbia	1	0,39 %
Colombia	1	0,39 %	Madagascar	2	0,78 %	South Africa	1	0,39 %
DR Congo	1	0,39 %	Malawi	1	0,39 %	Tajikistan	7	2,75 %
Dominican Republic	1	0,39 %	Mali	2	0,78 %	Tanzania	2	0,78 %
Ecuador	13	5,10 %	Mexico	8	3,14 %	Togo	5	1,96 %
Egypt	4	1,57 %	Moldova	1	0,39 %	Tunisia	1	0,39 %
El Salvador	3	1,18 %	Mongolia	3	1,18 %	Uganda	3	1,18 %
Ethiopia	7	2,75 %	Montenegro	2	0,78 %	Zambia	1	0,39 %
						Total	255	100 %

Table 1 lists the geographical distribution of the sample set used in this study.

Table 2: Descriptive Statistics for Data Applied in Multivariate Analyses

	Big4			*Not Big4*			Difference
	Mean	Std.	Obs.	Mean	Std.	Obs.	in means
Dependent variables							
Local commercial debt	0.37	0.49	65	0.43	0.50	159	-0.06
Int. commercial debt	0.56	0.50	70	0.35	0.48	158	**0.21**
Int. subsidized debt	0.65	0.48	66	0.41	0.49	157	**0.24**
Government agency debt	0.37	0.49	65	0.39	0.49	159	-0.02
Voluntary saving	0.21	0.41	77	0.36	0.48	178	**-0.15**
Explanatory variables							
Assets	12198	20657	77	5792	10387	178	**6406.14**
PAR30	0.035	0.066	77	0.060	0.071	173	-0.02
ROA	0.051	0.068	77	0.031	0.074	176	0.02
Int. initiated	0.532	0.502	77	0.404	0.492	178	0.13
Regulated	0.250	0.436	76	0.288	0.454	177	-0.04
Investor protection	56.411	7.015	75	57.091	4.792	172	**-0.68**
Domestic bank fraction	39.998	30.428	77	34.569	24.795	178	**5.43**
GDP per person	1738	1324	77	2490	2380	178	**-751.77**

Table 2 lists descriptive statistics for the variables applied in the multivariate analysis; data are listed separately for Big Four and non-Big Four users. The difference in means between the two sub-samples is presented, with **boldface** denoting significantly different means (at a 5 % level) as measured by a standard two-sided t-test.

Table 3: Main Analysis of Access to Capital

	Local commercial debt		*International commercial debt*		*International subsidized debt*		*Gvmt. agency debt*		*Voluntary savings*	
	Coeff.	z-value	Coeff.	z-value	Coeff.	z-value	Coeff.	z-value	Coeff.	z-value
Big4 predicted	0.098	0.460	**0.347**	1.990	**0.449**	1.990	**0.541**	2.350	**-0.810**	-2.900
Size (ln Assets)	0.078	0.790	0.201	1.510	0.154	1.510	0.069	0.690	**0.448**	3.540
Risk (PAR30)	-1.767	-0.950	**-3.504**	-2.370	**-3.886**	-2.370	1.840	1.120	2.229	1.180
Profitability (ln(1+ROA))	-0.653	-0.450	-0.965	-1.710	-2.429	-1.710	2.307	1.490	-2.140	-1.090
International initiation	-0.286	-1.460	0.362	1.200	0.240	1.200	**-0.481**	-2.370	**-1.263**	-4.290
Regulated entity	-0.046	-0.200	-0.362	-1.750	-0.423	-1.750	0.045	0.190	**1.464**	5.580
Investor protection	0.006	0.400	-0.031	0.640	0.011	0.640	0.011	0.610	0.001	0.030
Domestic bank market	-0.004	-1.060	-0.009	-0.780	-0.003	-0.780	0.005	1.400	**-0.022**	-3.640
ln(GDP per person)	0.179	1.110	0.389	0.310	0.052	0.310	0.131	0.790	**0.444**	2.180
Constant	-2.065	-1.010	-2.190	-0.730	-1.554	-0.730	-2.248	-1.050	**-7.206**	-2.900
Pseudo R sqrd	0.024		0.126		0.092		0.099		0.403	
Observations	197		201		196		199		225	

Table 3 lists regression coefficients, z-values, number of observations and Pseudo R^2 from the second step of the dummy endogenous variable method described by Heckman (1979), where the following regression specification is applied: CapAccess = α + βPredictedBigFour + **γControl** + ε. Regression coefficients in **boldface** are significant at the 5 % level (two-sided).

Table 4: Analysis in Sub-Groups of Shareholder MFIs (SHF) and Non-Shareholder MFIs (-SHF)

	Local commercial debt		*International commercial debt*		*International subsidized debt*		*Government agency debt*		*Voluntary savings*	
	SHF	-SHF	SHF	-SHF	SHF	-SHF	SHF	-SHF	SHF	-SHF
Big4 predicted	0.216	0.170	-0.183	0.586	-0.010	**0.914**	0.181	**0.837**	0.536	**-1.342**
Size (ln Assets)	0.379	0.042	0.293	0.184	0.211	0.056	0.628	0.061	0.363	**0.583**
Risk (PAR30)	-3.211	-2.392	0.224	**-6.267**	-1.676	**-5.253**	10.934	-0.952	3.456	2.430
Profitability (ln(1+ROA))	-3.425	-0.547	-1.955	-0.927	0.635	**-3.881**	3.842	1.292	0.004	-1.829
International initiation	-0.729	-0.075	**0.916**	0.225	-0.243	0.365	-0.103	**-0.748**	-2.047	**-1.336**
Regulated entity	0.357	-0.182	0.012	-0.524	-0.077	-0.515	**-1.160**	0.533	**2.436**	**1.266**
Investor protection	0.043	-0.007	-0.039	-0.032	-0.031	0.047	-0.044	**0.057**	0.000	0.016
Domestic bank market	-0.015	-0.004	0.002	**-0.019**	-0.005	-0.002	0.003	**0.013**	-0.029	**-0.024**
ln(GDP per person)	**1.568**	-0.004	0.645	0.312	0.166	-0.149	0.400	0.094	-0.313	**0.640**
Constant	**-16.227**	0.394	-5.349	-0.739	-0.496	-1.068	-6.431	-4.348	-1.044	**-10.714**
Pseudo R sqrd	0.303	0.016	0.121	0.176	0.071	0.137	0.267	0.168	0.603	0.410
Observations	57	140	61	140	58	139	59	140	68	157

Table 4 repeats the analysis of Table 3 on two sub-samples, respectively shareholder (SHF) and non-shareholder (-SHF) MFIs. Regression coefficients in **boldface** are significant at the 5 % level (two-sided).