Research Article
Journal of Business and Trade (JOINBAT) 4(2), 181-198, 2023
Received: 06-Sep-2023 Accepted: 07-Nov-2023
homepage: https://dergipark.org.tr/tr/pub/joinbat
https://doi.org/10.58767/joinbat.1356303

SAKARYA UNIVERSITY OF APPLIED SCIENCES

Effects of Indebtedness, Taxes and Financial Distress on the Demand for Non-Mandatory External Audit: Evidence from the Chinese Firms

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ABSTRACT

This paper aims to examine the determinants of firms' demand for non-mandatory external audit in China. Although the demand for non-mandatory external audit has often been investigated for the western economies, we are the first to present evidence for the China by using a unique dataset that the World Bank provided. Using enterprise surveys to estimate the likelihood of firms engaging non-mandatory external audit, the paper uncovers how the indebtedness, tax inspection probability, and the financial distress affect the demand for non-mandatory external audit. The results indicate a positive association between tax inspection probability and demand for external audit. Contrary to the previous literature, the likelihood of demanding external audit diminishes as financial distress level of the firm rises. This result indicates relatively high audit costs for the financially distressed firms that can not afford to cover their non-operational costs.

Keywords: China, External Audit, Financial Constraints.

1. Introduction

Non-mandatory demand for external audit especially in emerging economies does not seem to be a widely addressed topic among empirical auditing and accounting researchers. Lack of available data both on financial statements of companies and on their audit choices prevent researchers to produce empirical papers. Several papers have been published about this topic by using survey methodology for developed economies (see Carey, Simnett, & Tanewski, 2000; Seow, 2001; Rennie, Senkow, Rennie, & Wong, 2003; Collis, Jarvis, & Skerratt, 2004; Corten, Steijvers, & Lybaert, 2015). But these survey-based papers suffer from having small number of observations in general as compared to papers that use

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archival financial statement data. Accordingly the previous literature suffers from generalizability of their results. Another important characteristic of the demand for audit literature is its coverage of countries. This literature is concentrated on developed economies as it is easier to gather information about the firms in developed economies as compared to gathering information on informationally opaque firms in developing or emerging economies. Moreover, the papers that use archival data are mostly based on financial statements of publicly listed and large firms (Chow, 1982).

Several papers use Small and Medium-Sized Enterprises (SME) data (Tauringana & Clarke, 2000; Seow, 2001; Collis, Jarvis, & Skerratt, 2004; Niemi, Kinnunen, Ojala, & Troberg, 2012) or family-owned businesses’ data (Carey, Simnett, & Tanewski, 2000; Corten, Steijvers, & Lybaert, 2015). It is generally difficult to persuade an SME to be interviewed in a survey since they are generally too busy to catch up with all the business needs. With their opaque financial structures. Sometimes the respondent of SMEs may not have adequate background education to provide answers on financial issues (Seow, 2001). Therefore any information on SMEs audit demand are very valuable. The value of the information is higher for emerging economies. Despite the importance of external audit in reducing manager-owner conflicts and in enhancing performance (Barbera & Hasso, 2013; Carey, 2015) the monetary cost of audit may prevent SMEs, especially in emerging economies, from engaging an external auditor.

Being the largest emerging economy, China stands as an interesting case for studying the voluntary demand for external audit in several aspects. First, with a 10% estimated market share of the Big 4, the Chinese audit market is not as concentrated as the Big 4 dominated developed western economies (Jiang, Habib & Zhou, 2015). Therefore Chinese case can be regarded as a laboratory for the auditing researches. Several papers address the potential ethical and quality problems that can be experienced in such a competitive audit market with a short history (Chu, Du, & Jiang, 2011; Yang & Sung, 2017; Du & Lai, 2018; Du, Yin, & Hou, 2018). Second, the Chinese audit market was dominated by state ownership and political interference which hampered the emerge of private and independent audit firms for many years (Jiang, Habib, & Zhou, 2015; Xiao, Yang, Zang, & Firth, 2016). However during its transition period from a closed economy to an open and market-oriented competitive economy demand for audit services increased more than the supply of audit services in China (Chong, 2008). This situation created a shortage in supply and therefore lack of competition in the audit market. Third, the Chinese audit industry has a distinguished place for studying audit industry due to its segmented structure. Publicly listed companies in China are subject to statutory audit. The companies with foreign investments are subject to a supplementary audit in accordance with the International Financial Reporting Standards (IFRS) in addition to a statutory audit. The supplementary audit market is still dominated by the western-oriented Big 4 companies[2] in terms of sales revenue[3]. Since China adopted IFRS in 2007, the Big 4 companies have the first-mover advantage as they have intensive experience in IFRS. While lower competition continues in the supplementary audit market, the statutory auditors conduct their businesses in a competitive environment due to low market entry barriers (Lin & Yen, 2016; Jiang, Habib, & Zhou, 2015). These distinctive characteristics of the Chinese audit market represent a good opportunity to carry out empirical studies on the demand for external audit. The increasing the number of published papers in top tier journals is also an indicator of these rising interest in Chinese audit data (Defond, Zhang, Zhang, 2020).

Our contribution to the limited literature of voluntary demand for external audit has several dimensions. First, we present evidence from the audit industry of an important and interesting emerging economy. Second, we use survey data that not only include information for large companies, but also small and medium enterprises. Third the empirical part of the papers utilizes a previously unexploited unique data set. Defond, Zhang and Zhang (2020) underline the increasing number of papers that use Chinese audit data and address the difficulty of finding a new research questions/topics and unexploited data. Our paper uses a data set which has not been used in the audit literature before. Moreover we provide answers to a research question that has never been asked before for the Chinese audit industry.

The results of our paper indicate that the Chinese firms are affected from their tax inspection history when they are engaging external auditors. Contrary to the previous literature (Seow, 2001; Niemi, Kinnunen, Ojala, & Troberg, 2012; Ojala, Collis, Kinnunen, Niemi, & Troberg, 2016) our results show that the financially distressed Chinese firms refrain from going to an external auditor possibly due to the high audit costs. Additionally, in line with the previous well-established results of the literature (Niemi, Kinnunen, Ojala, & Troberg, 2012; Dedman, Kausar, & Lennox, 2014; Corten, Steijvers, & Lybaert, 2015; Ben-Hassoun, Aloui, & Ben-Nasr, 2018) the results of our paper indicate that larger firms are more likely demand external audit as compared to their smaller counterparts.

The rest of the paper is structured as follows: the following section reviews the demand for audit literature both for developed and emerging economies. The next section provides the theoretical background and hypotheses. The empirical model and sample are given in the following section. The next section presents the summary statistics and empirical results while the final section concludes.

[2] Deloitte, Ernst and Young, KPMG, PricewaterhouseCoopers.
[3] https://www.acuitymag.com/business/big-four-remain-a-force-in-china accessed on 30/11/2019.

2. Literature Review

Determinants of voluntary audit demand are being questioned usually for the firms of western economies since 1982 (Chow, 1982; Corten, Steijvers, & Lybaert ,2015; Tauringana & Clarke, 2000) while the literature provides limited evidence for the emerging economies (Fan & Wong, 2005). To the best of our knowledge, discussion about the determinants of audit demand starts with Chow (1982). Chow (1982) uses a sample of 165 firms from the NYSE OTC market to explore the effects of the firm size, leverage, and the share of managers in ownership via logistic regression and univariate analyses. Unlike Chow (1982) that uses historical data, Corten, Steijvers, & Lybaert (2015) uses the 2003 US Survey of Small Business Finances. These surveys are conducted for fully family-owned firms and include 4240 non-financial, non-farm and non-subsidiary firms. Rather than just examining demand for audit services, they concentrate on auditor services types which include audits, reviews, and compilations. So their dependent variable is a categorial variable includes three dummy variables, about whether the firm's financial statements are audited, reviewed or compiled. They contribute to the literature by investigating the effect of the next generations on audit demand. They hypothesise that the demand for auditor services increases as the next generations began to take place in the management of the firm. This situation is explained by weakened altruistic motivations for the next generations. Their results imply that this forecasting is valid for reviews and compilations, but not for audit. This situation is explained by the expensive pricing policies for audit services, as reviews and compilations are less costly for family-owned firms.

Before 1994, all firms in the UK were required to have their accounts audited. However, some SMEs continued to use external auditing even after 1994. Tauringana& Clarke (2000) aims to understand the determinants of audit demand of SMEs using financial statement data for 92 SMEs in the UK. They hypothesise that the larger SMEs are more likely to use external audit. Another hypothesis that they tested is about the agency problem. They hypothesise that as the manager's share in ownership rises the likelihood of firms using external audit decreases. They find that more liquid firms are less likely to demand an audit, while the debt ratio affects the demand for audit positively. Similar to Tauringana & Clarke (2000), recently Dedman, Kausar, & Lennox (2014) uses financial statement data of the UK firms. Dedman, Kausar, & Lennox (2014) employs the Financial Analysis Made Easy database which includes 6274 UK firms from 2004 to 2006 which makes a sample of 15,013 observations. The firms that they include in their analysis are the ones that were subject to mandatory audit before 2004, but in 2004 this situation changes and they become exempt from auditing. After these firms were exempt from audit, 73% of them retained voluntary audits. But this ratio is found to be diminishing as time passes. Dedman, Kausar, & Lennox (2014) examines the effects of several variables including leverage, age and size of the firm, number of directors, number of shareholders, audit fee, the profitability of the firm, number of subsidiaries, and liquidity of the firm. Their results imply that riskier firms that have growth prospects are more likely to demand audit.

Following Tauringana & Clarke (2000), rather than using financial statement data, Collis, Jarvis, & Skerratt (2004) explores the determinants of voluntary audit demand by SMEs in the UK, using a survey of the directors of 385 companies which fit with the definition of legislations. Even if a company is not legally required auditing, 63% of the companies in the sample reported that they see important benefits of having their accounts audited. 73% of the companies reported that they use their audited account records when they are borrowing from banks. 48% says that auditing enhances information quality in the financial statements. Collis, Jarvis, & Skerratt (2004) specifically tries to understand whether the turnover and number of employees are good measures of size in order to determine the need for auditing, together with a number of hypotheses. Here, determining the size of the company is important to know whether the company is legally required to audit. They model the demand for non-mandatory audits as a function of the size of the firm, agency costs, and perceptions related to audit costs and benefits. Their results indicate that the probability of an SME's voluntary demand for audit rises as the size of the company, education of the director and perceived benefits of audit grows, it decreases if the company is a family-owned company. Another paper that examines the voluntary audit demand of firms in the UK is Seow (2001). Using 32 Surveys on firms Seow (2001) investigates the effects of managers' ownership share, leverage, maturity structure of debts and financial constraints on the audit demands of the SMEs in the UK.

The common chracteristic of the above studies is that they use data from the UK and the US. However, four papers use data from the other three developed economies to the best of the author's knowledge, i.e. Australia, New Zealand, and Finland. Carey, Simnett, & Tanewski (2000) uses Australian family business to examine the determinants of engaging both external and internal auditors. They examine the effects of size, debt, the proportion of nonfamily management in the firm, and the proportion of nonfamily representation on the board of directors. Niemi, Kinnunen, Ojala, & Troberg (2012) examines the determinants of voluntary audit demand by using surveys in Finland. Ojala, Collis, Kinnunen, Niemi, & Troberg (2016) is another study that examines the determinants of voluntary audit demand using a sample of 50,000 Finnish micro-companies as even the micro-enterprises had to use audits prior to 2008.

Using financial statement data for incorporated businesses in New Zealand, Hay & Davis (2004) explains the auditor and auditor quality choices. Their results imply that the quality auditors with strong reputations charge higher fees. The share of salaries in revenue and the size of the incorporated societies are positively related to the likelihood of engaging external audits. Contrary to the previous literature, their results imply that the largest incorporated societies and those with higher levels of debt do not seem to prefer Big 5 firms. Hay & Davis (2004) explains this result by the gap between the Big 5's standard client size and the small sizes of incorporated societies.

As for emerging and transition economies, the literature do not provide much evidence, to the best of our knowledge. Fan & Wong (2005) finds that the choice of external audit (the Big 5) is related to agency problems of firms in eight East Asian economies (i.e. Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand). Their data come from the Worldscope database and observations cover the 1994-1996 period. The results of Fan & Wong (2005) implies that the Big 5 consider the agency problems when determining the audit fee and making audit report decisions. Accordingly, the Big 5 can be said to have a corporate governance role in these eight east Asian economies.

3. Research Methodology

3.1. Hypotheses

We test three hypotheses in this paper as shown in Figure 1. The first hypothesis is related to the effect of indebtedness on external audit demand. The second hypothesis is about taxation while the third hypothesis is about the effect of financial distress on demand for external audit.

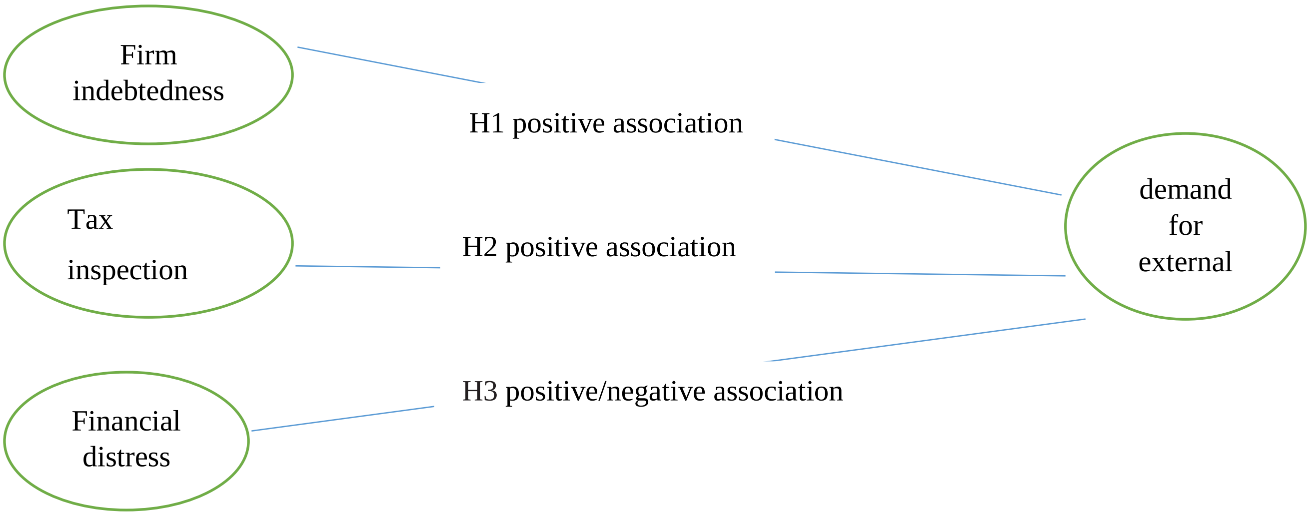

Figure I: Hypotheses

H1: *Heavily indebted firms are more likely to demand voluntary external audit.*

Previous researches imply a positive relationship between the indebtedness of the firm and voluntary demand for external audit (Chow, 1982; Carey, Simnett, & Tanewski, 2000). These papers argue that as the share of debt in a firm's capital structure rises, voluntary demand for audit goes up in order to prove that the firm will be able to pay its debts back to debtors (Abdel-Khalik, 1993). If a firm needs to borrow it has to have credible financial reports which reflect the real financial situation of the firm. At this point external auditors provide reliable financial statements in line with regulations and with demands of the creditors. Accordingly we hypothesise that the voluntary demand for external audit rises as the debt level of the firm goes up.

H2: *As tax authorities and rules become stricter, firms are more likely to demand a voluntary external audit.*

Seow (2001) shows that the voluntary demand of small companies in the UK is related to tax purposes. Niemi, Kinnunen, Ojala, & Troberg, (2012) and Ojala, Collis, Kinnunen, Niemi, & Troberg, (2016) find that voluntary demand for audit rises when Finnish firms need tax reporting credibility and tax planning expertise. Considering the comperative advantage of external auditors in providing tax advice and previous findings of the literature, we expect a positive relationship between the likelihood of tax inspection of the firm and the voluntary demand for external audit.

H3: *The higher the financial distress level of the firm, the more likely to engage external audit.*

Niemi, Kinnunen, Ojala, & Troberg, (2012) and Ojala, Collis, Kinnunen, Niemi, & Troberg, (2016) hypothesise a positive relationship between financial distress and demand for audit. Niemi, Kinnunen, Ojala, & Troberg, (2012) considers financial distress in the form of bankruptcy probability. Simply because financially distressed firms, especially the smaller ones, are more likely to engage external audit to solve their financial problems through the experienced financial advice. Moreover financially distressed firms are more likely to seek external finance from financial institutions and financial institutions are willing to lend to firms with proper financial statements that are prepared professionally. On the other hand, Seow (2001) states that firms that record profit are more likely to demand audit as they can afford additional non-operational costs. When we take this view into consideration we see that external audits can be expensive especially for the financially distressed firms. Therefore we have two competing hypotheses related to the association between financial distress and demand for external audit. The effect of financial distress on the voluntary demand for external audit can be either positive or negative.

3.2. Econometric Model and Data

3.2.1. Econometric Model and Variables

Probit regression models are often used when the dependent variable consists of binary variables taking the values 0 and 1. Probit regression models explain the effects of independent variables on the qualitative dependent variable. This models do not require as restrictive assumptions as linear probability models[4].

Since the dependent variable in our study is qualitative (binary), we prefer probit regression. We use the following probit model to test our hypotheses, where X represents the matrix of the independent variables, B's are the coefficients to be estimated, G(.) is the standard normal cumulative distribution function;

[4] https://www.stata.com/manuals/rprobit.pdf, accessed on: 3/11/2023

$$P(AUDIT = 1|X) = G(B0 + XB)$$

The dependent variable (AUDIT) is a dichotomous variable that becomes one if the respondent reported that the firm had its annual financial statements checked and certified by an external auditor in 2011, zero otherwise. Considering this binary characteristic of the dependent variable, we follow Wooldridge's (2012) suggestions and use probit model to avoid predictions below zero and above one that the Linear Probability model would have yielded.

As for the first hypothesis, i.e. the relationship between indebtedness of the firm and its probability of using voluntary external finance we use a dichotomous variable in addition to a continuous independent variable: LOAN and SIZEOFLOAN respectively. The LOAN variable is a dummy variable which reflects the indebtedness of the firm. If the firm has an outstanding loan this variable becomes 1, zero otherwise. In order to account for the indebtedness of the firm we also include the SIZEOFLOAN variable in the regressions. SIZEOFLOAN represents the amount of the most recent loan or line of credit in the Chinese Yuan.

To test the validity of the second hypothesis, i.e. the existence of a positive relationship between the strictness of tax authorities and the firms' probability of engaging external audits voluntarily, we employ another dummy variable, namely INSPECTION. This variable becomes 1 if the firm was visited or inspected by the tax authorities in the previous year, zero otherwise.

The final variable of interest FINDISTRESS is related to the third hypothesis. This variable approximates the perceived financial distress level of the firm. FINDISTRESS is a categorial variable that ranges from 0 to 4. It takes 0 if the respondent chooses 'no obstacle', 1 the respondent chooses 'minor obstacle', 2 if the respondent chooses 'moderate obstacle', 3 if the respondent chooses 'major obstacle', 4 if the respondent chooses 'very severe obstacle' for the following question: "To what degree is access to finance an obstacle to the current operations of this establishment?".

Table I: Variable Definitions

ABBREVIATION	Relevant hypothesis/ Expected sign	Definition
AUDIT	Dependent variable	Dummy variable that takes 1, if the firm has its annual financial statements checked and certified by an external auditor, zero otherwise.
LOAN	H1/+	Dummy variable that takes 1 if the firm has a line of credit or a loan from a financial institution, zero otherwise.
SIZEOFLOAN	H1/+	Size of the most recent loan or line of credit in the Chinese Yuan.
INSPECTION	H2/+	Dummy variable that takes 1, if the firm was visited or inspected by tax officials, zero otherwise.
FINDISTRESS	H3/+ or -	A categorial variable that ranges from 0 to 4. It takes 0 if the respondent chooses 'no obstacle', 1 the respondent chooses 'minor obstacle', 2 if the respondent chooses 'moderate obstacle', 3 if the respondent chooses 'major obstacle', 4 if the respondent chooses 'very severe obstacle' for the following question: "To what degree is Access to Finance an obstacle to the current operations of this establishment?".
EXPERIENCE	Control variable	The number of years experienced by the firm's manager in the sector.

AGE	Control variable	The number of operating years of the firm.
FEMALE OWNER	Control variable	Dummy variable that takes 1 if the firm has a female owner(s), zero otherwise.
FEMTOPMANAGER	Control variable	Dummy variable that takes 1 if the firm has a female top manager, zero otherwise.
JUSTICE	Control variable	A categorial variable that ranges from 1 to 4. It takes 1, if the respondent strongly disagrees, takes 2 if it tends to disagree, 3 if it tends to agree and 4 if it strongly agrees with the following statement: 'The court system is fair, impartial and uncorrupted.'
QUALITY	Control variable	Dummy variable that takes 1 if the firm has an internationally-recognized quality certification like ISO 9000, 9002 or 14000, or HACCP, zero otherwise.
SALES	Control variable	Total sales in 2009 in the Chinese Yuan.
WORKERS	Control variable	The number of permanent, full-time employers.

Besides these variables of interest, in order to avoid omitted variables bias, we use nine variables to control for the other possible factors that may affect a firm's probability of engaging voluntary external auditor. The details on the variables, their definitions, and the corresponding hypotheses are given in Table I.

3.2.2. Data and Descriptive Statistics

To test our hypotheses, we use the World Bank's firm level data, The World Bank Enterprise Surveys (WBES). The WBES covers 146,000 firms from 143 countries, from 2002 to today. These surveys include valuable information on the firm characteristics, business and regulatory environment. However the questionnaire changes from a year to another year depending on the interests and focuses of the World Bank. Moreover the surveys are not being conducted periodically once for every 3 years for different countries. For China only the 2012 survey includes information about the demand for external audit. To our knowledge, we got one of the highest number of observations compared with previous audit demand literature by studying non-mandatory external audit demand of Chinese firms via the WBES[5]. The WBES covers firms in both rural areas and big cities; thus, it enables us to analyze diverse firms from different regions of China. WBES provide 2700 observations for Chinese firms in 2012. However to extract information on voluntary audit demand we exclude limited liability companies, stock companies, public companies, and foreign-invested companies which results in a sample of 2507 firms.

Table II: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
AUDIT	2468	0.698	0.458	0	1
LOAN	2405	0.312	0.463	0	1
SIZEOFLOAN	500	1.50e+07	6.27e+07	1	1.00e+09
INSPECTION	2467	0.671	0.469	0	1
FINDISTRESS	2480	0.819	0.878	0	4

[5] Ojala, Collis, Kinnunen, Niemi, & Troberg, (2016) include 50,000 Finnish micro-companies, while Dedman, Kausar, & Lennox, (2014) cover 6274 small firms in UK. Therefore we have the highest number of observations for our analysis of an emerging economy.

EXPERIENCE	2455	16.25	7.45	1	55
AGE	2450	12.58	7.648	0	125
FEMALE OWNER	2507	0.599	0.490	0	1
FEMTOPMANAGER	2503	0.108	0.311	0	1
JUSTICE	2472	2.62	0.681	1	4
QUALITY	2480	0.605	0.488	0	1
SALES	2363	9.40e+07	8.47e+08	0	3.50e+10
WORKERS	2506	190.09	905.25	4	30000

Table II presents the descriptive statistics of the variables used in the empirical analysis. The average value of AUDIT indicates that nearly 70% of firms are having their annual financial statements checked and certified by an external auditor even if it is not compulsory. Considering the measures of dispersion such as range and standard deviation for SALES and WORKERS, we observe a large variation for size measures of the firms. The sample that we use includes micro-sized firms in addition to very large firms.

30% of the firms reported that they have an outstanding loan, while we again observe high volatility for the SIZEOFLOAN variable. It should be emphasized that only 500 firms provide an answer to the question related to the size of their outstanding loan. As for the INSPECTION variable we see that nearly 70% of the firms included in the sample reported that they have been examined by the tax officials over the previous year. With a mean value of 12.58, we observe again a large variation for the AGE variable as our sample includes newly established firms in addition to 125-year old firms. Considering these measures of dispersions for the variables, we underline that we are using a wide dataset of Chinese firms.

4. Results and Discussion

We run five regressions to test our hypoteses as presented in Table III. These regressions include different control variables and different variables to test for our three hypotheses. By doing so, we are also testing the robustness of our regression results to changes in the control variables and in definitions of the variables that we are interested in. For instance, the first regression includes SALES as a measure of firm size while the other four regressions include WORKERS in order to approximate the firm size. In a similar vein, the first four regressions include LOAN as a measure for the indebtedness of the firm while the fifth regression includes LOANSIZE. We include different combinations of the EXPERIENCE, AGE, FEMALEOWNER, FEMALETOPMANAGER, JUSTICE, SALES and WORKERS as control variables in our estimations. Since some firms do not provide answers to some of the questions asked in the survey, the number of observations are changing from a regression to another. For instance only 500 firms provide answer for the size of theit most recent loan. Therefore the number of observaions decreases to 476 in the fifth regression.

When we test the validity of the first hypothesis, we find positive correspondence for the indebtedness of the firm which is proxied by the LOAN variable and the probability of demanding non-mandatory external audit. The results of the last regression can be assumed to be more reliable for the test of the first hypothesis as this regression includes the continious proxy of indebtedness SIZEOFLOAN. Although, including SIZEOFLOAN rather than LOAN, results in a lower number of observations, the results of the last regression still confirm the positive relationship between the indebtedness of the firm and its probability of hiring an external auditor.

Table III: Regression Results

	(1)	(2)	(3)	(4)	(5)
LOAN	0.603***	0.576***	0.619***	0.547***	
	(0.126)	(0.119)	(0.123)	(0.126)	
SIZEOFLOAN					2.93e-08*
					(1.17e-08)
INSPECTION	0.965***	0.976***	1.082***	1.108***	1.249***
	(0.107)	(0.105)	(0.108)	(0.111)	(0.278)
FINDISTRESS	-0.381***	-0.341***	-0.333***	-0.315***	-0.174
	(0.0596)	(0.0577)	(0.0584)	(0.0590)	(0.116)
EXPERIENCE	-0.0328***	-0.0301***	-0.0230**	-0.0224**	-0.00598
	(0.00744)	(0.00713)	(0.00739)	(0.00750)	(0.0163)
AGE	0.0101	0.00975	0.00536	0.00245	0.00609
	(0.00845)	(0.00747)	(0.00762)	(0.00766)	(0.0203)
FEMALEOWNER			0.906***	0.859***	0.389
			(0.102)	(0.103)	(0.225)
FEMTOPMANAGER	-0.140	-0.0645			
	(0.165)	(0.159)			
JUSTICE	-0.181*	-0.129	-0.0570	-0.0460	-0.0301
	(0.0760)	(0.0740)	(0.0766)	(0.0779)	(0.155)
QUALITY				0.671***	0.0499
				(0.103)	(0.247)
SALES	4.74e-09***				
	(1.38e-09)				
WORKERS		0.0016***	0.0015***	0.0011**	0.00062
		(0.00039)	(0.00039)	(0.00033)	(0.00042)
CONSTANT TERM	1.086***	0.854***	0.0123	-0.299	-0.0689
	(0.243)	(0.236)	(0.257)	(0.266)	(0.609)
Number of Observations	2123	2219	2220	2202	476

Notes: Heteroscedasticity-robust standart errors are reported in pharantheses. *Correlation coefficients between independent variables are less than 0,7 while ViFs computed below 10, indicate evidence for absence of multicollinearity.* ∗∗∗, ∗∗, and ∗ denote statistical significance at 0.1%, 1%, and 5%, respectively.

As for the second hypothesis we employ the INSPECTION variable. The positive and statistically significant coefficient estimate of INSPECTION provides evidence in favor of the H2. Accordingly our results yield strong evidence for the existence of a positive association between tax inspection probability and engaging an non-mandatory external auditor. This positive relationship is not confirmed in the last regression possibly due to the small number of observations.

To test the validity of H3 we employ the FINDISTRESS which represents perceptions of firms about the difficulty of accessing external funds. The regression results give a negative coefficient estimate for this variable. This negative coefficient estimate of FINDISTRESS imply that demand for non-mandatory external audit decreases as the firm perceives access to finance as a problem for the operation of its business. This finding presents evidence for the Seow (2001)'s hypothesis[6]. It is important to note that Seow (2001) could not find supportive evidence for his hypothesis for small businesses in the UK. Ojala, Collis, Kinnunen, Niemi, & Troberg, (2016) hypothesises that as the financial distress of a firm rises its demand for voluntary audit goes up. As the firm is in financial distress its likelihood of applying extra funds goes up. Therefore the financially distressed firm may need an external audit in order to prove its financial score and credibility. Depending on these different views, the theoretical relationship between financial distress and demand for an audit can be claimed to be ambiguous. However, we find more evidence in favor of a negative relationship between financial distress and voluntary demand for external audit in Chinese firms. This result is not surprising as the financially distressed firms may refrain to pay costly external audits as their priority is to cover operating expenses.

As for the control variables, Dedman, Kausar, & Lennox, (2014) implies that younger companies are assumed to be riskier than their older counterparts due to larger information asymmetries which correspond to higher cost of an audit for younger firms. The higher cost of audit causes lower demand for external audits. However, we failed to find a negative relationship between the age of the firm and its demand for external audits. Moreover, we also can not say that there is a positive correspondence between the age of the firm and its demand for external audits since we obtained statistically insignificant results for a coefficient estimate of the AGE variable.

For the gender effect, we can infer that the female-owned enterprises are more likely to demand external audits depending on the positive and statistically significant coefficient estimates of the FEMALE OWNER variable. This result can be attributed to the risk-averse nature of female entrepreneurs (Croson & Gneezy, 2009). Since female entrepreneurs dislike risk more than male entrepreneurs do, they behave more cautiously in their decisions especially in emerging economies. Therefore they are more likely to hire an external auditor to have their accounts checked. However, we do not observe a statistically significant relationship for the firms that have female top managers.

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[6] Seow (2001) measures the financial distress by a dummy variable which becomes 1 if the firm recorded profit in its financial statements over the previous year, zero otherwise. Therefore Seow (2001) measure the financial health of the firm rather than the financial distress of the firm.

To account for the views of the firms about justice in the court system of their country we employ the JUSTICE variable. Since higher values for this JUSTICE reflects higher trust in justice. The regression results imply a negative relationship between the voluntary external audit demand and trust in Chinese judicial system.

Apart from the first three regressions, the fourth and fifth regressions include the QUALITY variable. We obtained empirical evidence for a positive and statistically significant association between the probability of engaging an external auditor and having quality certification like ISO 9000, ISO 14000 in the fifth and the sixth regressions. Only in the fifth regression, the positive relationship turns out to be statistically insignificant due to a lower number of observations. These results show that the firms that care for quality measures are more likely to hire an external auditor.

The previous literature associates voluntary demand for external audit with the Jensen and Meckling (1976)'s agency theory. Agency problems are more likely to arise in large firms. Since the larger firm size corresponds to higher cost of monitoring for firms, audit expenditures stand as one of the important sources of monitoring costs due to higher agency costs. Therefore we hypothesise that the voluntary external audit demand rises with the firm size. This hypothesis is a well-established hypothesis and has been tested several times by previous papers in the field (Carey, Simnett, & Tanewski, 2000; Collis, Jarvis, & Skerratt, 2004; Niemi, Kinnunen, Ojala, & Troberg, 2012; Dedman, Kausar, & Lennox, 2014; Corten, Steijvers, & Lybaert, 2015).

We use two different independent variables to account for the firm size: the total value of sales in the Chinese Yuan (SALES) and the number of permanent full-time employees (WORKERS). The coefficient estimates of both the SALES and WORKERS yield statistically significant and positive estimates. In line with our expectations, these coefficient estimates imply that the demand of voluntary external audit is higher for larger Chinese firms as compared to their smaller counterparts. These findings can be interpreted as evidence in favor of a positive relationship between firm size and demand for external audit.

5. Conclusion

Since the previous literature provides little evidence for emerging economies, this paper presents important empirical insights, for the determinants of voluntary external audit demand in China, which has not been explored previously. With its segmented audit market structure and audit market history, China stands as a special case for studying the demand for voluntary demand for external audit. One of the contributions of this paper to the previous literature stems from the novelty of the dataset which is obtained from the WBES. This dataset has several advantages as compared to financial statement data as the questionnaire used in these surveys not only reflects the actual numbers related to the firms but also perceptions of firms about the future of the economy and the status of their businesses. To sum, the dataset presents both objective and subjective information which is obtained from the views of the respondents. Despite this convenience of using the WBES dataset, it has some drawbacks as we can not include all the important variables that may affect the voluntary audit demand of firms. Accordingly, we might have omitted variables bias in our estimations. To overcome this potential bias we include as much as control variables that we can include in our regressions.

Our empirical results provide evidence for a strong positive association between firm size and voluntary external audit demand in China. This result is not surprising as we consider the previous literature of higher agency costs associated with larger firm size (Niemi, Kinnunen, Ojala, & Troberg, 2012; Dedman, Kausar, & Lennox, 2014; Corten, Steijvers, & Lybaert, 2015; Ben-Hassoun, Aloui, & Ben-Nasr, 2018). Therefore we conclude that the demand for voluntary external audit rises due to high agency costs in case of larger firm size. In line with Seow (2001), Niemi, Kinnunen, Ojala, & Troberg, (2012), Ojala, Collis, Kinnunen, Niemi, & Troberg (2016), our result underline the importance of tax purposes for voluntary external audit demands of Chinese firms as we find a positive correspondence between the tax inspection incidence and demand for voluntary external audit demand.

Contrary to the previous empirical literature (Seow, 2001; Niemi, Kinnunen, Ojala, & Troberg, 2012; Ojala, Collis, Kinnunen, Niemi, & Troberg, 2016) our results imply a negative association between financial distress and voluntary demand for external audit. We interpret this contradicting result as evidence for high audit costs of the financially distressed firms who do not have enough financial power to cover their non-operational costs.

There can be different routes for the future researches those want to make use WBES. First of all, a global study can be carried out in order to see the country level differences of engaging external auditor. The effects of cultural, historical and legal structures on voluntary demand for external audit can be examined by this way. As the World Bank still continues to conduct the WBES, we might increase our knowledge about the non-mandatory demand for external audit in China in future if the World Bank keeps on asking about external audit demand in the WBES questionnaries.

6. Declaration

6.1. Conflict of Interest

There is no conflict of interest in this study.

6.2 Authors' Contributions

EYH: Contribution to the article. Conceptualization, Methodology, Investigation, Validation, Writing – original draft.

GBS: Contribution to the article. Writing– Review & Editing.

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