

**FEMALE AUDIT TEAM LEADERS' APPOINTMENT AND AUDIT RISK ASSESSMENT:
EVIDENCE FROM SPANISH SMALL-SIZED AUDIT FIRMS**

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Abstract

Purpose: Both composition and functioning of the work teams determine the quality of the audit services. However, empirical evidence regarding gender diversity in audit teams' composition is scarce. This study aims to empirically investigate the relationship between the gender of the audit team leaders (ATLs) and the audit risk assessment during the planification stage of the audit engagement, to determine how and when the gender of the ATL influences the risk assumed.

Design/methodology/approach: First, we study audit partners' propensity regarding experience and gender when appointing ATLs for an audit engagement. Second, through the assessment of the different audit risks during the planification stage made by the ATLs, we analyse the potential effects of being female ATL and how demanding they are during the audit risk assessment.

Findings: Once potential endogeneity problems are fixed, the results evidence that audit works of larger and more solvent-audited clients are not assigned to female ATLs by audit partners. Moreover, during the planification level, female ATLs are more prone to detect audit risks than their male counterparts.

1. Introduction

One of the most studied individual characteristics is the gender attribute and the added difficulty of females to accede to managerial roles within enterprises. This sort of discrimination is predominant in male-dominated industries, such as the audit field (Kurtulus and Tomaskovic-Devey, 2012; Dalton *et al.*, 2014). In audit firms, when an audit partner agrees with the client to carry out an audit engagement, they must decide which audit member is going to be responsible for the execution. This decision is not footling because individual features of audit members are crucial in determining the planification period and audit risk management (DeFond and Francis, 2005; Francis, 2011). If we accept that gender discrimination exists (Lennox and Wu, 2018), we would expect larger clients to be assigned to male audit team leaders (ATLs) whereas smaller firms to be audited by female ATLs, which would suggest the existence of an unintentional gender favouritism (Anderson-Coguh *et al.*, 2005; Dambrin and Lambert, 2010). After assignment, and according to International Audit Standards (IAS), together with the audit partners, the ATLs must allocate resources that they consider adequate to lower audit risk up to an acceptable level. Even though the audit partner finally signs the audit report, audit effort and hours employed in the audit engagement are practically carried out by those who are not partners. Thus, the analysis of decisions taken by ATLs becomes decisive to opt for an opinion or another one in the audit report (Christensen *et al.*, 2019), despite the finite evidence on this field (Trotman *et al.*, 2015).

Recent studies have shown the relevant impact of individual peculiarities on audit outcomes (Gul *et al.*, 2013; Lennox and Wu, 2018). Thereby, gender discrepancies in ATLs may be a constituent when determining a decent planification to risk coverage. The existing literature on financial matters and gender has demonstrated that women are more risk-averse

(Schubert, 2006) and less confident (Fondas and Sassalos, 2000; Huse and Solberg, 2006) than their male colleagues. In the audit arena, previous inquiries also link the presence of females in higher positions to high-quality audit risk management (Hardies *et al.*, 2016). Women are supposed to prioritise audit quality over cost reduction and make their audit engagements more profitable (Jonnergård *et al.*, 2010). Everything points that female ATLs will be more conservative than their male counterparts. Nevertheless, as the audit profession is highly male-dominated (Dambrin and Lambert, 2012), it might lead women to adopt risk attitudes or preferences similar to their male counterparts to adapt and not be marginalised (Anderson-Cough *et al.*, 2005). In fact, if females reach male ATLs' tasks, it may be because female risk attitudes may shift to male risk preferences (Adams and Funk, 2012). This stream confirms that gender differences, from the behavioural sense, are cancelled once the crystal ceiling is smashed (Sila *et al.*, 2016; Adams and Ragunathan, 2018).

This study aims to empirically investigate the relationship between the gender of the ATL and the audit risk assessment during the planification stage of the audit engagement to determine how and when the gender of the ATL influences the risk assumed. In particular, our sample is based on small audit firms in the Spanish context, spanning from 2001 to 2015.

This study contributes to the existing literature that examines when gender discrimination is attributable to employers. To do this, we explore the criteria used by audit partners to assign audit works to ATLs. Our evidence is based on hand-collected archival data obtained directly from public information that small audit firms report to the '*Instituto de Contabilidad y Auditoría de Cuentas*' (ICAC [1]) and the risk assessment carried out by ATLs, which enriches our study, unlike those that only use questionnaires. From an empirical point of view, a unique feature of our study is that public data complement private data. The private data consist of risk assessment components and the identities of ATLs proportionated through the reports (model 03) submitted to the ICAC by the audit firms, while the public data stem from annual reports. Using this kind of non-public data allows us to amplify our conclusions related to audit teams and their effect on risk assessments and audit work planification. Furthermore, as far as we know, our study is the first to examine the relationship between ATL's gender, the appointment of this ATL by the audit partner, and the assessment of the different components of the audit risk within the planification phase. There is an increasing concern towards the ATL's gender since the direct contact of the ATL with the audited client and with the potential risks is much greater than that of the signing audit partner, having a meaningful role when issuing the audit report; what is undetected may not be informed. Finally, our empirical work contributes to the literature regarding gender attributes, especially ATL's gender, showing that audit firms may be willing to assign more relevant clients to male ATLs, although female ATLs plan more conservatively and detect greater risks in the development of the assignments they lead. Additional analyses evidence a masculinisation process as female ATL's experience boosts.

The remainder of this paper is structured as follows. In Section 2, previous research on the process of appointing ATL and the attitude of audit females facing risk are examined; we complete this section by formulating the hypotheses. Section 3 develops the methodology, defines the sample, and the empirical models. The results are stated and explained in Section 4. Additional analysis is presented in Section 5 and the main conclusions are presented in Section 6.

2. Literature Review and Hypotheses Development

2.1. The importance of gender in the ATL's appointment

Old and classic academic research treated female gender as a spurious variable, vaguely integrated in a set, or as a dummy variable that confused gender and sex, and jeopardised the relevance of female gender in the social and professional perspectives. We do not intend to question these approaches because they reflect the relevant socially followed pattern. Notwithstanding, the profound cultural change in the last decades has fortunately favoured parity, reconciliation, and no discrimination worldwide, which nowadays state as goals pursuing equality between women and men.

The above social shift has luckily landed on academic research and has changed its perspective. Focusing on the accounting and auditing field of study, it is worth noting the work of Haynes (2017), which makes a review of 25 years of critic accounting investigations about gender. It calls for consideration of gender interactions in the accounting atmosphere. Moreover, Dambrin and Lambert (2012) warn about the need to tackle critical and reflexive inquiries about gender to improve female positions in the accounting profession. Hardies and Khalifa (2018) also take a bibliographic tour of 58 accounting journals spanning from 2000 to 2014. All these authors support the fact that gender is not a dummy variable and question its use as a complement or a simple biologic marker. They understand that these banal approaches detract accounting research. For all this, the present study is built from an actual gender perspective.

The four largest audit firms around the world (the Big Four) admit that diversity enhances a firm's image and reputation because it is considered an economic good and a signal of professional excellence (Edgley *et al.*, 2016). The audit work carried out by audit firms is organised in teams because of the complex tasks; these teams are constituted by different competencies that exceed those that a single individual may embrace (Ditillo, 2012). In the earlier literature linked to female ATLs, Cameran *et al.* (2018) reveal the scant empirical research on this matter, although they affirm that the structure of audit teams is vital to determine the quality of the audit service. The team's leadership plays an important role because previous findings suggest that stressing audit works may be mitigated by motivating the ATLs (Kadous and Zhou, 2019).

Huse and Solberg (2006) use an approach based on the experience of executive women and find that females better manage disputes and deliberations, especially in complicated issues. These authors also affirm that executive women perform better in a meeting than men due to their communication skills. Likewise, women have higher expectations of their responsibilities (Fondas and Sassalos, 2000), and have to demonstrate an additional competence to reach positions of responsibility. In this line, Schuber (2006) believes women have better communication skills, which grants them with a comparative advantage with respect to their male counterparts in teamwork.

Consequently, women seem to have better attitudes to perform as ATLs in the auditing arena and in those audit engagements that require more abilities to analyse and discuss.

2.2. Women facing audit risk

Existing literature linking audit fees to the female gender is very profuse (Hardies *et al.*, 2018; Ittonen *et al.*, 2013; Anderson-Gough *et al.*, 2005), but that approaching the association between women and audit risk is strikingly scarce, and that dedicated to females as an ATL is even more limited. Ittonen and Peni (2012) prove that audit firms with female partners pass significantly higher audit fees, and they argue that their less risk tolerance leads them to apply a risk premium on prices. Plenty of studies document the more risk aversion associated with female gender from different points of view: laboratory experiments (Friedl *et al.*, 2020; Schubert, 2006); questionnaires (Khor *et al.*, 2020; Daoud *et al.*, 2019); meta-analysis (Byrnes *et al.*, 1999); or regressions models (Doan and Iskandar-Datta, 2020; Hurley and Choudhary, 2020; Tran *et al.*, 2020; Zalata *et al.*, 2019). This recent research puts in value the great and actual interest of academics and professionals in the binomial female gender and risk from different perspectives such as psychology, management, finance, or ethics. Even though various inquiries treat female gender and auditing arena, we insist that all of them analyse audit risk by using applied or budgeted fees as surrogates.

Because of the major degree of risk taking correlated with women, female ATLs may be more demanding when estimating risks in the different areas within the client's business (Ittonen and Peni, 2012), to form a more informed opinion about them. Thus, whether the audit partner will appoint female ATLs in the case of greater audit risk in the audit engagement or will other factors prevail in this decision-making will be our first research question. Thus, we formulate Hypothesis 1 (H1):

H1: Audit clients with more audit risk are more likely to be assigned to female audit team leaders.

The planification stage of an audit engagement depends on audit risk precisely, which in turn breaks down into inherent risk, control risk, and detection risk. The former is contingent on the client's activity and business size, and it is not the object of this study, so we focus on the last two. On the one hand, the auditor must evaluate the quality of the client's internal control to obtain a reasonable confidence level about the reported information; on the other hand, the detection risk consists of the risk of not detecting either errors or irregularities in financial reporting. Therefore, in the planification stage, the audit team must evaluate the existence of errors or irregularities before determining the detection risk, which supposes an additional effort for small audit firms where work conditions and incentives are quite different from those from larger audit firms (McNamara and Liyanarachchi, 2008; Svanström, 2016), such as software and big data treatment.

Audit risk assessment is imperative at the planification level. Davidson and Gist (1996) found that expected riskier clients require more audit effort to plan. In line with Fondas and Sassalos (2000) or Huse and Solberg (2006), Ittonen and Peni (2012) show that females take more time to plan in an audit engagement. Once an ATL has been appointed, the effort will directly depend on the previous and subsequent evaluations that he/she does about the different components of the audit risk. When it comes to professional judgment, ATL attributes are going to impact his/her work, such as experience, training, and risk-taking, the last being higher in the case of female ATLs, as explained previously. Thus, we formulate Hypothesis 2 (H2), split into three more to contemplate the various elements of the entire audit risk:

H2: Female audit team leaders are more likely to identify audit risk in the planification stage.

H2.1: Female audit team leaders are more likely to detect internal control deficiencies.

H2.2: Female audit team leaders are more likely to detect expected errors.

H2.3: Female audit team leaders are more likely to detect expected irregularities.

1. Research Method and Data

1.1. Endogeneity

As stated in previous literature, our study might suffer from selection bias because the matching process between audit engagement via audit team leaders and their clients is likely not to be random. Our models are effectively controlled by numerous variables that relate to economic and financial features and characteristics of ATL, audit report, and audit client. However, other underlying elements may drive the probability that a firm is audited by a female audit team leader, audit risk assessment, and audit team effort on audit engagement. To deal with and solve potential endogeneity, our strategy uses the ordered probit sample-selection model.

1.1.1. Ordered probit sample-selection model

Of course, determining a causal relationship between gender diversity on audit team leaders and audit risk is challenging. The female ATL may be chosen by both audit and audited firms to suit their operating and contracting environment (Adams and Ferreira, 2009). Omitted unobservable characteristics, either fixed or time-varying, may affect female ATL's appointment and audit risk; for instance, unobservable factors might be a firm's attitude towards corporate social responsibility (Sila *et al.*, 2016), a firm's preference to prioritise audit quality over cost reduction or profitability (Jonnergård *et al.*, 2010), or the likely reverse causality that risky firms may precipitate female appointment decisions (Cicero *et al.*, 2013).

Although we are interested in modelling the outcome, that is, audit risk, there are two dependent variables in the ordered probit sample-selection analysis because we must also

model the sample selection process (Heckman, 1979). Therefore, we consider two categorical variables: the ordinal outcome (*audit risk*) for the regression equation and the binary variable (*GENDER*) in the equation selection. Therefore, we define the following selection equation (Eq. 1) and regression equation (Eq. 2):

$$Pr(GENDER = 1) = \beta_0 + \beta X_{it} + \sum_{k=1}^6 IND_k + \sum_{j=2001}^{2015} YEARS_t + \varepsilon_{it} \quad (1)$$

where *GENDER* takes value 1 for female ATL and 0 for male; and the vector of control variables $\{X_{it}\}$ includes the natural logarithm of total assets (*SIZE*), current assets to total assets (*CATA*), leverage ratio (*LEV*), return on assets (*ROA*), proportion of female workers (*WEMPLOY*), experience in years (*EXP*), whether the firm is located in a big city (*BIGCITY*), total Certified Public Accountants employed (*CPA*), external employees (*EXTERNAL*), days elapsed from the closing date till the audit report issuance (*DELAY*), whether the audit opinion is qualified which takes value 1 and 0 otherwise (*QUALIFIED*), *COMPULSORY* which takes value 1 if the audit engagement has been compulsory, years that the client has been audited (*YAUDITED*), *NEW* which takes value 1 if the client is new for the audit firm, and finally the percentage of female workers employed in the industry where the audited client operates (*LABORFORCE*). We also control for industry (six main economic sectors) and year effects.

We expect *SIZE* to negatively affect the female access to big clients (Leibbrandt and List, 2015); *CATA* to influence negatively because it implies lower audit risk (Francis and Simons, 1987); *LEV* to affect positively because higher financial risk leads to higher insolvency and thus higher audit risk (DeFond *et al.*, 2000); *ROA* to affect negatively (DeFond *et al.*, 2000; Hardies *et al.*, 2016); *WEMPLOY* and *CPA* to affect positively and negatively, respectively, for the potential discrimination in male-dominated environments (Dalton *et al.*, 2014); *EXP* to affect positively because experience propitiates conservative attitudes (Koch *et al.*, 2012); *EXTERNAL* to affect negatively because of the attempt to mirror male-outside stereotypes (Hardies *et al.*, 2016); *DELAY* to affect positively – the more delay in audit report, the higher audit risk because of the existence of conflictive situations that require better resolute and communicative skills (Schubert, 2006); *QUALIFIED* to influence directly since qualified opinions might entail underlying uncertainties from the firm's activity which might increase audit risk (Serrano *et al.*, 2013); *YAUDITED* to affect positively as *EXP*; and *NEW* to affect positively because some works (Bell *et al.*, 2008) point out that new clients trigger more audit risk for the lack of knowledge about them. We do not make predictions for *BIGCITY*, *COMPULSORY*, and *LABORFORCE* because the expected signs might be different for SME firms.

$$Pr(Audit\ risk = 1, 2, 3, 4\ or\ 5)$$

$$= \beta_0 + \beta_1 GENDER_{it} + \beta X_{it} + \sum_{k=1}^6 IND_k + \sum_{j=2001}^{2015} YEARS_t + \varepsilon_{it} \quad (2)$$

where the dependent variable is the audit risk assessment in the planification stage, which is measured in three different ways for robustness purpose. First, the evaluation of internal control (*EVAL_IC*) discretely ranges from 1 to 5 values, with 1 being bad internal control and 5 good internal control. As indicated by ISA 315, the internal control is the internal 'process designed, implemented and maintained by those charged with governance, management and other personnel to provide reasonable assurance about the achievement of an entity's objectives regarding reliability of financial reporting, effectiveness and efficiency of operations, and compliance with applicable laws and regulations. The term "controls" refers to any aspects of one or more of the components of internal control'. Second, the probability of expected errors (*PROB_ERROR*) also discretely takes values from 1 to 5, with 1 being unlikely to uncover errors and 5 more likely. Material misstatements due to errors or mistakes are supposed to be unintended, with no fraud, such as arithmetic errors, misinterpretations, inadvertences, or incorrect application of accounting principles and standards without intent

to cause harm by act or omission. Finally, in the third place, PROB_IRREG is the probability of expected irregularity, with 1 being less likely to uncover irregularities and 5 more likely. Unlike errors, irregularities relate to intended acts or omissions with fraud, such as records and document manipulation, falsification or alteration, misappropriation, and irregular use of assets, record fictitious operations, or the improper and intentional application of accounting principles and standards.

We include our variable of interest GENDER to test Hypothesis 2 (H2) and predict that female ATLs are appointed to riskier clients. Lastly, assuming that the selection equation must contain at least one variable that is contained in the regression equation that relates to the outcome (Lanfranchi *et al.*, 2019), several variables have been dropped for not affecting; and others have been added, such as property, plant and equipment (PPE), and the total number within the board of directors (BOD).

[Insert Table 1 here.]

3.2. Sample and descriptive statistics

The data for our analyses come from 24 small- and medium-sized audit firms with the information taken from their legal application declared to the Spanish Accounting and Auditing Institute (ICAC) from 2001 to 2015. The audit firms are randomly selected, considering their size and areas of activity. This information was sent by 13 firms, including their evaluation of internal control, error, and irregular probability by the client made by the team leader during the planification phase. Table 1 reports the sample distribution by year and the six principal economic sectors: agriculture (4%), manufacturing (17%), construction (19%), supplies (2%), real state (3%), and services (55%).

Table 2 presents the descriptive statistics of the variables for the pooled sample and also differences of means based on t-test between female or male ATL groups in audit engagements to foresee potential discrepancies regarding gender diversity in a preliminary way. The untabulated correlation matrix does not suggest any problem with multicollinearity.

[Insert Table 2 here.]

4. Empirical Results

4.1. Gender diversity and audit risk

Our identification strategy builds on the gender of the ATL in the audit engagement. Table 3 shows the results obtained from the selection equation (Eq. 1) and are in line with our previous predictions. Considering that we highly reject the goodness of fit p-value (0.371) and the prediction power of the model is approximately 76%, riskier audited clients are assigned to female ATLs. For instance, an increase of 1% in current assets decreases the probability of appointing a female ATL by 15.6%, or an increase of 1% in leverage ratio boosts the appointment of a female ATL by 26.7%. Additionally, the experience rewards this appointment. We thus confirm Hypothesis 1.

Once the probit selection equation is calculated in the first step, Table 4 presents the results for the relationship between GENDER and audit risk assessment measures by using the ordered probit sample-selection model. We realise that the models fit perfectly because the Wald test of independent equations is rejected. Focusing on our variable of interest, GENDER displays the expected signs, that is, a female ATL is more likely to uncover deficiencies in the internal control of the client (-0.732) and more likely to find out expected errors (0.960) and irregularities (0.513) during the planification phase. Therefore, Hypothesis 2 is verified.

5. Additional Analysis

This study does not use traditional mainstream measurements that audit quality contemplates, but instead investigates audit risk assessment in the planification stage as an audit team outcome that may influence the quality of teamwork in the audit engagement. As demonstrated in the paper, gender diversity or inequality in audit team leadership affects audit risk

assessment which exposes underlying unethical behaviour in audit field (Svanberg and Öhman, 2016; Sweeney *et al.*, 2013). Remarkably, this kind of behaviour is seen as unethical but not illegal, so it may threaten the quality of an audit engagement. For instance, poor work in the planification phase can trigger serious subsequent problems or severe troubles in future audits.

Gender inequality may encourage a change in women's mindset because when they enter the audit profession, they might have to adapt to a masculine work environment or be marginalised instead (Kirkham and Loft, 1993) which might jeopardise their possibilities to achieve higher leadership roles (Anderson-Gough *et al.*, 2005). The psychology literature states that gender equality perceptions are significantly linked to audit quality and that gender differences may occur due to the self-stereotyping of feminine and masculine attitudes during group discussions. Hence, when audit teams debate audit risk assessment and judgements, they may be influenced by their own self-stereotyping of feminine and masculine attitudes and behaviours. Having said that, we postulate that audit team leaders blend with the audit masculine work environment as the experience increases to adapt and reinforce their growth opportunities in their job. Therefore, masculinisation might be interpreted as an intrinsic motivation of female ATLS for their future promotion.

Panel B in Table 4 presents the results for our postulation. The results demonstrate that with experience, the female ATLS blend with the masculine work environment. For instance, experienced female team leaders tend to uncover less internal control deficiencies (from -0.866 to -0.768); they are more likely to find errors (from 0.958 to 1.007) and are less likely to detect irregularities (from 0.601 to 0.552). These results show that the experience reinforces the detection of errors that are natural since they become more professional and get used to their job; however, some irregularities go unnoticed. Somehow what underlies here is that the experience might strengthen audit profession basics while relaxing the intuition to uncover intended acts or omissions with fraud.

[Insert Tables III and IV here.]

6. Conclusions

This study aims to investigate whether riskier audit engagements are assigned to female ATLS. Moreover, we also analyse whether they take more conservative attitudes in the audit risk assessment during the planification stage once they are designated as project leaders. Unlike other related studies, this is the first study to examine the impact of the ATLS' gender on SME audit risk management, a market segment in which one competes via prices and whose audit risk management capacity has been shown by previous literature.

After controlling for potential endogeneity concerns and using a complete and varied set of variables to measure the financial situation of audited clients and their audit risk assessment developed in the planification phase, our research provides evidence that larger and more solvent audit clients are assigned to male ATLS, whereas those with higher financial risk are executed by females. This fits the traditional gender literature, which reflects women's difficulties in accessing the most important clients of the audit firm. Once female auditors are designed as ATLS, the results reveal that women are more demanding when evaluating the probabilities of error and irregularity by the client during the planification step. Likewise, female ATLS require more superior standards to assess internal control set by the customer.

Additionally, we also analyse the potential masculinisation of experienced female ATLS since they work in a male-conditioned environment. The results demonstrate a more indulgent or tolerant attitude of female ATLS towards possible internal control weaknesses and to inform about irregularities in the planification stage, attitudes traditionally attributed to the male gender. However, the experience increases their capacity to detect and inform about errors by the client because of, probably, the accumulated expertise.

The results suggest a substitutive effect between errors (unintended mistakes) and irregularities (unintended acts or omissions with fraud). This does not mean an intentional

behaviour by female ATLS just to hide intended misstatements by audited clients, but it may indicate an intrinsic motivation that enhances their job opportunities, such as promotion or just to not jeopardise their surveillance in the audit firm. As female ATLS work in an audit masculine work environment, their more risk aversion makes them choose similar criteria to male ATLS as time goes by, that is, as audit expertise increases. Reporting irregularities instead of errors would suppose more audit effort (more proves, larger samplings, more interviews, etc.) which might trigger a delay in the audit report issuance that negatively affects female ATL's appointments (see Table 3). From the gender perspective, it would be interesting to analyse the audit effort to lower such audit risk.

There are several limitations to be considered when interpreting our results. First, although the sensitive nature of the data employed and given the potential differences in audit work environments among countries, the results may not be able to be generalized to audit practice outside Spain. Second, audit risk assessment relies on objective but also subjective perceptions. And thirdly, even though solving potential endogeneity problems and selection bias, the results may not be directly comparable to those reported in previous empirical studies.

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Endnote

[1] The "Instituto de Contabilidad y Auditoría de Cuentas" (ICAC) is the national public oversight board in Spain.

Table 1. Sample composition

Panel A. Sample distribution by year			
Year	N	Freq.	Accum. Freq.
2001	3	0.13%	0.13%
2002	12	0.51%	0.63%
2003	52	2.19%	2.82%
2004	87	3.66%	6.48%
2005	94	3.96%	10.44%
2006	117	4.93%	15.37%
2007	133	5.60%	20.97%
2008	249	10.48%	31.45%
2009	320	13.47%	44.93%
2010	318	13.39%	58.32%
2011	298	12.55%	70.86%
2012	236	9.94%	80.80%
2013	260	10.95%	91.75%
2014	193	8.13%	99.87%
2015	3	0.13%	100.00%
TOTAL	2,375	100.00%	
Panel B. Sample distribution by economic sector			
Sector	N	Freq.	Accum. Freq.
Agriculture	98	4.13%	4.13%
Manufacturing	403	16.97%	21.09%
Construction	447	18.82%	39.92%
Supplies	48	2.02%	41.94%
Real Estate	70	2.95%	44.88%
Services	1,309	55.12%	100.00%
TOTAL	2,375	100.00%	

Table 2. Descriptive statistics

Variables	Full sample									Gender = 1		Gender = 0		s.d. Equality	1 - 0 Mean diff.
	N	Mean	Median	s.d.	Min	Max	p25	p75	p95	N	Mean	N	Mean		
SIZE	2,375	9.019	9.010	1.169	3.490	12.910	8.360	9.750	10.830	1,183	8.943	1,053	9.112	unequal	-0.169 ***
PPE	2,375	0.256	0.186	0.372	0.000	9.707	0.047	0.390	0.701	1,183	0.280	1,053	0.236	unequal	0.043 ***
CATA	2,375	0.626	0.660	0.265	0.000	1.000	0.430	0.850	0.980	1,183	0.629	1,053	0.621	unequal	0.007
LEV	2,375	0.123	0.070	0.144	0.000	0.880	0.000	0.190	0.400	1,183	0.126	1,053	0.121	equal	0.005
ROA	2,375	0.157	0.020	0.032	-46.300	112.770	0.000	0.050	0.150	1,183	0.201	1,053	0.098	unequal	0.103
P&LOSS	2,375	0.081	0.000	0.273	0.000	1.000	0.000	0.000	1.000	1,183	0.078	1,053	0.081	equal	-0.003
WEMPLOY	2,375	0.453	0.471	0.139	0.000	0.789	0.389	0.556	0.652	1,183	0.500	1,053	0.397	unequal	0.103 ***
EXP	2,015	10.997	11.000	5.144	0.000	26.000	7.000	14.000	21.000	1,183	11.249	832	10.637	equal	0.612 ***
BIGCITY	2,375	0.236	0.000	0.425	0.000	1.000	0.000	0.000	1.000	1,183	0.153	1,053	0.298	unequal	-0.145 ***
CPA	2,270	3.451	3.000	1.833	0.000	8.000	2.000	4.000	7.000	1,120	3.029	1,021	4.029	unequal	-1.000 ***
EXTERNAL	2,375	0.035	0.000	0.728	0.000	35.348	0.000	0.000	0.120	1,183	0.026	1,053	0.044	unequal	-0.018
DELAY	2,375	137.687	141.000	48.997	0.000	483.000	105.000	161.000	196.000	1,183	134.686	1,053	141.145	unequal	-6.459 ***
QUALIFIED	2,375	0.236	0.000	0.425	0.000	1.000	0.000	0.000	1.000	1,183	0.245	1,053	0.224	equal	0.021
COMPULSORY	2,375	0.929	1.000	0.256	0.000	1.000	1.000	1.000	1.000	1,183	0.948	1,053	0.922	unequal	0.026 ***
YAUDITED	2,375	7.005	5.000	5.645	1.000	25.000	3.000	10.000	19.000	1,183	7.947	1,053	5.917	unequal	2.029 ***
NEW	2,375	0.127	0.000	0.333	0.000	1.000	0.000	0.000	1.000	1,183	0.116	1,053	0.143	unequal	-0.028 **
BOD	2,375	3.001	2.000	1.965	1.000	12.000	2.000	4.000	5.000	1,183	2.913	1,053	3.061	unequal	-0.148 **
LABORFORCE	2,375	0.439	0.656	0.310	0.005	0.758	0.126	0.737	0.758	1,183	0.451	1,053	0.428	equal	0.023 **
GENDER	2,236	0.529	1.000	0.499	0.000	1.000	0.000	1.000	1.000	1,183	1.000	1,053	0.000		1.000
EVAL_IC	1,451	3.640	3.000	1.354	1.000	5.000	3.000	5.000	5.000	864	3.517	474	3.627	unequal	-0.109 *
PROB_ERROR	1,451	2.048	2.000	1.083	1.000	5.000	1.000	3.000	4.000	864	2.122	474	2.042	unequal	0.079
PROB_IRREG	1,451	1.994	2.000	1.104	1.000	5.000	1.000	3.000	4.000	864	2.081	474	1.994	unequal	0.087 *

Variables: SIZE is the natural logarithm of Total Assets; PPE is Property, Plant and Equipment; CATA is the ratio Current Assets to Total Assets; LEV is the leverage ratio; ROA is Return on Assets; P&LOSS takes value 1 if the firm got losses in the previous year and 0 otherwise; WEMPLOY is the percentage of women employed by the audit firm; EXP is the experience in years of the audit team leader; BIGCITY takes value 1 if audit firm is located in a big city and 0 otherwise; CPA is the total number of Certified Public Accountants in the audit firm; EXTERNAL is the percentage of external staff in the audit firm; DELAY is the days elapsed from the closing date till the audit report issuance; QUALIFIED takes value 1 if qualified audit report and 0 otherwise; COMPULSORY takes value 1 if audit work is compulsory and 0 otherwise; YAUDITED is the years that the client is audited by the audit firm; NEW takes value 1 if the client is new and 0 otherwise; BOD is the board of directors' personnel; LABORFORCE is the percentage of female workers employed in the industry where client operates; GENDER takes value 1 if audit team leader is female and 0 if male; EVAL_IC is the discrete evaluation of Internal Control ranging from 1 to 5 with 1 being bad internal control; PROB_ERROR is the discrete probability of expected error during planification stage ranging from 1 to 5 with 1 being unlikely; PROB_IRREG is the discrete probability of expected irregularity during planification stage ranging from 1 to 5 with 1 being unlikely.

The statistical significance of the difference in means is based on the parametric t-test.

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3. Probit regression (margins dydx)

		Expected Sign	(Dependent variable = GENDER)	
			Coef.	(z-stat)
<i>Economic and financial features</i>				
	SIZE	-	-0.024 ***	(-2.68)
	CATA	-	-0.156 ***	(-4.11)
	LEV	+	0.267 ***	(3.57)
	ROA	-	0.002	(0.73)
<i>Audit team leader features</i>				
	WEMPLOY	+	1.348 ***	(15.81)
	EXP	+	0.022 ***	(9.82)
	BIGCITY	?	-0.095 ***	(-3.30)
	CPA	-	-0.047 ***	(-6.61)
	EXTERNAL	-	-0.029 ***	(-6.70)
<i>Audit report features</i>				
	DELAY	+	-0.089 ***	(-3.25)
	QUALIFIED	+	0.029	(1.23)
<i>Audit client features</i>				
	COMPULSORY	?	0.060	(1.21)
	YAUDITED	+	0.013 ***	(7.23)
	NEW	+	0.017	(0.51)
	LABORFORCE	?	-0.266	(-0.71)
N			1,878	
White correction			Yes	
Year dummies			Yes	
Industry dummies			Yes	
Pseudo-R2			0.2568	
Hosmer-Lemeshow chi2			9.75	
GOF (p-value)			0.371	
Prediction Power			75.990	
Wald Chi2			530.430 ***	

All variables are defined in Table 2. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4. Ordered probit sample-selection model

	EVAL_IC		PROB_ERROR		PROB_IRREG	
	Coef.	(z-stat)	Coef.	(z-stat)	Coef.	(z-stat)
INTERCEPT	-2.558	(-1.56)	-2.610 **	(-2.18)	-2.695	(-1.63)
GENDER	-0.742 ***	(-3.33)	0.960 ***	(4.08)	0.513 ***	(3.42)
EXP	-0.124 ***	(-4.08)	-0.001	(-0.05)	0.088 ***	(2.79)
GENDER*EXP	0.098 ***	(3.00)	0.049 **	(1.98)	-0.048	(-1.50)
SIZE	0.079	(1.64)	-0.030	(-0.78)	-0.093 **	(-2.19)
PPE	0.142 **	(2.19)	0.187 **	(2.39)	0.300 ***	(5.75)
CATA	0.131	(0.69)	-0.029	(-0.14)	-0.457 **	(-2.45)
LEV	-0.814 ***	(-2.69)	0.929 ***	(2.94)	-0.172	(-0.51)
ROA	-0.042 *	(-1.67)	0.520 ***	(3.98)	0.146 ***	(5.46)
COMPULSORY	-0.412	(-1.40)	0.428	(1.39)	0.197	(0.92)
YAUDITED	-0.049 ***	(-5.68)	0.026 ***	(3.29)	0.031 ***	(3.86)
NEW	0.040	(0.26)	-0.134	(-0.54)	-0.004	(-0.02)
BOD	-0.383 ***	(-6.00)	0.243 ***	(6.87)	0.394 ***	(5.40)
N	1,559		1,559		1,559	
Censored	811		811		811	
Uncensored	748		748		748	
White correction	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
Industry dummies	Yes		Yes		Yes	
Log Pseudolikelihood	-1,285.18		-1,452.04		-1,386.91	
	Chi2	p-value	Chi2	p-value	Chi2	p-value
Wald test of indep. eqns.	11.090	0.001	16.630	0.000	11.680	0.001
	Coef.	Chi2	P-value	Coef.	Chi2	P-value
Female audit team leader	-0.866	16.210	0.000	0.958	17.040	0.000
Masculinisation	-0.768	11.420	0.001	1.007	17.390	0.000

All variables are defined in Table 2. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.