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African Journal of Business Management

Table of Contents: Volume 12 Number 11 14 June, 2018

<u>ARTICLES</u>

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Full Length Research Paper

Effect of European audit firms on cost of debt and earnings management in private clients' audit market segment

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This research studies the relation between audit firm choice and benefits that companies could gain in terms of lower cost of debt and ea rnings management. It focuses on private clients and the non-Big4 audit market segment, where the main driver of auditor choice has not to date been satisfactorily identified. This study identifies and tests a new criterion for auditor choice in private firms based on audit market boundaries (European vs Domestic audit firms). Using a propensity score matched sample of private companies audited by non-Big4 audit firms in the period 2010 – 2014, this research finds that the choice of a European audit firm is negative ly associated with cost of debt and earnings management. Private firms that choose audit firms operating at European level, as consequence, have lower cost of debt and earnings management, mitigate the agency conflicts between lenders and owner/manager, and improve their corporate governance mechanisms.

Key words: Audit firm choice, non-Big4, cost of debt, earnings management, private firms.

INTRODUCTION

The non-Big4 private clients' audit market segment is an interesting topic: the Green paper (European Commission, 2010) for example, is against the concentration of audit market and aims to favor the development of non-Big4 audit firms:

"The Commission recognizes that continuity in the provision of audit services to large companies is critical to financial stability. To this extent, options such as the ramping up of the capacities of non-systemic firms and

exploring the pros and cons of "downsizing" or "restructuring" systemic firms should be further examined. The Commission would also like to explore the possibilities to reduce existing barriers to entry into the audit market, including a debate on existing ownership rules and the partnership model employed by most audit firms."

The aim of this study is to explore the benefits in term of cost of debt and earning management of a new criterion

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(European audit firm vs Domestic audit firm) to choose the auditors in private clients' audit market segment.

This research contributes to the literature identifying an original audit firm choice criterion that, coherently with the framework of DeFond and Zhang (2014), suggest useful instruments for the evaluation of audit quality from the point of view of auditor supply, using auditor competences, reputation, and litigation risk. Given the gap in the previous literature that show that the current criterium to choose an auditor based on size is not sufficient among non-Big4, this study suggests a criterion based on the European boundaries of the audit market, showing its effectiveness in the reduction of CoD and EM, as an opportunity for clients to mitigate the agency conflict between lenders and managers in private firms through the choice of an EAF. The higher audit quality offered by EAF reduces risks related to earnings management and allows lenders to accept lower level of interests with benefits for all stakeholders.

Audit firm choice is a significant decision that may affect agency conflicts. Literature has widely analyzed the effects of audit firm choice, finding several benefits associated with Big4, such as lower Cost of Debt (CoD), Earnings Management (EM) and agency costs. These benefits are usually connected with high reputation auditors that reduce the litigation risks. However, these results are mainly related to Big4 of public clients, while for private firms and non-Big4 segment findings are mixed and it is an empirical question, which are effective criteria for the selection of audit firms. In countries with competitive audit market of private firms, effective audit firm choice criteria among non-Big4 have not been clearly identified yet.

Literature also analyzes and finds mixed results about difference between second-tier and third-tier, classifying audit firms based on market share as defined by Public Company Accounting Oversight Board (PCAOB). However, in U.S. they are analyzed under the same regulations, reputation and litigation environment while in Europe the new classification here introduced is based on different environments for audit firms.

This research tests the effects on CoD and EM of the choice of European audit firms (EAF) instead of domestic audit firms (DAF). In private firms, CoD is one of the most important drivers of managers' choices, given that debt is usually a significant financial resource and that the main agency conflict is between lenders and managers/owners. On the other hand, agency conflict between lenders and owners/management can also create EM incentives (Watts and Zimmerman, 1986; Li, 2017).

Italy is an interesting setting to investigate because: a) the non-BigN audit market share is significant in the private company segment (around 40%); b) auditors are liable to third parties (Giudici, 2012).[i] Investigating agency conflict between lenders and owners/manager is important because lenders care about audit quality and have the power to sue auditors. Competitive audit markets with auditor liability towards third parties occur also in Sweden, Belgium, Denmark and Finland, and are analyzed in the robustness test. In all these countries, creditors can sue auditors, and the non-BigN market share in private firms is respectively 18, 54, 70 and 55%. O'Sullivan (1993) discusses the extension of liability to third party in the United Kingdom. Anantharaman et al. (2016) explore the extent to which auditors can be held liable by third parties for negligence and find that auditors are more likely to issue a modified going-concern report to financially distressed clients from high-liability states than to those from low-liability states.

Considering the endogeneity issue in the research about auditor choice, raised for example, by DeFond and Zhang (2014), this study uses a propensity-score matched sample of Italian companies audited by non-Big4 in the period 2010-2014. As expected, clients of EAF are associated with lower CoD and lower EM than clients of DAF. A battery of robustness tests run on alternative measures of CoD, EM, PSM, size, accounting standards, other countries with high third-party liability confirm our main results.

LITERATURE REVIEW

Literature review is based on the framework of DeFond and Zhang (2014) and we develop our hypothesis in the big picture of audit quality demand, supply and regulatory intervention.

Demand for audit quality

Clients have incentive to increase audit quality in order to lower agency costs. Literature on agency conflict in private firms finds that as the demand for financial reporting and for external audits mainly arises from the need for debt contracting with banks and other private lenders (Lennox, 2005), principals are typically lenders (Peek et al., 2010; Power, 1997; Vander Bauwhede and Willekens, 2004). A bank may place more trust in client financial reporting and reduce the CoD when a high quality auditor assures it. Previous old studies (Kelly and Mohrweis, 1989; Libby, 1979a, b; Strawser, 1994) as well as recently studies (Baylis et al., 2017; Robin et al., 2017; Chen et al., 2016) show that banks tend to form different perceptions according to the level of audit firm quality. Unlike public companies where internal corporate governance mechanism or surveillance of market authorities may mitigate agency costs, in private firms, audit quality may be the only available instrument to mitigate them (Cano-Rodríguez and Alegría, 2012). Moreover, Gul et al. (2013), analyzing data from several countries in the period 1994 – 2006, find that Big4 choice is related to lower CoD only in countries with stronger

(3) Clients have incentives to increase audit quality to reduce agency costs DEMAND FOR AUDIT QUALITY	(4) Cost of Debt	AUDIT QUALITY	(2) Auditor choice based on European audit firm vs Domestic audit firms	(1) Audit firms have incentives to increase audit quality for the reduction of reputation and litigation risks SUPPLY OF AUDIT QUALITY
	(4) Earnings Management			
Regulatory Intervention				

Figure 1. The association between auditor choice and agency theory in private firms and the non-Big4 segment.
Source: Adapted from DeFond and Zhang (2014).
Note:
1) Auditors have incentives to increase audit quality to reduce reputation and litigation risk.
2) Given that audit firm size, among non-Big4 segment, is not effective, we suggest a new audit firm choice criterion (European audit firm vs Domestic audit firms).
3) Clients have incentives to increase audit quality to reduce agency costs and agency conflicts between lenders and manager.
4) We expect that European audit firm, through higher audit quality, is associated with lower cost of debt, earnings management and agency costs.

investor protection.

Agency conflicts between lenders and owners/management can also create EM incentive, enhanced in the case of earnings-based debt covenants (Watts and Zimmerman, 1986; DeFond and Jiambalvo, 1994; Sweeney, 1994; Dichev and Skinner, 2002; Gao et al., 2017; Li, 2016). Note also that, especially after the Basel accords, the stability of the banking and financial system has been found to critically depend on client financial reporting transparency (Bushman and Landsman, 2010), making earnings an attribute of crucial importance. Vander Bauwhede et al. (2003) show that in Belgium, BigN constrain EM more than non-BigN only when the company manages earnings opportunistically to have earnings above the benchmark target of prior-year earnings, or where there is incentive to smooth earnings downwards. In other circumstances, BigN do not place any more constraint on EM than non-BigN. Vander Bauwhede and Willekens (2004) use different proxies to measure audit size (auditor market share, number of audit firm clients, number of partners in the audit firm, total assets and operating profit of the audit firm) and again find no significant reduction of EM in Belgian private companies when the audit firm is a BigN firm. Van Tendeloo and Vanstraelen (2008) examine the impact of audit quality on earnings quality in private firms in six European countries. They argue that in countries with a close alignment between tax accounting and financial reporting, financial statements are scrutinized more closely by the tax authorities, which makes the detection of audit failure more likely. They find that Big4 auditors constrain EM more than non-Big4 auditors in private

firms, but only in countries with a high tax alignment (Belgium, Finland, France and Spain) compared to low tax alignment countries (The Netherlands, UK). They also categorize non-Big4 auditors into Second-tier and small auditors, but find no indication that the Second-tier auditors constrain EM more than small auditors.

The research proxies the agency costs with CoD and EM and tests how they are affected by auditor choice in private firms and in the non-Big4 audit market segment.[ii] Figure 1 shows how the demand for audit quality is investigated through CoD and EM and how it is related to the supply of audit quality from EAF vs DAF.

Supply of audit quality

Among the several factors that affect audit quality, the paper focuses on auditor choice criteria among non-Big4 in private firms. These criteria are usually based on audit firm size, auditors reputation and litigation risks.

Previous literature typically compares BigN and non-BigN and, in public firms, find several benefits associated with BigN and their public clients. BigN provide higher-quality audits in order to protect brand name reputation from legal exposure (DeAngelo, 1981; Francis and Wilson, 1988; Simunic and Stein, 1987; Firth, 1999; Lennox, 1999; Tomczyk, 1996). Some of benefits gained when audited by a Big4 are lower CoD (Gul et al., 2013; Pittman and Fortin, 2004; Mansi et al., 2004; Causholli and Knechel, 2012) and higher EQ (Becker et al., 1998; Francis et al., 1999a; Teoh and Wong, 1993; Nelson et al., 2002; Kim et al., 2003; Gaver and Paterson, 2001;

Gerayli et al., 2011; Francis et al., 2009; Tsipouridou and Spathis, 2012; Porte et al., 2015). Specifically, DeAngelo (1981) agency-based framework suggests that large audit firms with large numbers of clients entail higher reputation costs as collateral against poor-quality audits. Large clients, particularly those with multinational operations, demand consistent auditing throughout the world, for example from a global audit firm network (Carson, 2009): he argues that global audit firm networks have competitive advantages not available to domestic audit firms. These advantages include knowledge of diverse business practices, an ability to operate across multiple business environments, expertise developed from servicing similar clients in different locations, robust and efficient audit methodology and processes, knowledgeable and expert professional staff, the ability to develop specific industry training and protocols as competences, and superior brand image as well as reputation. Competitive advantages attract clients seeking higher quality audits.

Firm size advantages have been studied also outside auditing. Larger firms interact with a greater number and variety of stakeholders, which would influence the complexity and multidimensionality of any formalized policy (Hart and Sharma, 2004). Larger firms presumably have more resources in the form of human and financial capital (Gallo and Christensen, 2011). Due to functional differentiation, specialization, and decentralization (Damanpour, 1987; Moch, 1976) larger firms have more specialized staff, more evolved administrative processes, and have more sophisticated internal systems to deal with business issues (Damanpour, 1996; Baumann-Pauly et al., 2013). Moreover, taking the perspective of legitimacy theory, some earlier studies were inspired by the argument that firms may increase the quality to hedge reputational risks and to prevent or to react to attacks from powerful stakeholder groups, such as customer pressure groups, and the media (Bansal and Clelland, 2004; Chatterji and Toffel, 2010; Schreck and Raithel, 2015).

The literature also analyzes Second-tier and/or Third-tier audit firms, based on market share as defined by Public Company Accounting Oversight Board (PCAOB), but finds mixed results, especially in private firms: for example, prior research (Chang et al., 2010; Cassell et al., 2013; Wang and Fan, 2014; Jenkins and Velury, 2011; Weber and Willenborg, 2003) finds a significantly higher audit quality for Second-tier while others do not (Van Tendeloo and Vanstraelen, 2008; Geiger and Rama, 2006).

Previous literature in short shows that size is a significant audit firm choice criterion in public companies. However, in private firms and the non-Big4 segment, it appears to be not sufficient (Lawrence et al., 2011) to differentiate the capacity of audit firms to reduce the agency conflicts. This capacity implies greater resources to invest in training professionals to detect errors.

Moreover, auditor size is sensitive to macro-economic effect (Fleischer and Goettsche, 2012). Hodgdon and Hughes (2016) also discuss the dishomogeneity of disclosure quality when audited by one Big4 versus the other Big4. Empirical research is required to identify criteria used by private firms in choosing audit firm, among non-Big4.

Hypothesis development

Non-Big4 has a significant audit market share in Italy (nearly 40%) and in several other European countries (e.g. Belgium, Denmark and Finland) in private firms. The research looks for a new audit firm choice criterion that assure the same benefits in terms of lower CoD and EM that previous literature found in public clients audited by Big4. Following previous literature, it developed our new criterion based on reputation, competences and litigation risks. Finally, it includes this criterion in the category of supply in the framework of DeFond and Zhang (2014).

The research analyzes the boundaries of the audit market addressed by non-Big4. Given that European Union Directives (European Parliament, 1984, 2006a) allow audit firms to operate in all member countries, it develops our hypothesis suggesting the classification of audit firms into two groups: 1) European Audit Firms (EAF) that work at European level and 2) Domestic Audit Firms (DAF) that work only in Italy.

The paper investigates differences in the quality of audit firms with clients located in European Union (EAF) and Domestic audit firms with clients located only in one country (DAF). EAF can be viewed as an extension of DeAngelo (1981) arguments where the creation of EAF with high competences and reputation is one way to manage the provision of high-quality audit services to clients. These advantages can be the same for different EAF but may not be available for DAF. The capacity to satisfy clients operating at European level requires legal, fiscal, social and environmental expertise of the country of operation. Demartini and Trucco (2016) have shown how auditor's experience is perceived important from surveys to partners. EAF, moreover are facing additional mandatory competence requirements. A domestic audit firm wishing to perform an audit in another European Union country needs to have a partner, which has passed an aptitude knowledge test of the legislation of that country[iii]. Thus, the research expects that the choice of hiring an EAF with more competences and reputation than a DAF is associated with lower CoD and EM.

Higher expected quality from EAF is also a result of stricter audit environment stemming from the higher enforcement and litigation risk present in different European countries, given that firms enter in the audit environment of each state where they want to operate. Audit firms that operate in more than one country have to adapt to different enforcement regulations. A stricter audit environment and more enforcement regulations promote

audit quality. Maijoor and Vanstraelen (2006) find that a stricter audit environment in a European member state lowers EM compared to other member states. Van Buuren et al. (2014) find that enforcement by audit supervisory authorities is one of the important factors explaining the use of business risk perspectives. Willekens and Simunic (2007) study the joint liability between directors and auditors and the relation on audit effort. Kleinman et al. (2014) argue that it is important to investigate the auditing regulatory regimes in different nations around the world, as well as the nature of cross-border audit inspections and their effect on AQ. There are different auditor liability regimes in the EU, such as the capped versus uncapped liability regimes, and this different litigation risk has a different potential effect on audit quality (EC DG, 2006).

The counterargument is that DAF are more specialized in the country where they operate. Following Francis et al. (1999b) and Ferguson et al. (2003), Francis and Yu (2009) argue that accounting professionals are typically based in specific practice offices and audit clients in the same geographic location. This decentralization reduces information asymmetry and enables auditors to develop better knowledge of existing and potential clients in a particular location. Clients, in turn, have greater knowledge of and confidence in the expertise of locally based personnel who actually perform audits (Carcello et al., 1992). The same argument could be made for DAF: through the specialization in one country they may have better knowledge in a particular location. Moreover, Vera-Muñoz et al. (2006) point out that firm-wide knowledge sharing has practical limitations, and for this reason, it is an open empirical question as to what extent these firm-wide mechanisms can effectively increase the hypothesized European effect.

The paper developed our hypothesis in private clients and non-Big4 audit firms. The effect of auditor choice is largely unknown for non-Big4. Competence acquired in operating at European level could have higher marginal value. In the U.S., non-Big4 have been mainly analyzed dividing them into Second-tier and Third-tier audit firms, or into international – national – local audit firms (Beattie and Fearnley, 1995). It introduces the category of EAF (similar to national level) and DAF (similar to local level). The main difference between local and national audit firms in U.S. is related to the number of clients. However, local and national audit firms in the U.S. are under the same regulations and therefore the same reputation and litigation environment. In Europe, the environment is different for EAF and DAF and the paper contributes to the literature testing this audit firm choice criterion. Given previous literature results on reputation, competences and litigation risk, we decide to develop the analysis in the form of a directional hypothesis, with two multivariate regression models respectively for CoD and earnings management:

Hp1: Private clients of European Audit Firms have lower

Cost of Debt and lower Earnings Management than private clients of Domestic Audit Firms

METHODOLOGY

Here presents the sample selection, the audit firms classification and the data collection strategies to identify EAF and DAF; the statistical regression models for CoD and earnings management used to test the hypothesis as well as the propensity score matching model to solve the problem of endogeneity. Prior literature found specific determinants for CoD (quick ratio, ROA, tangible, negative equity, loan maturity) and for earnings management (loss, sales growth, cash flow from operation and its variability), thus we decided to use different regression models.

Sample selection

The sample includes all 1149 Italian companies audited by non-Big4 audit firms (firms with two or more individual owners) with more than one client per year, appearing in Bureau Van Dijck database (Table 1).

We firstly drop public companies because they cannot choose among the different types of audit firms here analyzed, leaving a sample of 895 firms.[iv] The number of firm-year observations for the period 2010 - 2014 for these is 4435. In the period analyzed in this research (2010 - 2014), Italian auditors used national auditing standards. These standards are similar to International Standards of Audit (ISA), and meanwhile Italy is moving towards their implementation[v]. This database includes only the name of the last audit firm engaged and the year of its engagement. Two downloads, one in 2012 and one in 2014, thus supplied the name of the firm that audited the list of clients in our sample at the end of 2012 and at the end of 2014. For each of the audit firms we have the starting year of the engagement. We include only the years for which we know that the audit firm was auditing a specific client, resulting in a sample period different for each firm (unbalanced sample). All the firms in our sample voluntarily choose an external audit firm[vi]. The problem of self-selection of the sample is lower than in prior studies because the comparison is not with firms that do not undergo audit, but between the types of audit firm that they engage. All the firms in the sample undergo audit.

Secondly, we compute the CoD and we drop observations with missing values for this variable. The final sample used in the logistic regression of the auditor choice model consists of 1798 observations. PSM yields a sample of 1206 observations to be used in the main analysis (Panel A, Table 1).

Thirdly, we compute abnormal accruals and we drop observations with missing values for this variable. The final sample used in the logistic regression of the auditor choice model consists of 1162 observations. PSM yields a sample of 950 observations to be used in the main analysis (Panel B, Table 1).

The industry composition[vii] of our sample of private firms reflects the industry composition of firms in Italy, with a higher percentage of professional, technical and scientific services, construction activities, wholesale and retail trading; transport and storing activities; lodging and catering services; real estate; hiring services and travel agencies. Other industries represented are manufacturing, electric energy and gas supply; water supply and garbage disposal activities; information and communications. Percentages are lower for entertainment and sport activities; other services, agriculture, forestry and fishing; and minerals extraction (untabulated).

Audit firms classification

Most of the U.S. literature (Francis et al., 1999b; Weber and

Table 1. Sample selection.

Description	N
Total number of Italian companies audited by a non-Big4 audit firm with at least 2 clients in the Bureau Van Dijck database in 2014	1149
Less public companies or companies subjected to mandatory audit in 2014	-254
Total number of firms in the sample	895
Total number of observations for the period 2010-2014	4435
Panel A	
Starting from total number of observations for the period 2010 - 2014	4435
Less observations with missing values necessary to compute variables related to cost of debt	-2637
Total number of observations in the regression model for auditor choice in Cost of Debt analysis	1798
Less observations not matched in Propensity Score Matching model	-592
Total number of observations in the matched sample for Cost of Debt analysis	1206
Panel B	
Starting from total number of observations for the period 2010 - 2014	4435
Less observations with missing values necessary to compute variables related to abnormal accruals (observations lost mainly for lack of data on cash flows)	-3273
Total number of observations in the regression model for auditor choice in Earnings Management analysis	1162
Less observations not matched in Propensity Score Matching model	-212
Total number of observations in the matched sample for Earnings Management analysis	950

Table 2. Non-Big4 Audit firm classification.

Category	No. of audit firm	Client market share based on client total assets (%)
European audit firm	20	74.3
Domestic audit firm	70	25.7
Non-Big4	90	100.00

Willenborg, 2003; Geiger and Rama, 2006) analyzes audit firms that operate at international level (BigN), at national level (within U.S.) and local/regional level (within individual U.S. State). The three levels are even more important in markets characterized by a lower presence of BigN (Read et al., 2004), like the private company market. Similarly, in the European Union, excluding Big4 that operate at international level, we analyze EAF in the same way as audit firms operating at national level (within Europe) and DAF in the same way as audit firms that operate at local/regional level (within individual European State). To classify audit firms as EAF or DAF and to see if they are allowed to operate at European level, we check the presence of audit firms belonging to the same network in the registers of the following European countries: France, UK, Ireland, Belgium, Netherland, and Luxembourg.[viii] We checked premises and offices on their websites, to ensure that they actually operate there. We thus defined our sample of audit firms on the basis of the number of clients in more than one country (reputation and litigation risk) and on qualification requirements (competences) required for auditing in the countries selected. Table 2 shows the number of EAF, and names are shown in Appendix A.

Multivariate regressions models

Our model tests the effect of EAF on CoD and EM in private firms.

The Cost of Debt (CoD) model

The CoD model is the following Equation (1):

$$CoD_{it} = \alpha + \beta_1 EAF + \beta_2 SIZE_{it} + \beta_3 LEVERAGE_{it} + \beta_4 QUICK_{it} + \beta_5 ROA_{it} + \beta_6 TANGIBLE_{it} + \beta_7 ALTMAN_{it} + \beta_8 NEGATIVE\ EQUITY_{it} + \beta_9 LOAN\ MATURITY_{it} + \beta_{10} OWNERSHIP\ CONCENTRATION_{it} + industry\ fixed\ effect + year\ fixed\ effect + e \qquad (1)$$

CoD is the average cost of financial debts for firm *i* and year *t*, which is the financial cost disclosed in the income statement following Generally Accepted Accounting Principles (GAAP) in Italy, scaled by the total amount of financial debts. The financial cost includes interest and commission. Following Francis et al. (2005), Karjalainen (2011); Cano-Rodríguez and Alegría (2012); Gul et al. (2013), we choose a measure that includes only interest-bearing debt. Li et al. (2010) support the use of CoD in analyzing the consequences of auditor choice for several reasons: the public debt market is significantly larger than the equity market in some contexts; CoD is relatively well defined with less mis-specification than cost of equity; CoD is not affected by the difference of more or less sophisticated investors given that the information environment in the debt market is characterized by numerous information

intermediaries.

EAF has value 1 for audit firms that operate in more than one country in Europe with only private clients in Italy, and 0 otherwise.

Independent control variables were selected on the basis of numerous prior studies on CoD (Kim et al., 2011; Aobdia et al., 2015; Chin et al., 2014; Petersen and Rajan, 1994; Bharath et al., 2008; Karjalainen, 2011; Graham et al., 2008; Lai, 2011; Pittman and Fortin, 2004). The literature on cross-sectional determinants of loan pricing, in general, finds that firm SIZE is inversely related to credit risk. Agency theory predicts that the risk of agency conflicts, such as risk shifting and underinvestment, between a firm's insider and outside lenders increases with financial leverage and leverage maturity structure. To control for this, we include LEVERAGE (Kim et al., 2011; Bharath et al., 2008; Graham et al., 2008; Aobdia et al., 2015; Karjalainen, 2011; Pittman and Fortin, 2004). QUICK or current ratios have been used in prior studies as a proxy of financial risk. Firms with a low value of this ratio may be suffering from liquidity problems, and they may be forced to use more expensive credit (Bharath et al., 2008; Aobdia et al., 2015). It is important to control for profitability through ROA; banks and other private lenders are likely to charge lower interest rates to firms that are more profitable because such firms are better able to service their debt (Kim et al., 2011; Graham et al., 2008; Aobdia et al., 2015). We include TANGIBLE in order to have a measure of asset composition as determinant of CoD. The loan pricing literature suggests that owning tangible assets is inversely related to credit risk, given that they can work as collateral and, thus, the interest rate that lenders charge (Bharath et al., 2008; Aobdia et al., 2015; Graham et al., 2008; Kim et al., 2011; Karjalainen, 2011; Pittman

and Fortin, 2004). We include the ALTMAN score of bankruptcy because debt holders may demand higher interest to cover this higher risk (Lai, 2011; Bharath et al., 2008; Graham et al., 2008; Aobdia et al., 2015). Lower values indicate more financial distress, so that a negative association is expected with accrual. Because about 2.8% of private Italian companies in our sample experienced negative equity during the sample period, we include the NEGATIVE EQUITY dummy variable as an additional control for credit risk. Firms with negative equity are more risky financially, and the debt holder may charge them higher interest as compensation (Kim et al., 2011; Karjalainen, 2011; Pittman and Fortin, 2004). We include LOAN MATURITY because the lender requires a liquidity premium for longer-term debt and this liquidity premium translates into a higher loan spread (Bharath et al., 2008; Aobdia et al., 2015; Graham et al., 2008; Lai, 2011; Karjalainen, 2011).[ix] Because agency conflicts between concentrated ownership and minority shareholders are a frequent problem in Italy, we control also for the OWNERSHIP STRUCTURE. The Italian capital market consists of a relatively large proportion of firms that have concentrated ownership (La Porta et al., 1999; Lins et al., 2013; Gomez-Meija and Nunez-Nickel, 2001; Schulze et al., 2001; Blanco-Mazagatos et al., 2007; Prencipe et al., 2011)[x] The higher the percentage of total shares held by the largest owner, the less likely a high-quality auditor will be chosen (Lin and Liu, 2009).

The Earnings Management (EM) model

The EM model is the following Equation (2):

$$DACC_{it} = \alpha + \beta_1 EAF + \beta_2 SIZE_{it} + \beta_3 LEVERAGE_{it} + \beta_4 LOSS_{it} + \beta_5 SALES\ GROWTH_{it} + \beta_6 SDCFO_{it} + \beta_7 CFO_{it} + \beta_8 ALTMAN_{it} + \beta_9 OWNERSHIP\ CONCENTRATION_{it} + industry\ fixed\ effect + year\ fixed\ effect + e \qquad (2).$$

For discretionary accruals (DACC), we use a linear expectation model following Francis and Wang (2008). This method is preferred in research using a small sample because it does not require a minimum number of observations for each industry. This minimum number is required on the other hand by the cross-sectional Jones (1991) model and its later versions.

EAF is defined as before. Independent control variables are selected on the wide of prior numerous studies on EM (Francis and Wang, 2008). We control for SIZE, motivated by the political visibility hypothesis. This predicts that large firms will make income-decreasing accounting method choices in response to greater political/regulatory scrutiny or when motivated by other underlying constructs (e.g., information environment, capital market pressure, or financial resources) that predict a negative association between size and EM (Dechow et al., 2010). We control for LEVERAGE, because a higher total debt to asset ratio indicates a higher possibility of debt covenant violation, which creates an incentive to increase reported earnings through accruals-based earnings management (e.g., Francis and Wang, 2008; Dechow et al., 2010; DeFond and Jiambalvo, 1994; Francis and Yu, 2009). We control for LOSS given that the evidence that weak performance provides incentives for EM is well-established (Dechow et al., 2010). We control for GROWTH given that it can affect yearly accruals if the relation between accruals and the accruals drivers (sales and gross PPE) is nonlinear (e.g., Francis and Wang, 2008). To have a well specified model, it has been shown that it is important to control for CFO because they vary inversely to discretionary accruals (Dechow et al., 1995) and for their STANDARD DEVIATION. Standard deviation is considered a relatively nondiscretionary driver of accrual variance in resolving problems arising because measures of absolute discretionary accruals are a function of the dispersion in signed discretionary accruals (Hribar and Nichols, 2007). To control for financial distress we include the firm's probability of bankruptcy,

estimated using ALTMAN'S score. Lower values indicate more financial distress, so that a negative association is expected with accrual. This is because financially distressed companies have higher incentive to use accruals to increase earnings to avoid revealing problems and possibly affect prices (Reynolds and Francis, 2000; Francis and Yu, 2009). Given the nature of the Italian market, we control also for the OWNERSHIP STRUCTURE.

Propensity-Score matching model

To consider the endogeneity issue, we use propensity-score matching models, developed by Rosenbaum and Rubin (1983), to match a range of client characteristics to examine whether the auditor distinction can be attributed to specific client characteristics[xi]. Propensity-score matching models match observations based on the probability of undergoing a treatment, which in our case is the probability of selecting an EAF. We use logit models, the most frequent approach (Guo and Fraser, 2010)[xii]. We replace a DAF audit client with an EAF audit client that has the closest predicted value from the following Equation 3, within a maximum distance of 1%[xiii]:

$$EAF = \alpha + \beta_1 SIZE_{it} + \beta_2 LEVERAGE_{it} + \beta_3 LOSS_{it} + \beta_4 ASSET\_TURNOVER_{it} + \beta_5 QUICK_{it} + \beta_6 SIZE\ SQUARE_{it} + industry\ fixed\ effect + year\ fixed\ effect + e \qquad (3)$$

Definitions of variables are shown in Appendix A. Independent variables are chosen on the basis of studies on audit firm choice.[xiv]

We next compute the goodness of the propensity score match using a Bias measure.[xv] Estimating Equations 1 and 2 we test the multivariate effect on CoD and EQ in the common support sample

Table 3. Descriptive statistics.

Panel A: Cost of Debt analysis	Full sample (N=1206)					DAF (N=603)	EAF (N=603)
	Mean	SD	25th p.	Median	75th p.	Mean	Mean
Dependent variables							
CoD	0.072	0.086	0.034	0.048	0.074	0.077*	0.067
Independent control variables							
Size (Total Assets in Millions)	53.213	113.945	9.745	25.742	58.251	51.254	55.172
Leverage	0.677	0.228	0.529	0.725	0.849	0.672	0.682
Loss	0.297	0.457	0.000	0.000	1.000	0.300	0.294
Asset Turnover	1.075	1.062	0.343	0.858	1.419	1.056	1.095
Quick	1.120	1.226	0.558	0.865	1.216	1.125	1.115
ROA	0.018	0.080	-0.005	0.019	0.045	0.017	0.018
Tangible	0.253	0.260	0.028	0.173	0.384	0.272**	0.234
Altman	1.537	1.640	0.712	1.300	1.990	1.476*	1.599
Negative Equity	0.028	0.166	0.000	0.000	0.000	0.020	0.036
Loan Maturity	0.789	0.242	0.698	0.865	0.979	0.776*	0.801
Ownership Concentration	0.033	0.179	0.000	0.000	0.000	0.027	0.040

Panel B: Earnings Management analysis	Full sample (N=950)					DAF (N=475)	EAF (N=475)
	Mean	SD	25th p.	Median	75th p.	Mean	Mean
Dependent variables							
Abnormal Accruals - Francis and Wang (2008)	0.202	0.160	0.073	0.164	0.309	0.209	0.196
Independent control variables							
Size (Total Assets in Millions)	48.940	129.399	7.180	21.679	49.980	43.485	54.395
Leverage	0.653	0.245	0.503	0.698	0.842	0.650	0.655
Loss	0.295	0.456	0.000	0.000	1.000	0.278	0.312
Asset Turnover	1.060	0.937	0.395	0.879	1.470	1.073	1.048
Quick	1.756	4.161	0.643	0.966	1.454	1.826	1.686
Sales Growth	-0.011	0.491	-0.097	-0.001	0.075	-0.021	-0.001
SDCFO	0.130	0.207	0.010	0.035	0.184	0.112***	0.149
CFO	0.042	0.097	0.013	0.037	0.074	0.040	0.045
Altman	1.971	4.502	0.725	1.403	2.252	1.946	1.997
Ownership Concentration	0.065	0.247	0.000	0.000	0.000	0.055	0.076

*,**,*** is respectively 0.1, 0.05, 0.001 the p-value of the t-test of the difference in the mean between EAF and DAF. Variable definition in Appendix A.

when the weight is generated.[xvi] All the Equations are estimated with industry and year fixed-effects, in order to control for systematic differences in audit firm choice, CoD and EQ across industries and years in the sample[xvii]. For the sake of brevity, industry and year indicator variables are not reported in the tables.

Descriptive statistics and correlation matrix

Table 3 shows the descriptive statistics of CoD and its control variables in Panel A. It shows descriptive statistics of EM and its control variables in Panel B. The mean CoD for financial debts (7.2%) and for bank debts (untabulated) are similar. The mean CoD is consistent with literature (e.g. Minnis, 2011). The mean of abnormal accruals is 20% of total assets, higher than the usual mean of below 10% for public companies (Cameran et al., 2015).

The client size has a mean of about €53 million and €49 million euro respectively in Panel A and B, significantly lower than the mean size of Italian public firms. The test for mean difference in the last four columns of Table 3 shows that client size is very similar for clients of DAF and EAF. This shows that our sample of private firms is balanced for each group. The financial leverage of the companies is relatively high, liabilities are between a minimum mean of 65% (Panel A) and a maximum mean of 68.9% (Panel B) of total assets in the full samples, which is consistent with our expectation that debt financing is important in privately held firms. The percentage of loss is about 30% in all non-Big4 clients showing a slightly lower performance of private clients that choose an audit firm with experience in auditing public clients. However, there are no significant differences between EAF and DAF. Asset turnover shows that revenues are higher in mean than total assets in all non-Big4 clients. In our sample, short-term assets are always higher in mean than short-term debts (quick ratio higher than 1) showing short-term financial equilibrium.

Other common variables between CoD and EM samples are the Altman score and ownership concentration. The Altman score

shows the level of the bankruptcy problem, which lies between 1.537 (Panel A) and 1.971 (Panel B), consistent with the literature (Reichelt and Wang, 2010). In ownership concentration, between 3.3% (Panel A) and 6.5% (Panel B) of companies one shareholder controls at least 75% of the company.

In the CoD sample, firms have a low profitability (ROA of about 1%) given that in the period analyzed companies had not recovered yet from the crisis. Our sample firms have a relatively low level of tangible assets (25.3% of total assets). On average, about 2.8% of private companies in our sample have negative equity during the sample period. This high percentage is also probably due to the lasting effects of the crisis. Finally, the loan maturity shows that short-term debts are 78.9% of long-term debts, with a higher percentage for EAF than for DAF clients. In Italy, there are more bank loans than financing from bonds and other forms than in U.S. Mansi et al. (2004) discuss that in the U.S., public debt securities represent a significant portion of the typical corporation's value.

In the EM sample, sales are always decreasing. The standard deviation and the value of cash flow from operations are 0.13 and 0.042 respectively, consistent with the literature (Reichelt and Wang, 2010).

The purpose of PSM is to identify very similar companies, with the sole difference being the auditor chosen, for the purpose of comparison. Descriptive statistics show that there are no statistically significant differences between EAF and DAF for the following variables: size, leverage, loss, asset turnover or quick ratio. This comes to the proper application of PSM. In the univariate test of mean difference for the CoD and EM variables, CoD is statistically significant lower in EAF than DAF.

The correlation matrix (Table 4) does not show substantial problems of multicollinearity. The mean variance inflation factor is under 4. The highest correlation between variables of the same regression is 36.4% between Altman and ROA, showing an acceptable level of correlation. The same is true of Panel B. The highest correlation between variables of the same regression is -38.7% between CFO and loss, showing an acceptable level of correlation.

In this univariate analysis, EAF is negatively correlated with CoD and abnormal accruals, suggesting that it has higher audit quality, which is consistent with our expectation. CoD is also correlated with higher quick ratio, loan maturity and lower size, ROA, tangible, and Altman score, abnormal accruals are correlated with higher sales growth and lower ownership concentration. These univariate correlations are consistent with expectation and with results from the following multivariate analysis.

MULTIVARIATE REGRESSION ANALYSIS

Endogeneity issue

To consider the endogeneity issue, we perform our analysis on the propensity score matched sample. The first and third model in Table 5 show the model to identify the propensity score sample using a logistic regression for the audit firm choice. The analysis to identify the propensity score matched sample with the logistic regressions[xviii] (first and third model) confirms the usefulness of PSM to reduce bias and to improve the robustness of the main analysis: from a sample of 1798 observations, the PSM sample is 1206 (603 EAF and 603 DAF) and the mean and median bias is significantly reduced (from 10.5/7.3 in the first model to 3.3/2.2 in the second model and from 10.00/6.2 in the third model to

4.6/3.2 in the fourth model) with a p-value of the bias test that loose its significance as sign of an effective first stage.

Test of hypothesis

The second model in Table 5 shows our findings related to CoD computed in the propensity score matched sample identified. The fourth model shows our results related to Abnormal Accruals computed in the propensity score matched sample identified (Francis and Wang, 2008). In the OLS regression on the matched sample using PSM, both the coefficient on EAF of CoD (second model) and EM (fourth model) are negative and statistical significant. Specifically, results show that: a) private clients of EAF are associated with lower CoD by 1.1% (including interest expenses and commissions), that is, 7.6% of EBIT[xix], compared to the clients of DAF; b) private clients of EAF are associated with lower EM of 1.7% of abnormal accruals over total assets. The Adj. R^2 of 4.6 - 7.3% of the regression on the PSM sample is comparable to other Cost of Financial Debt models in prior studies [e.g. 8.8% in Gul et al. (2013) and 9% in Karjalainen (2011).

Control variables

Significant control variables in the models analyzed show a negative relation between size, Altman score, loan maturity and CoD, and a positive relation between quick ratio and CoD. Size is inversely related to bankruptcy because debt holders demand higher interest to cover this higher risk (Lai, 2011; Bharath et al., 2008; Graham et al., 2008; Aobdia et al., 2015); the lender requires a liquidity premium for longer-term debt, and this liquidity premium translates into higher loan spread (Bharath et al., 2008; Aobdia et al., 2015; Graham et al., 2008; Lai, 2011; Karjalainen, 2011). On the other hand, the quick ratio does not drive the choice of more expensive credit. In the EM analysis, significant control variables show a negative relation between size and abnormal accruals; and a positive relation between growth, standard deviation of cash flow and abnormal accruals. This confirms that information environment, capital market pressure, and higher financial resources for bigger firms decrease EM (Dechow et al., 2010); and that growth and standard deviation of cash flows are important determinants of abnormal accruals (Francis and Wang, 2008; Dechow et al. 1995).

Alternative cost of debt and earnings quality measures

We repeat the analysis using a different proxy of the

Table 4. Correlation matrix.

Panel A – Cost of Debt analysis (N=1206)	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 CoD	**1.000**													
2 EAF	**-0.058**	**1.000**												
3 Size	**-0.056**	0.000	**1.000**											
4 Leverage	-0.006	0.021	**-0.118**	**1.000**										
5 Loss	**0.071**	-0.007	**-0.154**	**0.141**	**1.000**									
6 Asset Turnover	**-0.060**	0.018	-0.031	**0.279**	**-0.227**	**1.000**								
7 Quick	**0.058**	-0.004	-0.004	**-0.359**	-0.033	**-0.094**	**1.000**							
8 Size Square	**-0.048**	0.002	**0.995**	**-0.115**	**-0.152**	-0.036	-0.006	**1.000**						
9 ROA	**-0.063**	0.004	**0.149**	**-0.176**	**-0.512**	**0.226**	0.078	**0.137**	**1.000**					
10 Tangible	**-0.078**	**-0.072**	**0.115**	**-0.263**	0.050	**-0.270**	-0.012	**0.108**	0.006	**1.000**				
11 Altman	**-0.067**	0.037	0.018	**-0.292**	**-0.221**	**0.571**	**0.179**	0.010	**0.364**	**-0.144**	**1.000**			
12 Negative Equity	0.020	**0.050**	**-0.136**	**0.291**	**0.262**	-0.084	-0.045	**-0.124**	**-0.338**	-0.021	**-0.205**	**1.000**		
13 Loan Maturity	**0.085**	**0.052**	**-0.127**	**0.177**	-0.089	**0.374**	**-0.382**	**-0.122**	0.054	**-0.411**	**0.194**	0.048	**1.000**	
14 Ownership Concentration	0.028	0.037	**-0.076**	0.067	**0.133**	-0.044	-0.023	**-0.071**	**-0.103**	0.007	**-0.099**	**0.108**	0.061	**1.000**

Panel B – Earnings Management analysis (950)	1	2	3	4	5	6	7	8	9	10	11	12	13
1 ABN. ACC	**1.000**												
2 EAF	-0.040	**1.000**											
3 Size	-0.019	0.004	**1.000**										
4 Leverage	-0.029	0.010	-0.009	**1.000**									
5 Loss	-0.028	0.037	**-0.165**	**0.247**	**1.000**								
6 Asset Turnover	**0.090**	-0.013	-0.049	**0.262**	**-0.204**	**1.000**							
7 Quick	-0.018	-0.017	-0.021	**-0.417**	-0.056	**-0.152**	**1.000**						
8 Size Square	-0.017	0.004	**0.995**	-0.003	**-0.160**	-0.050	-0.027	**1.000**					
9 Sales Growth	**0.228**	0.021	**0.143**	0.005	-0.082	**0.193**	-0.053	**0.140**	**1.000**				
10 SDCFO	-0.050	**0.091**	**-0.122**	-0.058	0.084	**-0.152**	**0.168**	**-0.112**	**-0.179**	**1.000**			
11 CFO	0.018	0.022	**0.125**	**-0.274**	**-0.387**	0.069	**0.127**	**0.116**	0.029	**0.145**	**1.000**		
12 Altman	-0.016	0.006	-0.007	**-0.357**	**-0.105**	**0.072**	**0.706**	-0.015	0.024	**0.136**	**0.105**	**1.000**	
13 Ownership Concentration	**-0.085**	0.043	**-0.062**	**0.125**	**0.184**	-0.079	0.029	**-0.066**	**-0.086**	0.230	-0.031	**-0.051**	**1.000**

Pearson correlation coefficient. Refer to Appendix A for variable definitions. Significant coefficient at 0.10 are in bold. Variable definition in Appendix A.

dependent variable CoD. We compare the financial costs to different values of the debt, changing the denominator of the variables. We use a more restricted Cost of interest-bearing Debt, including only the Cost of Bank Debt[xx]. This is an interesting measure in Italy where private companies are mainly financed by banks and not by bonds, as shown by the descriptive statistics.

The results are confirmed (Table 6, Model 1). We also repeat the analysis using the credit default risk rating provided by mode Finance. This company provides the Multi Objective Rating

Table 5. Multivariate analysis between EAF and DAF within non-Big4.

Multivariate analysis	Cost of Financial Debt				Abnormal Accruals (Francis and Wang, 2008)			
	Model 1 Logistic regression: DAF		Model 2 PSM: Cost of Debt		Model 3 Logistic regression: DAF		Model 4 PSM: Abnormal accruals	
	Estimate	P-value	Estimate	P-value	Estimate	P-value	Estimate	P-value
EAF			-0.011	0.026			-0.017	0.090
Size	-0.886	0.021	0.000	0.866	-0.341	0.423	-0.010	0.006
Leverage	-0.680	0.010	-0.018	0.270	-0.521	0.077	-0.031	0.179
Loss	-0.411	0.001			-0.491	0.001	0.008	0.502
Asset Turnover	-0.015	0.792			-0.016	0.254		
Quick	0.022	0.658	0.008	0.028	-0.089	0.197		
Size Square	0.030	0.121			0.001	0.971		
ROA			-0.039	0.508				
Tangible			-0.018	0.149				
Altman			-0.007	0.000				
Negative Equity			-0.006	0.757				
Loan Maturity			0.053	0.000				
Sales Growth							0.083	0.000
SDCFO							0.062	0.040
CFO							0.048	0.470
Altman							-0.001	0.164
Ownership Concentration			0.008	0.663			-0.020	0.340
Constant	7.195	0.002	0.029	0.316	2.829	0.236	0.277	0.000
Pseudo / Adjusted R-Squared		0.049		0.046		0.054		0.098
Year and Industry Fixed Effect		included		included		included		included
Observations		1798		1206		1162		950
Mean bias		10.5		3.3		10.0		4.6
Median bias		7.3		2.2		6.2		3.2
P-value		0.000		0.850		0.000		0.720

Coefficient p-values are two-tailed, based on asymptotic t-statistics using White (1980) standard errors. Pseudo R2 for PSM p-values are two-tailed. Refer to Appendix A for variable definitions. We use DAF in the logistic regression due to the difference in the number of their clients compared to EAF, to be able to perform a matching with replacement. We use EAF in the main analysis for an easier interpretation.

Evaluation (MORE) in order to assess the level of distress of industrial companies. It provides a creditworthiness opinion (Assessment) of risk class on the following ten-point scale: AAA (extremely strong), AA (strong), A (high solvency), BBB (adequate), BB (adequate in the country-industry), B (vulnerable), CCC (dangerous), CC (high vulnerable), C (pathological situations), D (no capacity to meet financial commitments). The rating can be used for access to loans in negotiations with banks. We use the following regression model based on Li et al. (2010) and

Table 6. Alternative measure of Cost of Debt and of EQ.

Measure	Model 1		Model 2		Model 3	
	Cost of Bank Debt: Financial expenses / bank debt		Credit default Rating class		Meet or beat benchmark; Small earnings increase = 1 if 0 < [(earnings/total assets) t / (earnings/total assets) t-1] ≤ 0.02, and zero otherwise	
	Estimate	P-value	Estimate	P-value	Marginal effect	P-value
EAF	-0.012	0.021	0.881	0.023	-0.079	0.020
Control variables	…	…	…	…	…	…
Adjusted R-Squared	0.054		0.482		0.230	
Year / Industry Fixed Effect	Included		Included		Included	
Observations	1206		210		292	

Coefficient p-values are two-tailed, based on asymptotic t-statistics using White (1980) standard errors. Refer to Appendix A for variable definitions. Meet or beat benchmark uses a dummy dependent variable related to the meet or beat the threshold of zero earnings (to avoid reporting a loss) and thus, use a logistic multivariate regression, for which we report the marginal effects.

Mansi et al. (2004):

Rating = α + β_1 EAF + β_2 SIZE$_{it}$ + β_3 LEVERAGE$_{it}$ + β_4 ROA$_{it}$ + β_5 SALES GROWTH$_{it}$ + β_6 LOAN MATURITY$_{it}$ + β_7 BANK DEBT$_{it}$ + β_8 ALTMAN$_{it}$ + β_9 COVERAGE$_{it}$ + industry fixed effect + year fixed effect+ e

In addition to the control variables used in the main analysis, we add Bank debt (natural logarithm of bank debt) and Coverage (operating income after depreciation divided by interest expense). We requested the data on this rating for the matched sample used in the CoD analysis, and received data for a sample of observations for the year 2014. Results show that clients of EAF are associated with higher ratings than firms with a lower default risk (Table 6, Model 2).

Given the shortcomings of the measurement of abnormal accruals, we repeated the analysis using another model for EM. We were interested in seeing whether the results were driven by our chosen measurement of EM. The small earnings increase model, computed at the 2% level, is a proxy of EM, interpreted as the meet or beat benchmark.[xxi] This model measures manipulation implemented to increase earnings every year. We chose the earnings of year t-1 as a benchmark (Barth et al., 2008; Burgstahler and Dichev, 1997; Burgstahler et al., 2006; Cameran and Prencipe, 2011; Frankel et al., 2002; Leuz et al., 2003; Van Tendeloo and Vanstraelen, 2008). Results are qualitatively the same (Table 6, Model 3).

Propensity score matched sample

PSM can be performed with many specifications. We repeat the analysis with kernel matching, in which all treated units are matched with a weighted average of all control units with weights that are inversely proportional to the distance between the propensity scores of treated

units and control units. Calculation of weighting depends on the specific kernel function adopted. We repeat the analysis without replacement, changing the caliper distance at 0.5% and switching from one-to-one to one-to-many matching. We follow D'Attoma and Pacei (2014) in presenting the results for different methods of PSM.

Table 7 reports that after matching, the mean bias for all explanatory variables is reduced to acceptable levels (Harder et al., 2010). It falls from about 10.0/17.6 before matching to about 7.2/2.2 after matching. Table 7 also reports that after matching, the p-values of the joint significance of the explanatory variables are not significantly different between the treatment group and the control group. In short, these test statistics suggest that the matching method is appropriate. Results reported in Table 8 confirm the main analysis findings.

To investigate whether a high quality auditor reduces CoD, Coarsened Exact Matching (CEM) is also used (Table 7). CEM overcomes some of the limitations inherent in PSM (King et al., 2011; Iacus et al., 2012). CEM is a more robust matching technique that is not subject to random matching, because it directly matches on a coarsened range of covariates and does not rely on a first-stage propensity score model. DeFond et al. (2016) encourage research to explore the use of CEM in complementing regression analysis for the purpose of providing robust inferences. We use the same variables used in the first stage propensity score to perform the match. CEM shows the same results as PSM. We can therefore conclude that results are not driven by endogeneity.

Similar market share

To check whether the differences are due to the audit firms' characteristics analyzed and not due to the different size, we perform the analysis comparing audit firms of the same size, that is, we look at the lowest

Table 7. Alternative estimation of propensity score matching.

PS matching	Cost of Financial Debt			Abnormal Accruals		
	Mean bias (Median bias) *p-value*		Estimate (N)	Mean bias (Median bias) *p-value*		Estimate (N)
	Before matching	After matching		Before matching	After matching	
EAF						
Kernel (normal; bandwidth = 0.06)		2.3 (2.0) 1.000	-0.009** (1791)		2.6 (2.4) 1.000	-0.016* (1131)
Without replacement		2.2 (1.7) 0.997	-0.010** (1106)		2.2 (1.8) 1.000	-0.018* (799)
Caliper (0.005)	10.5 (7.3) 0.000	3.1 (2.6) 0.919	-0.010** (1168)	10.0 (6.2) 0.000	4.4 (3.6) 0.831	-0.018* (930)
One-to-many (many=3)		3.0 (2.8) 0.974	-0.008* (1448)		3.1 (2.7) 0.994	-0.016* (1001)
CEM			-0.07* (1104)			0.007 (688)

Coefficient p-values are one-tailed, based on asymptotic t-statistics using White (1980) standard errors and clustered by firms. Pseudo R2 for PSM p-values are two-tailed. See Appendix A for variable definitions. Results for Kernel (normal) and Kernel (Epanechnikov) are very similar.

Table 8. Audit firm market share and International Financial Reporting Standards (IFRS).

Analysis	Model 1		Model 2	
	Within audit firms with a market share higher than 0.5% Between EAF and DAF		Between EAF and DAF Interaction with IFRS	
Cost of Debt	Estimate	P-value	Estimate	P-value
EAF	-0.019	0.007	-0.013	0.002
EAF*IFRS			0.089	0.178
Control variables	…	…	…	…
Adjusted R-Squared	0.053		0.043	
Year / Industry Fixed Effect	Included		Included	
Observations	330		1202	
Abnormal Accruals	Estimate	P-value	Estimate	P-value
EAF	-0.032	0.090	-0.001	0.993
EAF*IFRS			-0.037	0.681
Control variables	…	…	…	…
Adjusted R-Squared	0.062		0.069	
Year / Industry Fixed Effect	Included		Included	
Observations	271		1015	

Coefficient p-values are one-tailed, based on asymptotic t-statistics using White (1980) standard errors and clustered by firms. See Appendix A for variable definitions. All the regressions presented are run on the propensity score matched sample. This sample is the output of the first model with dependent variable the auditor choice. For the IFRS analysis the first stage regression includes also a dummy variable of 1 if IFRS and 0 if Italian GAAP, to define the propensity score matched sample.

market share among the market share of the EAF and we restrict the sample to audit firms with market share higher than this. In our sample we have bigger firms in DAF than in EAF, and can therefore state that size is not the main driver of this study. Thus, we compare the 20 EAF with the 13 DAF with a similar market share (higher than 0.5%)[xxii]. Results in Table 8 – Model 1 confirm that EAF have a lower CoD and EM than DAF of similar size.

IFRS versus Italian GAAP

Effects would be higher if private clients use the same set of standards as public clients. In general, private firms

adopt Italian GAAP and some of them voluntarily adopt IFRS. We repeat the regression adding an interaction between audit firm choice (EAF vs DAF) and a dummy variable that takes value 1 if the firm voluntarily adopts IFRS and 0 otherwise. Results for the interaction in Table 8 – Model 2 show significant negative coefficients for the interaction EAF*IFRS. The externalities are higher when the client adopts the same standards as the public clients that the firm also audits.

Other countries with high third-party liability

We select other European countries where the statutory

Table 9. Additional analysis: other countries.

PS matching	Cost of Financial Debt			Abnormal Accruals		
	Mean bias (Median bias) *p-value* (N)		Estimate *(N)*	Mean bias (Median bias) *p-value*		Estimate *(N)*
	Before matching	After matching		Before matching	After matching	
EAF						
Sweden	14.5 (7.9) 0.000 (N=1301)	5.2 (3.3) 0.032	-0.014* (897)	14.5 (7.9) 0.000 (N=2694)	2.7 (1.5) 0.848	-0.007* (1788)
Belgium	3.4 (2.4) 0.000 (N=3657)	1.1 (1.2) 1.000	-0.010* (3156)	3.4 (2.4) 0.000 (N=5579)	1.8 (1.1) 0.672	-0.003* (4680)
Denmark	5.4 (2.7) 0.000 (N=2269)	2.0 (1.3) 0.997	-0.007* (2052)	Too few observations to compute abnormal accruals		
Finland	10.2 (5.1) 0.000 (N=7180)	2.3 (2.2) 0.656	-0.002 (4375)	10.2 (5.1) 0.000 (N=7025)	1.6 (1.1) 0.743	-0.011* (5702)

Coefficient and F-test p-values are one-tailed, based on asymptotic t-statistics using White (1980) standard errors and clustered by firms. See Appendix A for variable definitions. Year and industry fixed effect included. Because data was not available, the control variable for the ownership concentration is not included. In our sample Belgium has 205 Non-Big4; Finland has 70 Non-Big4; Denmark has 384 Non-Big4; Sweden has 55 Non-Big4; France has 1977 Non-Big4. Within these Non-Big4 in each country, EAF are the same 20 listed in the variable definition table (Appendix A), except that PKF and BKR are not present in Finland, and Morison is not present in Finland or Sweden. The sample includes audit firms with at least 2 clients per year. The number of non-Big audit firms is computed aggregating audit firms with different names into a single audit firm if they are part of the same group.

auditor liability to any third party mainly arises from a breach of duty in tort [xxiii]. On the basis of data availability, we select Belgium (De Poorter, 2008), Sweden (Spirkle, 2013), Finland and Denmark. Financial statement data and data on auditor and date of appointment of the auditor was downloaded from Bureau van Dijck. Data aggregating the audit firms in their global audit firm network was prepared, using the same selection criteria earlier presented as shown at the bottom of Table 9.

Table 9 shows the reduction of the mean and median bias using the PSM on these data with the same variables as presented above. The first two columns show that mean and median bias are higher before matching than after matching, and that the respective p-values becomes less significant. Table 9 also presents the estimate coefficient of EAF with the respective numbers of observations. Analysis is run country by country. Results show at least one negative association between EAF and lower Cod/EM for each country in the two combinations (EAF and CoD; EAF and EM).

The graphic representation (Figure 2) shows the mean differences in COD and abnormal accruals in Italy, Sweden, Belgium, Denmark and Finland. Cost of financial debts and cost of bank debts have a similar value and trend in Italy. Italy has lower values of COD and abnormal accruals while Belgium has higher value for them. However, in all countries, it is possible to see a significant reduction in their average in EAF compared to DAF.

DISCUSSION

Using a PSM sample of private companies audited by non-Big4 in the period 2010 - 2014, we find that EAF are associated with lower CoD and EM, contributing to increasing audit quality and reducing agency costs. Differently from the traditional criterion based on size

of audit firms (BigN vs non-Big4), that could not be effective in the non-Big4 setting, we find that audit firms that operate at European level allow the lowering of CoD and EM, given the higher reputation and quality of these audit firms compared with DAF. Previous benefits could be justified because EAF have high reputation costs (DeAngelo, 1981) and high competitive advantages in terms of reputation and competence, e.g. ability to operate across multiple business environments, efficient audit methodology, and staff with professionally certified knowledge of national legislation (Carson, 2009). Moreover, the stricter and different audit environment (Maijoor and Vanstraelen, 2006), enforcement (Van Buuren et al., 2014; Kleinman et al., 2014) and litigation risk prevailing in European countries is a further possible explanation for these findings. Our results support the view that additional competences gained by non-Big4 that operate in the European network, has a high marginal value. We reject the counterargument that DAF being more specialized in the country where they operate have lower CoD and EM. The paper argues that decentralization is not the driver of audit quality at country level. The robustness tests confirm all our main results, and supply interesting indications on credit default rating, and international comparison with countries characterized by similar competitiveness and litigation regulation of the audit market. We find that EAF yield benefits in terms of higher ratings. Finally, our results are not limited to Italy, but can be extended to Sweden, Belgium, Denmark and Finland.

Conclusion

Following the framework of DeFond and Zhang (2014), this research analyses the association between audit firm choice criteria (supply of Audit Quality) and CoD and EM (demand of Audit Quality). While several studies in public
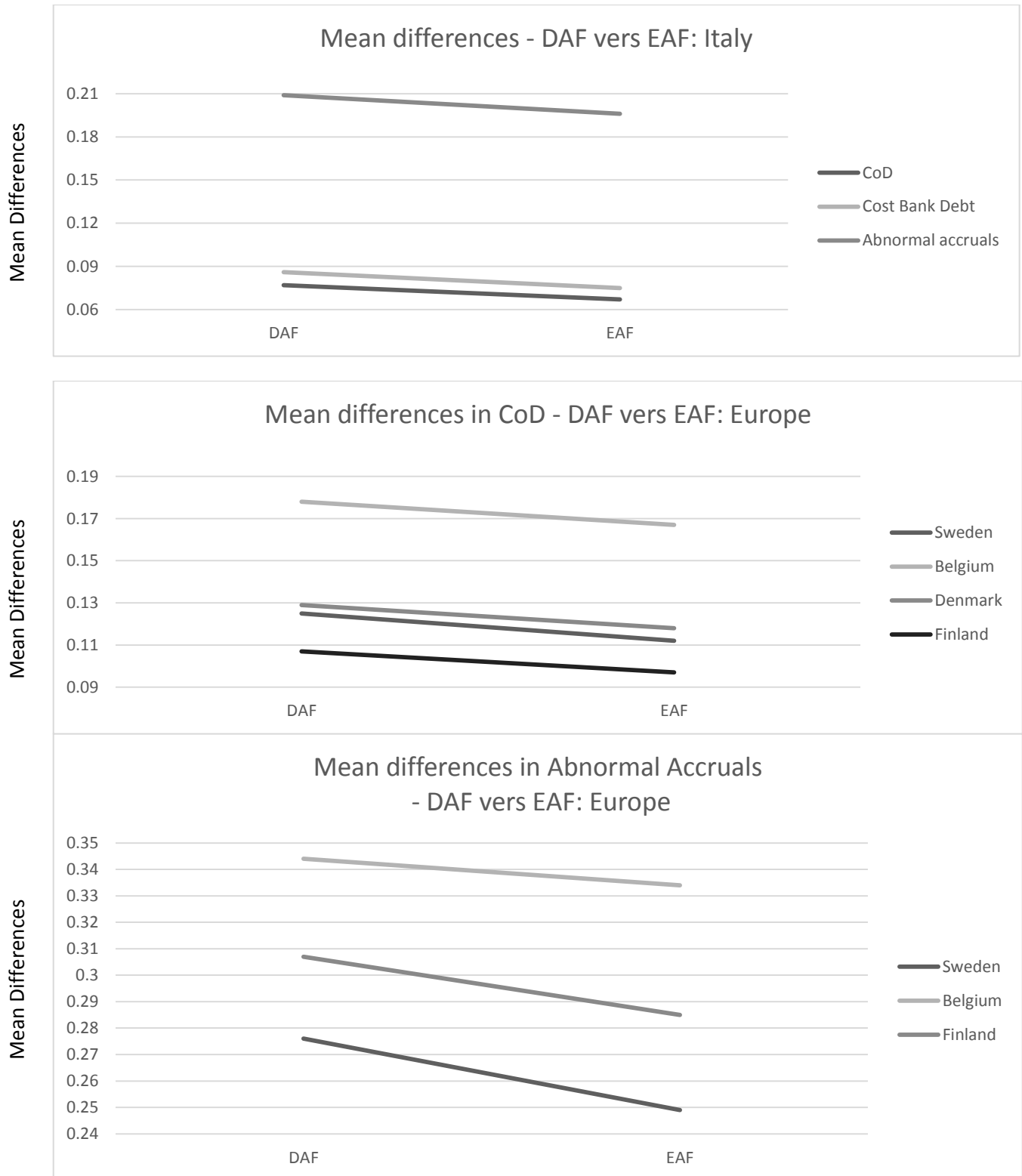
Figure 2. Cost of Debt, Cost of Bank Debt and Abnormal accrual in EAF compared with DAF.

companies find that size criterion based on BigN vs non-BigN is effective in improving earnings and audit quality

and lower CoD, in the private firm and non-BigN audit market, useful audit firm choice criteria are not

immediately clear. We believe that in an audit market with high levels of competition, as envisaged by the Green paper (European Commission, 2010), our analysis will be useful to identify a new criterion (based on the European boundaries of the audit market) that positively affect the agency conflicts between lenders and owners/managers in private firms, through lower CoD and EM.

Finding suggests that this audit firm choice criterion is useful to explain agency costs: the higher audit quality offered by EAF reduces risks related to earnings management and allows lenders to accept lower level of interests with benefits for all stakeholders. Regulators could benefit from the results of this research as they could become better aware about consequences of policies on audit independence and competitiveness in the audit market. Regulators currently aiming to improve the competitiveness of audit market will find these findings of interest and could evaluate the opportunity to improve non-Big4 audit firm segment, with special emphasis to EAF. EAF in the non-Big4 more competitive audit market segment appear likely to be associated with lower CoD, EM and agency costs of the clients. Auditor quality, and especially audit independence, is of interest of several stakeholders, such as investors, firms and also other stakeholders. Cutting across all publicly traded corporations is the concern that further regulation of the accounting profession may bring additional regulations in other areas such as corporate governance and capital formation (Kinney, 1999; Gerde and White, 2003).

Results are valid to countries characterized by higher audit market competitiveness, like Italy, Belgium, Denmark and Finland, where the non-BigN market share is higher significant. This explorative analysis could be further investigated in future research to confirm our results in other European countries or in other setting characterized by high audit market share for non-Big4 in private companies.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Appendix A (Variable definition)

Variable	Definition
Dependent variables used in Cost of Debt analysis	
Cost of Financial Debt	Ratio of financial expenses in year t to financial debt outstanding during the fiscal year (winsorized at the 1st and 99th percentiles)
Dependent variables used in Earnings Management analysis	
Francis and Wang (2008) model	Absolute value of abnormal working capital accruals (winsorized at the 1st and 99th percentiles) measured as follows Abnormal accruals $FW_t = ((ACC_t – [WC_{t-1}/REV_{t-1} * REV_t + DEP_{t-1}/GPPE_{t-1}*GPPE_t]) / ASSET_{t-1})$ ACC = (earnings before extraordinary items – cash flow from operation) / total assets at the beginning of period t WC = working capital as (current assets – cash and short term investment) – (current liabilities - debt in current liability) REV = revenues DEP= depreciation $GPPE$ = gross property plant equipment / total assets at the beginning of the period $ASSET$ = total assets
Independent variables of interest	
EAF	1 if the firm is audited by a non-Big4 audit firm for which its network is also registered in the other main European countries with only private clients in Italy, specifically by Mazars/Praxity, BDO, Ria/Grant Thornton/Italaudit, Baker Tilly/Constantin Rediva/Revisa/Iter Audit, Moore and Stephen Axis/DFAudit, UHY/Moores Rowland Bompani, Crowe/Howarth/SOL, Audirevi/Nexia, AGN Serca, Prorevi/Inpact Audit, PFF, HLB/Fidital/Hazlewoods, H Audit/RSM/Kreston, BKR, Russel Bedfors, DFK, Prime Global, GGI, MGI, Morison and 0 otherwise
Independent control variables	
SIZE	Ln(total assets at the end of the fiscal year) (winsorized at the 1st and 99th percentiles)
LEVERAGE	Ratio of total liabilities to total assets at the end of the fiscal year (winsorized at the 1st and 99th percentiles)
LOSS	1 if net income is < 0 and 0 otherwise
ASSET TURNOVER	Ratio of revenues to total assets at the beginning of the fiscal year (winsorized at the 1st and 99th percentiles)
QUICK	Ratio of working capital minus inventory to short term debt at the end of the fiscal year (winsorized at the 1st and 99th percentiles)
ROA	Ratio of operating profit to total assets at the end of the fiscal year (winsorized at the 1st and 99th percentiles)
TANGIBLE	Ratio of tangible assets to total assets at the end of the fiscal year (winsorized at the 1st and 99th percentiles)
ALTMAN	Probability of bankruptcy (winsorized at the 1st and 99th percentiles) measured by Altman (1983) Z-score (0.717* net working capital/assets+0.847 * retained earnings/assets+3.107 *earnings before interest and taxes/assets+0.42* book value of equity/liabilities+0.998*sales/assets)
NEGATIVE EQUITY	1 if a company has negative equity and 0 otherwise
LOAN MATURITY	Ratio of short term debt to total debt (long + short terms) at the end of the fiscal year (winsorized at the 1st and 99th percentiles)
OWNERSHIP CONCENTR.	1 if one shareholder controls at least 75% of the company
SALES GROWTH	Percentage change in sales in the fiscal year (winsorized at the 1st and 99th percentiles)
SDCFO	Standard deviation of operating cash flow scaled by total assets at the beginning of the fiscal year (winsorized at the 1st and 99th percentiles)
CFO	Operating cash flow scaled by total assets at the beginning of the fiscal year (winsorized at the 1st and 99th percentiles)

[i] One reason for this regulation is that Italy is a country where the main financing channel for companies is in the form of banks and trade creditors (third parties), and creditor protection is perceived to be more important than in Anglo-American jurisdictions. Moreover, Italian auditors were originally inside internal statutory audit committees. Once it was decided that directors and members of statutory audit committee were to be made liable for damages incurred by creditors, external auditors were put in the same position as members of statutory audit committee (Giudici, 2012).

[ii] For specific effects on CoD and EQ, prior studies show that voluntary audited private firms compared to non-audited private firms have lower CoD, higher credit rating, easier access to external finance and lower EM (Minnis, 2011; Melumad and Thoman, 1990; Lennox and Pittman, 2011; Hope et al., 2011; Kim et al., 2011; Dedman et al., 2014; Dedman and Kausar, 2012; Blackwell et al., 1998; Allee and Yohn, 2009; Niemi et al., 2012; Collis, 2012). We focus on private firms that have opted for voluntary audit.

[iii] For example, art. 2, capo II, regulation number 39 of 2010 in Italy (Italian Parliament, 2010); art. R. 822-19, Code de commerce in France (France Parliament, 2013); Paragraph 6 of schedule 10 of the 2006 Act in UK (Financial Reporting Council, 2006); Regulation 30 of S.I. number 220 of 2010 in Ireland (Institute of Chartered Accountants in England & Wales, 2010).

[iv] Public firms, as Public Interest Entities, can be audited only by audit firms on the CONSOB register. Our definitions of DAF covers audit firms that are not CONSOB registered.

[v] National standards are set by "Consiglio Nazionale Dottori Commercialisti ed Esperti Contabili". ISA have been mandatory in Italy since January 1st, 2015.

[vi] In Italy, the audit of private firms can also be performed by an internal Board of Statutory Auditors or by one individual external auditor. We exclude these audits from the sample. Our sample does not include firms not audited or subject to mandatory external audit.

[vii] We use the ATECO industry classifications following Cameran et al. 2015. This is the Italian version of the European nomenclature (NACE Rev. 2) published in the Official Journal of 20 December 2006 (European Parliament, 2006b). This classification gives these industry sectors: manufacturing activities; professional, technical and scientific services; information and communications; agriculture, forestry and fishing; minerals extraction; electric energy and gas supply; water supply and garbage disposal activities; construction activities; wholesale and retail trading; transport and storing activities; lodging and catering services; real estate; hiring services and travel agencies; entertainment and sport activities; other services.

[viii] We select English/French speaking countries, among the European countries, and we verify the presence of the audit firms in the following registers:
1.   http://search.cro.ie/auditors/FirmSearch.aspx,
2.   https://www.afm.nl/en/professionals/registers/alle-huidige-registers.aspx?type={B5D6C574-90DE-4E1C-A997-5D84E5086C6B},
3.   http://annuaire.cncc.fr/index.php?page=liste,
4.   https://www.ibr-ire.be/fr/Rechercher/Pages/results.aspx,
5.   http://www.cssf.lu/RegistreRevExt/,
6.   http://www.auditregister.org.uk/Forms/Default.aspx

[ix] Our analysis focuses on the CoD on the banks and other financial institutions. In our sample there are no public debts.

[x] Observing the data on ownership for Italian private companies, in order to have enough variation in this variable, we defined 'closely held' at 75%. Descriptive statistics with other cut-off points show a change of only a few companies. Most of the firms are closely held at 100%, but they are not the smallest firms.

[xi] See Lawrence et al. (2011), Lennox et al. (2012), DeFond et al. (2016) for an explanation of the difference between this method and Heckman (1979) model, and a description of matching models. Lennox et al. (2012) suggest that future research should make exclusion restriction, putting in the main model not the same variables used in the choice model and should explain why they decide to exclude the specific variables based on theory. They also suggest to report the independent variables used in all the models, and perform sensitivity analyses. Lawrence et al. (2011) do this sensitivity analysis reporting that results are robust using probit or logit, using matching with or without replacement, using bootstrapping, kernel weighting, and random subsamples, ordinary least square, Heckman self-selection model. They also in the main model include some new independent variables or excluding some of the variables used in the choice model and give the explanation for this different inclusion/exclusion. DeFond et al. (2016) argue that limitations of PSM are related to research design, such as the number of control firms matched to each treatment firm (one-to-one or one-to-many matching), the closeness of the match (caliper distance), the non-linear terms included in the propensity score construction, and the replacement decision. They suggest remedies repeating the analysis varying all these research design choices. In this study, we repeat the analysis with different research design choices to address these issues and following the suggestion of Lennox et al. (2012).

[xii] All findings documented in this study are robust to using a probit model instead of a logit model to calculate propensity scores.

[xiii] Results are the same whether we match with or without replacement, and changing the caliper distance at 0.5%. Moreover, results are the same if we switch from one-to-one to one-to-many matching. We repeat the analysis with coarsened exact matching and kernel weighting and results are also consistent with these methodologies.

[xiv] We reviewed the following research to define the frequency of the variables used: Shipman et al. (2015), Kim et al. (2003), Weber and Willenborg (2003), Li (2009), Chang et al. (2009), Behn et al. (2008), Guedhami and Pittman (2006), Louis (2005), Pittman and Fortin (2004), Mansi et al. (2004), Johnstone et al. (2004), Fortin and Pittman (2007), Choi et al. (2008), Choi and Wong (2007), Francis et al. (1999), Chaney et al. (2004), Campa (2013), Boone et al. (2010), Eshleman and Guo (2014), Khurana and Raman (2004), Lawrence et al. (2011) and Lennox et al. (2012).
We include the most frequently used variables. We include size, as included by all the studies analyzed, because large firms are expected to raise high quality of auditors, because they are better equipped to handle the audit efficiently (Chaney et al., 2004). We include leverage because high leveraged firms tend to choose higher quality auditors to reduce their higher agency costs (e.g., Chaney et al., 2004; Fortin and Pittman, 2007). We include loss to control for profitability. We include asset turnover to control for transaction complexity because highly complex firms tend to choose high quality auditors equipped to handle the complexity (e.g., Chaney et al., 2004). We include quick ratio to control for financial risk as riskier firms tend to choose higher quality auditors with more experience and competences to audit risker clients more efficiently (e.g., Chaney et al., 2004; Fortin and Pittman, 2007). As suggested in DeFond et al. (2016) and as done by Fortin and Pittman (2007), we control for potential nonlinearities by including both Firm Size and its square. We choose to put the nonlinear term on size, because Lennox (2005) finds that the relation between auditor choice and size is not linear.
We use some of the variables in both the choice model and in the CoD/ EM model (SIZE, LEVERAGE in CoD/EM model, QUICK in CoD model and LOSS in EM model). Following the suggestion of Lennox et al. (2012) of an exclusion restriction, we exclude asset turnover from the CoD model, given that it is not a significant determinant of interest rate. We also exclude LOSS from the CoD model, in the belief that the best CoD determinant is ROA. More complex and risk audits, identified with asset turnover and quick ratio, affect audit fees but not necessarily EM. EM is affected by other more significant determinants. Thus, we exclude quick ratio and asset turnover from the EM model. We also exclude the nonlinear term of size. We also add specific control variables that influence CoD or EM.

We do not have variables like audit hours, audit fees, audit report lag for private clients.

[xv] Bias measures the similarity of the distributions of the first stage explanatory variables between the treatment group and the control group. It is calculated for each explanatory variable by dividing the difference in the means between the treatment and control groups by the square root of the average sample variances of the two groups (Rosenbaum and Rubin, 1985).

[xvi] The software Stata creates a weight variable automatically. For observations in the treated group, _weight is 1. For observations in the control group it is the number of observations from the treated group for which the observation is a match. If the observation is not a match, weight is missing.

[xvii] To run audit firm fixed effect, the independent variables must change across time for some substantial portion of the individuals. This is not the case in this study, because we know only the current audit firm for each client and the number of years of tenure since its engagement started, but we do not have information on the past audit firm.

[xviii] The analysis is based on DAF because their clients-year observations are lower in number compared with EAF. We find that large firms are expected to choose high quality auditors (negative relation with DAF) because they are better equipped to handle the audit efficiently (Chaney et al., 2004). We find that high leveraged firms tend to choose higher quality auditors (negative relation with DAF) to reduce their higher agency costs (e.g., Chaney et al., 2004; Fortin and Pittman, 2007). We include loss to control for profitability.

[xix] The economic significance is computed as follows. We take this regression coefficient and multiply it by the mean financial debts (21614) and divide it by the mean earnings before interest and taxes - EBIT (3135).

[xx] Cost of capital in the audit literature (Khurana and Raman, 2004; Iatridis, 2012; Azizkhani et al., 2013; Cassell et al., 2013; Lawrence et al., 2011; Guedhami et al., 2014; Choi and Lee, 2014) has been measured by ex-ante cost of equity capital (for example with the models of Gebhardt et al., 2001; Claus and Thomas, 2001; Ohlson and Juettner-Nauroth, 2005; Easton, 2004; Gode and Mohanram, 2003). These models imply the use of financial analyst earnings forecasts and stock prices that are not available for private firms.

Other studies (Mansi et al., 2004; Fortin and Pittman, 2007; Li et al., 2010) measure the cost of capital with the marginal cost of debt (the yield to maturity at the issuance date for the largest bond the firm issued in year t+1, minus the Treasury bond yield with similar maturity) and the Standard & Poor's senior debt rating in year t. Standard & Poor's rates a firm's debt from AAA (indicating a strong capacity to pay interest and repay principal) to D (indicating actual default). Bond rates are less well-fitted in this context, given that the main source of financing is from banks and not from bondholders. In private firms, bonds are often similar to stock option and they may represent a supplement to shareholder remuneration.

The cost of total debt, measured using as denominator the amount of total debts (Pittman and Fortin, 2004; Kim et al., 2011; Lai, 2011; Minnis, 2011; Causholli and Knechel, 2012) has a mean value of about 2% with a standard deviation of 2%, similar to other countries like Korea (about 2% in Kim et al., 2011), lower than U.S. (about 7% in Minnis, 2011). In Italy, cost of total debt is much lower because it includes non-interest-bearing debt. This proxy is therefore excluded from the analysis.

[xxi] Changing the threshold level, results are qualitatively the same.

[xxii] The 13 DAF used here are: Aleph Auditing, Metodo, Raiffeisenverband Suedtirol Genossenschaft, Reconvi, Revi.Tor, Revind, Roberto La Lampa, Roger King, Trevor, Societa' di Revisione Contabile, Reviprof, Aure, Lombardia Revisione.

[xxiii] Countries where the statutory auditor's liability to any third parties mainly arises from a breach of duty in tort are Belgium (De Poorter, 2008), Sweden (Spirkle, 2013), Finland, Denmark, Portugal, Greece and Luxembourg. For United Kingdom, Ireland, Netherlands, Germany, Spain, Austria liability towards third parties is subject to restrictive conditions following European Commission (2001). Other countries joining the European Union after 2004 are excluded from the analysis.

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Full Length Research Paper

Influence of women entrepreneurs' characteristics on personal well-being in Arumeru District in Tanzania

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This article tests the hypothesis that women entrepreneurs' socio-economic and demographic characteristics have no significant influence on women's personal well-being, using quantitative approach with a random sample of 180 women. The article adopts the cross-sectional research design using a structured questionnaire administered to women entrepreneurs. Non-entrepreneurs were also involved for comparison purposes of personal well-being. Data were analyzed using descriptive and inferential statistics. A multiple linear regression was used to determine the influence of women entrepreneurs' characteristics on personal well-being. The results show positive relationship between personal well-being and years of schooling, age, and wealth status. Household size and employment status showed negative influence and did not show significance at 5%. Being a women entrepreneur and age showed positive significant influence (P = 0.000), while marital status showed negative significant influence (P = 0.000). The article concludes that some women entrepreneurs' characteristics influenced personal well-being. Due to the fact that women are not homogeneous, the efforts done by development actors including the government should focus on promoting women entrepreneurship with particular emphasis on socio-economic and demographic characteristics to improve women's personal well-being.

Key words: Women entrepreneurs, socio-economic, demographic characteristics, personal well-being.

INTRODUCTION

Majority of women in developing countries like Tanzania are languishing in impoverishment. They own about 1% of the world's wealth and a few are employed in the formal sector (Bajpai, 2014). To address this phenomenon, women entrepreneurs in developing countries are increasing, comprising nearly half of human resources (Gichuki et al., 2014). Women entrepreneurs appear to be key facilitators of micro-economic development, and women entrepreneurship, in general, is increasingly recognized as an important, though untapped source of economic growth, innovation and employment (Mahadea, 2013; Odebrecht, 2013; Paoloni

and Lombardi, 2017). In addition, women entrepreneurs are a cornerstone for competitive national economy. To this effect, some countries' policies are in fact closely connected to innovation policies emphasizing on women entrepreneurship (Jagero and Kushoka, 2011; Johnstone and Lionais, 2004). This article argues that women entrepreneurs are potential to influencing personal well-being and the influence differs by, among other factors, socio-economic and demographic characteristics of women entrepreneurs. Therefore, women involvement in entrepreneurship is critical for them to improve personal well-being that, according to Stevenson and Wolfers (2009), seems to be spiraling downwards even in developed countries.

In developing countries including Tanzania, women relative to men are increasingly showing an interest of being entrepreneurs (Sweida and Reichard, 2013). For instance, 57% of the women in Arumeru District in Tanzania have developed interest of being entrepreneurs (Kazimoto, 2013), mainly because of advocacy on women empowerment programmes and policies promoted by the government and non-governmental development actors. At a global level, women entrepreneurs comprise 8.9%, and this is projected to increase in the near future (Rao et al., 2013). One of the main arguments in this article is that women entrepreneurs are not homogeneous group such that their differences in socio-economic and demographic characteristics influence differently, personal well-being. The fact that influence of women entrepreneurs' characteristics on improving personal well-being is important, but not more documented; it should be taken seriously in interventions related to women entrepreneurship. Therefore, the objective of this article is to determine the influence of women entrepreneurs' characteristics on personal well-being, taking Arumeru District in Arusha Region in Tanzania as a case study.

Women entrepreneurs' characteristics and personal well-being

This article deals with women entrepreneurs, women entrepreneurs' characteristics and personal well-being. Existing literature does not portray a consensus definition on who is an entrepreneur. However, the definitions show that, an entrepreneur is an individual, a man or a woman, who has a business idea and implement it by setting a business. Or anyone who starts and manages a business; or the owner, manager of business venture and one who is willing to take risks of owning business firms (Busenitz and Barney, 1997; Mongula, 2004; Eroğlu and Piçak, 2011; Isaga, 2012; Shmailan, 2016; Kapinga and Montero, 2017). In the context of this article, the concept is taken to mean any woman entrepreneur who own and

run a micro-business that offers employment up to 4 employees (United Republic of Tanzania, 2003; Isaga, 2012). Women entrepreneurs in Tanzania and in sub-Saharan Africa normally deal with micro enterprises or micro-businesses related to food vending, hair making, tailoring and shops in retail and wholesale, among others (Gichuki et al., 2014).

Literature including Spevacek (2010), Shmailan (2016) and Kapinga and Montero (2017) conclude that women entrepreneurs tend to have common characteristics that determine growth and performance of their business. These characteristics include participation in entrepreneurial activities, and creation of new products and services. Their social-cultural and demographic characteristics are also critical in this regard including age, ethnicity, religion, values, attitude, lifestyle, education and training, employment status, marital status, wealth, and household size. Women entrepreneurial activities are not free from challenges like limited access to capital, lack of business skills, and lack of collateral requirements; unsound business plans, lack of control of family resources like land, low education levels and lack of entrepreneurial skills; male dominance and limited mobility among women (Bajpai, 2014; Gichuki et al., 2014; Kapinga and Montero, 2017; Singh and Sebastian, 2018). One of the key arguments in this article is that improved business performance leads to a substantial business growth that eventually improves women entrepreneurs' personal well-being.

This article contends that social cultural and demographic characteristics of women entrepreneurs, which affect business performance, are also determinants of personal well-being. The question of what is personal well-being, which is also recognized as subjective well-being in the literature, is unresolved research agenda. Some authors including Muzindutsi and Sekhampu (2014) view personal well-being as people's satisfaction with life as a whole. Others including McGillivray and Clarke (2006) and Dodge et al. (2012) defined the concept as a multidimensional evaluation of life that encompasses cognitive judgements of life satisfaction and affective evaluations of emotions and moods. Unlike objective well-being that entails Gross Domestic Product, income per capita, employment and other material well-being (Misra and Puri, 1986), personal well-being is taken in this article as one's self evaluation of life satisfaction determined by many factors including women entrepreneurs' socio-economic and demographic characteristics. According to a study done by Kabote (2017), women entrepreneurs' characteristics that can determine personal well-being are categorized into socio-economic, cultural, demographic, social capital, attitudes, personality, security, social relations and genetics. The section for results and discussion of this article focuses on socio-economic and demographic characteristics of

women entrepreneurs because it is challenging to capture all characteristics in one study.

Literature generally acknowledges that women entrepreneurs, as a unique social group, improve economic development significantly in developed and developing countries by converting innovative ideas into economic opportunities. The phenomenon is also a source of new employment or jobs (Vanderburgh, 2013), particularly among women who, in developing countries, are marginalized in formal employment. In addition, women entrepreneurs are potential to increasing productivity and competitiveness through stimulation of social and productive networks. These, including employment creation, increase income, which is one of the means of achieving personal well-being (Kantis et al., 2002; Hisrich, 2005; Malaya, 2006). Because of this, women entrepreneurs can influence personal wellbeing positively, and therefore contribute to more development generally. This article puts that what exactly influences personal well-being are women entrepreneurs' characteristics.

Borrowing an idea of functionings developed by Sen (1999), women entrepreneurs' activities are, or simply being an entrepreneur, is considered in this article as functionings. Sen (1999) defines functionings as various things a person may value doing or being. In other words, functionings are valuable activities and states that make up people's well-being such as being healthy and well nourished, being safe, being educated, having a good job and being able to visit the loved ones. This article takes entrepreneurs' activities, including owning and running a micro-business, as means to achieving women's personal well-being.

Over the years, it has been apparent that a considerable number of enterprises have been owned by men (ILO 2006). Therefore, until the 1980's, there was little information on women entrepreneurs both in practice and research as compared to men counterparts (Bruni et al., 2004). Although, the proportion of women entrepreneurs has increased considerably in recent years concentrating themselves in Micro and Small Enterprises (MSEs), the body of literature especially on the link between women entrepreneurs' characteristics, business growth and personal well-being is either still thin or missing, moreso in developing countries like Tanzania. As globalization reshapes the international economic landscape and technological change creates greater uncertainty in the world economy, women entrepreneurs are believed to meet new economic, social and environmental challenges (Smallbone et al., 2010), and therefore, studies on the linkages between women entrepreneurs' characteristics and personal well-being are imperative.

Cross-sectional studies in developed countries including Hansen and Slagsvold (2012) show that, generally,

personal well-being stabilizes at an old age, but does not strongly decline as objective life conditions deteriorate. Other studies including Bérenger and Verdier-Chouchane (2007) and Sarracino (2010) show that education is positively related to personal well-being. Other characteristics that have positive effect on personal well-being include marital status, employment and social capital. Employment has positive and negative effect on personal well-being in low and high income countries, respectively. These studies however, are more general, such that they consider men and women as a homogeneous group, and lack women entrepreneurs' orientation. Thus, a comprehensive knowledge on the linkage between women entrepreneurs' socio-economic and demographic characteristics and personal well-being is inadequate in the literature.

Women entrepreneurs and well-being in Tanzania

When investigating issues related to women entrepreneurs and their characteristics in Tanzania, it is interesting to take a historical perspective by considering the period after independence in 1961 and after 1990. Tanzania experienced limited opportunities for women entrepreneurs' development during the Arusha declaration era between 1967 and 1990. During that period, the private business sector was discouraged in favour of public enterprises (Isaga, 2012). For instance, various businesses were nationalized in the 1968 including farms, buildings, industries, commerce and trade. At that time, the government was considered the only key development actor. This possibly, killed any seed of women entrepreneurs in the country. Civil servants and leaders of the ruling party were also forbidden from engaging in business activities. Mongula (2004) is of the view that since almost all educated people were members of the civil service at that time, it is unquestionably clear that business activities were left to the hands of the people who had, whatsoever, limited formal education. However, a pressure from the World Bank necessitated the government to privatize most of the public enterprises resulting in taking SMEs as important initiatives for income and employment generation since the 1990s.

During and since the 1990s, women have increasingly become entrepreneurs in Tanzania, particularly through informal arrangements. In 1999 for example, the United Nations Industrial Development Organization (UNIDO) reported that women micro-enterprises were increasing at 2.4% in the country (UNIDO, 1999). Like in other regions in the world, majority of the women entrepreneurs in Tanzania own Small and Micro Enterprises (SMEs) as compared to men. For instance, they constitute nearly 43% of the SMEs in the country (International Finance

Corporation, 2007). Unlike in developed countries, women's personal well-being in sub-Saharan African countries like Tanzania remains low relative to men counterparts. For example, over 60% of the women in Tanzania report difficulties in accessing health care when they are sick (Tanzania Gender Networking Program, 2007). This translates into poor health condition among women, especially those with low or lacking formal education. This situation raises questions including "to what extent does women entrepreneurs' characteristics influence personal well-being in the country?" It is worth noting that, although the proportion of women entrepreneurs is escalating in the country, the enterprise culture among women is still at an infancy stage, and majority of women entrepreneurs are a first generation.

Understanding that women entrepreneurs have substantial contribution to the micro economy, Tanzania is striving to promote women entrepreneurship. For instance, the country developed SMEs policy in 2003 to promote enterprise development that experienced unfavourable government attention for many years throughout the colonial period up to 1990. In this policy, the government is committed to enhancing gender mainstreaming in all initiatives pertaining to SMEs development. The policy also stipulates some implementation strategies that include encouraging women participation in SMEs by facilitating SMEs service providers to design programmes specific for women and other disadvantaged groups. In addition, the policy emphasizes assessment of, and how to address factors that inhibit women entrepreneurship (URT, 2003). However, such efforts consider women entrepreneurs as homogeneous group and therefore do not capture women entrepreneurs' characteristics and how they influence personal well-being.

Despite the fact that the SME policy of Tanzania has one gender sensitive policy statement, the policy is gender blind in many aspects including issues related to providing assistance in market promotion and financing. Other gender blind aspects include (i) building entrepreneurs' capacity and (ii) creating favourable business environment. To improve the capacity, the country offers university level trainings and it has established Vocational Education Training Authority (VETA) since 1994. The quality of trainings offered by VETA is however affected by little capacity of the trainers. There are also no strategies in place specific for women joining universities degree programmes tailored to entrepreneurship and VETA trainings.

Following better entrepreneurship environment created by the SMEs policy, one can now see mushrooming of women SMEs, albeit with poor growth, at every corner in Tanzania, even though, the entrepreneurship environment is not much better for the women entrepreneurs. Many challenges impinge women entrepreneurs including lack of startup capital, high utility prices, low technological capabilities, lack of entrepreneurial skills and poor education (Kazimoto, 2013; Magesa et al., 2013). Others include poor financing, high taxes and levies, undeveloped infrastructure, poor business development services, poorly coordinated institutional support arrangement, poor marketing information and unfavourable legal and regulatory framework (URT, 2003; Mongula, 2004; Njau and Komba, 2014). This implies that policy efforts to improve women entrepreneurship in Tanzania should focus on, among other things, eliminating the challenges among women entrepreneurs of different characteristics, and that the country has a long way to improve women entrepreneurship.

Of the entrepreneurship challenges reported in Tanzania, lack of business financing is one among the serious challenges. This affects almost every entrepreneur, particularly the poor women in rural areas despite increasing number of micro-financing facilities like National Microfinance Bank (NMB), Akiba Commercial Bank (ACB), Promotion of Rural Initiatives and Development Enterprises (PRIDE) and Building Resources Across Communities (BRAC). Other financing organizations include the Small Industries Development Organization (SIDO), Foundation for International Community Assistance (FINCA) and Export-Import Bank (EXIM Bank). There are also a number of informal financial institutions like Savings and Credit Cooperative Societies (SACCO's) (International Finance Corporation, 2007; Magesa et al., 2013), and Village Savings and Loans (VS&L) groups that offer credits to entrepreneurs, but lack of collateral among poor women in rural areas aggravates the problem. As such, Isaga (2012) and Kazimoto (2013) reported that only 28% of the women entrepreneurs benefited from SACCO's loans and only 15% benefitted from PRIDE in Arumeru District in 2012 and 2013, respectively. The same studies outline major entrepreneurship challenges in Arumeru including lack of collateral and start-up capital, strict microfinance conditions, high interest rates, small loan size and negative attitudes towards women entrepreneurs. Based on the foregoing discussion of the literature, women of different characteristics have become entrepreneurs, and a considerable proportion is showing interest of being entrepreneurs especially since the 1990s. There is dearth information that links women entrepreneurs' characteristics and their personal well-being that seems to be decreasing over time. Put differently, the influence of women entrepreneurs' socio-economic and demo-graphic characteristics on personal well-being requires investigation. The results of this article are expected to shed light on interventions developed or proposed by policy makers and academicians regarding the influence of women entrepreneurs' characteristics on personal well-being, because women entrepreneurs are not a

Table 1. Village statistics.

Village names	Male	Female	Women entrepreneurs	Non-entrepreneurs
Nkoaranga	1699	2085	200	1885
Tengeru	1705	2277	240	2037
Nguruma	1610	1890	220	1670
Mulala	1710	1770	120	1650
Madukani	1900	1986	190	1796
Nkoansiyo	1800	1988	120	1868

homogeneous group. In addition, the article offers reference materials among scholars, entrepreneurs, development actors and students as well.

METHODOLOGY

Selection of the study area and research design

This study was conducted in Arumeru District which is located in the south eastern part of the Arusha Region. The district's human population is 268,144 (URT, 2012). Exactly 51% of the villages in the district have development plans (Kazimoto, 2013). This suggests concerted efforts to bring about social development at the village level. The district was selected for the study because, currently, 57% of the women in the district are either entrepreneurs or have developed interest of being entrepreneurs (URT, 2003) while women's personal well-being in general continues to be low. This therefore raised an interest to investigate the influence of women entrepreneurs' characteristics on personal well-being. The study adopted cross-sectional research design that allows data to be collected once at a single point in time without repetition. This design allowed investigation of the relationship between women entrepreneurs' characteristics and personal well-being. In order to demonstrate the influence of women entrepreneurs' characteristics on personal well-being, the methodological approach involved women entrepreneurs and women non-entrepreneurs for comparison purposes.

Sampling procedures

The study population was women entrepreneurs and the unit of analysis was an individual. Three wards, selected through purposive sampling based on availability of women entrepreneurs, were involved in the study. In each ward, two villages were randomly selected making a total of six villages. Systematic random sampling technique was used to select 15 women entrepreneurs and 15 non-women entrepreneurs in each village, from a sampling frame that was prepared by listing all women entrepreneurs in the village, making a total of 180 respondents. This sample size was sufficient to obtain the information relevant to the study because a minimum of 30 cases is appropriate in accommodating a range of varying sub-populations (Bailey, 1994). Some village records involved in the study are presented in Table 1.

Data collection and analysis

A survey method was employed whereby questionnaire, with closed and open-ended questions, was used to collect data. To ensure consistency and clarity of questions used for data collection, the questionnaire was pre-tested to 15 respondents. After pre-testing, modifications were made to the questionnaire and an improved version was developed before administering the tool for actual data collection. Quantitative data were analysed by using Statistical Package for Social Sciences (SPSS). Patterns of the results and their implications are explained.

A multiple linear regression model was used to determine the influence of women entrepreneurs' characteristics including being an entrepreneur or not, to personal well-being. The regression was run two times. First, to test the hypothesis that each of the seven personal well-being measurement constructs used to construct a Personal Well-being Index (PWI) has similar unique variance contribution to the overall life satisfaction at 5% level of significance. The regression analysis equation used was:

$$Y_i = \beta_o + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \varepsilon$$

Y_i is an outcome or dependent variable that was an overall life satisfaction when the regression was run in the first time, and personal well-being when it was run in the second time. Respondents were requested to respond to how satisfied they were with their life as a whole. The response ranged from 0 (no satisfaction at all) to 10 (completely satisfied). A score of 5 was considered as neutral.

X_1 to X_7 are the explanatory or independent variables that were the seven personal well-being measurement constructs suggested by the International Well-being Group (2013) when the regression was run in the first time. These were: X_1 = satisfaction with standard of living; X_2 = satisfaction with one's health; X_3 = satisfaction with achievement in life; X_4 = satisfaction with personal relationship; X_5 = satisfaction with one's safety; X_6 = satisfaction with community connectedness; X_7 = satisfaction with future security; β_1 to β_7 are regression coefficients. ε is an error term representing a proportion of variance in the outcome variable that is not explained by the regression model.

This type of regression analysis was used because there were more than four categories of ordered responses (Sarracino, 2010; Hansen and Slagsvold, 2012), when the regression was run in the first time, but also because the PWI, used as an outcome variable when the model was run in the second time, is a continuous variable. The descriptive statistics for the seven personal well-being measurement constructs entered in the multiple regression analysis equation are presented in Table 2.

The PWI of an individual was quantified by computing the mean score of each of the seven personal well-being measurement constructs scored from a range of zero which means 'no satisfaction at all' to 10 which means 'completely satisfied'. The mean score for each respondent was then converted into points by multiplying by 10 (International Well-being Group, 2013). Finally,

Table 2. Descriptive statistics for seven domains (n = 180).

Measurement constructs	Minimum	Maximum	Mean	Standard Deviation
Overall life satisfaction	3.00	8.00	5.50	1.35
Satisfaction with standard of living	2.00	9.00	4.88	1.43
Satisfaction with your health	2.00	9.00	5.42	1.82
Satisfaction with achievements in life	2.00	9.00	5.12	1.67
Satisfaction with personal relationship	2.00	9.00	5.58	1.73
Satisfaction with your safety	2.00	9.00	5.22	1.74
Satisfaction with community connectedness	3.00	9.00	5.21	1.67
Satisfaction with future security	1.00	8.00	4.92	1.64

Table 3. Variables used in the regression analysis.

Variable	Definition	Level of measurement	Unit of measurement	Expectations
Entrepreneurship	Owning and running a business	Nominal	1 if owning and running a business and 0 otherwise	Entrepreneurship has positive and significant contribution to personal well-being
Personal well-being (dependent variable)	People's satisfaction with life as a whole	Scale	Index	
Years of schooling	Number of years spent in schools	Scale	Years	Education has positive contribution to personal well-being
Employment status	Working in formal employment	Nominal	1 if employed and 0 otherwise	Employment has positive contribution to personal well-being
Household size	Number of members sharing resources at a household	Ratio	Number	Big household size has negative contribution to personal well-being
Marital status	If married or single	Nominal	1 if married and 0 otherwise	Women's marital status has negative or positive contribution to personal well-being depending on the context especially marriage condition
Age	Total number of years since the respondent was born	Ratio	Years	Age has positive contribution to personal well-being
Wealth status	Being poor or non-poor	Scale	Index	Wealth has positive contribution to personal well-being

respondents were grouped into two categories: those with low personal well-being in one category if their average scores were less than the mean score of 51.92, and those with high well-being in another category if their average scores were above the mean. The second task related to the regression analysis was to test the hypothesis that women entrepreneurs' characteristics have no significant influence on personal well-being at 5% level of significance. In this case, the dependent variable was personal well-being. The explanatory variables entered in the regression model when it was run in the second time are shown in Table 3.

Based on the tolerance and Variance Inflation Factor (VIF) values, there was no multicollinearity problem for the data involved in the multiple regression analysis. The mean difference in personal well-being between entrepreneurs and non-entrepreneurs was tested using an independent t test because the two groups are independent and the PWI was a continuous variable. Before running the independent t test, the data were transformed to log10 to make them normally distributed because the Shapiro Wilk W test

showed that the PWI was not normally distributed. Similarly, before running the regression model in the first time, normality was tested using Shapiro-Wilk test. This test showed statistically significant difference between the normal curve and the curve of the population from which the sample was taken, at 5% level of significance. This implies that the data were not normally distributed and therefore they were transformed using Log10 to make them normally distributed in order to avoid abusing the normality assumptions for the multiple regression analysis. Furthermore, the household wealth status from which respondents came from was quantified using wealth index quantified using the following formula:

$$WET_i = \sum (y_{ij}/Y_{max}) \ (I=1, 2\ldots x \ j=1, 2\ldots n)$$

Where, WET = Wealth index; y_{ij} = number of household assets (radio, television, furniture, cattle, cars and houses roofed with iron sheets as identified during FGDs); Y_{max} = maximum number of a particular asset in the sample; X = number of items considered as

Table 4. Respondents' characteristics (n = 180).

Variable	Entrepreneurs		Non-entrepreneurs		P-value
	Frequency (N)	Percent (%)	Frequency (N)	Percent (%)	
Educational level					
None	15	16.7	34	37.8	
Primary	46	51.1	44	48.9	
Secondary o-level	22	24.4	9	10.0	0.005
Secondary A level	1	1.1	1	1.1	
College	6	6.7	2	2.2	
Total	90	100.0	90	100.0	
Marital status					
Never married	4	4.4	6	6.7	
Married	75	83.3	84	93.3	
Separated	2	2.2	0	0.0	0.008
Widows	9	10	0	0.0	
Total	90	100.0	90	100.0	
Employment status					
Employed	24	26.7	12	13.3	
Not employed	66	73.3	78	86.7	0.022
Total	90	100.0	90	100.0	
Household type					
Male headed	76	84.4	84	93.3	
Female headed	14	15.6	6	6.7	0.058
Total	90	100.0	90	100.0	
Age					
Young	65	72.2	27	30.0	0.006
Middle	23	25.5	54	60.0	
Old	2	2.2	9	10.0	
Total	90	100.0	90	100.0	

indicators for wealth; N = sample size

Based on the wealth index mean of 0.028, respondents were categorized into three. Those below the mean were taken as having low wealth status, while those above the mean were taken as having high wealth status. In addition, the mean was taken as medium wealth status.

Reliability analysis

Reliability analysis was used to test whether the personal well-being measurement constructs can be combined to form a PWI. This analysis also tested whether the personal well-being constructs were consistent in measuring personal well-being. The most commonly statistic used in this analysis is the Cronbach's alpha value. The Cronbach's alpha value was 0.850 higher than a minimum value of 0.7 (Nunnally, 1978), indicating that the personal well-being measurement constructs could be quantified to form one variable, in this case, Personal Well-being Index.

RESULTS AND DISCUSSION

Women entrepreneurs' characteristics

Table 4 summarizes respondents' characteristics involved in the study. The analysis showed that majority (51.1%) of the women entrepreneurs had primary education level as compared to 48.9% of the non-entrepreneurs who had primary education level. About 38% of the women non-entrepreneurs had no formal education while about 17% of the women entrepreneurs lacked formal education.

This association was significant at 5% level of significance (Table 4) implying that education was considered as an important factor for a woman to engage in entrepreneurship. These results are in line with Gichuki et al. (2014) who reported similar observation in Kenya. In addition, majority of non-entrepreneurs were married

as compared to women entrepreneurs. This relationship was significant at 5% level of significance. Being married can be one of the constraints for women to own and run an enterprise while maintaining a family, as one of the women's triple roles in Africa (Bajpai, 2014).

The analysis also show that there was significant association, at 5% level of significance, between women entrepreneurs and non-entrepreneurs with regard to their main occupation, such that majority of the non-entrepreneurs were out of formal employment as compared to women entrepreneurs (Table 4). This implies that being employed was one of the factors driving a woman to engage in entrepreneurship because an employed woman could use part of her salary to start up a business given limited access to credit as reported by Bajpai (2014) and Gichuki et al. (2014), in Africa. In addition, salary could be considered as collateral for a woman to access credit, when it is available, from formal financial institutions to start a business. Notably, through observation, women in Arumeru District dealt largely with hair making, shops, bakery, vegetable and fruit selling, tailoring and food vending similar to what is reported by Gichuki et al. (2014) in Kenya.

Overall, wealth status was low across the sample, but was higher among women entrepreneurs as compared to women non-entrepreneurs (Table 5). This implies that entrepreneurship contributed to improving household wealth status. In addition, the results showed that 72.2% of the women entrepreneurs were from the young age group (18 to 35 years). This implies that, assuming other factors remain constant, this age group had active members and therefore many involved themselves in entrepreneurship to improve their personal well-being. This can also be interpreted that the youth group of women entrepreneurs engaged in entrepreneurship because it is difficult to access formal employment for a standard seven holder in Tanzania. Thus, the possible option is to engage in small-scale business to sustain a living.

Association of women entrepreneurs' characteristics and personal well-being

Table 6 presents respondents' personal well-being between women entrepreneurs and women non-entrepreneurs. The results show that the mean of personal well-being scores was 51.92, while minimum and maximum were 34.29 and 84.29, respectively, with a standard deviation of 12.97. These results are in line with the previous personal well-being studies particularly in African countries (International Well-being Group, 2013). In addition, about 53% of women entrepreneurs and non-entrepreneurs were grouped under low personal well-being category. This is in line with previous studies that

report low personal well-being among women in Africa particularly in Sub-Sahara Africa (White, 2007; Senic, 2015). However, generally, women entrepreneurs showed higher personal well-being relative to non-entrepreneurs. This relationship was strong and significant at 5% level of significance (Table 6), implying that despite problems and challenges, which women entrepreneurs face in Africa including lack of capital, slow growth rate and limited external financing (Bajpai, 2014), entrepreneurship influenced personal well-being positively among women entrepreneurs in the study area.

It is clear from Table 7 that some women entrepreneurs' demographic and socio-economic characteristics influenced personal well-being strongly. Those with formal education, employed in the formal sector and those categorized as having high wealth status registered high personal well-being than their counterparts.

It suffices to argue that primary education is a minimum level for improving women entrepreneurs' personal well-being, particularly among women who own Small and Micro Enterprises. In this article for example, descriptive statistics of the respondents' characteristics showed that 51.1% of the women entrepreneurs held primary education level. This can be translated to improved literacy and therefore ability to read, write and keep records among women entrepreneurs that finally gave rise in to higher personal well-being than their counterparts.

Women entrepreneurs employed in the formal sector also showed higher personal well-being. Even though, about 73% of the women entrepreneurs were not employed in the formal sector, possibly because majority held primary education level, which is considered basic education by most employers and therefore difficult to get formal employment. In other words, creation of employment is a key to improving personal well-being among women. The decision offered by the 5th government under the President Dr. John Pombe Magufuli of expelling all primary education holders from government employment employed after 2004 is likely to affect personal well-being negatively, particularly among women because the salary received from employment could be used as a collateral to get loan from formal financial institutions and then be able to finance a small-scale business. The higher personal well-being among women entrepreneurs relative to non-entrepreneurs can also be explained by higher wealth status among them as compared to non-women entrepreneurs (Office of National Statistics, 2015). In this article, wealth was measured as an index based on the number of assets, which is a proxy indicator for income.

Other respondents' demographic characteristics showed low personal well-being. For instance, majority (57.2%) of the married women entrepreneurs, the youth group and those whose families were headed by women

Table 5. Household wealth status (n = 180).

Wealth group	Women entrepreneurs	Women non-entrepreneurs	Total
Low	64(44.1)	81(55.9)	145(100)
Medium	1(100)	0(0.0)	1(100)
High	26(76.5)	8(23.5)	34(100)

Numbers in brackets are percentages.

Table 6. Personal well-being between women entrepreneurs and non-entrepreneurs (n = 180).

Personal well-being categories	Women non-entrepreneurs	Women entrepreneur	Total	P-value	Phi-Value
Low	74(77.9)	21(22.1)	95(52.8)	0.00	
High	15(17.6)	70(82.4)	85(47.2)		0.602

Numbers in brackets are percentages.

Table 7. Association between personal well-being and women's characteristics (n = 180)

Respondents characteristics	Low well-being	High well-being	Total	P value
Education				
Formal	63(48.1)	68(51.9)	131(100)	0.039
Non-formal	32(65.3)	17(34.7)	49(100)	
Marital status				
Married	91(57.2)	68(42.8)	159(100)	0.001
Single	4(19.0)	17(81.0)	21(100)	
Employment status				
Employed	3(30.0)	7(70.0)	10(100)	0.138
Not employed	92(54.1)	78(45.9)	170(100)	
Household type				
Male headed households	90(56.2)	70(43.8)	160(100)	0.008
Female headed households	5(25.0)	15(75.0)	20(100)	
Age				
Young	65(70.7)	27(29.2)	92(100)	
Middle	28(34.1)	54(65.9)	82(100)	0.000
Old	2(33.3)	4(66.7)	6(100)	
Wealth				
Low	84(57.9)	61(42.1)	145(100)	
Medium	0(0.00)	1(100)	1(100)	0.015
High	11(32.4)	23(67.6)	34(100)	

Numbers in brackets are percentages.

showed low personal well-being and these relationships were significant at 5%. The low personal well-being among the married ones is attributed to unequal gender relations at a household level that normally discriminate,

Table 8. Personal well-being differences between entrepreneurs and non-entrepreneurs (n = 180).

Groups compared	N	Mean	t	P-Value
Non-entrepreneur	90	0.63	-10.95	0.000
Entrepreneur	90	0.77		

subordinate and marginalize women in Africa (Bajpai, 2014). This can also explain the low personal well-being among the female headed households because of being marginalized in African societies. The low personal well-being among the youth women entrepreneurs is also reported in the literature. For instance, Hansen and Slagsvold (2012) reported that the personal well-being increases with age and stabilizes at an old age but does not strongly decline as objective life conditions deteriorate. This implies that the youth group is likely to report low personal well-being.

The results of the independent t-test showed that there was significant difference (P = 0.000) in personal well-being between women entrepreneurs and women non-entrepreneurs (Table 8). In this relationship, women entrepreneurs had higher personal well-being relative to non-entrepreneurs implying that entrepreneurship showed positive and significant contribution to personal well-being among women.

Unique variance contribution to life satisfaction

Table 9 presents unique variance contribution of personal well-being measurement constructs as an output of multiple regression analysis, to the overall life satisfaction. The analysis showed that, overall, the model was significant at 5%. The adjusted R^2 was 0.74 implying that the model explained 74% of the variations in the overall life satisfaction. The column for **Sr^2** derived from squaring the PART coefficient, an output from SPSS, describes the %age of unique variance contributed by each of the personal well-being measurement constructs.

The results showed that the total explained unique variance obtained by summation of values under Sr^2 column was 0.106, while the total explained shared variance obtained by subtracting total explained unique variance from adjusted R^2 was 0.634. It is also clear from Table 9 that all personal well-being measurement constructs had unique variance contribution to the overall life satisfaction, unlike in developed countries like the Netherlands and Australia where satisfaction with safety does not show unique variance contribution (Jonge and Beuningen, 2011; International Well-being Group, 2013). Satisfaction with safety showed greatest contribution followed by satisfaction with achievements in life,

satisfaction with future security and satisfaction with community connectedness. This implies that the four variables were major determinants of overall life satisfaction and quality of life in general.

Furthermore, the results in Table 9 show that out of the seven personal well-being measurement constructs considered as explanatory variables, four showed statistically significant differences. These include satisfaction with achievement in life and satisfaction with safety, which showed significance (P = 0.000). Satisfaction with future security and satisfaction with community connectedness were significant at 5%. This means that those measurement constructs had largest unique variance contribution to the overall life satisfaction relative to other measurement constructs. It can further be translated that the personal well-being measurement constructs that were significant are important determinants of overall life satisfaction in the study area.

Influence of women entrepreneurs' characteristics on personal well-being

Table 10 presents determinants of personal well-being including being an entrepreneur among women. In this article, personal well-being was measured using PWI. Overall, the model was significant at 0.1%. The analysis showed that the adjusted R^2 was 0.521, which means, the independent or explanatory variables explained 52.1% of the variations to the personal well-being. In addition, three explanatory variables were significant (P = 0.000) including being an entrepreneur, marital status and respondents' age. As shown by the independent t test, multiple linear regression showed that being an entrepreneur influenced the women's personal well-being positively which in turn can improve personal well-being. Personal well-being was higher during old age and lower among the youth. Although, marital status was significant, the married ones showed lower personal well-being than their counterparts.

Looking at beta values in Table 10, it is clear that women's personal well-being among entrepreneurs was between 9.2 and 14.0 points higher than that among women who were non-entrepreneurs. This is largely attributed to women entrepreneurs' characteristics like possession of formal education, access to employment in

Table 9. Unique variance of personal well-being indicators on overall life satisfaction (n = 180).

Personal Well-being Indicators	B	P-Value	Lower bound	Upper bound	Sr^2	Tolerance	VIF
Constant	0.371	0.000	0.337	0.404			
Satisfaction with standard of living	0.004	0.352	-0.005	0.013	0.001	0.399	2.509
Satisfaction with your health	0.004	0.207	-0.002	0.011	0.002	0.410	2.436
Satisfaction with achievements in life	0.013	0.000	0.006	0.020	0.019	0.469	2.134
Satisfaction with personal relationship	0.006	0.055	0.000	0.013	0.005	0.489	2.045
Satisfaction with your safety	0.021***	0.000	0.014	0.028	0.053	0.427	2.341
Satisfaction with community connectedness	0.009***	0.007	0.003	0.016	0.011	0.504	1.985
Satisfaction with future security	0.010***	0.002	0.004	0.017	0.015	0.585	1.710

***Significant at 5%.

Table 10. Factors influencing personal well-being (n = 180).

Variables	B	P-Value	Lower bound	Upper bound	Tolerance	VIF
Constant	0.684	0.000	.566	0.802		
Years of schooling	0.001	0.367	-.001	0.004	0.850	1.176
Employment status	-0.041	0.105	-.091	0.009	0.924	1.082
Household size	-0.004	0.191	-.010	0.002	0.793	1.261
Entrepreneurship	0.116***	0.000	0.092	0.140	0.837	1.194
Marital status	-0.067***	0.000	-0.102	-0.032	0.942	1.061
Age	0.003***	0.000	0.002	0.005	0.805	1.242
Wealth of an individual	0.086	0.575	-.217	0.390	0.977	1.023

***Significant at 5%.

the formal sector and wealth status. For instance, formal education is related to human capital variables including skills and knowledge necessary and vital for innovation among women entrepreneurs. This improves performance and growth of a business, which in turn influence personal well-being positively and significantly. In addition, access to formal employment improves income and assets, which definitely improve personal well-being. These results are in line with Berglund (2014) who reported strong and positive relationship between being an entrepreneur and personal or subjective well-being in Sweden, one of the developed countries in the world. To that effect, among other factors, being an entrepreneur is critical for improving women's personal well-being in the study area. In addition to being an entrepreneur, the results show that for every one year increase on respondents' age among women entrepreneurs, the personal well-being increased between 0.2 and 0.5 points (Table 10). This implies that the personal well-being was high for an old age relative to the young age group, whereby, 70.7% of the youth, in this study, showed low personal well-being relative to the old. In addition, the results of this article show that majority of the respondents were married and marital

status showed significant influence on women's personal well-being, but the sign is negative (Table 10). The negative sign connotes that being married decreased the personal well-being of women entrepreneurs between -10.2 and -3.2. This can largely be explained by unequal gender relations that exist between husbands and wives in most societies in Africa. Literature shows that marital status has positive influence on personal well-being in developed countries, but not significant (Sarracino 2010). The difference in the results of this article with that of Sarracino's (2010) results can be explained by the context, cultural and gender differences between developed and developing countries. The fact that this study involved women only can also explain the differences.

CONCLUSION AND POLICY RECOMMENDATIONS

The aim of this article is to determine the influence of women entrepreneurs' characteristics on personal well-being. The article tested the hypothesis that women entrepreneurs' socio-economic and demographic characteristics have no significant influence on personal

well-being at 5% level of significance. Based on the results, the study concludes that women's personal well-being was generally low. Comparing women entrepreneurs with non-entrepreneurs' personal well-being, women entrepreneurs showed higher well-being. Unlike the hypothesis, being an entrepreneur, and age of women entrepreneurs influenced positively and significantly, personal well-being. This clearly demonstrates that women entrepreneurs are not homogenous group, they differ in their characteristics, which are important in determining personal well-being. Lower age among women entrepreneurs for example, was characterized by lower personal wellbeing and vice versa. The direction of this influence was positive, which means old age showed higher personal well-being. However, marital status though significant, decreased personal well-being among the women entrepreneurs because of their subordinate position in the society. The limitation of this article is that the study population included women in rural setting owning micro-businesses. That means, the study excluded men and women owning medium and large scale business in rural and urban areas.

Based on the results, the article recommends that policies promoted by development actors including the government and non-governmental organizations (NGOs) should focus on, among other things, promoting entrepreneurship among women. The interventions should sharply consider socio-economic and demographic characteristics that showed significant influence, and association with women's personal well-being. For instance, based on household type and marital status, interventions should aim at minimizing asymmetrical gender issues that normally discriminate, subordinate and marginalize women entrepreneurs. Interventions should also aim to promote human capital variables like formal education, trainings, skills and knowledge to improve entrepreneurship skills that definitely improve personal well-being. Creation of employment should also consider the youth group that has limited access to formal employment. Other strategies to help women entrepreneurs should focus on improving their wealth through income and assets.

This article showed that women entrepreneurs differ in their socio-economic and demographic characteristics which in turn influence personal well-being. Therefore, future research should focus on investigating how women entrepreneurs should be considered as heterogeneous group when it comes to supporting them in terms of human capital variables, age group, marital status, employment and wealth status. Since this article dealt with women entrepreneurs owning small-scale businesses in rural areas, further studies should investigate how characteristics of men and women owning medium and large scale businesses in rural and urban areas influence

personal well-being.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

The value relevance of consolidated and separate financial statements: Are non-controlling interests relevant?

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This paper aims to analyze the value relevance of financial statements prepared according to International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS). The study focuses on two of the different sets of accounts presented by companies: the parent company financial statement and the consolidated version. We have developed a panel data from a sample of Italian listed companies by collecting accounting figures from consolidated and separate financial statements, since Italy mandates listed companies to prepare both reports according to IAS/IFRS. Using an Ohlson price model, we have tested our hypotheses, performing regressions of share price or market capitalization on book value and earning. Firstly, we compared the consolidated financial reports' value relevance with that of the separate financial statements. The evidence suggests that, although the separate reports also have a high value relevance, this does not provide investors with additional information. Secondly, we investigated the value relevance of the consolidated financial statements alone, by focusing on the specific nature of the group's equity book value and net income. Both are made up of two components: one referring to the parent company and the other attributable to non-controlling interests (NCI) as a consequence of the presence of minority shareholders within the group. We analyzed the value relevance of group financial statements, taking into account the presence/absence of minority shareholders and their portion of equity and net income. By dividing groups with minority shareholders from groups without these, we verified whether the presence of non-controlling interests can affect the value relevance of consolidated reports, and whether NCI equity and net income are value-relevant. In fact, all modes used to test value relevance are based only on the parent company equity and net income, leaving aside that group equity and net income are divided into two parts. The evidence suggests that NCI financial values slightly increase the fit of the model, and that NCI equity and net income are statistically significant in affecting the market capitalization of companies.

Key words: International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS), value relevance, equity, accounting.

INTRODUCTION

Value relevance is one of the most important attributes of accounting quality (Francis et al., 2004), since

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investors rely on accounting information for their investment decisions. Given that the main purpose of accounting reports is to provide reliable information regarding the financial position, performance and cash flow of the reporting entity, value relevance determines whether accounting numbers are useful to financial statement users in making their choices.

The objective of financial statements for general purposes is also highlighted by the International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS) framework (in addition to that of FASB), which states, among other qualitative characteristics of financial information, that "the objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors…" and "decisions by existing and potential investors about buying, selling or holding equity and debt instruments depend on the returns that they expect from an investment in those instruments, for example dividends, principal and interest payments or market price increases" (The Conceptual Framework for Financial Reporting, OB2 and OB3).

Empirically, research on value relevance has found a fertile environment in the capital market and in publicly available financial statements. In fact, many models used to test for value relevance assume share price as a measure of investors' decisions (Francis and Schipper, 1999) and accounting values from annual reports as a proxy for financial information. According to the authors, value relevance of financial statements exists when there is a statistical correlation or association between prices or returns and specific financial information. The value relevance studies carried out in this research stream are based on the financial figures reported in annual reports, such as equity book value and net income. These values are then matched with stock prices to analyze the ability of financial reports to capture or summarize information that influences share prices. Almost all analyses developed in this direction have considered the market value or the share price of listed companies and their publicly available financial statements as the source of accounting figures. Although many studies seem to ignore this, it is important to reinforce that the financial statements taken as the source of data are prepared on a consolidated basis.

Two main reasons drive this approach. First, consolidated reports are the actual financial statements of the economic entity. Second, in most countries, particularly for non-listed companies, only consolidated financial statements are publicly available, therefore all research is carried out on consolidated data. In the European Union, listed companies' financial statements are addressed by Regulation 1606/2002 that mandates IFRS for consolidated reports and introduces a member state option to apply IFRS to other entities and to separate financial statements. In relation to this, few

countries have adopted IFRS for separate financial statements and, among the main European economies, only Italy has done it.

IFRS adoption for separate financial statements has been fiercely debated. In fact, in many countries, the tax laws are so closely linked to domestic generally accepted accounting principles (GAAP) that the adoption of IFRS for separate reports would been very burdensome for companies (Choi and Mueller, 1992; Delvaille et al., 2005; Lamb et al., 1998; Macías and Muiño, 2011; Nobes, 1998; Oliveras and Puig, 2005; Whittington, 2005).

There are also obstacles to the preparation of a separate financial statement according to IFRS, since they are primarily viewed as being for consolidated reports. In 2015, The European Financial Reporting Advisory Group (EFRAG) developed a project to consider how financial statements (other than consolidated financial statements) are used in Europe for economic decision-making and analyzing the technical financial reporting issues that arise when preparing such financial statements under IFRS. Respondents to the discussion paper have agreed that it would be useful if the IASB reviewed existing requirements, with a view to developing a specific set of general principles for separate financial statements.

The purpose of this paper is to investigate the value relevance of Italian financial reports prepared according to IFRS by considering both sets of publicly available accounts. The analysis firstly aims to measure the value relevance of both separate and consolidated financial statements when prepared according to the same GAAPs. Second, this study evaluates which set of accounts might be more useful in making investment choices. Thirdly, we investigate the relevance of accounting figures related to minority interests.

The contribution made by this paper is innovative because of the limited adoption of IFRS in separate reports: only a few studies address this issue. Moreover, no studies have dealt with the NCI portion of equity and net income reported in consolidated financial statements.

LITERATURE REVIEW

There are few studies that deal with the value relevance of separate financial statements in absolute terms or compare these with consolidated reports. The international literature related to separate reports neglects U.S. studies due to the lack of public availability of parent companies' reports, whilst more comparative analyses have been carried out in particular after the adoption of IAS/IFRS by European listed companies for their consolidated financial statements, and in some cases, also for separate statements.

Evidence discovered by scholars suggests that group reports are more value relevant than parent company

accounts, even though these results are weak or limited. Darrough and Harris (1991) developed a research project on Japanese firms and the effects of consolidation on financial statements. Even though the results show a small incremental value relevance concerning consolidated data, the specific institutional environment of Japan and the inter-firm ownership relationship make the findings not generally applicable.

Some scholars (Abad et al., 2000; Harris et al., 1994; Niskanen et al., 1998) claim the superior value relevance of consolidated financial statements, while others (Goncharov et al., 2009; Niskanen et al., 1998) affirm that parent companies' financial statements do not show incremental value relevance. According to several authors, the lower value relevance of single accounts is due to companies preparing and using their reports for a range of taxation or regulation purposes (Choi and Mueller, 1992; Delvaille et al., 2005; Lamb et al., 1998; Macías and Muiño, 2011; Nobes, 1998; Oliveras and Puig, 2005). This use of separate financial statements as the basis for tax computation has also been verified by some scholars (Nobes, 2004; Pfaff and Schröer, 1996) who have observed that it might vary between countries and time periods, and that it depends on the role given to financial statements by policymakers.

In contrast, a broad range of literature related to the value relevance of consolidated financial statements developed following the adoption of IFRS by European listed companies. Empirical research on value relevance has found a fertile environment for study after the mandatory adoption of IFRS by listed companies in the European Union. Since the first adoption of IFRS regarding the preparation of consolidated financial statements, in 2005, most studies have concentrated on the value relevance of group accounts prepared according to the new standards. Additionally, within this recent research stream, the results are not straightforward or unequivocal.

Two authors (Aubert and Grudnitski, 2011) carried out research on 13 European countries and 20 industries, examining the effects of the first adoption of IFRS. Their findings failed to prove that consolidated reports have had incremental value relevance after the adoption of IFRS. Other scholars (Daske et al., 2008) analyzed IFRS adoption in 26 countries worldwide and found modest, although statistically significant, capital market benefits related to the introduction of mandatory IFRS reporting. However, these benefits occurred only in countries with strict enforcement regimes and where firms were given inducements to encourage transparency. The importances of enforcement regimes and reporting incentives on the effects, subsequent to the mandatory adoption of IFRS, have also been highlighted by Barth et al. (2012), Byard et al. (2011) and Horton et al. (2013).

In addition to these cross-country studies, some analyses have been developed in relation to the individual country effects of IFRS adoption. Callao et al. (2007) carried out an analysis on IFRS adoption by

Spanish listed companies and did not identify any incremental value relevance for financial statements prepared according to the new standards when compared with the previously adopted local GAAPs. The UK stock market has been investigated by Horton et al. (2013); this analysis evidenced diminishing forecast errors for firms adopting mandatory IFRS. Christensen, Lee, & Walker (2007) also examined the mandatory adoption of IFRS for the UK and concluded that the resultant benefits do not affect firms in a unique way.

Gjerde et al. (2008) found mixed results for Norwegian listed companies, investigating the effects of changes in accounting figures from local GAAPs to IFRS. The value relevance of key accounting figures in IFRS financial statements is not superior to the corresponding figures presented in NGAAP reports when these are evaluated unconditionally and conservatively as two independent samples. On the contrary, IFRS are marginally more value-relevant than NGAAP only for some firms with a high degree of intangibles. In the Greek context, Iatridis and Rouvolis (2010) found evidence that the transition to IFRS provided more value-relevant accounting figures.

Beyond such studies about the value relevance of IFRS financial statements, there are only a few analyses directly referring to separate financial statements. Harris et al. (1994) produced a comparison of the value relevance of accounting measures between U.S. and German firms within similar industries and of comparable size, concluding that the explanatory power of accounting numbers increases at the level of consolidation: unconsolidated data evidence has lower value relevance when compared with the data for separate accounting.

Abad et al. (2000) compared, in terms of value relevance, the consolidated financial statements of Spanish listed companies with the parent companies' separate reports and concluded that group accounts were more value relevant than individual accounts. Goncharov et al. (2009) extended their analysis to different functions of sets of accounts prepared by holding companies in Germany and did not find that single accounts provided more useful information. On the contrary, they verified that the role of providing useful information is better fulfilled by group accounts.

METHODOLOGY

Ohlson model

The main objective of this paper is to investigate the value relevance of separate and consolidated financial statements of Italian listed companies. To provide a clear indication of financial statements and their value relevance, the paper defines value relevance, specifies the significance of consolidated financial statements, describes a widespread and well-known value relevance model, provides details on the data for the regression analysis and documents the empirical results.

Employing a definition of value relevance as the ability of financial statement information to capture or summarize information that affects share value (Hellström, 2006), studies of this issue have

tested it empirically, calculating the statistical association between market value and accounting figures. In a nutshell, value relevance research tries to measure to what extent accounting information might be useful to readers of financial statements when making investment decisions; consequently, an amount is defined as value-relevant if it is significantly associated with share prices (Barth et al., 2001).

Among some models developed to test for value relevance, the Ohlson model (OM) is one of the most successful research schemes from recent decades. Even though this model was initially conceived for a different purpose, it has been adapted to fit with value relevance analyses. According to the OM, the market value of the company is a linear function of the level of capital invested in the company, the abnormal results generated by the company and variables other than the financial information. The main advantage of the model is that it defines a solid conceptual framework, according to which the market value of the company is in a relationship with the past and the future financial information of the company. In accounting terms, the market value of a company is related to current and future expected net income, or to the book value of equity or to dividends. The original version of the model expresses firm value as a linear function of the book value of equity and the present value of expected future abnormal earnings. It assumes a strong hypothesis as to the existence of perfect capital markets, but with additional assumptions it can re-express the firm value as a linear function of equity book value, net income, dividends and other information (Feltham and Ohlson, 1995; Feltham and Ohlson, 1996).

We have utilized an Ohlson modified price model, in which two major items from financial accounts (balance sheet and income statement) are used to test the value relevance of consolidated financial statements. Moving on from the original assumption of the model, we have adopted an extension that allows us to explore the relationships between equity market value and two main financial accounting figures. The equation used in the OM identifies market capitalization as a proxy of the market value of a firm, whilst the equity book value and the net income are assumed as proxies for the financial information supplied by financial statements. To avoid a scale effect due to the presence of firms with significant differences in terms of financial numbers, we also considered variables on a per-share basis. Consequently, the OM used in our analysis assumes these forms:

$$MV_{it} = \alpha_1 BVE_{it} + \alpha_2 NI_{it} + \varepsilon_{it} \qquad (1)$$

or

$$P_{it} = \alpha_1 BVEPS_{it} + \alpha_2 NIPS_{it} + \varepsilon_{it} \qquad (2)$$

Where:

MV_{it} is the market value of firm i at time t (fiscal year-end) and is designed as the dependent variable in model (1);
P_{it} is the share-price of firm i at time t (fiscal year-end) and is designed as the dependent variable in model (2);
BVE_{it} is the book value of the equity of firm i at year t; this is the first independent variable in model (1);
NI_{it} is the reported net income of firm i at time t; this is the second independent variable in model (1);
$BVEPS_{it}$ is the book value of equity per share of firm i at year t; this is the first independent variable in model (2);
EPS_{it} is the reported accounting earnings of firm i at time t; this is the second independent variable in model (2);
ε_{it} is the residual value (error term) for company i in year t.

Using these two versions of OM, we applied and adapted them to consider the main features of the two sets of accounts we considered in our analyses: consolidated financial statements and parent companies' separate annual reports. Applying OM on consolidated or individual accounting numbers differs, above all, in relation to the independent variables assumed as the proxies of the equity and net income of the firm/group.

Independent variables

In many implemented regression models based on Ohlson theory, independent variables, or regressors, are accounting numbers such as equity book value and net income reported in various sets of accounts presented by firms. We have followed this approach, but we have also introduced some changes in order to adapt the price models to the specific features of consolidated and separate financial statements and to the specific components of group equity and net income.

By gathering data from consolidated financial statements, we were able to observe how different values compose the group equity and net income. For both the equity and net income reported in consolidated accounts, we can distinguish the part attributable to the parent company and that attributable to the non-controlling interests, if they exist. In fact, almost all studies on value relevance assume, as independent variables, consolidated numbers attributable only to the parent company, such as parent company shareholders' equity and net income/profit, and often these are considered on per-share base, to avoid scale effects.

In contrast, when defining independent variables, we have taken into account the real role of group accounts. Consolidated reports are the actual financial statements of an economic entity and it is evident within the modern economy that the most important firms have a group pattern created by a parent undertaking and its subsidiaries. Even though the parent company and its subsidiaries are legally and formally independent, they are still a single economic entity. Moreover, a subsidiary can be partially owned, resulting in the presence of non-controlling interests to be recognized on the balance sheet and in the income statement. Since non-controlling interests are relevant values within the group equity and net income, we have decided to consider this issue in our analysis. We have taken into consideration the assuming, as independent variables, of equity book value and net income attributable to non-controlling interests (NCI) other than those of the parent company. In other words, we have added – in our regression model – figures related to NCI.

Unfortunately, in operationalizing the accounting values related to NCI, we encountered some obstacles. Because of the assumption of values on per-share base, we would have to do the same for NCI, which would have required a large amount of information. In fact, the amount of NCI recognized in the income statement and in the balance sheet is made up of the sum of single NCI related to each subsidiary controlled directly or indirectly by the parent, after eliminations for intra-group transactions. Hence, we should have discomposed NCI into as many components as the number of subsidiaries and expressed these on a per-share base. Due to these issues, we have considered the variables representing NCI in their total amount, and consequently only in model (1). Therefore, in our models, we have considered the following independent variables.

The consolidated parent company book value of equity (CONS PARENT BVE) represents a measure of the group equity attributable to the parent, often referred to as "Parent company shareholder equity" or "Equity attributable to the shareholders of a parent company". The consolidated parent company net income (CONS PARENT NI) functions as an indicator of company profitability. These two variables are used in almost all studies based on price models and can also be expressed on a per-share basis.

The non-controlling interests book value of equity (NCI BVE) and

Table 1. Independent variables.

Variable	Description	Type of accounts
CONS PARENT BVE	Consolidated parent company book value of equity	Consolidated
CONS PARENT NI	Consolidated parent company net income	Consolidated
CONS PARENT BVEPS	Consolidated parent company book value of equity per share	Consolidated
CONS PARENT NIPS	Consolidated parent company net income per share	Consolidated
NCI BVE	Non-controlling interests book value of equity	Consolidated
NCI NI	Non-controlling interests net income	Consolidated
SEP PARENT BVE	Parent company book value of equity	Separate
SEP PARENT NI	Parent company net income	Separate
SEP PARENT BVEPS	Parent company book value of equity per share	Separate
SEP PARENT NIPS	Parent company net income per share	Separate

net income (NCI NI) are the share of group equity and net profit attributable to shareholders that do not control the subsidiaries. Whilst these four variables are collected directly from consolidated financial statements, in separate financial reports we have found equity (SEP PARENT BVE) and net income (SEP PARENT NI) from the parent company. In addition, these variables can be easily expressed on per-share basis. The following table summarizes the labels, descriptions and account type of all the independent variables used in our analysis (Table 1).

Dependent variables

In this study, we have assumed dependent variables or regressand values that are expressions of a firm's or a share market price. Many studies assume market capitalization or share price as dependent variables. To test for the relationship between share price or market value and particular accounting values, we looked for a dependent value that could reflect the effects of accounting information on investors' choices. Whereas share price or market capitalization are a good value to represent these, we have assumed as dependent variables the share price (P) and the market capitalization (MKT CAP) four months after the end of the fiscal period. In our sample, we collected the share price of firms reported up to April 31st. For many companies, the fiscal year end occurs on December 31st, so in our opinion four months is a fair period for observing the effects of accounting information on investors' choices. Moreover, to produce a deeper analysis, we collected, for each firm within the sample, the share price on 31st April for four years, from 2012 to 2015, and accounting numbers from the 2011 to 2014 financial statements.

Sample selection and data sources

By gathering quantitative data from annual reports prepared by Italian listed groups, we have developed a proprietary database composed of secondary data and consistent with the purpose of our survey. In preparing this, we have taken into account the annual reports from listed companies on the Italian Stock Exchange, since IAS/IFRS have been compulsory since 2005 for the preparation of consolidated financial statement, and since 2006 for the preparation of parent company statements. AIDA – a Bureau van Dijk database on Italian firms – has been used to collect data on 301 listed companies preparing separate and consolidated financial statements according to IAS/IFRS. Beginning from this initial sample, we have made several refinements in order to obtain a complete and homogeneous database with no missing data from the 2012 to 2015 financial statements. Initially, we excluded banks and assurance companies due to their specific industry and reporting activity, companies for which data was not available over the entire period because of delisting or unusual operations and companies with a fiscal year not beginning on January 1st. Thus, we have built a database from companies with available financial data over the period 2012 to 2015, with the share price available and market capitalization at the end of April for 2013 to 2016. As a result of these refinements, our database is strongly balanced and constitutes 144 companies presenting consolidated and financial statements with their fiscal year beginning on January 1st, incorporating 576 total observations.

Hypotheses development

Our empirical analysis is based on regression models used to test different hypotheses related to the value relevance of financial reports. To test these hypotheses, we ran ordinary least square (OLS) regressions using STATA 13.

H_1: Information supplied by consolidated financial statements is value relevant.

Naturally, for this development, we considered the empirical results of previous research that supports the thesis of consolidated financial statement relevance (Harris et al., 1994; Niskanen et al., 1998; Abad et al., 2000; Goncharov et al., 2009) and took into account the role of consolidated financial statements. Since group accounts are the actual accounts of an entity structured on a group pattern, we expected that consolidated financial statements would better provide useful financial information. Moving on from the basic models presented earlier, we applied these to consolidated data:

$$MV_{it} = \alpha_1 \, CONS \, PARENT \, BVE_{it} + \alpha_2 \, CONS \, PARENT \, NI_{it} + \varepsilon_{it}$$

$$P_{it} = \alpha_1 \, CONS \, PARENT \, BVEPS_{it} + \alpha_2 \, CONS \, PARENT \, NIPS_{it} + \varepsilon_{it}$$

H_2: Information supplied by separate financial statements

Table 2. Descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
MKT CAP April n+1	576	1.67E±09	5.95E±09	1105477	6.80E±10
CONS PARENT BVE	576	1.14E±09	5.09E±09	-1.22E±08	6.03E±10
NCI BVE	576	1.17E±08	4.73E±08	-2.04E±07	3.72E±09
SEP PARENT BVE	576	9.45E±08	3.77E±09	-1.13E±08	4.11E±10
CONS PARENT NI	576	4.25E±07	5.68E±08	-8.78E±09	7.79E±09
NCI NI	576	3864083	7.69E±07	-6.30E±08	8.85E±08
SEP PARENT NI	576	5.63E±07	4.89E±08	-1.82E±09	9.08E±09
SHARE PRICE April n+1	576	7.195156	13.06015	0.0238	124.3
CONS PARENT BVEPS	576	4.226481	6.725934	-4.658106	47.89225
SEP PARENT BVEPS	576	3.673566	5.440687	-4.711268	41.66931
CONS PARENT NIPS	576	0.161981	0.987288	-8.096901	6.067451
SEP PARENT NIPS	576	0.120028	0.775716	-9.475699	3.946815

Table 3. Correlations among variables.

-	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	1	-	-	-	-	-	-	-	-	-	-	-
(2)	0.9337	1	-	-	-	-	-	-	-	-	-	-
(3)	0.5614	0.6607	1	-	-	-	-	-	-	-	-	-
(4)	0.9246	0.9882	0.709	1	-	-	-	-	-	-	-	-
(5)	0.8261	0.6635	0.2736	0.6773	1	-	-	-	-	-	-	-
(6)	0.0464	0.1362	0.4323	0.2212	-0.1377	1	-	-	-	-	-	-
(7)	0.9043	0.8955	0.4002	0.8523	0.7902	-0.245	1	-	-	-	-	-
(8)	0.2047	0.0881	0.0381	0.0814	0.238	-0.008	0.1331	1	-	-	-	-
(9)	0.1731	0.1743	0.2884	0.1652	0.1551	-0.023	0.1716	0.664	1	-	-	-
(10)	0.1432	0.145	0.2185	0.1559	0.1717	0.018	0.1497	0.6409	0.955	1	-	-
(11)	0.126	0.0468	-0.089	0.0576	0.2788	0.0651	0.1024	0.7657	0.4301	0.4767	1	-
(12)	0.2673	0.1993	0.0966	0.1985	0.3585	-5.00E-04	0.2622	0.7493	0.5502	0.5553	0.8976	1

(1) MKT CAP April n+1, (2) CONS PARENT BVE, (3) NCI BVE, (4) SEP PARENT BVE, (5) CONS PARENT NI, (6) NCI NI, (7) SEP PARENT NI, (8) SHARE PRICE April n+1, (9) CONS PARENT BVEPS, (10) SEP PARENT BVEPS, (11) CONS PARENT NIPS, (12) SEP PARENT NIPS.

is value relevant.

We tested this hypothesis by applying the same models on data collected from separate financial statements.

$$MV_{it} = \alpha_1 \; SEP \; PARENT \; BVE_{it} + \; \alpha_2 \; SEP \; PARENT \; NI_{it} + \varepsilon_{it}$$

$$P_{it} = \alpha_1 \; SEP \; PARENT \; BVEPS_{it} + \; \alpha_2 \; SEP \; PARENT \; NIPS_{it} + \varepsilon_{it}$$

H_3: *Value relevance of consolidated financial statements is higher than separate financial reports.*

By comparing the empirical results relating to H_1 and H_2, we were able to evaluate the different value relevance of group and parent company accounts.

H_4: *Accounting amounts related to NCI equity and net income are value relevant.*

We tested this hypothesis by adding NCI-related variables to basic model (1) and by running regression on the consolidated data of groups with minority shareholders.

REGRESSION ANALYSIS AND DISCUSSION OF FINDINGS

Tables 2 and 3 show some preliminary data about descriptive statistics and correlations. In relation to the existing associations between the variables employed in the econometric model, we observe that there are strong correlations between the independent variables (market capitalization and share price) and the explanatory variables. The correlation is slightly higher when the explanatory variables are reported from consolidated financial statements, which suggests that consolidated

Table 4. Regression analysis.

Variable	(a) Model 1 on cons data MKT CAP	(b) Model 2 on cons data Share price	(c) Model 1 on sep data MKT CAP	(d) Model 2 on sep data Share price
CONS PARENT BVE	1.048***(0.0177)			
CONS PARENT NI	1.273***(0.159)			
CONS PARENT BVEPS		0.945***(0.0566)		
CONS PARENT NIPS		5.740***(0.386)		
SEP PARENT BVE			1.094***(0.0343)	
SEP PARENT NI			3.627***(0.265)	
SEP PARENT BVEPS				1.086***(0.0793)
SEP PARENT NIPS				6.283***(0.556)
Constant	4.243e±08***(8.964e±07)	2.272***(0.422)	4.352e±08***(8.883e±07)	2.453***(0.475)
Observations	576	576	576	576
R-squared	0.8758	0.5719	0.8808	0.4863
Adj. R-squared	0.8753	0.5704	0.8804	0.4865
Prob > F	0.0000	0.0000	0.0000	0.0000
Mean VIF	1.07	1.14	2.28	1.22

Standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 5. Regression analysis.

Variables	(e) Model 1 on cons data groups with NCI MKT CAP	(f) Model 1 on cons data groups with NCI MKT CAP
CONS PARENT BVE	1.101*** (0.0258)	1.049*** (0.0198)
NCI BVE	-0.874*** (0.287)	1.245*** (0.177)
CONS PARENT NI	1.608*** (0.190)	-
NCI NI	-5.870***(1.467)	-
Constant	6.058e±08***(1.108e+08)	5.332e±08*** (1.140e±08)
Observations	441	441
R-squared	0.8909	0.8805
Adj. R-squared	0.8899	0.8800
Prob > F	0.0000	0.0000
Mean VIF	1.72	1.06

Standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

numbers have a higher explanatory power than those of the parent company.

The analysis of correlations also evidences a strong association between the dependent variables used in the model, possibly indicating multicollinearity between variables. This issue is common to empirical studies concerning value relevance (Abad et al., 2000; Collins et al., 1997). However, the variance inflation factor (VIF) of regressors is close to 1 and below the rule of thumb 4, making further investigation necessary. When it exceeds 10, this is a sign of serious multicollinearity requiring correction. Table 4 summarizes the results of regressions of model 1 and 2 run on consolidated and separate data

in order to test hypotheses 1 and 2. Table 5 summarizes the results of regressions of model 1 on companies with and without non-controlling interest.

The results from the regressions run on consolidated separate and parent company data clearly verify H_1 and H_2. In the regressions with consolidated numbers only (regressions a and b) all the coefficients are statistically significant at the 1% level (p-value < 0.01) and the R^2 is 0.8758 for regression on market capitalization and 0.5719 for regression on share price. The p-value for the F-test for overall significance confirms that the model offers a good fit. These conclusions are also valid for regressions run on separate data, where R^2 is 0.8808 for regression

on market capitalization and 0.4863 for regression on share price. The statistical significance of the variables coefficients, the amount of variance explained (R^2) and the general suitability of the models tested (F-test) suggest to us that both consolidated and separate financial statements prepared according to IAS/IFRS are value relevant and verify H_0 and H_1. As predicted, the coefficients of equity and net income are strongly significant and positively associated with firm market value. Net income always has a higher coefficient than equity and this suggests that investors rely more on a company's profit than its capital.

These findings also evidence differences in value relevance beetween consolidated and separate financial statements, confirming H_3. While there are no significant differences in value relevance when regressions are developed on market capitalization (difference in R^2 is 0.005), analysis carried out by measuring the degree of association between share price and equity and net income per share demonstrates that consolidated financial statements ($R^2 = 0.5719$) are more value relevant than separate statements ($R^2 = 0.4863$).

Interesting findings have been achieved by means of regressions on consolidated data that consider the existence of non-controlling interests and their portion equity and net income reported in consolidated accounts. Regression analysis evidences the statistical significance of variables (p-value < 0.01) and the appropriateness of all the models tested. This also introduces some novelties concerning accounting numbers that can be associated with investors' choices. We ran a regression (e) on the consolidated data of groups with NCI, assuming as independent variables the share of equity and net income owned by minority shareholders in addition to the consolidated equity and net income of the parent. In a second regression (f), we removed the variables related to NCI in order to verify the effect of this omission on testing for value relevance.

The study findings suggest that NCI equity (coeff. = -0.874) and net income (coeff. = -5.870) are statistically significant at 0.01 level (p-value < 0.01) and are negatively associated with the regressand. The addition of these variables increases the explanatory power of the basic model (1). In fact, model (1) applied to parent company values evidences only $R^2 = 0.8805$, while the same model with two additional variables shows $R^2 = 0.8909$). This suggests that H_4 has been verified. We can also claim that NCI equity and net income are negatively associated with share prices and market capitalization because they are considered by investors as claims on their ownership interests.

Conclusions

In this study, we investigated the value relevance of financial statements prepared by a cluster of Italian listed companies. Using econometric models, we tested how the financial information reported in annual reports is useful for investors in making decisions. Since Italian listed companies prepare both consolidated and separate financial statements according to IAS/IFRS, we tested the value relevance of these two sets of accounts in order to evaluate whether the parent company annual report could provide useful information to investors. As expected, consolidated and individual financial statements resulted in value relevance and our findings have demonstrated a certain superiority of group accounts when compared with parent company reports. These findings are consistent with previous literature about value relevance and introduce new evidence that parent company accounts are value relevant, in addition to as group accounts.

While most previous studies have dealt with parent company group and net income only, we decided to also investigate the NCI share of capital and profit as reported in the consolidated financial statements. As long as these values are measures of group capitalization and profitability for minority shareholders, how they affect value relevance of consolidated financial statements according to parent company perspective. As expected, our findings suggest that NCI equity and net income are statistically relevant and negatively associated with assessing firm market value. This conclusion is coherent with the role of NCI within a group, since they are constraints for the parent company.

Although these results confirm our expectations in terms of value relevance and the significance of NCI, it is vital to address the potential limitations and future developments of the study. We have based our analysis on Italian listed companies, for the aforementioned reasons, and the sample could be extended in order to increase its representativeness. For example, other European countries that have made IAS/IFRS mandatory for parent companies' accounts could be included in the sample. Moreover, our study has been conducted from a controlling shareholding perspective, since most studies on value relevance deal only with the investors point of view. However, there are other potential perspectives to be analyzed; for example, creditors, financial institutions and minority shareholders might be studied. Finally, future studies could adopt nonlinear regression models or logarithmic or returns models.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Effect of e-tax filing on tax compliance: A case of clients in Harare, Zimbabwe

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There is underutilisation of electronic tax filing systems in tax agencies despite presence of electronic tax administration systems. The objective of this study was to find how this has influenced tax compliance. Data collection was mainly through a questionnaire. Analysis of data was done through SPSS Version 20 and Excel. The study concluded that electronic filing system actually influences tax compliance. The study also established that there was a positive attitude by clients towards electronic filing. Electronic filing has also significantly increased the ease of doing business. Correlation analysis revealed a positive correlation (0.533) between assessing tax obligations accurately and the ease of doing business. The study was mainly directed at large clients and to one component of compliance which is filing, with less focus on other components of compliance, hence, the study recommends more research on the impact of e-filing on payment and e-filing on tax evasion and avoidance.

Key words: Electronic filing, e-filing, taxation, tax compliance, Zimbabwe Revenue Authority (ZIMRA), Zimbabwe.

INTRODUCTION

The performance of an economy is predicated on revenue collection (Malima, 2013). Governments need finances to support administrative, infrastructure and service provision (Komanya, 2013). Dowe contends that increased use of technology has arguably improved tax payer services, compliance and administration.

The Zimbabwe Revenue Authority (ZIMRA) is a quasi-government institution whose mandate is to collect revenue on behalf of the government. The authority accounts for eighty percent of the total revenue collected by the state. ZIMRA was formed in 2004 after the amalgamation of the Department of Taxes and

Department of Customs. During that era, they were using ledger cards and in 2006 they migrated to the use of SAP system which was further upgraded in 2013, with the SAP system clients manually submitting their tax returns. In a bid to further improve the collection of taxes and compliance at ZIMRA, the e-services tool was then introduced.

On 28 June, 2015 Zimbabwe Revenue Authority (ZIMRA) launched an e-services solution which was developed in conjunction with Microsoft and SAP. The e-service platform gives ZIMRA an opportunity to interact with its clients and at the same time allowing them to do

business with the Authority in the comfort of their homes or offices. It is an important step towards the creation of a virtual tax office.

The impact of e-services system has not been determined. It is of great importance to understand the adoption of electronic filing by taxpayers given the investment in infrastructure and its potential for reducing costs. Developing countries are facing challenges of low tax compliance and tax collection. This study seeks to establish the influence of e-services or filing on voluntary compliance by the usually unwilling taxpayers.

LITERATURE REVIEW

'Ability to Pay' Theory

The theory states that taxes need to be paid according to a taxpayer's ability to pay (Muturi and Kiarie, 2015). It highlights that individuals who earn more money can afford to pay more in taxes (Muturi and Kiarie, 2015). The theory also advances the following views on factors that determine bases for taxation:

Ownership of Property: The ability to pay can be evidenced by ownership of property. Thus it suggests that those who buy property should be taxed more, which is a nullity because ownership of property is a choice.

Using expenditure as a basis for tax: Fochmann and Kroll (2016) believe that the quantum of expenditure should determine tax. This seems absurd given that expenditure depends on factors like size of family.

Use of income as basis for tax: A widely held view is that income is the best determinant of tax.

Benefit Theory

This was developed by Wicksell (1896). It upholds that the state ought to tax its people according to the benefits it confers on them. It implies that taxes should be paid by those people who obtain direct benefit of government programs and projects derived from taxes paid. However this theory faces major criticisms as explained below. Mogeni (2012) argues that the vulnerable get more benefits like free education and food among others. While they get the largest benefits, they are the least in capacity to pay taxes (Wasao, 2014).

The Stakeholder Theory

It is pinned on the idea that organizations that manage their relationships with stakeholders effectively will last longer and perform better than organizations that do not

(Freeman, 2008). In this view, tax authority is one of the stakeholders of taxpayers and the relationships with the Tax authorities need to be maintained by being tax compliant. The implication of this theory is that organizations in their bid to have a good corporate governance they will be tax compliant.

Electronic Filing and Tax Compliance

Tax compliance means abiding by taxpaying expectations and tax law (James and Alley, 2004). Non-compliance is the payment of less tax than due or outright failure to pay (Muturi and Kiarie, 2015). The major causes of this difference are contributed hugely by overstating of expenses and deductions, and understating income. Robben et al. (1990) and Webley (2004) argue that non-tax compliance encompasses premeditated tax evasion and unintentional non-compliance, these resulting from calculation errors and poor appreciation of tax laws.

On the other hand, OECD (2008) divides compliance into administrative and technical categories. Administrative compliance refers to following tax reporting procedures and regulatory frameworks while technical compliance refers to following the technical dictates on payment of taxes.

However, Dome (2013) identifies four key tax compliance dimensions which are:

a) Registering a taxpayer when criteria are met,
b) Submission of tax returns on or before due date,
c) Payment of tax due on or before due date and
d) Reporting tax liability accurately e.g. declaring correct income, expenditure and tax relief.

Dome (2013) further adds the dimension of a taxpayer having to register with the tax authorities when required to do so. He also highlights that one pillar of tax compliance is registration as a taxpayer when one meets criteria set by the Revenue Authority. He also states the major areas of non-compliance being the avoidance of registration and filing taxes wrongly.

We therefore note that the dream of all governments is getting all its citizens to pay their taxes painlessly without complaints. The task has however, never been simple, until the introduction of the modern information technology which has simplified this task. The advancement of tax compliance has pointed at improvements in administration fiscal of systems (Teltscher, 2002). Tax compliance is mainly achieved when majority of taxpayers voluntarily file their tax returns and pay resultant tax liabilities as stipulated in the tax laws, without the intervention of the tax authorities through enforcement. However, if the voluntary compliance is low, then enforcement measures like audit and collection are resorted to. In a bid to embrace the

Table 1. Population and sample.

Population category	Population	Sample
Employees (ZIMRA Region 1 Employees)	102	80
Management	5	4
Large corporate clients (LCO)	642	340
Medium clients	3,186	234
Total	**4,446**	**658**

developments in the ICT world, tax authorities have introduced various online systems that have led to the introduction of online electronic submission of returns, online payments and online viewing of returns.

Paper returns are tedious to file on the part of the taxpayer and in the same magnitude to reconcile on the part of revenue authorities (Muita, 2011), hence the use of electronic filing, which is intended at safeguarding accuracy and well-timed reconciliation of the data enclosed, since ZIMRA's SAP systems does automatic reconciliation and validation of the returns.

Benefits of e-filing

E-filing minimises the cost of preparation and submission of tax returns in an environment which is paperless (Azmi and Kamarulzaman, 2010).

RESEARCH METHODS

A descriptive research design is adopted in this study. A descriptive research survey design is defined by Saunders et al. (2009) as one which accurately focuses on phenomena and describes what the researcher visualises. Questionnaires were used in data gathering. Primary data was also collected from face to face interviews.

The population of the study consisted of ZIMRA employees and management, large corporate clients, and medium clients as shown in the Table 1.

The stratified random sampling technique was used in the selection of respondents. The researchers divided the population into strata, which contributed to a sample of 658 proportionally. Sample elements were then drawn from strata (Saunders et al., 2009). The sample size from the given sample size was justified by making use of the model developed by Krejcie and Morgan (1970).

Internal consistency of items in the questionnaire ranged between 0.6 and 0.71 for all constructs. The range is supported as being consistent by Gay et al. (2006).

RESULTS AND DISCUSSION

Availability of internet connectivity

The study established that 67% of the businesses had internet connectivity and only 33% did not have. The findings above are comparable with empirical findings by Wasao (2014) who did a study on the impact of e-tax services among small tax payers in Eastern Nairobi. Reliable internet availability was found to be a prerequisite of e-tax filing.

Automation of processes

Almost half of the respondents have automated their businesses (53%). This is in line with Muita (2011) who noted that manual process are tedious and specifically preparing paper returns can be time consuming and prone to errors. Automation on business processes enhances the reconciliation process and also safeguards accuracy of data. The 47% who responded 'No' to the automation of business processes were asked to explain the reason they failed to automate their business processes. The major reasons were that it was expensive to automate, there was no need due to size of the business and there was lack of knowhow.

ZIMRA Online users

77% of the respondents are registered with ZIMRA, thus e-filing can be adopted easily if all other factors are held constant. Registered companies can transact electronically without having to physically visit the authority. Registering with ZIMRA online also means that the company is able to submit through the internet as alluded to by Wasao (2014) who echoes that e-filling process is where tax returns are submitted through internet, without submission of a paper return. Those who were not registered stated that they were never trained in e-services thus had no push to register. This is in agreement with findings by Azmi and Kamarulzaman (2010) who highlighted that public perception can affect the adoption of electronic filing system. If users perceive the use of the internet or e-services as a challenge then they will avoid using it. These findings concur with findings from a research done by Ling and Nawawi (2010) in Malaysia from a survey on the integration of tax software education and ICT skills. They found that there are three skills required by taxpayers to fully utilize tax online systems. These are email, word processing and spreadsheets. For benefits of e-filing to be realized, the necessary user skills like computer literacy as well as a

positive attitude towards technology are prerequisites.

One of the challenges unearthed by the study was that the ZIMRA server was always down as well as the costs associated with the online system. Such findings are in agreement with those of Sweeney et al. (1999). They established that challenges of online systems are the ability of the authority to ensure that the system is always up and running smoothly. E-filing systems should not falter during peak periods when there is too much e-traffic.

Advantages of e-filing system

Respondents were largely in agreement that the electronic filing system promotes ease of doing business. These findings are in agreement with Wasao (2014) who argues that a positive step towards ensuring the success of e-filing is ensuring that the tax payers view the system as bringing benefit to them. This was further supported by Chebusit (2014) who also stated that the taxpayer's attitude and perceptions play a significant part in their compliance decisions. Respondents also pointed out the advantage of convenience. 100% of the respondents pointed out reduced trips, queues and parking problems as the major advantage that e-filing brings to them. The other advantage was the ability to transact 24 h a day. E-filing allows clients to submit their returns even after hours. All the advantages listed above come back to the issue of improving efficiency as well as being convenient. These findings are in line with Muturi and Kiarie (2015) who also came up with similar advantages. According to Muturi and Kiarie (2015), e-filing improves on convenience to the clients as well, as it ensures accuracy and timely reconciliations of data captured. Prior research by Fu et al. (2006) also confirm that e-filing improves efficiency, reducing errors and avoiding mispostings.

Major weaknesses of e-filing

The *non-availability of internet* was the major challenge of e-filing. For e-filing to be a success, there should be internet connectivity and without it, e-filing does not succeed. In Zimbabwe, internet access is still a challenge to some tax payers. *Knowledge gap* was identified as another major weakness as respondents agreed that it impacts significantly on success of e-filing. *Power cut* was one weakness of e-filing as well as *resistance to change*.

Measures to overcome the weaknesses

Respondents came up with the following measures to mitigate against failure of companies to embrace e-filing: training through workshops, increase in network coverage, change management and the use of cloud computing.

Correlation analysis

Table 2 shows that there is a positive correlation (0.553) between assessing tax obligations accurately and promotion of ease of doing business. The assumption being made here is that when someone views e-filing as promoting accurate assessment of tax, then that individual complies.

Conclusion

The significant conclusion drawn from this study is that e-filing actually influences compliance as evidenced by the following conclusions to the research questions:

1) The first major finding from this research is that the respondents had a very positive attitude towards e-filing. This is indicated by the respondents' knowledge of the benefits that e-filing brings to them. However, this positive attitude is diluted by a number of factors that makes e-filing difficult or not easy to use.
2) The second major finding from this research is that e-filing is a positive step towards tax compliance. The findings indicate that e-filing on its own does not lead to tax compliance; however, it is a positive step towards tax compliance and is only one of the three components of compliance. E-filing improves tax submission, but however, it does not ensure payment compliance.
3) The third major finding is that e-filing has improved the ease of doing business with ZIMRA. The findings indicate clients can now easily submit their returns and view their accounts in the comfort of their offices.

RECOMMENDATIONS

1) ZIMRA should organize training workshops for its taxpayers so that adoption rate of e-tax filing increases. Training workshops should be done across the country.
2) The government should improve the infrastructure that supports internet coverage across the country for electronic filing to be a success. It is Government that should ensure Internet connectivity for all. This is because taxpayers are found all over; even those in the rural areas can pay tax thus internet access should be guaranteed.
3) System availability should be ensured by ZIMRA who should have its servers upgraded to be able to absorb pressure on e-traffic. This is because the current servers are encountering pressure during the due dates which are the peak periods for return submission.
4) ZIMRA should benchmark their electronic filingservices with those of countries like South Africa, Kenya

Table 2. Correlations.

Spearman's Rho	Correlation	Ease of doing business	Speed and convenience	Assessment Accuracy	Cost Reduction
Ease of doing business	Correlation Coefficient	1			
Speed and Convenience	Correlation Coefficient	0.553**	1		
Assessment Accuracy	Correlation Coefficient	0.580**	0.626**	1	
Cost Reduction	Correlation Coefficient	0.512**	0.422*	0.401*	1

and Uganda who have implemented this service before. This has potential to help to identify the areas that will need improvement.

5) ZIMRA should train users of e-tax filing periodically.

6) ZIMRA should have an online help facility that will ensure that clients who face problems are helped.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Gender balance on boards and corporate sustainability for the 2030 Agenda

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The top management characteristics can have an impact on corporate strategic goals and actions. The board diversity, with particular reference to gender issue, can influence Corporate Social Responsibility (CSR) and company's strategies toward a business model more oriented to sustainability. According to this this theoretical framework, two issues about women on boards and CSR are presented in this study: the situation of women in top positions in the light of the 2030 Agenda, considering this issue as a specific target of the Agenda, but also the direct and indirect effects that a more gender balance in corporate governance bodies could have for the achievement of the other Agenda's goals; the current situation in Europe to see if and how Europe is marking out the path for a more gender equality into the business. The methodology refers to a descriptive analysis of quantitative data based on secondary data sources together with a qualitative content analysis with a directed approach. In the face of its limits, this study contributes to the literature, nurturing the ongoing discussion about women on board and CSR, shifting the attention on the corporate culture of sustainability and the role women on board can have in a global vision tending to a more sustainable world. The main practical implications refer to the importance of gender diversity in the selection of board members, mainly in those countries where no binding rules exist, and the commitment by companies for the creation of a more inclusive working environment to increase retention and to help women to recognize their full potential, according with a gender mainstreaming (GM) approach. Finally, this study fillips future lines of research in the fields of diversity within boards, including also age and nationality dimensions.

Key words: Women on boards, gender balance, corporate social responsibility, 2030 Agenda, sustainability.

INTRODUCTION

Corporate governance sustainability means the overlook on the future (as well as the present) by company, with the aim to use all company's resources for the value creation in the long-run. In other words, sustainability is a long-term corporate vision that refers to a concept of global responsibility including economic, social and environmental aspects (Aras and Crowter, 2008; Carroll, 1999; Dahlsrud, 2008; Van Marrewijk and Were, 2003). This approach safeguards the interests of all stakeholders (Salvioni and Gennari, 2017), according to

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the concept of Corporate Social Responsibility (CSR) (Carroll, 1979; Elkington, 1997; European Commission, 2001; Moir, 2001), and favours the corporate success in a globalized world and the social welfare too (Andrews, 1980; Ansoff, 1983; Camillus and Datta, 1991; Freeman and Dmytriyev, 2017).

The involvement of the board of directors in the enhancement of CSR has more and more emphasis. The board is responsible for the definition of corporate goals and their achievement, driving managers to set overriding goals and to diffuse them within the organization (OECD, 2015); in other words, companies need leadership commitment to become sustainable (Eccles et al., 2012; Salvioni et al., 2016; Winston and Patterson, 2006). The capacity of the board to identify the key performance success factors, which, according to the CSR approach, correspond with the expectations and satisfaction of wide stakeholders' groups, is a requisite for seizing opportunities and managing risk obtaining a competitive advantage in a globalized world.

International guidelines also emphasize the role of the board for the achievement of sustainable goals. The European Parliament adopted in 2013 a resolution where the importance of the commitment by the board on CSR is stressed (2012/2098(INI)). In this way, the board structure favours the creation of a culture of sustainability when social issues and sustainability are the guiding principles intrinsic to every board's goal and decision-making process.

The UN Global Compact published in 2010 a document called 'UN Global Compact Management Model' which emphasizes the leadership commitment to mainstream the Global Compact principles into strategies and operations, making them part of the corporate culture. Again, another document by UN Global Compact (Guide to Corporate Sustainability, 2015) remarks the role of company's leadership in changing the business toward a more sustainable way of corporate development. This means the board uniquely can set a company's long-term goals and lay out strategies that allow for sustainable business. Getting boards tuned into sustainability is not just good business sense, but also increasing their fiduciary duty linked to risk management, growth opportunities and stakeholder interests. Board gender diversity is based on both ethical and economical arguments (Campbell and Mínguez-Vera, 2008). The latter are the object of this study.

The gender diversity in corporate boards and the connected impact on corporate sustainability objectives and strategies are matters studied by many scholars (Hyun et al., 2016). Someone suggests that women have a more relevant inclination than men have towards ethics and social themes, affecting corporate strategies (Burton and Hegarty, 1999; Byron and Post, 2016; Cook and Glass, 2017; Marz and Powers, 2003; Panwar et al., 2010; Smith et al., 2006).

At the same time, the presence of boards made up by men and women marks a corporate sensibility for women potentiality, giving a signal of equal opportunity promotion at social level (Bernardi and Threadgill, 2010; Ramirez, 2003).

Part of the literature focused on the relationship between gender diversity and financial corporate performance finding a positive link (Carter et al., 2003; Erhardt and Werbel, 2003; Webb, 2004) or weak/ no effects (Adams and Ferreira, 2009; Post et al., 2011; Pletzer et al., 2015; Shrader et al., 1997; Smith et al., 2006).

Anyway, the gender balance on boards is considered one of the way to make the world more sustainable, as in the will of the international organizations. The empowerment of women and their full participation in economic life is essential to build strong economies (Agarwal and Malhotra, 2016), to establish more stable and just societies, to improve the quality of life also for men, families and communities, and to propel business objectives (Un Global Compact, 2015).

With its Strategy for Equality between Women and Men, the European Commission put the issue of women on boards high on the political agenda already in 2010. In 2011 it called for credible self-regulation by companies to ensure better gender balance in companies' supervisory boards. One year later it became clear that progress was not visible, which is why in November 2012 the Commission started putting forward a legislative proposal aiming to accelerate the progress towards a more balanced representation of women and men on boards of listed companies.

The 2030 Agenda for Sustainable Development by United Nations (2015) can be viewed as an historic decision for a comprehensive, far-reaching and people-centred set of universal and transformative goals and targets to be implemented within 2030, where the role of women in corporate governance is clearly emphasized. There is a consensus that a more equitable world could be a more sustainable world. In this context, the gender inequality is a concrete obstacle for the development of sustainable future paths.

In recent decades, scholars, international corporate governance principles, regulators and securities have focused on the relationship between board structure and sound governance, emphasizing the importance of developing relations with wide categories of stakeholders as a condition for the planning of sustainable strategies by companies (Eccles et al., 2014; Carroll et al., 2016; Freeman and Dmytriyev, 2017). The gender balance in corporate governance bodies seems to favour the corporate approach for CSR and sustainability as confirmed by the literature review (Daniel et al., 2013; Kahreh et al., 2014; Harjoto et al., 2015; Gupta et al., 2015; Dawar and Singh, 2016; Ciavarella, 2017) and, at the same time, it is the visible commitment of a will to make the managerial business more sustainable, that is a person-friendly business model respectful of diversities.

In other words, a balanced gender board is the first step to adopt the gender mainstreaming (GM) approach by company. GM is a managerial tool focused on the satisfaction of both men and women corporate stakeholders' interests in the long-term by means of devoted objectives and strategies within the organization (European Commission, 2015; Padovani, 2016 and Brenner, 2009). GM is not a mere compliance to self-discipline rules or external law but it is an effectiveness policy of CSR with the aim to strengthen the corporate value in the long run. This emphasizes the importance of gender diversity on boards for better corporate performance in terms of competitive and financial effects for company but also for the whole economic system (Kozma, 2012). This view goes beyond both the philanthropic and the utilitarian interpretation of CSR (Holme and Watts, 2000; Kotler and Lee 2005) to an integrated approaches closely linked to the company core business (European Commission, 2011; Salvioni and Gennari 2014; Mosca and Civera, 2017).

The aim of this work, although its limits, is to give a wide perspective about the gender balance on board, considering not so much the impact gender diversity can have on firm performance, that is a matter studied by many scholars, but the importance this matter has for the achievement of the Sustainable Development Goals (SDGs) of 2030 Agenda. Gender diversity does not necessarily imply inequality; it happens when this diversity is a source of advantages for someone and disadvantages for someone else. Women do not participate in the global economy to the same extent as men do (Nolan et al., 2016) and that's for sure. The McKinsey Global Institute (2015) estimates that a scenario in which women achieved complete gender parity with men could increase global output by more than one-quarter relative to a business-as-usual scenario.

This article aims at giving a perspective about gender diversity focused on the corporate culture, this latter defined as ways of thinking, values and beliefs that influence persons' behaviors (Kluckhohn and Strodtbeck, 1973). The change in business culture starts at the leaders' level and the leadership commitment allows company to become sustainable (Eccles et al., 2012). Gender balance on boards could be a factor of long-term success when it is considered by companies a way to be more sustainable, with benefits for communities and for companies themselves in a globalized and more and more competitive world.

The concept of sustainability in business refers to the creation of shared value (Porter and Kramer, 2011), which involves creating economic value in a way that also creates value for society by addressing its needs and challenges. Boards of directors should develop strategies and policies inspired by this concept, shifting from short-term profits goals to investments in future and sustainable growth in the interests of all stakeholders, shareholders included (Goedhart et al., 2015; Salvioni

and Gennari, 2017). So, the boards have the responsibility to believe in the opportunities connected with a corporate sustainable development and to change their business model according with this vision. The presence of women on boards can be a crucial factor encouraging the development of sustainability goals oriented to the creation of long-term shared value.

On these premises, the article is structured as follow. First, the literature review about the women on boards depicts the theoretical framework with reference to the gender balance in top positions and corporate sustainability. Women on boards are not only a specific goal part of the Agenda, but it is also a way to achieve the other Agenda's objectives. The next section is about the methodology and research. In particular, the research questions leading the analysis are the following. For each research question motivation, approach, methodology of research are given.

RQ1 What is the current situation about gender diversity on boards in Europe, considering also age and nationality diversity?
RQ2 Why do women not succeed in top positions?
RQ3 How is Europe marking out the path for a more gender equality into the business?

Finally, basing on the results obtained we answered the research questions and made some conclusions, implications and future lines of research.

LITERATURE REVIEW

Many scholars directed their studies to the impact of gender differences in corporate governance bodies because corporate directors make decisions that affect local communities, national and international economies (e.g. choices about workforce and human resources, internationalization and delocalization strategies, listing on financial markets).

The composition of governing bodies determines the way the business is managed and the effectiveness of a sound corporate governance for the value creation in the future. In fact, according to the agency theory (Fama, 1980; Jensen and Meckling, 1976), the board gets the mandate to govern by the ownership being responsible for the definition of company objectives and its structure in order to guarantee corporate performance in the long-run.

The most popular approach in the study of the board effectiveness has been to relate board composition to various measures of firm performance (Rao and Tilt, 2016). The attention for CSR issues has encouraged the studies about the relations between board structure and the corporate orientation towards social responsibility and sustainability (Driscoll, 2001; Zhang et al., 2013).

Then, the board composition is an issue related not only with corporate performance, but also with the possibility to make the world more sustainable, taking

part in the program of the 2030 Agenda. According to Ramirez (2003), one of the means of supporting gender diversity in society as a whole is by starting with promoting gender equity in corporate boards of directors (Bernardi, 2010).

Within the literature on board composition, the link between women on boards and corporate performance is debated and it is part of the literature about the importance of board diversity for company's performance. Diversity in general is defined as the heterogeneity among board members, and it has an infinite number of dimensions (Van Knippenberg et al., 2004). Diversity in working teams has been studied in several research fields and is considered as any attribute which differentiates people (Williams and O'Reilly, 1998).

Diversity is largely considered as a double-edged sword (Hambrick et al., 1996; Rao and Tilt, 2016) because of its benefits and drawbacks. Among the firsts, we mention the broader perspective that characterizes the decision-making processes generating different alternatives, with positive effects on group's performance ((Hambrick et al., 1996). On the other side, diversity can have a negative effect in the group processes when the individuals do not believe in it (Van Knippenberg and Schippers, 2007). According with the similarity-attraction perspective, the positive effects of team homogeneity increases identification determining an higher decision quality within the group (Williams and O'Reilly, 1998; Van Knippenberg and Schippers, 2007). We share the information-decision-making perspective emphasizing the positive impact of diversity on decision making (Bantel and Jackson, 1989; Van Knippenberg et al., 2004; Williams and O'Reilly, 1998) Among the various board diversity characteristics, gender diversity is one of the most significant issues for scholars, but also for politicians (Kang et al., 2007; Rao and Tilt, 2016).

The lines of research about gender diversity cover different areas. Part of the literature focused on the relationship between gender diversity and financial corporate performance, finding a positive link (Carter et al., 2003; Erhardt and Werbel, 2003; Webb, 2004) or weak/ no effects (Adams and Ferreira, 2009; Pletzer et al., 2015; Shrader et al., 1997; Smith and Smith, 2006). The empirical results that researchers are produced are far for being straight-forward (Homberg and Bui, 2013) because of the limitations of the input-output model which attempts to link the board structure (input) directly to company performance (output), ignoring the processes involved in the board's performance of its tasks (Dalton et al. 1999; Gabrielsson and Huse, 2004; Golden and Zajac, 2001; Macus, 2008).

Others, according with social identity theory, depict the presence of women in top positions as a collective phenomenon that must be studied with reference to groups instead of individuals (Adams et al., 2001; Brown, 2010; Chen et al., 2014; Di Tomaso et al., 2007). Considering women on boards as a group affects

situations as the prevention of conflicts in management activities, the different perspective in the resolution of complex problems, the greater attention for stakeholder and for different types of diversity. It is also clear that inequality between women and men is a relational issue and that inequalities are not going to be resolved through a focus only on women. More attention need to be brought to the relations between women and men, particularly with regard to the responsibilities in workplace and the potential for decision-making. Thus, there is a need to move away from women as a target group, to gender balance as a development goal.

In some authors' opinion, that embrace the self-schema theory (Konrad et al., 2000), women in top positions run the business differently, because of their values. Women have a more relevant inclination than men have towards ethics, philanthropy and social themes (Eagly et al., 2003; Nielsen and Huse, 2010; Post et al., 2011; Wang and Coffey, 1992), with connected effects on CSR and corporate social strategies (Bear et al., 2010; Burton and Hegarty, 1999; Galbreath, 2011; Ibrahim and Angelidis, 1994; Kruger, 2009; Marz et al., 2003; Panwar et al., 2010; Smith et al., 2001; Zhang et al., 2013). Women among board members can drive a change in the leadership style (Paoloni and Lombardi, 2017): for some scholars women seem to adopt a servant leadership style focused on service to others and confident that the role of organization is to create people who can build a better tomorrow (Fridell et al., 2009; Parris and Peachey, 2013).

Based on the previous considerations, our perspective refers to the gender diversity on board as a tool for the promotion of a corporate culture inspired by CSR. Corporate culture, defined as ways of thinking, values and beliefs that influence people's behaviour (Green, 1988; Kerr and Slocum, 2005; Kluckhohn and Strodtbeck, 1973) can be considered the real drive behind a board's decision-making processes. Authors have argued that corporate culture, instead of management technique, is the key to corporate excellence (Brondoni, 2010; Deal and Kennedy, 1982; Peters and Waterman, 1982).

A balanced gender representation on boards expresses the appreciation of different abilities, talents and points of view according with an inclusive vision of business that is the condition for a more sustainable world as stated by 2030 Agenda recognizing gender equality as a crucial contribution to progress across all the goals and targets (Un Women, 2018).

The gender diversity in corporate top-level positions can be the result of a different approach by companies that ranges from the elimination of discrimination in accordance with binding legislative rules, to positive actions with the aim to promote equal opportunities. Positive actions act on particular aspects of inequalities, producing effects in short time and inducing a gradual cultural change. They are based on the recognition of equality in opportunities, affirming the legitimacy of positive discrimination to rebalance the consequences of

an initial disadvantage. Binding gender quotas on boards fall under this category.

The opportunity of gender quotas is debated. On the one hand, it is a step toward a more awareness by companies about the importance to give value to gender diversity; on the other hand, it is criticized because of possible problems resulting from a legislative imposition. One of these problems could be the tokenism (Kanter, 1977), that refers to the situation that exists when minority group members (tokens) are hired or promoted because of their minority group membership or to ensure the respect of government or organizational quotas (Zimmer, 1988).

Being a minority in a group, tokens are submitted to performance pressures to make them visible to the rest of the group (visibility), they are informally excluded by the dominant group that exaggerates its commonality and the difference of the token (polarization), and they suffer the stereotypes or generalizations made by the dominant group (assimilation). In other words, although organizational structures are assumed to be gender neutral, they are not (Comeig et al., 2017).

The gender balance will be fully realized when it will be part of conscious sustainable corporate strategies, that are the results of a new business model based on the GM thought as promoted by the UN 2030 Agenda for Sustainable Development. The 2030 Agenda includes the gender balance on boards within the goals for a more sustainable world, declaring the importance of women in top positions for more sustainable communities and nations.

The soul that moves the Agenda's initiatives is the engagement of all actors moving in the society: the gender balance in top position is, at the same time, the result of the efforts by nations, institutions and companies and the premise for the achievement of the other goals of the Agenda, nurturing a virtuous circle for a real corporate culture inspired to sustainability.

Women's presence as directors signifies that women play a full part of citizen of organizations and society (Trjesen et al., 2009). Involving different actors, the agenda seeks to promote the GM as the most evolved phase in the promotion of equal opportunities for men and women, starting from the individual rights to redesign the whole system of interventions (United Nations Economic and Social Council, 1997). While mainstreaming is clearly essential for securing human rights and social justice for women as well as men, it is also increasingly recognized that incorporating gender perspectives in different areas of development ensures the effective achievement of other social and economic goals (United Nations, 2002).

Figure 1 shows that considering women on boards according with GM approach represent not only the achievement of a specific sub-goal (5.5) of Goal 5 'Gender Equality', but also a way for the other 2030 Agenda's objectives. In particular, getting top corporate positions by women allows them having more salary to invest in educational and welfare matters for them and their families directly favouring the achievement of SDGs 1 (No Poverty), 2 (Zero Hunger), 3 (Good Health and Well-being), 4 (Quality Education) and indirectly contributing to the economic welfare of nations (Goal 8: Decent Work and Economic Growth). Furthermore, women, as primary managers in households, can play a critical role in the promotion of more sustainable energies and more responsible models of production and consumption in the companies where they work. This situation together with the natural vocation of women for the ethics and social aspects of business, as the self-schema theory marked, favours the definition of corporate strategies oriented to CSR, aiding companies towards the SDGs 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 12 (Responsible Consumption and Production), 13 (Climate Action), 14 (Life Below Water) and 15 (Life on Land).

The achievement of leadership position by women, thanks to their skills in technology and science, allows them to actively give their contribution for the development of resilient infrastructures, inclusive and sustainable industrialization and innovation (Goal 9), assisting the idea of a global development based on the reduction of inequalities within and among countries (Goal 10). Finally, the percentage of women on boards is itself a direct measure of the level of reaching of SDGs 8 (Decent Work and Economic Growth), 10 (Reduced Inequalities) and 16 (Peace, Justice and Strong Institutions).

Nowadays women cover a minority positions in public institutions and private companies. The Report of the Secretary-General, 'Progress towards the Sustainable Development Goals', E/2017/66 (2017) illustrates that globally women's participation in single or lower Houses of national parliaments reached 23.4 per cent in 2017, just 10 percentage points higher than in 2000. Women are still under represented in managerial positions: in the majority of the 67 countries with data from 2009 to 2015, women held less than a third of senior and middle management positions. Hence, the scarce presence of women in corporate governance bodies is a fact. In the next Section we started by the data analysis about the number of women covering leadership role in Europe to go in-depth the reasons of the current situation.

METHODOLOGY

Considering the self-schema theory together with Hambrick and Mason (1984) upper echelons perspective, the top management characteristics can have an impact on strategic actions and, consequently, on corporate performance. Hence, the board diversity, with particular reference to gender issues, can influence CSR strategies toward a business model more oriented to sustainability. We aim to design a complete picture of the situation of gender diversity on boards highlighting the path Europe is marking out for the achievement of a more sustainable world,
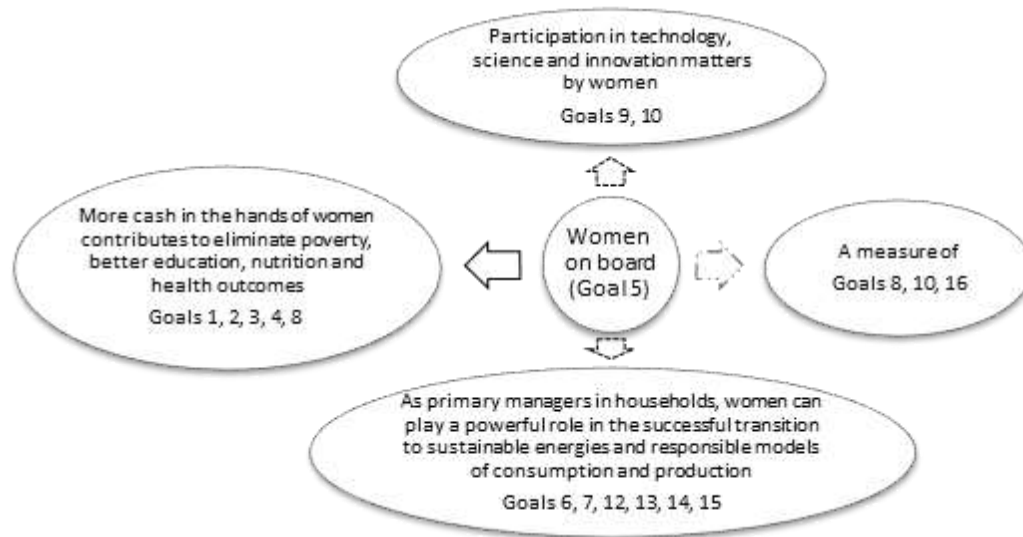
Figure 1. Women on boards and goals of 2030 Agenda.

thanks to the contribution of women in leadership positions as in the intention of the 2030 Agenda. The aim of this research is to identify a problem and to bring out the attention of readers, formulating research questions actually answerable considering the type of information available to researcher. Then, the information that has been gathered are interpreted and analysed to answer the research questions. The problem researcher has identified from the reports of international institutions, existing literature review, general database, and mass media is that women are underrepresented in corporate top level positions. Starting by this remark, the following research questions are defined, together with the motivation moving toward the research question and the research methodology used to analysed data.

RQ1) What is the current situation about gender diversity on boards in Europe, considering also age and nationality diversity?

Motivation: The motivation of this research question refers to the limits of the existing general gender database. In fact, the data are constantly monitored for a limited number of countries (for example, only countries belonging to European Union), and focalized on government or private listed companies (UN Women, 2018). The other demographic attributes, together with gender, which express diversity in working teams are nationality and age (Ortu et al., 2016).

Approach: We started by the database of European Institute of Gender Equality (EIGE), which focuses on largest listed companies that are companies belonging to the primary blue-chip index registered in each country. In this way, it takes a look on companies which certainly have an high impact on economies because of their dimension, but that do not fully represent the commitment of the entrepreneurial spirit of a nation. For this reason we complete the understanding of the current situation about women on boards in Europe using a private database (BoardEx), which gives information about European listed and not listed, private and not private companies' boards, according with a network logic. It started building out public organizations located in the UK, when building profiles for individuals affiliated with those companies it then built

organizational profiles for all of their affiliations, and then build out those profiles and individuals and so on and so forth.

Methodology: To answer the first research question we carried on a descriptive analysis of quantitative data using secondary sources (Tesch, 1990). Our analysis consists of grouping and interpreting data by BoardEx based on our theoretical constructs (Patton, 1990), in the awareness of the strengths and limitations of secondary data sources. On the one hand, the large amount of available data guarantees the analysis relevance, but on the other hand, we are conscious that this data were not collected to address our particular research need (Crowton, 1998).

The research follows these steps. First, we selected a consistent period for the analysis, considering the available data by BoardEx (2000-2016). Afterwards, we calculated simple statistical measures as proportions calculated as sex distributions within the categories of a characteristic (Table 1). Table 1 measures both the gender gap, where per cents in the distribution of the characteristic 'board director' are subtracted from corresponding per cents in the distribution of the characteristic within the male population, and the distribution of each sex by the characteristic 'nationality'. With regard to the characteristic 'age', which is an ordinal variable, we calculated the arithmetic mean, the median and the mode to interpret the distribution of values in the period analyzed (Tables 2 and 3).

The publicly available database by EIGE procures the situation of women in high level position all over European countries since 2003. The percentage of women in the corporate governance bodies runs from 8.5% in 2003 to about 25% in 2016; even if the percentage is gradually increasing, this situation remarks an under exploitation of women's potential professional skills. Figure 2a shows the countries over the European average (25.3%) in 2016: Iceland (44.6%), Norway (42.6%), France (41.2%), Sweden (36.9%), Italy (32.3%), Finland (30.1%), Germany (29.5%), Belgium (28.6%), Latvia (28.5%), The Netherlands (27.5%), Denmark (27.1%), United Kingdom (27%). Vice versa, the countries under the European average value (Figure 2b) are: Slovenia (24.8%), Montenegro (23.3%), the Former Yugoslav Republic of Macedonia (FYRM) (21.7%), Spain (20.3%), Serbia (20%), Croatia (19.9%),

Table 1. Percentage of women and men on boards in Europe, 2000-2016.

Variable	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Women (#)	254	363	431	543	517	684	714	754	802	789	880	1.052	1.203	1.363	1.553	1.654	1.719
European (*)	4.71	5.07	5.54	6.54	7.16	7.31	7.30	7.42	7.68	7.80	8.88	10.10	11.21	12.56	13.85	14.82	15.75
Not European (*)	0.23	0.30	0.41	0.37	0.46	0.49	0.76	0.71	0.94	0.89	0,95	1.14	1.28	1.38	1.56	1.79	1.65
Women (§)	4.94	5.36	5.95	6.91	7.62	7.80	8.06	8.13	8.62	8.69	9.83	11.24	12.49	13.94	15.41	16.61	17.40
Men(#)	4.889	6.406	6.811	7.320	7.481	8.090	8.150	8.517	8.502	8.293	8,072	8.309	8,421	8.417	8.525	8.305	8.160
European (*)	90.78	90.10	89.82	88.43	88.17	87.42	85.27	85.83	84.73	83.27	83.72	82.03	80.68	79.39	77.85	76.38	75.45
Not European (*)	4.28	4.54	4.23	4.67	4.21	4.79	6.68	6.04	6.65	8.04	6.45	6.73	6.83	6.68	6.74	7.01	7.15
Men (§)	95.06	94.64	94.05	93.09	92.38	92.20	91.94	91.87	91.38	91.31	90.17	88.76	87.51	86.06	84.59	83.39	82.60

(#) Absolute value; (*) proportion calculated on total women or total men; (§) proportion calculated on total women plus total men.

Table 2. Mean of the age of women and men on boards in Europe, 2000-2016.

Variable	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Women																	
European (*)	48.97	48.33	48.58	48.65	48.62	49.55	50.17	50.41	51.22	51.49	51.73	52.23	52.81	53.09	53.31	53.75	54.02
Not European (*)	49.25	58.15	52.10	55.79	51.08	51.91	53.42	54.89	53.79	52.84	53.62	52.61	54.67	54.86	55.83	56.63	57.10
Women (§)	48.98	48.87	48.82	49.03	48.76	49.70	50.47	50.80	51.50	51.63	51.92	52.27	53.00	53.26	53.56	54.06	54.31
Men																	
European (*)	54.86	54.59	54.79	55.09	55.39	55.70	55.79	56.34	56.69	57.08	57.43	57.67	58.06	58.27	58.48	58.72	58.93
Not European (*)	59.39	58.35	60.65	58.98	59.58	58.67	61.06	58.21	58.47	58.15	59.33	59.21	60.12	59.91	59.56	59.95	60.48
Men (§)	55.06	54.77	55.05	55.28	55.59	55.85	56.17	56.47	56.82	57.17	57.57	57.79	58.22	58.40	58.56	58.82	59.06

(*) Mean is calculated on total women or total men. (§) Mean calculated on total women plus total men.

Table 3. Mode and median of the age of women and men on boards in Europe, 2000-2016.

Variable	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Women																	
Median	49	49	49	49	48	49	50	50	51	51	52	52	53	53	54	54	54
Mode	46	45	44	45	46	47	49	50	51	51	52	53	54	54	55	53	57
Men																	
Median	55	55	55	56	56	56	57	57	57	58	58	58	58	58	59	59	59
Mode	57	58	59	56	57	58	59	60	61	62	63	64	55	56	58	58	59
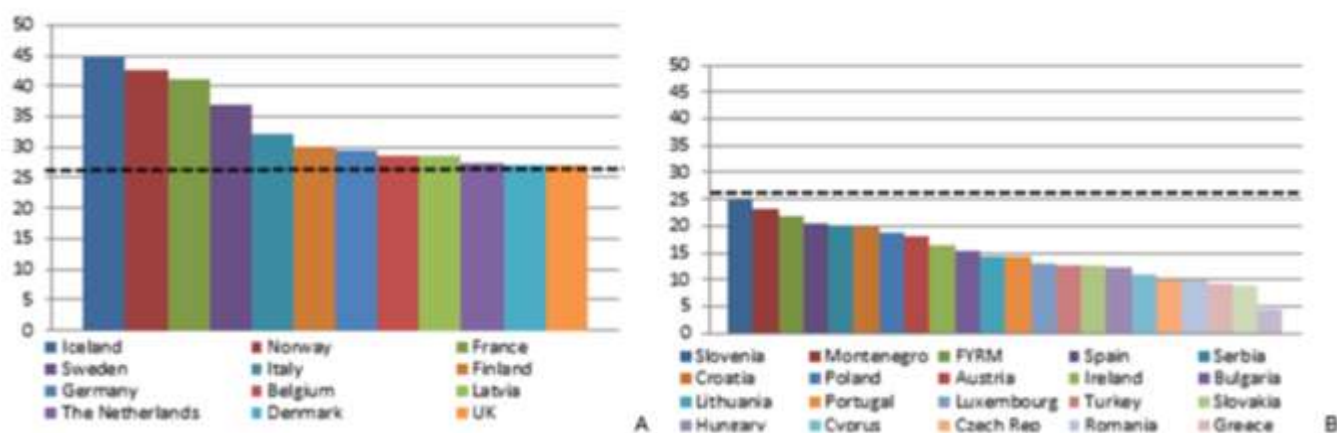
Figure 2. Percentage of women in high level position in European countries (2016).
Source: EIGE database.

Poland (18.8%), Austria (18.1%), Ireland (16.5%), Bulgaria (15.3%), Lithuania (14.3%), Portugal (14.3%), Luxembourg (12.9%), Turkey (12.6%), Slovakia (12.5%), Hungary (12.3%), Cyprus (10.8%), Czech Republic (10.1%), Romania (10.1%), Greece (9.1%), Estonia (8.8%), and Malta (4.5%).

Analysing the role covered by women in the corporate governance bodies of the largest listed companies, the female presence is higher as executive and non-executive director, while it is much smaller as president (1.6% in 2003 and 7.5% in 2016) and CEO, with a European average value of 5.9% in 2016. The fact women usually cover the position of non-executive directors or members of the supervisory board highlights the independent judgment characteristics typical of these roles dampening the possibility of direct and immediate influence in strategic company's decisions.

The data by EIGE are complemented with the BoardEx database. The total board members available by the database in the period 2000-2016 is more than 137,000. The database makes available the nationality of board members, but not the State in Europe where the company they work for is located. For this reason, it is not possible making an analysis for single European State to make comparison with the EIGE data. Nevertheless, the percentage of men and women on European companies' boards considering their European or not nationality is shown in the Table 1.

The trend depicted in Table 1 confirms what is happening in the largest European companies with a low but continuous increase of women in leader positions. The increasing trend for women and the decreasing one for men concern board members with European nationality. The non-EU board members, that represent a small percentage of the total, show a stable trend. This situation raises the issue about the openness of European companies to not European board members and/or the low mobility of directors outside their Continent (Figure 3).

The third demographic attribute expressing diversity in working team studies, together with gender and nationality, is the age characteristic. The trend of the average age of board members in the period under analysis is illustrated in the Table 2. Table 2 depicts an increasing trend with regard to men and women's age. The total gap is getting smaller (4.75 age gap in 2016 compared with 6.08 age gap in 2000), but this situation is due to the higher increase of women's age than that of men (Figure 4).

A research by Heidrick and Struggles International (2014) highlights that in Europe the overall average of board directors is 58.2; chairmen tend to be in their sixties and CEOs in their early fifties. A research on S&P500 companies (Barrett and Lukomnik, 2017) highlights that, in general, board age diversity does not vary significantly by company size, or by industry segment; what causes the most relevant differences in age diverse board is if anything the length of mandate. The people on boards tend to be those who have accumulated years of relevant and useful experience. In addition, the average number of years on boards appears to be increasing. Directors now spend around 7% longer on boards than they did in 2011.

On average, directors have been on boards for 6 years (the prize for longevity goes to boards in Belgium, which has the highest average). It is widely felt the board can focus on corporate strategies if the stability of management is clear, but little is known about the impact of new directors on board dynamics. Longevity of boards can lead to torpor (Heidrick and Struggles International, 2014).

Table 3 shows the distribution of women and men's age through mode and the median. In particular, we can notice that for women the median, which represents the value separating the higher half of our data sample from the lower half, is always lower than the men's median but increasing in the time. Also, the men's median is gradually increasing during the period analysed. The median values, comparing with the mean ones, substantially confirm both

for women and men that there is not significant skewness around the mean. The mode expresses the value that appears most often. Comparing the mode with the mean it is interesting observing that for men the mean increases but the mode decreases from more than sixty years old in 2011 to less than sixty years old in 2016. That is that since 2011 the low values of the variable 'age' appear with low frequency. The analysis done lets us to say that the trend in act seems to confirm that the boards are gradually becoming more gender balanced, but also older with a scarce enhancement of nationality diversity at global level.

RQ2: Why do not women succeed in top positions?

Motivation: The low percentage of women on boards could be justified by their supposed lower educational background, which is a less visible diversity (Şener and Karaje, 2014), that prevents them to cover top positions. Surveys of chief executives and chair men in several countries in the 1990s revealed that women were generally perceived to lack the qualifications and experience required from directors (Doldor et al., 2012). Similarly, a more recent survey (Heidrick and Struggles, 2011) found that men and women explained the gender disparity on boards differently: while men emphasised the pipeline deficit, women said that a major obstacle was the prevalence of closed traditional networks in the appointment process. This suggests that the assumption that women lack sufficient qualifications is a simplistic and inaccurate explanation for the gender imbalanced nature of boards.

Approach: We analysed the European graduates in the period 1999 to 2012. This period includes persons already employed in 2017: probably in the beginning of their career if graduated in 2012, and in the medium or high-level positions if graduated in 1999.

Methodology: We refer to secondary data sources, in particular the Unesco database.

Basing on the United Nations Educational, Scientific and Cultural Organisation (UNESCO) databases and considering the average age of board members between 50 and 60, as emerged by our previous analysis and as confirmed by the existing studies (Heidrick and Struggles International, 2014), the analysis on the rate of graduate students distinct by sex about 25 to 30 years ago highlights worldwide a substantial balance in the achievement of the degree, while women overcome men in Master's degree (56%).

The observation of European graduates in the period 1999-2012 shows a percentage of women between 50% and 60%, with peaks of 70%. Restricting the analysis on the percentage of graduate women (on the total of graduate women) in 'Social science, business and law', which is an area of study that procures the managerial skills for being part of boards, we notice an increasing trend during the years between 30 and 50%. This analysis seems to depict a global picture not unfavourable to the presence of women in corporate governance bodies.

The gap between men and women in the period preceding the entry into the working world has been gradually reduced, although with different time in EU countries. The percentage of graduate women is always higher than the percentage of graduate men since Nineties and this trend seems to be confirmed also for the next decades (OECD, 2008), approaching the Goal 4 of 2030 Agenda (about the equitable education) and nurturing the basin where companies can tap in the research of skills for corporate governance bodies.

RQ3: How is Europe marking out the path for a more gender equality into the business?

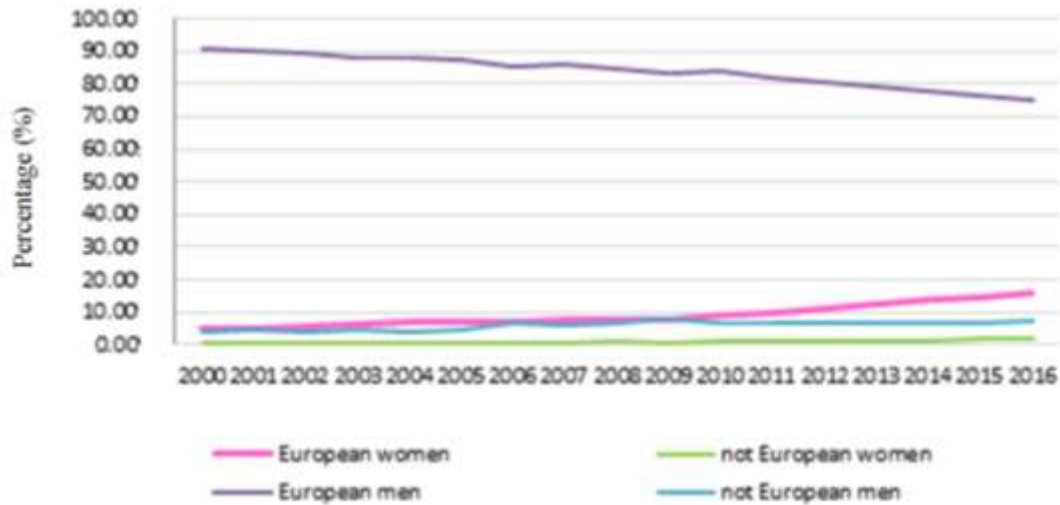**Motivation:** In the face of an obvious gender inequality within the

Figure 3. Gender and nationality trend on boards in Europe, 2000-2016.
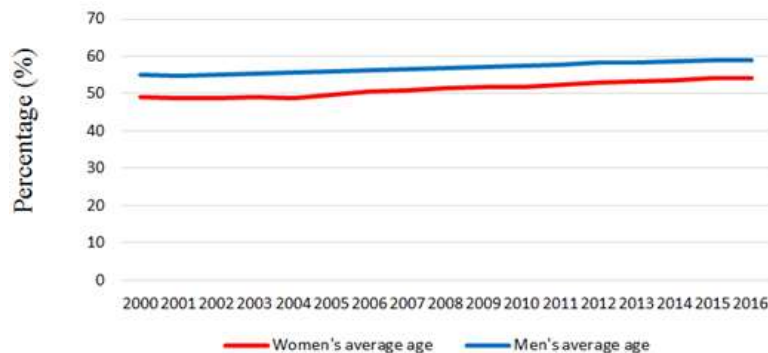

Figure 4. Age trend on boards in Europe, 2000-2016.

boards, European Commission and single States move differently in binding or voluntary paths.

Approach: We considered the interventions by European Commission and by European countries, reading them together with the trend of women on boards.

Methodology: We developed a qualitative content analysis with a directed approach (Hsieh and Shannon, 2005; Mayring, 2000), considering that it is a flexible method of analysing data which can derive from different sources (reports, websites, laws, etc.) and it allows classification of data into fewer categories according to their meaning.

To speed up the phenomenon of women on boards in Europe the European Union institutions promoted in the last decades a set of soft rules (for example, recommendation 96/694/EC; COM(2010)78; COM(2010)491; the call 'Women on the Board Pledge for Europe', the European Pact for Gender Equality 2011 to 2020; Europe 2020 Strategy).

Considering the very low increase of women on corporate governance bodies, the European Commission in 2012 has decided to intervene in a more incisive way proposing a Directive for gender balance among non-executive directors of companies listed on stock exchanges (Directive 2012/0299 COD), that is under progress nowadays. The proposal sets the aim of a minimum of 40% of non-executive members of the under-represented sex on company boards, to be achieved by 2020 in the private sector and by 2018 in public-sector companies. The measure is meant to be temporary and in principle is set to expire in 2028.

On 2013, the European Parliament voted with a strong majority to back the proposed Directive. The legislation was adopted on its first reading, confirming the broad consensus to increase gender balance on corporate boards and general endorsement of the Commission's approach. The Directive is supported by the majority of Member States and currently being discussed by the Council of the EU.

The attempt by European Commission to align the rules in different countries aims to go beyond the reluctance to legislate on its own initiative by single member states. This behaviour could be justified by cultural issues and by the will to avoid positions of competitive disadvantage by national companies compared to

Table 4. Rules about women on companies' board of directors in Europe.

Rules addressed to…	Legislative or administrative binding norms	Voluntary initiatives, recommendations, Ministerial proposals	Self-discipline codes by stock exchanges	No rules
Companies listed on Stock Exchange	*Belgium* (*); Italy (*); Norway (*); Spain (*§)		Austria; *Belgium*; *Denmark*; Finland ; France; Germany; Greece; Iceland; Italy; Luxembourg; Netherlands; Norway; Poland; Slovenia; Spain; *Sweden*; Turkey; UK	Bulgaria; Croatia; Cyprus; Czech Republic; Estonia; FYRM; Lithuania; Malta; Montenegro; Serbia; Slovakia
State-ownership companies	Austria (*§); *Belgium* (*); Finland; Greece (*); Iceland (*§); Italy (*); Slovenia (*§); Spain (*§)	Germany; Hungary; Ireland; Latvia; Poland; Portugal; Romania; *Sweden*; Turkey; UK		
Big corporations	France (*); Germany (*); Iceland (*§); Netherlands (*§); Spain (*§)			

*: minimal quota; §: no sanction in case of not-compliance with norms; In Italics States with specific plans for gender mainstreaming.
Source: EU Gender Balance on Corporate Boards (July 2016); http://eige.europa.eu/gender-mainstreaming/institutions-and-structures/eu-member-states, and Author's elaborations.

companies that operate in other states, which are less rigid in terms of corporate governance rules. The aforementioned behaviour's diversity, not only intensifies the discrepancies in the number of women in top positions among the European countries, but it tends to create also bureaucratic costs related to divergent requirements in board structure. Furthermore, the differences in the criteria for the appointment of available positions as board directors is a barrier for a greater gender diversity among the boards' members and it negatively affects the careers of the candidates and their freedom of movement, as well as the decisions of investors (Salvioni and Gennari, 2017).

The issue about the imposition of rules favouring a more incisive representation of women on boards is widely debated. Quotas offer a swift solution that pushes companies to comply but do not necessarily allow them the opportunity to ensure the best fit for board positions (Durbin, 2012). This is why the EU countries fail to agree about gender quotas. The issue of women on boards is treated with different approaches by States: some of them legislate; others prefer the 'comply or explain' criteria (according to self-discipline codes by Stock Exchanges or other institutions); others recommend compliance with certain behaviours; some States do nothing (Table 4).

In some cases, there are binding gender quotas on boards, while in other cases gender balance in the board's composition is recommended without imposing specific percentages. In the hypothesis of non-compliance with norms, not all the countries decide for a sanctioning system. Furthermore, some countries direct to listed companies, while others focus on large companies (listed or not listed) or only on public societies; some countries concern the non-executive directors, while other address their rules to directors in general.

A previous study by the author (Gennari, 2016) assessed the effectiveness of different countries' behaviours for the promotion of gender balance in the boards, crossing four cases (duty of binding quotas with sanction and without sanctions, only self-discipline rules, no intervention) with the trend of women on boards. In particular, when rules about gender balance in the boards existed we analysed the number of women in top managerial positions in the previous and following three years respect to the rule's issuing. For countries with no intervention in the matter, we considered 2011 as a point of reference, because of in this year the majority of the other European countries took the first steps to increase the presence of women on boards.

The research emphasizes that countries that made interventions to promote the gender equality on boards show an increase, albeit in different terms, in the percentage of women in high positions. The phenomenon is more evident in the countries that opted for binding gender quotas combined with an effective system of sanctions. Even countries that provide ways of non-binding or binding regulation (the latter characterized by the absence of sanctions) show improvement, albeit to a lesser extent.

No relevant changes over time characterize countries that do not consider gender issue in their political priorities, or that show open opposition to binding law. The percentages show little or no improvements; in some cases, the trend is not always stable and sometimes presents a turnaround. In these situations we would emphasize the fact that when binding or self-discipline rules lack, the process of gender equality improvement is not guaranteed even in the medium to long-term.

The situation of countries where the gender issue is managed by soft actions, but that are greatly above the EU average in terms of women on boards (for example, Latvia) supports the view that cultural background is largely more effective than binding rules. In this sense, the results obtained in countries thanks to binding interventions must be deemed as the starting point for a cultural change in the long-run according with GM approach.

Conclusions

Reading together the data and information collected in the previous section, we can make some conclusions, considering the limitations of this study. In fact, we carried on a descriptive analysis of quantitative data based on the information available by databases which, even if giving a large amount of data on a relevant period, were not created for our specific research needs; this situation prevents us to make further processing.

In the face of its limits, two issues about women

on boards and CSR have been presented in this study. First, the article reads the situation of women in top positions in the light of the 2030 Agenda, considering this issue as a specific target of the Agenda, but also considering the direct and indirect effects that a more gender balance in corporate governance bodies could have for the achievement of the other SDGs. Second, the article highlights the current situation in Europe to see if and how Europe is marking out the path for a more gender equality into the business.

The results allow us to answer the research questions. The first research question was about the current situation on gender diversity on boards in Europe, considering also age and nationality diversity. The analysis of data included in public and private databases confirms the scarce presence of women in top positions, emphasizing a deficiency not only in gender diversity but also in age and nationality diversity. When the women succeed in sitting on boards, they have a real difficulty in career advancement evinced by their increasing age. The age within the board has been a diversity attribute largely ignored by the literature, even though the age diversity might have effects on strategies and board's decision-making processes (Ali et al., 2014; Deloitte, 2015). People of different ages are expected to have different experiences, characteristics and traits (Zemke et al., 2013). Few studies have been conducted on age diversity within the board relating to firm performance (Ferrero-Ferrero et al., 2015) giving different results. The approach embraced in this article suggests studying the relation between age diversity and corporate culture for sustainability and social responsibility.

The second research question was about the obstacles for top positions by women in Europe. Previous research highlighted the perception of less competencies women have than men have. The results show that the educational background and professional skills of women guarantee them the possibility to reach for board of directors and that the low presence of women in higher-level positions cannot be attributed to a lack of offering. Evidently, the problem could be the corporate culture which nurtures prejudices and disrupts the creation of work environment characterized by inclusion and by a fair appreciation of personal skills.

The third research question was about the actions in progress in Europe to fill the gender gap. The results depict a Europe largely committed for more gender balanced boards, but still enclosed in the overcoming of discrimination and positive actions. Quotas imposed by legislator , especially when combined with a sanction system in case of non-compliance, constitute positive actions to obtain the best results in the shortest time, as driver for a possible cultural change (Wang and Kelan, 2013; Terjesen et al., 2015). The soft law and the self-disciplines codes by companies can have positive effects when gender equality is historically acquired by local culture and consequently by corporate values.

The GM appears to be a goal not yet achieved, but the actions by national governments, market regulators, associations and companies are appreciable and point out the importance of combined interventions. These considerations allow us to conclude that the corporate cultural obstacles, defence of acquired positions and limited orientation to a global management responsibilities may be the real obstacle to a greater presence of women in top-level positions, with the consequent impacts on the society as a whole. This mistrust by companies towards gender diversity seems to replicate also for other typologies of diversity as age and nationality. Therefore, the problem seems to be the related with the diversity in general and, for this reason, requires to be debated at national and international level. As scholars comment, the causes of change resistance are hidden in the social context, the ideological constructions, and the existing prejudices.

Hence, the presence of women on boards should be part of a global vision, market by a global corporate responsibility. Regulatory interventions may accelerate the achievement of SDGs but, in the absence of a cultural receptive substrate, they are reduced to additional tasks companies deem necessary in the management of compliance risk. Only the awareness by companies for sustainability is the real driver for the gender equity in boards of directors.

Basing on the previous considerations our study contributes to the literature nurturing the ongoing discussion about women on board and CSR, currently focused on the relations between the board structure and corporate social performance, in the light of 2030 Agenda shifting the attention on the corporate culture of sustainability and the role women on board can have in a global vision tending to a more sustainable world. The gender issue on board should be more studied according with a sustainability corporate governance framework, which considers the presence of women on boards as a critical success factor to be competitive in global markets. Corporate culture is something that goes beyond the legal compliance and it implies an involvement of all the business organization. When sustainability culture is considered a driver for success, it needs to be managed, measured and reported with appropriate key performance indicators.

Furthermore, the results support the line of literature about diversity mainstreaming, considering it better reflects current sensitivities to differences, also among women. Mainstreaming moves beyond equality initiatives by seeking to transform organisations and create a culture of diversity in which people of a much broader range of characteristics and backgrounds may contribute and flourish (Rees, 1998; Bacchi and Eveline, 2010).

There are two main practical implications of the study. First, gender diversity should be an important criteria when selecting board members, mainly in those countries where no binding rules exist. In other word, companies

should recognize the benefits, both for women and for men, of a more gender balance in top positions, according with a global approach oriented to the creation of corporate value in the long term. In fact, the attention for all stakeholders' interests (these last defined as categories or single persons, both women and men) is the base for the creation of long-run relations which can become critical success factor in a globalized world. Nevertheless the laws in force to increase the gender balance on board and the connected disclosure, there could be a relative disconnect between the abstract intention of facing diversity and the concrete board appointment practices.

Doldor et al. (2012), basing on the existing literature, list the following gender-related obstacles in the appointment process: in the appointment process, companies employ a narrow definition of experience, essentially seeking candidates with prior board or executive experience; this restricts the access of qualified female candidates, whose backgrounds might not fit this narrow profile. An array of interpersonal dynamics represent potential obstacles for women in the appointment process, chiefly to recruiters' preference for similar others and a focus of fit and personal chemistry. Social capital and relationships were found to be critical in the appointment process. Social ties facilitate awareness of board vacancies and informal support through referencing and sponsorship via corporate elite networks. Due to the male-dominated nature of corporate elites, women have fewer opportunities to accumulate and deploy social capital.

Hence, the keystone for a more incisive presence of women on board seems not to be the compliance to external rules, but the revision of the internal processes of appointment, reinforcing the role of nomination committee in the definition of candidates' profile. Otherwise, the tokenism phenomenon will take place and all the interventions to improve the presence of women on boards will be few effective.

Second, companies should commit themselves in creating more inclusive working environment to increase retention and to help women to recognize their full potential, also by means of mentoring and supporting programs. The female management talents in executive roles should be promoted increasing the number of women in executive committees, making them potential candidates for both executive directors of the company and non-executive directors of other companies. The initiatives for women on boards should be visible and advertised to share best practices with other companies.

In this context, international and national institutions play a pivotal role, planning their actions for gender equality on boards according with a promotion of a corporate culture of sustainability and 2030 Agenda. A possible approval of EC Directive will have the desired effect only if combined with a promotion of the concept of GM and with sharp interventions to promote the gender equality in society, emphasizing the role of companies as a real engine for the development of social progression.

Finally, this study fillips future lines of research in the fields of diversity within boards, including also age and nationality dimensions. In particular, the women age and nationality should be more studied, placing in the debate about the entry and the career paths in companies.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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