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Full Length Research Paper

Doing well by doing well? Evidence from manufacturing sector of Pakistan

Asma Khan^{1*}, Gary Kayakachoian² and Khadija Hassan¹

¹Fashion Marketing and Merchandising Department, Pakistan Institute of Fashion and Design, Lahore, Pakistan.
²College of Business, University of Rhode Island, Rhode Island, USA.

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According to the value enhancement and agency cost theory, corporate voluntarily contribution has a positive or negative impact on the overall performance of a firm. In contrast to these theories sometimes corporate giving has no impact on the firm's performance. This article will provide insight on the impact of corporate giving on Pakistan's publically traded manufacturing companies. This article also focuses on the impact of ownership structure on corporate giving. This research aims to spot light different type of ownership structure and their voluntarily contribution. The variable of corporate giving is measured by the total value of corporate giving to total sales revenue. Corporate performance will be measured by return on assets; whereas different types of owner structures are measured by number of shares owned by family, mangers and Institution. Empirical results will offer valuable insights for the manufacturing sector

Key words: Corporate social responsibility, firm value, financial performance, ownership structure.

INTRODUCTION

Different researchers have defined CSR in different ways. One researcher Walton (1967) defined corporate social responsibility as the relationship that exists between the corporation and the society; whereas other researchers (Wartick and Cochran, 1985; Wood, 1991) defined the CSR in terms of legal responsibilities, ethnic responsibilities and philanthropic responsibilities of the firm. WBCSD (1998) in their research reported that the CSR is basically defined as the business commitment to the society to behave ethically and contribute in the society wellbeing by improving the quality of life of the employees and their family in the long run. Zenisek(1979)

defined the concept of CSR as the strategic plan of maximizing the overall returns of the shareholders.

In broader term CSR is basically the way of doing business that has a positive impact on the society. Wang and Sharkis (2017) stated that the implementation of CSR governance in order to generate CSR outcomes influences the financial performance of the firm. Galant and Cadez (2017) in their study stated that a lot of empirical researches have been conducted to see the impact of CSR and CFP but the relationship between these two variables are equivocal. They further variables is stated that the difference in the findings of these two

*Corresponding author. E-mail: khanasma002@gmail.com.

result of different measurements used for analysis indifferent studies. In another study Kim et al. (2015) stated that the CSR activities increased financial performance of the firm if competitive action of the firm is high and Social irresponsible activities generate high financial revenues if the competitive action of the firm is low.

The practice of corporate social responsibility in Pakistan is still at emerging stage; however reporting guidelines may have been provided to the corporate sector from the government of Pakistan. The requirement for the business responsibility report should be the part of their annual report. The security exchange commission is striving to make CSR performance more regulated in the company. According to the CSR General Order in November 2009 it is mandatory for the companies to make monetary and descriptive disclosures in their Directors Report. According to this law it is the company's commitment to operate in an economically, socially and sustainable manner. The government of Pakistan has further provided the clarification about the activities that come under the CSR.

Relationship between CSR and ownership structure

The paper aims to fill the gap that exists in literature on the impact of CSR activities of the financial performance of the firm. Galbreath and Shum (2012) stated in their studies that literature review on the corporate social responsibility covered most of the researches conducted by using the sample companies of the developed countries. This shows that fewer studies have been conducted in context of the developing countries like Pakistan. Do companies get reward on their CSR activities for short term only or it help companies to perform financially better in the long run? This research will also focus on the ownership structure of Pakistan and its impact on the CSR decisions. This paper will analyze the trend of CSR in the performance of the companies over the 5 years.

LITERATURE REVIEW

Corporate social responsibility

Margolis and Walsh (2003) in his study on the perspective of corporate social responsibility stated that in last few years the corporate firms have started to engage in many social activities related to health and education once considered as the governmental activities.

Scherer and Smid (2000) in one of their studies stated activities that cover in corporate social responsible activities of the firm. The study explored the activities including social security, human protection, following defined ethical codes, protection of natural environment and firm inclination towards the self-regulations in order

to fulfill the gap in defined legal regulations of the firm for environmental health.

Braithwaite and Drahos (2000) in his study suggested that on global level, no state and corporate firms can alone provide goods to the public. Study stated that it is a polycentric as well as multilateral process in which government and the corporate sector have to work together by defining rules and regulations

McWilliams and Siegel (2001) worked on the determinants of the firm CSR. The study has analyzed that the value of firm CSR is dependent on the characteristics of the firm that includes business diversity, size of the firm, and income of the consumer, labor and market conditions. Matten and Crane (2005) in their study on corporate social activities reported that the firms nowadays start assuming their role in the society like a state. They further argue that the company starts working for the betterment of human rights and environmental protection that was once considered the responsibility of the government. The study further argued that this condition happens when the government of a particular country failed to work for the basic rights of the citizens, which was originally the sole responsibility of the government. Scherer and Palazzo (2007) in their study stated a lot of researches has been conducted on the role of CSR in the corporate sector but still there is no concise and actual definition of corporate social responsibility.

Corporate social responsibility and financial performance

There are many researches that have been conducted to see the relationship that exists between the corporate social responsibility and financial performance but most of the researches have been conducted in developed countries. Only few researches have been conducted to see the impact. Goss and Roberts (2011) in their study stated that the company's involvement in CSR activities improves its credit rating results in lower debt cost and improve company's financial performance.

Mackey (2007) studied the relationship between corporate giving and the financial performance of the firm. They examined that managers should not invest in the social activities of the firm that increase the present value of future cash flow but increase the market value of the company. They also stated that the major purpose of doing business is not just maximizing the profit of the firm but also to invest for the welfare of the society.

Mishra and Suar (2010) studied that the corporate social responsibility influences the performance of financial and non-financial firm of India. The result of the studies shows that the performance of financial and non-financial firms increases with the increase in CSR activities. Stocks listing effect, ownership structure and size of the firm have been used as a control variable of the firm Orlitzky et al. (2003) studied the relationship

between corporate giving and corporate financial analysis by doing meta-analysis of 52 companies. The results of the studies show that firm investment in environmental performance pay off and the operationalization between the corporate financial performance and corporate giving results in a positive relationship.

Werther and Chandler (2005) stated that it is beneficial for the firm to invest in the social welfare activities considered important for the stakeholders. They concluded that the firm can lose the support of the stakeholders if firms will not take part in the CSR activities that will reduce the value of the firm

H1: There is a positive relationship between CSR activities and financial performance of the firm

Corporate social responsibility and ownership structure

Coffey and Fryxell (1991) conducted a research to see the relationship between the institutional ownership and the corporate giving. The results of their studies show that there is mixed relationship that exists between the institutional ownership structure and the corporate interest towards the social wellbeing.

Rees and Rodionova (2015) explored the impact of family ownership on corporate social responsibility. The study included the data of 3,893 firms from 46 countries of the world. The results show negative association between the family holding equity and their voluntarily contribution in the society. Study reported that family owned companies are closely monitored and do not make considerable contribution in the society.

Yoshikawa et al. (2014) stated that family owned firms usually have a long term vision and they are more concerned about their relationship with the stakeholders in order to ensure the long-term survival of the company. He also stated that family owned firms hesitate to invest in corporate social responsible activities as it does not guarantee the financial returns. He examined that family owned firms are usually wealth maximizers and try to avoid these kinds of expenses.

Coffey and Wang (1998) in his research on the impact of managerial ownership on corporate philanthropy concluded that there is a direct relationship between managerial ownership and corporate giving. He stated that under managerial ownership the corporate contribution in the welfare of the society increases.

Lopatta et al (2016) analyzed the relationship between the block holder and firms' corporate social responsibility on the panel data from year 2003-2012. The study concluded that there is a negative relationship between the block holders and corporate social responsibility. Oh et al. (2011) conducted a study on the large Korean firms. The study concluded that there is a negative relationship between the CSR activities and the top management of the firm. Barnea and Rubin (2010) also conducted

research on association between the block holder and insider ownership and leverage on corporate social performance. Results of the study show that there is a negative relationship with the corporate social activities. Cespa and Cestone (2007) stated that the investment in corporate social responsibility may entrench the managers to pursue their own interest on the cost of firms' value that will attract non-financial stakeholders.

Simerly and Bass's (1998) conducted an exploratory study to examine the relationship between the corporate giving and percentage of stock equity owned by managers, CEOs, and institutions. Their research found negative relationship between the voluntarily contribution and the ownership structures of the firm. Cox et al (2004) studied the effect of institutional ownership on the social responsible activities of the UK based firms. The result reveals that institutional ownership in long term can increase the corporate social performance. Kappes and Schmid (2013) stated that there is a negative relationship between the family ownership and the corporate involvement in social welfare activities. Study claimed that they normally have long term stakes in the firms so the investment in CSR can reduce their own benefits. Gjessing and Syse (2007) studied corporate social responsibility in an Australian company. They reported that investment institutions diversified in many firms can be affected by political and social problems. Study also concluded that in order to compete for the funding institutional investors should keep their good reputation by doing CSR.

Zattoni and Cuomo (2008) stated that government ownership has positive relationship with the corporate social activities. They reported that the engagement in the corporate social activities will construct the base for government support. They claimed that winning the government support by involving in social responsibilities will not only help in legitimizing the corporate operations but also increase access to the other benefits like subsidies and tax reductions that ultimately increase the profitability of the firm. Cressy et al. (2012) in their research on government ownership found that the government ownership increases the CSR activities depending on the type and size of the government ownership of the firm.

On the contrary Jia et al. (2009) conducted study in Chinese firms. They provided evidence that the countries with low governance and extensive fraud and corruption result in lower involvement of firms in CSR activities under higher proportion of government ownership. Dam and Scholtens (2012) in their study reported that there is no significant relationship that exists between Institutional ownership and CSR. Whereas another study conducted by Barnea and Rubin (2010) concluded a negative relationship between the CSR and institutional ownership. This may be because the Institutional owner has the huge stake in corporations to make profit.

H2: There is a negative relationship between family

ownership and firms' participation in corporate social activities

H3: There is a negative relationship between institutional ownership and firms' participation in corporate social activities

H4: There is a positive relationship between managerial ownership and firm's participation in corporate social activities

Control variables

Orlitzky and Benjamin (2001), in his study, stated that the size of the firm significantly influences the percentage of profit contributed in social welfare. He concluded that larger firms with more cash flows in hand make considerable social contributions.

Adams and Hardwick (1998) and Brammer et al. (2006) in their studies on the corporate social responsibility concluded that the firms with high percentage of debt in their capital structure have less available financial resources to contribute for the social well-being.

METHODOLOGY

Sample selection

This study includes 54 manufacturing firms listed on Pakistan stock exchange classified into different sectors. These sectors mainly include automobiles assemblers, automobile parts, Gas Exploration and refinery oils, electronics, food and personal care, chemical, fertilizers, cements and textile weaving and spinning sectors. The firms included in the sample cover the criteria that they all remain listed on the Pakistan stock exchange and are involved in the CSR activities over the study period of 2012 to 2016; also submitted their annual reports to the Pakistan stock exchange. The data are extracted from the publically shared annual reports of the firm. The study consists of 270 observations of study for panel regression analysis. Firms were selected on the following criteria:

- (i) Firms must be in business for the study period
- (ii) The firm that remains listed in Pakistan stock exchange over the period of study
- (iii) The firm should not have merged.
- (iv) The firm should be involved in CSR activities at least once in 5 years period.

Measures

The variables of study was different and used according to their applicability in the context of Pakistan

CSR activities

The CSR activities were measured by the voluntarily contribution made by the company over the years. It is measured by the amount paid as a donation, gift and kind in the annual reports. In previous study Ali et al. (2010) measured the CSR as the amount paid for some cause based project or to benefit of employees of the company. Van et al. (2005) measured the CSR as the sum of the

amount paid for employment welfare and training, social and community expense and environmental and pollution control expense. Voluntary contribution of the firm is measured by,

Corporate Giving = Firms Donations+ Kind+ Gifts/ Sales Revenue*100

Return on assets

ROA is the measure that is widely used by the researchers for measuring the financial performance of the firm. This measure is consistent with the previous researches done on the financial performance of the firm (Orlitzky et al., 2003; Waddock and Graves, 1997).

ROA is calculated by the following formula:

ROA= Profit before tax/ total assets *100

Ownership structure

Ownership structure is divided into three types: managerial ownership, public ownership, family ownership. Ownership structure was determined by the number of shares held by the management of the company, family members, and the general public (Zeitun and Tian, 2014). This measure is consistent with other researchers worked on the ownership structure of the firm.

Control variables

Debt ratio

Debt ratio is used as a control variable. Debt ratio is calculated by total debt divided by total assets. According to Wu (2004) and Harvey et al. (2004) debt ratio in the capital structure of the firm determines the amount spent on the CSR activities.

Size

Size of the firm is used as a control variable and calculated by taking the natural log of total assets. Many researchers stated that the size of the firm has a subsequent impact on the corporate giving for social welfare. Researchers have taken natural log of total assets to measure the size of the firm (Huang and Wong, 2002;Harda, 2006;Doukas and Pantzalis, 2003).

Tools of analysis

This study aims to examine the impact of corporate social giving on financial performance of the firm and the relationship between the ownership structure and CSR of the firms in Pakistan by using Panel regression. A panel set of data incorporates both cross sectional and time series. Panel data have the characteristics of capturing the changes that occur with the time. Baltagi et al.(2005) panel regression has the ability to control the individual heterogeneity of the firms in sample and reduce the chances of multicollinearity.

The following panel regression equations were examined to analyze the existing relationship between corporate giving, firm performance and ownership structure. Random effects in Generalized least square (GLS) regression has been used to analyze the relationship between the variables. The use of Ordinary Least Square (OLS) regression does not result in the efficient

Table 1. Descriptive statistics.

	Descriptive statistics				
	N	Minimum	Maximum	Mean	Std. deviation
MNG	270	0.0000	0.3254	0.009207	0.0336880
FML	270	0.0000	0.8678	0.110174	0.2067658
INST	270	0.0288	10.0000	0.700087	0.2865892
ROA	270	-0.3268	0.3558	0.104874	0.0947151
CSR	270	-0.7628	0.9707	0.016377	0.0978393
Valid N (list wise)	270				

CSR: Corporate Social Responsibility; **MNG:** Managerial Ownership, **FML:** Family Ownership, **INST:** Institutional Ownership, **ROA:** Return on Asset.

estimation of the regression coefficients. The decision about using random effect is made on the basis of Hausman test. The significant result of the Hausman tests reveals that the fixed effect is more appropriate whereas insignificant test results show random effect is more appropriate for the panel data (Saleh et al., 2011). The following are the model of the study.

Research models

$$\text{Model 1: ROA} = \beta_0 + \beta_1 \text{VOL}_{it} + \beta_2 \text{Size}_{it} + \beta_4 \text{DR}_{it} + \varepsilon \quad (1)$$

$$\text{Model 2: VOL} = \beta_0 + \beta_1 \text{FML}_{it} + \beta_2 \text{MNG}_{it} + \beta_3 \text{INS}_{it} + \beta_2 \text{Size}_{it} + \beta_4 \text{DR}_{it} + \varepsilon \quad (2)$$

RESULTS AND DISCUSSION

Table 1 provides the descriptive statistics of company ownership structure, corporate social responsibility and profitability ratios. In this study the managerial ownership of the firm is calculated by the total number of shares owned by the insiders divided by total number of shares of the company. The maximum value of the managerial ownership is 0.325 which shows that the average 0.09% of shares in Pakistani manufacturing firms is owned by the managers. The average value of the shares owned by the family member is 11%. Whereas the maximum value in the data of family ownership is 86 percent; which shows that the 86% of company shares are held by the family members. The average value of the institutional ownership is .700, which shows that on average 70% of the manufacturing firms are owned by the institution. The average value of return on assets of the firms is .1048, which shows that on average 10.4% of the return is generated by the assets of the manufacturing companies. The minimum value of the firm return on assets is -0.3268, which shows that there is decrease of 32.6% in the profitability of the firm. CSR is the percentage of income given as a donation, kind and gifts. The average percentage of CSR is 0.016, which shows that on average only 1.6% of the total income is paid out as donations. The minimum value of the CSR is -0.76, which shows that there is a 76% decrease in the firm investment

in social responsible activities and the maximum value shows that the 97% of the income is paid out by the firm in social responsible activities.

The GLS regression was used to see the relationship between the corporate social responsibility of the firm and the financial performance. Figure 1 provides regression results of model 1. To decide between the fixed and random effect model Hausmen test was conducted. Figure 2 shows the results of the Hausman tests. The insignificant result of the Hasumen test (0.356, $P > 0.05$) shows that the random effect model is appropriate to test the model 1 instead of fixed effect model. The results of the random effect model show that there is an insignificant but negative relationship that exists between the corporate social performance and firm financial performance (-0.054, $P > 0.05$). The insignificant but negative sign shows that the profitability of the firm decreases with the increase in the corporate social contribution. Firm's involvement in the social activities results in corporate expenses that eventually result in damaging the profitability of the firm. Whereas the controlled variables that include size of the firm and debt ratio has a significant relationship with the profitability ratio. The size of the firm is inconsistent with the expected results. The tests found negative significant relationship between size and return on assets (-0.0094, $P < 0.05$). Larger firms have more operating expenses that result in low profitability of the firm. Debt ratio is significantly but positively related to the firm financial performance (0.00059, $P < 0.05$). This shows that increase in the debt ratio increases financial risk of the firm. Managers have to work hard in order to fulfill the financial obligations of the firm. The large percentage of the debt in capital structure increases a firm's chances of bankruptcy hence managers prefer to invest the available cash in positive NPV projects that result in increase in firms' profitability (Figure 3).

The second joint model was run to see the relationship between the ownership structure and firms financial contribution in social welfare activities. First the Hausman test was conducted to see the appropriate model for effect. The insignificant result of Hausman test shows

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. hausman fe re
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	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
vol	-.0115064	-.0549052	.0433988	.0318094
dr	.0005947	.074744	-.0741494	.0683782
size	-.0010536	-.0094339	.0083803	.0167218

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(3) = (b-B)'[(V_b-V_B)^(-1)](b-B)
 = 3.24
 Prob>chi2 = 0.3560

Figure 1 .Hausman test results of Model 1.

```
Random-effects GLS regression           Number of obs   =       270
Group variable: id                     Number of groups =        54

R-sq:  within = 0.0001                  Obs per group:  min =         5
      between = 0.1640                    avg =         5.0
      overall  = 0.0268                    max =         5

Wald chi2(3) = 7.32
corr(u_i, X) = 0 (assumed)              Prob > chi2     = 0.0622
```

roa	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
vol	-.0549052	.0587147	-0.94	0.350	-.1699839	.0601735
dr	.074744	.0368328	2.03	0.042	.0025532	.1469349
size	-.0094339	.0047714	-1.98	0.048	-.0187856	-.0000822
_cons	.3155029	.1104273	2.86	0.004	.0990694	.5319364
sigma_u	0					
sigma_e	.09479748					
rho	0	(fraction of variance due to u_i)				

Figure 2. Random –effects of GLS regression.

that random effect model is more appropriate for testing of results.

The results show insignificant relationship with all types of ownership structure (Figure 4). The results show that the managerial ownership has a positive but insignificant relationship with the firm voluntarily contribution (0.0189, P >0.05). The positive results show that managers prefer to invest funds in corporate social responsible activities in

order to earn the good will that result in customers' loyalty. The family ownership (0.0733, P>0.05) and institutional ownership (0.0278, P>0.05) also showed positive but insignificant results. The results of the study show that there is no significant effect of ownership structure on their contribution in social responsible activities. The insignificant result may be the impact of firms' lack of interest in the disclosure of their corporate

	Coefficients			
	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
mng	.0628911	.0189272	.0439639	.1962987
fml	-.1637855	.0733785	-.237164	.2115478
inst	.0619011	.0278708	.0340303	.0691884
size	-.0112688	.0054177	-.0166865	.0169729

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(4) &= (b-B)' [(V_b-V_B)^{-1}] (b-B) \\ &= 2.74 \\ \text{Prob}>\text{chi2} &= 0.6019 \end{aligned}$$

Figure 3. Hausman test results of Model 2.

```

Random-effects GLS regression           Number of obs   =       270
Group variable: id                     Number of groups =        54

R-sq:  within = 0.0003                  Obs per group:  min =         5
      between = 0.0726                  avg =         5.0
      overall  = 0.0134                  max =         5

corr(u_i, X) = 0 (assumed)              Wald chi2(4)    =         3.30
                                           Prob > chi2     =       0.5085
    
```

vol	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
mng	.0189272	.1851639	0.10	0.919	-.3439874 .3818418
fml	.0733785	.0455555	1.61	0.107	-.0159077 .1626647
inst	.0278708	.0326467	0.85	0.393	-.0361156 .0918572
size	.0054177	.005065	1.07	0.285	-.0045096 .0153449
_cons	-.1386406	.1231301	-1.13	0.260	-.3799711 .1026899
sigma_u	.01356227				
sigma_e	.09726606				
rho	.01907128	(fraction of variance due to u_i)			

Figure 4. Model 2: Random effect of GLS regression.

social responsible contribution in annual reports. In developing country there is subsequent benefit that a company gets in disclosing their contributions for the welfare of the society. The limitation of the study is that the study only included data from the annual reports. In developing countries like Pakistan firms are not so regularized for disclosing their contributions in annual reports. The study has used only one source for gathering information about the firm investments in social responsible activities.

Conclusion

Corporate social responsibility is an emerging trend in developing countries like Pakistan. A wide research has been conducted to see the Impact of CSR on financial performance of the firm and the impact of ownership structure on voluntarily contribution in developed country. The regulations have been developed in order to encourage firms to declare information regarding their investments in social wellbeing. In our study on the

manufacturing sector of Pakistan we found negative but insignificant relationship between firm's involvement in the social responsible activities and the firm financial performance. The results also show that there is no impact of ownership structure on the corporate social responsible activities of the firm in context to Pakistan.

Limitations and future implication of research

The research has some limitations. The first limitation is that this research only focuses on 2012-2016. Due to political instability and other economic condition that has influenced the business, years after 2016 till 2018 were not included in the research. Secondly this research also focused on 54 non-financial firms listed on Pakistan Stock Exchange from 2012 to 2016. Further research can be conducted by including industry wise analysis on relationship between the CSR and firms' financial performance. Thirdly multiple measures for financial performance of the firms can be used to analyze the relationship between the CSR and financial performance.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

The effect of workplace incivility on organizational outcome (mediating role of psychological capital)

Xu Shi Guo¹ and Shalendra Satish Kumar^{2*}

¹Department of International Business, School of Business Administration, Chungnam National University, Korea.

²Department of Business Administration, Chungnam National University, Korea.

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The major purpose of this study was to assess the impact of workplace incivility on organizational outcomes as well as the mediating effect of psychological capital on this process particularly in academic organization in Fiji. To accomplish this purpose, personal distribution of 250 questionnaires was given to the teachers. The final response rate from employees was 90% (225/250). The result shows that workplace incivility was found to be negatively significant to organizational commitment, job involvement and job satisfaction. Secondly, there was a negative relationship between workplace incivility and psychological capital. Thirdly, as predicted psychological capital was positively significantly related to organizational commitment, job involvement and job satisfaction. Fourthly the mediating role of psychological capital was identified to have significant relationship between workplace incivility and organizational outcome. Finally practical recommendation was suggested for the employees of Ministry of Education, Fiji.

Key words: Workplace incivility, psychological capital, organizational commitment, job involvement and job satisfaction.

INTRODUCTION

Workplace incivility is constantly increasing with the challenging characteristic of the contemporary society. Every year millions of employees fall victim of work place incivility. According to Person and Porath (2005), it is an alarming to detect that workplace incivility dominates in many organization oscillating from government agencies, medical organizations, National sports organization to academic and many other non-profit and profit organization. Workplace Incivility has been labeled as “organizational chaos” where work is not well organized or coordinated. The novelty of this study is twofold. Firstly workplace is seen as social process; therefore it

becomes interesting to explore the evolution of workplace incivility and then examining its phenomena on the organizational commitments, job commitments and job satisfaction. Secondly, examining the mediating effect of Psychological Capital between workplace incivility and the organizational outcomes. The current study demarcates from preceding research work and adding new contribution of information to an already existing knowledge. Workplace incivility is defined in accordance to Anderson and Pearson’s (1999) definition: “workplace incivility is low-intensity deviant behavior with ambiguous intent to harm the target, in violations of workplace

*Corresponding author. E-mail: salenkumar35@yahoo.com.

norms for mutual respect". He stated that barbaric behaviors are usually discourteous rude, and displays absence of regard for fellow coworkers. Low-intensity refers to verbal phenomena rather than being physical. It is active and indirect forms of behavior (Pearson and Porath, 2005). Workplace incivility generally includes three parties: The instigator, the target and the observer. These positions are not mutually exclusive; where one acts as the instigator, they could also be the target or observer in another situation (Anderson and Pearson, 1999). This research brings lime light the issues of what the academics in Fiji suffer silently, bounded by the code of ethics of Ministry of Education which forbids them from disclosing their work publicly. The ever changing demands and constant pressures from stakeholders are directly affecting the academics and its professions. The pleasure of producing an outstanding learner is dampened and destroyed by creation of workplace incivility, unrealistic goals and demand on teachers and the excitement of assisting in young mind to flourish with enriching knowledge is being discouraged and depressed by rising tensions, stultifying work environment and unrealistic work demands on the academics. The aim of this research is to analyse the relationship that exist between incivility and the organisational outcome among academics in Fiji. By exploring these issues, we hope to contribute to the current study and its confounding relationship between incivility and organisational outcome and on the same note suggesting a psychological capital as a method that can mediate the relationship between them.

REVIEW OF LITERATURE

Workplace incivility

Recently workplace incivility has been seen as a burgeoning concern and a universal phenomenon which organisations should initiate its focus towards. Workplace incivility is a behaviour that exists in the organisation that violates the organisational norm which threatens the well-being of the organisation and its employees. Workplace incivility is recently a very new notion of antisocial behavior that has been perceived in various disciplines such as education, nursing and management sectors. It is characterized as disrespect, thoughtlessness, rudeness and therefore workplace incivility is defined as low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect (Anderson and Pearson, 1999). It was further defined as low in intensity compared to other disparate forms of divergent behaviors such as workplace violence and workplace aggression (Neuman and Baron, 1998), tyranny (Ashforth, 1994), workplace bullying and harassment (Rospenda, 2002). Incivility is not only restricted to

verbal mistreat but rather it can also be nonverbal. Although incivility represents low intensity behavior, it should not be contemplated as trivial or harmless. As a result of its low intensity, it is difficult to observe and easily neglected; never the less, continuously ignoring these tendencies will allows incivility in the organization to intensify into more relentless workplace violence. The consequence of Workplace incivility has a pernicious effect on both victims and organizations. Estes and Wang (2008) in their research found out that at individual level, victims usually undergo psychological distress due to discourteous actions and words thus experiencing anxiety, low self-esteem, depression, insomnia, and stress. In Fiji some common issues that concerning the workplace are as follows: Not switching off mobile phones while in meetings, leaving behind a jammed photocopier or printer after use (Johnson and Indvik, 2001), sending an awful and belittling note, making accusations or undermining coworker's credibility in front of others, shouting, talking loudly on the phone about personal matters during working hours, answering the phone in casual way, responding to coworkers in somewhat too casual way, not sharing relevant information (Hutton, 2006), gossiping about workmates to capture other's attention (Johnson and Indvik, 2001), not brewing coffee for a next pot, standing unsolicited but irritably over the desk of someone engaging in a telephone conversation, throwing trashes carelessly, are other examples of interpersonal uncivil behaviors (Martin, 1996). Using others' stationeries without permission and excluding coworkers from staff-based social activities are also included as precedent of operationalized workplace incivility (Hutton, 2006). For organization, this type of working culture or situation is catastrophic and detrimental (Hallowell, 1999). According to Andersson and Pearson (1999), workplace incivility takes four forms and they are:

1. Exclusionary behavior: Exclusionary range from minor exclusionary tactics such as curt responses to more serious instances, with the most serious form of ostracism behavior is defined as: Individual's action that leaves out other coworkers in the organization on high degree of divergent.
2. Gossiping: A spreading of false or negative information about coworkers to another person or group in regards to their personal, private and confidential information. The term is frequently used with negative connotations, referring to spreading of malicious information, unreliably sourced and unchecked anecdotes and misinformation. The other negative views of gossip are its being trivial, invasive, and commonly harmful.
3. Hostility: Hostility is a behavior that seeks to perpetrate harm which is not physical in nature. The most common ones that have been observed in the organizations are generally rude, discourteous and display lack of regards

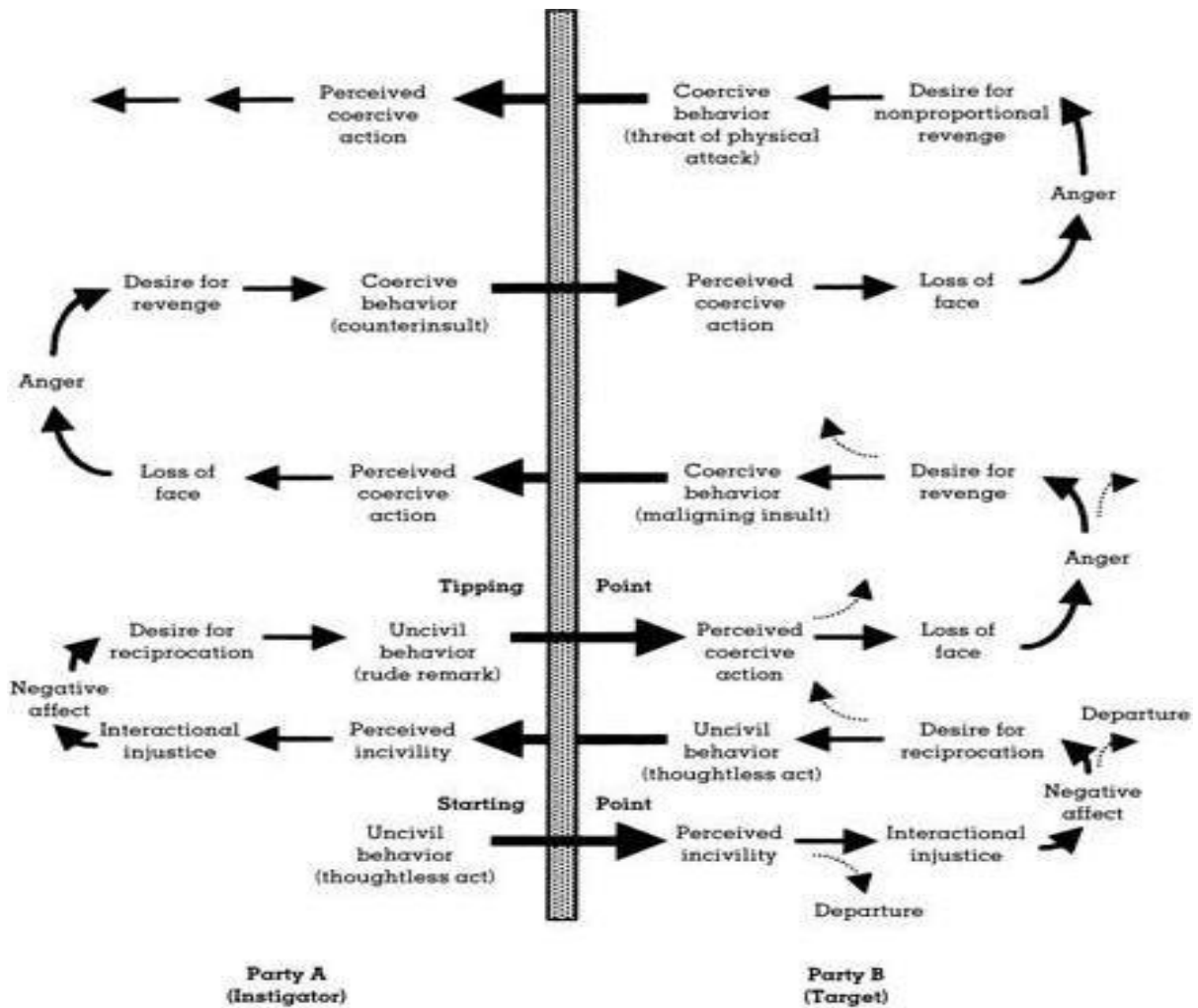


Figure 1. Spiral theory of incivility model (Andersson and Pearson, 1999) depicting Tit for Tat method.

for others. Hostility is a type of nonphysical incivility that seeks to inflict anger, hatred, or harm.

4. Privacy invasion: Privacy Invasion is "invading into the personal life of another coworker, without just cause" It is further defined as the "intrusion into the personal life of another, without just cause".

According to Andersson and Pearson's (1999) spiral theory of incivility (Figure 1) begins at the outset when an uncivil act is recognized and anticipated. Employee recognizes this as uncivil because it breaches the norms or is generally an unacceptable behavior. The victim either fascinated for retaliation stirred by negative affect decides to leave the organization and this could eventuate at any point along the spiral. The fascination for retaliations likely to result in unacceptable behavior in reaction to the incivility perceived. As the spiral advances further, employees are likely to reach a breaking point due to dissatisfaction such as anger,

insult, loss of face and this could bring about deliberate intense behaviors such as disorder or aggression within the organization. The spiral of incivility becomes contagious and this could progress until justice is restored, forgiveness is asked pardon is given, or one of the involved parties resigns. On the other hand Bau (1964), he used social exchange theory to describe how incivility is perceived and generated. He stated that social exchange theory is a social psychological perspective that describes social change as a mechanism of reciprocates between coworkers. When two individuals generate reciprocal activities from each other through a series of mutual exchanges therefore in the process developing a social exchange relationship. Furthermore it has been found that social exchange and reciprocal aggression theories support the importance of studying incivility. Furthermore Robinson and O'Leary-Kelly adopted the concept of social learning theory to explain the development of antisocial behavior

in the workplace. This was further supported by Bandura (1977) that social learning theory proposes that individual behavior is influenced by role models for behavior. New members of an organization learn the values and assumptions of the organization through observing other members.

Psychological capital

Psychological capital is formalized as employee's positive state of psychological development and this is described through: (1) Self-efficacy, having courage in putting the decisive effort to accomplish a demanding tasks; (2) Hope, enduring towards a goals and, if necessary, altering paths of goals in order to accomplish; and (3) Optimism, making a decisive attribution through current progress and in the future; (4) Resiliency, when surrounded by complications and difficulties, withstanding it and bouncing back and even beyond to achieve the ultimate. PsyCap is concerned with „who you are“ and „what you are becoming in developmental sense (Luthans and Luthans, 2004). The sub dimensions of psychological capita are:

1. Self-efficacy: PsyCap efficacy or simply confidence can be defined as ones determination about his or her capabilities to activate motivation, cognitive resources and line of action needed to successfully perform a specific task within a given context. Self-efficacy employees are distinguished by 5 vital characteristics. (a) Selecting high goals and self-selecting complicated task; (b) Welcomes and succeed on challenges; (c) High self-motivation; (d) Devote necessary effort to achieve their goals; (e) Facing hindrance, they still continue.
2. Hope: Frequently used in everyday language, Snyder and Anderson (1991) described hope positive motivational as a state of interactively derivate sense of success in terms of (1) goal-directed energy; (2) planning to meet goals. In other words, hopeful employees not only have the motivation and the willpower to succeed, but also inherit an uncanny capacity for generating multiple ways to pursue their goals (Sneyder, 2000).
3. Optimism: Optimism is when an employee is adamant of desirable outcomes in the future. It is not about forecasting that favorable things will transpire in the future. An optimistic person is likely to adapt to change, see opportunity that arise in future and creating all possible opportunities to capitalize.
4. Resilience: Failure after failure does not deter a leader from seeking out achieving the mission they set forth for themselves in their organization or even entire societies. According to Luthans (2002) he describes resilience as an ability to rebound or bounce back from catastrophe, conflict, deficiencies which therefore increase

responsibility.

Workplace incivility and the organizational outcomes

Organizational outcome comprised of organizational commitments, job satisfaction and job involvement. For the above research, workplace incivility is correlated with organizational outcome. Experiencing incivility in the workplace has been found to be related to a number of affective, attitudinal, cognitive and behavioural outcomes. Attitudinal and cognitive outcomes include decreased organizational commitment and motivation (Lim and Teo, 2009) and lower levels of perceived fairness (Lim and Lee, 2011) respectively. Workplace incivility displayed a negative statistically and practically significant relationship with the response to organizational outcomes consisting of organizational commitment, job involvement, and Job satisfaction. This was further supported by Lim and Cortina (2005) and Penney and Spector (2005) that workplace Incivility itself will reduce productivity, job commitments and job satisfaction. This study will empirically investigate the hypothesis that is described as follows:

Hypothesis 1: The workplace incivility is negatively related to the organizational outcomes

Workplace incivility and the organizational commitments

Organizational commitment is an attitudinal variable that signifies a level of affection an employee's has toward the organization. Research supports the existence of three types of Organizational Commitment (OC), Affective Commitment (AC), Normative Commitment (NC) and Continuance Commitment (CC). Affective refers to an incumbent's emotional affection towards the organization. In other words, individual's expectations are met and their wishes to be part of the organization; whereas normative commitment is based on the individual's values (it is where individual assumes that he /she has to stay because it is the ultimate thing to do). On the other hand, continuance commitment directly relates an employee's perceived benefits of doing something. Social identification is an employee's affection towards the social group and the aspiration to continue being a member in that particular group. According to Porter, Steers, Mowday, and Boulian (1974), commitment is "acceptance of goals and values of an organization, willingness to apply ample effort on behalf of the organization, and a positive aspiration to maintain organizational membership." According to Meyer (1993), "workers with a tenacious affective commitment endure with the organization and want to have a strong continuance commitment with organization. Employees that had a good relationship with their work unit had higher levels of organizational

commitment. According to Jaros (1995) stated that affective commitment is the extremely vital out of three components of organizational commitment in anticipating organizational commitments. Affective commitment is positively correlated with work attitudes (Allen and Meyer, 1996) and having greater organizational commitments (Meyer and Allen, 1991). Incivility indirectly stimulates organizational commitments through effect on perceptions and fairness also distrust has been identified as the result of abuse and antecedent of organizational commitments (Taylor, 2010). This basis of above mentioned literature, presents study proposal that:

Hypothesis 1-1: Workplace incivility is negatively related to organizational commitment

Workplace incivility and job satisfaction

Job satisfaction is achieved when an employee feels comfortable within the organisation. Hence the talents and knowledge that an employee has can be utilised and get him/her promoted. According to better job analysis and job design, the recruitment process, training and development are vital and top priority in motivating employee performance and job satisfaction. Herzberg Two-factor theory accentuates on the motivator-hygiene factors which elaborates on job satisfaction and motivation in the organization. The theory convinces that some component of job satisfaction enhances the motivation while some component causes job dissatisfaction. According Herzberg different factors lead to job satisfaction or to job dissatisfaction.

This theory further signifies different factors of motivation and hygiene that results in job satisfaction and dissatisfaction outcomes. Motivation drives employees to realize one's personal and organizational goals. According to Spector (1997), job satisfaction is an employee's affective response to how they feel about their work and its diverse aspects. Even though these definitions differ somewhat in content, many agree that job satisfaction is an affective reaction to individual's work as a whole or to particular facets of the work. Workplace incivility, as modern discrimination, may directly experience has a negative effects relate to their job satisfaction.

Specifically, workplace incivility, will negatively affect a target's ability to cope through the use of resources such as social support or general enjoyment with their job, eventually resulting in dissatisfaction with their work in general. Workplace incivility is causing strain in targets, and therefore resource depletion, they will likely experience decreased job satisfaction. This basis of above mentioned literature, presents study proposal that:

Hypothesis 1-2: Workplace incivility is negatively related to job satisfaction

Workplace incivility and the job involvement

Job involvement is defined as a degree to which a worker is involved in this given task and freedom in making decision. According to Bass (1965), employee's job involvement increases if they have some authority in decision making process, and have greater responsibilities, this will boost the tempo of the work. Marcson (1960) and Kornhauser (1962) suggested that suitable method to escalate an output of workers in organizations is to bestow the workers with jobs that demand more involvement. An employee with a high level of job involvement will always consider job as a personal interests and vital component of their life. The well-known phrase „I live, eat, and breathe my job“ would describe someone whose has a very high job involvement. According to (Kanungo, 1982) Job involvement is a distinct concept that contradicts from the concept of work ethic in the sense that it is one's belief that work is vital, and employees should involve in work to better themselves. He further elaborated that Job involvement is also a distinct concept from organizational commitment and job satisfaction. Job involvement is how relevance is employee's job to his or her life, and job satisfaction is the level of satisfaction a worker achieves from his or her work. However, employees may be subject to hostile working environment and they begin to feel stressful and exhausted. In this respect, employees reflect frustration, learning disabilities, and develop lower job involvement. Many research has revealed that when an employee's experience workplace incivility, there psychological condition such as stress, anxiety and depression experienced by individuals can damage the organizations through performance and reducing productivity and job involvement (Baba, 1998). This basis of above mentioned literature, presents study proposal that:

Hypothesis 1-3: Workplace incivility is negatively related to job involvement.

Workplace incivility and the psychological capital

Work place incivility has been a major topic in organizational research over the past 20 years and is defined as negative treatment that is systematic, continuing over a period of time and perceived as directed towards one or more people who have difficulty defending themselves against it. The development of psychological capital has contributed to a focus on positives rather than negatives. It is a focus on resources rather than deficits. However there has been no research on the relationship between PsyCap and workplace incivility. Incivility at work has generally been researched in terms of its negative impact, which provides us with a literature balanced in favour of what does not work as opposed to what does work.

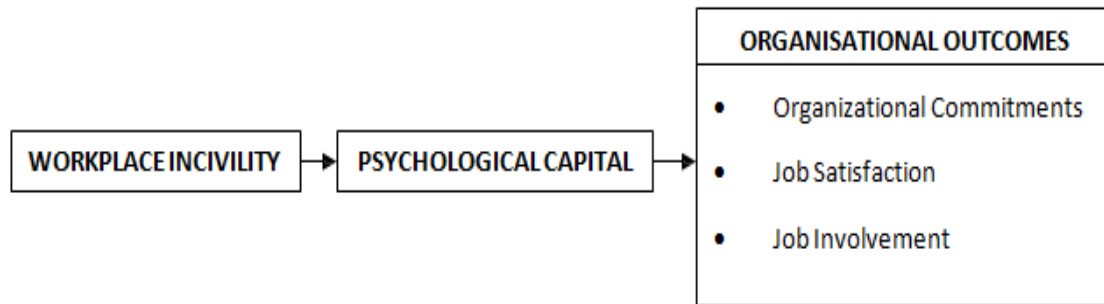


Figure 2. Hypothesized model.

The emergence of psychological capital has brought with it a revised focus based on the premise that perhaps we can learn more about fixing what is broken, by studying what is not broken. This basis of above mentioned literature, presents study proposal that:

Hypothesis 2: Workplace incivility is negatively related to psychological capital.

Psychological capital and organisational outcome

Psychological capital is positively related to organizational commitment, job satisfaction and job involvement. High psychological capital in people is believed to own cognitive capabilities of self-regulation those offers the opening, self-discipline and energy essential to reach ones goal. Self-efficacy is considered to meet the illusion standard for psychological capital in positive organisational outcomes (organisational commitment, job satisfaction and job involvement). High psychological capital persons have ideas to put intentional efforts to produce original and creative ways in achieving goals. Organisational change in a positive sense, psychological capital is considered as person level high order component that facilitates change (Abbas and Raja, 2016). A person was shown positive job involvement and organisational commitments at the time of organisational change (Abbas and Raja, 2015). Psychological capital gives persons more confidence and excites the positive thinking, which should result in high organisational commitments, job involvements and job satisfaction. This basis of above mentioned literature, presents study proposal that:

Hypothesis 3: Psychological capital is positively related to organizational Outcomes.

Hypothesis 3-1: Psychological capital is positively related to organizational commitments.

Hypothesis 3-2: Psychological capital is positively related to employee's job involvement.

Hypothesis 3-3: Psychological capital is positively related

to job satisfaction.

Mediating role of psychological capital

Self-efficacy is instrument develop through mastery experience, modeling and vicarious learning, social persuasion and developing physiological and psychological arousal. Hope plays a vital role in developing goal setting participation and contingency planning for alternative pathways to achieve goal. Optimism is developed through compassion from the past, acknowledging the present and opportunity for investigating in the future. The final component of PsyCap, resilience is instrumental in developing through asset focused strategy such as enhancing employability, risk focused strategy such as proactive avoidance of adversity and process focused strategy to influence the interpretation of adverse events. It is understood that psychological capital as a multidimensional constructs which address job commitment and improves job satisfaction. Research has established a positive relationship between resiliency and workplace performance (Avolio and Luthans, 2006). When an employee apprehends the organizational activities in the process of incivility driven, psychological capital is helping to reduce the salience of resource loss related to activities, to cope with stressors and thereby reducing effect of workplace incivility and increasing the strength of organizational commitments. This basis of above mentioned literature, presents study proposal that (Figure 2):

Hypothesis 4: Psychological capital mediates the relationship between workplace incivility and organizational outcomes.

Hypothesis 4-1: Psychological capital mediates the relationship between workplace incivility and organizational commitment.

Hypothesis 4-2: Psychological capital mediates the relationship between workplace incivility and job satisfaction

Hypothesis 4-3: Psychological capital mediates the

relationship between workplace incivility and job involvement.

METHODOLOGY

Data collection

Random sampling technique was used and samples were collected from schools around Viti Levu (Fiji) so that maximum results were obtained. The targeted sample for this research work were the teachers employed by Ministry of Education (Fiji), having sample of 250 teachers, a quantitative research method was used to collect relevant data's. The final sample for the study consisted of 225 employees of Ministry of Education, Fiji. The survey was conducted in English with a covering letter that explained the purpose and importance of the study. Questionnaire was personally distributed to respondent during December and January this year, 2016. Questionnaire was also given to school heads that helped in facilitation. Mobile calls were made to remind the participants who did not responded. Following these procedure 250 questionnaires was distributed and the final response rate received was 90% (225/250). Descriptive demographic data for the entire sample are displayed in Table 2. The sample consist of 48% male (n = 108) and 52% female (n = 117). The most common age of the employees were distributed between the range from 31 to 35, specifically from 31 to 35 years old (n = 79, 35.1%) and from 26 to 25 years old (n = 43, 19.1%).

Measure

In this study, Workplace Incivility is known as independent variable and there were three dependent variables which were Organizational Commitment, Job Satisfaction (JS) and Job Involvement (JI). Psychological Capital as mediator between independent variable and dependent variables.

Workplace incivility

Workplace incivility was measured using 20 items (4 items for Hostility, 5 items for Privacy Invasion, 7 items for Exclusionary Behaviour and 4 items for Gossiping) developed by Martin and Hine (2005). Rating was completed on a 5-point Likert – type scale, with responses ranging from (1 = Never, 5 = Very Often). Sample item included: *“Used an inappropriate tone when speaking to you and Gossiped behind your back”*. These items were averaged to form a scale, which had a reliability of 0.99

Psychological capital

Psychological capital was measured using 12 items on Psychological Capital Questionnaire (PCQ) developed by Luthans, Youssef (2007). Rating was completed on a 6- point Likert type scale, with responses ranging from (1 = Strongly Disagree, 6 = Strongly Agree). Sample item included: *“I feel confident in representing my work area in meeting with management and I always look on the bright side of the things regarding my job”*. These items were averaged to form a scale, which had a reliability of 0.98

Organizational commitment

Organizational commitment was measured using 8 items on

Affective Commitment questionnaire developed by Meyer and Allen (1993). Rating was completed on a 6- point Likert - type scale, with responses ranging from (1 = Strongly Disagree, 6 = Strongly Agree). Sample item included: *“I would be very happy to spend the rest of my career with this organisation and this organisation has a great deal of personal meaning for me”*. These items were averaged to form a scale, which had a reliability of 0.73

Job involvement

Job Involvement was measured using 10 items job involvement questionnaire develop by Kanungo (1982). Rating was completed on a 6-point Likert - type scale, with responses ranging from (1 = strongly disagree, 6 = strongly agree). Sample item included: *“The most important things that happen to me involve my present job and I like to be absorbed in my job most of the time”*. These items were averaged to form a scale, which had a reliability of 0.80.

Job satisfaction

Job satisfaction was measured using 5 item Job Satisfaction questionnaire develop by Muijs (2004). Rating was completed on a 6-point Likert - type scale, with responses ranging from (1 = strongly disagree, 6 = strongly agree). Sample item included: *“Generally speaking, I am very satisfied with this job and most people on this job are very satisfied with the job”*. These items were averaged to form a scale, which had a reliability of 0.98

Control variable

Demographic variables (Age, gender occupational experience and class roll) were included as control variable because of their possible effects on mediator and organizational outcome.

RESULTS

Descriptive statistics and intercorrelations

Table 1 includes means, standard deviations, alpha coefficients, and correlations among all variables. It show that workplace incivility has significant negative correlations with psychological capital ($r = -0.89$, $P < 0.01$), organizational commitment ($r = -0.64$, $p < 0.01$), job involvement ($r = -0.90$, $P < 0.01$), job satisfaction($r = -0.99$, $P < 0.01$).

Validity

Following common practice (Tsui et al., 1997), we applied a confirmatory factor analysis (CFA) on the 55 items that measure the five constructs in this study. As revealed in Table 3, the results confirmed a five-factor structure with an adjusted goodness-of-fit index (CFI) of 0.95 and root mean square error of approximation (RMSEA) of 0.05. If the values of GFI, CFI, and NFI exceed the cut-off value of 0.9, and the value of RMSEA is below the cut-off value of 0.08, then the model is said

Table 1. Descriptive statistics and intercorrelations.

Variable	M	SD	1	2	3	4	5	6	7	8	9
Age			1								
Gender			-0.07	1							
Occupational experience			0.85**	-0.20**	1						
Class roll			0.16**	0.05	0.11	1					
Workplace incivility	4.26	0.55	-0.02	-0.01	-0.01	0.03	1				
Psychological capital	1.74	0.54	-0.01	0.03	0.04	-0.08	-0.89**	1			
Organisational outcome	1.60	0.40	-0.02	0.74**	-0.14	0.02	-0.64**	0.62**	1		
Job involvement	1.72	0.39	0.03	0.05	0.00	0.02	-0.90**	0.82**	0.62**	1	
Job satisfaction	1.72	0.60	0.02	-0.01	-0.01	0.04	-0.99**	0.90**	0.65**	0.89**	1

P<0.05; *P<0.01.

Table 2. Validity of measurement model.

χ^2	df	RMSEA	CFI	GFI	NFI
350.22	230	0.05	0.95	0.89	0.92

Table 3. Multiple regressions.

	Dependent variable					
	Organizational commitment		Job involvement		Job satisfaction	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.12	0.49	0.74	-0.01	0.12	0.03
Gender	0.73	0.73	0.41	0.04	-0.01	-0.02
Occupational experience	-0.09	-0.04	-0.06	0.01	-0.11	-0.04
Class roll	-0.03	-0.01	0.02	0.05	-0.04	-0.01
Workplace incivility		-0.63**		-0.90**		-0.99**
R ²	0.55	0.95	0.01	0.81	0.01	0.98

*P<0.05; **P<0.01; ***P<0.001.

to be acceptable (Hu and Bentler, 1999). The potential threat of common method bias was checked with Harman’s single-factor test via confirmatory factor analysis. This test is based on the assumption that common method bias is a serious problem when a single latent factor will account for more than 50% of the total variance of the measures (Podsakoff et al., 2003). The results for the single-factor model were as follows: $\chi^2 = 2674.32$; $df = 1344$; $GFI = 0.64$; $AGFI = 0.61$; $NFI = 0.66$; $RMSEA = 0.083$. The chi-square test demonstrated that the five-factor model was superior to the single-factor model (350.22 vs 2674.32). Consequently, the results were worse than that of a five-factor model and one single-factor model did not account for the majority of the variance. In short, common method bias was not a critical threat in this study.

Hypothesis testing

The hypothesis 1 of the study postulated that a negative relationship would exist between workplace incivility and organizational outcomes. Table 3 showing the results of multiple regression on the relationships between work place incivility and organizational outcomes indicates workplace incivility are negatively and significantly related to affective commitment ($\beta = -0.63$, $P < 0.001$), job involvement ($\beta = -0.90$, $P < 0.001$) job satisfaction ($\beta = -0.99$, $P < 0.001$) respectively. Thus hypothesis 1(1, 2 and 3) can be supported.

Hypothesis 2 proposes that workplace incivility is negatively related to psychological capital. It is conformed in Table 4 showing that workplace incivility has a negative relationship with psychological capital ($\beta = -0.89$, $P < 0,001$). Thus hypothesis 2 is supported.

Table 4. Regression results for Hypothesis 3, 4, and 5.

	Dependent variable							
	Psychological capital		Organizational commitment		Job satisfaction		Job involvement	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age	0.14	0.06	0.02	0.04	-0.01	0.02	-0.04	-0.01
Gender	0.02	0.01	0.72	0.73	-0.03	-0.02	0.03	0.04
Occupational experience	-0.05	-0.08	0.01	-0.03	0.02	-0.03	0.06	0.02
Class roll	-0.09	-0.05	0.02	0.01	0.04	-0.01	0.09	0.06
Workplace incivility		-0.90**		-0.50**		-0.60**		-0.61**
Psychological capital			0.60**	0.14**	0.90**	0.10**	0.83**	0.11**
R ²	0.01	0.08	0.55	0.95		0.98	0.68	0.81

*P<0.05 **P<0.01 ***P<0.001

Hypothesis 3 predicts that psychological capital is positively related to the organizational outcomes (organizational commitment, job involvement, job satisfaction). As shown in Table 4, psychological capital has a positive relationship with organizational commitment ($\beta = 0.60$, $P < 0.001$), job involvement ($\beta = 0.83$, $P < 0.001$), job satisfaction ($\beta = 0.91$, $P < 0.001$), respectively. Thus Hypothesis 3-1, 3-2, 3-3 is supported, which means hypothesis 3 is fully supported, conclusively.

Hypothesis 4 proposes that psychological capital mediates the relationships between workplace incivility and organizational outcomes. To test the mediating role of psychological capital, three steps regression approach recommended by Baron and Kenny (1986) was followed. According to them, the three following regression equations should be estimated to test mediation. First, regressing the mediator on the independent variable; second, regressing the dependent variable on the independent variable; and third, regressing the dependent variable on both independent variable and on the mediator. To establish mediation, the following conditions must hold. First, the independent variable must affect the mediator in the first equation. Second independent variable must be shown to affect the dependent variable in the second equation. Third, the mediator must affect dependent variable in the third equation. If these conditions all hold in the predicted direction, then the effect of independent variable on dependent variable must be less in the third equation than in the second, perfect mediation holds if the independent variable has no effect when the mediator is controlled. Partial mediation holds in the case that the effect is significantly reduced in the third. Hypothesis 3 and 4 show that required three 4-1 predicts that psychological capital mediates the relationship between workplace incivility and organizational commitment. Tables conditions are met. The effects of workplace incivility (independent variable) on dependent variable is significantly reduced to -0.50, though it does not reach

zero. Thus hypothesis is partially supported.

To solidify the testing results we employ another more statistically rigorous method, Sobel test (1982), by which mediation hypothesis may be assessed. It provides a more direct test of an indirect effect. In the case of simple mediation, the Sobel test is conducted by comparing the strength of the indirect effect of independent variable(X) on dependent variable(Y) to the point null hypothesis that it equals zero. Result from the Sobel tests indicates that the indirect effects of workplace incivility on OC ($z = -3.722$, $P < 0.01$) is in the anticipated directions and are statistically significant. Thus hypothesis 4-1 was supported.

The reduced effect of workplace incivility on job involvement from -0.90 ($P < 0.01$) to -0.61 ($P < 0.01$) confirms hypothesis 4-2. Partial mediation holds in this case, too. Result from the Sobel tests also indicates the mediating role of psychological capital in the relationship between workplace incivility and job involvement. The indirect effects ($z = -2.71$, $P < 0.01$) are statistically significant. Thus hypothesis 4-2 was supported.

Hypothesis 4-3, proposing that psychological capital mediates a role in the relationship between workplace incivility and job satisfaction, is confirmed in Tables 3 and 4. It can be identified in the table that three conditions for mediation are met and the effect of workplace incivility on job satisfaction is reduced from -0.99 ($P < 0.01$) in the Equation 2 to -0.61 ($P < 0.01$) in the Equation 3. The results show that hypothesis 4-3 is partially supported. The results of Sobel test additionally implemented reinforce the mediation role of psychological capital. It indicates that the indirect effects of workplace incivility on job satisfaction ($z = -2.647$, $P < 0.01$) is in the anticipated directions and is statistically significant. Thus hypothesis 4-3 is supported too.

As a supplement to the Baron and Kenny's (1986) approach, the bootstrapping method was also employed for testing the effects of intervening variables (Williams and Mackinnon, 2008). Bootstrapping generates an empirical representation of the sampling distribution of

Table 5. Bootstrapping results of indirect effect for dependable variable.

	Coefficient	SE	Boot LLCI	Boot ULCI
Organizational commitment	0.17**	0.08	0.28	0.44
Job involvement	0.11**	0.04	0.18	0.26
Job satisfaction	0.18**	0.03	0.11	0.22

*P<0.05; **P<0.01; ***P<0.001.

the indirect effect by treating the obtained sample of size n as a representation of the population in miniature, one that is repeatedly resampled during analysis as a means of mimicking the original sampling process (Hayes, 2009). Hypotheses 4-1, 4-2 and 4-3 was examined using Amos 23 (Arbuckle 2009), which is currently the only available software package that directly produces bootstrapped percentile and bias-corrected confidence intervals for indirect effects, was used to perform the bootstrap analysis. To begin with, the software drew a three variable path diagram, with error terms for the endogenous mediator and the dependent variable. Then, 2,000 bootstrap samples were set by changing the bootstrap option because (the default value in Amos 23 is 200).

Moreover, it was necessary to override the confidence intervals in both the bias-corrected and the percentile options (the original is set to 90%) because this study needed to test a 95% confidence interval. By clicking the „calculate estimate“ button, Amos 23 can provide the estimated coefficient a , b , c and c' and their corresponding standard errors, as well as the confidence intervals in the output file. The following section will discuss the results of testing hypotheses 4- 1, 4-2 and 4-3 respectively using the mediation effect and bootstrap methods.

In hypothesis 4-1, the bias-corrected 95% confidence interval is shown in Table 5. This assumed more accurate confidence interval (0.277, 0.444) excludes zero, thus supporting hypothesis 4a, that the indirect effect of workplace incivility on organizational commitment through the mediator psychological capital, is statistically significant at the 0.05 level $B = 0.170$ ($P < 0.01$). The percentile 95% confidence interval also does not include zero, which further supports hypothesis 4-1. In hypothesis 4-2, the bias-corrected 95% confidence interval is shown in Table 5. This assumed more accurate confidence interval (0.178, 0.258) excludes zero, thus supporting hypothesis 4-2, that the indirect effect of workplace incivility on job involvement through the mediator psychological capital, is statistically significant at the 0.05 level $B = 0.110$ ($P < 0.01$). The percentile 95% confidence interval also does not include zero, which further supports hypothesis 4-2. In hypothesis 4-3, the bias-corrected 95% confidence interval is shown in Table 5.

This assumed more accurate confidence interval

(0.113, 0.217) excludes zero, thus supporting hypothesis 4-3, that the indirect effect of workplace incivility on job satisfaction through the mediator psychological capital, is statistically significant at the 0.05 level $B = 0.177$ ($P < 0.01$). The percentile 95% confidence interval also does not include zero, which further supports hypothesis 4-3.

DISCUSSION

Workplace incivility displayed a negative statistically and practically significant relationship with the response to organizational commitment, job involvement, and job satisfaction ($P \leq 0.01$) (high effect). Further, the sub dimensions of workplace incivility such as hostility, privacy invasion, Exclusionary behavior and gossiping subscale displayed a negative practically and statistically significant relationship with organizational commitment, job involvement and job satisfaction ($P \leq 0.01$) (high effect), indicating that individuals low on job involvement may display greater incivility within the workplace. In addition, the findings also indicated that psychological capital was statistically negatively correlated with workplace incivility ($P \leq 0.01$), indicating that individuals possessing high levels of PsyCap may be less likely to display incivility within the workplace. On the other hand psychological capital shows that the higher the employees' psychological capital, the higher their employee's commitment, job involvement and job satisfaction to the organization. Research conducted by Roberts (2011) indicated that employees displaying high levels of psychological capital possess psychological resources that produce positive workplace behaviors; this could explain the relationship between psychological capital and job involvement, as individuals possessing high levels of self-efficacy, hope, optimism and resilience may possess greater psychological resources to draw upon in achieving positive workplace outcomes such as job involvement.

Hope as one of the sub dimensions of psychological capital is a motivational state including one's determination of precious objectives and belief of getting over the impediments to reach these objectives. The results of our research showed that employees who are more hopeful and have high self-efficacy may

be more satisfied and committed to their organizations resulting in higher job satisfaction. Optimism is a purpose oriented state when a desired result has high value. The results showed that employees who are more optimistic also may be more satisfied with their job and deeply loyal to their organizations. Resilience is a person's psychological capacity to rebound or bounce back from adversity, conflict, and failure. We found that employees who are more resilient also may be more satisfied with their jobs. When reviewed the literature, Larson and Luthans (2006) found positive relationship between general psychological capital and job satisfaction. Avey (2009) found strong and positive relationships between psychological capital and employee commitment, job satisfaction and intentions to stay with the organization. The obtained results of this study support all of these findings as hope, optimism and resilience was positively related to organizational commitment, job involvement and job satisfaction.

Employees with greater levels of psychological capital are more likely to be dedicated to their assignments, to have a strong sense of duty, and to respond resolutely to adversity. The privacy invasion and exclusionary behavior subscale, in particular, displayed a strong negative relationship with Response to Work and organizational commitment. This indicates the nature of the uncivil acts perpetrated as an expression of one's low level of job involvement and organizational commitment. Such acts may include invading a coworker's privacy by taking their things without seeking permission, reading e-mails addressed to them and not consulting them in decisions they should be involved in. This further indicates that individuals experiencing low levels of job involvement may engage in hostile behaviour towards their co-workers through acts such as delaying responding to their queries without reason, gossiping about them and speaking to them harshly. Psychological capital was statistically and practically significantly correlated with the Expression of being Job Involved subscale of job involvement ($p \leq 0.01$) (high effect). This indicates that individuals with high PsyCap are more likely to be personally involved with their jobs, may consider the most important things that happen to them to be connected to their jobs and may even feel depressed when they fail at something connected to their jobs. The PsyCap dimension of Optimism also displayed a positive relationship with organizational commitment, Job Involvement and job satisfaction. This indicates that individuals who have positive expectations of the future tend to exhibit a greater degree of identification with their work and tend to immerse themselves in their work, finding meaning and satisfaction in carrying out their tasks.

Conclusion

In spite of certain limitations, this research delivered a

number of useful results. In summation, the present study's findings broaden the geographies of incivility research by extending organizational behaviour literature on incivility to the Fijian context. Relevantly, the study provided insight into how employees, specifically professionals from a diverse Fijian context perceive and react to uncivil workplace behaviours. In particular, this study provided evidence that being a target of workplace incivility leads to adverse effect on organizational commitments, job satisfaction and job involvement

Practical implications

It has been suggested that such complex workplace environments give rise to uncivil behaviour because employees are too caught up in their demanding job roles to be courteous to their co-workers (Pearson and Porath, 2005). The implication that part of the workforce experiencing workplace incivility can be devastating to an organization's productivity as workplace incivility has been found to be associated with various organizational outcomes such as organizational commitments, job involvement, job satisfaction etc. Importantly, Andersson and Pearson (1999) make reference to the "incivility spiral" (p. 458) which suggests a circular pattern of uncivil behaviour, when one employee behaves uncivilly, the victim retaliates with uncivil behaviour, and bystanders model the observed behaviours. This highlights that uncivil behaviour could quickly assimilate into an undesirable organizational culture. Consequently, preventing or reducing uncivil behaviour at work is important. Moreover, it is particularly important for organizations to work towards reducing the occurrence of uncivil behaviour because it is predominantly those high in PsyCap that are likely to leave the organization or perceived workplace incivility can adversely affect the organizational outcome and deteriorate the working environment. Thus it becomes a prerogative for the organization to retain employees with high in PsyCap as these employees greatly beneficial to the organization. In monitoring uncivil conduct and limiting its effects, organizations should not rely only on avenues of redress by taking action once reported incidences have come to light. Instead, a proactive approach to conducting interventions should be adopted as a preventative strategy which would limit the onset of an uncivil work environment which gives rise to negative individual and organizational outcomes. Additionally, organizations should endeavor to foster a work environment and climate where rude and discourteous behaviour is not tolerated as this might signal to employees that the organization is supportive of those who might experience incivility and as a result increase employees' levels of psychological safety. According to Leiter (2011), proposed a risk management model of

workplace *civility* where organizations attempt to reflect that incivility at work enables a harmful environment and that such an environment in social the workplace weakens an employee's sense of psychological safety. In summation, by promoting civility at work, organizations can improve organizational outcomes, the quality of workplace relationships and individual wellness.

Limitations of the study

Firstly, participants' tendency to provide socially desirable responses, especially on the uncivil workplace behavior scale which requires that they admit to perpetrating acts of incivility, calls into question the accuracy of the findings. Socially desirable responding is a common problem especially when self-report questionnaires are used. Secondly, participants displayed a lack of interest in completing the questionnaires as many frequently chose the same response throughout certain questionnaires or displayed a noticeable pattern in their responses which suggested that they had not answered the questionnaire honestly. Lastly, the use of a cross-sectional research design in which data is collected at a fixed point in time does not allow for the determining of causal relationships among variables. While significant relationships between variables were determined in the present study, causal relationships cannot be inferred from these findings. In order for causality to be determined, future research will have to adopt a longitudinal research design by studying the same phenomenon at different points in time.

Recommendations

A positive relationship was found between psychological capital organizational commitment, job satisfaction and job involvement. This indicates that high levels of psychological capital are associated with high levels of organizational outcomes, suggesting that organizations should invest in training which is aimed at improving the psychological capital of employees in order to increase their level of organizational outcomes. The PsyCap subscale of self-efficacy, hope, Optimism and resilience was determined to have very strong predictive value for organizational outcomes, this further confirms the benefits of organizations investing in interventions aimed at improving the psychological capital of employees, but more importantly, improving their self-efficacy as way of enhancing their organizational outcomes. Luthans et al. (2006) have demonstrated the utility of interventions aimed at improving psychological capital through an hour-long micro-intervention conducted amongst a sample of management students and managers from several organizations, finding that the intervention was successful in improving the psychological capital of

these individuals. Such an intervention, if implemented correctly within the workplace, would not only prove efficient by minimizing costs and the time required to implement the intervention, but would also ensure greater willingness among employees to participate in the intervention. Future research endeavors in this area of study should consider controlling for the specific limitations of the study mentioned above. This can be achieved through providing desirable incentives for individuals to willingly participate in the study, rather than relying on individual's sense of duty towards the organization to provide adequate incentive to participate. This may achieve a higher response rate and, possibly, more honest responses which would ensure more reliable findings. In spite of the various limitations of the study, future research can further examine the relationship between workplace incivility psychological capital and the organizational outcomes.

CONFLICTS OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Audit quality in non-listed Italian firms

Matonti Gaetano^{1*}, Giuseppe Iuliano¹ and Orestes Vlismas²

¹Department of Science, Aziendali - Management and Innovation Systems, University of Salerno, Italy.

²Department of Accounting and Finance, Athens University of Economics and Business, Greece.

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This study investigates the audit quality of Big-x auditing companies within the context of the Italian non-listed firms by examining (i) auditing ability to restrict accrual-based earnings management and (ii) the level of auditing independence. The Italian non-listed firms provide a unique set of auditing environment with multiple layers of audit quality compared to other European auditing environments. Accounting related data are collected from the Bureau van Dijk AIDA Database, and the data sample includes 18,721 firms with 168,489 firm-year observations. The findings suggest that Big-x auditing companies, and in general also non-Big-x auditors, are more efficient than statutory auditors on restricting accrual-based earnings management initiatives. Still, Big-x auditors' engagement on a financial audit increases the likelihood of a modified audit opinion to be issued.

Keywords: Audit quality, Board of statutory auditors, Italian non-listed firms, Big 4.

INTRODUCTION

This study investigates the audit quality within the context of Italian non-listed firms. Focusing on the Big-x auditing companies, we examine their ability to restrict the level of discretionary accruals and their independence to report the detected accrual-based earnings management initiatives. The mainstream of auditing related research focuses on listed firms operating primarily in common law environments (DeAngelo, 1981; Jeong and Rho, 2004; Piot and Janin, 2007; Memis and Cetenac, 2012; Nawaiseh, 2016; Fleisher et al., 2017). However, a number of research initiatives within the context of non-listed firms (Van Tendeloo and Vanstraelen, 2008; Mariani et al., 2010; Bisogno, 2012; Hope et al., 2012; Alhadab and Clacher, 2018) provide limited empirical evidence that Big-x auditing companies constrain discretionary accruals than other types of auditors. Evidence of auditor independence in non-listed

firms is rather scarce, even though various stakeholders experience greater information asymmetries in the case of non-listed firms than in the case of publicly traded firms (Lennox, 2005; Ball and Shivakumar, 2005). The lack of relevant empirical evidence and the idiosyncratic characteristics of non-listed firms stimulated our research interest to collect additional empirical evidence concerning the role of auditing services provided by Big-x auditing companies in mitigating information asymmetries by examining (i) their auditing ability to restrict accruals and (ii) their level of auditing independence.

The research site of this study is the institutional auditing setting of Italian non-listed firms. In Italy, the non-listed firms are about 99.9% of the Italian companies (EC, 2019). At the end of 2017, only 384 firms were listed out of about 5.5 million of Italian firms. According to the Italian corporate governance model adopted by most

*Corresponding author. E-mail: gmtonti@unisa.it.

Italian (listed and non-listed) firms (Mariani et al., 2010), there is a separation between administrative and financial audit. The administrative audit is assigned to the Board of Statutory Auditors (in Italian “CollegioSindacale”) that is an independent and professional committee with the purpose to control a firm’s management for protecting the interests of various internal and external stakeholders. Statutory auditors are anchored with high skills in financial accounting, management accounting, organizational processes, finance, commercial law, auditing and taxation. Also, Italian law imposes several penalties for a statutory auditor that fails. Thus, a statutory auditor is different from an internal auditor because of the high level of professional skills and the high degree of independence. The financial audit can be assigned either to an external auditor, such a Big-x auditing company or the Board of Statutory Auditors (BSA). In the latter case, the BSA is responsible for both the financial and administrative auditing.

Investigating the level of audit quality provided by the Big-x auditing companies in the case of Italian non-listed firms is, also, interesting for additional two reasons. First, contrary to prior empirical evidence that large auditors dominate the market of financial auditing services (Ballas and Fafaliou, 2008; Ishak et al., 2013), the market share of statutory auditors in the case of Italian non-listed firms seems to be high. For instance, the 71.05% of the firms of our data sample engage a statutory auditor in charge of the financial audit suggesting that statutory auditors are anchored with competencies that might be valued by the non-listed firms as indicators of high quality of audit services. Thus, the context of Italian non-listed firms provides an appropriate research site for examining the audit quality provided by the Big-x auditing companies under conditions on intense competition. Second, the Italian auditing institutional setting for non-listed firms may be of interest for extracting valuable experience for policy-making purposes within a wider international context. For instance, the EC (2011) Green Paper on Corporate Governance proposes the introduction of an Independent Professional Supervisory Board (IPSB), which skills are similar to those of a statutory auditor and for this reason an IPSB may also be engaged as financial auditor, limiting the monopoly of the large Big-x auditing companies in the audit market. Further, the Chartered Accountants of Spain and France were interested in introducing a controlling body similar to the Italian BSA inside the corporate governance of European non-listed firms (Zanardi, 2010). Effective policy making requires additional empirical evidence that a statutory auditor provides a high audit quality similar to this provided by the large Big-x auditing companies.

Prior literature investigating the audit quality in the Italian context of the non-listed firms is quite scarce. Mariani et al. (2010) investigate a sample of Italian non-listed firms for the period 2004-2005 and find that Big-x auditing companies are more likely to constrain accrual-

based earnings management initiatives. Bisogno (2012) investigates a sample of Italian non-listed manufacturing firms for the period 2008-2010 and finds no difference in the audit quality provided by the statutory auditors and by the Big-x auditing companies.

Our study expands prior empirical evidence for the audit quality within the context of the Italian non-listed firms by expanding prior research initiatives (Mariani et al., 2010; Bisogno, 2012) in two ways. First, this study investigates the audit quality of the statutory and external auditors for a longer updated time period that is from 2009 to 2017. Second, this study examines another aspect of audit quality that is the level of auditing independence.

All financial and governance data were drawn from the AIDA Database. Our data sample includes Italian non-listed firms for the financial years 2009 to 2017. In November 2018, when we collected data, the population of firms on the database obliged to submit their financial statements in the mandatory full format (within which accounting and corporate governance information was available) provided by the articles 2424 and 2425 of the Italian Civil Code, was 264,223. Within this population available on AIDA Database, the companies presenting the full format of financial statements with all financial and governance data and incorporated before 2007 are 18,721 (for 168,489 firm-year observations).

Our empirical findings indicate that statutory auditors (BSA) are negatively associated and Big-x auditing companies positively associated with the level of discretionary accruals. Thus, in the case of Italian non-listed firms, a Big-x auditing company provides a similar or lower level of audit quality than a BSA. The latter seemed to be more efficient than the Big-x auditing companies on restricting accrual-based earnings management initiatives. A possible reason is that the Big-x auditing companies exhibit greater degree of opportunistic auditing behaviour in the case of non-listed firms than in the case of listed firms due to (i) the lower probability of discovering an audit failure (Ball and Shivakumar, 2005) and (ii) the reliance on the administrative auditing performed by statutory auditors ensures that the internal control system can restrict the earning management initiatives to a substantial degree. Besides opportunistic auditing behaviour, a BSA is expected to provide a high quality of financial auditing services. As responsible for the implementation of an efficient administrative auditing system, a BSA has a better understanding than a Big-x auditing company of a firm’s internal environment, organizational structures, management quality, etc. Thus, a BSA can evaluate efficiently the intention and the capability of a non-listed firm to implement earnings management. This improved knowledge makes a BSA capable of providing a similar or higher level of audit quality than other types of auditing companies.

In addition, our study provides evidence that, in the

case of Italian non-listed firms, there is a positive relationship between a modified audit opinion and the engagement of a Big-x auditing company in charge of the financial auditing. The engagement of a Big-x auditing company increases the likelihood of a modified audit opinion to be issued more than the engagement of a BSA. We conjecture that the auditing environment of the Italian non-listed companies increases the intensity of reputational and litigation risk for the Big-x auditing companies more than in the case of smaller auditing companies and statutory auditors. Further, it is also plausible to assume that the primary revenue base of Big-x auditing companies consists mainly of public companies and for this reason, a Big-x auditing company rely less on individual non-listed firms.

CONCEPTUAL FRAMEWORK

Audit quality and measurement of audit quality

Auditing of financial statements is a control mechanism with the purpose to safeguard interests of different stakeholders, ensuring that the audited financial statements are free from misstatements (Ugwunta et al., 2018).

DeAngelo (1981) defines the audit quality as a two-dimensional concept that is the joint probability of two events: (i) the detection of a misstatement in a firm's financial statements by the auditor and (ii) the disclosure of the misstatement to the external users via the audit opinion. Palmrose (1988) and Teoh and Wong (1993), supporting the DeAngelo, also agree that audit quality depends on the competence and the independence of the auditors in discovering and reporting misstatements in financial statements.

The detection of a misstatement in the financial statements depends on the auditors' technical capability. Auditors' technical capability refers to the professional skills that elevate the auditing capability of detecting earnings management initiatives. Prior studies from various national settings provide evidence that, in the case of listed firms, a Big-x auditor constrains the magnitude of abnormal accruals and, thus, the intensity of earnings management (Francis et al., 1999; Gul et al., 2009; Chen et al., 2005; Rusmin, 2010; Chen et al., 2011).

The second dimension of the audit quality is the probability that an auditor will comment on any discovered misstatements in the audit opinion. This probability depends on the level of auditor's independence from the audited firm (DeAngelo 1981). Existing research within the field of audit opinions documents a positive association between audit opinions and the level of discretionary accruals (e.g., Francis and Krishnan, 1999; Chen et al., 2001; Herbohn and Rangunathan, 2008).

As a latent variable, the measurement of audit quality remains a central argument in empirical studies. Discretionary accruals, a proxy of earnings management, are generally used to measure audit quality (Majoor and Vanstraelen, 2006). Alternative measures of audit quality are (i) the incidence of issuing going-concern auditor reports (Reichelt and Wang, 2010), (ii) the audited client's propensity to report earnings that meet a benchmark (Carey and Simnett, 2006), (iii) the results of independent parties' inspections of audit firms (Hilary and Lennox, 2005), (iv) the restatement of previous years financial statements (Kinney et al., 2004), (v) the audit size (DeAngelo, 1981; Becker et al., 1998; Sawan and Alsaqqa, 2015) and audit fee (Copley, 1991; Kinney et al., 2004); (vi) auditor industry specialization (Chen et al., 2011; Khajavi and Zare, 2016), and (vii) audit tenure (Knapp, 1991; Okolie, 2014).

The auditing environment of the Italian non-listed companies

Non-listed Italian firms operate under two basic legal schemas: (i) "Società per Azioni" (S.p.A.) – Joint-Share Company (Incorporation) and (ii) "Società a responsabilità limitata" (S.r.l.) – Limited Liability Company. In the case of Italian non-listed firms, administrative auditing is separated from financial auditing. All S.p.A. must have a Board of Statutory Auditor (hereafter BSA), which is a mandatory body in charge of administrative auditing in all stock corporations as well as in all limited liability companies with equity exceeding € 50,000 (until June 2014 the threshold was € 120,000).

The BSA is a multi-faceted, qualified and independent statutory body, which represents a distinctive feature of the Italian traditional corporate governance model which is based on a clear distinction between the administrative function and the internal control function and aims on ensuring continuous supervision of the management by an independent body with significant powers of intervention in order to protect the interests of both firm insiders and outsiders. It is appointed for a three years term and consists of independent, professional members whose skills and responsibilities are clarified in law (art. 2400 et seq. Civil Code). They conduct the duties assigned to them in compliance with the law and the Governance Code, and they are responsible for ensuring compliance with the law, the principles of correct administration, and the suitability of the organizational, administrative and accounting system as well as its correct functioning.

Financial auditing can be performed either by a statutory auditor or by an external auditor. In case that an external auditor is engaged to be in charge of the financial auditing, the statutory auditors work closely with the external auditor in the preparation of the financial statements. Statutory auditors have to report their opinion

to the annual shareholders' meeting.

Theoretical framework and research motivation

The mainstream of auditing related research focuses on listed firms operating primarily in common law environments. Prior empirical evidence for the quality of auditing services within the context of non-listed firms is limited on some studies examining the relation between accrual earnings management and the quality of auditing services (Tendeloo and Vanstraelen, 2008; Mariani et al., 2010; Bisogno, 2012). Evidence of auditor independence in non-listed firms is rather scarce, even though various stakeholders experience greater information asymmetries in the case of non-listed firms than in the case of publicly traded firms (Lennox, 2005; Ball and Shivakumar, 2005). The lack of relevant empirical evidence and the idiosyncratic characteristics of non-listed firms stimulated research interest to explore the role of auditing services in mitigating information asymmetries.

We focus on non-listed firms operating within the Italian economy for some reasons. First, in common with the EU standards, the majority of Italian firms are non-listed, underlining the importance of studying such firms in an established EU country setting. Second, the 99.9% of Italian firms are Small-Medium Enterprises (EC, 2015), and about 94.4% of them are micro-sized firms (EC, 2015), suggesting weaker agency problems in these firms. Third, the Italian business environment of non-listed firms is attributed with corporate governance features that could encourage external auditors to rely on the work of the statutory auditors (Hashem et al., 2010), neglecting any control over discovering any breach in preparing financial statements.

The research hypotheses were developed on the grounds of the primary economic factors that drive audit quality: (i) insurance rationale and (ii) reputation rationale. The insurance rationale implies that auditors have incentives to perform high-quality audits to protect themselves from litigation losses (Dye, 1995). The reputation rationale is based on the assumption that audit firms perform high-quality audits to preserve future business opportunities (DeAngelo, 1981). Prior evidence indicates that the insurance rationale as the primary factor underlying the provision of high-quality auditing services in the U.S. market (Weber et al., 2008) whereas for non-U.S. markets, reputation serves as a potential force available to discipline auditors (Hope and Langli, 2010). Previous research providing empirical evidence of the high quality of the Big-x auditors mainly investigated environment (as the U.S. and other countries) where auditors face a high litigation risk from stakeholders in the case they provide a lower quality auditing. In these contexts, the auditing acts as a monitoring mechanism to mitigate agency problems (Alzoubi, 2016; Abid et al., 2018).

The auditing environment of the Italian non-listed firms

might be a departure for hypothesizing alternative perspectives that Big-x auditing companies might adopt to theorise the trade-off between audit quality and the risk of litigation and reputation damage. The limited empirical evidence is not conclusive for the level of audit quality of Big-x auditing firms. Mariani et al. (2010), analysing a sample of Italian non-listed companies, find that an external auditor provides higher-quality auditing than a BSA, while Bisogno (2012) finds no difference on a sample of industrial firms. Azzali and Mazza (2018), analysing a sample of Italian non-listed firms, find that while auditor size is effective in improving earnings and audit quality in listed firms, this relationship is not clear in non-listed firms.

Even though only statutory auditors provide administrative auditing services to all Italian non-listed companies, the latter can obtain financial auditing services by (i) Big-x auditing companies, (ii) non-Big-x auditing companies and (iii) statutory auditors. The structure of financial auditing services market for the Italian non-listed companies has two implications for the quality of financial auditing services provided by a Big-x auditing company. First, Big-x auditing companies experience intense competition, and a rational strategic decision is to rely on their reputation of superior technical capabilities in order to provide a high level of financial audit quality as a mean of differentiating their product portfolio and achieving competitive advantage over other types of auditing companies. This course of action indicates that Big-x auditing firms adopt a conservative and adverse behaviour towards risk of litigation and reputation damage. Second, the presence of BSA as a charge of administrative auditing might stimulate a Big-x auditing company to improve the quality of its financial auditing services. The reason is that the management of a non-listed firm may decide to delegate the financial audit to the BSA than a (non) Big-x auditing company in an attempt to improve the cost-benefit ratio of the overall (both administrative and financial) auditing function. This is an additional reason that a Big-x company that is responsible for the financial auditing will attempt to provide a high quality of services and satisfy the market expectation gap of the audit.

Hypothesis development

Combining the two implications described above, within the setting of the Italian non-listed firms, the Big-x auditing companies have the incentive to provide financial auditing services of higher quality than other types of auditors as a mean to differentiate from competition of the external environment and as a way to gain auditing contracts from statutory auditors already performing the internal audit of the non-listed firm. On the other side, according to Azzali and Mazza (2018), Big-x auditors develop specific industry competences and specialisations than domestic auditors because of their

competitive advantage to operate across multiple business environments. In addition, expertise of these audit companies to use robust and efficient auditing methodologies, their ability to service several clients in different locations attract clients seeking for high quality audit. Scholars, analysing a sample of Italian non-listed firms, provide empirical evidence that Big-x auditors also reduce risks related to earnings management initiatives. Bisogno and De Luca (2016), analyzing a sample of Italian non-listed firms, hypothesize that voluntary joint audit increases earnings quality. Scholars use the term joint audit to indicate a situation in which the financial auditing is assigned to an external auditor, while the administrative audit is carried out by a BSA. Scholars find that the presence of the two auditors increases audit quality, by preventing earnings management practices. Based on the above analysis we introduce the following hypothesis:

H₁: In the case of Italian non-listed firms, a Big-x auditing company provides a higher level of audit quality than other types of auditing companies.

In Italy, recent bankruptcy, auditing system and financial crisis monitoring reforms of 2019 have arisen and reinforced the role of the BSA as administrative auditor in both listed and non-listed firms. On the other side, the same reforms indicate that, to increase the reliability of financial information, the financial auditing should be assigned to an external independent auditor also in non-listed firms. However, in 2019 Italian non-listed firms may still engage the BSA also in charge of the financial auditing. BSA competes on the audit market with Big-x and non-Big-x auditors. Bisogno (2012), analyzing a sample of Italian non-listed firms, compares the audit quality in firms audited by a BSA and by external auditors. The Scholar finds no significant differences in term of discretionary accruals. Corno et al (2007) provides evidence that members of statutory committee (BSA) face with lower auditing fees than external auditors and tend to act also as tax advisor in non-listed firms in which they also carry out the administrative audit. This may reduce the quality of financial audit because the independence of the BSA members could be threatened especially in an environment, as Italy, characterized by a lower litigation risk in the case of an audit failure (Tendeloo and Vanstraelen, 2008). Based on the analysis above, we can introduce the following hypothesis:

H₂: In the case of Italian non-listed firms, a BSA provides a lower level of audit quality than external auditors (both Big-x and non-Big-x auditors).

The second relevant dimension of the audit quality is auditing independence namely the probability that an auditor will comment on any discovered misstatements and weaknesses in the audit report. Big auditing companies seem to be more independent than smaller

auditing companies because they are exposed to greater reputational and litigation risk. In addition, Big auditing companies rely less on an individual client's revenues and hence are less likely to be influenced by an individual client (Palmrose, 1988; Stice, 1991; Bonner et al., 1998; DeFond and Zhang, 2014; Ugwunta et al., 2018).

We conjecture that the auditing environment of the Italian non-listed companies increases the intensity of the reasons above indicating that big auditing companies are expected to be more independent than smaller auditing companies and statutory auditors. A plausible assumption is that Big-x auditing companies experience greater reputational risk than other auditors operating in the auditing market of the Italian non-listed firm. Further, it is also plausible to assume that the primary revenue base of Big-x auditing companies consists mainly of public companies and for this reason, a Big-x auditing company rely less on individual non-listed firms. Seeking for empirical evidence to verify that the Big-x auditing companies are anchored with higher levels of auditing independence, we introduce the following research hypothesis:

H₃: In the case of Italian non-listed firms, there is a positive relationship between a modified audit opinion and the engagement of a Big-x auditing company in charge of the financial auditing.

METHODOLOGY AND SAMPLE SELECTION

Sample selection

Accounting and corporate governance data are collected from the Bureau van Dijk AIDA Database which includes the statutory financial statements of all limited-liability Italian companies with a turnover higher than € 1 million, gathered from the Italian Chamber of Commerce depository. Our data sample includes Italian non-listed firms for the financial years 2009 to 2017. In November 2018, when we collected data, the population of firms on the database obliged to submit their financial statements in the mandatory full format (i.e. within which accounting and corporate governance information were available) provided by the articles 2424 and 2425 of the Italian Civil Code, was 264,223. Within this population available on AIDA Database, the companies presenting the full format of financial statements with all needed financial data, incorporated before 2007, and not obliged to prepare consolidated financial statements (entities of no public interest) are 18,721 (for 168,489 firm-year observations). Italian auditors and BSA use domestic auditing standards, similar to International Standards of Audit (ISA).

Table 1 illustrates the industry composition of the sample firms according to their NACE. The industry composition of our sample firms reflects the industry composition of Italian environment (Azzali and Mazza, 2015).

Estimation of discretionary accruals

We calculate the level of total accruals ($TA_{i,t}$) for firm i in year t using Eq. (1) Which is based on the balance sheet and income statement line items. Cash flow statements are not mandatory for

Italian non-listed firms (until to 2015) and the information is not systematically included in the AIDA database. Thus, the level of total accruals ($TA_{i,t}$) for firm i in year t is defined as follows:

$$TA_t = (\Delta Current Assets_t - \Delta Cash_t) - (\Delta Current Liabilities_t) - Depreciation and Amortization \quad (1)$$

The level of the discretionary accruals is estimated using the cross-sectional modified Jones (1991) model (Dechow et al., 1995; Charitou et al., 2007). The level of total accruals for each firm i in year t of each industry sector (Table 1) are fitted on the following Equation 2:

$$\frac{TA_{i,t}}{A_{t-1}} = \frac{\alpha}{A_{t-1}} + \beta_1 \frac{(\Delta REV_{i,t} - \Delta REC_{i,t})}{A_{t-1}} + \beta_2 \frac{(PPE_{i,t})}{A_{t-1}} + \epsilon_t \quad (2)$$

Where: $TA_{i,t}$ = total accruals for firm i in year t ; $\Delta REV_{i,t}$ = revenues for firm i in year t less revenues in year $t-1$; $\Delta REC_{i,t}$ = receivables for firm i in year t less receivables in year $t-1$; $PPE_{i,t}$ = property, plant and equipment + long-term deferred expenses for firm i in year t ; $A_{i,t-1}$ = total assets in year $t-1$; and ϵ_t = the model error term. All variables in the Equation 2 are scaled by total assets, to reduce heteroscedasticity.

The absolute value of the estimated discretionary accruals ($DAC_{i,t}$) for firm i in year t is the absolute value of the difference between total accruals for each industry sector and the fitted values of the accruals (from the same industry sector) from estimated model of Equation 2. A higher level of discretionary accruals (in absolute value) indicates a greater level of accrual earnings management. To test hypotheses H_1 and H_2 , the following regression model of Equation 3 was estimated (Van Tendeloo and Vanstraelen, 2008; Mariani et al., 2010; Bisogno, 2012):

$$DAC_{i,t} = \beta_0 + \beta_1 BIG4_{i,t} + \beta_2 BSA_{i,t} + \beta_3 LEVF_{i,t} + \beta_4 LEV_{i,t} + \beta_5 TAX_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 ROA_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 AGE_{i,t} + \beta_{10} ATA_{i,t} + \epsilon_{i,t} \quad (3)$$

Where $DAC_{i,t}$ is the signed value of estimated discretionary accruals from model of Equation 2 for firm i in year t ; $BIG4_{i,t}$ is the auditor type dummy variable, taking the value 1 if the auditor of firm i in year t is a Big-4, and the value 0 otherwise; $BSA_{i,t}$ is a binary variable for the auditing system adopted by the non-listed firm, taking the value 1 if the firm in year t engage the BSA and the value 0 if the firm assigns the auditing to an external auditor (both Big-x or a non-Big-x auditing company), $LEVF_{i,t}$ is the financial leverage ratio of firm i in year t ; $LEV_{i,t}$ is the leverage ratio of firm i in year t ; $TAX_{i,t}$ is the amount of the tax payables scaled by the income before taxes of firm i in year t ; $SIZE_{i,t}$ is the natural logarithm of the total assets; $ROA_{i,t}$ is the return on assets of firm i in year t ; $GROWTH_{i,t}$ is a proxy for a firm's growth defined as the ratio of change in current year sales and previous year sales; $AGE_{i,t}$ the natural logarithm of the years from the incorporation of the firm i up to the date of the analysis; $ATA_{i,t}$ is the absolute value of the total accruals of firm i in year t and ϵ is the model error term.

The testing variables in the regression model of Equation 3 for hypotheses H_1 and H_2 are $BIG4_{i,t}$ and $BSA_{i,t}$. Following prior literature (Tendeloo and Vanstraelen, 2008; Mariani et al., 2010; Bisogno, 2012; Wang 2006; Hassan and Farouk, 2014; Poli, 2015; Poli, 2017), the estimated regression model includes several control variables for capturing the effects of various factors affecting the level of accrual management activities.

We introduce the variables $LEVF_{i,t}$ and $LEV_{i,t}$ capture the effects of leverage on the intensity of accrual earnings management activities. The impact of financial leverage on earnings

management is an empirical controversy. Two different streams are found describing the relationship between financial leverage and earnings management. The debt contracting hypothesis (Watts and Zimmerman, 1986) suggests a positive impact of the financial leverage on the accrual-based earnings management initiatives in order to avoid debt covenants violations (DeFond and Jimbalvo, 1994; Opler and Titman, 1994; Dechow et al., 2010). On the other hand, the control hypothesis, debt creation reduces managerial opportunistic behaviour (Jensen 1986). Empirical results for the effects of the (total) leverage ratio are, also, controversial in the case of non-listed firms (DeAngelo et al., 1994; Ardison et al., 2012; Llukani, 2013; Hassan and Farouk, 2014). As bank-loans are the main source of finance for non-listed firms (Ball and Shivakumar, 2005; Poli, 2015; Vanstraelen and Schelleman, 2017), it is arguable that leveraged firms are more likely to manage earnings to avoid debt covenant violations (Azzali and Mazza, 2018). Therefore, according to the debt-contract hypothesis, we expect a positive relation between the (signed) discretionary accruals and the financial and total leverage.

The variable $TAX_{i,t}$ is introduced to capture the impact of taxation on earnings management. Taxation might triggers earnings management activities as the burden of the tax paid by the company reduces the level of dividends (Scott, 2003; Amiram et al., 2013). Prior studies show that strong versus weak tax alignment makes a difference in the earnings management of non-listed firms (Coppens and Peek, 2005; Burgstahler et al., 2006; Van Tendeloo and Vanstraelen, 2008; Poli, 2013). As Italy is a high tax alignment country and based on prior empirical evidence (Burgstahler et al., 2006; Tendeloo and Vanstraelen, 2008) we expect a positive sign for $TAX_{i,t}$.

We also control for the effect of a firm's operating performance on accrual-based earnings management by introducing in the Equation 3 growth in revenue ($GROWTH_{i,t}$) and firm profitability measured as return on assets ($ROA_{i,t}$). Prior empirical evidence indicates that a firm's revenue growth has either an insignificant negative (Van Tendeloo or Vanstraelen, 2008) or a significant positive relation (Sarkar et al., 2008; Collins et al., 2017) with accrual-based earnings management. Assuming that firms experiencing a high sales growth have more incentives in earnings management that expose the firm to the scrutiny of the stakeholder, we expect to observe a positive relationship between signed accrual-based earnings management and revenues growth. On the other hand, prior empirical evidence concerning the relation of a firm's profitability with the level of earnings management within the context of listed firms indicates that when the performance of firms increases, also increase the earnings management initiatives (e.g. Davidson, Stewart and Kent, 2005; Hashem et al., 2012). Van Tendeloo and Vanstraelen (2008), analysing a sample of non-listed firms, find a negative association between return on assets ratio (ROA) and earnings management, suggesting that profitable firms are less likely to manage earnings. Bisogno (2012) finds a mixed result, as ROA has a negative sign only in 2008; in 2009 the coefficient is not significant, while in 2010 the coefficient shows a positive sign. A possible explanation is that in fiscal years 2009 and 2010, non-listed firms have realised the effects of the financial crisis and they were motivated to employ earnings management to avoid reporting negative earnings. Given the mixed results and considering that the financial statements of non-listed firms are less scrutinized by markets (Ball and Shivakumar, 2005; Van Tendeloo and Vanstraelen, 2008), we expect a positive sign between a firm's profitability and the level of signed accrual-based earnings management.

We, also, control for firm size ($SIZE_{i,t}$) and firm age ($AGE_{i,t}$). Prior literature (Burgstahler and Dichev, 1997; Rangan, 1998; Nelson et al., 2002) within the context of listed firms have documented that firm size is positively correlated with accrual-based earnings management. On the other hand, in the case of Italian non-listed

Table 1. Industry composition of sample firm

Industry code	Industry description	Freq. (No.)	%
1 (Nace code A)	Agriculture	152	0.81
2 (Nace code B, C)	Mines and manufacturers	9,005	48.10
3 (Nace code D, E)	Gas, Energy, and Public utilities	673	3.59
4 (Nace code F, L)	Building	1,256	6.71
5 (Nace code G)	Trade	4,260	22.76
6 (Nace code H, I, M, N, O)	Consumer goods and services	2,307	12.32
7 (Nace code R, S)	Tourism and entertainment	184	0.98
8 (Nace code J)	Communication and Media	572	3.06
9 (Nace code P, Q)	Education and (private) health	312	1.67
Final sample:		18,721	100.00%

Note: This section illustrates the frequency of firms of sample firm classified according to NACE codes (http://ec.europa.eu/competition/mergers/cases/index/nace_all.html).
Source: AIDA Database, November (2018).

firms a negative relation between a firm's size and the intensity of accrual-based earnings management (Mariani et al., 2010; Bisogno, 2012). Francis et al. (1999) argue that larger non-listed firms are less likely to manage their earnings due to better internal control systems. Campa (2019) also finds a negative relationship between income-increasing discretionary accruals and firm size in French listed and non-listed firms. Therefore, we expect a negative relationship between firm's size and the level of signed accrual-based earnings management. Prior empirical evidence documents, also, a negative relation between firm age and accrual-based earnings management (Ahmed et al., 2014; Alsaed, 2006)

because old firms have a reputation to save in order to increase the relationship with markets and customers (Nasse et al., 2019). We expect similar findings in the case of Italian non-listed firms.

Finally, according to Mariani et al. (2010) and Bisogno (2012), we control for the absolute value of the total accruals (ATA). Francis et al. (1999) argue that firms with greater total accruals have greater uncertainty about reported earnings. Mariani et al. (2010) and Bisogno (2012), investigating a sample of Italian non-listed firms, have documented a positive and significant relation between absolute value of discretionary and total accruals.

Auditors' independence

The second dimension of audit quality refers to the auditor's independence in reporting any misstatements¹. For this reason, we use the unsigned value of accrual-based discretionary accruals ($ADAC_{i,t}$) in order to intercept any misstatement in the financial statements. Within the context of this study, the auditor's independence is tested by estimating a binary logistic panel regression model of Equation 4a) and b):

$$MAO_{i,t} = \beta_0 + \beta_1 ADAC_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 BSA_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 TLTE_{i,t} + \beta_7 INVREC_{i,t} + \beta_8 LOSS_{i,t} + \varepsilon_{i,t} \quad (4a)$$

$$MAO_{i,t} = \beta_0 + \beta_1 ADAC_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 BSA_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 TLTE_{i,t} + \beta_7 INVREC_{i,t} + \beta_8 LOSS_{i,t} + \beta_9 BIG4_{i,t} \times ADAC_{i,t} + \beta_{10} BSA_{i,t} \times ADAC_{i,t} + \varepsilon_{i,t} \quad (4b)$$

The variable $MAO_{i,t}$ is a dichotomous one. We collected the audit opinion manually through the notes by using a research option available by the AIDA Database. The audit opinions were divided into the following two categories (Lanniello and Galloppo, 2015):

- (i) Modified audit opinions for any reason (the variable $MAO_{i,t}$ equals to 1). We signal as "modified audit opinion" also in the case that the audit opinion signals to the users of the financial statements some events that may influence or threaten the future of the firm;
- (ii) Non-modified audit opinions (the variable $MAO_{i,t}$ equals to 0).

The binary logistic panel regression model of Equation 4a includes the following variables: $ADAC_{i,t}$ is the absolute value of estimated discretionary accruals from the model of Equation 2 for firm i in year t ; $BIG4_{i,t}$ is the auditor type dummy variable, taking the value 1 if the auditor of firm i in year t is a Big- x , and the value 0 otherwise; $BSA_{i,t}$ is a binary variable for the auditing system adopted by the non-listed firm, taking the value 1 if the firm in year t engage the BSA and the value 0 if the firm assigns the auditing to an external auditor (both Big-4 or a

1. There is no unanimity among researchers that firms receiving qualified audit opinions are managing earnings more than those receiving unqualified audit opinions (Butler et al. 2004). However, a large portion of the prior empirical evidence indicates that the qualified reports are positively associated with level of discretionary accruals (Bartov et al., 2000; Francis and Krishnan, 1999).

non-Big-4 audit company); $ROA_{i,t}$ is the return on assets of firm i in year t ; $SIZE_{i,t}$ is the natural logarithm of the total assets; $TLTE_{i,t}$ is the level of total liabilities scaled by total equity of the firm i in the year t ; $INVREC_{i,t}$ is the sum of inventory and accounts receivable divided by total assets; $LOSS_{i,t}$ is a dummy variable taking the value 1 if the firm i reported a loss in previous year $t-1$, the value 0 otherwise; and $\varepsilon_{i,t}$ is the model error term. In order to take into account the different levels of discretionary accruals in the sample firms; we estimated the regression model of the Equation 4b. The regression model of the Equation 4b includes interaction terms of the variables $BIG4_{i,t}$ and $BSA_{i,t}$ with the variable $ADAC_{i,t}$.

The binary panel regression model of the Equation 4 includes some control variables that they have been identified in prior literature as they are likely to affect the audit opinion decision in listed firms and they concern either firm idiosyncratic factors (i.e. profitability, liquidity, solvency and operating risk) or auditors' specific characteristics (Ozcan, 2016). We control for the impact of firm's profitability on the probability of receiving a qualified audit opinion by introducing the control variable $ROA_{i,t}$. Based on prior empirical evidence (Laitinen and Laitinen, 1998; Tsipouridou and Spathis, 2014; Omid, 2015), we expect a positive relationship between the dependent $MAO_{i,t}$, moreover, the control variable $ROA_{i,t}$.

Consistent with prior literature (Boone et al., 2010; Tsipouridou and Spathis, 2014; Omid, 2015), we introduce the inventory and accounts receivables scaled by total assets ($INVREC_{i,t}$), and the total liabilities scaled by total equity ($TLTE_{i,t}$). However, in the case of Greek (Tsipouridou and Spathis, 2014) and Iranian (Omid, 2015) there isn't a significant association between the dependent variable $MAO_{i,t}$ and the independent variables $TLTE_{i,t}$ and $INVREC_{i,t}$. For this reason, we expect that even in the case of Italian non-listed firm there is no significant relationship between the dependent variable $MAO_{i,t}$ and the independent variables $INVREC_{i,t}$ and $TLTE_{i,t}$.

We control for the impact of firm size on the probability of receiving a qualified audit opinion. The literature (Tsipouridou and Spathis, 2014; Omid, 2015) predicts that firm size has a negative impact for going-concern qualified opinions, but it can have a positive impact on the likelihood of a firm receiving a MAO, as larger firms are more complex, thereby increasing the likelihood of misstatements in the accounts (Ireland, 2003). This literature finds a negative and significant relationship, highlighting that the higher the firm size the lower the probability of receiving a qualified audit opinion. According to the literature, we expect a negative relationship between the dependent variable $MAO_{i,t}$ and the control variable $SIZE_{i,t}$ also in non-listed firms.

Finally, we control for the effect of loss in the previous year $t-1$ on the probability of receiving a qualified audit opinion in year t . Tsipouridou and Spathis (2014) and Omid (2015) find that firms reporting a negative income in the previous year are also more likely to fail, thereby increasing the probability of receiving going-concern qualified opinions. According to that stated above, we expect a positive sign between $MAO_{i,t}$ and the control variable $LOSS_{i,t}$. Variables description and measurement are illustrated in Table 2.

RESULTS AND DISCUSSION

Descriptive statistics and correlations

Table 3 illustrates the descriptive statistics for respectively continuous and binary variables in Equation 3 and 4. The mean of the variable $DAC_{i,t}$ (that is, the signed value of the discretionary accruals) of the full sample firm is

0.004, while the median is -0.012. The firms in first quartile of $DAC_{i,t}$ distribution exhibit, in average, a mean of $DAC_{i,t}$ of -0.103, these in the third quartile a mean of 0.093.

The 71.05% of the sample firms (119,708 obs.) engage a BSA, the 21.75% (36,641 obs.) engage a Big-x auditing company in charge of the financial audit (Panel B – Table 3), while 7.20% of the observations (12,137 obs.) engage a non a Big-x auditing company as auditor. The descriptive statistics (Table 3, Panel D) indicate that firms engaging a Big-x auditor exhibit, in average, engage less in accrual-based earnings management than BSA audited firms. The sample firms have a mean $LEV_{i,t}$ value of 0.20. The profitability ($ROA_{i,t}$) of the sample firms is, in average, 4.38, and the values are around the average in all percentile subsamples of $DAC_{i,t}$ (not tabulated). Only the 4.6% of firms (447 obs.) of the sample received a modified audit opinion in the previous year, while 4.7% received a modified audit opinion in the year of the analysis.

Table 4 exhibits the Spearman correlations between the variables of the Equation 3 and 4a. We find a negative and significant (at 1% level) correlation between the dependent variable $DAC_{i,t}$ and the independent variable $BIG4_{i,t}$. On the contrary, instead, the positive and significant correlation between $DAC_{i,t}$ and $BSA_{i,t}$ (0.049) indicates that the BIG4 restrict the intensity of the accrual-based earnings management initiatives.

The correlation (-0.065) between $DAC_{i,t}$ and $LEV_{i,t}$ is negative and significant at 1% level, indicating that an increase in leverage predicts a decrease in the intensity of the accrual-based earnings management initiatives. In addition, the correlation between $DAC_{i,t}$ and $TAX_{i,t}$ is positive and significant at 1% level. The correlation shows between $DAC_{i,t}$ and $ROA_{i,t}$, predicting a positive relation between firms' profitability and accrual-based earnings management initiatives. There is, also, a negative and significant correlation (at 1% level) among $DAC_{i,t}$, $AGE_{i,t}$, $ATA_{i,t}$ and $SIZE_{i,t}$ indicating a negative impact of firm's age, total accrual-based earnings management and firm's size on the accrual-based discretionary accruals.

Focusing our analysis on the relation between the discretionary accruals and the modified audit opinion received in the year of the analysis; we find a positive and significant (at 1% level) Spearman correlation (0.042) between the variables $MAO_{i,t}$ and $BIG4_{i,t}$. There is an association between an audit carried out by a Big-x auditing company and the probability to report any misstatements on the audit report. On the contrary, there is a negative correlation between $MAO_{i,t}$ and $BSA_{i,t}$ (-0.033), indicating that firms engaging a BSA in charge of the financial auditing decrease the probability to receive a modified audit opinion. Table 4, also, shows a not significant association between the variables $MAO_{i,t}$ and $LOSS_{i,t}$.

Table 2. Definitions of variables.

Dependent variable		Pred. sign
DAC _{i,t}	The signed value of the discretionary accruals of firm <i>i</i> at year <i>t</i> that it is proxied by the modified Jones model (Dechow et al., 1995) (Equation 2).	H ₁ and H ₂
MAO _{i,t}	An audit opinion binary variable which receives the value 0 in case of a non-modified audit opinion is issued for firm <i>i</i> at year <i>t</i> . Otherwise, MAO _{i,t} receives the value 1.	H ₃
Testing variables of H₁ and H₂ (Equation 3)		Pred. sign
BIG _{4,t}	A dummy variable that receives the value 1 if firm <i>i</i> assigns the financial audit to a Big-4 auditor at year <i>t</i> , the value 0 otherwise. The Big-4 auditors are: the PwC, the Ernst & Young, the Kpmg, and the Deloitte.	+
BSA _{i,t}	A dummy variable that receives the value 1 if firm <i>i</i> assigns the financial audit to a BSA at year <i>t</i> ; the value 0 otherwise.	-
Testing variables of H₃ (Equation 4a and b)		Pred. sign
BIG _{4,t}	A dummy variable that receives the value 1 if the firm <i>i</i> at year <i>t</i> assigns the financial audit to a Big-4 auditor, the value 0 otherwise. The Big-4 auditors are: the PwC, the Ernst & Young, the KPMG, and the Deloitte.	+
Control variables of H1 and H2 (Equation 3)		Pred. sign
LEV _{F,i,t}	The financial debt ratio of firm <i>i</i> at year <i>t</i> that it is proxied by the financial debts (debt to banks) of the year <i>t</i> scaled by total assets of the same year.	+
LEV _t	The financial leverage of firm <i>i</i> at year <i>t</i> that it is proxied by the loans of the year <i>t</i> scaled by the total assets of the same year.	+
TAX _{i,t}	The taxation variable of firm <i>i</i> at year <i>t</i> that it is proxied by taxes payable scaled by the net income before taxes of the same year.	+
SIZE _{i,t}	The size of firm <i>i</i> at year <i>t</i> , measured as the natural logarithm of total assets for the year <i>t</i> .	-
ROA _{i,t}	The profitability of firm <i>i</i> at year <i>t</i> , measured as the operating income for the year <i>t</i> scaled by total assets for the same year.	+
GROWTH _{i,t}	The growth in revenue of firm <i>i</i> at year <i>t</i> .	+
AGE _{i,t}	The firm age of firm <i>i</i> at year <i>t</i> , measured as the natural logarithm of the number of years since the incorporation date.	-
ATA _{i,t}	Absolute value of the total accruals of firm <i>i</i> at year <i>t</i> .	+
Control variables of H3 (Equation 4)		Pred. sign
ADAC _{i,t}	The unsigned value of the discretionary accruals of firm <i>i</i> at year <i>t</i> that it is proxied by the modified Jones model (Dechow et al., 1995) (Equation 2).	
BSA _{i,t}	A dummy variable that receives the value 1 if a BSA audits the firm <i>i</i> at year <i>t</i> ; the value 0 otherwise.	-
ROA _{i,t}	The profitability of firm <i>i</i> at year <i>t</i> , measured as the operating income for the year <i>t</i> scaled by total assets for the same year.	+
SIZE _{i,t}	The size of firm <i>i</i> at year <i>t</i> , measured as the natural logarithm of total assets for the year <i>t</i> .	-
TLTE _{i,t}	The total liabilities firm <i>i</i> at year <i>t</i> scaled by total equity of the same year.	+/-
INVREC _{i,t}	The level of inventory and accounts receivable of firm <i>i</i> at year <i>t</i> scaled by total assets of the same year.	+/-
LOSS _{i,t}	A dummy variable that receives the value 1 if firm <i>i</i> at year <i>t</i> experienced negative earnings in the year <i>t</i> -1; the sign 0 otherwise.	+

Accrual-based earnings management initiatives and audit quality

Table 5 illustrates the results of the regression analysis of the estimated OLS panel regression model of Equation 3. The dependent variable is DAC_{i,t}, the signed discretionary accruals. We ensured that the empirical results were not driven by the properties of the data. We winsorized the variables at 1% level in order to remove the effect of outliers. The Hausman test ($p < 0.005$) suggests that a fixed-effect model is more appropriate specification than the random model in our model specification. The Breusch–Pagan test suggests that a random model is

more appropriate than the pooled OLS. Finally, we applied Petersen (2009)'s methodology for selecting the estimation procedure for the regression model of Equation 3. Due to the presence of firm effect and to control for autocorrelation and heteroscedasticity, the regression model of Equation 3 was estimated by employing firm-clustered standard errors. The empirical model in Table 5 shows an Adj. R-squared of 40.21%.

The coefficient (β_1) of the variable BIG_{4,t}, testing H1, has an estimated negative value, as expected, of -0.009 (significant at 1% level). This result shows that non-listed clients of Big-*x* auditors are associated with lower accrual-based earnings management, suggesting that

Table 3. Descriptive statistics.

Panel A: Continuous variables (Number of Obs.: 168,489 corresponding to 18,721 firms)					
	Mean	SD	Percentile		
			25%	50%	75%
DAC _{i,t}	0.004	0.95	-0.10	-0.01	0.09
ROA _{i,t}	4.38	9.23	1.17	3.45	7.10
SIZE _{i,t}	9.98	1.18	9.19	9.80	10.61
TLTE _{i,t}	26.83	202.19	3.87	9.18	22.63
INVREC _{i,t}	0.58	0.24	0.41	0.60	0.77
TAX _{i,t}	0.39	42.41	0.26	0.37	0.55
LEVF _{i,t}	0.20	0.18	0.01	0.17	0.33
LEV _t	0.38	0.20	0.23	0.34	0.49

Panel B: Binary variables (Number of Obs.: 168,489 corresponding to 18,721 firms)					
	0		1		
	No.	%	No.	%	
MAO _{i,t}	168,252	99.86	237	0.14	
BIG4 _{i,t}	131,845	78.25	36,641	21.75	
Non a BIG4 _{i,t}	156,349	92.80	12,137	7.20	
BSA _{i,t}	48,778	28.95	119,708	71.05	
LOSS _{i,t}	133,533	79.25	34,956	20.75	

Panel C: MAO_{i,t} descriptive statistics (Number of Obs.: 168,489 corresponding to 18,721 firms)								
		BIG4 _{i,t}		Non a BIG4 _{i,t}		BSA _{i,t,t}		
		n.	%	n.	%	n.	%	
MAO _{i,t}	0	119,632	71.10	12,140	7.22	36,480	21.68	168,252
	1	74	31.22	3	1.27	160	67.51	237

Panel D: DAC_{i,t} descriptive statistics (Number of Obs.: 168,489 corresponding to 18,721 firms)			
	BIG4 _{i,t}	Non a BIG4 _{i,t}	BSA _{i,t}
Mean value of DAC _{i,t}	-0.034	-0.005	0.016

This table reports the descriptive statistics of the variables in Equation 3, 4 and 5. The definitions of variables are reported on Table 2.

these auditors are more conservatives than non-Big-x auditors and BSA. Probably, according to the DeAngelo (1981)'s reputational rational, Big-x auditors are more likely to make any effort to provide high-quality audit to reduce the probability of an audit failure that could damage the auditor's reputation also in the context of non-listed (Van Tendeloo and Vanstraelen, 2008). In addition, the negative sign of the variable BIG4 indicates that Big-x auditors show an approach oriented to earnings underestimation. This finding may be also explained by the circumstance that the Italian auditing environment for non-listed firms provides strong incentives to Big-x auditing companies to deliver high-quality audit and constrain earnings management initiatives for the following reason. The Big-x auditing companies collaborate with and can rely on the auditing efforts of statutory auditors in order to reduce their efforts

and to achieve cost savings (Bisogno and De Luca, 2016). Therefore, Big-x auditors may rely on a good internal control system that reduces audit risks. This finding is consistent with prior empirical reported evidence concerning listed firms which indicates that Big-x auditing companies restrict accrual-based earnings management initiatives (DeAngelo, 1981; Becker et al., 1998; Chen et al., 2005; Gul et al., 2009; Chen et al., 2011; Alzoubi, 2016; Ugwunta et al., 2018) or, rarely, have no effect on the level of discretionary accruals (Abid et al., 2018). This finding is also consistent with the literature concerning non-listed firms (Mariani et al., 2010; Azzali and Mazza, 2018), while it is not consistent with Bisogno (2012). Therefore, hypothesis H1 is accepted.

The coefficient (β_2) of the variable BSA_{i,t}, testing the H2, has an estimated positive value, as expected, of 0.012 (significant at 1% level). This finding indicates that

Table 4. Spearman correlations.

	DAC _{i,t}	MAO _{i,t}	BIG4 _{i,t}	BSA _{i,t}	LEV _{F,i,t}	LEV _{i,t}	TAX _{i,t}	SIZE _{i,t}	ROA _{i,t}	GROWTH _{i,t}	AGE _{i,t}	ATA _{i,t}	TLTE _{i,t}	INVREC _{i,t}
MAO _{i,t}	0.018**													
BIG4 _{i,t}	-0.041**	0.042**												
BSA _{i,t}	0.049**	-0.033**	-0.826**											
LEV _{F,i,t}	-0.065**	-0.006**	-0.150**	0.132**										
LEV _{i,t}	0.012**	0.008**	0.101**	-0.099**	-0.312**									
TAX _{i,t}	0.048**	0.000	-0.006*	0.006*	0.002	0.001								
SIZE _{i,t}	-0.045**	0.013**	0.406**	-0.426**	0.002	-0.042**	-0.003							
ROA _{i,t}	0.295**	-0.004	0.005	0.010**	-0.161**	-0.106**	0.001	-0.029**						
GROWTH _{i,t}	0.685**	0.000	0.001	-0.001	0.003	-0.002	0.000	0.003	-0.001					
AGE _{i,t}	-0.022**	-0.009**	-0.044**	0.044**	-0.037**	-0.174**	0.000	0.082**	-0.008**	-0.002				
ATA _{i,t}	-0.127**	0.161**	0.072**	-0.071**	-0.003	0.045**	-0.001	0.029**	-0.067**	-0.009**	-0.045**			
TLTE _{i,t}	0.074**	0.004	0.027**	-0.022**	0.009**	0.091**	0.000	0.103**	-0.004	0.000	-0.028**	0.019**		
INVREC _{i,t}	0.108**	-0.001	-0.051**	0.057**	0.035**	0.411**	-0.001	-0.211**	0.040**	0.000	-0.070**	-0.064**	0.027**	
LOSS _{i,t}	-0.060**	0.002	0.066**	-0.067**	0.075**	0.075**	0.000	0.012**	-0.326**	-0.005*	-0.013**	0.067**	0.003	-0.059**

This table reports the Spearman correlations between the variables of the Equations 3 and 4a. The definitions of variables are reported on Table II. * and ** represent (2-tailed) significance levels of 5% and 1%, respectively.

the financial statement audited by a BSA is less reliable than those audited by external auditors (Big-x and non-Bi-x auditors) because the statutory committee tends to earnings over estimation initiatives. This finding may be explained by the circumstance that BSA members face with lower audit fees, and at the same time, they tend to act as tax advisors of the firms they audit (Mariani et al., 2010; Corno et al., 2007). In addition, because of their involvement in the day-by-day operations as administrative auditors, BSA members have less competitive advantages compared to external auditors. For example, they have less knowledge of diverse business practices; have a lower ability to benefit from robust and efficient audit methodology and processes. This is a surprising result as the 71.05% of our sample firm assigns the financial audit to the BSA. This finding is consistent with Mariani et al. (2010), while it is not consistent with

Bisogno (2012). Therefore, hypothesis H2 is accepted. The following paragraphs analyse the estimated coefficients of the control variables of the Equation 3 concerning the intensity and the direction of the impact of various factors on the level of the discretionary accruals.

The estimated coefficient (β_3) of the control variable $LEV_{F,i,t}$ for the magnitude of the financial leverage (debt-to-banks) has a negative value of -0.052, contrary to expectation. According to DeAngelo et al. (1994), firms experiencing financial problems are more likely to be conservative in order to avoid issues with lenders. This finding is consistent with the control hypothesis (Jensen, 1986), indicating that more highly leveraged firms tend to manage their earnings downwards. Our finding is consistent with prior literature (Mariani et al., 2010; Bisogno, 2012). In addition, the estimated coefficient (β_4) of the control variable $LEV_{i,t}$ for the total leverage has

a positive value of 0.030, contrary to expectation. Consistent with the debt contracting hypothesis (Sweeney, 1994; Dechow and Skinner, 2000; Rosner, 2003; Ardison et al., 2012), firms experiencing temporary financial difficulties (proxied by the total debts/total assets ratio) manage their earnings upwards in order to avoid debt covenant violations. However, this finding is not consistent with the empirical results concerning Italian non-listed firms, which are reported by Bisogno (2012) and Mariani et al. (2010) and they are in favour of the control hypothesis.

The estimated coefficient (β_5) of the control variable $TAX_{i,t}$ concerning the level of the tax burden (tax payable) has a negative value of -0.002 contrary to expectation and prior empirical evidence (Coppens and Peek, 2005; Burgstahler et al., 2006; Van Tendeloo and Vanstraelen, 2008; Poli, 2013). A possible explanation is that

Table 5. OLS regression analysis.

Variable	Coefficients (Std. errors)	
β_0 : Const	0.002	(0.723)
β_1 : BIG4 _{i,t}	-0.009***	(0.000)
β_2 : BSA _{i,t}	0.012***	(0.000)
β_3 : LEVF _{i,t}	-0.052***	(0.000)
β_4 : LEV _{i,t}	0.030***	(0.000)
β_5 : SIZE _{i,t}	-0.005***	(0.000)
β_6 : TAX _{i,t}	-0.002***	(0.003)
β_7 : ROA _{i,t}	0.006***	(0.000)
β_8 : GROWTH _{i,t}	0.503***	(0.000)
β_9 : AGE _{i,t}	-0.041***	(0.000)
β_{10} : ATA _{i,t}	0.243***	(0.043)
Number of Observations:	18,721 firms for 168,489 firm year obs.	
Adj. R-Squared:	40.21%	
Industry control: Yes	VIF<2%	

This table presents the results of the regression analysis of the estimated OLS panel regression model:

$$DAC_{i,t} = \beta_0 + \beta_1 BIG4_{i,t} + \beta_2 BSA_{i,t} + \beta_3 LEVF_{i,t} + \beta_4 LEV_{i,t} + \beta_5 TAX_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 ROA_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 AGE_{i,t} + \beta_{10} ATA_{i,t} + \epsilon_{i,t}$$

Source: Petersen(2009).

Italiannon-listed firms are more likely to engage in earnings management initiatives in order to decrease the probability of an investigation by the tax authorities. In fact, the Italian tax system issues an investigation or estimate the tax income according the tax law (therefore, the tax office considers unreliable the financial statements),if a firm does not fully comply with specific tax indexes (in Italian these indexes are named the “Studi di Settore” or (from 2019) the “Index of tax reliability”).

In the case of Italian non-listed firms, larger firms are less likely to manage earnings than other firms. The estimated coefficient (β_6) of the control variable SIZE_{i,t} has a negative value of -0.017. This finding is consistent with prior empirical evidence within the Italian context reported by Mariani et al. (2010) and Bisogno (2012).

The results indicate that firms experiencing revenue growth, as expected, are more likely to manage earnings than other firms since the estimated coefficient (β_7) of the control variable GROWTH_{i,t} is 0.503. Further, the estimated coefficient (β_8) of the control variable ROA is positive, as expected, significant at 1% level, suggesting that high profitable firms are, also, more likely to manage earnings than other firms. This finding is partially consistent with Bisogno (2012), analysing a sample of Italian manufacturer firms, and not consistent with Van Tendeloo and Vanstraelen (2008). Our finding indicates that the earnings quality of high profitable firms is poor.

The sign of the control variable AGE_{i,t}, proxying the age of the company from the date of the incorporation, is negative, as expected, significant at 1% level. The result indicates that old firms have their reputation to maintain. Therefore, these old firms are less likely to manage their earnings (Alsaeed, 2006; Ahmed et al., 2014). Finally, the

sign of the control variable ATA_{i,t}, proxying the unsigned value of the total accruals, is negative, contrary to expectation, significant at 1% level. Our finding, not consistent with prior literature investigating a sample of Italian non-listed firms (Mariani et al., 2010; Bisogno, 2012) indicates that firms with greater total accruals have lower uncertainty about reported earnings.

Accrual-based earnings management initiatives and audit quality

The second dimension of the audit quality is the probability that an auditor will comment on any discovered misstatements in the audit opinion. According to the H₃, it is expected that, in the case of Italian non-listed firms, there is a positive relationship between a modified audit opinion and the engagement of a Big-x auditing company in charge of the financial auditing.

Table 6 illustrates the results of the regression analysis if the estimated logistic OLS panel regression models of Equation 4a and b). We ensured that the empirical results were not driven by the properties of the data. We winsorized the variables at 1% level in order to remove the effect of outliers. We applied Petersen's (2009) methodology for selecting the estimation procedure for the regression model of Equation 4a and 4b. Due to the presence of firm and time effects and in an attempt to control for autocorrelation and heteroscedasticity, the regression model of Equation 3 was estimated by employing firm and time-clustered standard errors.

We test the H₃, by using a stepwise procedure, in order to assess the relationship between the dependent and

Table 6. Modified audit opinion and Big-x auditing companies.

	Coefficients (Std. errors)		
	Basic	Extended	Extended with interactions
β_0 :	-9.196** (0.354)	-9.4752*** (0.614)	-12.979*** (0.774)
β_1 : DAC _{i,t}	3.150*** (0.415)	3.197*** (0.401)	7.601*** (0.920)
β_2 : BIG4 _{i,t}	2.764*** (0.526)	2.739*** (0.528)	6.572*** (0.571)
β_3 : BSA _{i,t}	0.979* (0.320)	1.033*** (0.315)	4.287*** (0.765)
β_4 : ROA _{i,t}		-0.008 (0.008)	-0.010 (0.008)
β_5 : SIZE _{i,t}		0.054 (0.038)	0.043 (0.039)
β_6 : TLTE _{i,t}		0.001 (0.001)	0.001 (0.001)
β_7 : INVREC _{i,t}		-0.431* (0.237)	-0.442 (0.234)
β_8 : LOSS _{i,t}		-0.232 (0.276)	-0.239 (0.275)
β_9 : DAC _{i,t} × Big4 _{i,t}			-4.822*** (0.704)
β_{10} : DAC _{i,t} × BSA _{i,t}			-3.694*** (0.820)
Number of observations:	18,721 firms for 168,489 firm year obs.	18,721 firms for 168,489 firm year obs.	18,721 firms for 168,489 firm year obs.
Pseudo R-square:	14.99%	15.20%	15.75%
	VIF < 2%	VIF < 2%	VIF < 2%
Industry sector	Yes	Yes	Yes

Note: this table presents the results of the regression analysis of the following estimated logistic OLS panel regression models:

Basic: $MAO_{i,t} = \beta_0 + \beta_1 ADAC_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 BSA_{i,t} + \varepsilon_{i,t}$

Extended: $MAO_{i,t} = \beta_0 + \beta_1 ADAC_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 BSA_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 TLTE_{i,t} + \beta_7 INVREC_{i,t} + \beta_8 LOSS_{i,t} + \varepsilon_{i,t}$

Extended with interactions: $MAO_{i,t} = \beta_0 + \beta_1 ADAC_{i,t} + \beta_2 BIG4_{i,t} + \beta_3 BSA_{i,t} + \beta_4 ROA_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 TLTE_{i,t} + \beta_7 INVREC_{i,t} + \beta_8 LOSS_{i,t} + \beta_9 BIG4_{i,t} \times ADAC_{i,t} + \beta_{10} BSA_{i,t} \times ADAC_{i,t} + \varepsilon_{i,t}$

the testing, control and interacting variables. Firstly, we estimate a basic model including as explanatory variables ADAC_{i,t}, BIG4_{i,t} and BSA_{i,t}. The basic model has a Pseudo R-square of 14.99%, a Wald chi-square of 812.00, and it is significant at 1% level. Secondly, we estimate an extended model (Eq. 4a) including the variables ADAC_{i,t}, BIG4_{i,t}, BSA_{i,t}, ROA_{i,t}, SIZE_{i,t}, TLTE_{i,t}, INVREC_{i,t} and LOSS_{i,t}. The extended model has a Pseudo R-square of 15.20%, a Wald chi-square of 771.25, and the model is significant at 1% level. Finally, we also estimate an extended model with the interaction of ADAC_{i,t} with BIG4_{i,t} and BSA_{i,t}, in order to check for the combined effect of the unsigned discretionary accruals and BIG4_{i,t} and BSA_{i,t}, respectively, on the probability to receive a modified audit opinion. The model has a Pseudo R-square of 15.75%, a Wald chi-square of 579.36 and the model is significant at 1% level.

The dependent variable of all estimated regression models is MAO_{i,t}, a dummy variable taking the value 1 if the firm in the sample has received a modified audit opinion, and the value zero otherwise. The descriptive statistics for the variable MAO_{i,t} indicate that only 237 firms out 168,489 (the 0.14%) in the sample period received a modified audit opinion. More specifically, the not-tabulated descriptive statistics for the variable MAO indicate that 19 firms out of 18,721 (= 0.001%) received a modified audit opinion (MAO) in the year 2009; 38 firms out of 18,721 (0.002%) in the year 2010; 26 firms out of

18,721 (= 0.001%) in the year 2011; 34 firms out of 18,721 (= 0.002%) in the year 2012; 29 firms out of 18,721 (= 0.001%) in the year 2013; 31 firms out of 18,721 (= 0.002%) in the year 2014; 23 firms out of 18,721 (0.001%) in the year 2015; 20 firms out of 18,721 (= 0.001%) in the year 2016; and 17 firms out of 18,721 (< 0.000%) in the year 2017.

The estimated coefficient (β_2) of the independent variable BIG4 has a positive value in each one of the estimated models (the basic, the extended and the extended with interaction models). In addition, the finding suggests that Big-x auditing companies are more likely to report an anomaly than other types of auditors. The not-tabulated descriptive statistics indicate that 160 Big-x audited firms received a modified audit opinion in the sample period, while non-Big-x auditors issued 77 modified audit opinion in the sample period. The aforementioned empirical result is in favour of H₃.

The positive value of the estimated coefficient (β_3) in each one of the estimated models suggests that also the firms audited by the statutory committee are likely to receive a modified audit opinion. A possible explanation is that also the BSA has some incentive to report irregularities on the audit report. However, the not-tabulated descriptive statistics indicate that only 74 firms audited by a BSA received a modified audit opinion in the sample period, while 163 firms audited by other auditors (a Big-x and a non-Big-x auditor) received a modified

audit opinion in the sample period. A BSA is engaged in financial auditing by 78.3% of the sample firm and, yet, it is less likely to report anomalies in the audit opinion than other auditors. In the case of the estimated basic regression model, the coefficient for $BSA_{i,t}$ (0.979) is lower than that for $BIG4_{i,t}$ (2.764).

We, also, control for the association between the issuance of a modified audit opinion and the magnitude of the discretionary accruals. The not-tabulated results indicate that the firms receiving a MAO have, in average, a magnitude of unsigned discretionary accruals of 0.51, while the firms with no modified audit opinion have a corresponding value of 0.16. The control variable $ADAC_{i,t}$ (the unsigned discretionary accruals) has an estimated coefficient of a positive value, significant at 1% level in all three models. These findings suggest that a modified audit opinion is issued in association with a higher level of unsigned discretionary accruals (a proxy of earnings management).

To control for the combined effect of the auditor type with the level of unsigned discretionary accruals on the probability the issuance of a modified audit opinion is issued, we introduce two interacting variables in our model (extended model with interactions). We employed the interacting variables because the corresponding estimated coefficient will show the incremental effect of each variable ($BIG4_{i,t}$ and $BSA_{i,t}$) on the relationship between the level of unsigned discretionary accruals ($ADAC_{i,t}$) and the issuance of a modified audit opinion.

The estimated coefficients of both interacting terms ($ADAC_{i,t} \times BIG4_{i,t}$ and $ADAC_{i,t} \times BSA_{i,t}$) exhibit a negative sign, significant at 1% level. There are a number of possible explanations. The first one is that the two types of auditors (the Big-x auditing company and the BSA) are concurrent in providing high-quality audit services and in signalling any anomaly. The second reason is that both types of auditors (and especially the statutory committee) suggest changing the anomalies in the financial statements before to submit it to the shareholders meeting. Finally, in our data sample, there are only 237 firms receiving a modified audit opinion (the 0.1% of the observations). The estimated coefficient of the control variable $ROA_{i,t}$ is negative, as expected, indicating that the negative firm performance does not impact on the issuance of a modified audit opinion. Our finding is consistent with prior literature (Tsipouridou and Spathis, 2014; Omid, 2015) concerning listed firms.

The firms' profitability ($ROA_{i,t}$), the firm size ($SIZE_{i,t}$), the ratio of total liabilities scaled the equity ($TLTE_{i,t}$) and the dummy variable indicating if the firm experienced loss in a previous year ($LOSS_{i,t}$) are not significant. These findings suggest that these variables do not explain the issuance of a modified audit opinion. These findings are partially consistent with previous literature (Tsipouridou and Spathis, 2014; Omid, 2015). In more specific terms, also previous literature concerning listed firms has found that the ratio of total liabilities to equity was not

significant. Finally, the estimated coefficient of the control variable $INVREC_{i,t}$ is negative, significant at 10% level only on the extended model, indicating that the ratio of inventories and receivables on the total assets, do not drive the probability of receiving a modified audit opinion. Our finding is partially consistent with Tsipouridou and Spathis (2014) and consistent with Omid (2015).

Conclusions

Our study expands prior empirical evidence for the audit quality within the context of the Italian non-listed firms by expanding prior research initiatives (Mariani et al., 2010; Bisogno, 2012) in two ways. First, this study investigates the audit quality of the statutory and external auditors for a longer updated time period that is from 2009 to 2017. Second, this study examines another aspect of audit quality that is the level of auditing independence.

Prior empirical evidence for the audit quality within the context of non-listed firms is limited on a number of studies examining the impact of audit quality on the level of the accrual-based earnings management initiatives. We provided additional empirical evidence for the relation between accrual-based earnings management and the audit quality provided by Big-x auditing companies within the Italian setting of the non-listed firm. In addition, we expanded existing empirical research in the case of non-listed firms concerning another important but rather unexplored aspect of audit quality that is the auditor independence.

The Italian auditing environment provides multiple levels of audit quality for non-listed firms comparing with other European auditing environments. Our empirical findings indicate that statutory auditors (BSA) are positively associated and Big-x auditing companies are negatively associated with the level of signed discretionary accruals. These findings suggest that due to their wider experience, robust and efficient audit methodology and processes, knowledgeable and expert professional staff, external auditors (Big-x and non-Big-x auditors) should provide higher quality auditing than the statutory committee. In addition, external auditors must compete in a domestic and international auditing market; therefore any misstatement in the auditor may damage their reputation worldwide. Therefore, these competitive advantages, reducing the expectation auditing gap, attract clients seeking higher quality audit. Thus, according to previous literature, the findings suggest that, in the case of Italian non-listed firms, a Big-x auditing company (and, in general, also non-Big-x auditors) provides a high-quality audit than a BSA. Even though Italian non-listed firms assign the financial audit to a BSA, this is not a surprisingly result because BSA members have several commitments as administrative auditors (they have also to attend and monitor the shareholder meetings); therefore they may make any effort to strengthen the internal control system but, probably, BSA

may have severe problems in carrying out a high-quality financial auditing. In addition, our study provides evidence that, in the case of Italian non-listed firms, there is a positive relationship between a modified audit opinion and the engagement of a Big-x company in charge of the financial auditing. Findings also indicate that the engagement of a Big-x auditing company increases the likelihood of a modified audit opinion to be issued more than the engagement of a BSA. Probably, this greater independence of Big-x companies may be explained by the circumstance that these auditors have their reputation to save (also when they audit non-listed firms) and their wider experience and robust and efficient audit methodology reduce any relationship with their clients. In this way these auditors increase their reputation on the auditing market.

The aforementioned empirical evidence contributes to wider policy-making issues concerning auditing regulation. The Italian auditing institutional setting for non-listed firms may be of interest for extracting valuable experience for policy-making purposes within a wider international context. For instance, the EC (2011) Green Paper on Corporate Governance proposes the introduction of an Independent Professional Supervisory Board (IPSB), which skills are similar to those of a statutory auditor and for this reason an IPSB may also be engaged as financial auditor, limiting the monopoly of the large Big-x auditing companies in the audit market. Further, the Chartered Accountants of Spain and France were interested in introducing a controlling body similar to the Italian BSA inside the corporate governance of European non-listed firms (Zanardi, 2010). Yet, effective policy making requires additional empirical evidence that a statutory auditor provides a high audit quality similar to this provided by the large Big-x auditing companies. Our empirical evidence provides evidence in this direction.

Finally, our empirical study has limitations which elevate the fact that additional comparative analysis is required. For instance, a comparative analysis of the audit quality between different auditing regimes across different national settings will empower policy makers with improved understanding of the quality difference between Big-x auditing companies and other types of auditors. Another type of valuable comparative analysis is between listed and non-listed firms operating within the same national setting.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

The efficiency implications of corporate earnings retentions

Ravi Thirumalaisamy

Department of Accounting and Finance, Modern College of Business and Science, Post Box 100, Postal Code 133, Sultanate of Oman.

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The study examines the efficiency of the investment of corporate income retention. If retained earnings are invested in positive net present value projects, they should enhance the shareholder value in the long run. It is believed that the stock market adds premium to a firm's earnings when the firm signals more retention of earnings. However, the stock market is seen to reverse the discipline when such retained earnings are not put to effective use. This study uses a sample of 27 high-growth, profitable Indian firms and tracks their retained earnings for a period of 15 years from 2002 to 2016. The results indicate that the retained earnings were put to an ineffective use by these firms, and the financial performance metrics that form the basis for shareholders' investment choices are misleading as the association of corporate profitability to shareholder enrichment is distorted. While firms gain profit, their shareholders sustain losses as their future cash flows from the investment of retained earnings are heavily discounted by the stock market. Earnings measure the wealth of the firms but not the health of the shareholders.

Key words: Retained earnings, shareholder enrichment, financial performance metrics, assets growth, pecking order theory.

INTRODUCTION

Although there are many available financing sources, firms can conveniently access the three broadly-available sources, namely earnings retained, new equity, and debt, when they find positive NPV projects. The viable options here are obvious: either new equity or retention of earnings would be preferred for firms with significantly high-growth potential (Hovakimian et al., 2001). It is evident that firms with growth potential would tend to maintain a high *retained earnings ratio* to net income, as

retained earnings are the cheapest source of funding advocated by pecking order theory (Myers and Majluf, 1984). According to Park and Pincus (2001), internal savings are the best source for financing the fixed assets-requirements of firms. Corporate savings are the most appropriate source of financing due to various considerations; for instance, firms are discouraged to go for new equity for the reason that new equity may cause the share price to fall. Equity financing in turn diminishes

E-mail: ravithirumal@gmail.com.

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the pro rata share of cash flows available for dividends and reinvestment (Walter, 1963). The cost of raising funds externally is significant, and market conditions may sometimes pose hardships for firms, causing them to go to the capital markets to raise funds. Therefore, firms prefer to continuously retain their profits to the maximum extent possible in order to maintain a steady dividend payout. This is believed to be a kind of financially cautious behavior of corporate finance managers, but it may ruin shareholder enrichment in the long run.

While corporate income retention policy has been proven as secondary in corporate finance research areas, this study places it in higher priority over dividend policy. The reason for this is that when the earnings retained are not put into effective use, the stockholders sacrifice their return on investment. One instance of this is when firms do not invest in positive net present value projects. Shareholders expect to receive a better return when they allow the firm to retain the earnings. Here, a "better return" implies the rate of return would be greater than that of dividend incomes.

Since the management is separated from the ownership in corporate undertakings, the corporate managers are entrusted with an obligation to ensure the shareholders' wealth maximization. Shareholders expect their agents (the managers) to select projects that would enhance their investment value in the long run. However, the reality often seen is that managers tend to work in their own favor when it comes to taking up risk in investment options. They may take up the projects in a combination that would minimize their investment risk where they can reap their required return to safeguard their positions, which may not be the shareholders' expected rate of return. A number of studies have proven that the firms' profitability is not proportionally associated to the shareholders' wealth maximization. Earnings per share (EPS) has been proven to be one of the most influential variables in indicating the financial performance of a firm, but its relative impact on share price is not significantly felt (Fatima and Islam, 2014). Thus, EPS is not a variable that can measure the shareholder wealth. According to Botha et al. (1987), shareholder wealth is the product of number of shares outstanding and the market price per share as well as dividends collected during the current year.

LITERATURE REVIEW

According to Baumol et al. (1970), the return on retained earnings used for financing assets is lower than the external equity employed. This indicates that the retained earnings are not efficiently invested when compared to the investment of external equity. There is always a market discipline that is working favorably to the externally raised funds, and as a result, corporate managers are forced to employ the funds effectively. Managers may be led to believe that this driving force is

missing with internally generated funds. Thus, earnings are retained whenever possible even if there is no corresponding investment opportunity for such funds; when the opportunity arises, the funds are employed. The time lag might have an impact on the return on retained earnings. The same point has been established in financial literature. For instance, the volume of earnings retained in a business firm is the deciding factor for selecting the investment choices (Himmelberg and Petersen, 1994; Schiantarelli, 1996; Audretsch and Elston, 2002; Carpenter and Petersen, 2002). Thus, firms decide the amount of earnings to be retained and then look for competent investment options. If this is the case, it should be understood that the corporate reinvestment is not to maximize the shareholders' return but rather to prove that managers are efficient in handling their investments. In this way, they can be regarded as efficient fund managers, but there is an opportunity cost to their decisions that should not be forgotten.

The literature review reveals mixed results in this area. Some of the studies argued that the market price of shares is largely influenced by the current earnings, irrespective of the decision to distribute or retain earnings. Sound financial performance of firms has a direct positive impact on the shareholder enrichment regardless of the mode of earnings distribution. Friend and Puckett (1964) declared that the market price of shares is equated to the present value of expected future earnings, and these returns may take the form of dividends and capital gains. Raj (1976) supported the point that the share prices are considerably governed by the current earnings of companies.

However, there are studies that demonstrated how the current market price is significantly influenced by the portion of earnings distributed rather than by the earnings retained (Hackbarth and Johnson, 2015; Kanwal, 2012; Wright 2014; Chughtai et al., 2014). The impact of dividend distribution on market value of shares is much more pronounced in the short run. According to Javed and Shah (2015), retained earnings do not significantly contribute to positive changes in the market value of firms. Khan (2009) observed that the impact of earnings distributed is much more significant than that of earnings retained. According to Power and MacDonald (1995), both dividends and retained earnings significantly influence the changes in share prices.

In addition, the amount of retained earnings also plays a crucial role in evaluating the shareholders' enrichment in the long run. Through retained earnings, shareholders gauge the managers' ability of utilizing the amount of retained earnings effectively to improve the market value of the firm. There is evidence that the retained earnings significantly influence the market price of shares in the long run (Harkavy, 1953; Desai, 1965; Bhole, 1980). Chawla and Srinivasan (1987) proved that both the dividends and retained earnings explain significant variations in share prices, given that the market assigns

more weight for retained earnings in the long run.

Beisland (2014) also supported this point by stating that retained earnings significantly influence the market price of shares. Tirmizi and Ahmed (2013) found that firms can enhance the shareholders' value by efficiently utilizing the investment options of retained earnings. When firms do not have potential investment opportunities, they should not retain the profits. Studies have shown that shareholder enrichment is not ensured by a higher volume of retained earnings but by the effective investment of such earnings retained (Lincoln, 2014; Khan and Zulfiqar, 2012). According to Royer (2017), firms with high marginal tax rates mostly benefit from equity capitalization where retained earnings constitute a greater part of the profits. Hardiningsih and Oktaviani (2012) stated that high-growth companies would increase the use of internal funds for financing the growth. Moreover, Jensen and Meckling (1976) pointed out that firms with great growth potential would reduce the dependence on debt, as creditors would normally demand a higher return on their investments when firms intend to invest in risky projects. In their work, Brigham and Houston (2004) found that the firms with attractive investment opportunities would avoid the issue of shares.

These mixed results put the researchers in a dilemma where the choice between dividend payments and income retention in terms of providing return to shareholders looks ambiguous. Shareholders generally believe in the financial performance of the firms when they decide to select the stock to invest. According to Gordon (1959), investors buy the income per share when they acquire a share of stock regardless of whether the earnings would be distributed, since future cash flows of the shareholders' investment is decided by the total earnings, not by the way it reaches the shareholders. However, the investors should be aware of the fact that the retained earnings would lead to deferred revenue which should be greater than the current dividend income; otherwise, the firm would likely decide to distribute the current earnings to shareholders. If firms do not foresee any productive investment opportunities for providing a better future return to shareholders than the current dividends, the firm should follow a 100% dividend payout policy. In other words, the shareholders will take care of their investment growth. The return in the form of capital gain in the long run, which is equal to the earnings that would have otherwise been distributed during the period of retention or less than that, will lead to capital erosion. This point brings out questions such as, why are retained earnings not influential in producing positive changes in share prices? Is it due to the way retained earnings are employed? Moreover, are corporate managers the custodians responsible for maximizing shareholders wealth who decides whether the profits are continuously retained, who look for the right opportunities to invest and are to be held responsible for not enriching their shareholders? Furthermore, does it matter when there is

a time lag between earnings retained and the investment of such earnings? These questions constitute the base for the study.

Corporations generate internal funds to finance its physical assets growth. According to Williamson (1964), retention policy of firms is influenced by the discretionary behavior of the board of directors. This prompts the question of whether the decision to retain earnings is a choice that the investors have. Friend and Puckett (1964) found that investors prefer dividends in non-growth industries, while in growth industries they prefer to support retained earnings. However, the study by Ball (1987) on the listed US firms proved that there is no relationship between the companies' financial performance and shareholder enrichment. According to Ball, firms that do not enrich their shareholders either in the form of current dividend or in the form of market price appreciation can remain surprisingly profitable, as various financial metrics of these firms appeared to be extremely encouraging for investment. These firms were believed by the shareholders to be highly profitable based on conventional financial performance metrics; nevertheless, their shareholders sustained loss in the long run. The study by Ball did not take into consideration the stock dividend as the benefit to shareholders, and this is considered a rare event in most of the firms in Indian corporate sector.

METHODOLOGY

The official directory of the Bombay Stock Exchange in Mumbai classifies the Indian industries into 23 major industries. From this, six major industries are taken up for the purpose of the study. Their growth potential is the selection criterion for the sample of 28 high-growth Indian firms that were chosen from the industries of cement, chemicals and pharmaceuticals, cotton textile, electronics, engineering, and paper. These firms were examined for a period of 15 years from 2001 to 2015, and five-year rolling average figures are estimated for further analysis. The five-year period is chosen on the basis that the impact of earnings retained could well be reflected in the long run on the market price of the shares for around five years. The common metrics indicating the financial performance of the companies are used as independent variables.

The shareholder enrichment has been used as the dependent variable. The study uses three variants of shareholder enrichment that measure the long-run benefit received by the shareholders in response to the financial performance of the companies during the 15-year period. These are presented in detail as below.

Shareholder enrichment to earnings ratio (SE/E)

This ratio measures how well the shareholders are benefitted in relation to the earnings of the company. The earnings of the company belong to the shareholders, irrespective of whether the earnings are declared as dividends or retained in the business. When the earnings are paid as dividends, this ratio is expected to be equal to 100%. When the earnings are retained by the companies, this ratio is expected to be more than 100% in the long run as the stock market would add a premium on the earnings retained when the reinvested earnings are effectively utilized. However, when this ratio falls short of 100%, it is understood that

the retained earnings are not used properly by the firms. In addition, the stock market has depreciated the retained earnings, and those earnings retained do not yield any returns to the shareholders. Subsequently, the earnings become lost in the process when they are retained in the business and not put into effective utilization. For this reason, the shareholders suffer from their investment in shares. Shareholders of those companies where this ratio is less than 100% would have been better benefitted if the entire earnings have been paid off as dividends. The numerator of this ratio is the current year dividend plus capital gain, and the denominator is the profit after tax and preferential dividends during the same period. Capital gain is the increase in the market value of the shares in the current year over the previous year.

Change in market value of shares to retained earnings ratio (CMV/RE)

This ratio measures the change in the market value of shares during a period of time in response to the amount of retained earnings in the same period. This ratio calculates the increase in market price per share in relation to the average retained earnings in that five-year period. If retained earnings increase by one rupee, the market price per share is expected to increase by more than a rupee within the five-year period. If not, the shareholders do not get any return from their retained earnings. This ratio precisely measures the enrichment of the shareholders out of their reinvested earnings with the company, and the ratio is calculated by dividing the change in market value of the shares by retained earnings. The capital gain is divided by retained earnings for a five-year period of time.

Return on shareholder investment (ROSI)

This ratio measures the shareholder enrichment by considering the opportunity cost of the alternative investment opportunities of the shareholders. The shareholder enrichment, as calculated by this ratio, is compared to the inflation rate and the Indian government's 10-year bond rate; both are used as proxies for the opportunity cost of alternative investment opportunities of the shareholders.

These dependent variables are framed from the shareholders' point of view, not from the companies' point of view.

Various cumulative average financial metrics studied as explanatory variables are (a) price to earnings ratio (P/E ratio), (b) payout ratio, (c) return on equity (ROE) ratio, (d) capital expenditures to revenue ratio, (e) ratio of debt to market value, (f) percentage of capital by internal funds, (g) earnings growth ratio, and (h) beta. They are derived as follows.

a. P/E ratio:

This ratio measures how much the investors are willing to pay for the EPS of the company. This ratio is computed by dividing the market price per share by EPS. The shareholders' expectation about the future earnings of the company is reflected by this ratio. Thus, a higher price earnings ratio conveys to the shareholders that the future earnings of the company are promising.

b. Payout ratio:

This ratio indicates the relationship between the dividend paid to equity shareholders and the earnings after tax and preference dividends. The shareholders will know how much of the earnings are distributed to them as dividends. Thus, dividend payout ratio is a good indicator of profitability of the firm.

c. ROE ratio

Profitability of a company has been measured differently in different contexts. Penrose (1959) is of the opinion that the shareholders (the owners) are directly interested in the relationship between profits (after fixed interest payments) and the nominal capital issued, while managers relate profits (before interest payments) to the total capital employed, given that managers are likely to aim for the effective utilization of capital. Since the study focuses on the profitability of equity shareholders, this ratio is calculated by dividing profit after tax and preferential dividend by net worth.

d. Capital expenditures to revenue ratio (capital to revenue ratio):

This ratio explains the association between the revenue earned and the capital expenditures incurred by a company. For every rupee of earnings, the amount of capital that has been spent is identified with the help of this ratio. Thus, the ratio is intended to represent the capital intensity of the companies under study.

e. Debt to market value of shares ratio (ratio of debt to market value):

The debt to market value of shares ratio explains how the long-term debt is related to market value of securities. Before prospective investors take up a decision to invest in shares for a long period of time, they would normally like to weigh out the risk and rewards associated with the investment. Thus, the profitability of the companies is to be estimated in the view of financial risks. In other words, this ratio associates the financial risk with the return on investment.

f. Internally available funds to capital expenditures ratio (percentage of capital by internal funds):

Cash flow, which is the sum of profit after tax and depreciation, is equated to internally available funds. If expressed as a ratio to capital expenditure, this would measure how much capital expenditure can be financed through internally available funds without resorting to external capital, either in the form of new borrowings or in the form of a new equity issue. The maximum use of internal funds, seen as the cheapest source of funds, would reduce the weighted average cost of capital, thus leading to the maximization of shareholder wealth.

g. Earnings growth rate (earnings growth):

This is the annual growth rate of earnings calculated during the 15-year period. This rate measures how a company grows profitably over the period.

h. Stock beta (beta):

Stock beta indicates the volatility of share prices in the market. Beta has been calculated by regressing the market return with the individual stock return. From the shareholders point of view, beta indicates the risk associated with their investment in shares.

RESULTS AND DISCUSSION

Scheme of analysis

Both simple and multiple regression analyses were executed at three stages. This was done to test the association between the conventional ratios that are used to describe the financial performance of the companies and the three ratios calculated to find shareholder

enrichment. This would identify the effectiveness of using retained earnings in terms of enriching the shareholders in the long run.

In the first stage, the study tests the association between the shareholder enrichment, as represented by the three calculated measures (the shareholder enrichment to earnings ratio, change in market value to retained earnings ratio, and return on shareholder investment ratio) and the metrics of company financial performance. Of all the financial indicators used as the independent variables in the first stage of regression analysis, ROE and earnings growth are the most widely used financial criteria by investors and financial analysts in determining the performance of the companies. Therefore, at the second level, ROE and the earnings growth are regressed on the shareholder enrichment, as represented by the same three measures. ROE is the only variable found to be significant throughout the study, as it has an impact on shareholder enrichment. To test its impact as a sole independent variable upon shareholder enrichment, the study performed a simple regression analysis by regressing ROE only on the three measures to represent shareholder enrichment at the third stage. To test the association between shareholder enrichment and the widely used financial metrics, multiple regression models are framed with three variants of metrics for measuring shareholder enrichment.

Sensitivity of shareholder enrichment to retained earnings for high-growth companies

This section analyzes the association between shareholder enrichment and the retained earnings for high-growth companies that are listed in the sample. The study employed popular financial metrics which are used for assessing the financial performance of the companies; these are tested in terms of their ability to indicate the enrichment of the shareholders over a period of time. The analysis also checks the usefulness of ROE to the shareholders for their decision in selecting a company for investment, especially in shares. Sensitivity of market price of shares to retained earnings is also a part of the analysis in this section. The results of the analysis are discussed below.

Shareholder enrichment to earnings ratio

Table 1 deals with the distribution of the shareholder enrichment to earnings ratio as calculated for the high-growth companies listed in the sample.

The company ranked at the top of the table has an average ratio of 5,154.92; this means that for one rupee of earnings retained, the shareholders are enriched by around Rs. 5,155 rupees over the 15-year period. The company following in second ranking enriches its shareholders by about Rs. 724 rupees for every rupee of

retained earnings. Four companies further listed in the table benefit their shareholders in the long run by about Rs. 230 on average for every rupee of net earnings retained.

However, the companies at the bottom of the table show surprising results. Twenty-one companies ranked at the bottom of the table have either a low or negative ratio, meaning that shareholders received either few or no benefits. Eighteen companies have yielded relatively low returns to their shareholders; the shareholders of these companies only benefitted by about Rs. 23 for every rupee of earnings retained over the 15-year period. The result is even worse with the remaining three companies where the shareholders have sustained a loss by Rs. 110 for every rupee of earnings retained over the 15-year period. It can be said that these shareholders might have made the wrong decision in reinvesting their earnings in these companies. In these 21 companies, the stock market has either attached a less premium to the amount of earnings retained or discounted the amount of retained earnings, thereby causing a loss on the investment in shares.

Change in market value of shares to retained earnings ratio

Table 2 shows the range of change in market value to retained earnings ratio. Fourteen of the companies have produced an average ratio of 7.30, which is higher than 100%. However, 13 of the remaining companies are found with the average ratio of change in the market value to retained earnings either as a ratio less than 100% or a negative ratio. Eight companies are with the average ratio of 48% where the shareholders have incurred a minimum loss of 52% on their investment by way of earnings retained. The negative ratio calculated for the remaining five companies indicate that the shareholders have sustained loss by Rs. 10 for every rupee of retained earnings. In these 13 companies, which form 48% of the sample, the shareholders would have been better benefitted if the entire net earnings had been distributed as dividends.

Return on shareholder investment ratio

Table 3 analyzes the range of return on shareholder investment ratio, which is the third variant that measures shareholder enrichment when comparing it to the opportunity cost of their alternative investment and the average inflation rate during the 1996 to 2010 period.

The average ratio indicates that the shareholders are on average enriched by 14% on their net earnings that are reinvested into the business. Twenty-five companies ranked at the top of the table have the average ratio of 15%. The return on these companies compare favorably with the average 10-year India Government bond yield

Table 1. Shareholder enrichment to earnings ratio.

Range	Number of companies	Average ratio
Above 10,000	-	-
7,000 - 9,999	-	-
5,000 - 6,999	1	5154.92
3,000 - 4,999	-	-
1,000 - 2,999	-	-
800-999	-	-
600 - 799	1	723.82
400 - 599	-	-
200-399	4	229.48
0-199	18	22.85
Less than Zero	3	-110.42
Average Ratio		254.69

Table 2. Change in market value of shares to retained earnings ratio.

Range	Number of companies (n=27)	Average ratio
Above 1	14	7.30
0-0.99	8	0.48
Less than 0	5	-10.13
Average ratio		2.05

Table 3. Return on shareholder investment ratio.

Range	Number of companies	Average ratio
0 to 1	25	0.15
Less than 0	2	-0.05
Average Ratio		0.14

Table 4. Return on equity ratio.

Range	Number of companies	Average ratio
Zero to one	27	0.18
Less than zero	-	-
Average ratio		0.18

of 7.91% and the average rate of inflation as measured by Consumer Price Index of 6.77% during the 1996-2010 period. The return on shareholder investment is negative for the remaining two companies.

Return on equity as a measure of shareholder enrichment

Table 4 lists the range of ROE ratio, which is the conventional measure normally used to test the financial performance of the companies. The average ratio for all

the selected companies is 18 %. When the return as per return on shareholder investment ratio and ROE ratio are compared, ROE exaggerates the real return to shareholders.

Return on shareholder investment to return on equity ratio

The study tested the effectiveness of ROE when putting it against the return on shareholder investment in explaining shareholder enrichment; Table 5 shows the

Table 5. Return on shareholder investment to return on equity ratio.

Range	Number of companies	Average ratio
3 and above	1	3.21
2 - 2.99	1	2.33
1 - 1.99	7	1.28
0 - 0.99	16	0.62
Less than 0	2	-0.24
Average ratio		0.89

Table 6. Shareholder Enrichment to Earnings Ratio and the Popular Financial Metrics.

Variable	Regression coefficient	Standard error	t-value
Price to earnings ratio	15.473	9.563	1.618
Payout ratio	-657.047	361.194	-1.819
Return on equity	3869.741	2448.617	1.580
Capital expenditures to revenue	1.639*	0.719	2.279
Debt to market value	7.033	105.550	0.067
Per cent of capital by internal funds	11.686	74.568	0.157
Earnings growth	-30.070	77.116	-0.390
Beta	-2721.792**	678.880	-4.009

Constant: 1991.523; Standard error of estimate: 753.043; Adjusted R²: 0.426; R²: 0.603*; F Value: 3.411; Durbin-Watson Statistic: 2.019; **Significant at the 1% level; *Significant at the 5% level.

return on shareholder investment to ROE ratio This ratio is expected to be 100%. Nine companies are found with an average ratio higher than 100%, but 18 companies have an average ratio that is less than 100%. The average shareholder enrichment is 11% less than that explained by the ROE ratio. Thus, the return on shareholder investment sounds better when put against ROE in terms of representing the shareholder enrichment.

Shareholder enrichment and the popular financial metrics

This section deals with the results of a multiple regression analysis that was performed to determine the sensitivity of shareholder enrichment to the popular financial metrics.

Shareholder enrichment to earnings ratio and the popular financial metrics

The results of the multiple regression analysis are shown in Table 6. The multiple regression analysis was executed to determine the association between shareholder enrichment, as represented by the ratio of shareholder enrichment to earnings and the traditional financial metrics, which indicate the financial performance of the companies for high-growth companies.

Beta and capital expenditures to revenue are the two

variables found to be significantly associated with the shareholder enrichment to earnings ratio at the 1 and 5% levels respectively. However, the impact of the two variables is low. The R² explains 60% of the variation in shareholder enrichment, and the Durbin-Watson statistic indicates there is no autocorrelation among the variables.

Change in market value of shares to retained earnings ratio and the popular financial metrics

Table 7 illustrates the multiple regression results, which are used to determine the association between the changes in market value to the retained earnings ratio. This was done to represent the shareholder enrichment in terms of the increase in market value of stocks due to retention of profits in the long run and the commonly employed financial metrics to judge the financial performance of the companies.

The results show that none of the financial indicators explain any significant amount of variation in shareholder enrichment. The model explains only 37% of variation in change in market value to retained earnings. The Durbin-Watson statistic indicates that there is no autocorrelation among the variables.

Return on shareholder investment ratio and popular financial metrics

Table 8 shows the results of the regression analysis that

Table 7. Change in Market Value of Shares to Retained Earnings Ratio and the Popular Financial Metrics.

Variable	Regression coefficient	Standard error	t-value
Price to earnings ratio	-0.181	0.168	-1.079
Payout ratio	3.150	6.347	0.496
Return on equity	27.613	43.028	0.642
Capital expenditures to revenue	-0.005	0.013	-0.428
Debt to market value	0.261	1.855	0.141
Per cent of capital by internal funds	-2.667	1.310	-2.035
Earnings growth	2.078	1.355	1.534
Beta	2.780	11.929	0.233

Constant: -0.202; Standard Error of Estimate: 13.233; Adjusted R²: 0.089; R²: 0.369; F Value: 1.318; Durbin-Watson Statistic :2.510;** Significant at the 1% level; *Significant at the 5% level.

Table 8. Return on shareholder investment ratio and the popular financial metrics.

Variables	Regression coefficient	Standard error	t-value
Payout ratio	-0.055	0.037	-1.479
Return on equity	-0.105	0.296	-0.353
Capital expenditures to revenue	0.000*	0.000	2.626
Debt to market value	-0.027*	0.013	-2.134
Per cent of capital by internal funds	0.003	0.008	0.360
Earnings growth	0.002	0.008	0.244
Beta	-0.097	0.080	-1.216

Constant : 0.280; Standard Error of Estimate: 0.092; Adjusted R² : 0.170; R²: 0.393; F Value: 1.761; Durbin-Watson Statistic:1.484; ** Significant at the 1% level. *Significant at the 5% level.

Table 9. Shareholder enrichment to earnings ratio and the popular financial metrics.

Variable	Regression coefficient	Standard error	t-value
Return on equity	6193.967*	2617.671	2.366
Earnings growth	10.082	67.877	0.149

Constant: -861.731; Standard error of estimate: 931.251; Adjusted R²: 0.122; R²: 0.190; F Value: 2.806; Durbin-Watson Statistic: 2.118; **Significant at the 1% level; *Significant at the 5% level.

was conducted to explain the association between the return on shareholder investment, which was used as the representative of shareholder enrichment, and the same financial metrics.

The capital expenditure to revenue ratio and the debt to market value that are significant at the 5% level do cause a very low level of impact on the return on shareholder enrichment. R² explains only 39% of the variation in return on shareholder investment.

Sensitivity of popular financial metrics to retained earnings

ROE and earnings growth are the two most widely

employed financial metrics for determining the financial performance of companies. In the study, these are regressed with the three measures to indicate the shareholder enrichment; the results are reported in this section.

Shareholder enrichment to earnings ratio and the popular financial metrics

Table 9 shows the results of the regression analysis; these results explain the association between the shareholder enrichment to earnings ratio and the most prominent financial metrics, namely ROE and earnings growth. The return on shareholder enrichment is found to

Table 10. Shareholder Enrichment to Earnings Ratio and Return on Equity.

Variable	Regression coefficient	Standard error	"t" d.f:25
Return on equity	6150.810*	2550.107	2.412

Constant: -843.340; Standard error of estimate: 912.855; Adjusted R²: 0.156; R²: 0.189*; F value : 5.818; Durbin-Watson statistic: 2.121; ** Significant at the 1% level; *Significant at the 5% level.

Table 11. Change in Market Value of Shares to Retained Earnings Ratio.

Variable	Regression coefficient	Standard error	t-value
Return on Equity	14.303	39.883	0.359
Earnings Growth	0.898	1.034	0.869

Constant: -1.453; Standard Error of Estimate: 14.189; Adjusted R²: -0.047; R²: 0.033; F Value: 0.412; Durbin-Watson Statistic: 2.328; **Significant at the 1% level; *Significant at the 5% level.

Table 12. Change in Market Value of Shares to Retained Earnings Ratio and Return on Equity.

Variable	Regression coefficient	Standard error	"t" d. f: 25
Return on equity	10.457	39.442	0.265

Constant: 0.186; Standard Error of Estimate: 14.119; Adjusted R²: -0.037; R²: 0.003; F Value: 0.070; Durbin-Watson Statistic: 2.093; **Significant at the 1% level; *Significant at the 5% level.

be statistically significant at 5% level. However, R² explains only 19% of the variation in the shareholder enrichment to earnings ratio.

Shareholder enrichment to earnings ratio and return on equity

The study performed a regression analysis between ROE, the only variable often found significant in the regression analysis, and the shareholder enrichment to earnings ratio. Results are recorded in Table 10. Return on equity has been found to be significant, but it has a negligible impact on the shareholder enrichment to earnings ratio, as suggested by the R² value of 19%.

Change in market value of shares to retained earnings ratio and the popular financial metrics

Table 11 lists the regression results, which determine the association between the change in market value to retained earnings and the two financial metrics of ROE and earnings growth. None of the financial measures explain any amount of variation in change in market value to retained earnings ratio.

Change in market value of shares to retained earnings ratio and return on equity

Table 12 shows the regression results that determine the association between the change in market value to retained earnings ratio and return on equity ratio. Return on equity does not show any impact on shareholder enrichment in the form of increase in market value of shares.

Return on shareholder investment ratio and the popular financial metrics

The results of the regression analysis between return on shareholder investment and the two financial ratios are presented in Table 13. It can be seen that ROE and earnings growth do not significantly contribute to the variation in return on shareholder investment ratio.

Return on shareholder investment ratio and return on equity

Table 14 illustrates the results of the regression equations performed between the return on shareholder

Table 13. Return on shareholder investment ratio and the popular financial metrics.

Variable	Regression coefficient	Standard error	t-value
Return on equity	0.253	0.289	0.875
Earnings growth	0.002	0.007	0.329

Constant: 0.091; Standard error of estimate: 0.103; Adjusted R²: -0.048; R²: 0.033; F Value: 0.410; Durbin-Watson Statistic: 1.540; ** Significant at one per cent level; *Significant at five per cent level.

Table 14. Return on Shareholder Investment Ratio and Return on Equity.

Variable	Regression coefficient	Standard error	t-value
Return on equity	0.242	0.282	0.859

Constant: 0.096; Standard Error of Estimate: 0.101; Adjusted R²: -0.010; R²: 0.029; F Value: 0.739; Durbin-Watson Statistic: 1.548; **Significant at one per cent level; *Significant at five per cent level.

investment ratio and ROE. None of the financial metrics significantly explain the variation in return on shareholder investment. The empirical analysis provides the basis to believe that the traditional financial metrics, including the most widely used ratio of ROE in determining the financial performance of the companies, are not the appropriate indicators for explaining the shareholder enrichment in high-growth companies.

Conclusion

The traditional financial metrics that are used by the investors and financial analysts to gauge the performance of the companies do not seem to convey an accurate picture of investment return. This contradicts the profound statement that sound financial performance of firms has a direct positive impact on the shareholder enrichment irrespective of the mode of earnings distribution (Friend and Puckett, 1964; Raj, 1976).

While earnings can measure the health of a company, their shareholders may not be able to reap benefits in response to these earnings. ROE has been widely used by investors and financial analysts as a measure of selecting shares for investment. However, the results show that these popular metrics do not have any considerable influence on the three metrics of shareholder enrichment. This leads to the conclusion that the ROE does not precisely measure what the shareholders would benefit from their investment in shares. This is also supported by de Wet and du Toit (2007). According to them, ROE is a commonly employed metric, but it is a flawed measure of corporate financial performance. It is evident that earnings reported do not guarantee the proportional return to the shareholders. The results correspond to the findings of Ball (1987).

The results also reveal that the market price of shares does not fully reflect the opportunity cost of the amount of earnings retained over the period of five years. Earnings should not be retained unless firms have potential investment opportunities that would yield a rate of return better than the rate of return, otherwise called the opportunity cost of earnings retained. Shareholders are not ensured a better rate of return than their expected future rate of return by the volume of earnings retained. Firms under study do not care for the selection of investments for retained earnings as these funds are the cheapest source of funds.

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CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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