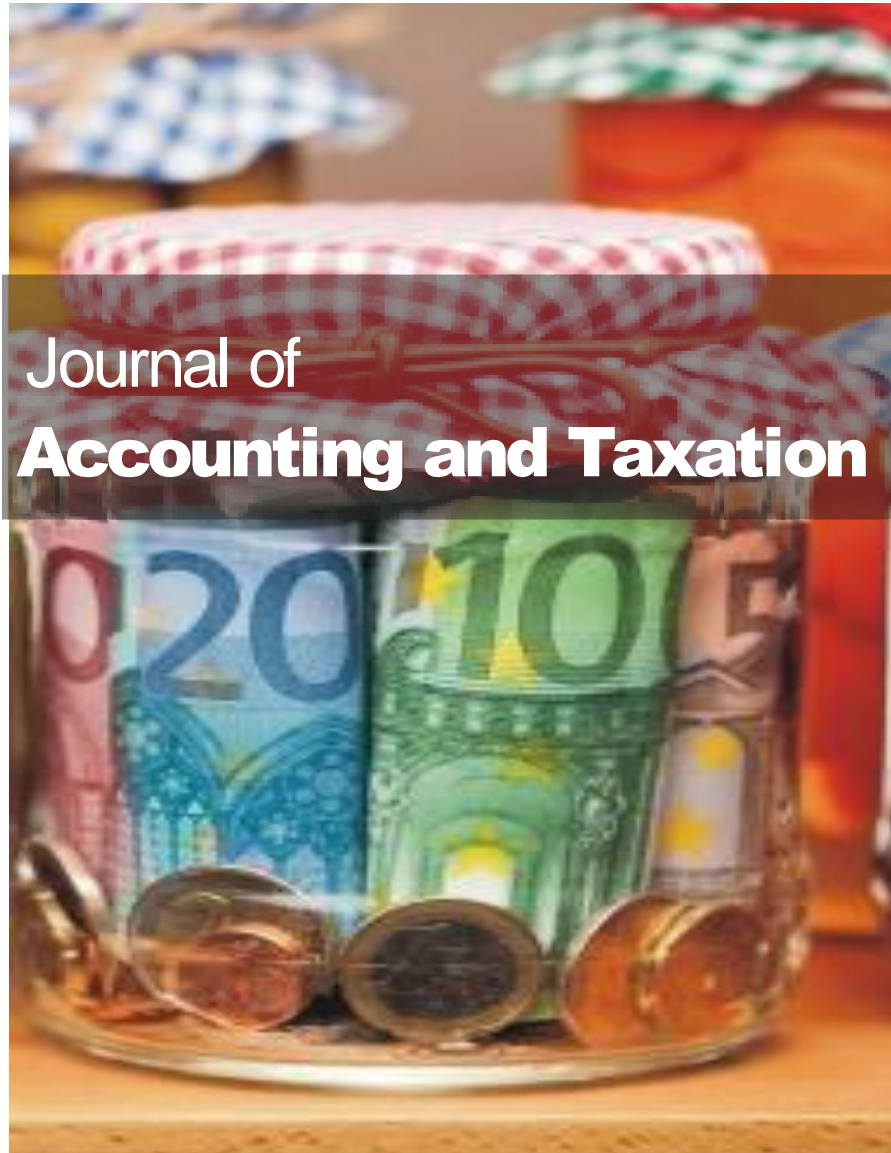


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Full Length Research Paper

Fair value accounting: Perspective on stewardship function

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This paper reviews the existing and emerging perspectives on fair value accounting (FVA) in the context of the stewardship function of financial reporting. This study draws on diverse research threads and theoretical notions to advance a comprehensive assessment of existing FVA research in the context of the trade-off between decision-usefulness and the stewardship objective. By conducting a narrative literature review, the authors identify two distinct domains of literature: FVA- a result of a conceptual shift in financial reporting; and FVA- an enhancement of decision-usefulness in general-purpose financial reporting. This study posits that FVA can be considered as an evolutionary, rather than revolutionary, development in financial reporting measurement which emerged from financialisation and globalisation of economies. It is further suggested that the ability of FVA to provide stewardship-relevant information may be reduced due to the emphasis it places on the provision of decision-useful information for investment purposes. Therefore, the authors call for a greater engagement between policy-setters and researchers when choosing conceptual underpinnings for financial measurement objectives.

Key words: Fair value accounting, stewardship function, decision usefulness, IFRS 13.

INTRODUCTION

Regarded as a 'quiet revolution' in financial reporting, growing controversy surrounds the subject of financial measurement due to a perceived movement from the traditional basis of financial measurement (historical cost) towards a 'new' basis of fair value accounting (FVA). Driven by the alleged decision relevance of market-based values, FVA has manifested itself as an increasingly dominant measurement system, with its theoretical dominance now embedded in the IASB and FASB

Conceptual Framework. With the increasing implementation of FVA across many jurisdictions, critics have pointed to a shifting emphasis from the stewardship function of financial reporting towards the facilitation of investment decision-making (Whittington, 2008; Ronen, 2008; Hitz, 2007). The existing FVA literature reflects this information content objective by typically addressing the trade-off between relevance and reliability of fair values (Müller et al., 2015; Chung et al., 2017; Israeli, 2015;

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Song et al., 2010; Siekkinen, 2016; Wang and Zhang, 2017; Demerjian et al., 2016; Shalev et al., 2013; Manchiraju et al., 2016; Mäki et al., 2016; Hlaing and Pourjalali, 2012; Guthrie et al., 2011; Cairns et al., 2011). In this paper, the authors challenge this tendency and document the position of stewardship-relevant information when extending adoption of FVA. The importance of the stewardship function has been long established in accounting and is based on the central idea of accountability. The accountability notion encompasses managers' responsibility over financial resources to ensure profitability for equity providers, an obligation to protect creditors' interests, and the ability to ensure long-term business operations (Barton, 1982). Some authors have argued that displacement of accountability as a backbone of accounting with the information usefulness objective is a result of transformation of accounting academy into a sub-division of financial economics (Ravenscroft and Williams, 2009). Dominance of neoclassical discourse of finance created the information-driven objective focused on a forward-looking but less reliable approach to predict future events or outcomes.

By drawing on diverse research threads and theoretical notions, this paper advances a comprehensive assessment of existing FVA research, particularly in the context of the trade-off between informativeness and the stewardship objective.

The application of FVA, particularly through the market-to-market accounting, entails a considerable range of assumptions and judgments. Some commentators describe FVA as being 'fictional' and 'imaginary' in essence (Casson and Napier, 1997) with a potential to promote manipulation and bias. Yet it also implies more timely and decision-relevant information, supporting the prevalence of FVA in the viewpoint of current accounting standard setters (Danbolt and Rees, 2008, Whittington, 2008). However, the authors question the ability of decision-useful information to replicate the stewardship effect. This conundrum has stimulated our interest in FVA within the context of the stewardship function, echoed in the following question: 'How does the information embedded in fair values support the demand for information to control agents?'

Much of the existing research focuses on the effect of FVA on market proxies such as valuation differences across fair value hierarchy levels (So and Smith, 2009; Goh et al., 2015; Magnan et al., 2015), valuation differences between recognised and disclosed fair values (Müller et al., 2015; Chung et al., 2017; Israeli, 2015), and valuation differences across different corporate governance structures (Song et al., 2010; Siekkinen, 2016). Other studies have explored the effect of FVA on corporate decisions such as debt structure (Wang and Zhang, 2017; Demerjian et al., 2016), CEO compensation and dividend policy (Sikalidis and Leventis, 2017; Shalev et al., 2013; Manchiraju et al., 2016) and capital structure

(Valencia et al., 2013; Greiner, 2015). Others have focused on the factors driving the choice between fair value and historical cost accounting (Quagli and Avallone, 2010; Mäki et al., 2016; Hlaing and Pourjalali, 2012; Guthrie et al., 2011; Cairns et al., 2011; Chang et al., 2021). Moreover, some authors have discussed the usefulness of fair value measurement in relation to countries with different socio-economic environments (Balfort et al., 2017; Zhang et al., 2012; Marra, 2016) and the impact of FVA on the quality and reliability of accounting information (Dahmash et al., 2009; Dietrich et al., 2001; Landsman, 2007). All the research threads mentioned above are based upon the informational approach, representing the majority of FVA research. This significant portion of FVA research reflects the shift towards the notion of the information usefulness of financial statements that occurred in the late 1960s (Beaver, 1981).

The authors argue that the impact of FVA cannot be fully understood without considering the long-standing objective of financial reporting, the stewardship function, and without factoring in the developments in the major accounting standards. Therefore, our interest is in the conceptual basis of FVA emerging from the IASB and FASB Conceptual Frameworks. Both frameworks emphasise 'decision-usefulness' as a general purpose of financial reporting, in particular, towards existing and potential investors and creditors in capital markets. The key argument highlights the view that shareholders make decisions other than to buy, sell or hold securities; their other concerns also include the evaluation of management and potential intervention to correct agency problem. Thus, financial reporting should effectively enable shareholders to evaluate management contribution towards the shareholder value enhancement. In other words, information provided within financial statements should minimise information asymmetry between shareholders and managers to effectively evaluate management performance. However, fair value accounting presents an additional layer of concern to this assessment. The key issue emerges from the emphasis that fair value places on current values which may be significantly affected by elements other than management conduct, most predominantly associated with market volatility.

Despite the acknowledgement from the accounting policy setters, it was asserted that shareholders' reporting requirements could be subsumed within the general purpose of decision-usefulness, served by providing information relevant to prediction of future cash flows. In this paper, the link between the stewardship function and FVA is revisited by reviewing and classifying relevant FVA literature. For this paper, stewardship is not solely defined on the basis of information provision to assist an evaluation of the competence and integrity of appointed agents. Instead, the authors question the arguments justifying the ability of decision-relevant information to

fully replicate stewardship effects. The first argument relates to the primacy of the demand for information to protect property rights to hold agents accountable; and the second notion argues for such information to be capable of verification in order for it to be fully effective (Miller and Oldroyd, 2018). The stewardship function requires not only the information that could explain the values of assets and liabilities at the start and the end of an accounting period but also information to justify the changes in these values. While the authors do not argue that the stewardship function entails close adherence to historical cost accounting, this study reflects upon the argument that FVA hinders the generation of information that could fully replicate stewardship effects (Ronen, 2008; Lennard, 2007; Whittington, 2008).

The existing FVA research has moved forward in three different strands. First, the majority of research interest examines the impact of FVA on equity valuation (Hann et al., 2007; Carroll et al., 2003; Petroni and Wahlen, 1995; Barth, 1994) and FVA impact on economic decisions made by financial intermediaries (Lim et al., 2013; Magnan et al., 2015; Ayres et al., 2017). Secondly, following the joint project between IASB and FASB to develop a conceptual framework, the second strand evaluates the fundamental shift in the development of accounting standards towards emphasis on the primacy of assets and liabilities rather than their value changes (Sutton et al., 2015; Bromwich et al., 2010). Thirdly, an important strand of the literature has surfaced in response to the accusations of FVA being a cause of the subprime mortgage crisis which resulted in the global financial meltdown in 2007-08 (Laux and Leuz, 2009; Véron, 2008). The key concern of this strand of research asserts that FVA exacerbates swings during the business cycle with potential to provoke a contagion effect across the financial markets.

There is a limited understanding of the overall FVA research terrain that would identify and document new perspectives in relation to existing approaches in FVA research. The contribution of this paper addresses the knowledge deficiency in the context of the stewardship function. The importance of the link between fair value accounting and the stewardship function becomes evident when evaluating the management contribution towards shareholders' value. The adoption of fair value accounting, primarily served by market input, has been justified by its ability to provide decision-relevant information to investors to predict future cash flows. However, the assessment of managers' contribution to shareholders value may not be satisfied by the market information since these are exogenous to management performance.

By categorising the existing literature into discrete domains, the authors intend to provide more robust insight into approaches to FVA research and suggest future research ideas to address FVA research complexity. To fulfil these two objectives, a narrative

literature review of FVA research is conducted. Compared with systematic reviews which use a set of rigid rules, narrative reviews are particularly valuable when there is a need to identify new research opportunities (John and Lawton, 2018). Furthermore, narrative literature reviews establish patterns and trends in the literature and thus help to identify gaps and inconsistencies in the body of knowledge (Machi and McEvoy, 2016). Subjectivity, typically acknowledged as an issue in narrative reviews, can be mitigated by borrowing more rigorous strategies from systematic literature review methodology (Hammersley, 2001; Jones and Gatrell, 2014).

METHODOLOGY

While this paper has adopted a narrative literature review methodology, in order to improve the objectivity and verifiability of the analysis, the authors have decided to follow more transparent and less biased procedures when selecting relevant studies. To further enhance the research transparency, the conceptual boundaries are first outlined, followed by determination of thematic and disciplinary parameters and research process. The authors then present the literature review results by establishing key domains emerging from the sample selected. In conclusion, possible future research directions in FVA literature are developed and highlighted.

Conceptual boundaries – what is fair value?

The conceptual boundaries established in this study are based upon a fair value definition in accordance with the International Accounting Standards Board (IASB, 2007) and Financial Accounting Standards Board (FASB) the two major accounting standards setters. In their respective accounting standards (IFRS 13 and SFAS 157), fair value is defined as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date" (IFRS, 13.9). It is worth mentioning that this definition entails further assumptions such as those about its measurement and classification. There are some practical misconceptions with the definition of fair value that are explained in the accounting standards. For example, while the definition of fair value requires the use of exit values, in some cases, value-in-use and entrance values are used instead. This inconsistency arises from the individual perception of the value of an asset. For instance, when there is no potential purchaser, fair value (the exit value) would be equal to zero or even negative, however, a different entity might regard the price of the asset as the value to that firm and use *value-in-use* instead (Benston, 2008). Therefore, the authors envisage several conceptual implications of the fair value definition adopted in this study and decide to delineate its conceptual boundaries explicitly in Table 1.

Thematic boundaries – what FVA themes are relevant to this study?

The authors distinguish between research into the conceptual principles of FVA, and research into decision-usefulness in the context of FVA. These two literature streams emphasise different origins and implications adopted within existing FVA literature. In

Table 1. Conceptual boundaries and implications of fair value definition.

Conceptual boundary	Implications
Fair value is not deprival/relief value.	<p>Deprival (relief) value represents an accounting measurement concept that defines the value based on the action that would be taken by a business if it were to be deprived (relieved) of an asset (liability) (Elliott and Elliott, 2013). The fair value definition adopted in this study entails estimation of value based on current market conditions. In contrast, deprived/relief value rather reflects the impacts of, and rational management response to, changing market conditions (Horton et al., 2011). Notable contributions to the concept of deprival value include Edey (1974), Byatt Report (1986) and Edwards et al., (1987). More recently, the concept became more relevant following the changes in revenue recognition (Horton et al., 2011; Nobes, 2011), and expansion of fair value measurement (Van Zijl and Whittington, 2006; Weetman, 2007; Macve, 2010). The authors further outline the key differences between deprival and fair value. Deprival value is typically interpreted as the replacement cost for an asset whose recoverable amount exceeds its replacement cost. If the replacement cost is greater than recoverable amount, the asset is impaired and valued at its recoverable amount since the replacement is not justified. This can be considered as a modified replacement cost valuation (Gee and Peasnell, 1976). The replacement cost includes all the relevant costs associated with the acquisition of the asset, which is in contrast with fair value definition, according to which transaction costs should not be incorporated into fair values (Benston, 2008). Similarly, to arrive at net realisable value, relevant costs must be deducted from the current market value of the asset. In addition, when the disposal is likely to take significant time, the proceeds should be discounted to obtain the present value of net realisable value. Therefore, the studies considering deprival/relief value are not included.</p>
Fair value is not value-in-use.	<p>According to the IAS 36 value-in-use is defined as “the present value of the future cash flows expected to be derived from an asset or cash-generating unit”. Clearly, this corporate finance-based definition is rooted in management assumptions about the future cash-generating abilities of the asset, whereas fair value is market-based measure or an exit price (Cao et al., 2013). At the same time, the objective of value-in-use is not clear because present value is a technique that can be applied to estimated amounts under several different measurement bases (IASB, 2006). Value-in-use follows the economist’s notion of income defined as “the maximum amount which can be spent during [a period] if there is an expectation of maintaining intact the capital value of prospective receipts” (Hicks, 1946: pp. 178 – 179). While the FASB/IASB joint project grounded its conceptual principles on a definition of income by Hicks, Hicks’ own assessment of a measure of income states that it is irrelevant to decision-making, which is fundamentally in disagreement with fair value measurement objective. Value-in-use is based on the forecasts of future cash flows that are discounted to determine their present value. Profit or loss based on such concept therefore becomes a measure that estimates a change in expectations of the future between two points in time in the past (ICAEW, 2018). This is a common criticism of value-in-use – some critics further argue that valuation is best done by the market, rather than managers in financial reporting. Therefore, studies investigating value-in-use are not considered in this paper.</p>
Fair value is a function of institutionalised belief in market efficiency.	<p>Market efficiency is a backbone of fair value measurement. While the fair value is not a novelty in financial reporting (Zyla, 2012), the concept became prevalent in response to globalisation and the information revolution (Marra, 2016). To allocate capital effectively, the values should be determined based on the assessment of all available information pertinent to rapid decisions. However, the belief of existence of market efficiency suggests that the fair value application in countries with market inefficiencies and relational contracting may be contra-productive (Balfourt et al., 2017; He et al., 2012). Zeff (2007: p. 291) posits that the existence of such markets is not abundant amongst IFRS adopters: “the asset pricing markets are not sufficiently deep to provide the necessary data with which to revalue many of the assets reliably”. For example, conclusive evidence documents that the valuation relevance of fair values decreases with an increasing fair value hierarchy level (Elbannan and Elbannan, 2015; Song et al., 2010; Badenhorst, 2015; Magnan et al., 2015). Therefore, the purpose of this study does not include evaluation of market efficiency in relation to FVA application.</p>

the first stream, FVA originates within the accounting standard setters' pronouncements, hence the focus on its theoretical basis established in the Conceptual Framework. The second stream originates within the application of FVA standards in financial reporting. This stream of research evaluates decision-usefulness of FVA through the information perspective. According to the information perspective useful information is defined as "signals capable of transforming a priori expectations into a posteriori expectation" (Hitz, 2007: p. 333). Therefore, signals embedded in fair values may also provide relevant information to support the stewardship role.

Stream 1 primarily considers research into reliability and quality of fair values, the role of the Conceptual Framework in development and expansion of FVA, and the so-called "*de-legalisation of the balance sheet*" (Power, 2010: p. 205) of an economic institution. The focus on reliability and quality of fair values can be explained, at least in part, by the use of estimates of hypothetical market prices at Level 2 and 3 of the fair value hierarchy. The project by IASB and FASB to develop a joint conceptual framework and its amendments, such as the shift from reliability to faithful representation, and the removal of *free from bias* from the fundamental qualitative characteristics, further support the trend in favour of FVA in the development of accounting standards for many years to come. The case is often made that the FASB and IASB highlight the primacy of assets and liabilities, based on a definition of income grounded on a theory prevalent in economics (Sutton et al., 2015). However, the attributes contained within this definition solely apply to assets and liabilities in complete and perfect markets (Bromwich et al., 2010), a fact which further questions the reliability of Level 2 and 3 fair values. These theoretical underpinnings are vital to the development of future accounting standards and the way they approach different stakeholders' informational needs.

Stream 2 focuses on the examination of FVA information content. The accounting information has an information value if "the benefits of the improved decisions [resulting from incorporating such accounting information into decision making] exceed the cost of information procurement and processing" (Hitz, 2007: p. 333). In other words, information embedded in fair values is decision relevant if the provision of such data can be viewed as cost-efficient information aggregation (Barth, 2000; Beaver, 2002). The analysis of the information aggregation criterion has primarily been directed towards evaluation of value relevance in the context of standard setting. Besides the valuation approach which prevails in information perspective, others evaluate the impact of FVA on corporate decisions such as debt structure (Wang and Zhang, 2017; Demerjian et al., 2016), CEO compensation and dividend policy (Sikalidis and Leventis, 2017; Shalev et al., 2013; Manchiraju et al., 2016) and capital structure (Valencia et al., 2013; Greiner, 2015). In addition, other research focuses on the factors driving the choice between fair value and historical cost accounting (Quagli and Avallone, 2010; Mäki et al., 2016; Hlaing and Pourjalali, 2012; Guthrie et al., 2011; Cairns et al., 2011; Chang et al., 2021). To sum up, this paper considers FVA as a consequence of theoretical principles outlined in the Conceptual Framework and as a dimension in decision-making for relevant stakeholders.

Disciplinary boundaries

Most FVA studies and their implications are in the field of accounting, finance and economics. In particular, there are numerous studies in the area of the economic consequences of FVA on the regulatory capital (Chircop and Novotny-Farkas, 2016; Laux, 2016; Valencia et al., 2013; Greiner, 2015; Fiechter et al., 2017). These studies are beyond the scope of our review. This is because, for the most part, these studies seek to establish the impact of FVA on the financial stability objectives through the lens of banks' regulatory capital. They specifically address the link

between FVA and banks' financial reporting, and thus concentrate on the implications of FVA on a specific set of stakeholders - banks' supervisors and regulators. As outlined earlier, this study is concerned with the evaluation of FVA in the context of the stewardship function. Therefore, within the stewardship function, it is argued that the implications of the theoretical principles delineated in the Conceptual Framework (Stream 1) and the application of FVA standards on decision-making (Stream 2) are the most relevant streams of FVA research to consider. Given that this paper is primarily concerned with the conceptual basis of FVA and its implications on the information content of accounting in the context of stewardship role, our focus is on studies published in the accounting journals only. Through focusing on an accounting discipline, the authors could capture more relevant studies with an essence of accounting based on legal protection of property rights of shareholders encompassed within the stewardship function of financial reporting.

Research process

The search criteria for the literature review have been based on relevant keywords, time period and database. SCOPUS database was used for the literature search with the following keyword *fair value* included in the article title, keywords or abstract. All peer-reviewed articles published in the accounting journals as per the Association of Business Schools in Academic Journal Guide (2018) have been included. The database was designed primarily to provide data for an examination of the accounting literature by academics from different traditions, notably between US-based and non-US-based academic researchers. Given that this paper is primarily concerned with the theoretical underpinnings as per the joint IASB/FASB Conceptual Framework, the authors analyse the breakdown between the studies published by US versus non-US authors. Table 2 illustrates the number of authors cited of each accounting journal that met the established search criteria. The sample is relatively balanced in terms of a breakdown between accounting academics with US versus non-US tradition, with 240 and 278 authors cited respectively. This study spans a time horizon from January 2007 to June 2017 and reviews 158 journal articles (Figure 1). The purpose of these search criteria was to provide a comprehensive overview of research literature concerning FVA with a focus on recent evidence from both theoretical and empirical research. The database search was conducted in June 2018. While all the accounting journals listed in ABS Academic Journal Guide (2018) have been targeted, the analysis has focused on studies with methodological and theoretical rigor published in higher-ranked journals (the journals rated 3 and above in the ABS system).

Sample quality

Considering the sample generated by the adopted research process, two issues are raised about its quality. First, there is a clear divide between theoretical and empirical studies where exclusively theoretical studies provide direct insights into stewardship evaluation in the context of FVA. On the other hand, empirical research is substantially based on evaluation of policy change and policy implementation in the context of decision-usefulness for investment decision-making. This clear-cut division suggests that the adoption of FVA is strongly associated with enhancement of information content to facilitate investment decisions, rather than the stewardship role of financial reporting. Since our major field of interest is at the intersection of stewardship and FVA, the sample is focused on studies concerning theoretical insights into this relationship. Nonetheless, the authors still view empirical evidence on decision-usefulness as a relevant stream of research, in particular, when evaluating the stance subsuming the

Table 2. Number of authors cited.

Cited Journal	All Authors	Non-US Authors	US Authors
Accounting Review	42	4	38
Accounting, Organizations and Society	15	7	8
Journal of Accounting and Economics	25	8	17
Journal of Accounting Research	13	4	9
Contemporary Accounting Research	20	6	14
Review of Accounting Studies	28	12	16
Abacus	23	20	3
Accounting and Business Research	16	12	4
Accounting Forum	9	6	3
Accounting Horizons	21	0	21
Accounting, Auditing and Accountability Journal	9	9	0
Auditing	19	1	18
Behavioural Research in Accounting	5	0	5
British Accounting Review	10	10	0
Critical Perspectives on Accounting	5	3	2
European Accounting Review	18	15	3
Journal of Accounting and Public Policy	24	8	16
Journal of Accounting, Auditing and Finance	30	11	19
Journal of Business Finance and Accounting	14	12	2
Journal of International Accounting, Auditing & Taxation	11	11	0
The International Journal of Accounting	16	15	1
Accounting and Finance	32	30	2
Accounting and the Public Interest	4	2	2
Accounting in Europe	10	10	0
Accounting Research Journal	8	5	3
Advances in Accounting	35	18	17
Australian Accounting Review	11	11	0
Current Issues in Auditing	5	0	5
International Journal of Accounting & Information Management	5	0	5
International Journal of Auditing	9	6	3
International Journal of Disclosure and Governance	13	10	3
Journal of Applied Accounting Research	13	12	1
Total	518	278	240

This table shows the number of authors cited of each accounting journal that met the established search criteria. Number of authors is derived from author-count assigned to a particular article published in respective accounting journal, with US/non-US distinction being derived from author's university association.

stewardship objective within decision-usefulness (Miller and Oldroyd, 2018). Therefore, this literature stream has been incorporated in the review of the literature.

Second, there is a significant number of studies concerning FVA and its contribution to the Global Financial Crisis 2007/08 (GFC) (Laux and Leuz, 2009; Véron, 2008; Ryan, 2008; Goh et al. 2015; Elbannan and Elbannan, 2015; Blankespoor et al., 2013; Bleck and Liu, 2007; Amel-Zadeh and Meeks, 2013). This paper also accounts for these studies in the sample, since they represent substantial and significant evidence concerning FVA usefulness through both theoretical and empirical points of view. In principle, these studies are not part of Stream 1 nor Stream 2 as defined in Thematic Boundaries section. This is because most of these studies seek to establish the relationship between the financial crisis and FVA in the context of wider financial stability objectives. As argued earlier, this stream of research is primarily valuable to

banking regulators and thus this group of studies has been integrated on a selective basis to fit the purpose of the two research streams already identified.

ANALYSES AND DISCUSSION

Research framework

The analysis starts with the development of the research framework by seeking criteria or assumptions that would allow evaluation of studies from different perspectives. The studies evaluate FVA from two distinct viewpoints: (1) FVA as a result of a conceptual shift in financial

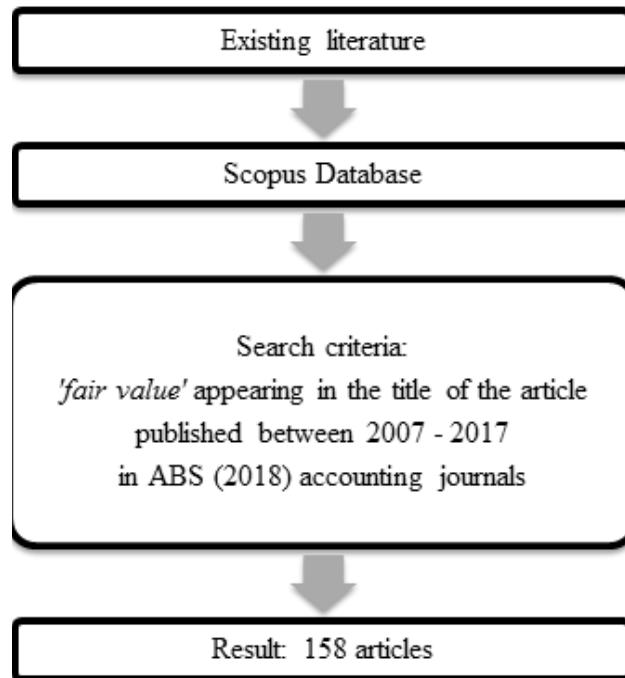


Figure 1. The literature search process. Figure 1 shows the process of identification of relevant literature via source and search criteria denoted.

reporting; and (2) FVA as an enhancement to the decision-usefulness of general-purpose financial reporting. The subsequent sections discuss the two domains in further detail.

Domain 1: FVA - a result of a conceptual shift in financial reporting

The conceptual perspective on FVA in the context of the stewardship function is well established in the FVA literature. The scope of the studies facilitates understanding of the role of the IASB/FASB joint Conceptual Framework in the development of accounting standards applying fair value measurement (Whittington, 2008; Hitz, 2007; Ronen, 2008; Yong et al., 2016; Sutton et al., 2015). The joint project has sparked interest amongst academics discussing the possible implications of the common framework, and its changes, for measurement basis in current and future accounting standards. The development of the common framework has come under the spotlight following GFC when its conceptual underpinnings were actively reconfigured to serve financial markets (Zhang and Andrew, 2014).

The first phase of the Conceptual Framework Project, completed in 2010, dealt with the objective and qualitative characteristics of financial reporting. It emphasises decision-usefulness as a general purpose of financial reporting, in particular towards investors and creditors in capital markets. In contrast, the stewardship

function is viewed as valuable only in so far as it contributes to the overall aim of decision-usefulness in investment decision-making. Whittington (2008: pp. 141 – 142) states that this move was “a bold step at the time, sweeping away the traditionalist view that accounting is primarily for legal and stewardship purposes, with decision usefulness as a useful possible additional benefit”. The lack of a proprietary perspective within the general-purpose view was acknowledged in a substantial volume of comments from IASB members, stating that decision-usefulness entails more than just the prediction of future cash flows. Despite the recognition, it was asserted that the stewardship role of financial reporting could be subsumed within the general purpose of decision-usefulness, served by providing information relevant to prediction of future cash flows.

The literature has further evaluated the changes introduced in the joint project, which are likely to impact the interpretation of the underlying principles (Zhang and Andrew, 2014; Whittington, 2008; Ronen, 2008; Yong et al., 2016). The main change in language was the replacement of ‘reliability’ by ‘faithful representation’. Whittington (2008: p. 146) asserts that this amendment “*eliminate[s] the possibility of a trade-off between relevance and reliability*” which was seen as an important factor in the precedent framework and which is often cited as a major concern in FVA. The other important aspect that can be seen as tilting the criteria of the Framework in favour of FVA is the removal of the phrase

'free from bias'. Many opponents argue that fair value estimation involves significantly more subjectivity (bias) than the alternative measures, and thus this change reduces the force, within the Framework criteria, of this objection. Whittington (2008) further argues that the Conceptual Framework implicitly assumes perfect and complete markets, which is in conflict with, what he refers to as 'alternative view', that regards markets as imperfect and incomplete where financial statements fulfil a stewardship function. Ronen (2008) calls for a more comprehensive set of theoretical accounting principles and governance reforms that would align the interests of managers and shareholders. This reflects a long-standing debate over the competing objectives of financial statements (informativeness vs. stewardship) and the recent developments in conceptual underpinnings, which broadly support FVA (Ronen, 2008; Whittington, 2008).

Other studies evaluate changes in the Conceptual Framework in relation to the definition of income and resulting conceptual primacy of assets (Penman, 2009; Yong et al., 2016; Hitz, 2007). Given the superiority of the Conceptual Framework principles in the formation of accounting standards, Sutton et al. (2015) point to FVA as 'a default presumption' to serve general purpose financial reporting with asset-liability approach following its theoretical foundations. The move towards FVA reflects the belief that the key objective of financial statements is to measure the financial position of a business entity. The asset-liability approach deems income statement merely as a medium to reflect changes in the value of assets and liabilities during the accounting period. In contrast, under the revenues-expenses perspective, the income statement is the primary tool that summarises the transactions between the entity and the markets with value added being reported as accounting income. Controversy surrounding the asset-liability approach can also be observed when looking into reporting of other comprehensive income and comprehensive income. The comprehensive income represents "the change in equity (net assets) of an entity during a period from transaction and other events and circumstances from non-owner sources (paragraph 56, FASB Concepts Framework 2, 1980). This definition emphasises the value changes of the assets and liabilities, rather than the residuals stemming from matching revenues with expenses, as in traditional income statement (Zhang and Andrew, 2014; Zeff, 1999). Reporting of comprehensive income is based upon the notion of clean surplus accounting that recognises unrealised gains and losses from value changes in assets and liabilities (Andrejčik, 2016). These value changes would typically bypass the traditional income statement and be reported as a direct adjustment to equity. However, their inclusion under other comprehensive income and comprehensive income puts emphasis on real economy performance and its fluctuation. Given that elements of other comprehensive

income typically include transitory and non-operating flows, their relevance in evaluation of long-term earnings generation is limited. Instead, these would rather emphasise investment decisions driven by financial speculation (Zhang and Andrew, 2014).

Following the Great Depression and Savings and Loans Crisis, enthusiasm for the superiority of assets and liabilities was revived by adopting a theory prevalent in economics. The pursuit of the FASB/IASB joint project grounded its conceptual principles in a definition of income by Hicks (1946). Although this step has broadly been welcomed by the academic community, some commentators have expressed concern that such theories must be considered in their entirety. Bromwich et al. (2010) present reasons why the Hicksian concept of income cannot be invoked to support the asset-liability approach as promoted by IASB/FASB. First, the application of Hick's definition of income requires the presence of complete and perfect markets to reliably capture the value of business in the observable market prices of their net assets. Since markets are rarely perfect or complete and the value of a firm is more than just a sum of its assets (less liabilities), the significant cash flow components are being excluded and not compounded into the value of business. Secondly, Hicks' own assessment of a measure of income states that it is irrelevant to decision-making – fundamentally in disagreement with Boards' decision-making usefulness objective of general-purpose financial reporting. Thirdly, if the focus were to move towards income *ex ante*, it can be argued that it is equally important to consider the standard stream concept of income (Hicks No 2 income) in order to triangulate the amount to be reported as a firm's expected earnings. Others have suggested that the accounting arena becomes a sub-discipline of financial economics.

IASB defines income as a by-product of the measurement of assets and liabilities in the balance sheet. Baker and Penman (2016) note that by conceptually assigning primacy to assets and liabilities, an income statement approach involving matching expenses to revenues is rejected. Although there is generally broad consensus over the importance of income statement (Penman, 2009), it is less clear what information it should carry in order to improve its relevance to decision makers. Adding to its significance, Yong et al. (2016) indicate that chartered accountants perceive the income statement as being the primary financial statement. Penman (2009: p. 358) also points out the substance of income statement when reporting a firm's value of intangible assets values by stating that "income statement perfectly corrects for a deficient balance sheet and the case where it does [report it] so imperfectly".

Other studies have shown how FVA is not always deemed reliable and bias-free given the range of estimation sources allowed when determining fair value

(Landsman, 2007; Penman, 2007; Power, 2010; Marra, 2016; Danbolt and Rees, 2008; Balfort et al., 2017; Benston, 2008). Power (2010: p. 201) suggests that reliability in accounting is a social construct that allows for subjective estimates to acquire authority “*when they come to be embedded in taken-for-granted routines*”. On a similar note, some authors have suggested that compliance with accounting rules automatically generates reliable and credible information, even if the rules may be incoherent or difficult to comply with (Barth, 2007; Ravenscroft and Williams, 2009). Barth’s conception of reliability shifts the attention from transaction-based reliability to notions of markets and the values they provide. However, this idea of reliability greatly depends on the level of market efficiency, which is an inherent assumption of value relevance studies. With market efficiency challenged in recent years, even Level 1 fair values become of questionable reliability (Marra, 2016).

In the extreme case of economic equilibrium, in which all information is incorporated into asset prices, it is generally agreed that the purpose of traditional financial reporting would be limited, if any (Barth and Landsman, 1995; Beaver and Demski, 1979). However, in the real world of imperfect information and uncertainty, financial reporting plays an important part in economic decision-making and so does the measurement system. A debate about the pros and cons of FVA takes us back to the underlying issue of trade-off between relevance and reliability. Advocates of FVA often appeal to notions of verifiability and objectivity of fair values since these are quoted and taken from the active markets. On the other hand, opponents argue that fair values are subject to greater estimation error by management, and prone to greater managerial discretion. In particular, the reliability concept suffers fundamental problems if fair values are not readily observed on the active markets and management must estimate these using considerable discretion or manipulation (Landsman, 2007; Pandya et al., 2021). The research suggest that fair values are informative to investors, but the value relevance diminishes with higher level of fair value hierarchy, which is often a subject of management bias and measurement error (Song et al., 2010). These limitations create information asymmetry between investors and management undermining the reliability of financial statements and essentially render effective monitoring of management accountability (Landsman, 2007; Penman, 2007).

Despite the concerns over fair value fictionality and intellectual incoherence, the proponents frequently argue that it offers a higher and updated level of information to financial statement users supporting its primacy in current standard setters’ viewpoint (Danbolt and Rees, 2008, Whittington, 2008). Since FVA is based on the philosophical underpinnings of ‘Western’ market economies, its application in cultures where market inefficiencies and relational contracting are present may

not be suitable (Pandya et al., 2021; Balfort et al., 2017; He et al., 2012; Peng and Bewley, 2010). Balfort et al. (2017) argue that the qualitative characteristics of neutrality and faithful representation in fair value measurement may seriously be undermined in Asian economics and transactions. A similar line of evidence is provided by Pandya et al. (2021: p. 216) which documents reluctance of South African practitioners to apply fair value measurement due to its “de-emphasis of the traditional stewardship role of financial reporting” and costs associated with fair value estimation and subjectivity. This research theme has further emphasised the implications of FVA and its strong reliance on market efficiency. The perceived benefits associated with FVA adoption may be strongly dependent on the existence of efficient markets, which strengthens the reliability concerns. However, the concept of reliability is primarily relevant for the information usefulness perspective within which current value is the backbone of ability to make future projections. However, accounting data should primarily provide objective feedback about the actions managers have taken, rather than subjective expectations about future prospects (Sterling, 1970; Edwards et al., 1987).

Domain 2: FVA - an enhancement of decision-usefulness in general-purpose financial reporting

Most scholars have examined FVA via the lens of valuation relevance supporting the notion of decision-usefulness. The studies confirm that the value relevance of fair values is negatively related with fair value hierarchy (So and Smith, 2009; Siekkinen, 2016; Goh et al., 2015; Magnan et al., 2015; Müller et al., 2015; Chung et al., 2017; Israeli, 2015; Song et al., 2010; Badenhorst et al., 2015), which supports the argument that investors are more likely to decrease the weight they place on less reliable Level 2 and Level 3 fair value estimates. Given greater information asymmetry associated with higher fair value levels, researchers became interested in the potential of firm-internal and external characteristics to alleviate this impediment. Song et al. (2010) provide evidence that firms with weaker corporate governance mechanisms exhibit greater information asymmetry leading to more severe moral hazard problems and thus lower value relevance. Siekkinen (2016) uses similar reasoning and documents that value relevance of fair values is positively associated with the level of a given country’s investor protection. The lack of value relevant fair value information is evident in countries with weak investor protection environments, where only Level 1 estimates are significantly relevant for valuation purposes.

Other studies associate value relevance with risk modelling. For example, Bhat and Ryan (2015) find that banks’ market risk and credit risk modelling improve the

value relevance of their fair value gains and losses, in particular for less liquid instruments. In response, McDonough and Shakespeare (2015) suggest that risk modelling may improve the faithful representation of fair values by reducing estimation error. They continue by noting that risk modelling activities may result in *“fair value estimates that are more verifiable and understandable to investors”* (McDonough and Shakespeare, 2015: p. 98). Badia et al. (2017) echo these arguments by providing evidence that the conditional conservatism of Level 2 and 3 financial assets fair values increases when the measurements are evaluated by more knowledgeable investors, verified by more independent third parties, and disclosed more fully in financial statements. These findings suggest that investors are sensitive to reliability deficiencies in Level 2 and 3 fair values, which cause investors to discount these measurements. If one agrees with the statement in Zeff (2013: p. 313) that stewardship can be defined as *“an indicator of management effectiveness in generating a return to shareholders”*, reporting higher levels of fair values cannot only act as a detriment to potential investors due to reliability concerns, but it may also introduce a noise preventing existing shareholder from effectively evaluating management conduct.

A further underlying feature of studies in this domain is that they place an emphasis on the existence of efficient markets – assuming that market figures represented by share values are not only unbiased but error-free (Holthausen and Watts, 2001). However, there is a general consensus that accounting figures (such as those represented by fair values) may be measured with error and thus be unreliable (Barth, 1994). This view has serious implications, since FVA has been under significant scrutiny for its potential to promote manipulation and bias, as discussed in Domain 1. Since prior studies point to a considerable information asymmetry among fair value hierarchy levels (in particular in Level 2 and 3 fair values), researchers also became interested in answering whether (and why) managers use the inherent opportunity to exercise discretion while determining fair values. The studies mostly focus on accounting for goodwill and intangible assets where considerable management latitude to exercise discretion and judgment is necessary to convey private information about future cash flows (Jarva, 2009; Filip et al., 2015; Bens et al., 2011). Based upon agency theory, it is predicted that managers exploit the unverifiable goodwill estimates to manage earnings opportunistically in line with their own private incentives. The research evidence documents the fact that although both goodwill and identifiable intangible assets are valuation-relevant, they are not reliable, which is in line with the fact that unverifiable information can be used opportunistically since estimates are rather difficult to challenge ex-post (Dahmash et al., 2009; Ramana, 2008; Ramanna and Watts, 2012).

The second theme of this domain cuts across a presentation format of fair values (Müller et al., 2015; Israeli, 2015; Riedl and Serafeim, 2011; Chung et al., 2017; Blacconiere et al., 2011). In particular, these studies evaluate the pricing differences across recognised and disclosed fair values. This stream of research is motivated by a psychology-based framework predicting that presentation format does not affect users' acquisition and evaluation of information but does significantly impact their information weighting (Maines and McDaniel, 2000). A change in reporting location can result in strengthening the perception of importance, in particular, if the change increases the visibility of that information. Research evidence documents the fact that investors place a different value on fair value information disclosed versus that recognised in financial statements, with disclosed information being significantly discounted (Israeli, 2015; Müller et al. 2015). Schipper (2007) indicates that recognised and disclosed fair values possess differential attributes in terms of reliability and information-processing costs. Müller et al. (2015) support this reasoning by providing evidence of reduced discounting in firms employing an external appraiser (a proxy of high reliability) and in firms followed by a high analyst (a proxy of low information-processing costs). This further strengthens a suggested positive relationship between information asymmetry and fair value discounting.

Within this research theme, the role of supplemental fair value disclosure in mitigating reliability concerns is also considered central to FVA discussion. On average, these studies support the view of decision-usefulness enhancement as a result of additional disclosures related to fair value inputs (Riedl and Serafeim, 2011; Chung et al., 2017). Research evidence documents that greater exposure to more opaque financial information, such as that reflected in Level 3 fair values, leads to higher information risk. The evidence within this research theme further supports the findings of decreasing value relevance associated with increasing fair value hierarchy level. Chung et al. (2017) find that firms with more subjective estimates are more likely to supplement additional disclosures in view of improving investors' perceptions of fair values reliability. The emergence of supplementary disclosures is consistent with a perception by managers that there are benefits to such disclosures. Evidence provided by Blacconiere et al. (2011) supports this hypothesis, however, there is also evidence pointing to managers using disclosures opportunistically.

Although economic theory predicts that disclosure improves management transparency (Verrecchia, 2001), studies such as Clor-Proell et al. (2014) question additional disclosure as it may lead to information overload and inefficient information processing. In contrast, they point to 'visibility' of fair values and conclude that the separation of financial information into multiple columns can improve users' judgments about the

reliability of fair value estimates. This finding suggests that simple changes to the income statement can facilitate the use of supplemental accounting disclosures. Lachmann et al. (2015) provide similar evidence regarding IFRS 9, which requires the changes in fair value of liabilities to be presented in other comprehensive income and thus excluded from net income (IFRS 9.5.7.7(a)). Their evidence indicates that the evaluation of firm performance is less biased if fair value gains are reported separately from net income. These results echo the fact that characteristics of the presentation format influence individual information processing and suggest that acquisition of information is enhanced by a degree of isolation. Since the degree of visibility is greater in other comprehensive income presentation format, this leads to lower cognitive costs and thus lower information asymmetry (Maines and McDaniels, 2000). Additionally, it suggests that separation of transitory and non-recurring items improves predictive ability of reported earnings (O'Hanlon and Pope, 1999). This is important not only for equity valuation purposes but can be equally relevant for stewardship purposes since temporary changes in fair values resulting from non-operating flows do not reflect management's ability to enhance shareholder wealth.

Domain 2 also considers the significance of fair values for decision processes made by financial analysts. The majority of the evidence suggests that financial analysts are well aware of fair value related issues, in particular those concerning reliability, since they tend to devote considerable attention to FVA implications (Bischof et al., 2014; Gaynor et al., 2011; Koonce et al., 2011). This may be explained by the negative implications on financial analyst forecast accuracy and forecast dispersion following the reclassification choice of financial assets (Lim et al., 2013; Fiechter et al., 2017; Paananen et al., 2012).

Drawing on the notion of the trade-off between reliability and relevance, an important research area of this domain seeks to establish the link between the recent financial crisis and FVA. This research has been integrated into this review since its underlying motivation is to evaluate whether FVA contributed to the crisis via its reliability concerns. For stewardship purposes, any financial turmoil represents a risk of losing property entitlements held by shareholders. In particular, concerns exist over market reactions when assets are marked to market once it is recognised that there are ties to contracts and regulation (Laux and Leuz, 2009).

The recent global financial crisis has turned attention towards procyclicality and its effect on the reliability of fair value estimates. A key concern is that fair value measurement exacerbates swings during the business cycle with potential to provoke contagion effect across the financial markets (Laux and Leuz, 2009). Véron (2008) further notes that procyclicality could artificially enhance the apparent robustness of the balance sheet during economic booms, and by the same measure,

weaken the financial position in times of economic busts. This is manifested by the fact that FVA provides early signals of depression in asset values, which forces businesses to take action and sell assets early at a price below their fundamental value (Ryan, 2008). Regulators have also expressed concerns that FVA can encourage procyclical lending by exaggerating banks' profits during expansionary times and thus improving banks' ability to access credit (International Monetary Fund, 2008; SEC, 2008). Goh et al. (2015) and Elbannan and Elbannan (2015: p. 143) observe that whilst Level 1 and Level 2 fair values are priced superior to Level 3 fair values during GFC, there is an indication of pricing differences reduction after GFC. This could suggest that investors are concerned with the likelihood that banks might have to liquidate their assets at fire-sale prices during GFC, however, these concerns are alleviated as the economic cycle recovers. In other words, provision of fair values might serve investors' needs when estimating of exit values during economic downturn rather than management contribution to shareholders' value when considering going concern perspective.

By contrast, academics emphasise that FVA improves the transparency of financial information by providing timely and relevant financial data, and as such the trade-off between transparency and financial stability needs to be addressed by prudential regulations that "*accept FVA as a starting point but sets explicit counter-cyclical capital requirements*" (Laux and Leuz, 2009: p. 832). In support, Blankespoor et al. (2013) provide evidence that credit risk in the banking industry is better explained when financial assets are measured at fair value. This indicates that fair value information provides the earliest signal of financial trouble, consistent with the theoretical model developed by Bleck and Liu (2007), which suggests that historical cost accounting may conceal a company's true financial performance, while FVA is better equipped to reveal poor economic performance.

Directions for future research

This FVA literature review identifies two distinctive research domains in the context of the stewardship function of financial reporting: FVA as a result of a conceptual shift in financial reporting; and FVA as an enhancement of decision-usefulness in general-purpose financial reporting. While the two domains are discussed in separation, both domains have some common features. In particular, the two domains are confined in the specific pronouncements made by the accounting bodies. In other words, the FVA literature has been stimulated by the facts embodied in the accounting standards and therefore research has mostly suggested the ex-post evidence. Our findings also identify shortcomings in existing FVA literature and propose resulting directions for future research. These limitations

stem from two observations: first, great emphasis has been placed on events in the world economy, and second, there is a great disconnect between accounting standard setting and academic research. These two concerns and future research opportunities to approach these concerns are discussed in the following section.

FVA – revolution or evolution?

It is well-known that the rise of FVA, in general, is attributed to the specific challenges of accounting for derivatives and other financial instruments, and indicates a new distinctive episode described as financialisation in accounting (Power, 2010). Proclaimed as “*the beginning of the end of conventional accounting*” (Nobes, 1999: p. 48), these changes have been referred to by many commentators as profoundly systemic and qualitative (Müller, 2014) and liable to re-format the principles of financial reporting. Some even refer to Thomas Kuhn’s theory of *scientific revolutions* (1996), according to which natural science does not develop through incremental advances, but through a period of revolution when the ideals are redefined, followed by periods of modest scientific progress within an established paradigm (Barlev and Haddad, 2003; Dodd et al., 2008). In this context, the movement from historical cost to fair value is not revolutionary, but rather evolutionary (ICAEW, 2018). The shift in theoretical principles embedded in the joint Conceptual Framework should be understood in terms of ongoing social, political and economic changes and not the alleged technical superiority of FVA over historical cost (Müller, 2014). This could explain not only the emergence of a particular accounting theory, but also its unprecedented success and wider endorsement by regulators and policy setters. These socio-politico-economic changes have manifested themselves in unparalleled growth of financial markets, financial investment and dominance of the circuit of money capital (Barlev and Haddad, 2003).

Furthermore, some commentators argue that widespread FVA implementation has been driven by events in the world economy rather than the work of academics or standard setting bodies (Whittington, 2015). Marra (2016) outlines the way in which the information revolution, innovations and globalisation have played a significant role in establishing FVA as a financial reporting measurement system. The emergence of new industries driven by activities embedded in intangible assets has led to an increasing need for information to reflect the requirements of a globalised economy. Globalisation has placed further emphasis on efficient capital allocation informed by proper assessment of all available information pertinent to rapid decisions.

The authors argue that current FVA research has not fully reflected upon the evolutionary progression of the global economy and does not critique the relevance of fair value in relation to the neo-liberalisation and

financialisation of political and economic systems currently taking place (Zhang et al., 2012). Instead, much of the research is concentrated around evaluation of decision-usefulness with respect to investment decisions. The widespread emphasis on valuation-centric concepts further serves to strengthen the already prevailing role of capital in the Anglo-Saxon variety of capitalism in terms of praising a financial analyst as a principal of the market mechanism. It can be argued that this path is inherently uncertain, most notably the way in which FVA “*compresses an expected vision of the future into present values, which can subsequently become mistaken for economic reality*” (Perry and Nölke, 2006: p. 581).

“*A brave new world in financial reporting*” (Ball, 2016: p. 545) and its focus on decision relevance can be regarded as primarily concerned with short-term financial performance, given its emphasis on continuous price movement in capital markets. This view overlooks the enduring solvency and stability of a business which places emphasis on a conservative and cautious view of the future, acknowledging inherent uncertainty (Perry and Nölke, 2006). Instead, decision-relevant information is primarily forward-looking in order to be pertinent to future cash flow predictions. This feature is also inconsistent with the second argument about stewardship-relevant information that should be capable of verification to be fully effective for stewardship purposes. While fair values may be decision-useful, their verifiability, for example via the contracting process, is not met. The essence of fair value definition is to derive a price estimate obtainable in a hypothetical market transaction between willing parties.

Bridging the gap between standard setters and academics

The accounting profession does not develop in vacuum. Accounting standards and other professional pronouncements are developed by practitioners with different *epistemic commitment* – that is, different level of professional knowledge template (Reybold, 2008). The professional knowledge templates become pertinent when discussing the notion of financial measurement since it defines one’s assumptions about the nature of knowledge and its purpose. For example, in the context of historical cost accounting, emphasis is placed on reliable and verifiable information to fulfil managers’ stewardship responsibilities. In contrast, FVA implies that current value reporting enhances information value-relevance for investment decision-making purposes. This contention between the two underlying views of purpose of financial reporting is ever present and may impact not only accounting standard setting, but equally academic research and its focus. This has been primarily observed with respect to a shift from a normative to a positive stance where decision-usefulness evaluation becomes a dominant research instrument. This increasing narrowness of accounting research in terms of

philosophical principles, methodological approaches and theoretical underpinnings in mainstream accounting research undermines the fundamental nature of the discipline as one of the social sciences (Lukka, 2010). The positive approach towards accounting research has been primarily supported by the adoption of the notion of decision usefulness that puts emphasis on capital market data. Such research typically starts with specific policies such as accounting standards and examines whether transactions in accordance with such policies can enhance information usefulness. However, the deductive approach does not question the principles of accounting standards development, and thus, cannot offer any significant insights beyond the already established epistemic commitment emerging from the notion of decision usefulness. It is argued for keeping paradigm debates open and dynamic, since praising market capital data presents an issue of data reliability, as discussed earlier. In addition, it is unlikely that one accounting research paradigm could fully embrace the central issue of purpose of financial reporting and financial measurement. Allocation of financial, human, natural and knowledge resources play relevant roles in the definition of financial reporting efficiency (Van Mourik, 2013). Furthermore, accounting practitioners should not be seen as solely technicians whose reflective capacities are to be constrained within explicit statements of accounting standards. Durocher and Gendron (2014) provide evidence of a low degree of cognitive unity among practitioners with respect to financial measurement. This demonstrates the variety of epistemic commitment exercised by accounting practitioners, demonstrating the relevance of normative questioning of accounting principles such as decision-usefulness underpinned by FVA. This argument closely relates to Kuhn's theory of scientific revolutions (1996) which could advocate a need to change the set of practices to formulate and examine research questions.

On the other hand, the focus of standard setters has allegedly shifted from a positive to a normative attitude, in which prescription of conceptual underpinnings has been criticised as *"cherry-picking [...] to serve the immediate aims of standard setters"* (Bromwich et al., 2010: p. 348). Bromwich et al. (2010: p. 348) warn against picking and quoting parts of a theory in pursuit of principles-based concepts and standards due to dangers of *"misunderstanding and misinterpretation of the element of a theory"* leading to even more distortion.

The division between academic research and policy-standard setting has not merely resulted from the conflicting theoretical viewpoints, but rather from the limited efforts by practitioners to turn to academia in development of new practices (Kaplan, 2011). McKelvey (2006) claims that practitioners do not value academic research findings and are not motivated to seek engagement with academic research output. This divide certainly points to FVA research which primarily appears

as a response to the proposed changes in the conceptual framework or issuance of a particular accounting standard or its amendment both initiated by the policy setters. *Diffusion of innovation theory* has been proposed to remedy a research-practice gap in accounting (Tucker and Lowe, 2014), according to which new ideas, beliefs, knowledge or practices should be communicated in a two-way fashion. *Change*, the last stage of diffusion of innovation theory, represents the ultimate objective of applied academic research, when evidence from research is adopted and put into practice. While fair value reporting is gradually improving from the practical viewpoint, it is questionable how much these innovations are informed by the research findings at the epistemic level. For instance, Fülbier et al. (2009: p. 483) argue that *"academics should take standards setters' politically set objectives as given and, through their research, help identify means to achieve them"*. They continue noting that academic research should be understandable to practitioners and, in particular, have the characteristics of ex ante research.

The question of whether the academic research should be 'repackaged' to be considered by the standard setters, or whether standard setters should become more eager to acknowledge the academic research is up to the future researchers. However, even though FVA research has gone down the path of evidence from positive research, the research shows that the adoption of FVA has some major epistemic shortcomings. Therefore, standard setters need to pay attention to these limitations and concede them in their reporting practices.

Conclusion

The FVA project is currently at a stage when there needs to be further debate about the current complex, diverse and apparently inconsistent financial measurement practices. In this paper a narrative literature review of FVA research in the context of the stewardship function has been conducted. In doing so, existing literature has been categorised into two distinctive domains: FVA as a result of conceptual shift in financial reporting; and FVA as an enhancement of the decision-usefulness of general-purpose financial reporting.

The existing FVA research demonstrates that the style of argument adopted tends to be top-down and deductive. This approach is suitable in situation where issues can be examined by defining terms and where evidence is non-existent. However, the challenge presented by financial measurement does not follow this principle (ICAEW, 2018) and entails more collaborative efforts among academic researchers and policy setters. In particular, the existing FVA literature reflects the focus on the information content objective that strengthens the emphasis on information provision for the prediction of future cash flow. Such focus is criticised for its

inadequacy to fulfil the stewardship function of financial reporting. This observation highlights the fact that the majority of FVA literature adopts the external view of fair value examination emphasising the decision usefulness view and reliance on capital market data. The support for the evidence-based approach could be explained by the number of pronouncements made by policy standard setters that fed more into hypotheses statements and further empirical testing.

In response, two dimensions are outlined that could facilitate the examination and exploration of the FVA question in further detail in relation to the stewardship role. First, the evolutionary process to financial measurement could explain the shift from historical cost to fair value. “[B]odies of practices are rarely systematic; they have evolved over time as collections of diverse responses to practical problem” (ICAEW, 2018: p. 6). In other words, FVA should be seen as a response to financial reporting problems previously unencountered, and not as technically superior to historical cost accounting (Müller, 2014). New ways of doing business, such as financial instruments and share-based payments, have presented challenges which needed innovative ways to understand a business’s financial performance and position. Practices like frequent revaluations designed to deal with disparities between current value and historical cost fit a logic of evolution.

Secondly, the theoretical research suggests that FVA is connected with a shift in socio-politico-economic changes which follow a financialisation of money capital. This has provided the strong systematic theoretical backdrop against which FVA firmly stands in accounting pronouncements. Therefore, the authors call for a greater engagement between policy-setters and academics, in particular, when choosing the conceptual underpinnings for financial measurement. Overall, it is suggested that much of the FVA research has been backward looking, focusing on the effect of existing accounting standards rather than the possible effects of alternative measurement options.

The authors are also aware that our research review is limited to the last ten-year period. However, the fundamental nature of measurement in financial reporting makes it essential to evaluate how FVA research is evolving. Doing so at the time of rapid progression of FVA into practice is valuable for both academics and practitioners as it exposes new avenues of research and the weaknesses of its practical application.

Finally, as with all interpretative research, the findings are constrained by the breadth and depth of the data analysed and our own interpretation of the results. Thus, the authors take all responsibility for our interpretation of the results including any errors and omissions.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Corporate governance and economic sustainability reporting in Nigeria

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Economic sustainability reporting enhances the financial strength of the company by meeting the diverse needs of stakeholders. Whereas, financial performance covers about 25% of the economic sustainability performance indicators as indicated in the GRI-4. To this extent, the study helps to fill this gap by considering the effect of corporate governance on economic sustainability reporting in quoted companies on Nigerian Stock Exchange. This study adopted *ex-post facto* research design. The population of the study comprised 169 quoted companies on the Nigerian Stock Exchange (NSE) as at December 31, 2019. A sample of 42 quoted companies for the period of 10years (2010-2019) was selected. Data were extracted from published audited annual reports and accounts of the companies. Data were analyzed using descriptive and inferential statistics. The hypotheses were tested at 0.05 significance level. The findings revealed that board size, female director and board ownership have positive and significant effect on economic sustainability reporting of selected quoted companies in Nigeria while CEO duality has negative effect on economic sustainability reporting and independent director has insignificant effect. The study concluded that corporate governance promotes economic sustainability reporting. It was recommended that the shareholders of companies should appoint experienced board members that will enhance sustainability reporting appoint more directors with shareholding interest and include more female on the board, as they boost economic sustainability reporting.

Key words: Board independence, board ownership, board size, CEO duality, economic sustainability reporting, female directors.

INTRODUCTION

Economic sustainability reporting is the disclosure of the impact of the organization on the economic conditions on the both the internal and external stakeholders. According to Global Reporting Initiative (GRI), the economic sustainability indicators include economic performance, market presence, indirect economic impacts and

procurement practices. Studies have shown that most companies focus on a part of economic performance proxied by profit and neglect other aspects. Reporting on economic sustainability is very crucial to the attainment of the ultimate objective of enhancing long term value to the shareholders (Ghazali, 2010).

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According to Aliyu (2018), the weakness of the traditional financial reporting is that it disseminates information about the use of scarce economic resources to generate profit for the shareholders. However, the traditional definition of economic performance is not only measured by the economic value added (EVA) but also by the impact of the organization on the economic conditions of diverse stakeholders and the economic system at global, national and local economic systems (Sar, 2018). Hence, economic sustainability has a broader perspective than economic performance. Information influencing economic decision making could be financial and/or non-financial in nature. It is germane for organizations to report on economic sustainability as it motivates the providers of capital (Kocmanová et al., 2011; GRI, 2011). The fact that the survival of the organization depends largely on its economic viability makes the focus on economic sustainability reporting critical. Furthermore, it enhances financial health of an entity while preventing its early demise (Gupta and Kumar, 2013).

Corporate governance is a system set up by the shareholders to increase management efficiency so as to deliver maximum value (Ghazali, 2010). Studies from different part of the world such as Canada, United Kingdom, Singapore, South Africa and Nigeria have used board size, board independence, CEO duality, Board ownership, audit committee as proxies for corporate governance (Bakar et al., 2019; Mudiyansele and Swarnapali, 2018; Mahmood et al., 2018; Adeniyi and Fadipe, 2018; Alotaibi et al., 2019). Sar (2018) also opined that corporate governance helps in balancing the expectations from shareholders and other stakeholders such as customers, suppliers, communities and shareholders. Furthermore, Saltaji (2013) posited that corporate governance is important because of its association with economic sustainability and performance. Also, effective implementation of a carefully crafted corporate governance policy is pivotal to the business success (Buallay and Al-Ajmi, 2019).

Economic sustainability reporting is greatly influenced by the quality of the board and the board quality assist in laying a solid foundation for the strategic performance of organizations (Lawrence et al., 2013; Varshney et al., 2013). From these statements, it can be inferred that economic sustainability and corporate governance are interconnected. Sar (2018) concluded that there is a positive correlation between corporate governance and economic performance. Over the years, academic researchers have attempted to investigate the link between corporate governance and financial performance. Most of the previous studies pointed out a part of economic sustainability indicators such as return on equity (Odiwo et al., 2016; Mateus and Belhaj, 2016; Rahman and Islam, 2018), return on asset (Jouha, 2015; Mateus and Belhaj, 2016; Adesanmi et al., 2018), Tobins Q (Afrifa and Tauringana, 2015; Kyere and Ausloos, 2020) and net profit margin (Azhar and Mehmood, 2018;

Olayiwola, 2018). This study used the four indicators of economic sustainability as indicated in the GRI-4 and in the opinion of the researcher, it is a more robust measure than ROE, ROA, TOBINS Q and NPM. The purpose of this study is to investigate the effect of corporate governance on economic sustainability reporting in Nigeria.

LITERATURE REVIEW

According to the Sustainability Reporting Guidelines developed by Global Reporting Initiatives (GRI) in 2011, the economic dimension of sustainability concerns the impact of the organization on the economic conditions of its stakeholders (internal and external) and on economic system at local, national and global levels. According to Kocmanová et al. (2011), economic sustainability can be seen as the necessity to retain capital so as to perform business activities for the purpose of generating profit. Economic sustainability indicators include: direct economic value generated and distributed on accrual basis, risk and opportunities from organization's activity as a result of climate change, pension fund contribution by the employer and the employee, financial assistance received from government, ratio of entry level wages by gender compared to local minimum wage at significant locations, percentage of senior management that are hired at the location of operation, significant infrastructure and services supported and percentage of local suppliers patronized at locations of operation (GRI-4).

Larger board size can enhance the performance of the firm by reducing management dominance that may promote conflict of interest (Hu and Loh, 2018; Mahmood et al., 2018). Though, there is no globally acceptable number of board members as some organizations adopt smaller board to increase the efficiency in monitoring and decision making. An independent director is a non-executive director who does not have any significant shares or professional link to with the organization. According to Fama and Jensen (1983), a board with higher proportion of independent directors may likely work in the interest of minority shareholders.

The incidence of CEO duality exists when one person performs the role of the CEO and the chairman of the board of directors in the same entity (Mahmood et al., 2018). It leads to strategic corporate decisions being taken by the same personality in CEO and chairman of the board. Though, it makes the work easy but most of the frauds and irregularities are committed due to abuse of power resulting in the combination of the dual roles (Ong and Djajadikerta, 2018). This is further supported by Fama and Jensen (1983) that since CEO duality refers to the absence of separation power between CEO and chairmanship position, the board will be unable to effectively monitor and evaluate the officer occupying the dual roles. By implication, the controlling power of the

board can become less effective. The excess power can also weaken the flow of information to other directors on the board (Samaha et al., 2015).

The inclusion of female directors on board enhances the quality of board and leads to the effectiveness of the management. Mahmood et al. (2018) posited that female directors are less economically inclined and more prone to helping mankind than their male counterparts; thereby, making female directors to be less driven by short-term selfish agenda. Since sustainability reporting is a long-term phenomenon, the inclusion of women can positively impact the social sensitivity of an organization.

Board ownership is the concentration of equity ownership by some directors thereby giving the power to influence decision and to control the choices of the organization. According to Nazari et al. (2015) board ownership can be institutional or individual investors' who have major shareholdings in an organization and are concerned about the risk associated with operational problems business disruptions, meeting regulatory requirements and avoiding reputational damage that can reduce competitive advantage. Furthermore, Institutional ownership and ownership concentration can significantly affect the disclosure from the board on the performance of the company (Chang and Zhang, 2010). Rudyanto (2017) concluded that state ownership positively influences sustainability reporting while family ownership does not have any significant influence on sustainability reporting. This might be due to the fact that the state focuses on public good while the family objective is to maximize shareholders value.

Olayinka (2010) found that there is a strong association between board size, independent directors and corporate financial performance but directors' shareholding has a negative relationship with financial performance. The proxy for financial performance was Return on Capital Employed (ROCE) and Return on Equity (ROE). Also, Afrifa and Tauringana. (2015) posited that board size, CEO tenure and director's remuneration are statistically associated with the performance of Small and Medium Scale firms listed on London Stock Exchange. In the same vein, Odiwo et al. (2016) concluded that there is a significant relationship between CEO shareholding and organizational performance while directors' shareholding has a negative association. Furthermore, Mateus and Belhaj (2016) affirmed that board size has significant influence on the European banks' performance while board composition and CEO duality have no significant impact. In the same vein, Osundina et al. (2016) opined that board size and audit committee has positive and significant impact on return on asset of manufacturing companies in Nigeria while ownership structure has negative and insignificant impact. Mateus and Belhaj (2016) examined the impact of corporate governance on the performance of banks in Europe and the finding revealed that board size and gender diversity have positive significance on the performance of banks

whereas board composition and CEO duality have no significance.

Furthermore, Rahman and Islam (2018) conducted a study on the impact of corporate governance on banks performance in Bangladesh and found that there is a positive and significant relationship between corporate governance attributes such as independent director and CEO duality and performance attributes such as earnings per share (EPS) and return on equity (ROE). In the same vein, Sar (2018) examined the impact of CG on sustainability reporting in Indian FMCG industry and found a positive relationship between board size and economic sustainability reporting. However, Azhar and Mehmood (2018) investigated the effect of CG on firms' financial performance in textiles firms in Pakistan and found that board size is statistically and insignificantly related to ROA.

Adesanmi et al. (2018) conducted a comparative study on the effect of CG on firm performance between manufacturing and banking sector of the economy. The study revealed a positive and significant relationship between CG (board size and board independence) and ROA. However, Olayiwola (2018) examined the effect of CG of financial performance of listed companies in Nigeria and found that board size has a negative and significant impact on net profit margin (NPM). In the same vein, Koji et al. (2020) conducted a comparative study on the effect of CG on firms' performance between family owned and non-family-owned firms in Japan. The study found a significant and positive relationship between institutional ownership, foreign ownership and firm performance. However, there is no significant relationship between board size and firm performance for non-family ownership.

Herdjiono and Sari (2017) examined the effect of corporate governance on the performance of companies Indonesia. The study revealed the size of the board of directors has a positive effect on return on asset (ROA) but the size of the audit committee; institutional ownership and managerial ownership have no effect on ROA. In the same vein, Prusty and Kumar (2016) conducted a study on the effect of CG on the financial performance of IT companies in India and found that board composition has positive correlation with ROA & return on capital employed (ROCE).

Furthermore, Mustafa et al. (2018) in their study on the impact of CG on company performance among medium and large-scale enterprises found that corporate governance tends to influence the performance of larger companies than smaller ones. By implication, the larger the size of the company, the more positive the influence of CG on the performance of the entity. On the contrary, the policies on shareholder protection have a negative influence on financial performance in Istanbul companies (Saygili et al., 2021). Kyere and Ausloos (2020) investigated the impact of corporate governance on financial performance in the United Kingdom and

findings indicate that corporate governance mechanism has a positive or a negative relationship, and also sometimes no effect, on financial performance.

Hypothesis development

Extant literature reviewed showed that corporate governance has been measured by ownership concentration, board size, CEO duality, board independence, directors' shareholdings, institutional ownership, board meetings, board members expertise and audit committee composition (Akbar, 2014; Mudiyansele and Swarnapali, 2018; Rahman and Islam, 2018; Olayinka, 2019). Corporate governance is the independent variable of this study and it was measured by board size, board independence, CEO duality, female director and board ownership. Previous studies used measure of performance such as ROE, ROA, ROCE, NPM to proxy economic sustainability. However, in the opinion of the researcher, these measures only cover part of the requirement for measuring economic sustainability reporting (ECSR) performance indicators under GRI-4 standard. Therefore, this study used the aggregate of the arithmetic mean of each of the four (4) indicators of economic sustainability reporting (Nazari et al., 2015).

Ho: Corporate governance has no significant effect on economic sustainability reporting in selected quoted companies in Nigeria.

Stakeholder theory

This study is anchored on stakeholder theory because economic sustainability reporting is for the benefit of stakeholders and not for shareholders only. This theory was developed by Freeman (1984). Stakeholder theory views organizations as a system with many interested parties apart from the shareholders. The theory posits that a company can affect a wide range of groups in its domain of operation. The theory also opined that no organization can operate without interfacing with the environment, the interests of other stakeholders such as customers, employees, creditors, regulatory agencies and resident communities should be factored into strategic decision-making process. Stakeholders can be divided into two, based on their characteristics. There are primary stakeholders and secondary stakeholders. The primary stakeholder is a person or group on which the company depends on to survive for the going concern to be in place, for example, shareholders and investors, employees, suppliers and customers, government and community. Secondary stakeholders or group are those people or group who can influence and be influenced by the company's operations but not have any direct relationship with organization. Chariri and Ghazali (2014)

supported this theory by positing that companies must maintain fair relationship with stakeholders to meet their needs most especially the stakeholders that control the resources of the organization such as employees, suppliers, customers and finance providers. The inability of the firm to meet their needs and expectations can lead to the withdrawal of their resources which could be financial or non-financial, thereby threatening the going concern status of the company.

However, Harrison and Freeman (1999) criticized stakeholder theory by positing that categories of stakeholders are not all homogenous and the theory ignored the intra-group heterogeneity. Winn (2001) in advancing the criticism against the theory alluded to the fact that stakeholder groups and subgroups have diverse interests and expectations that are difficult for a firm to satisfy. Therefore, organizations should not only focus on maximizing the return of its shareholders, but also strive to meet the expectations of other stakeholders to a large extent. The stakeholders are interested in the economic sustainability reporting to improve their awareness about the firm's ability to nurture their interest while taking care of the shareholders. Other common theories used in other studies are agency and legitimacy theories but the researcher considers stakeholder's theory more relevant for this study because economic sustainability reporting affects both internal and external parties such as employees, communities and government.

MATERIALS AND METHOD

Sample selection

The study consists of companies listed on the Nigerian Stock Exchange. 169 firms were listed on the Nigerian Stock Exchange as at 31 December, 2019 out of which 42 firms were selected as the sample for period of 2010 to 2019. The Nigerian Stock Exchange categorized listed firms into 11 sectors of the economy. Stratified and purposive sampling techniques were used in selecting the sample. The rationale for the selection of the 42 companies is based on the following; first, the selected companies must have been listed for about 10 years or more, that is from 2010-2019. Second, the selected listed firms must have up-to date records, that is; they must have been publishing annual financial reports for the period. Third, the company must have been reporting components of economic sustainability reporting in the financial statement or standalone sustainability report for the period. Content analysis was done to extract data from the financial report of the sampled companies.

Model specification and measurement of variables

The model for the study is stated below:

$$ECSR_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 CD_{it} + \beta_4 FD_{it} + \beta_5 BO_{it} + U_{it}$$

Table 1 shows the operational definition of variables. The parameters of economic sustainability reporting are four (4), the score ranges from 0-1 depending on level of disclosure of Economic sustainability reporting (ECSR). ECSR is measured by

Table 1. Operational definition of variables.

Measure	Abbreviation	Definition
Board size (X_1)	BS	Natural logarithm of number of directors on board.
Board Independence (X_2)	BI	Proportion of independent directors to total number of directors on board.
CEO duality (X_3)	CD	Chairman and CEO role combined. If CEO is also chairman the code is "0" otherwise "1"
Female director (X_4)	FD	No of female directors on board /total number of directors on board
Board ownership (X_5)	BO	Percentage of shares owned by directors out of the total issued shares.
Economic sustainability reporting (Y)	ECSR	The aggregate score of the Arithmetic Mean for each indicator under economic category

Source: Researcher's Compilation, 2021.

Table 2. Descriptive Statistics.

Variable	Mean	Median	Maximum	Minimum	Std. Dev.	Obs
ECSR	0.197	0.250	0.500	0.000	0.107	420
BS	10.711	10.000	20.000	4.000	3.496	420
BI	0.208	0.212	0.556	0.067	0.101	420
CD	0.986	1.000	1.000	0.000	0.119	420
FD	0.115	0.103	0.500	0.000	0.114	420
BO	11.217	0.295	85.440	0.000	21.963	420

Source: Researcher's Study, 2021.

the average of the aggregate of the four parameters of economic sustainability reporting in accordance with GRI-4. Disclosure guidelines were developed into a checklist with which the actual disclosures in the annual reports of the sampled firms were compared (Mahmood et al., 2018). The approach used by Nazari et al. (2015) was adopted for this study. This method ensures equality in the weight irrespective of the number of indicators. Board size (BS) was measured by the number of directors on board (Shamil et al., 2014; Aliyu, 2018), Board Independence (BI) was measured by the proportion of independent directors to total number of directors (Mudiyanselage and Swarnapali, 2018), CEO duality (CD) was denoted as "0" if the chairman's role and Chief Executive Officers' are performed by one person otherwise "1" (Liao et al., 2015), Female director (FD) is measured by the number of female directors to total number of directors, board ownership (BO) was measured by the percentage of shares owned by directors (Wijethilake et al, 2015).

RESULTS

Based on Table 2, the average economic sustainability reporting (ECSR) is 19.7% with the lowest value being 0%. The standard deviation of economic sustainability reporting (ECSR) is 10.7 lower than the mean value and thus it can be said that the deviations in the data are relatively high. Also, the size of the board of directors with lowest number (minimum) is 4.00 or 4 board of directors and a maximum value of 20.00 or 20 boards of directors. From the above data, it can be seen that the size of the board of directors has an average value (mean) of 10.71,

meaning that the average board of directors is approximately 11 persons. The standard deviation of the size of the board was 3.50, lower than the mean value and thus it can be said that the deviations of the data are relatively high.

Furthermore, the percentage of independent directors in the study with the lowest value (minimum) is 6.7% and the maximum value is 55.6%. From Table 2, it can be seen that the percentage of independent directors on the board has a mean value of 20.80%, meaning that the average percentage of independent directors is about 2 out of 10-member board. The standard deviation 10.1%, smaller than the mean value, and thus it can be said that the deviations in the data are relatively small.

The chief executive officer duality with the lowest value (minimum) is 0 which means that some of the companies do not have CEO that combined the roles of CEO and chairmanship together, while the maximum value is 1. The mean of 98.6% shows that on the average, the sampled firms do not practice CEO duality. The standard deviation of board ownership was 11.9% lower than the mean value and thus it can be said that the deviations in the data are relatively small.

The percentage of female director on board has a mean value 11.5%. The lowest value is 0 (zero) which implies that some companies do not have female director on board and the highest value is 50% which implies that some companies have half of their board members as

Table 3. Correlation Coefficients.

Variable	ECSR	BS	BI	CD	FD	BO	CS	CA	VIF
ECSR	1.000								N/A
BS	0.225	1.000							1.850
BI	-0.022	-0.114	1.000						1.050
CD	-0.060	0.157	-0.022	1.000					1.170
FD	0.496	0.136	0.077	-0.231	1.000				1.300
BO	0.291	-0.097	0.034	0.037	0.110	1.000			1.080

Source: Researcher's Study, 2021.

Table 4. Diagnostic Tests.

Test	Statistic	Probability
Hausman test	29.390	0.000
Breusch Pagan LM test	123.160	0.000
Heteroscedasticity test	6201.190	0.000
Pesaran CSID	1.654	0.107
Serial correlation	2.812	0.101

Source: Researcher's Compilation, 2021.

female. The standard deviation of 11.4% indicates relatively low variation in the female directors of the sampled companies. The mean value for board ownership is 11.217, and the standard deviation is 21.963. The standard deviation of 2196.3% indicates that there's great variation of board ownership of the sampled companies. The minimum value of 0 (zero) and maximum value of 85.44 shows that some of the sampled firms are not owned by the directors on board while others are owned by the directors on board.

Pearson correlation

Table 3 presents the correlation coefficient. Dependent variable is Economic Sustainability Reporting (ECSR), and independent variables are Board Size (BS), Board Independence (BI), CEO Duality (CD), Female Director (FD), and Board Ownership (BO). The result shows a strong and positive association between female director (0.496) and economic sustainability reporting. Also, there is a weak and positive relationship between board size (0.225) and board ownership (0.291) and economic sustainability reporting (ECSR). However, there is a weak and negative association between board independence (-0.022) and CEO duality (-0.060) and ECSR. The implication of these results is that increase in female directors will lead to a significant increase in economic sustainability reporting while minimal increases in board size and board ownership will lead to an insignificant increase in the quality of ECSR. However, a minimal increase in board independence and CEO duality lead to an insignificant fall in the quality of ECSR.

Interpretation of diagnostic test

From Table 4, the diagnostic test reported are the Hausman test, the Breusch and Pagan Lagrangian multiplier test, the heteroskedasticity, the Wooldridge test for autocorrelation and the Pesaran's test of cross-sectional independence, these tests were carried out so as to determine the appropriateness of the estimation technique for the specified model. First, the Hausman test was used to determine the appropriateness between the fixed effect and the random effect model. The null hypothesis of the Hausman specification test is that there is no correlation between the random effects and fixed effect model, thus the random effect estimates are efficient and consistent, and that the fixed effect estimates are inefficient. The Hausman statistic of 29.39 with a probability value of 0.00 is less than the 5% level of significance hence, the rejection of the null hypothesis. This implies that the random effect model is inefficient and inappropriate. To determine the appropriateness of the fixed effect model, there must not be presence of serial correlation and heteroscedasticity, but the results show evidence of heteroscedasticity, with a statistic of 6201.19 and it is statistically significant at 1 per cent level. The significance of the heteroscedasticity test necessitates the use of Feasible Generalized Least Square (FGLS) which corrects for serial correlation and heteroscedasticity.

To determine the cross-sectional dependence between the selected quoted companies of the study, the Pesaran CSID test was used. The statistic of 1.654 and with a probability value of 0.11 is not statistically significant at 5% level of significance. This implies that the selected

Table 5. Regression results.

Variable	Coefficient	t-test	Probability
Contant	-0.036	-1.02	0.275
Board Size	0.171	6.779	0.000
Board Independence	0.023	0.612	0.541
CEO Duality	-0.007	-0.271	0.787
Female Director	0.386	12.712	0.000
Board Ownership	0,002	7.364	0.000

Adjusted R² - 0.318

Source: Researcher's Compilation, 2021.

listed companies are cross sectional independence. The Breusch-Pagan/Cook-Weisberg test for heteroscedasticity was carried out to determine if the variance of the residual is constant. The null hypothesis of homoscedasticity was rejected and the alternative hypothesis of heteroscedasticity was accepted. This was because the test statistic of 6201.19 is statistically significant at 1 per cent level. In testing for autocorrelation in the panel data, the Wooldridge test was used. The null hypothesis that the successive error terms are not correlated was not rejected because the statistic of 2.812 with a probability value of 0.101 which is greater than the 5% level of significance. Thus, the null hypothesis of no serial correlation was not rejected.

Model

Based on the results of multiple regression analysis in the above table, the regression equation model is obtained as follows:

$$Y = -0.036 + 0.171X_1 + 0.023X_2 - 0.007X_3 + 0.386X_4 + 0.002X_5 + U$$

Interpretation

Table 5 shows the results of regression analysis of the effects of corporate governance on economic sustainability reporting of selected quoted companies in Nigeria. The results show that board size, board independence, female director and board ownership have positive relationship with economic sustainability reporting of selected quoted companies in Nigeria while CEO duality has negative relationship with economic sustainability reporting of selected quoted companies in Nigeria. In addition, there is evidence that board size, female director and board ownership have significant relationship with economic sustainability reporting of selected quoted companies in Nigeria ($X_1 = 0.171$, t-test= 6.779, $p < 0.05$, $X_4 = 0.386$, t-test= 12.712, $p < 0.05$ and $X_5 = 0.002$, t-test= 7.364, $p < 0.05$). This implies that board size, female director and board ownership are significant factors influencing changes in the economic

sustainability reporting of selected quoted companies in Nigeria.

Conversely, there is evidence that board independence and CEO duality do not have significant relationship with the economic sustainability reporting of selected quoted companies in Nigeria ($X_2 = 0.023$, t-test= 0.612, $p > 0.05$ and $X_3 = -0.007$, t-test= -0.271, $p > 0.05$). This implies that board independence and CEO duality are not significant factors influencing changes in the economic sustainability reporting of selected quoted companies in Nigeria. Concerning the magnitude of the estimated parameters for the coefficients of the regression analysis, a unit increase in board size, board independence, female director and board ownership will lead to 0.171, 0.023, 0.386 and 0.002 increase in the economic sustainability reporting of selected quoted companies in Nigeria respectively, while a unit increase in the CEO duality will lead to 0.007 decrease in the economic sustainability reporting of selected quoted companies in Nigeria. The Adjusted R² which measured the proportion of changes in the economic sustainability reporting of selected quoted companies in Nigeria as a result of changes in board size, board independence, female director, board ownership and CEO duality explains about 32 per cent changes in the economic sustainability reporting of selected quoted companies in Nigeria, while the remaining 68 per cent were other factors explaining changes in the economic sustainability reporting of selected quoted companies in Nigeria but were not captured in the model. The Wald-Test of 277.52 is statistically significant with $p < 0.05$ indicating that on the overall, the statistical significance of the model showed that the null hypothesis of corporate governance has no significant effect on economic sustainability reporting in selected quoted companies in Nigeria was rejected. Thus, the alternative hypothesis that corporate governance has significant effect on economic sustainability reporting in selected quoted companies in Nigeria was accepted.

DISCUSSION

The result proves that the larger the board size, the

higher the tendency for companies to report on economic sustainability. This is consistent with the results of the research conducted by Mateus and Belhaj (2016), Herdjiono and Sari (2017), Sar, (2018) and Al-Homaidi et al. (2019). The depth of economic sustainability reporting depends on the ability of the board of directors to leverage on their number and wealth of experience in supervising managers to act ethically and in the best interest of the organization. However, Olayiwola, (2018) disagrees with the outcome of this study by establishing that the larger the board size, the lower the tendency of the board to report on economic sustainability. This is further corroborated by the finding of Azhar and Mehmood (2018) that confirmed that board size does not significantly impact return on asset. This might be due to the problem of coordination, difficulty in taking decisions as a result of size, personal interest of board members and the cost incurred on the large board. The finding of this study also proves that the higher the number of independent directors the lower the content of economic sustainability reporting. This might be due to the fact independent directors do not have any substantial interest in the shares of the company and as such can effectively supervise the management without bias. Therefore, independent directors might not be interested in economic sustainability reporting because of lack of personal interest. This result might also due to the lack of requisite experience by the independent directors to influence management decision on the disclosure of economic sustainability. However, the finding of this study does not align with previous studies conducted by Adesanmi et al. (2018) and Mudiyansele and Swarnapali (2018). Also, Michelin and Parbonetti (2012) in their study did not find any significant correlation between the proportion of independent directors and sustainability reporting.

The outcome of this study reveals an inverse relationship between the incidence of CEO duality and economic sustainability reporting. The more there is a combination of the roles of the chief executive officer (CEO), and that of managing director (MD) in a single individual, the more the tendency of the person to influence the decisions of board members negatively on economic sustainability reporting. This is due to the fact the absence of separation of management weakens the ability of the board in effective monitoring and evaluation of the CEO. Ong and Djajadikerta (2018), supported the finding of this study because CEO duality can promote unreported fraud because of the excessive power conferred on one person performing dual roles of chairman and CEO. Shamil et al. (2014) also aligned with the result of this study that CEO duality tends to compromise board independence and the capacity to discharge duty with creativity. Though, Villier et al. (2011) posited that CEO duality has no significant impact on sustainability reporting.

Furthermore, this study reveals that the more the

female included on the board the higher the tendency to report on economic sustainability. Arayssi et al. (2016) align with this study by positing that adequate women representation on the board enhances quality deliberations and ultimately influences the quality and integrity of sustainability reporting. Furthermore, Garcia-Sanchez et al. (2018) supports the outcome of this study in that the board with greater female representation have tendency to report sustainability issues without technically suppressing facts or give misleading information intended to attract the attention of various stakeholders. Adeniyi and Fadipe (2018) disagreed with the result of this study as evidence shows that there is no significant relationship between female representation on the board and sustainability reporting. By implication, the inclusion or non-inclusion of women on board has no significant impact on sustainability reporting.

Finally, the outcome of this study proves that the higher the percentage of shares owned by directors the higher the tendency of the board to report on economic sustainability. This might be due to the fact that the owners of bulk shares are concerned about mitigating risk that can lead to operational problems, minimizing the disruptions of activities, complying with regulatory requirements and minimizing issues that affect public perception. Shareholders on board also want to avoid management policies that can lead to reputational damage and ultimately reducing competitive advantage. Chang and Zhang (2010) and Rudyanto (2017) align with the outcome of this study. However, part of the outcome of the study of Rudyanto, (2017) disagreed with this study by confirming that family ownership does not have any significant influence on sustainability reporting. This is typical of an organization where family has major shareholding as the board does not bother about other people's interest.

CONCLUSION AND RECOMMENDATIONS

Based on the analysis and discussion, the board size affects economic sustainability reporting in selected quoted companies in Nigeria in 2010-2019 period; the board independence does not affect economic sustainability reporting in selected quoted companies in Nigeria in 2010-2019 period; the CEO duality has a negative effect on economic sustainability reporting in selected quoted companies in Nigeria in 2010-2019 period; the female director inclusion affects economic sustainability reporting in selected quoted companies in Nigeria in 2010-2019 period and the board ownership affects economic sustainability reporting in selected quoted companies in Nigeria in 2010-2019 period.

As a result of the findings of this study, the following recommendations are put forward. Shareholders of companies should appoint board members with diverse background that will enhance economic sustainability

reporting. The shareholders should appoint more directors with shareholding interest and include more female on the board, as they boost economic sustainability reporting. Incidence of combination of the roles of managing director and chairman of the board in the same person should be avoided as it negatively impacts economic sustainability reporting. Shareholders are also encouraged to appoint well experienced independent directors so as to influence the robustness of economic sustainability reporting.

Limitation of study and future research

More studies should be done using data from other countries to measure economic sustainability reporting because most companies used as sample are just beginning to embrace sustainability reporting. Data from more advanced countries may be more desirable. More independent variables other than corporate governance such as public perception, company reputation, and company position in the industry can also be used in future research.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

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Appendix 1. GRI-4 Economic sustainability indicators.

Code	Performance Indicators	Keywords
ECO ₁ Economic Performance	(a) The directed economic value generated and distributed on an accrual basis. (b) Financial implications and other risks and opportunities due to climate change. (c) Estimated values for plans liabilities, and separate funds to pay pension liabilities, the percentage of salary contributed by the employees or employer. (d) Financial assistance received from government.	Revenue, cost, employee wages, retirement plans, pension fund, tax relief, subsidies, investment grants, tax research and development grants.
ECO ₂ Market presence	(a) Ratios of standard entry level wages by gender compared to local minimum wage at significant location of operation. (b) Percentage of senior management at significant locations of operation that are hired from local communities.	Local minimum wage rate by gender, senior management local.
ECO ₃ Indirect Economic Impacts	(a) Developments and impacts of significant infrastructure investments services supported. (b) Significant indirect economic impacts of the organization including the extent of impact.	Positive or negative impact of investment, local communities or local economies. Economic development in areas of high poverty, economic impact.
ECO ₄ Procurement Practices	(a) Proportion of spending on local supplier at significant locations of operations.	Procurement budget, local supplier, spending.

Source: Adapted from Mahmood (et al., 2018).

Appendix 2. Demographic data of sampled listed firms.

Serial Number	Name
1.	LIVESTOCK FEEDS PLC
2.	OKOMU OIL PALM COMPANY PLC
3.	PRESKO PLC
4.	ACCESS BANK PLC
5.	GTBANK PLC
6.	ECO BANK PLC
7.	FBN HOLDINGS PLC
8.	FCMB PLC
9.	FIDELITY BANK PLC
10.	UBA PLC
11.	ZENITH BANL PLC
12.	UNION BANK PLC
13.	WEMA BANK PLC
14.	JULIUS BERGER PLC
15.	CADBURY NIGERIA PLC
16.	DANGOTE SUGAR PLC
17.	HONEYWELL FLOUR MILLS PLC
18.	NIGERIAN BREWERIES PLC
19.	GUINNESS NIGERIA PLC
20.	NESTLE NIGERIA PLC
21.	UNILEVER NIGERIA PLC
22.	GLAXOSMITHKLINE CONSUMER NIGERIA PLC
23.	MAY & BAKER NIGERIA PLC

Appendix 2 Cont'd

24.	NEIMETH INTERNATIONAL PHARMACEUTICALS PLC
25.	CHAMS PLC
26.	ETRANZACT INTERNATIONAL PLC
27.	DANGOTE CEMENT PLC
28.	LAFARGE AFRICA PLC
29.	MEYER PLC
30.	PORTLAND PAINTS AND PRODUCTS NIGERIA PLC
31.	BOC GASES NIGERIA PLC
32.	THOMAS WYATT NIGERIA PLC
33.	11 PLC
34.	CONOIL PLC
35.	MRS OIL NIGERIA PLC
36.	OANDO PLC
37.	TOTAL NIGERIA PLC
38.	ETERNA PLC
39.	ARDOVA PLC
40.	JAPPAUL OIL & MARITIME SERVICES PLC
41.	RAK UNITY PETROLEUM COMPANY PLC
42.	C&I LEASING PLC

Full Length Research Paper

Factors affecting the internal audit effectiveness in local government institutions in Ghana

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The paper examines the factors that affect the effectiveness of internal auditing in local government institutions in Ghana. Questionnaires were administered to the Internal Audit staff and Audit Committee members of the Accra Metropolitan Assembly in the Greater Accra region. Factor analyses were used to answer the closed-ended questions whilst the open-ended type was analysed based on recurring themes. It was found that the internal auditors do have the requisite educational and professional capacity to execute their mandate and were accorded the requisite support. Yet lack of management support through IT skills training, failure to discuss and timely implement audit recommendations are rendering the auditors ineffective. This research helps to awaken the awareness of policy-makers and researchers on issues that could hamper internal auditors' contributions to good governance strategies in local government institutions by calling on relevant stakeholders to address the thieving challenges. However, the current study covers only the perception of internal auditors and audit committee members. Future research may consider the views of stakeholders in other local government institutions in Ghana and other parts of the world to deepen the generalisation of the current findings. Nonetheless, lack of management support through IT skills training and timely implementation of audit recommendations have rendered the internal auditors as "dogs which can only bark but cannot bite".

Keywords: Accountability, audit committee, Ghana, internal audit effectiveness, local government institutions.

INTRODUCTION

Many public sector institutions, similar to their private sector counterparts have witnessed serious corporate governance issues in the past. Poor risk assessment practices, inadequate internal control procedures, and weak compliance efforts have contributed to the governance challenges confronting public sector

establishments worldwide (Soh and Martinov-Bennie, 2011; Jones and Beattie, 2015; Ayagre, 2015; Simpson et al., 2016). Hence, the need for an effective and efficient public sector governance mechanism to curtail this global canker. Governance machinery is assumed to be effective and efficient if it deters, prevents, and/or

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detects fraudulent, corruption, and other unethical practices, and above all, preserve public monies (Unegbu and Kida, 2011; Pilcher, 2014; Onoja and Usman, 2015; Tabar, 2016; Asiedu and Deffor, 2017; Nerantzidis et al., 2020). It is therefore incumbent upon the leadership of state institutions, especially, the local government establishments to introduce internal control mechanisms that may help to reduce the risk of unethical practices happening.

Sadly, there are still numerous grave financial irregularities including bribery and corruption being registered on daily basis in the public sector, particularly in the Sub-Saharan African region. Conspicuously, the pension fraud scandal involving N40 billion (about US\$308 million) in Nigeria (Ademola et al., 2017); the \$1.6 million bulletproof BMW car fraud perpetrated at the Nigerian Aviation Ministry (Ademola et al., 2017); blatant failure of Sierra Leonean government to account for one-third of 84 billion Leones (about £12 million) Ebola virus funds (O'Carroll, 2015); the diversion of state funds and payment of 7,100 non-existing workers totaling about GH¢3.6 billion monthly in 2001 in Ghana (Ankrah, 2016); and the disappearance of GHS347 million Ghana Cedis (about US\$77 million) from the national Consolidated Accounts (Auditor-General Report, 2012) are still fresh in the minds of many followers. Bribery, corruption, and other unethical activities are constantly eroding the trust in state institutions in Africa, thereby weakening their capabilities to fight other forms of maladministration (Asiedu and Deffor, 2017). Lamentably, the situation is indifferent at the local governance level. For example, the recent Auditor-General Report (2020) in Ghana uncovered that the District Development Facility contingency fund was used to undertake activities without recourse to due processes in 28 out of 30 MMDAs. The consequence of such unscrupulous behaviours often distorts government programmes and investments, and so retard growth and poverty reduction efforts being championed in many countries (World Bank, 2014; Kaufmann, 2005; Pring, 2015). Given that such dishonest acts emanate from system failures, it is incumbent upon governments to establish relevant institutions and related reforms that can combat the thieving problems.

In Ghana, the internal audit function has become an important institutional governance structure created to assist public sector managers to handle internal control challenges within their establishments. Goodwin and Teck (2001) regard internal audit as an independent and objective review mechanism designed to add value to and improve organisations' operations. This suggests that appropriate implementation of internal audit activities in public institutions, in less-developed economies such as Ghana, should lead to efficiency and effectiveness in the overall output. Currently, there is extant literature on the role of internal audit in advanced economies on public sector governance (Hay and Cordery, 2018; Alam et al., 2019; Jachi and Yona, 2019); public sector risk

management (Ackermann and Marx, 2016; Politis, 2018); and public sector operational effectiveness (Erasmus and Coetzee, 2018; Nurdiono and Gamayuni, 2018; Abbaszadeh et al., 2019). However, the extent to which internal audit departments within the public sector organisations are positioned to enable them to function effectively in the local governance systems of less-developed countries is yet to be fully examined. It is ominous, especially, with the current surge in financial irregularities in many local government institutions in Africa.

Consequently, the present study intends to fill the existing gap. So, the primary objectives of this study were to assess whether the public sector internal auditors have the required capacity to provide assurance services in the local government institutions in Ghana and to ascertain the role of management in legitimising the internal auditors' function as reliable assurance providers. The paper, therefore, sought to address the following research question: Is the internal audit function well-positioned to enable it to contribute effectively to good governance in local government institutions in Ghana? There is an assertion that effective functioning internal audit departments do contribute positively to good corporate governance in organisations (Ayagre, 2015; KPMG, 2016). It is also argued that internal auditors are more effective in institutions when senior management can provide adequate logistical support and freedom to determine the scope and approach to audit inquiries (Saeed et al., 2020; Kotb et al., 2020). Ghana was selected for the research because it is an emerging economy (de Roquefeuil, 2013) recording countless cases of public sector financial mismanagements (Asiedu and Deffor, 2017; Auditor-General Report, 2020). Besides, Ghana has over the past three decades enjoyed a peaceful transfer of political power from one democratically elected government to another. Therefore, the country has become an icon for other countries within Sub-Saharan Africa to emulate. Thus, the paper helps to identify issues hindering internal auditors' performance at the local government institutions in Ghana. Recommendations from the research findings are expected to increase awareness of lawmakers, researchers, practitioners, and civil society organisations on internal auditors' role in ensuring good governance in local government institutions.

LITERATURE REVIEW

This section reviews the relevant literature on the subject matter of the paper. The discussion covers issues on public sector accountability with emphasises on governance theory and decentralisation concept as suitable vehicles for carrying governance to the doorstep of the governed. The section further reviews the expected role of internal audit departments in achieving this goal.

Accountability and local governance theory

Each sovereign nation must work towards establishing trust with its citizenry, both at the central and local constituents. In democratic societies such as Ghana, it is usually the citizens that determine who rules the country. For that reason, citizens as relevant stakeholders must have a say in how they are being governed. The government on other hand must demonstrate how state resources are employed to satisfy the citizenry. This research, therefore, is situated in the accountability and governance theory, specifically at the local government level. In the word of Saito (2001), accountability represents an integral component of good governance in a modern democracy. Governance on the other hand describes “capacities in societies in which various stakeholders attempt to seek solutions that can bring positive outcomes for those who are concerned” (Saito, 2001, p.2). It is stated that best governance practices require the “creation, execution, and implementation of activities backed by the shared goals of citizens and organisations, who may or may not have formal authority or policing power” (Asaduzzaman and Virtanen, 2016, pp. 2-3). In other words, good governance machinery should encompass the use of conscientiously designed operative policy instruments to direct governments’ attention towards proposed activities that will foster cooperation between state actors working together with non-state actors.

Accordingly, many governments and related agencies do pursue policies, procedures, and reforms for the mutual benefit of their societies. Consistent with Asaduzzaman and Virtanen (2016), governance systems must entail concerted efforts towards establishing institutions to effectuate democratic values and representation. In their view, the effective application of democratic principles and values will legitimise relationships between states and civil societies. Asaduzzaman and Virtanen in their discourse pointed out that a genial relationship between civil societies and states is critical for governments’ realisation of their strategic objectives. Their argument might be premised on the fact that governments’ credibility and legitimacy in every realm is won or sustained through grassroots participation, transparency, accountability, and responsiveness.

At the local governance level, Asiedu and Deffor (2017) advised leaders to create structures and reforms that ensure complete disclosure of public expenditures, revenues, and other relevant transactions. In their view, full disclosures will demonstrate greater accountability of the government to the people, thus increasing the regime’s credibility and legitimacy in the eyes of the governed. In line with Asiedu and Deffor’s arguments, some countries in Sub-Saharan Africa opted for financial management reforms to signify transparency and accountability in their governance systems. It is reported

that Ghana, Nigeria, and Liberia all adopted International Public Sector Accounting Standards (IPSAS) to showcase for greater transparency and accountability in the acquisition and usage of public funds (Ijeoma and Oghoghomeh, 2014; Babatunde, 2017). All the initiatives enumerated are consistent with the increasing public demand from local governments to present clear and comprehensive information about the financial consequences of their economic, political, and social decisions.

Besides IPSAS, other legal and regulatory reforms have been initiated by the legislature in Ghana to enhance accountability and good governance at all levels of authority. Prominent among them are the Public Procurement Act, 2003 (Act 663); the Anti-Money Laundering Act, 2008 (Act 749); the Financial Administration Act, 2003 (Act 654) as amended; the Whistle-Blowers Act, 2006 (Act 720) and the Internal Audit Agency Act, 2003 (Act 658). The laws introduced were envisioned to curb corruption, enhance greater accountability and good governance in Ghana (Ankrah, 2016; Asiedu and Deffor, 2017). Despite the existence of these Acts and Regulations, there are many instances of public financial management abuses at the local governments in Ghana. For instance, recently, the Auditor-General Report (2020) uncovered massive public financial management breaches in many of the local government establishments, including contracting without recourse to procedures.

Incidentally, some scholars and practitioners are strongly demanding the creation of institutions and institutional reforms that will ensure laws, regulations, and procedures introduced by relevant bodies are effective (Ankrah, 2016; Asiedu and Deffor, 2017; Saeed et al., 2020). The internal audit is perceived by many proponents as a body within the local government establishments that can independently appraise management activities and determine whether controls instituted are adequate and working as expected. The remaining section, therefore, provides a detailed discussion on the concept of decentralisation a piece of governance machinery, followed by internal audit and quality assurance in public sector organisations.

The concept of decentralisation

The decentralisation of government machinery is, at present, a major topical issue among politicians, economists, and other policymakers in less-developed economies. Recent studies found that political accountability is central to accomplishing any municipal development plan worldwide (Mwesigwa, 2021). It is not surprising, therefore, that increasing pressure for community involvement, increased local governance institutional skills to deliver better services, distrust of influential central government, cultural and ethnic diversity

are some of the compelling factors for the decentralisation of government processes universally. In Uganda, decentralisation has accelerated local participation in governance processes, reduction in bureaucratic procedures, and improvement in public service accountability (Saito, 2001). Likewise, Hope (2000) elucidated that the Botswanan government opted for decentralisation to improve local government administrative capabilities, increase public service delivery in the localities, eliminate prevailing central government bureaucratic bottlenecks, and above all, facilitate an even distribution of social and economic resources of the nation. The situation in other under-developed nations is not fundamentally different.

In Ghana, decentralisation is perceived as a development tool for grassroots participation, traceable to the colonial era (Kyei, 2001, 2008). Though, it has taken different forms ever since. Ahwoi (2010), is of the view that Ghana's government's real commitment to grassroots participation in governance processes was demonstrated in 1988 through the enactment of the Local Government Law 207. Forkuor and Adjei (2016) corroborated the view of Ahwoi that successive regimes in Ghana attempted to implement various forms of decentralization since 1966 to strengthen local governance and grassroots participation in development activities. Both Ahwoi (2010) and Forkuor and Adjei (2016) in their respective studies settled that the Local Government Law 207 did increase the number of administrative districts in the country from 65 to 110.

Moreover, Article 35/5d of the 1992 constitution of the Republic of Ghana mandates the state *'to take appropriate measures to ensure decentralisation in administrative and financial machinery of government and to give opportunities to people to participate in decision-making at every level in national life and government'*. The District, Municipal and Metropolitan assemblies, were, therefore, expected to be the highest political and administrative authorities in each jurisdiction clothed with deliberative, executive, and legislative powers. In furtherance of the decentralised system, each assembly was responsible for the creation of the two lower-level tiers, town or area councils, and unit committees within its jurisdiction. In 2004, the government further reviewed the number of assemblies and created an extra 28 to enhance decentralisation, thus, resulting in 138 assemblies. In June 2012, the number of Metropolitan, Municipal, and District Assemblies (MMDAs) were subsequently increased to 216 and currently stands at 260.

In effect, ceding political and administrative authority to local assemblies implies that the leadership of each assembly is expected to uphold good governance and accountability practices under their respective jurisdictions. Fortunately, Article 16 of the Internal Audit Agency Act, for instance, requires each assembly to establish an autonomous internal audit unit to provide quality assurance on their activities. In guaranteeing

accountability and adequate disclosure at the local government establishments in Ghana, Sub-section 4 of section 16 of Internal Audit Agency (Act 658) further demands that the Internal Auditors of the MMDAs submit audit reports to all relevant stakeholders including the Auditor General of the republic, the Regional Coordinating Councils and the Assemblies on the operational efficiency and effectiveness of respective MMDAs. The next section discusses, in brief, the concept of internal audit and public sector management.

Concept of internal audit

Internal auditing is a profession and an activity related to advising organisations on the best means of achieving their objectives through managing risk (Ali et al., 2007) and improving their internal control systems (Tabar, 2016). The focus of internal auditing is to assist members of an organisation in the effective discharge of their responsibilities. This is achieved through the provision of relevant audit appraisals and recommendations concerning the activities reviewed. Unlike an external audit, internal auditing was not well regulated elsewhere in the globe until the 1940s. Neither did the professional accountancy bodies provide adequate guidance on internal auditing until recently.

The Institute of Internal Auditors (IIA) in the United State of America (USA), the world's most authoritative internal auditing body, currently serves as the main source of guidance for internal audit practice internationally. As detailed in Ali et al. (2007) and confirmed by Kotb et al. (2020), the IIA was established in 1941, produced its first statement in 1947, and published its full-blooded set of standards in 1978. The IIA statements and standards have subsequently been revised and expanded periodically to satisfy the prevailing regulatory requirements. Although countries like the UK, Canada, and Australia took the lead to develop a knowledge base for the practice of internal auditing, differences in their public expenditure management systems made their respective internal audit experiences not readily and directly transferable to African countries (Institute of Internal Auditors Global, 2018). Due to the preceding reasons, IIA USA continues to be the most authoritative internal auditing body and serves as the main source of reference for internal audit practice in many countries, including Ghana.

Presently, the internal audit function constitutes an integral part of the institutional governance structure in almost every nation, Ghana inclusive. The internal audit function is an independent and objective review mechanism that is designed to add value to organisations (Asiedu and Deffor, 2017; Goodwin and Teck, 2001). Others also recognise internal audit as a management-oriented discipline that seeks to address a whole range of operational issues associated with business organisations

(Alzeban and Gwilliam, 2014). The internal audit function is, therefore, an important establishment that helps management in both private and public sector organisations to achieve set objectives through a systematic, disciplined approach to evaluating and improving the effectiveness of risk management, internal control, and other governance processes.

In most advanced economies, internal auditing is a mandatory function. In Singapore, for instance, Goodwin and Teck (2001) as cited in Asiedu and Deffor (2017), found that listed companies must have well-functioning internal audit departments to avoid revocation of listing permits. In other jurisdictions, outsourcing of internal audit and other assurance services to public accounting firms was the norm in the early 1990s, until the late 1990s when the preference for in-house internal auditing started to intensify (Asiedu and Deffor, 2017). The use of in-house internal auditing is widely practiced in Ghana nowadays, both by the public and private sector institutions due to the availability of personnel with the requisite technical knowledge and experience.

Goodwin and Teck (2001) recognise internal audit activity as a key management function to the success of every organisation with the board of directors at its apex. The Institute of Internal Auditor Global (2018) in a similar line of argument perceives the internal auditing function as a supportive tool to an organisation's governance machinery since it facilitates effective evaluation of risk management and controls established by management. Also, it is regarded as an effective tool for unearthing shady deals in public sector institutions, especially, in the less-developed economies, where corruption is endemic. Mebratu (2015) employed the Ordinary Least Squares multiple regression techniques to investigate the relationship between internal audit functions and good governance culture in the public sector of Ethiopia. He discovered a positive relationship between audit risk management and professional audit standards, unrestricted access, formal mandate, competent leadership, and management backing. In other words, an internal audit could be a vibrant tool for promoting good governance in Africa countries such as Ghana, Nigeria, and Sierra Leone, where corruption is endemic.

Elsewhere, Ridley (2011) used interviews to examine the role of information systems audit in the Australian public sector management. It was revealed that information systems auditing has a direct and positive impact on management planning processes. Recently, Saeed et al. (2020) in their assessment of the role of internal audit in public sector management, did confirm that a regime's adherence to active internal audit practices is directly and positively linked to that country's good governance ratings. Yet critical factors including internal audit staffing, professional proficiency, auditors' independence, the scope and nature of work, and support from management if not fully addressed could adversely reflect on the performance of the internal

auditor (Ayagre, 2015; KPMG, 2016; Saeed et al., 2020, Kotb et al. 2020). Impliedly, the factors are the key considerations for evaluating the effectiveness of an internal audit function in public sector institutions. Say, a skillful internal audit staff, well equipped with appropriate resources is expected to be productive and efficient. Nevertheless, without the freedom to determine the nature and scope of work and reporting methodology, the same internal auditor's qualification and competencies will be of no value-addition to the organisation, as he will not be able to perform to the best of his abilities. For example, Schyf (2000) has it well documented that the absence of internal auditors' independence in the South African public sector triggered the auditors' below-par performance compared to the auditors' real mandate.

To minimise the chances of such internal audit failures, some countries have promulgated relevant laws and regulations seeking to empower the state internal auditors. In Ghana, for example, the Internal Audit Agency Act 2003, (Act 658. p. 2) created and empowered the Internal Audit Agency as the principal agency that will "coordinate, facilitate, monitor and supervise internal audit activities within Ministries, Departments and Agencies and Metropolitan, Municipal and District Assemblies to secure quality assurance of internal audit within these institutions of State" By this provision, the Agency has the sole mandate to recruit and adequately staff various MMDAs and MDAs with qualified internal auditors across all the sixteen regions in Ghana.

In pursuance of this, Section 3 (2) of Act 658 further empowers the internal auditor to assess the operations of the MMDAs with the view to determining the accuracy, reliability, and timeliness of operating information provided; the extent of compliance with relevant laws, policies, plans, standards, and procedures; the extent to which plans and objectives are achieved; adequacy of risk management measures instituted by management among others. Additionally, Section 3(3) demands that internal auditors assess activities of MMDAs for the administrative economy, efficiency, and effectiveness and further facilitate the prevention and detection of fraud practices. Additionally, Section 16 (1) of IAA (Act 658) requires that leadership of various MMDAs have an Internal Audit Unit (IAU) as an integral part of their management structure. It is therefore expected that the management of each MMDA provides its internal auditor with adequate resources and independence to enable them to execute their tasks effectually. Moreover, it is the management's responsibility to implement the IAU's recommendations and on time. This arrangement conforms to the procedure outlined in the European Union Quality Assurance for Internal Audit (European Union, 2014). The EU QAIP stipulates among other requirements that internal audit findings be acted upon promptly by senior management. Impliedly, the output of QAIP, findings, and recommendations of the head of IAU will be of zero value to stakeholders without senior

management backing. Using an exploratory approach to investigation, Salem (2013) similarly evaluated the reality of internal audit role in the Gaza Strip municipalities. The study was conducted by administering 77 questionnaires to relevant stakeholders. It uncovered that senior management failed to adequately resource the internal audit departments. The study also revealed that no timely attention was given to the audit recommendations. An important deduction from the respective conclusions by the European Union (2014) and Salem (2013), is that delays and failures of corporate managers to implement audit recommendations impedes internal auditor departments' ability to deliver in line with their mandate.

Likewise, scholars and practitioners have considered other factors as relevant to the effective functioning of an internal audit function. The key determinants of internal audit effectiveness include the nature of internal audit charter and mission; implementation of internal audit recommendations by management; reliance on internal audit reports by external auditors; quality of audit strategies and plans; application of applicable laws and regulations (Sutton, 1993; Dubois et al., 2010, Simpson et al., 2016). In other words, internal auditors' efforts must be reinforced through the proper functioning of other variables. According to Asiedu and Deffor (2017), internal auditors require a Charter and mission to effectively function. In their view, it will serve as a formal mandate to the internal audit department. They further contended that laws and regulations are central to setting out the mandate and legitimacy of an internal audit department of every public sector organisation.

Also, the audit committee's presence and composition play a pivotal role in internal audit effectiveness. The audit committee's responsibilities usually include, but are not limited to reviewing the qualifications of the audit staff, resourcing of internal audit, reviewing organisation's strategic focus, and addressing the effectiveness of the institution's internal control system (Ali et al., 2007; Böhm et al., 2013; Ayagre, 2015). In line with the international standard practices, Section 16 (8) of the IAA Act, 2003 (Act 658) obligates all MDAs and MMDAs to have an operational Audit Committee to enforce all relevant recommendations from internal auditors to the senior management. The import of this provision is to guarantee the independence of the internal auditor's work and further ensure timely enforcement of audit recommendations submitted to management. The audit committee charter, the composition of the audit committee, and its governance structure are therefore critical to helping the internal audit department function effectively.

Other authors are of the view that assessments of internal auditors' performance must be subjectively determined taking into account measures instituted by management and other relevant stakeholders to ensure its effectiveness instead of using computable variables (Cohen and Sayag, 2010; Dittenhofer, 2001). In line with

this argument, Jones and Beattie (2015) supported the reasoning for councilors of the Australian State of New South Wales relying on reports from the general manager and other council staff in making conclusions rather than internal audit department's reports which were deemed malfunction.

METHODOLOGY

This segment details the data used for the research, how the data was collected and managed, and the justifications for the choice of approach to inquiry.

Population and sample approach

The paper applied a purposive sample selection approach to select relevant respondents for the inquiry. Questionnaires were administered to the staff of the Internal Audit Unit (IAU) and Audit Committee members of the Accra Metropolitan Assembly (AMA) in the Greater Accra Region of Ghana. The sampling procedure applied is analogous to the mode of selection of participants to evaluate the success rate of International Financial Reporting Standards adoption in Ghana by adoption by Boateng et al (2014). The AMA, the main focus of the study, is the oldest of the 260 Metropolitan, Municipal, and District Assemblies (MMDAs) in Ghana. It was established by the Local Government Act, 1993, (Act 462) and the Legislative Instrument 1615. Most importantly, each of the participants selected from various strata has a high probability of being very knowledgeable in internal audit practices. Jamali et al. (2019) have endorsed the use of this sampling technique as it ensures that participants with requisite knowledge and experience are included in the study.

Data collection and management

The research was primarily based on data collected through the questionnaire. Besides, documents such as journals, relevant books, statutes, public records, and reports were reviewed. The structure of the questionnaires was different for each group of participants (that is., internal auditors and the Audit Committee members). This exercise requires careful planning, including addressing matters specific to each group. For each stratum, issues such as the type and content of the questionnaire, the number of questionnaires to administer, and the nature of the analysis were considered. The questionnaire to the internal auditors consisted of two sections. The first section contained mainly closed-ended type questions. Data from the first section was investigated using Factor analyses, akin to that of Hair et al. (1998). The second section however entailed open-ended questions to allow respondents (internal auditors) to freely provide their comments/views on issues not addressed by the first section, as recommended by Patton (1990). Questions addressed to internal auditors were focused mainly on the: role, scope, and perceived value of the internal audit unit; the types of activities performed by internal auditors; the size, structure, and authority of audit function; the independence of the internal audit staff; the resources allocated to internal audit; level education of internal auditors; skills, training, and expertise; the management attitude to the IAU and the support they received from them; the interrelationship between internal and external auditors; the challenges they encounter and potential for improvement.

The questionnaire administered to Audit Committee members were mainly open-ended and intended to confirm various assertions made by the internal auditors. The questions addressed to Audit

Table 1. Responses to the research questionnaire.

Variable	Number distributed	Number returned	Number invalid	Valid number used	Questionnaire returned %	Valid number returned %
Internal Audit Unit (IAU)	55	39	9	30	71	77
Audit Committee	5	5	0	5	100	100

Source: Field Survey, 2020.

Committee members sought to solicit data on internal auditors' scope of work, independence, competence, as well as soliciting information from the participants on what can be done to enhance internal auditors' value addition function. The open-ended questions were deliberately designed to enable participants to express their thoughts and understanding in their own words. For that reason, there were no pre-determined categories or phrases from which the respondents must choose. As succinctly stated by Patton (1990), the purpose of the open-ended questionnaire is to allow research participants' viewpoints to be clearly understood as it enables them to express their terminologies and opinions. Given that administered questionnaires to Audit Committee members were principally the open-ended type, data obtained was micro-analysed to reveal all the recurring themes for further analysis. The common views from participants were then summarised. Codes were created for each of the five respondents using Microsoft Word. The process is similar to the procedure endorsed by other authors (Swanson and Holton, 2005).

The content of research questions was vetted by three different experts: a renowned international public financial management consultant who is also a professor and holds a Ph.D. qualification in accounting, a seasoned scholar-practitioner in local government administration, and a partner of an international audit firm. In addition, the paper used Cronbach alpha and Pearson Correlation coefficient to test the reliability and collinearity of the research data (Pallant, 2001). These measures enhanced the likelihood of the research instrument measuring the variables it purports to assess. The subsequent section provides a detailed interpretation of the research results.

FINDING AND DISCUSSION

This section presents the research findings based on the pieces of evidence gathered through the analyses of data obtained from both primary and secondary sources. The results are then connected to the main literature to ascertain whether they are consistent with or are invariant with existing research.

Demographic characteristics

The data from the administered questionnaires were analysed through descriptive statistics. Table 1 depicts the breakdown of feedback obtained from the respondents. The questionnaire designed specifically for internal auditors was administered to only fifty-five (55) of the sixty-three (63) staff members. This represents 87% of the internal audit staff population in the Greater Accra Metropolitan Assembly. Only thirty-nine (39) responded, representing a 71% response rate for internal audit staff. Given the population size of the audit committee members, each one of the five-member committees was

served with a copy. With persistent follow-ups, all the committee members were responsive. Thus, representing a 100% response rate. However, nine (9) of the questionnaires retrieved from internal auditors were found to be incomplete and thus classified as invalid for further analyses. As shown in Table 1, the number of valid questionnaires expressed as a percentage of the number of questionnaires returned for each category of respondents consists of the Internal Audit Unit (30), and Audit Committee (5) representing 77 and 100% respectively. It is observed that the Audit Committee members were much more responsive compared to the IAU staff.

Responses from the Internal Audit Unit staff

This subsection mainly covers the finding from the staff of IAU. Data collected relates to issues on the IAU staff length of service, educational background, perception on support received from senior management, views on audit charter, and other general matters involving staff operational independence.

Internal Audit Unit staff length in service

Table 2 illustrates the duration of the respondents in their current positions. The majority of the respondents were 5 years or less in their current positions - representing 80%. Of the remainder 20%, staff who spent between 6-10 years represents 10%, 10-15 years represents 6.7 and 3.3% of the remaining respondents have spent 16 years or more in their current positions. However, from the responses to the open-ended section of the interview, it was discovered that almost all the respondents within the five years or less bracket are indeed re-assignees from similar jobs in line with the government's policy of rotating IAU staff. The answers to the open-ended questions further revealed that respondents within the 5 years or less bracket had acquired work experience at different MDAs or MMDAs before being reposted to current positions.

Educational background of the Internal Audit Unit staff and workload

Table 3 shows the level of education attained by the staff

Table 2. Duration of internal audit unit staff in their current position.

Variable	Total	Percent
Less than 5-year-old	24	80.0
Over 6-year-old but less 10-year-old	3	10.0
Over 10-year-old but less than 15-year-old	2	6.7
Over 15-year-old	1	3.3
Total	30	100

Source: Field Survey, 2020.

Table 3. Educational background of Internal Audit Unit staff.

Variable	Number	%
Basic education	0	0
Diploma education	7	23
Bachelor degree	28	93
Masters degree	14	47
Professional certificate (CA, ACCA, CIA, CFE, etc.)	6	20

Source: Field Survey, 2020.

Table 4. Testing the reliability of model analysis.

Factor	No. of variable	Cronbach's alpha
Optimum support from senior management	4	0.774
Audit charter and approaches to determining audit tasks	8	0.751
Other independent issues faced by audit personnel	5	0.754
All variables	17	0.282

of IAU. The internal audit Unit of AMA had seven diploma holders, twenty-eight first-degree holders, fourteen master's degree holders, and six persons with the final examination certificate from a recognised professional association such as CA, ACCA, CIA, and CFE. The figures when translated into percentage terms consist of diploma holders (23%), first-degree holders (93%), masters degree holders (47%), and professional certificate holders (20%). Evidence from the open-ended section of the interview further suggests that the senior management of the IAU was satisfied with the calibre of personnel being recruited for the assignment. Nevertheless, they were dissatisfied with the total number of staff working in the IAU. The understaffing of IAU and its negative effects on the department's performance were also highlighted by most senior audit personnel, most of whom are professional certificate holders. The open-ended questionnaire section further revealed few instances of junior internal auditors being unable to conduct follow-up inquiries per recommendations from superiors due to a shortage of staff numbers.

Data reliability and multicollinearity tests

This section employed factor analysis to determine the structure of the research data set and Pearson Correlation coefficient to estimate the degree of correlation among items. The most commonly used statistics for measuring the reliability and collinearity of research data are Cronbach's coefficient of alpha and Correlation coefficient respectively (Pallant, 2001). Some researchers consider an alpha value of 0.70 as adequate to accept the data as highly reliable (Pallant, 2001), while others claim 0.50 and 0.60 as just sufficient for qualitative inquiries (Mebratu, 2015). Based on the literature review and the subsequent interviews, three factors were identified: management support to internal auditors, Audit charter and approaches to determining audit tasks, and other independence-related factors. The computations revealed alpha values of 0.774, 0.751, and 0.754 as depicted in Table 4. The results, thus, signify that the alphas obtained were sufficient and reliable for the conduct of the research. The paper also adopted Hair et al. (1998)

Table 5. Classified variables after factor analysis.

Questionnaire details/variables that met the selection criterion	1	2	3
Management support to internal audit unit			
Receive cooperation, access to records and information from management	0.641		
Provision of adequate resources/facilities/vehicle for audit task	0.557		
Audit staff adequately equipped with current skills and audit trends	0.504		
Provision of IT audit equipment and training on IT audit	0.410		
The issue on internal audit charter and approaches to determining audit task			
Existence of Audit Charter aid performance of duties		0.820	
Ability to access management for interviews when needed		0.854	
Periodic rotation of internal audit staff tasks to avoid familiarization		0.591	
Audit risk assessment regarding quality of internal controls, etc.		0.690	
Following up on matters arising external auditors' findings		0.650	
Availability of records on hours performed by internal audit staff		0.771	
Internal Audit full compliance with specific task requirements of the Audit committee		0.921	
Cooperate with external auditors in conducting financial audit		0.888	
Other matters about internal auditors' independence			
Have no obstruction in obtaining audit evidence (fraud-related matter etc.)			0.767
Have regular access to senior personnel			0.478
Free to allocate resources, determine audit scope			0.810
Have easy access to client personnel, attention, and assistance when needed			0.878
Freedom to produce audit reports without interference/intimidation			0.840

suggestion that any variable of a factor loading greater than or equal to 0.4 should be retained. Out of twenty-one (21) items analysed, only seventeen (17) exhibited correlations values above 0.40 and were considered acceptable for the analysis, as shown in Table 5. Four (4) items of the questionnaire with factor loading less than 0.4 were left out of the factors in line with Hair et al.'s (1998) recommendation, as they failed to meet the acceptance criterion set.

The first four (4) variables in Table 5 explain the ability of the senior management of AMA to facilitate internal auditors' work. Apart from the provision of IT equipment and training to audit staff which suggests weak support, all other variables show that management was very supportive of internal audit assignments, through the successful allocation of resources needs and access to the requisite information. The eight (8) items further suggest that internal auditors were allowed to determine the nature and scope of audit methodology, as shown by the variable coefficients in the second segment. Lastly, the other matters about internal independence were assessed. The result revealed that internal auditors' independence was strongly influenced by their ability to carry out audit tasks including fraud investigation, determination of audit scope, including the freedom to allocate available resources in line with the internal audit department's plans. This section also indicates that auditors are often accorded maximum access to the auditee's personnel, time and are allowed to generate

audit reports as considered appropriate, given that all the items, apart from the ability of the auditor to have access to senior management, registered very strong coefficients.

Test of hypotheses

The paper addressed the main research question: "Is the internal audit function well-positioned to enable it to contribute effectively to good governance in local government institutions in Ghana?" by testing the following hypotheses:

H₀₁: Favourable resource support from senior management does not significantly enhance internal audit effectiveness.

H_{a1}: Favourable resource support from senior management does significantly enhance internal audit effectiveness.

H₀₂: Freedom to determine internal audit scope and approach to audit inquiries do not significantly contribute to internal audit effectiveness.

H_{a2}: Freedom to determine internal audit scope and approach to audit inquiries do significantly contribute to internal audit effectiveness.

H₀₃: The existence of other favourable conditions about

Table 6. ANOVA: Management support and Internal Audit Department performance.

Variable		Sum of squares	df	Mean square	F	Sig	
Between People		77.667	29	2.678			
Within People	Between Items	60.700	3	20.233	17.463	0.000	
	Residual	Non-additivity	8.308 ^a	1	8.308		
		Balance	92.492	86	1.075	7.725	0.007
		Total	100.800	87	1.159		
Total		161.500	90	1.794			
Total		239.167	119	2.010			

Dependent variable: Resource Support from Senior Management.

Table 7. ANOVA: Scope and approach inquiry and Internal Audit Department performance

Variable		Sum of square	df	Mean square	F	Sig	
Between People		57.838	29	1.994			
Within People	Between Items	200.963	7	28.709	57.896	0.000	
	Residual	Non-additivity	0.772 ^a	1	0.772	1.562	0.213
		Balance	99.890	202	0.495		
		Total	100.663	203	0.496		
Total		301.625	210	1.436			
Total		359.463	239	1.504			

Dependent variable: Audit scope and approach to inquiry.

internal auditors' independence do not significantly contribute to internal audit effectiveness.

H_{a3}: *The existence of other favourable conditions about internal auditors' independence do significantly contribute to internal audit effectiveness.*

Tables 6 to 8 show the analysis of variances (ANOVA) for three hypotheses. This segment solicited the views of the internal auditors on management support to the unit. Management backing was expressed in terms of supporting the auditing process and fulfilling the resource requirements. Matters on accessing financial records and information, finance, regular meetings with senior management, relevant training on up-to-date issues in auditing, technology, and the latest auditing procedures were also inquired. The result in Table 6 indicates that the F value for the management resourcing factor was 17.463 with a *p-value* of 0.00. Since the *p-value* of 0.00 was less than 0.05, the significance level, the study rejected the hypothesis and concluded that favourable resource support from senior management does significantly enhance internal audit effectiveness.

The existence of an audit charter is of extreme importance for internal auditors and persons with whom they often interact. The audit charter helps the internal auditors clarify all important matters that come under their purview when carrying out their duties. In the second hypothesis (Table 7), the F value for scope and approach

to inquiry factor registered 57.896 with a *p-value* of 0.00. Given that the *p-value* was less than 0.05, the researchers failed to accept the hypothesis and concluded that internal auditors' ability to freely determine the scope and approach to audit examinations do contribute to internal audit effectiveness.

Finally, for the interaction between internal audit effectiveness and the third factor in Table 8, other favourable conditions about internal auditors' independence, had F statistic reporting 27.492 and with the corresponding *p-value* of 0.00. Thus, providing sufficient evidence for the researchers to reject this hypothesis and conclude that there exists an interaction effect between the two factors. It is worthy of note that the independence of both internal and external auditors from persons they audit is central to the accomplishment of their respective functions.

In conclusion, all the three null hypotheses were rejected and the alternative hypotheses adopted. Thus, suggesting that the internal audit function is well-positioned to effectively contribute to good governance in local government institutions in Ghana.

Audit committee assessment of Internal Audit Unit performance

The Internal Audit Unit's (IAU) recommendations will be meaningless unless they are implemented by the

Table 8. ANOVA: Other independent issues and Internal Audit Department performance.

Variable		Sum of squares	df	Mean square	F	Sig	
Between People		81.873	29	2.823			
Within People	Between Items	76.307	4	19.077	27.492	0.000	
	Residual	Non-additivity	0.848 ^a	1	0.848	1.224	0.271
		Balance	79.646	115	0.693		
		Total	80.493	116	0.694		
Total		156.800	120	1.307			
Total		238.673	149	1.602			

Dependent variable: Other independent issues.

appropriate authorities. In cognisance of this, section 30(1) of the Audit Service Act, 2000 (Act 584) directs the creation of the Audit Committee in each MMDA to follow up on the implementation of internal audit recommendations. The Audit Committee in placing value on the IAU report generally assesses the auditor’s degree of independence, professionalism and due diligence, and competence, Integrity, confidentiality, and the quality of the report itself. As stipulated in sections 18, 19, and 20, IAA Act 2003 (Act 658), internal auditors are required to display a high level of professionalism in evidence gathering, evaluation, and communicating information. In the performance of their duties, they are mandated to exhibit honesty, due diligence, and confidentiality. From the interviews, it was apparent that apart from possessing the relevant paper qualifications, the IAU staff do exercise due professional skills, care, and caution in judgment when performing their normal work. Evidence gathered from the committee members shows that the standard of audit reports submitted by the IAU of the AMA to the Audit Committee meet the minimum expectations in most cases. The comment made by one of the respondents confirms these assertions:

Apart from consistently producing timely reports, the auditors are showing that they’re aware of their duty to the Assembly and other stakeholders... They always go all the way out to get appropriate evidence to substantiate issues raised in their reports, which is very commendable.

The foregoing discoveries is clear evidence of the professional due diligence being exhibited by internal auditors as stipulated in sections 18 of IAA Act 2003 (Act 658) in providing quality audit assurance service to aid good governance practices at the local government level (Saito, 2001; Asaduzzaman and Virtanen, 2016).

On the issue of internal auditors following up to ensure that various audit recommendations (both internal and external) are addressed by AMA management, the respondents appreciate the documentary evidence of the effort put in by the internal auditors. They, however, lamented the support from management in addressing

the concerns could be much better. One of them stated these observations:

I do appreciate the effort of the internal auditors to do follow-ups on the implementations of various recommendations...as you know the support, they always need from senior management is sometimes not fully forthcoming [...].

It is important to emphasise that management failures to provide adequate backing to auditors’ efforts are a potential cause of public sector governance failures (Salem, 2013). As such, senior management is obliged to creating mechanisms that ensure that audit recommendation are carried through without any hindrances.

In the committee’s effort to ensuring that both internal and external audit recommendations are implemented by the management of the AMA, one respondent has this to say:

We do have meetings with management and consistently follow up on audit reports. In instances of persistent failure to implement important recommendations, they are included in the annual reports by the Auditor General to the Public Accounts Committee of Parliament for further actions.

The foregoing findings implies that both the internal audit staff and audit committee members do often bark and not bite, through Parliament. Thus, defeating the value placed on timely implementation audit recommendations (Sutton, 1993; European Union, 2014, Dubois et al., 2010; Simpson et al., 2016).

Adequate staffing is essential for the proper planning of audit assignments. Weakness in staffing can lead to mismanagement, errors, and abuse, which can negate the effect of other controls in ensuring audit quality. The question on the adequacy of staffing was expressly directed to the Audit Committee members. The respondents are of the view that in terms of numbers level of education, and general competencies, the staffing was adequate. However, a respondent had reservations

regarding the knowledge, competencies, and ability of internal auditors in conducting a major audit in advanced IT environments. The respondent asserted that:

The world is now technologically based and constantly evolving. However, I have my doubt about the ability of the auditor to do any standard IT-based audit. I unreservedly recommend that IAU staff be trained either in-house or externally on the IT auditing procedures to keep pace with modern trends.

The foregoing suggests the adequacy of internal in terms of staff numbers, paper qualifications, and general competencies. The foregoing assertion is confirmed by another committee member recounting as follows:

Inadequate management commitment to resource the IAU is our main challenge. For example, there have been several management recommendations to build staff capacity, especially in IT audit, provide all logistical requirements but most of these recommendations are often ignored...

The foregoing statements show that internal audit staff knowledge and experience in auditing within the IT environment needs improvement. Inadequate knowledge of IAU staff in performing audits within an IT-based environment constitutes a serious risk to ensuring accountability and governance practices in the Ghanaian public sector. The succeeding section discusses the implications of the research findings. It also provides recommendations to relevant stakeholders.

CONCLUSION AND RECOMMENDATIONS

This paper had two main objectives: to assess whether the public sector internal auditors have the required capacity to provide assurance services to ensure good governance in local government operations and to ascertain the role of management in legitimising internal auditors' work as reliable assurance providers. To realise these objectives, two different groups of questionnaires were administered to each stratum (staff of the IAU of Accra Metropolitan Assembly and the audit committee members). The questionnaires were subsequently retrieved and analysed using factor analysis and other descriptive statistics.

Firstly, the findings from this research show that the internal auditors assigned to the metropolis do possess relevant academic and professional qualifications. The paper confirmed that a greater percentage of the workforce had the relevant academic qualifications desired for the assignment. The result further revealed that internal auditors have extensive years of working experience in the internal audit environment. Besides, the core leadership of the IAU in charge of designing the

audit strategy for the metropolis does possess the relevant professional accountancy certificates. The foregoing suggests that the IAA, as the sole agency responsible for recruiting, posting, and rotating/reassigning internal audit staff among various MMDAs has been effective in engaging the right calibre of staff. Extant literature shows that in recruiting internal auditors, due regard must be placed on their academic and professional backgrounds by an independent appointing authority (Ali et al., 2007; Bohm et al., 2013; Ayagre, 2015). The government of Ghana must be commended for creating the Internal Audit Agency, as an independent institution that recruits qualified internal audit personnel into local government institutions. Given that recruitments are based on competence rather than political affiliation, the likelihood of filling internal audit vacancies with political cronies is minimised if not eliminated. Thus, enhancing objectivity in the performance of audit tasks. Consequently, encouraging accountability and good governance practices in the local government establishments.

Equally, evidence from the Audit Committee confirms that the internal audit department within the metropolis is indeed fully resourced with persons with the appropriate educational and professional qualifications, practical experience in the field, and are competent enough to conduct "normal" audit assignments with due professional care. However, they lamented that most of the audit staff do lack requisite knowledge in conducting audit assignments within an IT environment. Hence, a major threat to the quality and effective service delivery by internal auditors within the metropolitan assemblies. Logistically, the internal audit departments appear to be adequately resourced. However, the fact that internal auditors increasingly find it difficult accessing senior management of the metropolis to discuss important audit issues and the fact that internal auditors are not fully equipped to conduct IT audit implies that management only pay lip services to the existence of the audit department. Scholars and practitioners have linked many instances of underperforming internal audit departments to insufficient resources from corporate managers (Salem, 2013). The preceding evidence suggests that the likelihood of IAUs assisting management of local government organisations to establish appropriate internal controls to deter, prevent and detect fraudulent, corrupt, and unethical practices as recommended by scholars and practitioners (Unegbu and Kida, 2011; Pilcher, 2014; Onoja and Usman, 2015; Tabar, 2016; Nerantzidis et al., 2020) may be undermined - if the current trend is not curtailed. The greatest worry is that shady deals which presently characterised most public sector institutions in emerging nations according to existing literature (Mebratu, 2015; Asiedu and Deffor, 2017) are unlikely to be uncovered by the management of local government institutions. Thus, derailing public confidence in the local governance machinery in the

country and beyond.

The paper also found that an Internal Audit Charter was established to guide the activities of the internal auditors. The charter was established in fulfillment of the requirements of the Internal Audit Agency Act, 2003 (Act 658). Internal Audit Charter is an important document from which internal auditors draw their powers, functions, mandate, and administrative authority. Laws and regulations are critical components in setting out the mandate and legitimacy of an internal audit department (Asiedu and Deffor, 2017). The internal audit charter apart from clearly defining the scope of work of the auditor and enforcing the implementation of audit recommendations also prevents management from restricting access to information.

Evidence from the internal auditors and Audit Committee members shows that the internal auditors are not receiving maximum cooperation in implementing internal audit recommendations, as several follow-ups have to be made to get recommendations implemented. As suggested by the EU QAIP, internal audit output will be of zero value to stakeholders if their recommendations are not promptly acted upon by senior management of those establishments (European Union, 2014). The existing literature (Sutton, 1993; Dubois et al., 2010; Simpson et al., 2016) also grounded that internal audit effectiveness and the degree of external auditors' reliance on internal audit to forming an audit opinion is often weakened if corporate managers show laxity in implementing internal audit recommendations.

Finally, the paper settled that internal audit staff was not obstructed by management in determining the scope of work, reporting modalities, and as well as securing expert assistance when desired. Paradoxically, lack of regular access to management appears to defeat any form of independence the internal auditors purport to enjoy in the performance of their duties. The paper found that the internal auditors in Ghanaian local government establishments do have the capacity to provide the needed risk management support to management to ensure accountability and good governance. Nonetheless, lack of management support through IT skills training and timely implementation of audit recommendations have rendered the internal auditors as "dogs which can only bark but cannot bite".

Consequently, the following recommendations require the immediate attention of policymakers to enable internal auditors to work effectively and efficiently: first, internal auditors must be trained to fully equip them with the latest IT audit skills. This may require enrolling them in Certified Information System Auditors programmes, equipping them with Computer Assisted Audit Techniques (CAATs) and other relevant in-house training programmes. In addition, the management of local government institutions must ensure prompt implementation of internal audit recommendations to reduce any compliance and detection risks that are currently inherent in their

operations. Lastly, audit committees must persist and have regular meetings with the management of local government institutions to enable them to reduce any possible bad blood existing between senior management and internal auditors.

LIMITATIONS AND FUTURE RESEARCH

Like many other research studies, this paper has its limitations. The research covered only the perceptions of internal auditors and audit committee members of one of the metropolitan assemblies from the sixteen regions of Ghana. Given that internal audit is such a fundamental monitoring function for establishing and sustaining accountability and good governance in both public and private sector organisations, it would be enormously informative if similar studies, were replicated in the other regions in Ghana and other parts of the Sub-Saharan African region to further enhance its generalisation. Future research may also consider examining the views of administrators of these metropolitans, municipalities, district assemblies, and other relevant stakeholders such as civil society organisations.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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Full Length Research Paper

Corporate governance and voluntary disclosure: The case of listed firms on the Athens Stock Exchange

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This paper explores the effect of corporate governance on voluntary disclosure. The investigation of the research question was based on hand-collected data from annual reports for a sample of 93 non-financial listed firms on the Athens Stock Exchange for 2017. Using several items to create a voluntary disclosure index, the authors investigate the arguments that ownership structure, board of directors (board) and audit committee affect voluntary disclosure. The results indicate that some corporate governance characteristics (block ownership and board independence) reduce voluntary disclosure, while others (board and audit committee size) increase the extent of disclosure. Additionally, a positive effect on the voluntary disclosure concluded for the size of the firm and the size of the audit firm. The results have implications for capital market regulators and listed firms wishing to reduce conflicts between the firm and its related parties and to strengthen the confidence to the firm's governance by using corporate governance structures. This paper contributes to the academic debate on the relationship between corporate governance and voluntary disclosure by assessing the effect of ownership structure, board of directors (board) and audit committee on the extent of voluntary disclosure.

Key words: Corporate governance, disclosure, voluntary disclosure, ownership, board of directors, audit committee.

INTRODUCTION

The purpose of this paper is to extend prior research in the field of voluntary disclosure by exploring the association of corporate governance with the extent of voluntary disclosure in Greece. Many studies in different institutional contexts show that several elements of corporate governance are likely to have a positive or negative effect on firm's disclosure processes (Fiori et al., 2016; Sarham and Ntim, 2019; Zhou, 2019; Saha and

Kabra, 2021). The Greek context constitutes an interesting case for investigating voluntary disclosure and corporate governance.

The Greek crisis in 2009 resulted in a significant drop in the value of the shares of listed firms. One of the main reasons was the decline in investors' confidence, as the crisis was not only a stock market crisis but mainly fiscal and economic crisis. Corporate governance plays an

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important role in restoring confidence between stakeholders. A crucial procedure in this direction is to increase the flow of information to reduce information asymmetry with financial statements being a key information process in the communication with stakeholders. Although annual reports are the first source of information for investors and other related parties, they have significant limitations as other sources of information beyond financial performance are also used to evaluate a company that is not adequately presented in the annual report (Fiori et al., 2016). Moreover, the current business environment challenges the adequacy of the limited mandatory information and as the nature and extent of information differs from the past, the need for companies to voluntarily disclose more information arises (Elfeky, 2017). Additional voluntary disclosures in the annual reports can therefore reduce the information gap, enhance accountability and improve decision making.

Previous studies have examined disclosure issues in the Greek context (Leventis and Weetman, 2004a, 2004b; Galani et al., 2011; Iatridis and Alexakis, 2012; Skouloudis et al., 2014; Tasios and Bekiaris, 2014), without focusing on the impact of corporate governance on voluntary disclosure. This study investigates the effect of specific corporate governance elements on the extent of voluntary disclosure that has not been adequately examined in Greece and contributes to better understanding on the determinants of voluntary disclosure. In addition, the results of this study complement the existing literature on the discussion of corporate governance and its effect on firms' disclosure. Arguments were produced about the association of corporate governance elements and voluntary disclosure in an environment with specific characteristics such as the Greek stock market, where quite often the CEO is also the chairman of the board (Vadasi et al., 2021), there is a single board (one-tier system) involving executive and non-executive directors, which may lead to information asymmetry (Paape, 2007), founding family often plays an important role (in the results of this study the mean proportion of ordinary shares owned by the founding family and their relatives reached 57%) which may lead a firm to face more agency problems.

Corporate governance characteristics that have been identified in the literature and are expected to affect disclosure relate to shareholder structure, board of directors (board), and audit committee. A voluntary disclosure index with 65 items, including strategic, non-financial and financial information, was designed to assess the extent of voluntary disclosure (Allegrini and Greco, 2013; Chau and Gray, 2010, 2002; Leventis and Weetman, 2004a; Meek et al., 1995). Using regression model to analyze data from the annual reports of 93 non-financial listed firms on the Athens Stock Exchange (ASE) in fiscal year 2017, the authors concluded to a significant effect of specific corporate governance

elements on voluntary disclosure.

Specifically, we found a positive effect of board size and audit committee size on voluntary disclosure. According to board independence the results indicate a negative effect on voluntary disclosure, while negative effect was also found for ownership structure, specifically for the existence of block owners. Finally, evidence was found that the size of the firm and the size of the audit firm increases voluntary disclosure. The remainder of the paper is organized as follows. Section 2 discusses Greek context, section 3 provides the literature review and hypotheses development, section 4 contains the voluntary disclosure index, the sample selection and the research model, section 5 presents the empirical results and section 6 reaches a conclusion.

Corporate governance and disclosure in Greece

The Greek stock market is an interesting case to study due to the significant financial crisis that occurred during 2009-2018 (Galani et al., 2011). The Greek stock exchange (ASE) experienced a significant growth during 1990-1999 as the improvement of the economy brought the macroeconomic fundamentals of Greece closer to the European average (Patra and Poshakwale, 2006). The peak of the market in 1999 gave way to a sharp correction in 2000. The following decade is described as a period of consolidation of the Greek stock market. This course was violently interrupted by the Greek sovereign debt crisis (2009-2018) which was characterized by violent upheavals and structural changes in the Greek economy and therefore in the Greek stock market. However, Greece had to face additional problems such as high budget deficit (with ever-increasing revisions), high public debt, low competitiveness, bank liquidity, red loans, and low private investment, among others (Nerantzidis and Filos, 2014; Kourdoumpalou, 2016; Bekiaris, 2021). In times of constant and violent change where trust is undermined, financial disclosure reporting, mandatory and voluntary, is the main bridge of establishing confidence between firms and investors (Boman and Elvin, 2018). A key element in confidence-building is good corporate governance which aims to defend the interests of all the participating parties. Corporate governance requires increased accountability through voluntary disclosure, as it reduces information asymmetries and improves relations between firms and stakeholders.

The evolution of corporate governance in Greece follows a series of steps related to various national (e.g., rise and fall of the stock market in 2000, Greek financial crisis in 2010, Folli Follie scandal) and international events (e.g., scandal in Enron, international financial crisis of 2008). More specifically in 1999 the Committee on Corporate Governance in Greece issued a white paper titled "The principles of corporate governance in

Greece: recommendations for its competitive transformation”¹. Since then, the main characteristic of Corporate Governance in Greece is the existence of a multitude of laws, acts, regulatory decisions and legal provisions (e.g. L. 2190/1920, HCMC 5/204/2000, L. 3016/2002, L. 3693/2008, L. 3873/2010) which are following national and global trends and events (e.g., L. 3016/2002 follows Sarbanes-Oxley Act and L. 3873/2010 introduces “comply or explain rule” just after the outbreak of Greek crisis). Nevertheless, corporate governance requirements in Greece are reviewed regularly since 1999. For instance, the new Corporate Governance Law 4706/2020 was enacted in late 2020 (after the Folli Follie scandal) by the Hellenic Capital Market Commission (HCMC) empowering corporate governance legislation.

Disclosure rules governing the content of the annual reports for listed companies are defined by law 3556/2007, as well as the decisions of the board of directors (board) and the circulars of the Hellenic Capital Market Commission (HCMC). One of the most significant attempts to improve the quality of the financial reporting in Greece occurred in 2005, with the mandatory application of International Financial Reporting Standards (IFRS) for all firms listed on the ASE. Another significant change took place in 2014 with law 4308 which introduced Greek Accounting Standards in an E.U. effort to align accounting principles across its members.

Previous studies have investigated disclosure issues in Greece; In a study conducted by Leventis and Weetman (2004a) on the annual reports of 87 listed firms on the ASE in 1997 the extent of voluntary disclosure was found to be relatively low. Iatridis and Rouvolis (2010) in their study found that firm size and debt and equity financing needs are determinants of the provision of voluntary IFRS disclosures before the official period of adoption (2005). Furthermore, Iatridis and Alexakis (2012) in their investigation of 171 Greek firms for 2006 -2009 period found that voluntary disclosers exhibit higher profitability and that the provision of voluntary accounting disclosures is negatively associated with earnings management. Finally, Tasios and Bekiaris (2014) studied annual reports of 72 listed firms on the ASE in 2011 found an adequate degree of average compliance with mandatory disclosure requirements, while Skouloudis et al. (2014) studied non-financial reports of firms operating in Greece in 2005 argued that there is much room for improvement as significant gaps were found in the firms’ disclosure practices. This paper examines the association between corporate governance characteristics and the extent of voluntary disclosure in 2017, a year of de-escalation of the crisis in Greece.

LITERATURE REVIEW

Disclosure, mandatory and voluntary, is a crucial element of corporate reporting (Doni et al., 2019; Krasodomaska et al., 2020). Voluntary disclosure concerns the provision of information by firm’s management in addition to the disclosure requirements arising from accounting principles and rules of regulatory authorities. This information helps rational financial decisions to be made by third interested parties who make use of the annual reports of listed firms. Therefore, voluntary disclosure can be considered as a control mechanism like corporate governance (Allegrini and Greco, 2013) and can be examined through the framework provided by agency theory (Jensen and Meckling, 1976). According to agency theory, there is a possibility that managers will act against shareholders’ interests, so an attempt is made to align the interests of the two groups. However, full alignment is difficult, so various management monitoring mechanisms are used (Cohen et al., 2002). Voluntary disclosure can mitigate agency costs as managers, by disclosing additional information, point to third parties concerned that they are acting in line with shareholders’ interests (Barako et al., 2006). The extent of voluntary disclosure is affected by the corporate governance and ownership structure as indicated in the literature.

Enache and Hussainey (2020) investigated the joint effect of voluntary disclosure and corporate governance on firm performance, arguing that the two mechanisms may be independent, substitutive, or complementary. Their findings on data from a sample of US biotech firms indicate a substitutive effect on firm performance, for firms with products in advanced stages of development. Zhou (2019) by using a sample of Chinese publicly traded manufacturing firms found that corporate aspects like board of directors and ownership structure are associated with the decision of voluntary disclosure on corporate social responsibility reports. Two meta-analysis studies investigated the effect of corporate governance on disclosure; Samaha et al. (2015) analyzed 64 empirical studies concluding that corporate governance affects voluntary disclosure, but geographical location mitigates such as this relationship for some corporate governance variables, such as board size and composition. Lagasio and Cucari (2019) in a meta-analysis of 24 empirical studies investigated the relationship between several corporate governance elements and environmental, social and governance disclosure, concluding in several significant associations (e.g., board independence, board size, female members).

Many studies have investigated the effect of corporate governance variables on voluntary disclosure in different institutional settings (Barako et al., 2006; Patelli and Prencipe, 2007; Akhtaruddin and Haron, 2010; Chau and Gray, 2010; Gisbert and Navallas, 2013). By constructing an index of voluntary disclosure with data from the annual reports of listed firms in various countries, they found a

¹ “The principles of corporate governance in Greece: recommendations for its competitive transformation”, available at: <https://ecgi.global/code/principles-corporate-governance-greece-recommendations-its-competitive-transformation>.

significant effect of various corporate governance elements on voluntary disclosure. Relying on prior literature, we identified three basic corporate governance areas that are expected to be associated with voluntary disclosure; namely, ownership structure, board of directors, and audit committee.

Hypothesis development

Literature review of theory and prior research indicates that several governance and companies' characteristics have been used as explanatory variables of the relationship between voluntary disclosure and corporate governance. The variables of this study were selected based on the following criteria: a) corporate governance theory and results of prior research, c) relevance and importance of the variables for the objectives of the study and c) the characteristics of the environment where the study was conducted. Based on the above the following corporate governance characteristics were examined:

Ownership structure

Previous studies examined the link between various ownership structure variables and voluntary disclosure (Eng and Mak, 2003; Patelli and Prencipe, 2007; Gisbert and Navallas, 2013; Elfeky, 2017). Akhtaruddin and Haron (2010) found that the proportion of executive share ownership to the total shares of the firm is negatively related to voluntary disclosure. The same result was reached by Eng and Mak (2003), while they did not find evidence for a significant effect of blockholder ownership (percentage of equity ownership by substantial shareholders – with equity of 5% or more). Elfeky (2017) and Kolsi (2017), on the other hand, found a negative effect of blockholder ownership on voluntary disclosure, suggesting that capital concentrated firms disclose less information than other firms. Additionally, Lagasio and Cucari (2019) reported a negative effect of board ownership on environmental social governance disclosure. From the other side, evidence has been found that dispersal of equity can lead to better disclosure conditions; Chau and Gray (2002) found a positive association between wider ownership and voluntary disclosure and Patelli and Prencipe (2007) reported a positive impact of the percentage of share capital owned by shareholders who possess less than 2% of the share capital on the extent of voluntary disclosure. In line with that, Barako et al. (2006) found that lower disclosure appears for firms with higher proportion of shares held by the top 20 shareholders. Based on these arguments we expected a negative impact of blockholder ownership on voluntary disclosure.

Another element of ownership structure that has been extensively examined on the literature is family ownership,

an important parameter as firms with high percentage of family ownership face significant agency problems. Previous studies indicated a negative relationship between the percentage of shares held by family members and voluntary disclosure (Chau and Gray, 2010, 2002). In the same direction, other studies (Ho and Wong, 2001; Haddad et al., 2015) reported that firms with more family board members disclose less information. Ali et al. (2007) found that family firms that report better quality earnings, disclose less information about their corporate governance practices, although they are more likely to warn for bad news. Chen et al. (2008) also found that family firms provide more earnings warnings, but less earnings forecasts and conference calls. Drawing on these arguments, the following hypotheses are formulated:

H1. The extent of voluntary disclosure is negatively associated with blockholder ownership.

H2. The extent of voluntary disclosure is negatively associated with the level of family shareholding.

Board of Directors (board)

The board is an important mechanism of corporate governance. Many studies have investigated board structure effect at various measures, such as firm performance and earnings management; Gaur et al. (2015) found that board size and CEO duality positively affect firm performance, while board independence has a negative effect on firm performance. Shahrier et al. (2020) concluded that the independent members of the board are positively associated with firm performance, while CEO duality adversely affects firm performance. In addition, González and García-Meca (2014) reported a positive relationship between board size and earnings management and a negative one between board independence and earnings management. In the field of disclosure prior literature investigates the impact of three board structure elements, namely board size, board independence and CEO duality. Previous studies have shown a significant positive association between the number of board directors and the extent of voluntary disclosure (Allegrini and Greco, 2013; Gisbert and Navallas, 2013; Samaha et al., 2015). Moreover, Lagasio and Cucari (2019) in a meta-analysis review found that board size enhances environmental social governance disclosure.

Another board structure element that was examined in the literature is the effect of board independence in voluntary disclosure, with the results indicating a positive (Chau and Gray, 2010; Gisbert and Navallas, 2013; Elfeky, 2017; Shan, 2019), negative (Eng and Mak, 2003; Gul and Leung, 2004; Barako et al., 2006) and no effect (Ho and Wong, 2001; Allegrini and Greco, 2013). Cases of positive effect suggest that the two control mechanisms

co-exist (Patelli and Prencipe, 2007), while in cases of negative association it is suggested that independent directors substitute the monitoring role of disclosure (Eng and Mak, 2003). In addition, Lagasio and Cucari (2019) found that board independence enhances environmental social governance disclosure and Neifar and Jarboui (2018) found the same impact for operational risk voluntary disclosure.

The separation of the persons holding the positions of the CEO and the Chairman of the board seems to affect the extent of voluntary disclosure in different directions; Previous studies (Allegrini and Greco, 2013; Gisbert and Navallas, 2013; Alfraih and Almutawa, 2017) found that CEO duality is negatively associated with disclosure, while Chau and Gray (2010) discovered a positive relationship. In the cases of specific information disclosures, it was found that CEO duality negatively affects risk disclosure practices (Neifar and Jarboui, 2018; Alshirah et al., 2020) and does not improve environmental social and governance disclosure (Lagasio and Cucari, 2019). Different results are due to different theories; On the one hand, according to agency theory, CEO duality increases CEO's power over the board, which is likely to reduce board's ability to prevent speculative behavior on the part of management (Jensen and Meckling, 1976). Stewardship theory, on the other hand, explains that a strong CEO who is also the chairman of the board can act as a steward of the firm resources and contribute to the implementation of effective control mechanisms (Donaldson and Davis, 1991). Based on the preceding discussion, the following hypotheses are formulated:

H3. The extent of voluntary disclosure is positively associated with board size.

H4. The extent of voluntary disclosure is positively/negatively associated with board independence.

H5. The extent of voluntary disclosure is positively/negatively associated with the CEO duality.

Audit committee

Audit committee as a standing committee of the board of directors in the context of the requirements of article 44, Law 4449/17, is a crucial mechanism of corporate governance. Audit committee assists the board in fulfilling its responsibilities towards shareholders and third parties, especially regarding financial reporting and monitoring procedures. In this context, previous studies have investigated the effect of the audit committee on the extent of voluntary disclosure (Gul and Leung, 2004; Samaha et al., 2015; Akhtaruddin and Haron, 2010). It was found that the presence of an audit committee in the firm is positively associated with firm's voluntary disclosure (Ho and Wong, 2001; Barako et al., 2006). Moreover, Samaha et al. (2015) in a meta-analysis review

of 22 studies found a positive relationship between audit committee and voluntary disclosure; the number audit committee members and the percentage of independent directors bears a positive effect on voluntary disclosure. In line with this argument, Akhtaruddin and Haron (2010) and Barros et al. (2013) argued that an increase in the number of independent directors in the audit committee increases voluntary disclosure. Drawing on these arguments, the following hypotheses are formulated:

H6. The extent of voluntary disclosure is positively associated with audit committee size.

H7. The extent of voluntary disclosure is positively associated with audit committee independence.

DATA AND METHODS

Voluntary disclosure index (VDI)

A disclosure index consisting of 65 items was constructed to measure the extent of voluntary disclosure. The index was based on prior research and specifically on Allegrini and Greco (2013), Chau and Gray (2010, 2002), Leventis and Weetman (2004a) and Meek et al. (1995) and categorized the elements of voluntary disclosure into three main categories: (1) strategic information (general corporate information, corporate strategy, research and development, projected information); (2) non-financial information (employee information, social policy and value-added information, directors' information); (3) financial information (segmental information, ratios, financial review, capital market information).

The scoring procedure applied was dichotomous in which an item scored 1 if it was disclosed and 0 otherwise. In line with previous studies (Meek et al., 1995; Ho and Wong, 2001; Eng and Mak, 2003; Chau and Gray, 2010, 2002; Allegrini and Greco, 2013), the score given to the index items was not weighed to avoid the subjectivity of this process. Total disclosure score per firm was calculated as follows:

$$vdscore = \frac{\sum_{i=1}^{n_j} X_{ij}}{n_j}$$

Where, n_j = the number of items expected for j^{th} firm, $n_j \leq 65$. $X_{ij} = 1$ if the i^{th} item is disclosed and $X_{ij} = 0$ if the i^{th} item is not disclosed, so that $0 \leq vdscore \leq 1$.

The detailed list of the 65 items included in the VDI is reported in the Appendix; Panel A provides information about categories and sub-categories of the VDI and Panel B provides the 65 items and their rates in the sample.

Sample selection

The sample comprises listed firms on the Athens Stock Exchange for the year ending 31.12.2017. Data were extracted from the annual reports which were released during 2018. Financial firms were excluded from the sample due to the specificity of their operations and their reporting requirements which differentiate them from other firms. Moreover, firms suspended from trading, firms with a reporting period other than 31.12.2017 and firms with missing data were also excluded from the final sample. The study is limited to one year (2017) as firms tend to follow a stable disclosure strategy over time (Botosan, 1997). Table 1 provides the sample

Table 1. Sample selection and industry distribution.

Panel A: Sample selection and elimination procedure		
	Firms	
Population of non-financial firms listed on the Athens Stock Exchange in 2017	153	
<i>Elimination</i>		
1. Suspended from trading (ASE Authority)	14	
2. Reporting period different from 31st December 2017	2	
3. Unavailable voluntary disclosure information	15	
4. Unavailable corporate governance information	29	
Final sample	93	
Panel B: Industry distribution		
<i>Industry classification</i>	No. of firms	Percent
Industrial goods and services	16	17.20
Basic resources	10	10.75
Construction and materials	10	10.75
Consumer Products and Services	10	10.75
Food and drinks	10	10.75
Technology	7	7.50
Chemicals	6	6.50
Travel and leisure	5	5.40
Other	19	20.40
Total	93	100.00

selection process (Panel A) and industry distribution of the sample (Panel B).

Model specification

The following ordinary least square (OLS) regression model is examined in the study:

$$VDscore = \beta_0 + \beta_1 BLOCK + \beta_2 FAMILY + \beta_3 BSIZE + \beta_4 BINDEP + \beta_5 CEODUAL + \beta_6 ACSIZE + \beta_7 ACINDEP + \beta_8 SIZE + \beta_9 AUDIT + \varepsilon$$

The model combines corporate governance variables (predictor variables) with firm characteristics (control variables). Predictor variables were used to test the arguments of this study as outlined in section 3; Control variables are based on the literature and involve factors that can potentially affect voluntary disclosure. Following previous studies, two control variables are included, namely firm size and audit firm. Large part of the literature reached the conclusion that firm size (*SIZE*) has a positive effect on voluntary disclosure (Akhtaruddin and Haron, 2010; Chau and Gray, 2010; Patelli and Prencipe, 2007; Allegrini and Greco, 2013; Scaltrito, 2016; Elfeky, 2017). In addition, many studies investigated the impact of the audit firm (*AUDIT*) on voluntary disclosure, namely whether being the audit firm one of the large audit firms, plays a role in the degree of voluntary disclosure (Eng and Mak, 2003; Barako et al., 2006; Akhtaruddin and Haron, 2010). Chau and Gray (2010) found a negative relationship possibly indicating a substitute role of external audit regarding disclosure, while other researchers (Barros et al. 2013; Scaltrito, 2016; Elfeky, 2017) concluded on a positive impact of external audit quality on voluntary disclosure. The definition and measurement of the variables in the model is presented in Table 2. The statistical analysis of the data and the

estimation of the regression model were performed with IBM SPSS (version 26).

RESULTS AND DISCUSSION

Univariate analysis

Descriptive statistics for voluntary disclosure

Table 3 provides descriptive statistics for the total voluntary disclosure score and its subcategories for the 93 companies of our sample. Total average voluntary disclosure score (*VDscore*) was relatively low and amounted to 37.7%, with a minimum value of 16.9% and a maximum value of 78.5%. This indicates that listed companies on the ASE appear to be reluctant to disclose more information in their annual reports than that required by the regulatory framework. The same conclusion applies for the subcategories of the index. Average disclosure for strategic information amounted to 42.3% (*SVDscore*), for non-financial information to 36.3% (*NFVDscore*) and for financial information to 34.8% (*FVDscore*).

As seen in the appendix the items with the highest observed disclosure (above 95%), relate to information on products/services (100.00%), brief history of the firm (98.92%), profitability ratios (98.92%), cash flow ratios (97.85%) and assumptions underlying forecasts (97.85%).

Table 2. Variables definition and measurement.

Variable	Definition	Measurement
<i>VDscore</i>	: Voluntary disclosure score	Sum of 65 voluntary disclosed items divided by the potential maximum score assigned to each firm
<i>BLOCK</i>	: Blockholder ownership	Proportion of ordinary shares owned by substantial shareholders (with equity of 5% or more)
<i>FAMILY</i>	: Family ownership	Proportion of ordinary shares owned by the founding family and their relatives
<i>BFSIZE</i>	: Board size	Total number of directors in the board
<i>BIND</i>	: Board independence	Proportion of independent non-executive directors on the board over the total number of directors
<i>CEODUAL</i>	: CEO duality	Dummy variable (1 if the chief executive officer is also chairman of the board, 0 otherwise)
<i>ACSIZE</i>	Audit committee size	Total number of directors in the audit committee
<i>ACINDEP</i>	Audit committee independence	Proportion of independent non-executive members on audit committee over the total number of members
<i>SIZE</i>	: Firm size	Square root of total sales
<i>AUDIT</i>	: Audit firm	Dummy variable (1 if audit firm is a Big4 firm, 0 otherwise)

Table 3. Descriptive statistics for voluntary disclosure score (dependent variable) and its subcategories (N=93).

Scores	Mean	Median	Std.dev.	Max	Min
<i>VDscore</i>	0.377	0.338	0.140	0.785	0.169
Subcategories					
<i>SVDscore</i>	0.423	0.381	0.139	0.810	0.143
<i>NFVDscore</i>	0.363	0.333	0.229	1.000	0.048
<i>FVDscore</i>	0.348	0.348	0.124	0.696	0.130

Notes: *VDscore*= general voluntary disclosure score, calculated as the sum of 65 voluntary disclosed items divided by the potential maximum score assigned to each firm; *SVDscore*= strategic information disclosure score, calculated as the sum of 21 strategic voluntary disclosed items divided by the potential maximum score assigned to each firm; *NFVDscore*= non-financial disclosure score, calculated as the sum of 21 non-financial voluntary disclosed items divided by the potential maximum score assigned to each firm; *FVDscore*= financial disclosure score, calculated as the sum of 23 financial voluntary disclosed items divided by the potential maximum score assigned to each firm.

On the other hand, the items with the lowest disclosure (below 5%), were qualitative analysis of competitors (4.30%), qualitative effect of inflation on assets (3.23%), market capitalization trend (3.23%), number of employees on research and development (2.15%), quantitative effects of inflation on results and assets (1.08%), and quantitative competitor analysis (0.00%).

From the above it can be concluded that listed firms on the ASE are more willing to disclose information that may attract customers and have a positive impact on the operations such as information regarding product/services, the history of the firm or profitability. On the other hand, companies appear reluctant to disclose information that may harm their competitive advantage or have a negative impact, such as competitor analysis or the effect of inflation.

Descriptive statistics for independent variables

Table 4 reports the descriptive statistics for the independent variables (predictor and control) included in the regression model.

The ownership of the share capital was highly concentrated for the companies of the sample (*BLOCK*) with a mean value of 67%. In addition, most of the firms were family owned with mean family ownership (*FAMILY*) amounting to 57%. Average board size (*BFSIZE*) comprised 7 members with a minimum of 4 members and a maximum of 15 members. Audit committees on average had 3 members (*ACSIZE*). About one third of the board members (36% - *BINDEP*) and two thirds of audit committee members were independent (67% - *ACINDEP*). CEO duality (*CEODUAL*) was observed on

Table 4. Descriptive statistics for independent variables (N=93).

Variable	Mean	Median	St.dev.	Min	Max
BLOCK	0.67	0.72	0.15	0.17	0.94
FAMILY	0.57	0.60	0.21	0.07	0.93
BSIZE	7.37	7.00	1.95	4.00	15.00
BINDEP	0.36	0.33	0.12	0.14	0.78
ACSIZE	3.03	3.00	0.18	3.00	4.00
ACINDEP	0.67	0.67	0.19	0.33	1.00
SIZE	7,372.83	4,270.98	9,659.73	0.00	61,002.55
Dichotomous variables	Yes (%)	No (%)			
CEODUAL	46.24	53.76			
AUDIT	17.20	82.80			

Table 5. Correlation coefficients for the variables.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. VDscore	1.000									
2. BLOCK	-0.083	1.000								
3. FAMILY	-0.022	0.710 ^{***}	1.000							
4. BSIZE	0.493 ^{***}	-0.126	-0.112	1.000						
5. BINDEP	-0.194 [*]	-0.095	-0.016	-0.272 ^{***}	1.000					
6. CEODUAL	-0.097	0.081	0.161	-0.319 ^{***}	0.167	1.000				
7. ACSIZE	0.158	0.097	0.078	-0.034	-0.031	0.075	1.000			
8. ACINDEP	-0.030	-0.016	0.009	0.025	0.366 ^{***}	-0.031	-0.084	1.000		
9. SIZE	0.562 ^{***}	0.098	0.136	0.365 ^{***}	-0.115	-0.143	0.011	-0.147	1.000	
10. AUDIT	0.412 ^{***}	0.056	-0.115	0.384 ^{***}	0.077	-0.194 [*]	-0.083	-0.011	0.322 ^{***}	1.000

***, **, * statistically significant at the 0.01, 0.05 and 0.10 level respectively (two-tailed).

46% of the firms of the sample, while the majority of the firms (83%) were audited by non big4 audit firms (*AUDIT*). The descriptive statistics indicate that the listed companies of the sample present high levels of ownership concentration and are in their majority family controlled. Although boards of directors appear to have an adequate number of independent members, a significant concentration in the decision-making power is observed.

Multiple analysis

Correlation analysis

Table 5 provides Pearson correlations for all variables in our model. Voluntary disclosure (*VDscore*) is significantly positively associated with board size, firm size and audit firm size at the 1% level of significance, providing some evidence in support of these hypotheses. Furthermore, a significant negative association with board independence is observed at the 10% level of significance. As far as the

independent variables are concerned, board size is significantly associated with board independence, with CEO duality, with firm size and with audit firm size. Moreover, board independence is significantly associated with audit committee independence; audit firm size is significantly associated with firm size and with CEO duality; and block ownership is significantly associated with family ownership. Although correlation results suggest that for several of the independent variables correlation coefficients are significant, correlation is not high (in excess of 0.80) to indicate multicollinearity (Gujarati, 2003; Field, 2018). In any case multicollinearity was also assessed with variance inflation factor (*VIF*), as in models with more than two explanatory variables correlations have limited power for the detection of multicollinearity (Gujarati, 2003).

Regression analysis

Table 6 presents the results of multiple regression model in which voluntary disclosure (*VDscore*) is used as the

Table 6. Regression results.

Variable	Coefficients B	Coeff. Std. error	t	Sig.	Collinearity Statistics	
					Tolerance	VIF
Constant	-0.137	0.205	-0.670	0.505		
BLOCK	-0.219**	0.109	-2.010	0.048	0.441	2.268
FAMILY	0.070	0.077	0.910	0.366	0.442	2.264
BSIZE	0.015**	0.007	2.129	0.036	0.622	1.608
BINDEP	-0.221**	0.110	-2.016	0.047	0.700	1.429
CEODUAL	0.029	0.023	1.253	0.214	0.855	1.169
ACSIZE	0.153**	0.061	2.502	0.014	0.972	1.029
ACINDEP	0.081	0.062	1.304	0.196	0.802	1.247
SIZE	0.000006***	0.000	4.745	0.000	0.763	1.310
AUDIT	0.102***	0.034	3.013	0.003	0.692	1.444

$N = 93$; $F(9,83) = 9.89$; $Prob > F = 0.000$; $R^2 = 0.518$; $Adj. R^2 = 0.465$. ***, **, * statistically significant at the 0.01, 0.05 and 0.10 level respectively.

dependent variable and the set of predictor variables identified by the literature review. Results indicate a significant positive association between the extent of voluntary disclosure and the characteristics of board size, audit committee size, firm size and auditor type; there was a significant negative association with block ownership and board independence. The adjusted coefficient of determination R^2 amounts to 46.52% and indicates that the research model has a satisfactory explanatory power, comparable or higher to other disclosure studies (Scaltrito, 2016; Elfeky, 2017; Kolsi, 2017). F value amounts to 9.89 and shows that the model is statistically significant ($Prob > F = 0.0000$). Breusch Pagan/Cook Weisberg test ($chi^2 = 3.56$, $prob > chi^2 = 0.059$) and White's test ($chi^2 = 44.49$, $prob > chi^2 = 0.494$) for heteroskedasticity indicate that the assumption of homoskedasticity is not violated. The maximum value of VIF amounts to 2.27 and supports the lack of presence of multicollinearity in the research model. As a rule of thumb, a variable is considered highly collinear if the VIF exceeds 10 (Gujarati 2003).

The findings of the study provide support for the hypotheses H_1 (BLOCK), H_3 (BSIZE), H_4 (BINDEP) and H_6 (ACSIZE). Board size and audit committee size are positively associated with the level of voluntary disclosure ($VDscore$) at the 5% level of significance. This indicates that firms with more board and more audit committee members voluntarily disclosed more information in their annual reports. On the other hand, block ownership and board independence are negatively associated with voluntary disclosure also at the 5% level of significance. This means that firms with a higher ownership concentration and more independent members disclosed less information in their annual reports. As far as the control variables are concerned firm size (SIZE) and auditor type (AUDIT) are positively associated with the

extent of voluntary disclosure at the 1% level of significance indicating that larger firms and firms audited by big4 audit firms voluntarily disclosed more information.

The significant positive relationship between the level of disclosure and the size of the board and audit committee, verifies the findings of prior studies which also found a positive relationship (Allegrini and Greco, 2013; Gisbert and Navallas, 2013; Samaha et al., 2015). Supporting the arguments that stem from agency and signaling theory, companies with larger boards and larger audit committees may have disclosed more information in their annual reports to signal to all related parties that they act in line with shareholders' interests. Although board size has a positive effect on the level of voluntary disclosure, the increase in the number of independent directors has an opposite impact. The presence of more independent members on the board appears to be associated with lower levels of voluntary disclosure, adding new evidence to the controversial results of prior studies on the relation between disclosure and board independence (Eng and Mac, 2003; Allegrini and Greco, 2013; Elfeky, 2017; Shan, 2019). Audit committee independence on the other hand, does not constitute a significant explanatory factor of voluntary disclosure.

Consistent with our expectation from the literature review (Elfeky, 2017; Kolsi, 2017) block ownership constitutes a significant factor of voluntary disclosure, as capital concentrated firms disclosed less voluntary information. This finding supports the argument that in companies with diffused ownership, shareholders may not be an influential factor of corporate reporting practices, due the low level of individual shareholding (Barako, 2006). Contrary to our expectations and even though most of the firms of our sample are family-controlled, family ownership and CEO duality do not exert a significant influence on the extent of voluntary

disclosure. Finally, the findings of the study highlight the decisive role that firm size and audit firm type play on voluntary disclosure. Larger firms and firms audited by big4 firms disclosed more information in their annual reports, confirming the results of prior research that has identified them as two of the main factors driving corporate disclosures (Akhtaruddin and Haron, 2010; Patelli and Prencipe, 2007; Allegrini and Greco, 2013; Barros et al., 2013; Scaltrito, 2016; Elfeky, 2017).

Conclusion

Voluntary disclosure is considered as one of the most important mechanisms for the efficient functioning of capital markets, the resolution of conflicts between a company and its related parties and the strengthening of confidence to a company and its governance. The objective of this study was to examine the extent of voluntary disclosure in Greece and assess the disclosure arguments that stem from the theoretical framework of corporate governance and focus on ownership, board of directors and audit committee structure. For this purpose, a disclosure index comprising 65 items was constructed and applied on the annual reports of a sample of 93 non-financial companies listed on the ASE. Descriptive statistics show that the average level of voluntary disclosure was relatively low (37.7%) and indicate that listed companies in Greece are reluctant to disclose more information in their annual reports than that required by the regulatory framework.

The study contributes to corporate governance and disclosure literature by providing new empirical evidence on the impact of corporate governance attributes on voluntary disclosure. Consistent with the arguments of agency and signaling theory a significant positive relationship between the extent of disclosure and board and audit committee size was found. This indicates that companies with larger boards and with more audit committee members disclosed more voluntary information in their annual reports. On the other hand, voluntary disclosure was found to be significantly negatively associated with block ownership and board independence, showing that companies with higher ownership concentration and more independent members disclosed less information. Moreover, the findings verify the significant role of firm size and audit firm type on voluntary disclosure. Contrary to our expectations, family ownership, CEO duality and audit committee independence do not appear to exert a significant influence on the extent of voluntary disclosure of listed companies in Greece.

We acknowledge that the study has some limitations that need to be considered when interpreting the results. First, the study focuses on three main corporate governance attributes: ownership, board of directors and audit committee. Other governance characteristics like

gender diversity, financial expertise, remuneration and nomination policy may influence the extent and type of information disclosed in the annual reports. Moreover, the study is limited in one year. Although reporting practices tend to remain relatively stable over time, a comparison of the extent of disclosure could provide useful conclusions. A significant limitation derives also, from the research instrument. Despite the fact that an unweighted procedure was applied to limit subjectivity into the scoring of the index, subjectivity may have not been fully eliminated, as it is inherent in the scoring process.

The results of the study can be useful to policy makers, supervisory authorities, management, researchers, and all other parties engaged in corporate governance and corporate reporting by providing information regarding the voluntary disclosure of certain items in the annual reports and identifying key governance factors that affect the extent of disclosure. Future research may extend the understanding of the relationship between corporate governance and disclosure by examining more governance attributes and more disclosure items. In addition, it would be extremely interesting to study voluntary disclosures in the context of the conditions created by the coronavirus pandemic. Finally, qualitative research could supplement the findings of this study by providing useful conclusions on the reasons for the high or low voluntary disclosure of certain items of the disclosure index.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests

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APPENDIX

Voluntary disclosure index.

Panel A: Information categories and sub-categories	
Categories	No of items
Strategic information	21
<i>General Corporate information</i>	3
<i>Corporate strategy</i>	4
<i>Research and development (R and D)</i>	4
<i>Projected information</i>	10
Non-financial information	21
<i>Employee information</i>	13
<i>Social policy and value-added information</i>	5
<i>Directors information</i>	3
Financial information	23
<i>Segmental information</i>	7
<i>Ratios</i>	5
<i>Financial review</i>	6
<i>Capital market information</i>	5
Total	65
Panel B: checklist of the 67 information items related to the three areas of information	
Categories	Percentage
Strategic information	
<i>General Corporate information</i>	
1. A brief history of the firm	98.92
2. Organizational structure	18.28
3. Information on products/services	100.00
<i>Corporate strategy</i>	
4. A statement of corporate strategy and goals	83.87
5. Impact of strategy on current results	22.58
6. Impact of strategy on future results	5.38
7. Regulation and legislation affecting business discussed	51.61
<i>Research and development (R and D)</i>	
8. R and D projects - description	39.78
9. Corporate policy on R and D	75.27
10. R and D activities – location	16.13
11. Number of employed in R and D activities	2.15
<i>Projected information</i>	
12. Qualitative forecast of sales	90.32
13. Quantitative forecast of sales	18.28
14. Qualitative forecast of profits	65.69
15. Quantitative forecast of profits	9.68
16. Qualitative forecast of cash flows	41.94
17. Quantitative forecast of cash flows	7.53
18. A forecast of market share (quantitative)	29.03
19. Assumptions underlying the forecasts	97.85
20. A comparison of previous profits projection to actual profits	6.45
21. A comparison of previous sales projection to actual sales	8.60
Non-financial information	
<i>Employee information</i>	
22. Geographical distribution	30.11

Appendix 1. Cont'd

23. Categories by gender	25.81
24. Categories by age	13.98
25. Categories by function	17.20
26. Reasons for changes in employee numbers or categories	17.20
27. Safety policy	83.87
28. Data on accidents	13.98
29. Cost of safety measures	11.83
30. Amount spent in training	24.73
31. Nature of training	39.78
32. Policy of training	64.52
33. Categories of employees trained	13.98
34. Number of employees trained	12.90
Social policy and value-added information	
35. Safety of products	74.19
36. Environmental protection programs - qualitative	93.55
37. Environmental protection programs - quantitative	25.81
38. Charitable donations	30.11
39. Community programs	70.97
<i>Directors information</i>	
40. Organization chart for management	9.68
41. Age of the directors	31.18
42. Educational qualification – Manager's curriculum vitae (CV)	55.91
Financial information	
<i>Segmental information</i>	
43. Geographical capital expenditure	68.82
44. Geographical net assets	76.34
45. Geographical production	47.31
46. Competitor analysis — qualitative	4.30
47. Competitor analysis — quantitative	0.00
48. Market share analysis — qualitative	26.88
49. Market share analysis — quantitative	10.75
<i>Ratios</i>	
50. Profitability ratios	98.92
51. Comments on profitability	90.32
52. Cash flow ratios	97.85
53. Liquidity ratios	48.39
54. Leverage ratios	87.10
<i>Financial review</i>	
55. Operating working capital	37.63
56. Financial history or summary— 6 or more years	13.98
57. Effects of inflation on results—qualitative	22.58
58. Effects of inflation on results—quantitative	1.08
59. Effects of inflation on assets—qualitative	3.23
60. Effects of inflation on assets—quantitative	1.08
<i>Capital market information</i>	
61. Share price at year end	18.28
62. Share price trend	7.53
63. Comments on the firm's share price evolution (qualitative)	6.45
64. Market capitalization at year end	27.96
65. Market capitalization trend	3.23

Full Length Research Paper

Employment dynamics and fiscal policy in ECOWAS: A panel data analysis

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The study investigated the association between employment dynamics and fiscal policy in Economic Community of West African States (ECOWAS). The study focused on the 15 memberships of ECOWAS from 1990 to 2019. The study made use of Keynes' theory, from which a simple model was formed. The variables used in the model were employment, government expenditure, and tax revenue. Autoregressive distributed lag (ARDL) was adopted because of the nature of the unit root test. The result of the paper showed that in the long-run, both government expenditure and tax revenue are significant in determining employment level in ECOWAS; government revenue has a negative significant effect on employment and tax revenue has a positive significant effect on employment. The study recommended that only tax revenue can boost employment levels in ECOWAS countries. Therefore, the government should make use of tax revenue to create more employment rather than using government expenditure, which has not been productivity over time.

Key words: Employment dynamics, fiscal policy, autoregressive distributed lag (ARDL) approach.

INTRODUCTION

The governments of several nations give prominence to the employment situation of their citizens. One of the macroeconomic goals of most members of the Economic Community of West African States (ECOWAS) is full employment. During economic recession, employment in most ECOWAS countries and in several other countries of the world falls significantly. This propels government to implement fiscal policy by means of pursuing an increase in employment and stabilizing the economy (Laokulrach, 2013). Economists and policy makers are uncertain about

the impending effects that fiscal policy will have during a recession. All over the world, countries battling recession vigorously pursue erraticism in fiscal strategies, ranging from public works projects to tax cuts. Nevertheless, policy makers' disposition to adopt fiscal policy to aggressively combat unemployment is mitigated by high levels of debt (Battaglini and Coate, 2016).

The fiscal policies of the government of various countries vary in economic aggregates. The major instruments of fiscal policies are government expenditure

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JEL Classification: H2, H3, J2, J21, J23

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and tax revenue. It is employed to achieve a variety of macroeconomic policies, such as economic growth, full employment, price stability, exchange rate stability, and a viable balance of payment (Roşoiu, 2015). The government collects taxes in order to finance expenditures on a number of public goods and services. When government expenditures exceed government tax revenues, the government is running a budget deficit and this is called fiscal expansion. But when government expenditures are less than tax revenues, the government is running a budget surplus, which is called fiscal contraction. When government expenditures equal tax revenues, it is called a balanced budget. Fiscal expansion is a tool used to increase output and to create gainful employment in the economy.

The low employment rates experienced currently in ECOWAS nations disclose the evident cyclical situations and instinctive flaws in labour market establishments and fiscal policy failures (Olisaji and Onuora, 2021). Significant occupation losses since the beginning of the universal financial scandal have added to a fall in employment rates by 3.5% in advanced Europe and 3% in emergent Europe (Abubakar, 2016). In Greece, Italy, and Spain, people that are out of work are more than four out of every ten working ages in the region (Holik, 2020). The United States was not exempted from the situation because by 2010, employment rates extended to 25 years of being low and continued to disheartened levels in early 2012 (Ball, DeLong, Summers, 2014). Before the economic recession, employment rates in various advanced economies remained low, and this was as a result of the essential structural problems. In the Middle East region's emerging economies, the labor market remains dire, with countries such as Morocco, Egypt, and Jordan having employment rates of less than 50% amidst great torment caused by civil unrest, banditry, and political crisis (Laokulrach, 2013). The skyrocketing joblessness amongst the youths threatens the human capital of a complete generation of the work force of many nations.

Increasing employment is a very crucial strategic goal every responsible nation strives to achieve. The conscious reduction of involuntary unemployment emanating from when active seekers of employment are unable to search it out promotes the welfare of the citizens. Unintentional unemployment produces an unequivocal loss, both in direct human terms and in terms of a reduction in economic productivity (Dao and Loungani, 2010). However, if increased labor force participation is accompanied by increased employment, it has the potential to improve well-being. Improving the formal sector employment is of high importance for the three working-age brackets: those that were frustrated by the labour market arising from the scarcity of jobs-“discouraged workers”; those that chose to be redundant because of the availability of social amenities and unwillingness to pay taxes; and those that are gainfully

employed within the informal sector. Generally, formal employment increases public finances via more revenues and the creation of more stable and productive jobs. However, country preferences, such as the choice between work and leisure, do matter, and various policy goals may compete. Therefore, this study is set to ascertain the nexus between employment dynamics and fiscal policy in the Economic Community of West African States (ECOWAS).

The relationship between employment and fiscal policy has drawn intensive attention of many scholars, stretching back from years and showing no signs of fading (Turnovsky, 2000; Fatás and Mihov, 2001; Ardagna, 2007; Cavallo, 2005; Laokulrach, 2013; Ebell and O'Higgins, 2015; Roşoiu, 2015; Tafuro, 2015; Bova et al., 2015; Obayori, 2016; Abubakar, 2016; Battaglini and Coate, 2016; Maku and Alimi, 2018; Olisaji and Onuora, 2021). Based on the above listed literatures, some gaps are identified. First, the literature does not address the issues of how both tax revenue and government expenditure affect the dynamics of employment which is the major focus of this study. In the light of the above, this study will contribute to the existing debate on the nexus between employment dynamics and fiscal policy in Economic Community of West African States (ECOWAS).

Second, the common methodologies used in the related studies are the structural vector-autoregressive (VAR) model, ordinary least square (OLS), generalized least square (GLS), and parsimonious ECM, but this study will consider autoregressive distributed lag (ARDL) technique in order to improve the methodology of most existing studies. The advantage of the ARDL technique is that it examines both the short-run and long-run effects of both tax revenue and government expenditure on employment. Finally, based on the journal examined, this study is novel as it looks at the effect of both tax revenue and government expenditure on employment dynamics in ECOWAS countries.

The rest of this paper is organized as follows: Section 2 deals with the literature review. Section 3 gives the description of the data and methodology used. Section 4 presents and discusses the empirical results and Section 5 summarizes and concludes the findings.

LITERATURE REVIEW

Empirical studies on the nexus between employment and fiscal policy abound both within the developed and developing countries. But only people who are unswervingly relevant to the present study are discussed below. Tafuro (2015) examined the effect of fiscal policy on employment by employing a SVAR panel for 17 organisations for Economic Cooperation and Development (OECD) countries from 1980 to 2009. The results of the study suggest that a fiscal shock can adjust

the use equilibrium level even without impelling potential output. The two years of fiscal multiplier for the employment rate trend was -0.55, which is nearly 1/2 the multiplier for the overall employment rate, which was -1.10, while the multiplier for potential output was -0.11 and it's statistically insignificant. The real per capita GDP multiplier was -1.04, which sharply diverges from the expansionary austerity hypothesis.

Topolewski (2021) revealed that in both the short and long run, production increases lead to increases in energy consumption. Also, increases in energy consumption don't cause fluctuations in the rate of the economic process. Ajakaiye et al. (2015)'s results showed that growth in the last decade in Nigeria has been unemployed and sustained largely by factor reallocations rather than productivity enhancement. Labour reallocations are mainly from agriculture and manufacturing towards the low-productivity services sector. The employment elasticity of growth was positive but low, reflecting the country's poor overall employment generation record, especially in manufacturing.

Abubakar (2016) showed shock public expenditure as having a positive, long- lasting effect on output. Revenue shock was found to exert a positive effect (lower than that of public expenditure shock) on output. However, the effect of the revenue shock on unemployment was found to be negative but short-lived. The study advocated that the government should redistribute its expenditure pattern by allocating more to productive expenditure. Olisaji and Onuora (2021)'s result revealed that there was a major and positive relationship between companies' tax and economic process while there was an insignificant and negative relationship between government expenditure and economic process.

Obayori (2016)'s results revealed that government capital and recurrent spending have both negative and significant associations with unemployment in Nigeria. Furthermore, the findings show a long-run relationship between fiscal policy and unemployment. From the result, it is obvious that fiscal policy is effective in reducing joblessness in Nigeria. Cavallo (2005) studied the nexus between government employment expenditure and fiscal policy shocks. The study distinguished between the products and employment spending components of presidency consumption. The analysis found that exogenous fiscal shocks coincided with the beginning of military buildups and resulted in a very significant increase in military spending. The research also shows that providing for a separation between the two primary components of presidency consumption enhances the neoclassical growth model's quantitative performance. A neoclassical model economy with government employment, specifically, is effective at accounting for the dynamic reaction of personal consumption to an economic policy shock. Government employment spending operates as an outgo to households, reducing the wealth effect on consumption and labor supply

related to fiscal shocks significantly.

Fatás and Mihov (2001) examined the dynamic influence of fiscal policy on macroeconomic variables predicted by a good range of general equilibrium models to actual results from an identified vector autoregression. In line with the research, favorable government expenditure innovations are followed by large and long-term increases in consumption and employment. When government salary expenditures rise, the impacts become way more pronounced. The report is compared to several permutations of a typical real fluctuation model, and it's discovered that the positive conditional correlation between consumption and engagement cannot be replicated by the model under realistic assumptions for the calibration parameters' values.

Maku and Alimi (2018) checked out the impact of fiscal policy tools on job creation in Nigeria between 1980 and 2015. To estimate the stationarity level, the study used the Augmented Dickey Fuller test, the Engel Granger co-integration test for long-run relationships, and ordinary least square for long-run estimates. Government spending and manufacturing production had a detrimental impact on Nigeria's percent, in keeping with the info. It implies that government spending and manufacturing industry output reduce Nigeria's percentage. Taxation and agricultural output, on the opposite hand, have a right away impact on Nigeria's percentage. The findings show that government spending on relevant capital projects capable of supporting job development and simply connecting rural and concrete centers, instead of driving migration, could lead to more jobs being created. If policies are geared toward increasing output, the manufacturing sector, like the agriculture sector, has the potential to alleviate unemployment.

Bova et al. (2015) used Okun's Law to investigate the impact of fiscal policy on employment. The study examines a panel of OECD nations over the last three decades and finds that fiscal policy has a bearing on employment that goes beyond what is generally anticipated through the production multiplier. This influence was strong enough to achieve success for much current discretionary expenditure, such as corporate income taxes and social security contributions. Under most model assumptions, Okun's Law was found to be stable. However bigger subsidies and lower social security contributions can amplify the impact of the production gap on employment gaps.

Laokulrach (2013) investigated whether monetary and fiscal policies influence the rise in service sector employment in Thailand, or if the effect is because of other factors. During this study, multivariate regression analysis was used. The findings revealed that supply-side policies and socioeconomic factors, instead of fiscal and monetary policies, influence employment in Thailand's service sector. The association between trade openness and industrialization is positive, while wage rates have

a beneficial impact on service sector employment.

The relationship between fiscal regulations, growth, and employment was investigated by Ray et al. (2015). With the exception of labor productivity, the study found that emerging nations with and without fiscal laws haven't any significant differences in terms of labour market metrics. Fiscal rules do not appear to possess a statistically significant positive influence on either growth or domestic investment, in step with cross-country regressions. In light of this information, the study stated that fiscal laws, if they are still applicable, should be revised to match the needs of emerging countries.

Battaglini and Coate (2016) presented a political economics theory of economic policy and unemployment. Unemployment may emerge within the underlying economy, but it is often alleviated by tax cuts and increased public production. Such programs are expensive in terms of cash, but they will be acquired by issuing government debt. A legislature made of delegates from several political districts makes policy choices. With the policies *in situ*, the government could also be able to entirely eliminate unemployment within the long term. However, when political decisions are made, there is always unemployment within the economy. When the private sector is subjected to negative shocks, unemployment rises. When these shocks occur, the government implements debt-financed fiscal stimulus plans that include tax cuts as well as increased public production. The government contracts debt until it hits a floor level when the private sector is healthy. When the private sector receives negative shocks, unemployment levels are weakly increasing within the economy's debt level. The proportion of public and personal production is altered depending on the number of workers employed. From 1980 to 2013, Obayori (2016) researched Nigerian economic policy and unemployment. Co-integration and error correction model (ECM) approaches were used for analyses. The results of the ECM demonstrated that the two independent variables (government capital and recurrent expenditure) have a negative and substantial reference to unemployment in Nigeria. The coefficient of the ECM also demonstrated a long-run association between economic policy and unemployment, as evidenced by the sign and statistical significance of the coefficient. Based on the information available to date, economic policy appears to be beneficial in lowering Nigeria's pct. supported these findings, the report suggests, among other things, that expansionary economic policy be encouraged because it's critical to an economy's development. Additionally, the standard of state spending should be enhanced via a proper policy mix. This may allow the Nigerian government to lift its capital investment, particularly within the field of populace may use it to reinforce output and hence increase job

prospects within the country.

Ardagna (2007) used a dynamic general equilibrium model with a unionized labour market to review the impacts of policy on economic activity, state budgets, welfare, and income distribution. Regarding the report, debt-financed increases in public employment, wages, unemployment benefits, and labour taxes put pressure on union wage claims, resulting in higher private sector salaries, decreased employment, capital, and production. Furthermore, it increases publicly employment, public pay, and unemployment benefits boost employees' utility during the transition, but not within the longer term, compared to the pre-policy change equilibrium. When labour taxes are raised, workers' utility declines over time. Higher labour taxes always help capitalists, but their well-being suffers as government spending rises.

Theoretical framework

The research work's theoretical framework was based on Keynes' theory. According to the theory, lack of aggregate demand is the cause of high unemployment. Keynes believed that fiscal policy might be used to control aggregate demand. Keynesian theory emphasizes the ability of fiscal policy to tackle macro problems, such as increasing government spending through fiscal stimulus, tax cuts, and increased transfers to create jobs (Schiller, 2006).

$$EMPLOY = f(GOVEXP, TAXREV) \quad (1)$$

Where *EMPLOY* is employment dynamics, *GOVEXP* is government expenditure and *TAXREV* is tax revenue. Both government expenditure and tax revenue are components of fiscal policy. The linear regression model is depicted in equation (2)

$$EMPLOY = \beta_0 + \beta_1 GOVEXP + \beta_2 TAXREV + e. \quad (2)$$

Therefore, β_0 is the intercept coefficient and the slope coefficients in the models β_1 and β_2 .

METHODOLOGY

The study applied the autoregressive distributed lag (ARDL) approach by Pesaran et al. (2001). The ARDL model is considered as the best econometric method compared to others in a case when the variables are stationary at I (0) and integrated of order I (1). The ARDL approach is appropriate for generating short-run and long-run elasticities for a small sample size at the same time and follows the ordinary least square (OLS) approach for co-integration order of integration of the variables. Equation (3) shows the between variables (Duasa, 2007). ARDL affords flexibility about the autoregressive distributed lag (ARDL) model.

$$EMPLOY = \beta_0 + \sum_{K=1}^n \beta_1 GOVEXP_{K-1} + \sum_{K=1}^n \beta_2 TAXREV_{K-1} + \lambda ECM_{t-1} + \beta_3 GOVEXP_{t-1} + \beta_4 TAXREV_{t-1} + e_1 \quad (3)$$

The essence of the ARDL method is that it analyzes the equilibrium of both the short-run and long-run associations between dependent and independent variables that have the combination of level and first difference that is 1(0) and 1(1); while both the long-run and the short-run equations are fusion in equation (3). These short-run

coefficient effects are captured by β_1 & β_2 and β_3 & β_4 .

A priori expectation

The a priori expectation offers predictable signs and implications of the values of the coefficient of the parameters under review on the part of the empirical evidence and theoretical affirmations of the earlier works (Cavallo, 2005; Tafuro, 2015; Bova et al., 2015; Maku and Alimi, 2018). Government spending will improve employment opportunities and revenue in terms of taxation will either raise or decrease employment opportunities depending on which side of the coin. There will be more income generation for the government when there is an increase in tax revenue. This will be impetus to government creating more employment opportunities and improve employment levels. On the other hand, tax increases reduce firms' income, and also limits their ability to create jobs in the economy. Therefore, tax revenue can either improve or worsen employment.

$$\frac{\partial EMPLOY}{\partial GOVEXP} > 0 \text{ \& \ } \frac{\partial EMPLOY}{\partial TAXREV} < 0$$

Data description and sources

For the purpose of the analysis, data were gathered from a balanced panel of 15 Economic Community of West African States (ECOWAS) members, which are Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo over the period of 1990 to 2019. This study covers three variables, which are *EMPLOY* is employment to population ratio, 15+, total (%) (modeled ILO estimate) which is used for employment dynamics, *GOVEXP* is general government final consumption expenditure, (annual % growth) used for government expenditure, and *TAXREV* is Tax revenue (% of GDP) used for tax revenue. Data on employment, government expenditure and tax revenue are sourced from the World Development Indicators (WDI, 2020).

RESULT AND DISCUSSION

Table 1 reports the group descriptive statistics. The employment rate has the uppermost mean of 64.11% and government expenditure has the least mean of 8.75%; the mean of the variables is within maximum and minimum. The employment rate skewed left while the remaining variables skewed right and the null hypothesis of normal distribution at the 1%, 5% and 10% level of significance for all the variables was rejected by the Jarque-Bera statistic. Government expenditure and tax revenue exhibit leptokurtic behavior as a result of kurtosis; while employment rates are platykurtic.

Table 2 shows the degree and direction of correlation between the variables. Correlation analysis is used for two purposes: determining the degree of linear relationship between variables and determining whether

or not there is multicollinearity. There are several indicators, and there is no severe multicollinearity concern in the model.

The best lag VAR length is constructed on the minimum standards of Akaike information criterion (AIC) and the Schwarz criterion (SIC) before executing the panel unit root and panel co-integration test (Table 3). Because the Schwarz criterion is preferable than the Akaike information criterion, the study used up to four lags, and two optimum lag chosen based on the Schwarz criterion. As a result, the study's minimal lag option is based on lag two, and this was used for further investigation.

The panel unit root test with no trend is depicted in Table 4. The distinction between statistical testing of unit roots and limiting behaviour of both time-series t and cross-sectional i is taken into account. If one wants to see the asymptotic behavior of estimators and tests used for nonstatistical problems, the way i and t converge to infinity is crucial. Both level and first difference with constant Levin, Lin, and Chu t^* , Im, Pesaran, and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square were used. The result reveals that unit root in level cannot be rejected for employment rate, whereas unit root is stationary for employment rate after the primary difference. Consequently, the result confirms mixtures of both level I (0) and first difference I (1).

Based on the unit root affirmation of both I (0) and I (1), bounds testing for co-integration analysis are examined and Table 5 depicts this information. The outcome bounds testing for co-integration analysis using the F-test confirmed that employment has a value of 6.977, which was above the upper bounds of 1%, 5%, and 10% respectively. This indicates the existence of a long-run association between employment, government expenditure and revenue.

The short-run dynamic result and the long-run association among the variables using ARDL for employment dynamics and fiscal policy in ECOWAS is presented in Table 6.

The result indicates that both government expenditure and tax revenue are significant in determining employment level in ECOWAS in the long-run, but government revenue has a negative significant effect on employment and tax revenue has a positive significant effect on employment. This result is in line with the findings of Cavallo (2005); Tafuro (2015), Bova et al., (2015) and Maku and Alimi (2018) in terms of tax revenue but not in line in terms of government expenditure.

A percentage increase in government expenditure will bring about a 0.170% decrease in employment levels in ECOWAS countries, while a percentage increase in tax revenue will bring about a 0.453% increase in employment levels in ECOWAS countries. This shows that government expenditure does not lead to an increase in employment levels in ECOWAS countries, which is the case today in these countries but if tax

Table 1. Group descriptive statistics.

	EMPLOY	GOVEXP	TAXREV
Mean	64.11245	8.750152	13.33482
Median	64.29350	6.191520	13.04079
Maximum	81.09300	565.5388	55.18264
Minimum	42.57900	-49.65222	1.400273
Std. Dev.	9.460839	30.90617	5.684432
Skewness	-0.222617	13.26617	1.154255
Kurtosis	2.099717	236.0604	9.017949
Jarque-Bera	18.91390	1031646.	778.9673
Probability	0.000078	0.000000	0.000000
Sum	28850.60	3937.568	6000.667
Sum Sq. Dev.	40188.86	428880.9	14508.43
Observations	450	450	450

Source: Author's computation.

Table 2. Correlation matrix.

	EMPLOY	GOVEXP	TAXREV
EMPLOY	1		
GOVEXP	-0.01108	1	
TAXREV	0.03049	0.02170	1

Source: Author's Computation.

Table 3. Minimum information criterion.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-4571.774	NA	3099489.	23.46038	23.49089	23.47247
1	-3229.728	2656.563	3329.626	16.62424	16.74628	16.67262
2	-3125.066	205.5653	2038.673	16.13367	16.34724*	16.21833*
3	-3110.887	27.63276*	1985.275*	16.10711*	16.41220	16.22805
4	-3108.879	3.880338	2057.845	16.14297	16.53959	16.30019

Source: Author's Computation.

revenue increases, this will lead to more income for the government to create more jobs and employment levels will increase.

According to error correction term (ECT), the estimated coefficient sign will be negatively significant and the result showed that it is negatively significant with a coefficient of 0.024. Thus, only 2.4% of disequilibrium in the short-run that will be corrected in the long-run. Based on the short-run results, only employment level lag one is statistically significant in determining current employment, while both government expenditure and tax revenue are statistically insignificant; government expenditure has a negative effect while tax revenue has a positive effect. Therefore, a percentage increase in employment level in the previous year will bring about a 0.434% increase in current year employment.

The bar R^2 of 0.303 implied that only 30.3% of the full deviation in employment is described by all the Independent variables; the F-statistic of 4.869 with an odds value of 0.001 inferred that the total model is statistically significant at 1% level of significance. The Durbin-Watson statistic of 1.908 means that there is no serious autocorrelation in the model.

CONCLUSIONS AND RECOMMENDATIONS

The result of the study showed that both government expenditure and tax revenue are significant in determining employment level in ECOWAS in the long-run, but government revenue has a negative significant effect on employment while tax revenue has a positive

Table 4. Panel unit root test in the absence of a trend.

Series	Level		
	EMPLOY	GOVEXP	TAXREV
Levin, Lin & Chu t*	-2.566*	-2.657*	-2.870*
Im, Pesaran and Shin W-stat	1.362	-6.534*	-2.699*
ADF - Fisher Chi-square	31.001	109.910*	52.422*
PP - Fisher Chi-square	7.538	245.769*	81.193*
	First Difference		
Levin, Lin & Chu t*	-1.547***	-	-
Im, Pesaran and Shin W-stat	-3.879*	-	-
ADF - Fisher Chi-square	61.737*	-	-
PP - Fisher Chi-square	133.337*	-	-

Source: Author's Computation. Note: *, **, and *** denote rejection of the null of non-stationary at 1%, 5% and 10% levels of significance.

Table 5. Bounds testing for co-integration analysis.

Bounds level	Employment (EMPLOY) Wald F-statistic: 6.977252; K = 2	
	Lower bound	Upper bound
1% critical bounds value	5.15	6.36
5% critical bounds value	3.79	4.85
10% critical bounds value	3.17	4.14

Source: Author's Computation. Notes: *, **, *** denote significance levels at 1%, 5%, and 10% levels, respectively. The maximum lag on the Schwartz information criterion (SIC) is 2.

Table 6. Parsimonious Long-Run and Short-Run.

Variables	Dependent Variable: Employment (EMPLOY)	
	Long-Run	Short-Run
GOVEXP	-0.170 (0.0757)***	-
TAXREV	0.453 (0.0580)***	-
ECM(-1)	-	-0.024 (0.0029)*
D(EMPLOY(-1))	-	0.434 (0.0000)*
D(GOVEXP)	-	-0.006 (0.420)
D(TAXREV)	-	0.005 (0.6469)
C	-	-1.395 (0.0098)*
R-Square	0.402	
Adj R-Square	0.303	
F-Statistics	4.869 (0.0007)*	
Akaike Info Criterion (AIC)	0.0813	
Schwarz Criterion (SIC)	0.7845	
Durbin-Watson Stat.	1.908	

Source: Author's Computation. Notes: *, **, *** denote significance levels at 1%, 5%, and 10% levels, respectively. The maximum lag on Schwartz Information Criterion (SIC) is 2.

significant effect on employment. Only employment level lag one was statistically significant in determining current employment in the short run, whereas government spending and tax revenue are statistically insignificant.

The study recommended that only tax revenue can boost employment levels in ECOWAS countries. Therefore, the government should make use of tax revenue to create more employment rather than using government

expenditure, which has not been productive over time. If the government increases tax, this will result in more income for the government, and this will prompt the government to create more jobs for its citizens. Also, the tax administration should be transparent enough, for the tax payer to see justification for paying taxes and the projects embarked upon with the taxes paid.

CONFLICT OF INTERESTS

The authors has not declared any conflict of interests.

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Full Length Research Paper

Board attributes and corporate tax avoidance: An explanatory mixed method investigation

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The inherent financial and reputational risks in companies' tax avoidance practices should be of great concern to members of the board of directors. However, studies on the relationship between the board's attributes and corporate tax avoidance have documented mixed findings. Since these studies are predominantly quantitative, the present study uses a qualitative strand in providing explanations to the mixed findings in addition to the quantitative strand. The quantitative data came from the annual reports of the top 100 Malaysian companies based on FTSE tradable index. The panel data were analysed using the system Generalized Methods of Moment (GMM). The findings were used to develop a semi-structured instrument for further qualitative inquiry through personal interview sessions with ten tax auditors of the Inland Revenue Board of Malaysia (IRBM). The quantitative analysis shows board effectiveness to be negatively related to corporate tax avoidance. However, board independence and board members' financial literacy were not. The analysis of the interview responses shows that the members of the board have little influence on the choice of the company's tax management strategy. These findings should be understood within the limitations of study focusing on large companies; the timeframe of the three-year financial period and use of the views of the tax auditors instead of the views of the directors. Nevertheless, the findings are relevant for the revision of the guidelines on the appointment and oversight roles of directors in the Malaysian Codes of Corporate Governance (MCCG).

Key words: Board attributes, corporate governance, corporate taxation, corporate tax avoidance, generalized methods of moment, Malaysia.

INTRODUCTION

The various corporate scandals and collapses of Enron, Dynegy, GlaxoSmithKline, WorldCom, and Tyco involving tax aggressiveness through extensive uses of tax shelters have changed the tax profile from traditional obscurity behind the scenes" to the mainstream of corporate concern and an agenda in the Boardroom (Freedman, 2003; KPMG, 2005, p. 2). The board of

directors currently view tax issues with more serious concern than in the past given, the financial and reputational risks inherent in tax avoidance practices (ATO, 2005; Rego and Wilson, 2012; Badertscher et al., 2013; Hassan et al., 2014; Guenther et al., 2017). Accordingly, Lanis and Richardson (2011) and Minnick and Noga (2010) argue that the monitoring roles of

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board of directors on corporate tax avoidance should be investigated.

While the interaction between corporate governance and corporate taxation received belated attentions among accounting and corporate finance researchers, the recent years have witnessed overwhelming investigations into this interaction. Several components of corporate governance have been examined, especially in relation to corporate tax avoidance (Dyreng et al., 2008; Hanlon and Heitzman, 2010; Tang and Firth, 2011; Salihi et al., 2013). Studies such as Desai and Dharmapala (2006), Halioui et al. (2016), Hanlon and Slemrod (2009), Kasipillai and Mahenthiran (2013), Richardson et al. (2013), and Young (2017) have examined the overall influence of corporate governance on corporate tax avoidance. Others, such as Bird and Karolyi (2017), Chen et al. (2010), Khan et al. (2017), Koester et al. (2016), and Richardson et al. (2016) look into the corporate governance mechanisms and investigate the relationships of some of its components with corporate tax avoidance¹.

Since the board of directors has been found to be more responsible in management monitoring than any other corporate governance mechanisms (Ibrahim, Howard and Angelidis, 2003; Uzun et al., 2004; Zahra and Stanton, 1998), some studies have looked into the effects of the attributes of the board of directors on corporate tax avoidance. For instance, Vafeas (2010) investigated the relationships of some characteristics of board of directors and audit committees on two measures of corporate tax avoidance among Fortune 500 companies and documented some significant relationships (both positive and negative) among the variables².

Minnick and Noga (2010) looked into the influences of board attributes on tax management strategies of firms on S&P 500 in 2005 and found some of the attributes to be have positive influence on corporate tax avoidance while others have negative influences. Lanis and Richardson (2011) specifically focused on the influence of board composition on corporate tax avoidance among 38 Australian firms and find "that the inclusion of a higher proportion of outside members on the board of directors reduces the likelihood of tax aggressiveness" (Lanis and Richardson, 2011, p. 50).

Furthermore, Mahenthiran and Kasipillai (2012) investigated the relationship between some measures of corporate tax avoidance and board of directors' attributes among 397 Malaysian firms. Similar to the previously reported studies, the results of this study are also mixed with negative and positive significant relationships documented. Similarly, Paunescu, Vintila and Gherghina (measures of corporate tax avoidance) and some

attributes of boards of directors among 50 firms listed on NASDAQ for the period of 2000 to 2013. The findings have a mix of positive and negative relationships among the variables.

The persistent mixed results on the relationship between corporate tax avoidance and the attributes of board of directors call for a different approach to investigating this interaction. Thus, the present study adopts a unique approach in examining the influence of the board of directors' attributes on corporate tax avoidance. The study is different from the other studies in two ways specifically.

First, the present study uses an explanatory mixed method of quantitative-to-qualitative approach to provide explanations to the mixed findings documented in quantitative based studies. It is argued that a mixed method approach could be a useful tool in articulating "the complexity of a problem, providing examples of fixes and compelling proof that will contribute to a better [understanding of our] society" (Molina-Azorin and Fetters, 2019). Using this approach could "provide the best opportunity for addressing research questions" (Malina et al., 2011, p. 60). Thus, the quantitative findings, from the analysis of the secondary data from the firms' annual reports, were subjected to qualitative enquiry through personal interview sessions with tax auditors in the Inland Revenue Board of Malaysia (IRBM). To the best of the authors' knowledge, this study is the first to adopt this approach in the context of corporate tax non-compliance.

Second, we used four similar but different effective tax rates (ETRs) to capture corporate tax avoidance comprehensively. These are the proportion of income tax expense to the accounting income before tax (denoted as accounting ETR); the ratio of income tax paid to the total accounting income before tax (coded as long-run cash ETR); the ratio of income tax expense to operating cash flows; and ratio of income tax paid to operating cash flows. The first three measures have been extensively used to capture corporate tax avoidance (Hanlon and Heitzman, 2010; Salihi et al., 2013). The fourth measure has been documented to be similar but different to the other three measures (Salihi et al., 2013) and might likely capture the conforming tax avoidance advocated in Hanlon and Heitzman (2010).

We chose Malaysia as the context for this investigation because of the relative stability in the country's corporate tax rate for the period of the study, which could provide a further insight into the documented mixed results, and the emerging nature of its economy. Furthermore, the issue of commercial tax non-compliance has been identified as a major reason for illicit global fund flow out of the country in the recent past (Global Financial Integrity, 2011; OECD, 2014; Hani, 2011).

The results of the quantitative strand show that board effectiveness (measured as board size and board frequency of meeting) is negatively associated with the four measures of corporate tax avoidance. The predicted

¹ The early version of this paper was presented at the symposium of Journal of Contemporary Accounting and Economic, Cinnamon Lakeside, Colombo, 4th - 5th January, 2020.

² To mention but a few as the list may be endless.

negative relationships of board independence (measured as board composition and CEO duality) and board financial literacy are not statistically significant. The analysis of the responses from the interview sessions with the tax auditors reveals that board members have little or no influence on the tax management strategy of the firms. It further shows that the financial interests of these members might be the reason for the lack of such influence as those interests takes precedence over their concern for organizational legitimacy.

THEORETICAL INSIGHT AND HYPOTHESES DEVELOPMENT

One of the means of fulfilling the requirements of the express social contract between a firm and the society where it operates is the payment of taxes by the firm (Christensen and Murphy, 2004; Preuss, 2010; Williams, 2007). The firm will be viewed as socially responsible and accepted in the society where it operates following the fulfilment of this requirement (Deegan, 2006). This ensures the organizational legitimacy of the firm and its continuous survival within the society. It is imperative therefore that, firms should strive to fulfil this civic responsibility to avoid creating a “legitimacy gap” between the value system of the society and that of the firm (Lindblom, 1994, p. 3). Such gap could threaten the very existence of the firms since tax avoidance is often viewed as “a crime against the nation” (Landolf, 2006, p. 6). As such, Salihu et al. (2015) argued for the relevance of legitimacy theory in the study of corporate tax avoidance as tax non-compliance constitutes an act of social irresponsibility (Christensen and Murphy, 2004). It is believed that the members of the board will seek to deter their firms from such criminal act given their concern for organizational legitimacy. Furthermore, studies by Lanis and Richardson (2012) and Huseynov and Klamm (2012) have found firms with high social responsibility disclosure to be less tax avoidant.

Hypotheses development

Based on the concern for organizational legitimacy established above and the findings from previous empirical studies, the following relationships are predicted between board attributes and corporate tax avoidance. The attributes investigated in this study are board-composition and CEO duality (measures of board independence), board size and frequency of board meeting (measures of board effectiveness), and board members’ financial literacy.

Board composition and corporate tax avoidance

Board composition, which means the proportion of

independent non-executive directors on board, is a critical factor in determining the effectiveness of the board in management monitoring (Fama, 1980; Fama and Jensen, 1983). This is particularly important as the inside directors may act in a way to maximize their own interests even if it involves fraudulent activities (Uzun et al., 2004; Yermack, 1996). However, this opportunistic behaviour of inside directors could be curtailed with the presence of outside directors on the board (Fama, 1980). It could therefore be inferred that board composition will have negative impacts on corporate tax avoidance given the concern of independent non-executive directors for the firm’s organizational legitimacy.

However, the studies examining the relationship between board composition and corporate tax avoidance have produced mixed results. While some of these studies found significant positive relationships, others documented negative relationships between the two variables. For instance, while Lanis and Richardson (2011) document a negative association between higher proportion of outside directors on Board and corporate tax avoidance, Minnick and Noga (2010) find a positive association between foreign tax avoidance and board composition.

From the perspective of the legitimacy theory, the expected relationship between board composition and corporate tax avoidance should be negative. The independent non-executive directors are expected to seek organizational legitimacy as they are parts of the society and have their reputations to protect.

Thus, given these mixed results and the fact that the presence of independent non-executive directors assists the board to legitimise itself, the present study states the following hypothesis regarding the relationship between board composition and corporate tax avoidance.

H₀₁: There is a negative relationship between board composition and corporate tax avoidance

CEO duality and corporate tax avoidance

Chief Executive Officer (CEO) duality means the combination of the role of the CEO and chairmanship of a company in the same individual (Rechner and Dalton, 1989). This situation suggests some major issues in leadership and governance of a corporation (Said, Zainuddin and Haron, 2009), as it creates rooms for power concentrate in a personality which could erode the board’s ability in effective control (Fama and Jensen, 1983; Tsui and Gul, 2000). As such, CEO duality affects the level of the independence of the board of directors (Gul and Leung, 2004).

Given this backdrop, there is the need to understand the relationship between CEO duality and corporate tax avoidance (Minnick and Noga, 2010) as tax management decision now rests with the board (KPMG, 2005). However, the studies that examined the relationships

between CEO duality and corporate tax avoidance are still limited and inconclusive. The legitimacy theory suggests that CEO duality may deter tax avoidance given the need for reputation on the part of the dominant person. Thus, the present study hypothesizes as follows:

H₀₂: There is a negative relationship between CEO duality and corporate tax avoidance

Board size and corporate tax avoidance

In a group decision-making process, the possibility of the size influencing the outcome of the decision process cannot be overemphasized; hence the size of a board of director might determine its decision outcome and thus affects the quality of corporate governance (Jensen, 1993; Said et al., 2009). However, how large or small a board should be to be effective is an unresolved question among corporate governance researchers (Jenter et al., 2018). While majority of these researchers are of the opinion that larger boards may lead to communication and coordination problems, cost ineffectiveness and poor decision-making process (Jensen, 1993; Lipton and Lorsch, 1992; Raheja, 2003), others have argued that larger boards are needed for cross-fertilization of ideas which may result in better decision outcome (Jenter et al., 2018; Said et al., 2009).

The only study, Minnick and Noga (2010) on corporate tax avoidance that considers the effect of board size documents an inconclusive finding. It finds that "larger boards focus on reducing domestic taxes" (Minnick and Noga, 2010, p. 717) and there is no evidence for such influence on general tax management. Given the propositions in the legitimacy theory, larger board should be more effective in deterring tax avoidance practices because of the concern over organizational legitimacy. Thus, the present study states the following hypothesis:

H₀₃: There is a negative relationship between board size and corporate tax avoidance

Frequency of board meetings and corporate tax avoidance

Board meeting frequency has been identified as "an important dimension of board operations" (Vafeas, 1999, p. 113). Stressing the importance of the board meeting frequency, Conger et al. (1998) opine that the time spent by board members in meeting serve as an important resource for board effectiveness.

While Lipton and Lorsch (1992) have argued that lack of time is the most common problem faced by most directors, partly due to "too many outside directorships" (Vafeas, 1999, p. 114), it is surprising that very few scholars (Brown and Caylor, 2004; Conger et al. 1998; Vafeas, 1999) have investigated the relevance of board

meeting frequency in the context of corporate governance. A further understanding of the impact of this variable could add to our knowledge of the proper functioning of a board. Given this argument, frequency of board meeting could be a determining attribute of the board that can impact the relevance of other attributes of board effectiveness.

As such, it is believed that a board that meets more frequently will be effective in tax management of the company. The reason being that tax issues are more frequently discussed under the self-assessment system, most importantly with the current year assessment approach. As a requirement, the company is expected to review (and if necessary revise) its earlier estimated tax liabilities anytime in the assessment period before the ninth month of the year of assessment (Kasipillai, 2010). This is necessary to avoid the likely penalties for any shortfalls. It is therefore, the responsibility of the board to oversee this issue for compliance purposes.

Unfortunately, studies examining the relationship of this attribute and corporate tax avoidance are very few to produce a logical conclusion. Vafeas (2010) provides an insight into the relationship between board frequency of meetings and corporate tax avoidance and finds that board meeting frequency is related to high level of tax avoidance among Fortune 500 firms. This result supports the traditional view of the role of board of directors in tax management of companies but the finding is quite surprising, especially in a disperse ownership setting of the United States of America.

However, this finding contradicts the propositions in legitimacy theory. The theory proposes that board effectiveness as reflected in its frequency of meeting should serve as a deterrent to tax avoidance practice given the concern for organizational legitimacy. Hence the following hypothesis is stated:

H₀₄: There is a negative relationship between board meeting frequency and corporate tax avoidance

Board members financial literacy and corporate tax avoidance

The need for more financial experts on the boards of directors has been stressed following the various accounting scandals (Nga et al., 2012). This will enhance a better understanding of analysis of financial statements and thus assist the boards in their oversight role. Accordingly, Sarbanes-Oxley Act 2002 (SOX) makes it a requirement for inclusion of financial experts on boards of public listed firms. Also, the Malaysian Code on Corporate Governance (MCCG) requires that all members of audit committees of listed companies to be financially literate and specifically, one member of the committee to be a member of Malaysian Institute of Accountants (MIA).

However, existing literatures on corporate tax avoidance

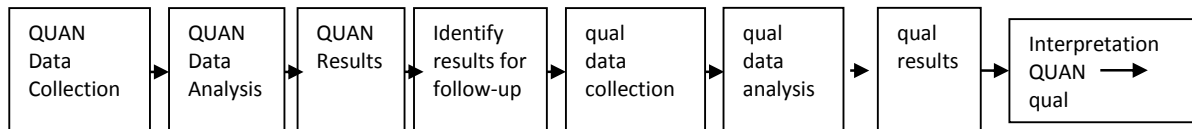


Figure 1. Explanatory Design: Follow-up Explanations Model (QUAN emphasized).
Source: Creswell and Plano Clark (2007, p. 72).

have not considered the relationship between financial literacy and corporate tax avoidance despite its relevance for board effectiveness. Although, Vafaes (2010) examines the relationship between presence of a financial expert on the board and corporate tax avoidance and finds a positive relationship, the financial literacy of the whole board members remains unexplored.

A board with high number of members, who are financially literate, could be more effective in its monitoring functions and thus helps in deterring tax avoidance practices given the members' concern for organizational legitimacy. Thus, this study hypothesizes as follows:

H₀₅: *There is a negative relationship between board of directors' financial literacy and corporate tax avoidance*

RESEARCH METHODOLOGY

Research design – mixed method approach

The study adopts a dialectical approach (Greene, 2007; Rocco et al., 2003) of combining the pragmatism and transformative philosophical foundations (Morgan, 2007; Tashakkori and Teddlie, 2009) to provide a balanced understanding of the relationship between board attributes and corporate tax avoidance. This approach is considered appropriate as it provides a practical balance between “the two extremes of knowledge generated from the constructivist and positivist reasoning approaches” (Salihu, 2015, p. 140). Since ‘there is no problem in asserting both that there is a single “real world”, and that all individuals have their own unique interpretations of that world’ (Morgan, 2007, p. 73).

Loo et al. (2010), McKerchar (2008; 2010), and Torgler (2007) have called for the use of mixed method in context of tax compliance. Thus, considering the 13-step model presented in Schoonenboon (2018), the points highlighted in Collins and O’Cathain (2009), and the fact that the previous studies of board attributes and corporate tax avoidance are predominantly quantitative; this study adopts the follow-up explanatory variant of explanatory design (Creswell and Plano Clark, 2007, p. 72; 2011, p. 85). Figure 1 below depicts the flow of the research activities in the study.

Sequent to the adopted follow-up explanatory approach, exhibited in Figure 1, the quantitative strand is given precedence over the qualitative. Thus, the quantitative research design was first implemented and then followed by the qualitative design. The relevant data were hand-collected, from the annual reports of the selected companies, analysed and the results presented. The results were then used to develop a semi-structured interview questions for qualitative data collection. Subsequently, the responses of the interviewed tax auditors were analysed and the findings presented. The conclusion of the study is drawn from findings of both quantitative and qualitative strands with priority

given to the qualitative findings.

Empirical methods – quantitative strand

Source of sample data

The sample comprises of the top 100 listed companies on Bursa Malaysia (BM) based on the FTSE Bursa Malaysia Top 100 Index³. The annual reports of the companies were downloaded from the website of BM (<http://www.bursamalaysia.com/market/listed-companies/company-announcements>) for the financial periods of 2009, 2010 and 2011. The reason for the choice of these years is the fact that year 2009 marks the end of the implementation of tax policy for gradual reduction of statutory corporate income tax rate from forty percent (40%) in 1988 to twenty-five percent (25%) in 2009 (Kasipillai, 2010). It is believed that the financial statements of these companies for the financial periods reflect a fixed and steady corporate tax rate which is highly relevant for this type of study in achieving its research objectives. As at the time of this data collection, most of the companies have their annual reports announced up to 2011.

The annual reports of the sampled 100 companies were filtered and the following adjustments were made during data extraction for the empirical investigation:

1. Fifteen (15) companies were excluded due to incomplete financial information for the financial periods (2009; 2010; and 2011) being considered;
2. Five (5) companies with tax refunds or operating loss were also excluded because of the distortion in the measurement of their tax burdens (Zimmerman, 1983);
3. Given the same reason in number two (2) above, sixteen (16) companies with negative operating cash flow for any of the financial periods were also excluded;
4. One (1) company that has one of its tax avoidance measures greater than one was also removed to avert potential model estimation problems (Stickney and McGee, 1982).

A total of sixty-three (63) companies served as the final sample for the present study. Thus, a total of 189 firm-year observations were used for the quantitative empirical analysis based on the three financial periods. This provides a sufficient panel data set that could allow in-depth analyses and thus give room for meaningful inferences from the results.

Specification of empirical model and measurement of variables

The nature of the quantitative data described above necessitates

³ FTSE Bursa Malaysia Top 100 Index is one the five tradable indices computed from the market data to reflect the performance of the Bursa Malaysian market. It is the combination of the 30 companies in FTSE Bursa Malaysia KLCI Index and the 70 companies in the FTSE Bursa Malaysia Mid 70 Index.

the development of a panel data regression model for the analysis. A critical examination of the focus of the present study suggests the nature of the panel data to be dynamic. As such, the study developed a dynamic panel data model. A set of panel data is considered dynamic when there is an inclusion of unobserved individual-specific effects and/or lagged dependent variables. The present study employs the following model for the dynamic panel data to avert potential effects of endogeneity similar to Minnick and Noga (2010). This model is written as:

$$CTA_{it} = \alpha_i + \gamma CTA_{it-1} + \beta_1 BCOMP_{it} + \beta_2 CEO_{it} + \beta_3 BFQMT_{it} + \beta_4 BSIZE_{it} + \beta_5 BFINLIT_{it} + \beta_6 FSIZE_{it} + \beta_7 PROFIT_{it} + \beta_8 LEV_{it} + \beta_9 CAPINT_{it} + \varepsilon_{it} \quad (1)$$

Where, the subscripts i and t denote companies and year respectively. CTA is corporate tax avoidance which is the dependent variable.

Four measures (Hanlon, 2003; Lisowsky 2009; Hanlon and Heitzman, 2010; Salihi et al., 2013; Sikka, 2017) of corporate tax avoidance are employed in this study. These are accounting effective tax rate (ETR) denoted as $CTA1$, long-run cash ETR denoted as $CTA2$, the ratio of total tax expense to operating cash flow represented as $CTA3$, and the proportion of income tax paid to operating cash flow denoted as $CTA4$. While the first three measures have been extensively used in the prior studies, they only capture the non-conforming tax avoidance. Hanlon and Heitzman (2010) recommended the last measure for conforming tax avoidance. α_i is the firm specific effect, γ , β_1 to β_9 are slopes to be estimated, and ε_{it} is the error term of the model.

$BCOMP$, CEO , $BFQMT$, $BSIZE$, and $BFINLIT$, stand for board composition, CEO duality, board frequency of meeting, board size, and board members' financial literacy are independent (explanatory) variables for board attributes, respectively.

The board composition is measured as the proportion of independent non-executive directors on board. CEO duality is measured as a dichotomous variable which equals 1 if there is role duality and 0 if otherwise. The board frequency of meeting is measured as the total number of the meetings held during the year. Board size is measured as the total number of directors sitting on board. The board members' financial literacy is measured as the ratio of the score of financial literacy by members of the board of directors to the maximum possible score that would have been attained by all members of the board⁴.

$FSIZE$, $PROFIT$, LEV and $CAPINT$ represent firm size, profitability, leverage and capital intensity, respectively are control variables found to impact firms' tax burden.

The coefficient of lagged dependant variable, γ , is expected to be positive. Similar positive signs are expected for β_1 to β_5 because of the hypothesized negative relationships board attributes and corporate tax avoidance. For the slopes of the control variables, though not hypothesized, positive signs are expected for β_6 and β_7 and negative signs for β_8 to β_9 based on the empirical findings in prior studies (Adhikari et al., 2005; Chen et al., 2010; Derashid and Zhang, 2003).

Estimation method

The dynamic nature of the above panel data negates the relevance

of the standard pooled regression (OLS) model, fixed or random-effect models given the presence of firm specific effects or any time-invariant firm-specific variable and the lagged dependent variable. The use of generalized method of moment (GMM) estimator has been argued for by Arellano and Bond (1991) in the above situation.

However, the first-difference GMM estimator has been criticized for neglecting the potential information generated, while relating the first differences of levels with the respective levels (Ahn and Schmidt, 1995). As such, Arellano and Bover (1995) recommended the system GMM estimation of the regressions for the first difference and levels. Blundell and Bond (1998) stressed the relevance of system GMM estimator when the time-period is small and thus the system GMM estimator is adopted in the present study, given the three-year financial periods. It should be noted that the stationary test of the panel data using panel unit root test was not conducted given the short time-series of three years that is considered insufficient for the test (Eviews User's Guide, 2005).

Qualitative strand

The quantitative findings reported herein leave us with lack of consistence among the empirical findings. This, and the calls for the use of mixed methods approach in tax researches by Loo, Evans and McKerchar (2010), McKerchar (2008; 2010), and Torgler (2007), necessitate further investigation through a qualitative inquiry to provide explanations to the inconsistent quantitative findings. As the previous researches in this respect are largely quantitative, precedence is given to the quantitative strand in this investigation. This approach to mixed methods research has been described as an 'explanatory sequential design' by Creswell and Plano (2007, p. 72; 2011, p. 85). Here, the qualitative inquiry is used as a follow-up strategy in explaining the quantitative findings, as discussed later. Hence, the follow-up explanatory variant of the explanatory sequential design (Creswell and Plano, 2007; 2011) was adopted in this study.

In line with the adopted design, we developed a set of questions based on the findings from the quantitative strand. The development of the interview questions followed the procedure suggested in Creswell and Plano (2007). The developed questions were tested through pilot interview sessions with some tax experts including an academia, a tax consultant and some graduate students. The results of the pilot interview sessions were used to improve the structure of the questions and thus guaranteed the validity and internal consistency of the questions.

Ten tax auditors, responsible for the field audit of corporate tax payers, with Inland Revenue Board of Malaysia (IRBM) were interviewed using the improved set of the questions in face-to-face tape-recorded interview sessions. The tax auditors were selected as respondents purposefully (Palinkas et al., 2015) for the interviews for two reasons. First, the tax auditors are directly involved in investigating the tax management of the companies through routine tax audit exercises. Thus, they are perceived to be well acquainted with the tax management strategies of these companies. Furthermore, the findings of the study are expected to help them in the selection process of companies for audit. Second, the sensitive nature of tax avoidance requires third party evidence as seeking such information directly from the companies' directors may not be free from biasness.

The interviews sessions were made possible after obtaining written permission from the directorate of the board in Cyberjaya and taking consents of the tax auditors. All the interview sessions took place in the corporate tax department of the IRBM in block 11, government offices complex, Jalan Duta at different time convenient for the respondents. The average time for the interview session was one and half hour for the first sessions with the help of the semi-structured instrument. There were follow-up visits to some of the

⁴These scores are assigned such that 3 points are credited to a director with a membership with any professional accounting body, 2 points to a director with relevant working experience in financial sector and 1 point to a director with finance and/or accounting certificate at tertiary education level.

respondents after the transcriptions of the tape-recorded responses for further clarifications of their responses.

The transcribed responses were analysed using the procedure suggested in Ary et al. (2006). First, the researchers read the transcribed responses multiple times for familiarization and better organization of the responses. Each researcher took notes of relevant information reflecting general thought during each reading. The general pattern of the information contained in the responses started to emerge during this stage. The notes taken were then used to code and recode the relevant responses to tentative categories. These categories were later sorted into major and minor categories. The coding and recoding, including the sorting, of the categories were done with the help of a computer-aided qualitative data analysis (CAQDA) known as Nvivo 10. Finally, the researchers used the constant comparative method to generate the main ideas from the responses. The thematic analysis was ignored because the inquiry is not meant to create themes. The generated main ideas are presented later on.

RESULTS AND DISCUSSION

The quantitative strand

Descriptive statistics

Hejase et al. (2012) contend that informed objective decisions are based on facts and numbers, real, realistic and timely information. Furthermore, according to Hejase and Hejase (2013), descriptive statistics deals with describing a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data (p. 272). Consequently, the descriptive statistics for the measures of corporate tax avoidance, independent and control variables are presented in Table 1. As for the measures of corporate tax avoidance, the first measure – accounting ETR has the highest mean value of 22.68%. A similar mean value of 22.49% was documented in Noor et al. (2008). Next is the long-run cash ETR with a mean value of 22.05%. While the ratio of income tax paid to operating cash flow has the lowest mean value of 18.23%, the third measure, the ratio of tax expense to operating cash flow, has mean value of 19.78% which makes it next to long-run cash ETR by ranking. Besides the mean values, the variations in the data for the means of each measure are reported as standard deviations. The small values of standard deviation indicate a clustered data set around the means (Lind et al., 2012).

An insight into these statistics shows that the means are generally lower than the statutory company income tax rate of 25%. The highest of the means is 2.32% less than the statutory tax rate. This suggests the prevalence of low tax burdens among large Malaysian companies. While many reasons such as tax incentives could account for this, it also suggests the likelihood of tax avoidance activities among the large companies. This similar inference was drawn from previous ETRs studies such as Noor et al. (2008) and Noor et al. (2010).

As for the independent variables, a mean value of

0.4406 was recorded for the board composition (BCOMP); one of the measures of board independence. It means that 44.06% of the sampled firms' board members are independent non-executive directors. This is slightly less than the threshold in Malaysian Code of Corporate Governance (MCCG) that recommends 50% of board members to be independent non-executive directors for large companies. Although, the maximum value of 71.87% was recorded, the minimum of 2% showed that most of the large companies are not complying with the Code. Other Malaysian studies have documented similar low percentages. For instance, Haniffa and Cooke (2002) found 45% of board members to be independent non-executive directors. Ghazali and Weetman (2006) documented 35.85%, Wan-Hussin (2009) found 37%, Esa and Ghazali, (2012) reported 42.62% even among the government linked companies (GLCs).

The mean and standard deviation of CEO duality (CEOD), the second measure of board independence, were not reported, given the dichotomous nature of the variable. However, ten (10) out of the sampled firms have the roles of CEO as well as that the chairmanship of the board being vested in a single individual. This shows that most of the large companies are complying with the MCCG requirement of separating the roles of the CEO and chairmanship of the board.

The variable, board frequency of meeting (BFQMT), one of the measures of board effectiveness, has a mean of 8.8042 with minimum and maximum values of 5 and 15 respectively. These statistics suggest that the board members of Malaysian large companies meet more frequently and therefore are effective in the monitoring of the management's activities.

As for the second measure of board effectiveness, board size (BSIZE), a maximum value of 24 board members with a mean of 6.6561 and minimum of 2 members were recorded. With the average of 7 members on board, the effectiveness of the board could be ensured given the opportunity for cross-fertilization of ideas. While MCCG does not specify the exact number of the board members, it however recognises that size does matter for boards to be effective. The maximum value of 24 board members indicates that Malaysian large companies are having large board members. Although a minimum value of 2 members was recorded, only very few of the sampled companies have less than four members given the standard deviation of 3.4307.

As for the last independent variable board members' financial literacy (BFINLIT), a mean value of 0.3137 was documented with minimum and maximum values of 0.1 and 0.6667 respectively. This shows that members of Malaysian large companies are averagely literate financially considering a percentage of 31.37%. This percentage is higher than that of Nga et al. (2012) of 27.84%. Although, Nga et al. (2012) sampled number of companies more than that of the present study, the present study used a wider scope for the measurement of

Table 1. Descriptive Statistics for Dependent, Independent and Control Variables.

Variable	N	Mean	Std. deviation	Minimum	Maximum
Dependent variable					
CTA1	189	0.2268	0.06717	0.01	0.41
CTA2	189	0.2205	0.10072	0.00	0.56
CTA3	189	0.1978	0.07818	0.01	0.56
CTA4	189	0.1823	0.09315	0.00	0.61
Independent variable					
BCOMP	189	0.4406	0.1192	0.2	0.7778
CEOD*	189			0	1
BFQMT	189	8.8042	2.1034	5	15
BSIZE	189	6.6561	3.4307	2	24
BFINLIT	189	0.3137	0.1284	0.1	0.6667
Control variable					
FSIZE	189	21.5749	2.1234	14.87	26.74
PROFIT	189	0.1271	0.1041	-0.0109	0.7164
LEV	189	0.4432	0.2041	0.0201	0.9249
CAPINT	189	0.2989	0.1926	0.0040	0.8638

*CEOD is a dichotomous variable. Thus, it does not have reported mean and standard deviation.

financial literacy.

For the control variables, a mean value of 21.574 was documented for the variable firm size and growth (FSIZE). This value is higher than 13.122 found in Derashid and Zhang (2003); 13.02, reported in Adhikari, Derashid and Zhang (2006); and 5.63, recorded in Noor et al. (2008). The focus of the present study on large Malaysian firms could account for such high firm value. ROA, a measure for the companies' profitability, has a mean of 0.1271. While a high profitability of 71.64% was recorded in some companies, few of the companies reported negative profits for either one or two of financial periods under consideration. The recorded average profitability of 12.71% seems higher than the percentages of 8.1, 8 and 8.1% reported in Derashid and Zhang (2003), Adhikari et al. (2006), and Noor et al. (2008) respectively. The higher mean value for the profitability is expected because of the focus on the large firms. Leverage, another control variable, has a mean of 0.4432. This value shows that 44.32% of the total assets are financed by the debts. The value is higher than 13.12% documented in Derashid and Zhang (2003); 13.02% in Adhikari et al. (2006) and 5.63% found in Noor et al. (2008). The high value is also expected, given the opportunities to debt financing for the large firms. The last control variable which is capital intensity (CAPINT) has a mean of 0.2989. It means 29.89% of the total assets comprises of property as well as plant and machinery. This is also higher than the values of 9.3, 23.56, and 14% reported in Derashid and Zhang (2003), Adhikari et al. (2006), and Noor et al. (2008) respectively. The same reason large companies could account for this.

The general low values of standard deviation observed across all the independent and control variables show that the data's distributions are clustered around the means. Thus, the means are good representations of the centre of the data.

Correlations among independent and control variables

Table 2 presents the correlation matrix among the independent and control variables in the empirical model. While the correlations among these variables are expected, high correlation coefficients will amount to the problem of multicollinearity. The degree of correlation that could be counted as multicollinearity problem has been set by various authors. For instance, Gujarati and Porter (2009) suggest that the magnitude of correlation coefficient exceeding 0.8 or 0.9 could amount to collinearity. A more stringent cut-off of 0.7 was suggested by Tabachnick and Fidell (2008) and Kennedy (2008). The perusal of the correlation matrix reported in Table 2 shows none of the coefficient to be above 0.4. This suggests the non-severity or non-existence of multicollinearity among the independent and control variables (Kennedy, 2008).

Further tests of multicollinearity, using Variance Inflation Factors (VIF) and its inverse tolerance, were carried out. The results of these tests are presented in Table 3. All the values of the VIF are less than 2 and that of tolerance are higher than 0.5. These further suggest the lack of multicollinearity problem as these values are

Table 2. Correlation Matrix among the Independent and Control Variables.

	BCOMP	CEOD	BFQMT	BSIZE	BFINLIT	FSIZE	PROFIT	LEV	CAPINT
BCOMP	1	-	-	-	-	-	-	-	-
CEOD	0.158623	1	-	-	-	-	-	-	-
BFQMT	0.148752	-0.12349	1	-	-	-	-	-	-
BSIZE	-0.16707	-0.09598	0.177852	1	-	-	-	-	-
BFINLIT	0.134998	0.085958	0.249294	-0.07053	1	-	-	-	-
FSIZE	0.025441	-0.03623	-0.03576	0.056572	0.053401	1	-	-	-
PROFIT	-0.09053	0.094689	-0.28095	-0.19205	-0.00497	-0.04514	1	-	-
LEV	0.054914	-0.16863	0.373341	0.056602	0.208764	-0.06815	-0.05211	1	-
CAPINT	-0.01033	-0.00834	-0.17662	0.087285	-0.16789	0.026011	0.116322	-0.079	1

Table 3. VIF and Tolerance.

Variable	VIF	1/VIF
FSIZE	1.79	0.558042
BFQMT	1.56	0.642683
LEV	1.52	0.657944
BCOMP	1.45	0.692024
CEOD	1.40	0.712994
BFINLIT	1.29	0.774506
PROFIT	1.27	0.785023
BSIZE	1.19	0.842053
CAPINT	1.13	0.883023
Mean VIF	1.41	-

far less than the threshold of 10 for VIF and higher than 0.10 for tolerance (Gujarati and Porter 2009; Hair et al., 2009; Chehimi et al., 2019).

Taking a second look at Table 2, a positive correlation coefficient (0.1586) between board composition (BCOMP) and CEO duality (CEOD) indicate that the two variables could jointly measure board independence.

Similarly, board frequency of meeting (BFQMT) also positively correlated with board size (BSIZE) with a coefficient of 0.1779. This also indicates the likely joint measurement of both variables of board effectiveness.

GMM estimation

The results of the system GMM estimation of the model are presented in Table 4. The results show board frequency of meeting and board size to have positive significant relationships with the four variants of ETRs. The two variables therefore impact these measures of corporate tax avoidance negatively. This is consistent with the findings in Halioui et al. (2016) and Paunescu et al. (2016). Board composition, CEO duality and board of directors' financial literacy are not statistically related to the four measures of corporate tax avoidance. This is contrary to the findings of Lanis and Richardson (2011),

Richardson et al. (2013), Halioui et al. (2016), and Paunescu et al. (2016). Thus, board effectiveness seems to impact corporate tax avoidance strategy negatively and therefore help the firms in achieving their organizational legitimacy in Malaysian context. This result is in contrast to the findings in Vafeas (2010) where board size and its frequency of meeting were found to be insignificantly related to the measures of corporate tax avoidance. The difference in the findings of the two studies might be due to the different context of the studies or the statistical method of analysis employed. While Vafeas (2010)'s study was carried out in a market-based capitalism, the present study focuses on a relationship-based economy. Furthermore, the present study also considered the issue of endogeneity which accounts for the use of system GMM estimator which Vafeas (2010) did not consider sure issue.

For the assumption of the exogeneity of the explanatory variables, the test for over-identification of the instrumental variables using Sargan tests for each of the models run was done. The results, also presented in Table 4, showed no problem of over-identification restriction. Furthermore, we checked for serial correlation problem and found that the second-order autocorrelation [AR (2)] failed to reject null hypothesis of no serial correlation. The reported p-values for the first-order auto

Table 4. System GMM results for the four measures of tax avoidance.

Dependent variables	CTA1	CTA2	CTA3	CTA4
Constant	1.2773 (0.032) *	1.2773 (0.032) *	-1.0523 (0.049) *	-3.3578 (0.027) *
CTA _{t-1}	0.1909 (0.046) *	0.0519 (0.040) *	0.2355 (0.047) *	0.4556 (0.015) *
BCOMP	0.0015 (0.995)	0.3921 (0.234)	0.8918 (0.253)	-0.3715 (0.619)
CEOD	0.1572 (0.570)	0.1572 (0.570)	0.5358 (0.353)	-2.3979 (0.357)
BFQMT	0.0039 (0.069) **	0.0039 (0.069) **	0.0129 (0.052) **	0.0088 (0.048) *
BSIZE	0.0119 (0.041) *	0.0119 (0.041) *	0.0093 (0.071) **	0.0059 (0.073) **
BFINLIT	-0.1065 (0.539)	-0.1065 (0.539)	0.1363 (0.672)	0.0373 (0.901)
FSIZE	-0.0494 (0.027) *	-0.0494 (0.027) *	0.05119 (0.050) **	0.1550 (0.022) *
PROFIT	-0.3236 (0.243)	-0.3236 (0.243)	0.2924 (0.433)	-0.2673 (0.585)
LEV	-0.0192 (0.880)	-0.0192 (0.880)	0.5389 (0.620)	1.0941 (0.360)
CAPINT	-0.1163 (0.257)	-0.1163 (0.257)	-0.0729 (0.769)	-0.0127 (0.952)
Sargan test: p-value	0.424	0.696	0.325	0.328
AR(1): p-value	0.043*	0.046*	0.034*	0.035*
AR(2): p-value	0.429	0.249	0.534	0.683

Numbers in parentheses are the p-values. * and ** significant at the level of 5 and 10% respectively.

correlation [AR (1)] are however not unexpected, given the likely serial correlation in the first order difference. Thus, the required specification tests for the estimated models showed the estimations are consistent and unbiased.

The significant coefficients documented for lagged dependent variable and the constant for the four estimated models further strengthen the consistence of the estimation. As for the control variables, only firm size is found to be significantly related to the four variants of ETRs. Thus, consistent with political cost theory and findings in Adhikari et al. (2005; 2006), firm size could impact corporate tax avoidance. The other control variables are not significantly related to the measures of corporate tax avoidance. The overall results on the control variables are consistent with findings in Salihu et al. (2014) and Salihu et al. (2015).

Findings from qualitative data analysis

The generated main ideas from the analysis of the responses described above revealed that the members of the board have little or no influence on the choice of tax management strategy adopted by the firms.

For instance, on the impact of board composition on corporate tax avoidance practices, one of the respondents said:

..yah, what I see is that if there are external directors on board, especially very well-known figures, the chances of tax avoidance is lesser. Because they are very particular in the proper running of the company and also they are quiet answerable to the public. Therefore, with the external directors who are not linked in any way, tax planning and tax avoidance are lesser...

Other respondents argued to the contrary saying:

...if you ask me strictly, I do not think so because they (directors) are all appointed. Therefore, I don't think the appointed external directors could have serious impacts on the companies' tax avoidance activities. Because if I appoint you and you do not listen to me, then you are gone...

...I do not think the outside directors could have effects on the tax avoidance practices of the company. This is because the directors are being paid by the company. Since they are paid directors, I do not think they have such power...

On the impact of CEO duality, all the respondents agreed that this lead to more tax avoidance practices. These are some of their statements:

...of course yes. let's say the person has got a full say in the running of the company then you have to be careful because that may signal something. This normally shows us areas we need to focus more...

...that will lead to more tax avoidance. Because there will be lots of direct interferences in management decision process. I have one particular case I feel there is an element of interference...

On the relevance of board effectiveness (board size and board frequency of meeting) to corporate tax avoidance practices, the responses showed that the characteristics of the individual directors are more important than their number and frequency of meeting. For instance, one of the respondents said:

...I would say it all depends on the directors, if they are representing different shareholders and there are so many shareholders in that company, then yes, because if anything comes up they can voice out because they

represent their shareholders and everyone wants the company to be good. But if there is somebody controlling and that person wants to avoid tax, then the other got no choice, based on my experience...

On the impact of directors' financial literacy on tax avoidance, the tax auditors agreed that being financial literate should help in mitigating tax avoidance practice, but it all depend on whether they want to compile with tax laws or not. Here is one of the responses:

...I think it all depends on whether they want to do it or not, but of course financial literate directors are good for tax compliance...

Summary of findings from qualitative data analysis

As a summary of the findings from the analysis of responses from the tax auditors, the characteristics and dispositions of individual director to tax compliance, especially the chairman of board, could influence the tax management strategy of a firm. However, the fact that these directors are appointed and being paid by the companies could overshadow their concern for organizational legitimacy. Moreover, the directors in most cases sit on more than one board and have little concern for the legal issues as compared to the financial matters. Thus, the directors might take little cognizance of the tax status of the companies where they sit. The choice of tax management strategy is therefore left in the hands of the management.

Conclusion

The present study has provided a new dimension in the study of the relationships between the attributes of the board of directors and corporate tax avoidance. With the use of four similar but different variants of effective tax rates (ETRs), the study tried to capture the tax avoidance comprehensively. Also, the mixed quantitative findings on the impacts of the board on corporate tax avoidance were subjected to qualitative investigation through face-to-face interview sessions with tax auditors responsible for the audit of the corporate taxpayers. The findings from the qualitative strand showed that attributes of the board might have little or no impact on the corporate tax avoidance practices, as the directors are not responsible for a firm tax management strategy. Given priority to the qualitative findings, it could therefore be concluded that while the directors are perceived to have influence on choice of tax management strategy of the firms, due to their general oversight roles and concern for organizational legitimacy, the financial benefits accruing from the firms and the fact that these directors are appointed by firms preclude their sense of judgement.

This conclusion is relevant for the revision of the guideline on appointment of directors in Malaysian Codes

of Corporate Governance (MCCG). The oversight roles of the directors, especially the independent non-executive directors, should be expended to include liability for directors in cases of apparent negligence in matters related to tax law non-compliance. The review should consider shorter tenure of a director sitting on the board of a firm and issues of multiple directorship need review.

This conclusion should be understood within some limitations. First, this study focuses on large companies, given their propensity for tax management. Second, the timeframe of the three-year financial period could limit the generalization of its quantitative findings. Finally, although the views of the tax auditors provide unbiased inquiry to the roles of the directors in firms' tax management, the views of directors themselves might give more insights into this.

Thus, an investigation into the point of views of the directors on board might provide a better insight to understanding their roles in firms' tax management strategy. We suggest further qualitative investigation using the retired directors or dismissed directors as respondents for better understanding of the happenings in the board room in relation to tax management strategy.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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Full Length Research Paper

Impact of making tax digital on small businesses

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Making Tax Digital (MTD), an initiative announced in 2015 by MP George Osborne in his autumn statement, brings with it the most impactful change to the UK tax administration for a generation. The Making Tax Digital vision aims to revolutionise the way businesses, landlords, individuals, and tax accountants interact with Her Majesty's Revenue and Customs (HMRC). Making Tax Digital is intended to aid the government's tax simplification agenda, which commits to making the UK tax system fully digitalised. Given this background, this research aims to examine the impact of making tax digital. This research has used a combination of primary quantitative and qualitative data that is triangulated across taxpayers, accountants and interdisciplinary practitioners. Questionnaires and semi-structured interviews were employed to collect raw data from a sample of 202 taxpayers, 20 accounting and 4 interdisciplinary practitioners. A particular need identified is for support and clearer guidance on compliance for the 3.5 million sole trader businesses which generate £1.9 trillion of wealth for the United Kingdom. This has to be backed by a strong anti-avoidance business support system for sole proprietary businesses to enable them to adapt to new way of reporting and paying taxes. It is further recommended that HMRC develops a strong communication strategy that encourages and helps sole trader overcome challenges of Making Tax Digital.

Key word: Digital taxation, Making Tax Digital, tax policy

INTRODUCTION

While tax reforms are essential in the face of extensive economic and digital changes in the world, it is important to evaluate these reforms against other criteria's as well. This research has developed key hypotheses that test the confidence levels of taxpayers transitioning to Making Tax Digital. This research has used a combination of primary quantitative and qualitative data that is triangulated across taxpayers, accountants and interdisciplinary practitioners. This cross validates findings and discusses the convergence, complementarity and dissonance of results. Furthermore, this research has developed a conceptual framework that aids the analysis and evaluation of the implications of the new Making Tax

Digital legislation for the benefit of public policy and future tax environments. This research critically evaluates current literature and reviews the development of taxation legislation leading up to the introduction of MTD. To evaluate the impact of Making Tax Digital, this research has developed hypotheses that are tested with empirical data. The outcome of the research asserts that while short-term transitioning costs and additional complexity may exceed current HMRC expectations, the long-term benefits of managing taxes in real-time and such automation will be instrumental in forging a world class digital tax system for the United Kingdom. HMRC's Making Tax Digital Framework will bring about drastic

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change, shifting taxpayers from analogue to digitalisation. The contribution of this research to the existing literature and practice is the provision of evidence of anticipated obstacles and concerns amongst those who would be impacted by these changes, and to address any difficulties and provide further guidance for government policy and HMRC assistance. The study has focused on the most vulnerable taxpayers who are most impacted by the MTD. A need has been identified for support and clearer guidance regarding compliance for the 3.5 million sole trader businesses which generate £1.9 trillion of wealth for the United Kingdom. This must be backed by a strong anti-avoidance business support system for sole proprietary businesses to enable them to adapt to new way of reporting and paying taxes. It is further recommended that HMRC develops a strong communication strategy that encourages and helps sole traders to overcome challenges of the Making Tax Digital initiative.

Research aims and research questions

The overall, primary aim of this study is to analyse and evaluate the impact of 'Making Tax Digital' on UK taxpayers. As such this thesis will examine and measure the readiness of the British public to the new HMRC Making Tax Digital Initiative. This paper will identify and evaluate the factors that influence compliant and non-compliant behaviour transitioning to Making Tax Digital by size, business status and sector?

Research gap

This study adds new research by studying the performance of the proposed Making Tax Digital system in a novel way. More comprehensive analysis and specific novel research encompasses the design of a novel conceptual framework to measure the impact of Making Tax Digital on small businesses.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Enhanced digital technology has changed the way individuals and organisations work. Making Tax Digital is an initiative proposed by HMRC to modernise the United Kingdom's tax system and thus deliver a world class digitalized tax system (Kerschner and Somare, 2017). The underlying principle for this initiative is however not something new. Making Tax Digital is an attempt to bring taxes into real time similar to the Real Time Information (RTI) Pay as you earn system (PAYE) for employers. This enables taxes to be collected quarterly rather than at year end (Seely, 2018). This investigation sought to test

the hypothesis 'whether taxpayers, grouped by turnover, demonstrated any significant impact on the levels of confidence of taxpayers transitioning to Making Tax Digital'. The rationale is to test this attempt to measure the impact on SME's. The objectives of the Making Tax Digital program are quite simple. Firstly, the system is designed to reduce the amount of late filing penalties (Lane, 2017). This currently stands at approximately 800,000 late returns (2017/18) (Government Statistics, 2018)

Secondly, tax returns would be prompted to be filed quarterly in real time and therefore would negate the need to be filed at the year-end (Hannam, 2017) making the tax system more efficient and effective. It is expected that the MTD will bring about many benefits that will certainly reform the existing tax framework effectively. These benefits essentially include allowing tax payers to be able to observe their revenues, expenses and payable taxes in real time and therefore be able to keep a track of their taxes both paid and due so that they are not shocked by extensive taxes at the end of the year. Furthermore, such automation of taxation services would allow overall improvement in the services of HMRC and will allow greater transparency to persist in the taxation related matters. Automating tax reports will also essentially make it easier for accountants and tax payers; making the whole process easy and smooth; especially at year ends. The MTD system will also facilitate provision of fast and virtual access to tax information through personal accounts. This will allow taxpayers access their information anywhere in the world, while dramatically reducing the need to stock up receipts and records in files on paper and will therefore reduce the need and costs associated with storage (Al-Karaawy, 2018). The proposal to introduce Making Tax Digital has brought with it some apprehension from key stakeholders. The Federation of Small Businesses (FSB) expressed concerns that taxpayers' workload with regard to filing of taxes would increase if tax filing moved from annual to quarterly basis (Smith, 2017).

The MTD vision as captured by IRIS Software Limited (2017) aims to revolutionize the way businesses, landlords, individuals and tax agents interact with Her Majesty's Revenue and Custom (HMRC). MTD is intended to aid the government's tax simplification agenda which commits to making the UK tax system fully digitalised by the year 2023. The breakthroughs recorded in the spheres of Information and Communications Technology (ICT) had led to the introduction of an e-tax system. This is credited for an appreciable improvement of the level of tax compliance and at the same time lowering the cost of tax administration (Bojuwon and Obid, 2014). 'Making Tax Digital' leverages on the gains of E-tax and E-filing systems and though it is still a work-in-progress with many practicalities needing fine-tuning, it seems to have gained traction. The Digitalisation of the taxation system is varied in forms but is centered on on-

line tax assessment and payments and has been adopted in many nations notably Canada, Taiwan, Australia, Malaysia, Singapore, Kenya, and South Africa among others (Mustapha and Sheikh, 2014). Generally, the argument for tax digitalization given by the aforementioned countries as well as the UK, is convenience, time-saving, tax simplification, cost reduction and the closure of tax gap McLure (1990). In the UK, 'Making Tax Digital' for all categories of individual and corporate taxpayers is founded on four core concerns it claims to accommodate. These concerns as listed by Stalker (2016) are: (i) it is aimed at making Tax compliance and monitoring much simpler; (ii) it aims to have unhindered access at all times to Information enabling tax liabilities to be more quickly and efficiently determined; (iii) information on both individuals and businesses income-generating activities will be stored in one place such that all taxes are bunched up into a single digital Tax Account; and finally, (iv) it is aimed at making digital communications with HMRC available at all times thus providing taxpayers convenience and greatly reduce the necessity for phone or post contact. In summary, there are three main strands to 'MTD' (HMRC March 9, 2018 update): (i) Digital Tax Accounts - profiles created by HMRC for individuals and businesses, pre-populated with the income and tax details they already hold, that can be updated online; (ii) quarterly digital reporting - by 2023 most businesses, self-employed people and landlords will be required to track their tax affairs digitally and update HMRC at least quarterly through their MTD-compliant accounting packages; (iii) options for paying tax - HMRC have started using real-time PAYE data to reduce under and overpayments by changing tax codes in-year. They propose to extend this to personal tax accounts on how/when to pay. Businesses, self-employed people and landlords will be able to adopt 'pay-as-you-go' tax payments voluntarily.

It is expected that such a significant and far-reaching overhaul of the taxation system will have its own set of challenges, technical glitches and sometimes out-rightly conflicting provisions. HMRC has made efforts to address several of these areas of concerns by outsourcing the review and assessment of the MTD initiative to teams of seasoned experts drawn from the Financial, the Industry, the Academia and the ICT circles. In a published report in August 2016 (updated January 2017) titled "A collection of consultations around specific elements of the 'Making Tax Digital' reforms", the submissions made by the experts and those independently made by pressure groups were analysed in-house and responded to. Setting out this scenario in her online reporting for Accountancy Daily, Pat Sweet (2017) further explains that the result of the foregoing concerted efforts led to a 'modification of six key elements of the 'Making Tax Digital (MTD)' vision. According to Sweet (2017), not only has this saved the initiative but also reinforced it; giving it solid and irreversible clout. The six modifications are

itemised as follows: (a) bringing business tax into the digital age; (b) tax administration; (c) simplifying tax for unincorporated businesses' (d) simplified cash basis for unincorporated property businesses; (e) voluntary pay as you go; (f) transforming the tax system through better use of information.

Additionally, two things that stand out of HMRC's responses and are of utmost importance to various stakeholders including: a staggered implementation plan for MTD to accommodate drivers' interest and a switch from Annual Tax Return (ATR) to quarterly reporting of Tax updates. For clarity, some literature on the two issues will be reviewed here. HMRC has published a revised plan for the execution of the MTD Initiative which also includes a timetable with specific dates fixed for mandatory compliance of the various categories of taxpayers, including how the various parts of the plan apply to individuals and businesses, and are being communicated by HMRC who also provide advice and support regarding related matters.

The MTD has certain costs associated with it for taxpayers and businesses. The Economic Affairs Committee has undertaken a study and submitted a report in the parliament under the authority of the House of Lords, highlighting that the costs for transitioning to MTD will rise for the businesses for VAT by GBP 109 and the businesses will have to pay a further GBP 43 on average going forward. There will be costs involved for getting the required hardware, software, training and familiarisation for the Making tax Digital operational know how. It is also believed that these costs estimates are rather low and incorrect. It is also mentioned in the report that if the MTD framework fails to deliver the expected tax yield, it will be difficult to mandate its usage going forward in the future for all (Economic Affairs Committee, 2018).

It is evident from the above-mentioned literature review that MTD is not the first introduction of digital technology into UK tax administration. It dates far back to the earliest modernisation efforts which saw the administration move from paper returns to electronic filing, and so digital technology has been employed in the UK tax system since much before. This then puts the construct 'Making Tax Digital' in its proper context, meaning a full digitalisation of the existing system rather than the first attempt at digitalisation. In fact, some industry experts would argue that the current UK taxation system is way ahead of many countries in the world as far as tax digitalisation is concerned (ICAEW, 2019).

Development of a conceptual framework variables – examine and measure the transition to Making Tax Digital

Transitioning from the current self-assessment system to Making Tax Digital and the effective digitalisation of the UK system is a fundamental shift from the present

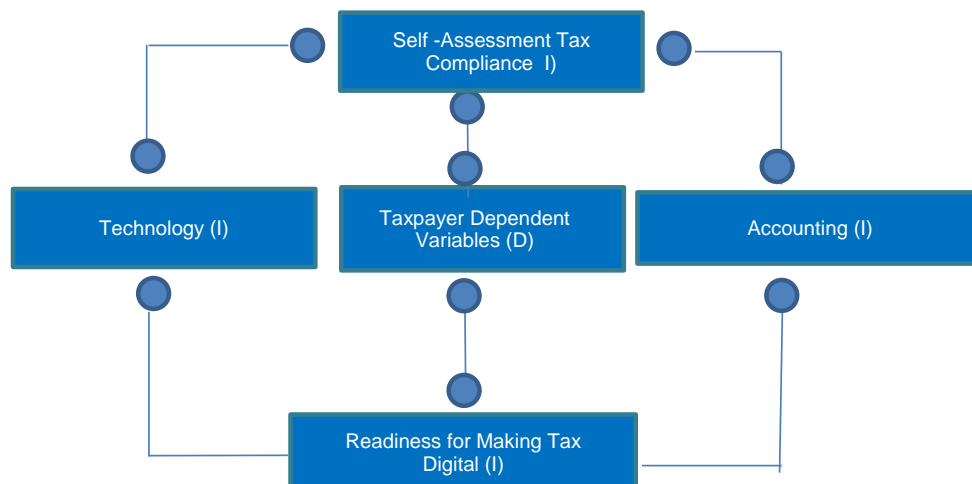


Figure 1. Tax marker compliance model (TMC).

system. The use of information technology creates a climate for a more effective and efficient tax system as seen already in the digitalisation of the Swedish tax system. In order to examine the effective transition of UK taxpayers to Making Tax Digital, it is essential that taxpayer behaviours are evaluated through a set of tax markers. The data then will be able to be used to extrapolate this and used as a basis to ascertain the likelihood of compliance under Making Tax Digital. To measure taxpayer resistance to Making Tax Digital, the author developed a Tax Marker Compliance Model (TMC) (Figure 1) that encompasses four behaviours namely: (i) current compliance behaviours (ii) technology (iii) accounting (iv) readiness for Making Tax Digital.

Determining the validity of the conceptual framework

This thesis delineates a conceptual framework that will identify tax behaviours and furthermore measures and captures confidence levels of taxpayers through a set of variables that predict taxpayer compliance. A flow diagram of the process undertaken to develop this framework is illustrated in Figure 2. The steps taken to develop the conceptual framework included firstly critical examination of previous academic studies Secondly, a preliminary conceptual framework was constructed and assessed against tax legislation and best practice across jurisdictions. Thirdly a final refined conceptual framework was constructed and tested with a Likert measuring instrument. The four variables and the rationale for their inclusion in the framework are discussed below.

Tax marker 1 - compliance

The definition of tax compliance is defined as the

taxpayers' is the willingness and ability to comply with tax laws, declare the correct income, claim the correct deductions, relief and rebates and pay all taxes on time. Researchers such as Kirchler (2007), suggests that the present compliance regime of filing and paying taxes is deemed as generally acceptable by both taxpayers and tax administrations. The inclusion of this variable in this conceptual framework is based on a tried and test tax system on which the foundation of tax is based.

Tax marker 2 – technology

Information technology is a major component of the rationale of moving to a digital tax system. The rationale for inclusion of this variable in the conceptual framework is fundamental to the development of an e-tax system. Technology is a resource that consists of hardware such as computers, mobile devices, modems and networks whose purpose is to collect, store, process and transmit relevant information that supports business or personal operations (Adewoye and Olaoye, 2014). The primary reason why technology has been used as a measure of confidence is to confirm whether information technology improves the tax system. According to Dzionu (2012), the reported benefits of information technology in public sector tax system have been found to be an improvement in administrative efficiency; effectiveness and productivity; improvement in service delivery; reduction in administration; operational and transactional costs of public and provision of access to information at a reduced cost. In relation to taxation, significance of the use of IT is infinite, some of which are: facilitates a reduction in the overhead cost of managing the agencies of government responsible for tax administration, instant computation of tax liability from the use of online tax calculator, reduced

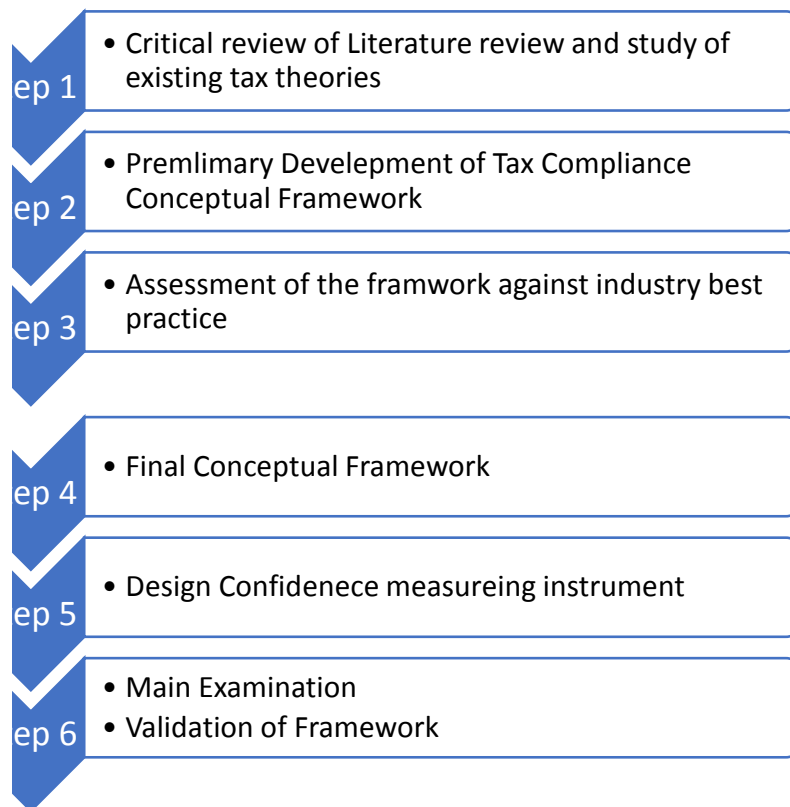


Figure 2. Development conceptual Framework and validation.

cost of registering tax payers and instant generation of tax identification number, reducing in staff-taxpayers collusion as regards tax liability, reduction in fraudulent activities of tax collectors in the aspect of non-remittance of tax received from taxpayers and boost the revenue of government in terms of reduction in expenses (administrative, overhead and transaction) and corrupt practices.

Ideally, the adoption of IT-facilities in administering taxation can lead to indifference attitude on the payment of taxes, garbage-in-garbage-out, that is imputation of wrong figures that will lead to wrong calculation of tax liability by online tax calculator, poor internet facility, poor electricity to power host server, high cost of maintenance of ICT facilities, lack of technical Know-how by tax administering agencies, high level of illiteracy among lower-income earners that characterized the population, incidence of internet hackers. So also, Oseni (2016), opined that the use of ICT can be catastrophic if carelessly employed by both the taxpayers and the tax administrators as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system. The advent of electronic filing was first introduced in the United States where the Inland Revenue Service began offering tax refunds only. Muita (2011) concluded that overall, the group without agents

seems to be lagging using technology; whilst those who used an agent seemed more confident. This could be due to confidence levels due to the guidance of agents in promoting the use of technology. It may also suggest that the first group may have the most difficulty in transitioning to Making Tax Digital as the emphasis is on using Technology. This would also suggest that HMRC would need to support this group with technology.

Tax marker 3 - accounting

The Accounting Tax Marker Variable is used to examine the confidence levels of taxpayers keeping statutory accounting records for the purposes of reporting their tax liabilities. One of the essential traits of running a successful business maintains some form of record-keeping (Braithwaite, 2003). Good record-keeping provides feedback to business records profitability, analyse growth and identify new business opportunities and hence is a tool that provides evidence of value. In the UK, the Income and Corporation Taxes Act (ICTA) 2015 requires that taxpayers keep adequate accounting records. Maintaining accounting records allows a business to be able to file tax returns on time (Evans et al., 2005). It was important, therefore, for this study to

ascertain the basic level of confidence from which all subsequent tax compliance is derived. Research by McKerchar (1995), found that most taxpayers were not interested in record-keeping due to basic accountancy skills and tax knowledge. Their research also indicates that taxpayers also view record-keeping as time-consuming, burdensome and a general hindrance on the core business (Ashby and Webley, 2008).

Tax marker 4 – readiness for MTD

In order to measure the transition to making tax digital, the inclusion of this variable in the conceptual framework ensures that the levels of confidence transitioning from self-assessment to MTD are captured. This is a fundamental concept that is preceded by the other three variables that provide an effective grounding. Digitalisation has been seen to have a major impact on society and business and this trend is changing how we live and work (Tihinen et al, 2016). In fact, researchers have described digitalisation as the new industrial revolution. The term digitalisation refers to “action or process of digitising the conversion of analogue data into the digital format”. Research indicates that digitalisation or digital transformation is “the changes associated with the application of digital technology in all aspects of human society” (Stolterman and Fors, 2004 pp. 54). An alternative view presented by researchers is digitalization, the “ability to turn existing products or services into digital variants, thus offer advantages over tangible product” (Brennen and Kreiss, 2014).

Making Tax Digital in the United Kingdom is a step towards digitalisation and follows other countries such as Finish Tax Administration who exemplified the difference between digitalising and digitalisation of taxpayers. If the Finnish tax authorities would have digitalised the process, it would have been to produce a digital tax return and enable the attachment of invoices etc. in an electronic format also. However, the Finnish tax administration overhauled the entire process so that they received tax information directly from source such as employers, banks and other institution from where taxpayers drew down income. The tax authorities’ then send out a more informed tax determination to taxpayers, this prompts no further action from the taxpayer if the proposal is correct. Furthermore, the inclusion of this variable measures cash flow burden on businesses that will have to pay taxes quarterly. Whilst there may be many advantages for a business to plan their tax payments, research indicates that the current global financial and economic crisis presents major challenges to revenue administration in many countries. The overall financial implications of the crisis are described by the International Monetary Fund (IMF, 2009) with crisis-related issues in tax policy set out in a subsequent report (IMF, 2009). Simply summarised, global economic conditions are and will remain in a state of flux, with tax administrations across the nations facing

growing tax compliance issues of arrears, avoidance, evasion, and an increase in loss-making businesses. These, with macro-economic factors, impose increasing fiscal pressures upon tax agencies which are unprecedented. Economic pressures may trigger increases in behaviours such as under-reporting tax liabilities, claims of illicit refunds of tax, or underpayment of quarterly taxes due under Making Tax Digital triggering arrears and penalties. Non-compliance also involves tax avoidance schemes through which taxpayers aim to reduce their tax liabilities by means of arrangements that may be legal but usually contradict the intent of the law they purport to follow. This will then undermine one of the major drivers of the Making Tax Digital legislation - that of reducing the tax gap or revenue and expenditure, a priority of tax administration in volatile economic periods (Brondolo et al., 2008). Other issues relating to the impact of quarterly payments of tax under making tax digital are namely: (i) taxpayers who are credit-constrained may withhold taxes as an alternative source of raising cash flow for operating activities; (ii) taxpayers who face extreme financial stress may face a trade-off between bankruptcy and tax evasion, and penalties which may be minimal compared to impending bankruptcy. ‘Cashflow’ is described as ‘the movement of money into and out of your business’, its cyclical reliability of income and outgoings are assessed on bases such as ‘accounts receivable, inventory, accounts payable, and credit terms’ (Noor et al., 2012, p. 234). This section evaluates information based on perceptions according to taxpayer age; a variable potentially indicative of the experience of the payer; and the length of time spent in commercial activity but is not accounted for in the aims and objectives of the research. In terms of confidence in the use of technology, Ramaj et al. (2014, p. 2) points out that financial accounting, whether by the payer or their agent, ‘includes all dimensions of business operations, including the flow of financial data across the organization and beyond’ and cannot be conducted without the use of ICT programmes. Confidence comes with competence and education, arguably more pertinent to accountancy students rather than their future clients. To explore taxpayer confidence levels, it is essential the concept of ‘Confidence’ is defined. ‘Business confidence’ is a broad descriptive term for the management of a diverse range of information evaluations, upon which sole traders, partnerships, and limited companies develop an adaptive business strategy. In the macroeconomic context of national and global politico-economic commerce, the most commonly publicised measure is the Business Confidence Index (BCI). This is described as the statistical evaluation of ‘developments in production, orders and stocks of finished goods in the industry sector [indicators] used to monitor output growth and to anticipate turning points in economic activity’ (OECD, 2019). This predominantly constitutes of external market factors, which businesses

must strategically plan for and adapt to maintain commercial viability - an onerous undertaking per se for enterprise managers and owners in the current political environment of Brexit (ICAEW, 2019).

The data gathering methods of this research has principally focused on the more immediate management concerns of legal and financial obligations to its stakeholders and the government. The domestic market is not simply in a state of flux, but the corporate tax accounting legislation imposes new duties and requirements in personal skills and software expense in tax management (House of Lords, November 2018). The Oxford English Dictionary defines 'confidence' as 'the feeling or belief that one can have faith in or rely on someone or something.' Personal perceptions of businesspeople - user experience - is central to the success of a tax system which the House of Lords asserts shows signs of poor government development and planning, as well as expensive operational and software change (House of Lords, November 2018). This section will, therefore, examine business confidence level data, utilising the classifications outlined above and namely compliance, technology, accounting, and readiness for making tax digital. The analysis will focus on the following categories: (i) the taxpayer in their general perceptions of management of changing administrative obligations in a volatile market environment; (ii) trading status - namely the taxpayer as a sole trader, in partnership or a property landlord; and (iii) trading status categorised by turnover, industry, and the nature of the commercial activity conducted by the business. Further to this, turnover and age are examined and evaluated. This data assessment evaluation is more directly related to the microeconomic perceptions of individual small businesses and their accountancy advisors in their enterprise management.

The Federation of Small Businesses (FSB) (2018:5) asserts: 'The UK tax system is undeniably complicated. Many small businesses and self-employed entrepreneurs have limited time and resources, which poses a particular challenge when dealing with complex calculation and reporting processes.' The analysis enables reflection on the confidence felt by traders in their future under the new tax and business regime. It will further differentiate between taxpayers who used an agent - usually an accountant - and those who sought to manage their own affairs with the assistance of software, tax guidance, or HMRC helplines.

Predicting tax-payer compliance

There has been a great deal of research undertaken into taxpayer behavior in the degree and willingness of tax law change compliance, although there is no definitive answer to ascertainable success or failure. Brooks (2001) stated that what we have learned from compliance

research into tax-payer behaviour is 'how much we do not know'. It is therefore essential that tax authorities can understand and predict taxpayer behaviour, given that non-compliance is a global phenomenon impacting the integrity of a tax system. The improvement of strategies by tax authorities in gaining taxpayer confidence is therefore essential in the present transition phase of Making Tax Digital. Further examination needs to be undertaken to understand compliance behaviour by tax authorities and other academics, although there is little consensus on appropriate research methods to study compliant behaviour, and those who have tried have acknowledged weaknesses, including access to appropriate data sources and their validity (Jackson and Milliron, 1986). Individuals are complex creatures who behave in ways that are difficult to understand and predict McKerchar, (2001). Nevertheless, tax authorities must develop policy and legislation which encourages positive behaviour that accounts for the diverse relationship between independent and dependent variables of personal interaction with the law to ensure measurable and appropriate outcomes

Investigation of compliance motivation, from a psychological point of view, is beyond the scope of this study, and Jackson and Milliron (1986) suggest that greater confidence can be placed on research-based findings of more limited variables related to a conceptual base, randomised experiments, and observations of real-life behaviour rather than those based on self-reports, simulations, or hypothetical situations.

Herein a more narrowly defined examination of behavioural outcomes is utilised to assess taxpayer behaviour prompted by making tax digital legislation and change which results in unintentional non-compliance. This behaviour was reflected in taxpayers who were compliant under self-assessment, but whose behaviour may alter under Making Tax Digital, perhaps - as will be noted - due to the complexity of new obligations, which demand a timely and efficient transition. Baldry and McKinstry (1997) argue that taxpayers who were most likely to be adversely affected by this complexity are those who completed and filed their own tax returns, rather than those who use the services of an agent. This study will analyse data obtained from participants, and which will differentiate between those who used accountants and those who did not to ascertain compliance performance. This reflects confidence levels in understanding obligations and software required to meet new duties, measured by dependent variables which interact with each other to achieve legislative aims. These are divided into four themes: (i) recording accounting information (accounting); (ii) using technology to capture, prepare, and submit a tax return (technology); (iii) reflecting current compliant levels (compliance); and (iv) readiness for making tax digital (readiness). For this study an average confidence rating score of 3 is judged as fairly confident behaviour across all tax markers and

Table 1. Making tax digital compliance risk rating matrix.

S/N	Percent	Level of confidence	Level of compliance	Subjective	Objective	Risk level
1	20	Not confident at all	Certain or history of non-compliance	Non- Compliance is expected	Probability to occur at least once in year one of Making Tax Digital	Severe
2	40	Slightly Confident	Fairly Likely of non-compliance	Non-compliance may occur in most occurrences	Probability to occur at multiple times in first three years	High
3	60	Somewhat Confident	Moderate likely of non-compliance	May occur from time to time	Probability of non-compliance once in next three years	Significant
Making Tax Digital Hurdle rate						
4	80	Fairly Confident	Unlikely – Displays compliant behaviour	Non -compliance could occur	Probability of non-compliance in next 10 years	Moderate
5	100	Completely Confident	Rare -Completely confident – Displays confident behaviour	Non-compliance may occur in exceptional circumstances	Probability of non-compliance in 25 years	Low

Source: Australian Tax Office - Risk Compliance Matrix - Adapted.

thus this could be extrapolated to justify a successful transition to Making Tax Digital ATO (2013) Table 1. A score of 3 or more would also indicate that the probability of transition to making digital is more certain with likelihood of non-compliance occurring once in the next three years. This can be compared to a score of 2 which would indicate that the probability of non-compliance occurring would be multiple times in the next three years. Therefore, a score which is less than 3 would indicate that the transition may be problematic, and the taxpayer may require some form of intervention. It is thought that once Making Tax Digital is rolled out to all – some of the teething problems from its introduction on the 1st April 2021 would have been ironed out by effective risk management strategies illustrated here and therefore, there would be some precedent set to deal with potential issues with Making Tax Digital.

METHODOLOGY

This empirical research employs a pragmatic paradigm. This is in line with the fact that the knowledge and reality of taxation is based on beliefs and habits that are socially constructed. Furthermore, pragmatism is representative of a mixed methods philosophy and therefore is most suitable for this research. Hence, this research is primarily deemed to be explanatory in nature and thus adopts a deductive strategy. Questionnaires and semi-structured interviews were employed to collect raw data from a sample of 202 taxpayers, 20 accounting and 4 interdisciplinary practitioners. The data was analysed statistically through descriptive statistics and inferential analysis using SPSS. In addition, to test the confidence levels of the respondents, a novel, valid and reliable tax instrument namely, Tax Marker Compliance Model was developed to measure the readiness of the UK public for making tax digital. Tax Marker Compliance Model (TMCM) was used to test the hypothesis 'whether taxpayers, grouped by turnover, demonstrated any significant impact on the levels of confidence of taxpayers transitioning to Making Tax Digital' (Hypothesis 1) in readiness for Making Tax Digital.

RESULTS AND DISCUSSION

Examination of taxpayer confidence by turnover

The investigation sought to test the hypothesis 'whether taxpayers, grouped by turnover, demonstrated any significant impact on the levels of confidence of taxpayers transitioning to Making Tax Digital'. The two groups in this study were namely those taxpayers who used an accountant and those who do not use an accountant to handle their tax affairs. This analysis was based on a series of independent variables: (i) compliance; (ii) technology; (iii) accounting; and (iv) readiness, for making tax digital. This analysis and its findings present significant areas of non-complaint behavior and related implications for HMRC. The mean confidence scores, together with related standard deviations, were recorded per taxpayer. The findings of this investigation were compared against a transition hurdle rate of 3.00. The mean scores recorded (Table 2) were used to test the null hypothesis transitioning to Making Tax Digital. The results suggest the hypothesis is partially supported. The findings suggest that for the taxpayers between the turnover ranges of £10,000 to £85,000, the hypothesis is not valid. However, in the turnover range of £85,000 to £250,000 the hypothesis is accepted. The finding suggested that taxpayers in the turnover range of £10,000 - £20,000 had a mean confidence score of $\Sigma \bar{x} (c, t, a, r)/n' = 2.28$ and increased to mean confidence score of $(\Sigma \bar{x} (c, t, a, r))/n' = 2.66$ at turnover between £51,000 and £84,000.

These results suggest that taxpayers in these groups demonstrate a 20% confidence rate compared to a rate of 80% with the £100,000 to £250,000 group. These findings are consistent with research showing that businesses that are liable for VAT (Above £85,000) are reaping the benefits of Phase 1 of Making Tax Digital

Table 2. Mean confidence scores by taxpayer turnover – without accountants.

Turnover Range £	$(\Sigma \bar{x} (c))/n =$	$(\Sigma \bar{y} (t))/n =$	$(\Sigma \hat{q} (a))/n =$	$(\Sigma \hat{p} (r))/n =$	$(\Sigma \mu (c, t, a, r)) =$	$(\Sigma \mu (c, t, a, r))/n =$
10,000-20,000	3.28	2.53	1.98	1.36	9.15	2.28
21,000-50,000	3.31	2.45	2.17	1.37	9.30	2.32
51,000-84,000	3.94	2.57	2.47	1.69	10.67	2.66
85,000-99,000	5.00	4.00	4.00	3.28	16.28	4.07
100,000-250,000	5.00	4.20	3.92	3.84	16.96	4.24

Table 3. Mean confidence scores by taxpayer turnover – with accountants.

Turnover Range £	$(\Sigma \bar{x} (c))/n =$	$(\Sigma \bar{y} (t))/n =$	$(\Sigma \hat{q} (a))/n =$	$(\Sigma \hat{p} (r))/n =$	$(\Sigma \mu (c, t, a, r)) =$	$(\Sigma \mu \bar{x} (c, t, a, r))/n' =$
10,000-20,000	5.00	1.00	-	1.00	7.00	2.33
21,000-50,000	4.75	3.00	-	1.50	9.25	3.08
51,000-84,000	3.20	3.50	-	1.55	8.25	2.75
85,000-99,000	4.50	4.83	-	2.50	11.83	3.94
100,000-250,000	4.95	4.71	-	4.16	13.82	3.45

which went live for VAT on the 1st April 2019. Smith (2019) reports that 51% of respondents reported not having more simplified or more efficient tax processes, with 32% reporting fewer errors on VAT returns. This suggests that businesses in this category are more confident with Making Tax Digital.

Our investigation and analysis of the confidence levels of taxpayers have demonstrated that the management and policy implications for HMRC can be summarised as follows; Our findings show that the readiness for Making Tax Digital compliance statistic in Table 3, £10,000 to £20,000, $\mu = 1.36$, £51,000 - £84,000, $\mu = 1.69$. This suggest that the probability of non-compliance is likely to occur at least once in year one of making tax digital with a severe consequence on tax revenues (See chapter 3.5 Making Tax Digital Compliance Risk Rating Matrix). The implications are reduced to a probability of non-compliance once in every three years for turnover ranging from £85,000 - £250,000, with a significant impact on tax revenues. All (except the turnover range of £100,000 - £250,000) respondents demonstrated compliant behaviour ranging between statistical mean confidence score between $\mu = 5.00$ -4.95 (Table 3.19). On the contrary mean confidence scores for readiness for making tax digital range (between $\mu = 1.00$ – 4.16). This suggests that those taxpayers who are presently compliant would be moving to a non-compliance position post implementation of Making Tax Digital. When comparing our results to those of older studies, we conclude that the implications of this for policy makers is that it would have to resort to a deterrence approach (Field et al., 2006), whereby the efficiencies of tax administrations would resort back to HMRC via increases in audit, fines and criminal punishments.

Key findings that emerged are: sole traders had the

lowest mean confidence level was of 2.14 (20.14% without accountants), and the highest 5.00 (100%, with accountants). For partnerships lowest mean confidence level was 3.71 (60.71%) and the highest 4.63 (80.63%). For landlords the lowest confidence level was 2.57 (40.57%) and the highest 4.57 (80.57%). These results suggest that low turnover businesses will be less motivated to transition to Making Tax Digital. However, these results can be compared with taxpayers' perceptions of transition to making tax digital. In a report, HMRC (HMRC Research Report, 2021) confirms that transitioning costs were outweighed by longer term benefits. However, it is acknowledged that there are considerable discussions among researchers as to what is an acceptable criterion for transitioning to a new tax structure and therefore one single measure cannot assure a successful transition. It is therefore necessary to use an array of criterion to assess the effect on taxpayers such as the criterion laid down by the Inland Revenue - practical criterion to evaluate a change to a tax structure. The 1986 Public Expenditure White Paper HM Treasury (1986 vol 2 p 314) describes these as: (i) the cost or yield to the exchequer and the distribution of gainers and losers among different categories of the taxpayer; (ii) the economic effects of the proposals and any behavioral changes they would likely induce; (iii) the consistency of the proposals with the general thrust of the government's tax policy, and it's broader economic, financial and social policies; (iv) the implications for other parts of the tax system, and the social security system, or for other proposals which ministers may be considering; (v) the likely effect on the perceived fairness and general acceptability of the tax system; (vi) the effect of the proposals in increasing or reducing the complexity of the tax system; (vii) the administrative implications, including

effects on public expenditure and the use of public service manpower; (viii) the compliance burden on employers, businesses and other taxpayers; (ix) any views bearing on the proposals expressed in parliament, or by representative bodies or by individual taxpayers; (x) any relevant international obligations arising from, for example, double taxation agreements or European Community obligations.

Sandford (1994) argued that taxpayers preferred public administrative costs over compliance costs, because administrative costs are paid out of tax revenues which, aligns with the government's concept of equity. It can be stated further that it may be led to resentment by the taxpayer and reluctance to conform to any new system that would have otherwise been if the burden was on the government. Additionally, compliance costs may not be more obvious for the taxpayers than administrative costs, so there may be a higher burden on the taxpayer than first generally realized.

The results presented suggest that taxpayers who had a statutory requirement to be registered for Value Added Tax were already on the journey to Making Tax Digital. This was due to the phased introduction of Making Tax Digital for Value Added Tax on the 1st April 2019. Therefore additionally, at this stage of understanding, we can conclude that the support provided by accountants in transition to Making Tax Digital seems an important aspect of the Making Tax Digital process, likely due to recommendations, prompts and guidance toward Making Tax Digital. However, when comparing these results to those of prior studies, it must be pointed out that changes in tax system would not only affect taxpayers but their accountants also. Sheedy (2018) has listed 8 issues facing Accounting practice today; postulating that constant changes in the tax regime mean the need for public practice Accountants to stay up to date is greater than ever. This will require training and re-training and investing in the purchase of relevant up-to-date Software and updating or else outright acquisition of suitable hardware. It is claimed that by a far greater percentage, most of those who own electronic devices and potentially can access the internet are practically unable to use them to confidently carry out any demanding work except for simple business tasks.

A report presented in the UK parliament highlighted some major concern for individuals and businesses in the country who are intended users of the Making Tax Digital system. It was argued that there is lack of existence of a long-term plan for the Making Tax Digital itself and digital data collection and this has been causing a lot of uncertainty among businesses especially smaller businesses who are concerned about having to find and install alternate tax software in case it does not work out in the long term. This is also an issue if the businesses are using one MTD software for VAT and then they need to get software for business or corporate tax (Economic Affairs Committee, 2018). The approach utilized here

suffers from the limitation that was indicated by Brooks (2001). Brooks found that these factors not only of economic factors such as tax rates and income levels in a country but psychological factors such as culture, morals and attitudes. These issues are beyond the scope of this study. They further found that demographics such as ethnicity, culture, age and gender also play an important part.

Based on the findings of this experiment presented the results suggest that that taxpayers who used agent and were in the higher turnover range (£100,000 - £250,000) were able to transition to Making Tax Digital, a positive indication of compliant behaviour. However, when comparing these results to those of other studies namely Sandford (1994) it must be noted that there exists some evidence that tax reforms can be successful if it occurs in small packages of proposals as opposed through an incremental process. But even then, the probability of success falls somewhat short of expectations. One issue is that the political process does not clarify what the aims are nor are they clear. (Robinson and Sandford, 1983, p221) concluded that political parties considering tax policy in the United Kingdom 'showed only limited capacity for rational consideration of their chosen objectives. They did not examine then in enough detail, nor did they fully explore the consequences of their chosen policies. To assist the taxpayer to discharge their reporting obligations, HMRC may want to provide additional support and guidance. A similar conclusion was reached by James and Wallschutzky (1993). Wallschutzky states that most of the research undertaken in this area is around why some taxpayers do not comply rather than why others do so. It can be said that many taxpayers may be faithfully willing to comply, however, they do not understand or not aware of their full obligations. While it can also be stated that even if the taxpayer was fully aware of his/her duties there might be exist other reasons. In cases such as this, it may be advantageous to devolve resources by educating them and thus release additional tax revenues that exceed any costs expended on additional resources.

The transition to Making Tax Digital will need to be monitored by taxpayers to assess whether they will exceed the threshold. This then represents a further compliance issue, one which may require careful monitoring by tax administrations in order to ensure compliance. A successful compliance system must be more than simply the rewards and punishment model and therefore must encompass a wider range of motivations. There are some reservations of readiness for Making Tax Digital and overall, the results do not indicate compliant behaviour. It is important to highlight the fact that the transition to a new tax system may encompass some complexity with taxpayer behaviours. Previous researchers such as Bird and Oldman (1990, p3) suggest 'The best approach to reforming taxes,' should consider taxation theory, empirical evidence, and political and

administrative realities and will further combine them all with a good dose of local knowledge and a sound appraisal of the current macroeconomic and international situation to produce a feasible set of proposals sufficiently attractive to be implemented and sufficiently robust to withstand changing time.” Within these limits however, tax administrations need to assess compliance costs and tax attitudes to best ease the transition to Making Tax Digital.

Tax Digital and this may be indicative of involuntary non-compliant behaviour. The task of evaluating a tax system and the development of coherent recommendation is no easy feat as was evidenced as somewhat difficult as with the initial formation of the Meade Committee back in 1978. The timescales of transition to Making Tax Digital is fundamental to its successful implementation. It is interesting to note that previous tax systems overhauls underestimate the timeframes of change. It takes longer for change to embed than Parliament allows for. Sabine (1966, p254) has argued that the optimal process of “direct taxation has been its extraordinary sensitivity to criticism and its extreme flexibility and adaptability to accommodating such criticism.” Making Tax Digital (making tax digital) evidently lacks such flexibility and it is asserted that further targeted support and guidance will be required.

This gives rise to consideration of the tax review opinions of The Meade Committee (1978) and The Mirrlees Review (2011). Any new tax system overhaul needs first to clarify its aims and objectives and by what criteria it will scrutinise the present tax system. The Committee formed the following six desirable qualities of a new tax system namely: (i) incentives and economic efficiency; (ii) simplicity and cost of administration and compliance; (iii) flexibility and stability; (iv) transitional problems; (v) consider the system as a whole; (vi) seek neutrality; (vii) achieve progressivity as efficiently as possible. It is now generally accepted that technology in the 21st century is essential for a tax system to move to a fully digitalised process, dependent on shifting the attitudes of the present taxpayers.

This is arguably indicative of a lack of attention to payer needs in developing Making Tax Digital. Pagan (1993) suggests forward ‘ten commandments’ for any new tax legislation. An Extract of the relevant part of the Ten Commandment for any new taxation legislation namely: (i) do only what is necessary; (ii) do it timely; (iii) respect the basic principles of the existing system; (iv) control and define any consultation process. From this standpoint, it is generally accepted that the transition to Making Tax Digital would be best approached using a change management approach as is best described by Lewin (1951) forcefield analysis. The changes in the environment trigger opportunities for change and hence forces against this position avail to protect the status quo. The optimum position may be ascertained with a close examination of the reasons for the resistance. The

pressure for change eventually pushes through, yet the resistance is strong enough to know the desired optimal position and this result consequently to an unsatisfactory compromise.

Limitations

Making Tax Digital legislation is presently a proposal but has not been implicated yet and so HMRC has not instigated these changes. This study investigates the impact of the Making Tax Digital initiative however, because there are no valid statistics available as of yet which can guide us regarding the actual effects of this initiative, this study is based entirely on predictions only for now. The lack of tested and well researched data published in academic papers in this area, has also been a major limitation. Price and Murnan (2004) assert that academic studies should acknowledge characteristics that impacted or influenced the findings of research. This limitation, however, has provided an opportunity to critically appraise the research problem, evaluate the available literature and develop valid methods of studying the impact of Making Tax Digital. Furthermore, this paper also provides grounds for further academic research. Tax legislation in the United Kingdom is based on the principal of income generation and therefore is based on a standardised approach. However, this becomes problematic when faced with human nature and the differences between demographics, social norms, culture, ethics and ethnicity. Therefore, a major limitation of this study is shadowed by a general limitation, namely an oversimplification of social reality. It is also important to note that although the survey questions devised in this study are correctly formulated; they may not be relevant based on culture and social norms. The research in this study is based on a small sample of taxpayers and is therefore important to state that the findings presented in this thesis may or may not be reflective of the entire taxpayers in the United Kingdom. Consequently, further study could be enhanced by using a larger sample to confirm the findings of this study. This needs to be undertaken by government studies and professional research as the MTD program progresses with its inevitable introduction and any related problems that occur. Moreover, since the MTD system has been initiated very recently, it’s difficult to learn from its mistakes at time and recommend solutions to deal with any issues occurring with its usage or implementation. Hence, this is also a limiting factor for this paper and can only be resolved in the future after some time has elapsed after the full introduction of Making Tax Digital (Al-Karaawy, 2018).

CONCLUSION AND RECOMMENDATION

The traders who use the services of an accountant are

completely confident with Making Tax Digital. On the other hand, traders without accountants showed lower level of confidence. The data suggests that there is a significance difference between confidence levels of taxpayers with and without accountants. This would seem logical under normal circumstances; however, this study is interested in the readiness of the taxpayers to face challenges of making tax digital. The costs and benefits of this will have an impact and may not be a viable option to some taxpayers especially for those with low turnovers. Further analysis suggests sole traders (without accountants) demonstrated overall mean frequencies levels of confidence between 1.37 (20.37%) and the highest 2.21 (40.21%). For partnerships, this ranged between 2.05 (40.05%) and 4.00 (80%). Additionally, for landlords, the confidence level was 3.26 (60.26%) and the highest 3.32 (60.32%). This provides further evidence that sole traders are mostly at risk when they fail to comply with making tax digital. The lower confidence levels of the non-agent firms may lead to inefficiencies because the low confidence means that they're more likely to make mistakes and could face penalties. This examination found support for the assertion that confidence levels for transition to Making Tax Digital are lower with taxpayers who do not use the services of accountants. However, the extent to which it is possible to predict the instability of the whole Making Tax Digital system is due to these observations being subjective to the taxpayers. The lower confidence may be due to the transitional period and the period of uncertainty as firms may be quick to adapt to change. It is only possible to get actual statistics after MTD has been fully instigated.

It is recommended that the Tax Marker Compliance Model (TMCM), developed in this paper, should be used to assess the confidence levels of taxpayers on the phase three of making tax digital legislation and corporation taxes. In addition, The Standard Cost Model (SCM), which is a method for determining the administrative burdens for businesses, should be imposed by regulation. Making Tax Digital legislation will impose administrative burden on businesses and individuals. This model should be used to measure excessive compliance costs Nijsen and Vellinga (2002). Furthermore, studies combining SCM and TMCM will provide dual impact on businesses and will provide information regarding financial costs and levels of confidence with making tax digital legislation.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

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Full Length Research Paper

Study on the monitoring role of institutional investors in deterring accounting fraud

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The topic about institutional investor being a monitoring role has been widely discussed but different results exist in previous empirical studies. Along with their progressively development, institutional investors are now playing more important role in Chinese capital market. Using samples from Chinese capital market, this paper collects fraud data and data of mutual funds' ownership in listed firms between 2008 and 2015 to examine the monitoring function of institutional investors against accounting fraud. To go deep into the monitoring incentives of investors that fall into different categories, mutual funds are further classified as heterogeneous groups according to their investment strategy and investment durations. The monitoring role of mutual funds in different groups and their influence as the disincentive to accounting fraud of listed firms are investigated in the paper. Mutual fund ownership is found to be able to curb the incidence of accounting fraud. Active mutual funds are able to conduct more effective monitoring when compared with passive mutual funds. It is also reported that short-term mutual funds are more significant than long-term mutual funds in monitoring. Policy makers may need to normalize institutional investments by quantified indicators or in other reasonable ways.

Key words: Accounting fraud, institutional investors, investment duration, monitoring role.

INTRODUCTION

Corporate governance of listed firms has always been an issue of concern in both finance and accounting literature as poor corporate governance may have serious impacts on listed firms as well as a large number of investors, even the operation of capital market. Poor corporate governance consists of poor monitoring and poor decisions. The poor monitoring and weak control systems can negatively impact the company's performance and value. Poor decisions can lead to failure in the evaluation of performance and companies might face difficulties with future forecasting and cash flow planning. Scholars'

discussions on this topic are varied and complex and the focal points of their work has covered issues related to transparency and responsibility of listed firms, board structure, etc. (Aguilera and Crespi-Cladera, 2016). However, based on previous studies, it is still far from enough to figure out all of these problems. The failure in corporate governance often comes with a series of irregular behaviors of listed firms and one of the most important irregularities is accounting fraud. In the simplest terms, accounting fraud is intentional manipulation of financial statements to beautify a

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company's financial status for various reasons like getting credit funds or boosting the share price (Tutino and Merlo, 2019). Financial statements, which are designed to help investors or regulators in decision-making, are unable to reflect factual information when a fraud is taking place in a company.

Fraud cases which involved enormous amount in listed firms have resulted in a strong motivation of researchers around the world to explore solutions for disciplining irregular behaviors and deterring accounting fraud. In external governance mechanisms, people began to pay attention to different monitoring roles other than regulators or auditors in recent years. Since they are likely to suffer the most due to accounting frauds, investors are thought reasonable to be more prudent in order to help themselves from deceitful financial information and even monitor managements' behaviors (Montesdeoca et al., 2019). In most cases, individual investors are not capable to monitor as they are subject to their diffuse ownership and significant cost pressure. However, institutional investors and those who hold a large position in shares of listed firms are capable of supervising management behaviors and affecting their decision making with their resource and abilities (Chung et al., 2002). The development of institutional investments made great progress in US financial markets since 1990s. Sias and Starks (1998) show that, by the end of 1994, the ownership held by institutions shot up to marginally below 50 from 24.2% in 1980. In emerging economies like China, institutional investors have been enjoying a huge growth in capital markets since early 2000s since China joined World Trade Organization (WTO) in 2001 and integrated into the international capital market, the total market value has grown from 1 trillion Yuan in 1997 to more than 50 trillion Yuan after 2015. Mutual fund operated and managed by institutions is definitely one of the principal components among those investors and it has been expected to play a part in monitoring for external corporate governance yet, in the light of the results from previous studies, there are opposite views on the monitoring role of mutual fund. Generally speaking, mutual funds are able to stop clients' wrongdoings and promote compliance from the standpoint as a 'gatekeeper' (Coffee, 2006). Conversely, some academics believe that mutual funds are not actively engaged in monitoring in general (Shi et al., 2016). In this case, mutual funds are also speculative investors who may choose to 'vote with their feet' if the investee firms have poor performance.

Due to the mixed results, further discussions about this topic are still needed. By dividing institutional investors into different categories, this study looks into the impacts of different types of institutions' monitoring function against accounting fraud. In particular, two criteria are used in the classification process. Firstly, mutual funds are split into active investors and passive investors based on their investment strategies. Following different

strategies, investors may act differently in their governance activities. Active investors tend to engage with investee firms through meetings or other means of communication as they care about the corporate governance. Mutual funds can also be split into long-term investors and short-term investors based on their investment durations. Compared with the myopia ones, those who hold their investments for long are probably inclined to look at the interests of investee firms in the long run instead of current earnings performance. Consequently, it is reasonable to predict that mutual funds that adopt active investment strategy and hold for long duration can prevent fraudulent activities more effectively.

This study tries to figure out the linkage between mutual fund investments and accounting fraud and then testify to the monitoring function of institutional investors. So far, most previous studies about this are based on the United States data. Data used in this paper are selected from the enterprises in China because China provides a different country context. As the world's second largest economy, the booming capital market in China has been eye-catching. However, despite its striking speed in economic development, accounting fraud cases of listed firms from time to time and it becomes a big concern for stakeholders. For example, latest news about Zhangzidao Group Co., Ltd, a Chinese company being brought into the focus of media these years for suspected fraud activities, is another alarm bell for the capital market. Scholars also try hard to find new factors in the governance mechanism because of Chinese relatively weak legal environment and investor protection. In recent years, Chinese government has been encouraging institutional investments in financial markets as institutional investors are turning into a great force in promoting economic transformation. Although the proportion of institutional ownership is relatively low in Chinese listed firms compared with that in developed capital markets, mutual funds and other institutional investors are becoming increasingly important and growing rapidly in China. Therefore, it is of great significance for us to study the influences of institutional investors on fraud issues as well as the factors which may affect their effectiveness. The results may show implications for other emerging economies.

Cooper et al. (2013) emphasize that people should comprehend accounting fraud in a social, legal, political and economic background. It means that these factors can make big differences in the causes and consequences of accounting fraud. As one of the most important emerging economies, China has developed its national economy with great success which leads the development of capital markets. However, it is also characterized by its comparatively inadequate legal system and weak protection for shareholder (Allen et al., 2005). In China, the current legal system as well as the private enforcement of law is not forceful enough to well

ensure investors' interest and prevent potential fraudulent activities (Xu et al., 2017). In addition, compare with the amounts involved in fraud cases, the minor fines handed down by the CSRC seem to be ineffective to deter misconducts so that securities law in China tend to have low impacts (Wang, 2018). For these reasons, Chinese markets provide an interesting setting for examination of corporate governance mechanism against fraud. In fact, internal governance has been given much of the attention of the studies on fraud deterrence in China (Chen et al., 2013) and external governance are under-researched when it is related to fraud issue. Dyck et al. (2010) found that actors like media and employees, who are often left out by traditional views in external governance, can take an important position in monitoring, in the United States. Unlike the western countries, many listed firms as well as the media are under relatively strict control of the government in China (Besley and Prat, 2006). In the given situation, it would be beneficial to find new way out in external governance when dealing with accounting fraud.

RESEARCH PROBLEMS AND HYPOTHESES

Previous studies with regard to whether institutional investors effectively monitor managements of listed firms have shown mixed evidence. Theoretically, mixed results can be attributed to different choices institutions face when investee firms underperform during a given period. Hirschman (1971) has defined these choices as: exit, loyalty and voice. They may 'vote with their feet' by simply unloading the stocks; they may keep the shares and keep silence; or they can call for a better executive team in the firm and expect its outperformance in the future. Given the distinctive characteristics of capital markets around the world, practices of investors should be observed with careful consideration. Generally, individual investors are not willing to engage in managements because of their limited resources and the monitoring costs. However, there are existing evidences which support the idea that large shareholders like institutional investors tend to have incentives in monitoring managers. Large investors can benefit from monitoring in a liquid market (Maug, 1998) and the demand for reputation-building may also be a motivation for them to maximize investee firm's value (Gomes, 2000). Mutual funds, as a typical group in institutional investors, are considered to be beneficial for corporate governance. Fund managers are smart and they can get supports from experts such as professional analysts for monitoring purpose. In addition, with relatively high level of investments, mutual funds usually have more power than other investors to exert influence on the board. Under monitoring of mutual funds in the firms' activities, it is much harder for managers to misconduct or commit fraud. Thus, in the first place, this study predicts that:

H1. Mutual fund ownership in a firm is negatively correlated to its incidence of accounting fraud.

It is worth mentioning that most previous studies (Sias and Starks, 1998; Ryan and Schneider, 2002) have done their research based on the idea that institutional investors all act in the same way. Actually, they are differentiated from each other by investment characteristics. This study investigates the monitoring role of mutual funds as well as the monitoring effectiveness of diverse types of fund investors.

Institutional investors using different investment strategies will manage their investments in specific ways. Under active management, investors are tending toward above-market returns and fund managers actively act in time depending on current and future performance of investee firms (Ryan and Schneider, 2002). Therefore, mutual funds adopting an active strategy tend to engage with investee firms and continuously monitor their activities to exploit profitability. As for passive index strategy, these investors may be unwilling to have impacts on a company because of high costs of the intervention which are considered to exceed the gains (Pozen, 1994). Instead of actively monitoring, passive investors would like to pull money out of investee firms with poor performance to make it cost-effective. Overall, active mutual funds are believed to be more prominent in monitoring firms' behaviors. This study predicts that:

H2. Active fund ownership in a firm is negatively correlated to its incidence of accounting fraud, whereas passive fund ownership has little impact on fraud behavior.

Investment duration is another factor worth thinking about in investments. Long-term investors make investments with the intention of holding onto it for several years, while short-term investors make more transient investments and put short term gains first. For future developments of a company, long-term investors may consciously take actions in monitoring its activities as it takes some time before investors can see the payoff of corporate governance. Besides, large shareholders would mitigate the issue of free-rider by holding on to the investments for long (Chidambaram and John, 2000). On the contrary, a firm's manager may be eager to meet near term target through fraudulent behaviors in order to satisfy short-term investors' expectations. This study predicts that:

H3. Long-term fund ownership in a firm is negatively correlated to its incidence of accounting fraud, whereas short-term fund ownership has little impact on fraud behavior.

LITERATURE REVIEW

Accounting fraud, which is known as a type of "White

Collar Crime”, has been a worldwide challenge in economic and social development. On one hand, fraud cases to varying degrees always end with un-ignorable economic losses in an industry, even in a country. On the other hand, financial cheating indicates failure in both corporate governance and corporate social responsibility, which will greatly damage public confidence in market. According to the report from the ACFE (Association of Certified Fraud Examiners) for the year 2018, fraud results in losses amounting to 5% of yearly income in organizations and accounting fraud probably causes the largest costs (Montesdeoca et al., 2019). In 2002, the US government approved the Sarbanes-Oxley Act to change the negative situations of markets due to the Enron case. After that, people were all centered on measures against accounting fraud. Over the last decade, the Chinese markets have been attacked by signal irregularity cases. The case of Yinguang Xia, which caused a tremendous shock in stock markets, has been called China’s Enron (Zhu and Gao, 2011).

Many studies have arrived at conclusions about the supervision of institutional investors. Some research shows that efficient monitoring by blockholders like institutional investors have beneficial effects on company governance (Franks and Mayer, 2001; Kang and Shivdasani, 1995; Shleifer and Vishny, 1986). Many of the studies about institutional investors’ role in corporate governance focus on its association with firm performance, stock price or executive compensation. For example, Hartzell and Starks (2003) give supports to the supervision function of institutional investors and demonstrate it by its influence on executive compensation. More recent studies also show that the institutional shareholdings improve Investee Company’s governance (Chung and Zhang, 2011). Governance environment can directly or indirectly influence the occurrence of fraud, as well as the fraud detection. Therefore, institutional ownership can also be linked to fraud deterrence. Based on a sample which covers fraud and non-fraud firms, Sharma (2004) finds that the probability of fraudulent behaviors in a company decreases with increasing institutional ownership which is not business-related. Still, there is an obvious problem that we can simply collect the cases that has been discovered in traditional fraud analyses. Wang (2013) attempts to address the partial observability in his analysis, by adopting a new model and finally provides evidence suggesting that factors which decrease the probability of committing fraud can bring higher probability of detecting fraud.

In China, mutual funds came into the public eyes at the end of the twenty century and have achieved substantially advancement with supports from the government. Their managing institutions are becoming the largest tradable shareholders in Chinese stock markets (Chi et al., 2014). Yao and Liu (2009) opine that Chinese institutional investors play the part in disciplining

corporate governance of listed firms through restricting insider expropriation. Ding et al. (2011) also discover that the share price informativeness is improved with the expansion of mutual fund shareholdings in listed firms, which can promote the corporate environment of information. Recent years, some studies also begin to discuss the linkage between institutional investments and fraudulent behaviors of listed firms. For example, Wu et al. (2016) observe that firms with larger proportion of institutional investments in their shares are less possible to suffer from the regulatory actions against fraud. It is suggested that mutual fund investments of a firm result in significantly higher probability in fraud detection as well as lower propensity to conduct fraud and open-end funds appear to be powerful in disciplining managers (Wang et al., 2019). At the same time, the effectiveness of mutual fund monitoring has been challenged. Concerns are mainly about the mutual fund investments in small scale and it could be a potential cause of insufficient incentive of investors to engage in activism (Jiang and Kim, 2015). It is reported that a serious problem of information asymmetry in Chinese markets may be a barrier for mutual fund monitoring because of the expensively monitoring costs (Lin et al., 2017).

However, different types of institutional investors act like heterogeneous communities. When it comes to accounting fraud, their monitoring impacts are likely to vary among different groups. For instance, Cornett et al. (2007) show that only those institutions (such as mutual funds) which are pressure-insensitive have positive impacts on firms’ operating performance. In contrast, pressure-sensitive institutional ownership (such as pension funds and insurance companies) is unrelated with company performance because of the current or latent business ties between them and investee firms. And this kind of relationship is believed to be the hindrance during their monitoring. Aggarwal et al. (2015) find Chinese listed firms with lower occurrence of fraud commission usually have got larger investments of mutual fund. Yet, such relation can’t be found when between fraud and ownership of grey institutions which may have business ties with investee firms. Further on, open-end mutual funds significantly outperform closed-end ones in detecting accounting fraud as well as reducing fraud commission (Wang, 2018).

It is universally accepted that investment strategy and investment duration are both important characteristics of institutional investments. Active institutional investors manage to intervene in management guided by shareholder activism (McLaren, 2004). Nevertheless, those adopting a passive strategy take actions with “rational ignorance” (Buchanan and Tullock, 1962). Wang (2014) also concludes that institutional investors with ownership as large as 10-20 percent and those who hold on to their investments for two years or even longer discourage the application of abnormal accruals for higher reported earnings. Moreover, compared with short-

term investors, long-term mutual funds turn out to be more effective in monitoring which can better improve earnings quality in listed firms (Dai et al., 2013).

RESEARCH METHODOLOGY

Data and variables

This paper collects fraud cases that occurred during the period from 2008 to 2015. This paper chooses 2008 as the beginning year for the reason that China carried out an accounting standard reform in 2007 which can have a visible influence on some of the variables and fraud data. The sanction reports of detected fraud are usually released in two to three years after the fraud year and two more years of mutual fund ownership data after the study period need to be collected to sort mutual fund investors by their durations. Therefore, it is practicable to choose 2015 as the closing year. We have access to China Securities Regulatory Commission (CSRC), Shanghai Stock Exchange, Shenzhen Stock Exchange as well as mainstream financial websites for the resources of fraud data and data is obtained according to the administrative punishment reports. Data of mutual fund ownership and other control variables is downloadable on the China Stock Market Accounting Research (CSMAR) database. Moreover, the sample set is composed by listed firms from specific industries including real estate, computer, software services and medicine manufacturing for the reason that these industries are given relatively more attention by the general public and financial departments. Finally, this study has excluded observations with missing data and unavailable data. The existence of missing values can mainly due to those new listing sample firms which went public after 2015. The dependent variable is an indicator variable which stands for accounting fraud. It is set to 1 if the firm is notified of an administrative punishment for committing fraud in the year and 0 if otherwise.

The study is supposed to provide insights into the influence of mutual fund investments on accounting fraud and how their investment strategy and investment duration can affect this association. Correspondingly, three sets of independent variables are tested. To test Hypothesis 1, the first set of independent variable to be included is mutual fund ownership. The shareholdings of all the other institutions (trusts, insurance firms, pensions, etc.) are also captured for comparison. To test Hypothesis 2, mutual funds are split into active funds and passive funds based on investment targets. Active funds hold a portfolio of stocks, fixed income investment tools and cash that try to outperform the market benchmarks. Passive funds hold shares that try to track the performance of a particular index or hold alternative investment tools to replicate the particular index. Fund information can be obtained from CSMAR if it holds shares in a listed firm, so its investment target can be clearly classified by fund name. To test Hypothesis 3, mutual funds are split into long-term group and short-term group based on investment durations. Previous studies normally sort institutional investors by their average portfolio turnovers (Bushee, 2001). However, this measurement may get us an inaccurate result because the average portfolio turnover of a year is sometimes inconsistent with duration of the investment in a firm (Wang, 2014). In this study, institutional investors which have held investments for years or above are considered as long-term investors. Those that have investment duration less than two year are considered as short-term investors. However, it is time-consuming to investigate each investor's duration in data

processing. There are hundreds of fund investors, most of which are holding trivial shares and unlikely to exert influence on a firm. The bulk of ownership of a firm can be attributed to top 10 shareholders. Therefore, to estimate the investment duration, the study collects mutual fund ownership in the range within top10 shareholders in the investee firm. Time period has to be extended in this process. If the base year is t , then the data would be collected from $t-2$ to $t+2$. Investors of t are considered as long-term investors if they had held shares in the investee firm for two consecutive years or above in their time interval. Their investments beyond this interval are not under consideration, because these investments are less likely to affect firms' management in the base year.

A set of control variables that may influence fraud activities are included in our tests. Firstly, this study controls for a series of corporate governance variables including:

1. Firm size- compared to large companies, small companies is more likely to have financial problems in fund raising which may lead to misstatements. But companies of large scale provide more transparent information and build relatively perfect mechanism to avoid occurrence of fraud;
2. Proportion of independent directors- it is selected as one of the control variables as it is shown that fraudulent behaviors can be reduced by increasing independent board members (Chen et al., 2006);
3. CEO duality- it is controlled as it may make it more convenient for CEOs in listed firms to conduct accounting fraud (Aggarwal et al., 2015);
4. Board meeting frequency- it is included as the frequency which can, to some extent, reflect the internal management level of a listed firm;
5. Supervisory board size- it is controlled as more supervisors on the board increase the possibilities of positively monitoring and standing up against fraudulent activities (Firth et al., 2007).

Secondly, this study also controls the following variables:

6. Firm leverage;
7. Sales growth- firms with high leverage or high sales growth rate easily attract attention from the regulators and may be subject to regulatory scrutiny frequently;
8. Stock returns- poor or abnormal stock performance of a firm often faces complaints from investors and triggers investigation by the regulators (Chen et al., 2006);
9. R and D investment- Wang (2013) concludes that the uncertainty in research and development investments is connected to lower probability of fraud detection and stronger incentive to commit fraud;
10. Audit quality- auditors are important external monitors of firms. In general, auditors directly play a part in fraud detection through mandatory auditing procedure and they can affect firms' behavior by disciplining managers. Auditors from a Big 4 accounting firm are often used as a proxy for high audit quality.

Research model

To testify to three hypotheses in this study, we analyze the sample with following binary probit models with match pairs, which capture the collusion of fraud. Model (1) will be built to test hypothesis 1, which hypothesizes the mutual fund ownership is negatively associated with the incidence of accounting fraud as follow:

$$FRAUD_{i,t} = \beta_0 + \beta_1FUND_{i,t} + \beta_2OTHERINS_{i,t} + \beta_3SIZE_{i,t} + \beta_4DUALITY_{i,t} + \beta_5INDEP_{i,t} + \beta_6MEETING_{i,t} + \beta_7SUPERSIZE_{i,t} + \beta_8LEVERAGE_{i,t} + \beta_9RETURN_{i,t} + \beta_{10}RD_{i,t} + \beta_{11}AUDITOR_{i,t} + \varepsilon_{i,t} \tag{1}$$

Table 1. Descriptive statistics and result of t-test for difference in mean.

Variable	Full sample	Fraud subsample	Non-fraud subsample	Difference in mean
Funds	0.029	0.019	0.031	0.012***
Other institutions	0.020	0.020	0.019	-0.001
Firm size	9.390	9.235	9.410	0.174***
Duality	0.284	0.234	0.290	0.057***
IndepDirectors	3.148	3.085	3.155	0.070**
Meetings	9.887	9.777	9.899	0.122
SuperSize	3.523	3.646	3.509	-0.137***
Leverage	0.451	0.628	0.430	-0.197***
Return	0.340	0.363	0.336	-0.026
RandD	0.006	0.004	0.006	0.002***
Auditor	0.040	0.013	0.043	0.030***

***, **, * at - 1, - 5, - 10% significance respectively.

Where FRAUD, the dependent variable, is an indicator variable, which is coded 1, if the management of a company commits accounting fraud and 0, if otherwise. FUND is the proportion of total shareholdings of mutual funds and OTHERINS is the proportion of total shareholdings of other institutional investors. SIZE is calculated by the natural logarithm of total assets of the company. DUALITY is an indicator variable which is coded 1 if the CEOs double as chairmen in listed firms and 0 otherwise. INDEP is the number of independent board members. LEVERAGE ratio is equal to total liabilities divided by total assets of the company. MEETING is the yearly frequency of holding a board meeting. SUPERSIZE is

the number of supervisors. RETURN is annual stock return of a firm. RD is a ratio which is equal to research and development expense divided by total assets. AUDITOR is an indicator variable which is coded 1 if auditors of the company are from a BIG 4 accounting firm and 0 otherwise.

To test hypothesis 2, which hypothesizes active fund ownership in a firm is negatively related to its incidence of accounting fraud but passive fund ownership has little impact. The proportion of firms' shares has been computed separately according to being held by active mutual funds and passive mutual funds and model (2) will be built as follow:

$$\begin{aligned}
 FRAUD = \beta_0 + \beta_1 ACTIVE_{it} + \beta_2 PASSIVE_{it} + \beta_3 OTHERINS_{it} + \beta_4 SIZE_{it} + \beta_5 DUALITY_{it} + \beta_6 INDEP_{it} \\
 + \beta_7 MEETING_{it} + \beta_8 SUPERSIZE_{it} + \beta_9 LEVERAGE_{it} + \beta_{10} RETURN_{it} + \beta_{11} RD_{it} \\
 + \beta_{12} AUDITOR_{it} + \varepsilon_{i,t}
 \end{aligned} \quad (2)$$

Where, ACTIVE is the proportion of total shareholdings of active funds and PASSIVE is the proportion of total shareholdings of passive funds. The definitions of other variables include in model (2) are identical to that of model (1).

To test hypothesis 3, which hypothesizes long-term fund ownership in a firm is negatively related to its incidence of accounting fraud, but short-term ownership has little impact. The proportions of firms' shares have also been calculated separately, according to the investment duration, and model (3) will be built as follow:

$$\begin{aligned}
 FRAUD = \beta_0 + \beta_1 LONGTERM_{it} + \beta_2 SHORTTERM_{it} + \beta_3 OTHERINS_{it} + \beta_4 SIZE_{it} + \beta_5 DUALITY_{it} \\
 + \beta_6 INDEP_{it} + \beta_7 MEETING_{it} + \beta_8 SUPERSIZE_{it} + \beta_9 LEVERAGE_{it} + \beta_{10} RETURN_{it} \\
 + \beta_{11} RD_{it} + \beta_{12} AUDITOR_{it} + \varepsilon_{i,t}
 \end{aligned} \quad (3)$$

Where, LONGTERM is the proportion of total shareholdings of funds which have kept their investments for more than or equal to two years and SHORTTERM is the proportion of total shareholdings of funds which make relatively transient investments. The definitions of other variables included in model (3) are identical to that of model (1). Sale growth, which is originally considered as a control variable, has been excluded from the equations. Sales growth of a firm is usually measured by average growth rate in a year, but there are many observations with missing data of growth rate in CSMAR. Therefore, it has been removed to make sure there are adequate observations in our tests.

EMPIRICAL RESULTS

The summary statistics of the variables, the results of the regression models (1) – (3) and the discussions of these results, as well as the results of the robust test for the

models are provided in this section.

Descriptive statistics

Table 1 shows the result of descriptive statistics. In the full sample column, mutual funds are the largest institutional shareholders which hold 2.9% of shares in investee firms, while other institutions hold 2% of shares as a whole. On average, each company has 3.148 independent directors on the board and has 3.523 supervisors. The leverage rate of the firms is 45.1%. Variables of fraudulent firms and non-fraudulent firms are listed in next two columns. Many of them have got a significant difference in mean tested by an independent sample t-test. The total mutual fund shareholdings in non-

Table 2. Number and proportion of fraud by industry.

Industry name	Number of firms	Number of cases	Relative proportion
Real estate	126	27	0.214
Medicine manufacturing	193	48	0.249
Software manufacturing	138	33	0.239
Computer, communication	243	40	0.165

Table 3. Empirical results of model (1): Mutual fund ownership and accounting fraud.

Variable	Coefficient	Prob.
FUND	-0.025	0.017**
OTHER_INS	0.007	0.559
SIZE	-0.306	0.000***
DUALITY	-0.129	0.148
INDEP_DIRECTOR	-0.011	0.860
MEETINGS	0.013	0.148
SUPER_SIZE	0.035	0.381
LEVERAGE	0.116	0.001***
RETURN	0.055	0.141
R_D	-5.793	0.105
AUDITOR	0.016	0.940
Observations		4331
McFadden R ²		0.039

***, **, * at - 1, - 5, - 10% significance respectively.

fraudulent firms significantly exceed the shareholdings in fraudulent ones, which suggest that firms with higher fund ownership have lower incentive to commit fraud. Positive difference of firm size exists between non-fraudulent firms and fraudulent firms; it implies that large-scale companies are less likely to be caught in fraud. Also, the leverage rates of non-fraudulent firms are observably higher than the rates of fraudulent ones. Table 2 presents the number of collected fraud cases of 4 specific industries and their respective proportion. The full sample includes 700 firms and 148 fraud cases. As shown in the second column, there are 48 fraud cases found in the medicine manufacturing industry. Taking into consideration the different quantities of observable firms from different industrial sector, the medicine manufacturing industry turn out to be the most high-risk industry of being involved in fraud.

Regression results

Table 3 shows the results of model (1) for testing hypothesis 1. The coefficient of fund ownership is significantly negative, which implies that higher mutual fund investments are connected to lower incidence of

accounting fraud. Mutual funds are proven to be with strong incentive to supervise management in this study. On the other hand, the coefficient of other institutions' ownership turns out to be positive. This supports the idea that many 'grey institutions' are not able to deter the occurrence of accounting fraud (Aggarwal et al., 2015). Move on to control variables, the coefficient of firm size is significantly negative as expectation. Also, firms that are highly leveraged are more possible to be caught committing accounting fraud. The coefficients of board meeting and supervisory board size are both positive. This suggests that frequent board meetings do not always come with better corporate governance because the directors might meet more often when the firm is running into many problems. The coefficient of supervisory board size reflects the fact that supervisory board in some listed firms is ineffective in performing their functions.

Table 4 presents the results of model (2) for testing hypothesis 2. Fund ownership has been divided into two parts. The coefficients of active fund and passive fund are -0.022 and 0.002, respectively. The negative association between ownership of active fund and incidence of fraud is significant, which supports the assumption in hypothesis 2. The difference of monitoring

Table 4. Empirical results of model (2): Active vs passive fund and accounting fraud.

Variable	Coefficient	Prob.
ACTIVE	-0.022	0.047**
PASSIVE	0.002	0.985
OTHER_INS	0.007	0.557
SIZE	-0.310	0.000***
DUALITY	-0.132	0.139
INDEP_DIRECTOR	-0.011	0.864
MEETINGS	0.013	0.151
SUPER_SIZE	0.035	0.376
LEVERAGE	0.118	0.001***
RETURN	0.052	0.160
R_D	-6.111	0.088*
AUDITOR	0.010	0.962
Observations	4331	
McFadden R ²	0.037	

***, **, * at - 1, - 5, - 10% significance respectively.

Table 5. Empirical results of model (3): Duration of ownership and accounting fraud.

Variable	Coefficient	Prob.
LONG_TERM	0.016	0.366
SHORT_TERM	-0.043	0.004***
OTHER_INS	0.006	0.634
SIZE	-0.303	0.000***
DUALITY	-0.129	0.151
INDEP_DIRECTOR	-0.004	0.950
MEETINGS	0.013	0.172
SUPER_SIZE	0.035	0.384
LEVERAGE	0.117	0.001***
RETURN	0.053	0.151
R_D	-5.901	0.100*
AUDITOR	0.015	0.946
Observations	4331	
McFadden R ²	0.042	

***, **, * at - 1, - 5, - 10% significance respectively.

effectiveness between active fund and passive fund can be due to their different investment targets. The active fund managers can receive the incentive according to their stock selecting abilities. So they will do more investigations in the operations and checking of the accounting figures to make sure there are no financial fraud problems in their selecting stocks. This may explain why the probability of incurring accounting fraud is lower for the companies which are invested by active mutual funds. The regression coefficients of control variables are basically consistent with the results in model (1).

However, we may point out the coefficient of research development expense ratio is -6.111 and it is at a marginally significant level. It shows that firms which put much in research and development might be less likely to be spotted by the regulators for accounting fraud.

Table 5 presents the results of model (3) for testing hypothesis 3. Fund ownership is divided into long-term group and short-term group in this case. However, the results seem to belie the assumption in hypothesis 3. As a result, short-term fund ownership is negatively connected to the incidence of fraud at 1% significant level

Table 6. Empirical results of robustness test: Mutual fund ownership and corporate fraud.

Variable	Coefficient	Prob.
FUND	-0.030	0.004 ^{***}
OTHER_INS	0.005	0.622
SIZE	-0.246	0.002 ^{***}
DUALITY	-0.059	0.495
INDEP_DIRECTOR	-0.076	0.226
MEETINGS	0.014	0.116
SUPER_SIZE	0.027	0.493
LEVERAGE	0.305	0.000 ^{***}
RETURN	0.085	0.008 ^{***}
R_D	-2.760	0.363
AUDITOR	-0.003	0.989
Observations		4331
McFadden R ²		0.053

***, **, * at - 1, - 5, - 10% significance respectively.

which shows that, at least from the limited observations, short-term investors play a more significant role than long-term investors. Owing to the unsoundness of Chinese stock markets, speculative behaviors have been seen on many of investors, including institutions. This can lead to the situation in which transient investors are dominating to the extent that impacts of investors with long term horizons may be hid. At the same time, short-term institutional investors want to have more control on the financial performance and corporate behaviors to obtain higher returns in the short-run and subsequently change their portfolios.

In summary, the results of the regression models give us a picture of the monitoring role on detecting the accounting fraud. The incidence of accounting fraud of listed companies can be more detected if their shares are being held by mutual funds, active mutual funds and mutual funds in short-term.

Robustness test

The results are confirmed by following robustness tests. First, corporate fraud takes the place of accounting fraud in the model. This study focuses on the influences by mutual fund on restraining accounting fraud. However, institutional investors are supposed to influence the corporate governance on an overall level. To re-evaluate their monitoring effects, this test goes beyond the scope of accounting fraud and chooses corporate fraud as the dependent variable. Corporate fraud, which includes accounting fraud, is illegal activities or dishonest manipulation conducted by individual or groups in a firm that are harmful to the public interests. Table 6 shows the results which prove that mutual fund ownership is also negatively connected to incidence of corporate fraud. The

final results agree with that of model (1). Next, obvious differences exist among firms invested by varying mutual funds' investments. According to Aggarwal et al. (2015), mutual funds would like to invest money in firms that are featured by good financial performance and good corporate behaviors. Therefore, prior results may be biased because of endogeneity of mutual fund ownership.

Propensity score matching is a common method to address endogeneity problem. Following Wang et al. (2019), this study creates an indicator variable (HI_fund) that is coded 1 if mutual fund investors own no less than 5% of shares of a firm and 0 otherwise in order to pick out those with large proportion of mutual funds. These firms serve as treated group. Propensity score of each firm is obtained through a logistic regression in which HI_fund serves as the dependent variable and the independent variables are two specific financial indicators. Financial variables include firm leverage and stock returns as they are strongly related to the financial performance of a firm. Then, propensity score is used to pair each firm in control group with another firm in treated group. This matching process is carried out by the nearest neighbor matching method (one to one matching).

Matching results are presented in Table 7. Before matching, statistical value of the significant difference that exists between treated group and control group is -0.020. The ATT (Average treatment effect for the treated) changes to -0.021 and is still significant after the matching process. It is implied that high proportion of mutual funds can make considerable influence on corporate governance. The balancing has also been tested. Test results are shown in Table 8. Two financial control variables appear to be both statistically insignificant after matching which means there is no

Table 7. Matching results.

Variable	Sample	Treated	Control	Difference	T-stat
FRAUD	Unmatched	0.027	0.047	-0.020	-2.63
	ATT	0.027	0.048	-0.021	-2.76

Table 8. Balancing test results.

Variable	Unmatched		Mean		%bias	t-test	
	Matched	Treated	Treated	Control		t	p> t
LEVERAGE	U	0.379	0.379	0.461	-22.1	-5.05	0.000***
	M	0.379	0.379	0.373	1.8	0.67	0.502
RETURNS	U	0.562	0.562	0.331	24.4	6.95	0.000***
	M	0.562	0.562	0.542	2.1	0.40	0.692

***, **, * at - 1, - 5, - 10% significance respectively.

Table 9. Empirical results of robustness test: Mutual fund ownership and accounting fraud after matching.

Variable	Coefficient	Prob.
FUND	-0.026	0.014**
OTHER_INS	0.003	0.808
SIZE	-0.289	0.006***
DUALITY	0.002	0.980
INDEP_DIRECTOR	-0.129	0.092*
MEETINGS	0.017	0.094*
SUPER_SIZE	0.034	0.459
LEVERAGE	0.694	0.002***
RETURN	0.078	0.022**
R_D	-4.980	0.200
AUDITOR	0.043	0.851
Observations		2921
McFadden R ²		0.041

***, **, * at - 1, - 5, - 10% significance respectively.

much difference among firms from either group in terms of financial condition. Also, the %bias of financial control variables are both within 10% in matched samples. Model (1) is re-evaluated in use of the new sample and the results are presented in Table 9. The coefficient of fund ownership remains significantly negative and it is consistent with prior results.

CONCLUSIONS AND IMPLICATIONS

In summary, mutual fund ownership as a whole can curb the incidence of accounting fraud of listed firms in Chinese capital markets. Active mutual funds are able to conduct more effective monitoring when compared with

passive mutual funds. At the same time, it is reported that short-term mutual funds are more significant than long-term mutual funds in monitoring. Institutional investors have become an outstanding role in Chinese markets. Good governance of listed firms and institutional investments support each other and the relationship between them is mutual promotion. This study shows evidence of the idea that mutual funds play a monitoring function in listed firms and high level of mutual fund ownership, which is able to decrease the incidence of accounting fraud in a firm. However, other institutions like insurance companies and trusts are not active in monitoring, which is consistent with previous literature that close business connections between institutions and firms may hamper their monitoring actions.

Furthermore, this study finds that the monitoring effects of differentiate mutual fund investors influence company management to different degrees. Compared to the management teams of passive funds, active fund management teams appear to be the main force that takes monitoring actions in listed firms. This is consistent with the view of McLaren (2004) who concludes that active investors try to make influences on management because of shareholder activism. Relatively speaking, long-term mutual funds are predicted to be more effective in monitoring fraudulent behaviors in the hypothesis. Based on the sample set in this paper, it turns out that short-term mutual funds affect the fraud behaviors in a more prominent way. This can be interpreted as a symbol of speculative behavior in Chinese markets. In spite of institutions' growing proportion of shareholdings in the market, there are still many short-sighted investors among them. Even those transient institutional investors want to have further control on the financial performance and corporate governance to gain short-term profit before changing their portfolios.

To verify the robustness of results, fraud is measured in an alternative way. It reveals that institutional investments at scale are beneficial to the overall governance of company, as there are less corporate fraud cases in firms with larger mutual fund shareholdings. The propensity score matched samples are obtained due to possible endogeneity problem in mutual fund ownership. Results remain the same, so the monitoring effect of mutual fund is verified after mitigating endogeneity. To conclude, strengthening corporate governance thereby to reduce fraud incidence are of great significance and it has been investigated by experts around the world. Still, more attention should be given to market forces like institutional investors.

The findings of this study bring new insights. In the first place, the overall results give a positive reply to the CSRC's initiatives in developing institutional investors in China and institutional investors other than mutual fund should improve their own capabilities, which is essential in corporate governance. There are differences in the effectiveness of deterring fraud between the mutual funds under active management and mutual funds under passive management; between funds which make long-term investments and those make short-term investments provide more insights into the monitoring role of mutual fund as follows. Active mutual funds should be encouraged to cultivate more talents who have abilities to involve in managements of their investee firms. There are also speculators among institutional investors. Policy makers may need to normalize institutional investments by quantified indicators or in other reasonable ways.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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